

**ILLUSTRATED  
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FOR  
IO-520 SERIES  
AIRCRAFT ENGINES**

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# SECTION I

## INTRODUCTION

1-1. In line with the Teledyne Continental Motors program of product improvement, this parts catalog is presented in looseleaf form. Changes will be issued as they occur to those pages which are affected only. In this manner, the parts catalogs will be kept current at all times with manufacturing and service requirements. Changes to this parts catalog will be sent to the purchaser on receipt of the registration card from the front of the manual.

1-2. Page ii of this publication depicts the current status of pages as of the date listed. Each page in the catalog is also dated. To be current, the date on the page should match the date listed for that page on the Status Page. With each change to the catalog issued, a change to the Status Page will necessarily be issued.

1-3. In this edition, currently available parts are listed for models IO-520-A through IO-520-M. If accessories or parts attached to any engine installed in an aircraft manufactured in the United States under a production model number do not appear in this catalog, determine whether they are available from the aircraft manufacturer before placing an order with a Teledyne Continental Authorized Distributor.

1-4. Section II contains 53 figures, in each of which one of the major assemblies or groups of the engine is illustrated in "exploded" form. Each figure has its own set of index numbers to indicate the sub-parts. The list of parts in the assembly or group appears on the same page with the illustration or on an adjacent page. The first column of each assembly group list contains the figure number (not repeated on all lines) and, following a dash, the index numbers of the sub-parts in numerical order. Do not order parts by index number. Use the part number, which appears in the second column. Use the name of the part which appears in the column under the title "DESCRIPTION."

1-5. Do not order any parts listed herein when "NO NUMBER" appears on the same line in the part number column or when "NOT SOLD" herein

abbreviated as "NS" appears in the "UNITS PER ASSEM" column, because these parts are not suitable for installation without factory equipment or they are major parts of assemblies and are more economically supplied in the assembled condition, or they are assemblies which would have to be disassembled for installation. To replace any detail part "NOT SOLD" order the smallest assembly containing the part (listed above, with name beginning one column to left). To replace any assembly "NOT SOLD", order whatever subassemblies and detail parts (listed below it, with names indented) that are in need of replacement.

1-6. Quantities of parts as listed in Section II, are for specific application in one assembly. Total quantities of all parts are listed in Section V. Similar assemblies listed in Section II are combined, and quantities of sub-parts are for one assembly.

1-7. Oversize and undersize parts are listed in Section III. These parts must be ordered by the numbers listed herein, with correct descriptions, to avoid errors. Corresponding standard size part numbers in Section II are preceded by a symbol (†) to indicate the availability of the non-standard size. (Refer to list of abbreviations and symbols.)

1-8. Sets of parts listed in Section IV are usually wanted in such groups for overhaul work and should be ordered by set part numbers.

1-9. Section V contains a list of part numbers arranged in numerical order in the first column. If the number of any desired part is known the name may be located by referring to the figure and index number in Section II, which is listed opposite the part number in Section V.

1-10. Section VI contains a parts listing of customer specifications of the basic engines of each model and a figure and index column which will refer back to Section II or to the rear of Section VI for an illustration. Only the differences between the customer specification and the basic engine are shown. Only those specifications which were sold in quantities of 25 or more are covered herein.

## LIST OF ABBREVIATIONS AND SYMBOLS

| SYMBOL | DEFINITION       | SYMBOL  | DEFINITION                      |
|--------|------------------|---------|---------------------------------|
| AR     | As Required      | NS      | Not Sold                        |
| dia.   | Diameter         | \$      | Parts included in a set         |
| hd.    | Head             | PD      | Pitch diameter (thread)         |
| hex.   | Hexagon(al)      | RF      | Refer to                        |
| ID     | Inside diameter  | NPT     | National Pipe Tap (or thread)   |
| in.    | Inches           | US      | Undersize                       |
| lg.    | Long             | No.     | Number                          |
| mm     | Millimeters      | †       | Oversize parts available        |
| OD     | Outside diameter | †       | Undersize parts available       |
| OP     | Optional         | * * * * | End of group of attaching parts |
| OS     | Oversize         |         |                                 |

## ACCESSORY MANUFACTURERS

| ACCESSORY            | MANUFACTURER        | ADDRESS                                                                                          |
|----------------------|---------------------|--------------------------------------------------------------------------------------------------|
| Generator/Alternator | Delco-Remy          | United Motors Service<br>General Motors Bldg.<br>Detroit, Michigan 48200                         |
|                      | Prestolite          | The Prestolite Company<br>Div. of Eltra Corporation<br>511 Hamilton Street<br>Toledo, Ohio 43601 |
| Starter              | Delco-Remy          | United Motors Service<br>General Motors Bldg.<br>Detroit, Michigan 48200                         |
|                      | Prestolite          | The Prestolite Company<br>Div. of Eltra Corporation<br>511 Hamilton Street<br>Toledo, Ohio 43601 |
| Magnetos             | Slick Electro, Inc. | Slick Electro, Inc.<br>Rockford, Illinois 61100                                                  |
|                      | Bendix              | Bendix Electrical<br>Components Division<br>Sidney, New York 13838                               |

## CUSTOMER SPECIFICATION TO SERIAL NUMBER CROSS REFERENCE

### IO-520-A

- SPEC. 1** 110001 thru 110219, 110221 thru 110249, 110251 thru 110267, 110269 thru 110318, 110320 thru 110405, 110407 thru 110443, 110445 thru 110518, 110520 thru 110535, 110538, 110539, 110543 thru 110556, 110562, 110563, 110570, 110572, 110573, 110591, 110592, 110596, 110609, 110619, 110621, 110794, 110839, 110963, 111138, 111203, 111459, 111532, 111700 thru 111703, 111707, 111712, 111849, 111878, 111938 thru 111942, 111950, 111990, 111991, 111993, 111994, 190017, 190087, 190088, 190179
- SPEC. 5** 110519, 110536, 110537, 110540, 110541, 110542, 110557, 110558, 110559, 110561, 110564 thru 110569, 110571, 110574 thru 110590, 110593, 110594, 110595, 110597 thru 110602, 110604 thru 110608, 110610 thru 110618, 110620, 110622 thru 110713, 110715 thru 110718, 110720 thru 110793, 110795 thru 110826, 110828 thru 110838, 110840 thru 110886, 110888 thru 110962, 110965 thru 111016, 111018 thru 111031, 111033 thru 111066, 111068 thru 111089, 111091 thru 111137, 111139, 111140, 111141, 111145, 111146, 111160, 111162, 111163, 111165 thru 111170, 111172 thru 111194, 111196 thru 111201, 111204 thru 111211, 111213, 111214, 111218, 111219, 111221, 111223, 111225, 111226, 111227, 111229 thru 111241, 111244 thru 111267, 111272 thru 111289, 111291 thru 111295, 111299 thru 111340, 111343 thru 111352, 111368 thru 111385, 111399 thru 111412, 111415, 111416, 111420, 111421, 111423, 111424, 111425, 111428, 111429, 111430, 111432 thru 111441, 111443 thru 111449, 111451, 111454, 111455, 111458, 111460, 111464, 111468 thru 111481, 111483 thru 111497, 111499 thru 111517, 111520 thru 111524, 111526 thru 111531, 111535, 111539, 111542 thru 111644, 111647 thru 111667, 111669, 111671 thru 111689, 111691 thru 111699, 111708 thru 111711, 111713 thru 111722, 111724 thru 111733, 111735 thru 111745, 111747 thru 111754, 111770, 111771, 111773 thru 111799, 111819 thru 111844, 111846, 111847, 111848, 111850 thru 111860, 111863 thru 111874, 111876, 111877, 111879, 111880, 111883 thru 111922, 111924, 111926 thru 111937, 111943 thru 111949, 111951, 111954 thru 111989, 111992, 111995 thru 112000, 190001 thru 190016, 190018, 190019, 190021 thru 190068, 190070 thru 190086, 190090 thru 190096, 190098 thru 190153, 190155 thru 190178, 190180 thru 190185, 190188 thru 190194, 190196 thru 190202, 190210, 190212, 190213, 190273
- SPEC. 6** 110444, 110719, 110827, 110887, 110964, 111017, 111090, 111142, 111143, 111144, 111164, 111171, 111202, 111212, 111215, 111216, 111217, 111220, 111242, 111243, 111290, 111296, 111297, 111298, 111354 thru 111357, 111359, 111361, 111362, 111364, 111367, 111386 thru 111398, 111413, 111414, 111417, 111418, 111419, 111422, 111431, 111442, 111450, 111452, 111453, 111461, 111462, 111463, 111465, 111466, 111467, 111525, 111536, 111537, 111538, 111540, 111541, 111668, 111670, 111705, 111734, 111746, 111755 thru 111768, 111772, 111800 thru 111818, 190069, 190323, 190340
- SPEC. 9** 111222, 111224, 111228, 111268, 111341, 111342, 111353, 111360, 111363, 111365, 111426, 111457, 111533, 111534, 111645, 111646, 111690, 111706, 190195, 190203, 190315, 190335

**SPEC. 10** 111723, 111861, 111862, 111875, 111882, 111923, 190020, 190089, 190154, 190186, 190187, 190259, 190260, 190283, 190284, 190321, 190327, 190328, 190330, 190332, 190333, 190336, 190337, 190338

**SPEC. 14** 190204 thru 190207, 190211, 190214 thru 190217, 190223 thru 190255, 190261 thru 190272, 190274 thru 190280, 190285 thru 190314, 190316, 190317, 190318, 190320, 190325, 190392

#### **IO-520-B**

**SPEC. 1** 120001 thru 120231, 120233 thru 120261, 120263 thru 120407, 120409 thru 120421, 120423 thru 120453, 120455 thru 120511, 120513 thru 120637, 120639, 120640, 120641, 120643, 120959, 121433, 121434, 121437

**SPEC. 2** 120644 thru 120955, 120957, 120958, 120960 thru 120999, 121001 thru 121030, 121032 thru 121092, 121094 thru 121432, 121435, 121436, 121438 thru 121810, 121812 thru 121834, 121837 thru 121847, 121850 thru 121973, 121975, 121976, 121979, 121990, 121993, 121995, 121996, 121997, 121999, 122004

**SPEC. 6** 121974, 121977, 121978, 121980 thru 121989, 121991, 121992, 121994, 121998, 122000 thru 122003, 122005 thru 122025, 122027 thru 122078, 200201 thru 200216, 200223 thru 200265, 200380, 200395, 200414, 200423, 200424, 200425, 200427 thru 200431, 200523, 200524, 200537, 200551, 200552, 200553, 200579, 200583, 200585, 200587, 200594, 200604, 200653, 200702, 200728

**SPEC. 8** 200266 thru 200379, 200381 thru 200394, 200396 thru 200399, 200401 thru 200413, 200415 thru 200422, 200426, 200432 thru 200518, 200520, 200521, 200522, 200525 thru 200550, 200554 thru 200578, 200581, 200582, 200584, 200586, 200588 thru 200592, 200595 thru 200602, 200605 thru 200608, 200610 thru 200652, 200654, 200655, 200656, 200659 thru 200701, 200703 thru 200713, 200715 thru 200724, 200726, 200730 thru 200750, 200752 thru 200799

#### **IO-520-BA**

**SPEC. 8** 200801, 200803, 200804, 200810, 200813 thru 200864, 200866 thru 200874, 200877 thru 200884, 200886 thru 200897, 200899, 200900, 200901, 200903 thru 200926, 200929

#### **IO-520-C**

**SPEC. 1** 125003 thru 125476, 125478 thru 125516, 125518 thru 125846, 125849 thru 126178, 126180 thru 126192, 126194 thru 126271, 126273 thru 126301, 126303, 126306 thru 126333, 126335 thru 126358, 126360, 126363, 126371 thru 126386, 126396, 126398, 126403, 126404

**SPEC. 2** 125847, 125848, 126179, 126193, 126272, 126302, 126304, 126305, 126334, 126361, 126364, 126370, 126463, 126465, 126493, 126494, 126495, 126497, 126499, 126500, 126543, 126548, 126551, 126616, 126617, 126622, 126623, 126688, 126693, 126697, 126759, 126761, 126785, 126816, 126817, 126823, 126898, 126904, 210560, 210562, 210595, 210596, 210615, 210616, 210623, 210673, 210728, 210729, 210742, 210743, 210745, 210747, 210824, 210853

**SPEC. 3** 126359, 126362, 126365 thru 126369, 126387 thru 126395, 126397, 126399 thru 126402, 126405 thru 126462, 126464, 126466 thru 126492, 126496, 126498, 126501 thru 126508, 126511, 126513 thru 126523, 126526 thru 126542, 126544 thru 126547, 126549, 126550, 126552 thru 126555, 126557 thru 126561, 126624, 126625, 126649, 126621, 126686, 126687, 126828, 210516, 210570, 210580, 210593, 210732, 210737, 210748, 210767

**SPEC. 5** 126556, 126562 thru 126615, 126618, 126620, 126621, 126626 thru 126648, 126650 thru 126661, 126663 thru 126685, 126689 thru 126692, 126694, 126695, 126696, 126698, 126699, 126701 thru 126758, 126760, 126762 thru 126784, 126786 thru 126803, 126805 thru 126815, 126818 thru 126822, 126824, 126825, 126827, 126830 thru 126882, 126884, 126884, 126885, 126886, 126888 thru 126897, 126899 thru 126903, 126905 thru 126928, 126930 thru 126999, 210501 thru 210551, 210553 thru 210559, 210561, 210563, 210564, 210565, 210567, 210568, 210569, 210571 thru 210579, 210581 thru 210589, 210594, 210599, 210603, 210604, 210605, 210607, 210608, 210610 thru 210613, 210617 thru 210622, 210624 thru 210632, 210639 thru 210672, 210674 thru 210725, 210730, 210731, 210733 thru 210736, 210738 thru 210741, 210744, 210746, 210750 thru 210766, 210768 thru 210780, 210782, 210784 thru 210823, 210826, 210827, 210834 thru 210863, 210879, 210881

#### IO-520-D

**SPEC. 1** 158003, 158005 thru 158209, 158211, 158213 thru 158223, 158225 thru 158242, 158244 thru 158248, 158253 thru 158311, 158315 thru 158347, 158349 thru 158364, 158367 thru 158396, 158398 thru 158407, 158409 thru 158414, 158416, 158417, 158418, 158423, 158426, 158428, 158430, 158431, 158433, 158434, 158435, 158439 thru 158443, 158451 thru 158485, 158487, 158488, 158492, 158493, 158495 thru 158499, 158501 thru 158504, 158506, 158507, 158509 thru 158512, 158517 thru 158529, 158534 thru 158540, 158558, 158560, 158562, 158564 thru 158586, 158590, 158591, 158608, 158609, 158622 thru 158632, 158639 thru 158642, 158647, 158655, 158658 thru 158668, 158670, 158674 thru 158677, 158679 thru 158689, 158691 thru 158695, 158703 thru 158707, 158710 thru 158719, 158727, 158728, 158730 thru 158736, 158743 thru 158751, 158757, 158763 thru 158779, 158781, 158782, 158786 thru 158794, 158805 thru 158822, 158830 thru 158840, 158842 thru 158845, 158847, 158850, 158851, 158860, 158861, 158864 thru 158867, 158869 thru 158876, 158822 thru 158903, 158927 thru 158932, 158943, 158944, 158946, 158950, 158951, 158964, 158965, 158967 thru 158971, 158984, 158985, 158992 thru 159001, 159005, 159008, 159009, 159010, 159012, 159013, 159021 thru 159028, 159978

**SPEC. 2** 158004, 158210, 158243, 158312, 158348, 158365, 158436, 158437, 158438, 158444, 158445, 158580, 158600, 158601, 158604, 158615, 158616, 158643, 158644, 158648, 158649, 158650, 158671, 158672, 158673, 158698, 158699, 158708, 158723, 158724, 158761, 158762, 158823 thru 158829, 158910 thru 158913, 158940, 158947, 158948, 159070, 159071, 159072, 159084, 159085, 159086, 159168, 159169, 159170, 159242, 159243, 159591, 159632, 159851, 159858, 159876, 159877, 220763, 220832

**SPEC. 3** 158212, 158251, 158489, 158500, 158505, 158533, 158557, 158729, 158741, 158742, 158780, 158857, 158858, 158859, 158881, 158914, 158915, 158917 thru 158926, 158949, 158950, 159020, 159087 thru 159092, 159163 thru 159167, 159080, 159300, 159302, 159304, 159324, 159329, 159334, 159337, 159503, 159633, 159841, 159842, 159869, 159871, 159875, 159979, 159985, 159987, 220729, 220734, 220775, 220780, 220799, 220865

**SPEC. 4** 158224, 158249, 158250, 158252, 158313, 158314, 158397, 158408, 158415, 158419 thru 158422, 158424, 158425, 158427, 158429, 158432, 158446 thru 158449, 158490, 158491, 158494, 158508, 158513 thru 158517, 158530, 158531, 158532, 158551 thru 158556, 158559, 159870, 159984

**SPEC. 7** 158541, 158561, 158563, 158587, 158588, 158589, 158613, 158614, 158759, 158760, 158795 thru 158798, 158961, 158962, 158963, 159018, 159272, 159275 thru 159283, 159299, 159303, 159313 thru 159316, 159318, 159319, 159320, 159323, 159325, 159388, 159389, 159393, 159394, 159395, 159400, 159408 thru 159411, 159413, 159415, 159416, 159417, 159420, 159428, 159438 thru 159445, 159465, 159470, 159476, 159483 thru 159486, 159499, 159501 thru 159504, 159509, 159516, 159523, 159531, 159533, 159539, 159553, 159557, 159558, 159559, 159564, 159567 thru 159572, 159586 thru 159590, 159592, 159593, 159596, 159597, 159599, 159600, 159603, 159619, 159620, 159621, 159627, 159630, 159631, 159634, 159636 thru 159643, 159650, 159654, 159676, 159681, 159706 thru 159713, 159719, 159747, 159748, 149749, 159754, 159766, 159767, 159974 thru 159977, 159988, 159990, 159993, 159994, 159997, 159998, 220706, 220716, 220769, 220790, 220796, 220800, 220801, 220803, 220804, 220806, 220807, 220809 thru 220813, 220816, 220818, 220824, 220829, 220833, 220834, 220837, 220838, 220849, 220851, 220853, 220866, 220867, 220878, 220883 thru 220886

**SPEC. 9** 158986, 159014 thru 159017, 159019, 159037 thru 159046, 159057 thru 159064, 159074 thru 159083, 159093 thru 159096, 159098, 159099, 159101 thru 159131, 159133, 159136 thru 159141, 159146 thru 159153, 159158 thru 159162, 159171 thru 159175, 159184, 159185, 159191, 159192, 159193, 149195, 159196, 159200, 159202 thru 159210, 159212, 159214, 159215, 159219, 159221, 159222, 159228 thru 159233, 159235 thru 159241, 159250 thru 159271, 159273, 159274, 159284, 159293, 159294, 159296, 159301, 159305 thru 159312, 159317, 159321, 159322, 159326, 159327, 159328, 159330 thru 159333, 159335, 159336, 159338 thru 159348, 159350, 159352, 159359, 159362, 159366 thru 159370, 159373, 159375 thru 159384, 159386, 159387, 159390, 159391, 159392, 159396 thru 159399, 159401 thru 159407, 159412, 159414, 159418, 159419, 159421, 159423 thru 159427, 159429, 159430, 159433 thru 159437, 159447 thru 159459, 159461, 159462, 159463, 159466 thru 159469, 159471 thru 159475, 159477, 159478, 159479, 159482, 159487 thru 159498, 159505 thru 159508, 159510 thru 159515, 159517 thru 159522, 159524, 159525, 159528, 159529, 159530, 159532, 159534 thru 159538, 159540 thru 159550, 159555, 159556, 159560 thru 159563, 159565, 159566, 159573 thru 159585, 159594, 159595, 159598, 159601, 159602, 159604 thru 159618, 159622 thru 159626, 159628, 159629, 159635, 159644 thru 159649, 159651, 159652, 159653, 159655 thru 159665, 159670 thru 159675, 159677, 159678, 159679, 159682 thru 159698, 159701 thru 159705, 159714 thru 159718, 159720 thru 159727, 159730 thru 159746, 159750 thru 159753, 159755 thru 159765, 159768 thru 159790, 159792, 159794 thru 159797, 159800 thru 159840, 159843, 159848, 159849, 159850, 159855, 159856, 159857, 159859 thru 159866, 159880 thru 159887, 159889 thru 159928, 159932 thru 159973, 159980 thru 159983, 159989, 159991, 159992, 159995, 159996, 159999, 220701 thru 220705, 220707 thru 220714, 220717 thru 220723, 220728, 220730, 220731, 220732, 220735, 220736, 220738 thru 220746, 220749, 220750, 220753 thru 220758, 220765, 220771, 220774, 220776, 220786, 220787, 220793, 220795, 220797, 220798, 220802, 220808, 220815, 220817, 220819 thru 220823, 220825 thru 220828, 220830, 220831, 220835, 220836, 220839 thru 220848, 220850, 220852, 220854 thru 220864, 220868 thru 220877, 220879 thru 220882, 220887

**SPEC. 10** 159142 thru 159145, 159154 thru 159157, 159176, 159177, 159178, 159181, 159182, 159183, 159186 thru 159190, 159194, 159197, 159198, 159199, 159201, 159211, 159213, 159216, 159217, 159218, 159220, 159223 thru 159227, 159234, 159285 thru 159292, 159295, 159349, 159351, 159353 thru 159358, 159360, 159361, 159363, 159364, 159365, 159371, 159372, 159374, 159385

**SPEC. 11** 158564, 158579, 158590, 158592 thru 158599, 158602, 158603, 158605, 158606, 158607, 158617 thru 158621, 158633 thru 158638, 158645, 158646, 158651, 158652, 158653, 158656, 158657, 158669, 158678, 158690, 158696, 158697, 158700, 158701, 158702, 158709, 158720, 158721, 158722, 158725, 158726, 158737 thru 158740

**SPEC. 15** 159422, 159446, 159460, 159480, 159481, 159526, 159527, 159551, 159552, 159554, 159844 thru 159847, 159851, 159852, 159853, 159868, 159872, 159873, 220726, 220727, 220761, 220762, 220788, 220794

**SPEC. 17** 158752 thru 158756, 158758, 158783, 158784, 158785, 158799, 158800 thru 158804, 158841, 158846, 158848, 158849, 158862, 158863, 158868, 158877 thru 158880, 158904 thru 158909, 158916, 158933 thru 158938, 158941, 158942, 158952 thru 158959, 158972 thru 158983, 158987 thru 158991, 159002, 159003, 159004, 159006, 159007, 159011, 159029 thru 159036, 159047, 159055, 159056, 159065 thru 159069, 159073, 159097, 159100, 159132, 159134, 159135

**SPEC. 19** 220724, 220725, 220733, 220737, 220747, 220748, 220751, 220752, 220759, 220760, 220764, 220766, 220767, 220768, 220770, 220773, 220777, 220779, 220781, 220782, 220784, 220785, 220789, 220791, 220792, 220894

#### IO-520-E

**SPEC. 1** 164001 thru 164040, 164046, 164047, 164063 thru 164066, 164075, 164076

**SPEC. 2** 164073, 164074, 164078, 164082, 164088 thru 164095, 164117, 164118, 164120, 164121, 164128, 164132 thru 164135, 164144, 164145, 164147, 164150, 164158, 164164, 164168, 164173 thru 164176, 164179, 164184 thru 164210

**SPEC. 3** 164042 thru 164045, 164048 thru 164062, 164067 thru 164072, 164077, 164079, 164080, 164081, 164083 thru 164087, 164096 thru 164108, 164113 thru 164116, 164119, 164122 thru 164127, 164129, 164130, 164131, 164136 thru 164143, 164146, 164148, 164149, 164151 thru 164154, 164157, 164159 thru 164164, 164166, 164167, 164169 thru 164172, 164177, 164178, 164180 thru 164183

#### IO-520-F

**SPEC. 1** 168001 thru 168056, 168058 thru 168069, 168071 thru 168085, 168088, 168092, 168093, 168095 thru 168115, 168117, 168120 thru 168149, 168157 thru 168206, 168208 thru 168267, 168270 thru 168279, 168281 thru 168297, 168300, 168301, 168315 thru 168335, 168344 thru 168350, 168352 thru 168357, 168361 thru 168419, 168424, 168426 thru 168445, 168447 thru 168474, 168476 thru 168501, 168504, 168505, 168508, 168510 thru 168518, 168674, 168712

**SPEC. 2** 168057, 168070, 168086, 168087, 168089, 168090, 168091, 168094, 168116, 168118, 168119, 168150 thru 168156, 168268, 168269, 168280, 168298, 168299, 168302 thru 168314, 168336 thru 168343, 168351, 168358, 168359, 168360, 168425, 168502, 168503, 168506, 168507, 168536, 168606, 168607, 168623, 168624, 168625, 168638, 168761, 168898, 169149

**SPEC. 3** 168509, 168519, 168520, 168521, 168524, 168525, 168526, 168528 thru 168535,  
168538 thru 168559, 168563 thru 168595, 168597 thru 168602, 168604, 168605,  
168608 thru 168621, 168626 thru 168637, 168639 thru 168651, 168655  
thru 168670, 168672, 168673, 168676 thru 168692, 168696 thru 168709, 168713  
thru 168734, 168740 thru 168760, 168762, 168763, 168769 thru 168808, 168811 thru  
168823, 168825, 168828, 168829, 168832 thru 168843, 168845, 168846, 168847,  
168852, 168853, 168856, 168858, 168859, 168861, 168862, 168864 thru 168868,  
168870 thru 168875, 168877 thru 168882, 168884 thru 168887, 168889 thru 168893,  
168895, 168896, 168899 thru 168930, 168932, 168934, 168939, 168941 thru 168947,  
168949 thru 168956, 168959 thru 168965, 168967, 168969 thru 168972, 168976, 168977,  
168978, 168980 thru 168983, 168985, 168987, 169103 thru 169109, 169111, 169112,  
169113, 169115, 169116, 169119 thru 169123, 169126 thru 169133, 169135 thru  
169140, 169142, 169144, 169145, 169146, 169148, 169150 thru 169157, 169159,  
169160, 169162, 169163, 169164, 169167, 169168, 169171, 169172, 169173, 169177,  
169181, 169185, 169186, 169188, 169189, 169197, 169198, 169202, 169204

**SPEC. 4** 168207, 168420, 168421, 168446, 168475, 168560, 168596, 168603, 168735 thru 168739,  
168764 thru 168767, 168883, 168888, 168931, 168935, 168936, 168937, 168940,  
168957, 168958, 168966, 168968, 168973, 168974, 168975, 168979, 168984, 168986,  
168989, 168991, 168993, 168994, 168995, 169110, 169117, 169125, 169180, 169187,  
169195, 169196

**SPEC. 6** 168561, 168562, 168653, 168654, 168671, 168675, 168693, 168694, 168695,  
168809, 168810, 168824, 168827, 168830, 168831, 168848 thru 168851, 168863,  
168869, 168894, 168933, 168997, 168998, 168999, 169124, 169161, 169176, 169179,  
169192

#### **IO-520-J**

**SPEC. 1** 198001 thru 198139

#### **IO-520-K**

**SPEC. 1** 209001 thru 209180, 209183, 209185, 209186

#### **IO-520-L**

**SPEC. 1** 207001 thru 207143, 207145 thru 207180, 207185, 207189, 207191, 207192, 207193,  
207197, 207200, 207201, 207202

**SPEC. 4** 207181, 207183, 207184, 207188, 207189, 207194, 207196, 207198, 207199, 207205 thru  
207222, 207224 thru 207230, 207232 thru 207241, 207243, 207244, 207246

## **SECTION II**

### **GROUP ASSEMBLY**

### **PARTS LIST**

THE IO-520-BB, CB AND MB ARE THE  
SAME AS THE IO-520-BA, C AND M  
RESPECTIVELY, EXCEPT WHERE NOTED.

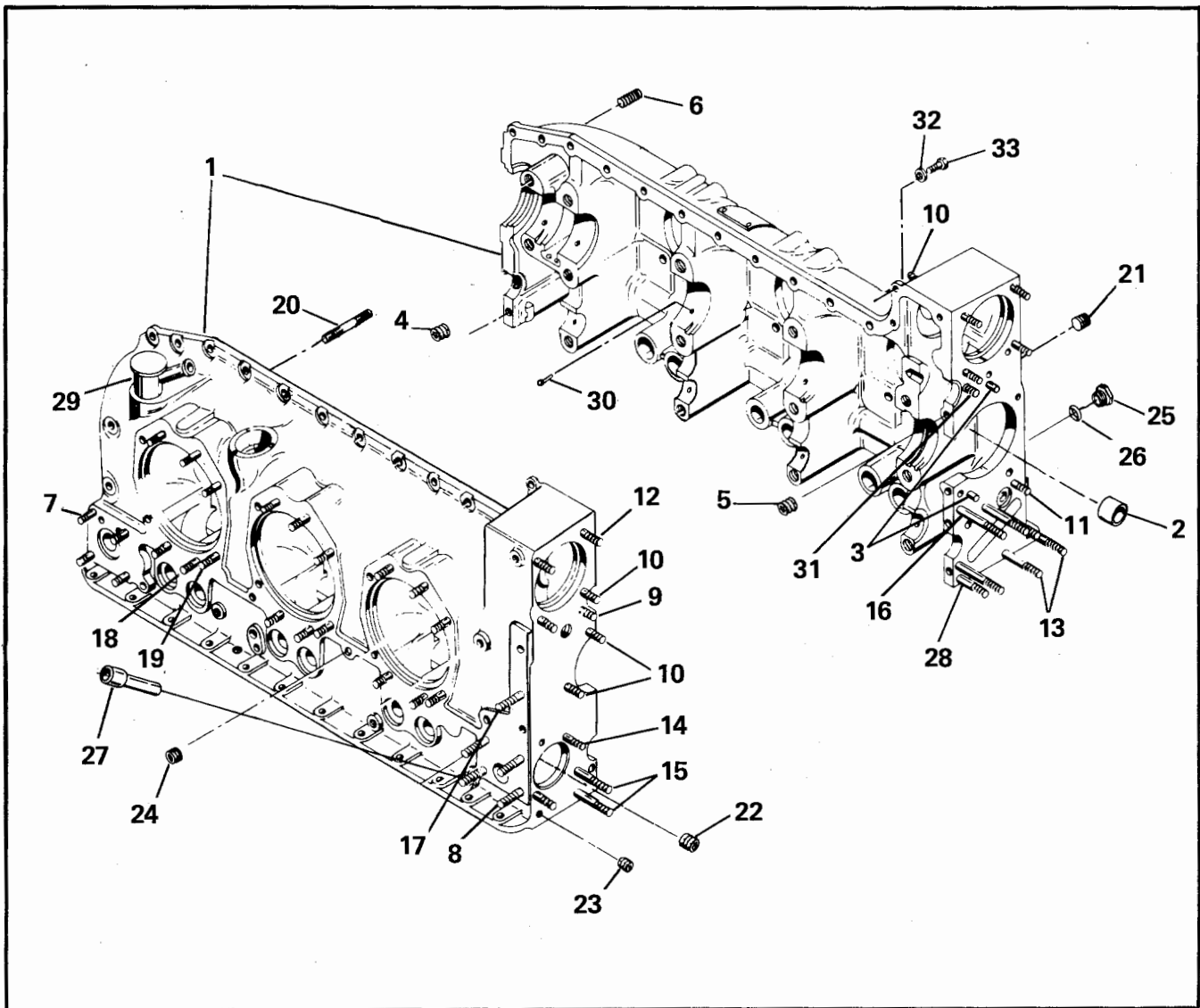


FIGURE 1. CRANKCASE STUDDING ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                    | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |    |    |    |    |    |    |   |  |
|---------------|----------------|-----------|------------------------------------------------|---------------------------------|----|---|----|----|----|----|----|----|---|--|
|               |                |           |                                                | A                               | BA | C | D  | E  | F  | J  | K  | L  | M |  |
| 1-1           | 642187A1       | ①         | Studding Assembly, Crankcase .....             | 1                               |    |   | 1  |    | 1  | 1  |    | 1  |   |  |
| -1            | 642158A1       | ①         | Studding Assembly, Crankcase .....             |                                 |    |   |    | 1  |    |    |    |    |   |  |
| -1            | 642532A1       | ①         | Studding Assembly, Crankcase .....             |                                 |    |   |    |    |    |    | 1  |    |   |  |
| -2            | 537721         |           | . Bearing, Needle .....                        | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -3            | 531548         |           | . Dowel, 5/16 x 11/16 Inch Long .....          | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |  |
| -4            | MS122162       |           | . Helical Coil .....                           | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |  |
| -5            | MS122122       |           | . Helical Coil .....                           | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -6            | 401808         | †         | . Stud, 1/4 x 1-5/16 Inch Long .....           | 5                               |    |   | 5  | 5  | 5  | 5  | 5  | 5  |   |  |
| -7            | 401899         | †         | . Stud, 5/16 x 2.00 Inch Long .....            | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |  |
| -8            | 402066         | †         | . Stud, 3/8 x 1-7/8 Inch Long .....            | 16                              |    |   | 16 | 16 | 16 | 16 | 16 | 16 |   |  |
| -9            | 401870         | †         | . Stud, 1/4 x 1-1/8 Inch Long .....            | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |  |
| -10           | 401885         | †         | . Stud, 5/16 x 1-5/16 Inch Long .....          | 12                              |    |   | 12 | 10 | 12 | 12 | 12 | 12 |   |  |
| -11           | 401852         | †         | . Stud, 1/4 x 1-13/32 Inch Long .....          | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -12           | 401965         | †         | . Stud, 3/8 x 1-17/32 Inch Long .....          | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |  |
| -13           | 402129         | †         | . Stud, 1/4 x 2-3/4 Inch Long .....            |                                 |    |   |    | 2  |    |    |    |    |   |  |
| -14           | 402151         | †         | . Stud, 5/16 x 1-1/4 Inch Long .....           | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |  |
| -15           | 402158         | †         | . Stud, 1/4 x 4-13/32 Inch Long .....          | 5                               |    |   | 5  | 5  | 5  | 5  | 5  | 5  |   |  |
| -16           | 402159         | †         | . Stud, 1/4 x 4-3/32 Inch Long .....           | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |  |
| -17           | 401881         | †         | . Stud, 5/16 x 1-1/4 Inch Long .....           | 1                               |    |   | 1  | 1  | 1  | 1  |    | 1  |   |  |
| -18           | 639418-3       | ②         | . Stud, 7/16 x 1-19/32 Inch Long (Class 3) ... | 24                              |    |   | 24 | 24 | 24 | 24 | 24 | 24 |   |  |
| -18           | 631867         | ② †       | . Stud .....                                   | 24                              |    |   | 24 | 24 | 24 | 24 | 24 | 24 |   |  |
| -19           | 639418-4       | ②         | . Stud, 7/16 x 2-1/16 Inch Long (Class 3) .... | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |  |
| -19           | 538404         | ② †       | . Stud, .....                                  | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |  |
| -20           | 401950         | †         | . Stud, 5/16 x 4-7/8 Inch Long .....           | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -21           | 629518-1H      |           | . Plug, 1/8 - 27 NPTF .....                    | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -22           | 2025           |           | . Plug, 3/8 - 18 NPT .....                     | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |  |
| -23           | 629518-1H      |           | . Plug, 1/8 - 27 NPTF .....                    | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -24           | 629518-3H      |           | . Plug, 3/8 - 18 NPTF .....                    | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |  |
| -25           | 532432         |           | . Plug, Machine Thread .....                   | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -26           | AN900-10       | \$        | . Gasket, Copper .....                         | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -27           | 631927         |           | . Housing, Oil Gauge Rod .....                 | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -28           | 401832         | †         | . Stud, 1/4 x 2-13/16 Inch Long .....          | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |  |
| -29           | 537505         |           | . Breather Assembly, Crankcase .....           | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -30           | 629847         |           | . Nozzle, Squirt .....                         | 6                               |    |   | 6  | 6  | 6  | 6  | 6  | 6  |   |  |
| -31           | 401895         | †         | . Stud, 5/16 x 2-7/16 Inch Long .....          |                                 |    |   |    | 2  |    |    |    |    |   |  |
| -32           | 2473           |           | . Washer, Plain .....                          | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -33           | AN5-13A        |           | . Bolt .....                                   | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |

NOTES:

- ① These are Phase 3 style crankcases. For earlier style, Phase 1 & 2, see Service Bulletin M78-9.
- ② Service in accordance with Service Bulletin M72-24.

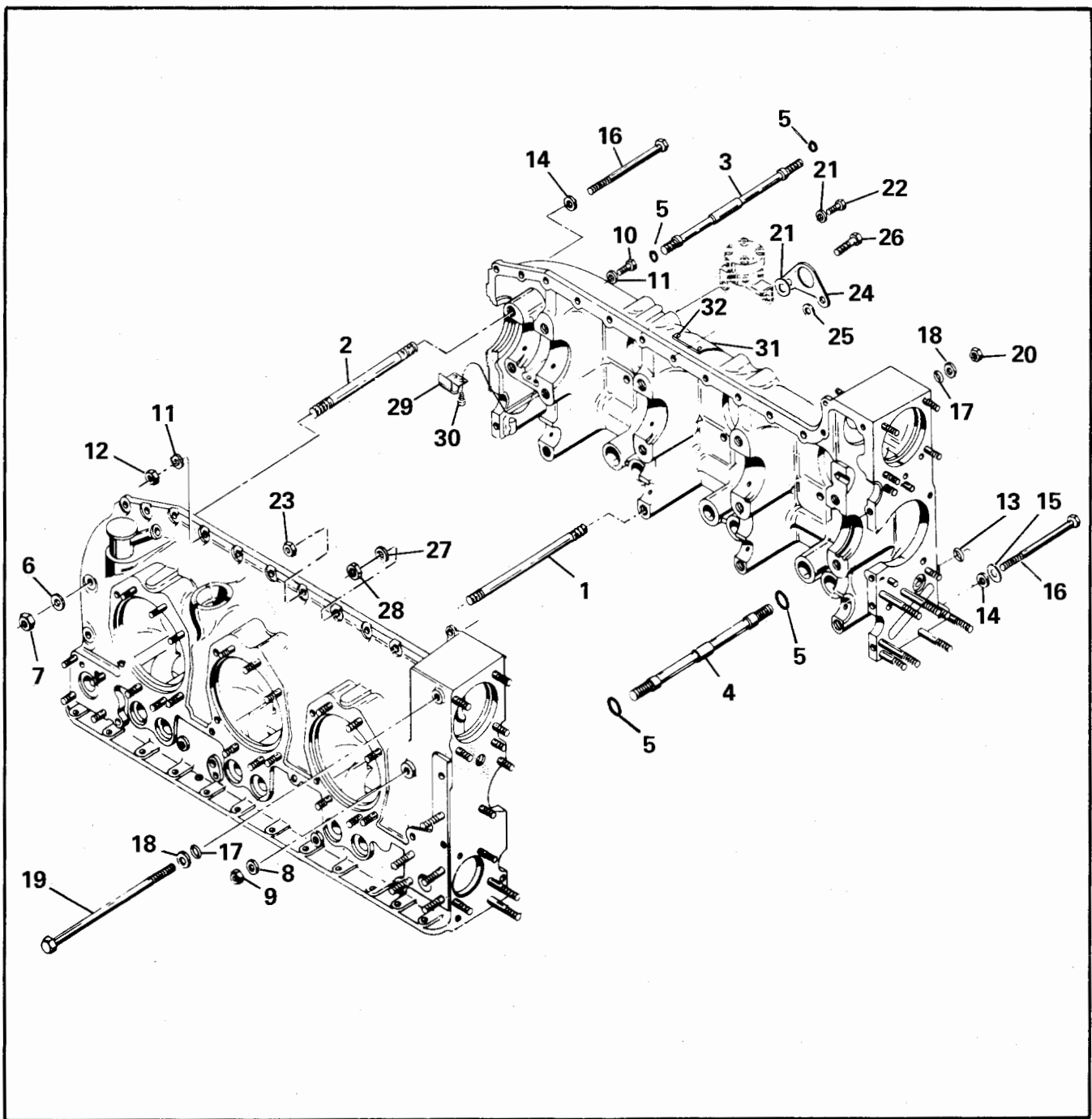


FIGURE 2. CRANKCASE ATTACHING PARTS

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                      | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |    |    |    |    |    |    |   |
|---------------|----------------|--------------------------------------------|---------------------------------|----|---|----|----|----|----|----|----|---|
|               |                |                                            | A                               | BA | C | D  | E  | F  | J  | K  | L  | M |
| 2- 1          | 538944-10.50   | Bolt, Crankcase thru .....                 | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |
| -2            | 538944-8.88    | Bolt, Crankcase thru .....                 | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -3            | 641930-9.81    | Bolt, Crankcase thru .....                 | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -4            | 641931-10.75   | Bolt, Crankcase thru .....                 | 7                               |    |   | 7  | 7  | 7  | 7  | 7  | 7  |   |
| -5            | MS29513-010    | O-Ring .....                               | 16                              |    |   | 16 | 16 | 16 | 16 | 16 | 16 |   |
| -6            | 25171          | Spacer, Crankcase thru Bolt .....          | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |
| -7            | 531001         | Nut, Flanged, Crankcase thru Bolt .....    | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |
| -8            | 538989         | Washer, Plain, 1/2 Inch .....              | 3                               |    |   | 3  | 3  | 3  | 3  | 4  | 3  |   |
| -9            | 634511         | Nut, Plain, 1/2 - 20 .....                 | 3                               |    |   | 3  | 3  | 3  | 3  | 4  | 3  |   |
| -10           | AN5-13A ①      | Bolt .....                                 | 9                               |    |   | 9  | 9  | 9  | 9  | 9  | 9  |   |
| -10           | AN5-12A ②      | Bolt .....                                 | 9                               |    |   | 9  | 9  | 9  | 9  | 9  | 9  |   |
| -11           | 2473           | Washer, Plain .....                        | 11                              |    |   | 11 | 11 | 11 | 11 | 11 | 11 |   |
| -12           | 2439           | Nut, Plain, Hex .....                      | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |
| -13           | 25328 \$       | O-Ring .....                               | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -14           | 539374         | Washer, Plain .....                        | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -15           | 2473           | Washer, Plain .....                        | 3                               |    |   | 3  | 3  | 4  | 3  | 4  | 4  |   |
| -16           | 627433         | Bolt, 5/16 - 18 x 5-1/4 Inch Long .....    | 4                               |    |   | 4  | 4  | 5  | 4  | 5  | 5  |   |
| -17           | AN123862 \$    | O-Ring .....                               | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -18           | 24239          | Washer, Plain .....                        | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -19           | 535810         | Bolt, 3/8 - 24 x 9-13/16 Inch Long .....   | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -20           | 2441           | Nut, Plain, Hex .....                      | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -21           | 2473           | Washer, Plain .....                        | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -22           | AN5-13A ①      | Bolt .....                                 | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -22           | AN5-12A ②      | Bolt .....                                 | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -23           | 2439           | Nut, Plain, Hex .....                      | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
|               |                | * * * * *                                  |                                 |    |   |    |    |    |    |    |    |   |
| -24           | 538650         | Eye, Engine Lifting .....                  | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
|               |                | ATTACHING PARTS                            |                                 |    |   |    |    |    |    |    |    |   |
| -25           | 538949         | Washer, Crankcase - To - Lifting Eye ..... | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -26           | AN5-15A ①      | Bolt .....                                 | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -26           | AN5-14A ②      | Bolt .....                                 | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -27           | 2473           | Washer, Plain .....                        | 3                               |    |   | 3  | 3  | 3  | 3  | 3  | 3  |   |
| -28           | 2439           | Nut, Plain Hex .....                       | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
|               |                | * * * * *                                  |                                 |    |   |    |    |    |    |    |    |   |
| -29           | 642250 ③       | Clip, Oil Transfer .....                   | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
|               |                | ATTACHING PARTS                            |                                 |    |   |    |    |    |    |    |    |   |
| -30           | AN500A10-4     | Screw .....                                | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
|               |                | * * * * *                                  |                                 |    |   |    |    |    |    |    |    |   |
| -31           | ***            | Plate, Identification .....                | RF                              |    |   | RF | RF | RF | RF | RF | RF |   |
|               |                | ATTACHING PARTS                            |                                 |    |   |    |    |    |    |    |    |   |
| -32           | 24764          | Screw, Drive, 1/16 x 1/8 Inch Long .....   | 6                               |    |   | 6  | 6  | 6  | 6  | 6  | 6  |   |

NOTES:

- ① These bolts are used with Phase 3 crankcases. See Service Bulletin M78-9.
- ② These bolts are used with Phase 1 & 2 crankcases. See Service Bulletin M78-9.
- ③ Early crankcase design uses P/N626990 (See Service Bulletin M78-3)
- \*\*\* Order Identification Plate in accordance with Service Bulletin M75-5.

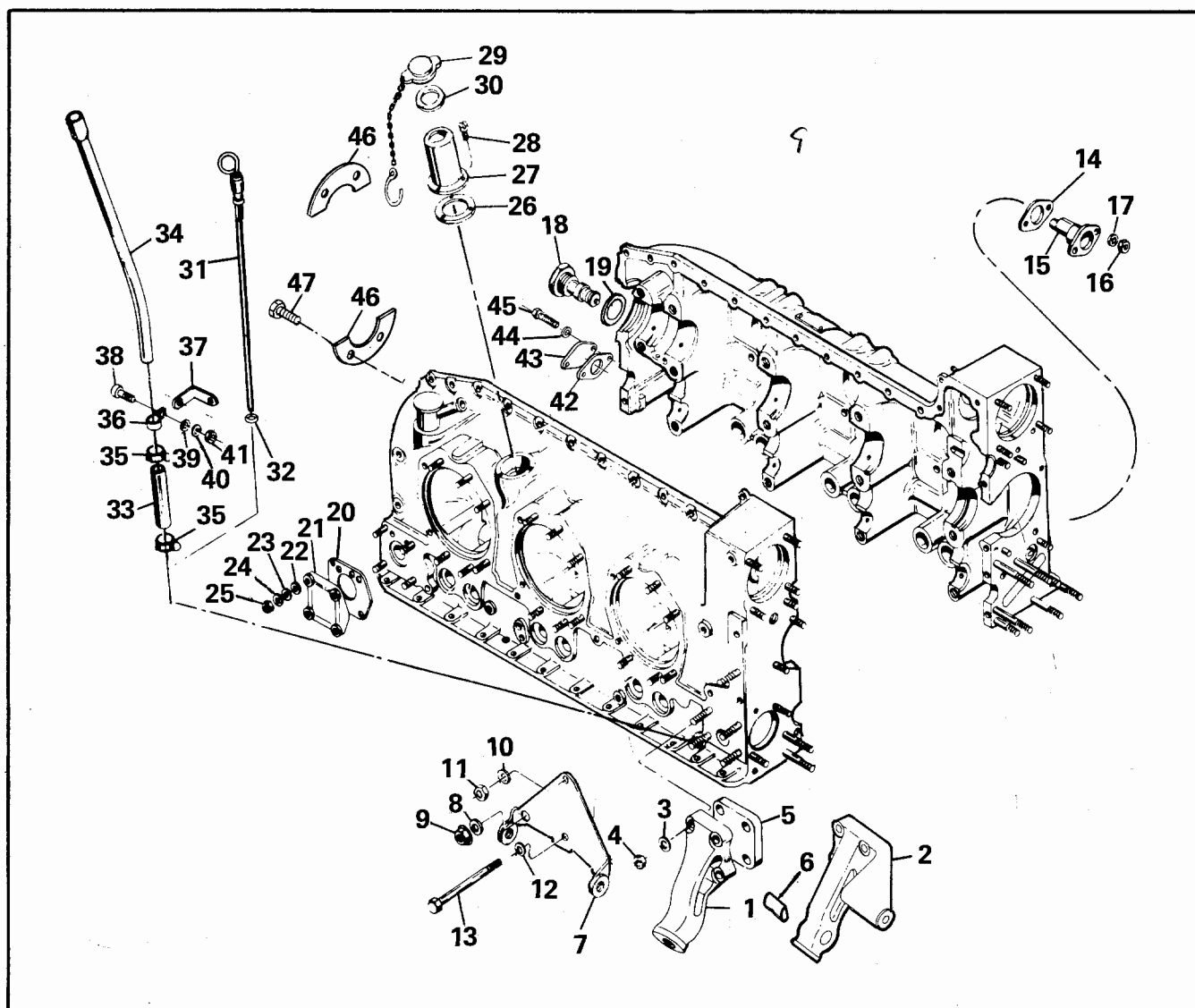


FIGURE 3. CRANKCASE ASSOCIATED PARTS

| FIG. INDEX      | PART NUMBER | DESCRIPTION                              | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |    |    |    |    |    |    |   |
|-----------------|-------------|------------------------------------------|---------------------------------|----|---|----|----|----|----|----|----|---|
|                 |             |                                          | A                               | BA | C | D  | E  | F  | J  | K  | L  | M |
| 3- 1            | 539518      | ⊙Bracket, Engine Mount.....              | 4                               |    |   | 3  | 3  | 3  | 3  | 3  | 3  |   |
| -2              | 628257      | ⊙Bracket, Engine Mount, Cyl. No. 2.....  |                                 |    |   | 1  | 1  | 1  | 1  |    | 1  |   |
| -2              | 634673      | ⊙Bracket, Engine Mount & Alternator..... |                                 |    |   |    |    |    |    | 1  |    |   |
| ATTACHING PARTS |             |                                          |                                 |    |   |    |    |    |    |    |    |   |
| -3              | 539058      | Washer, Plain.....                       | 16                              |    |   | 16 | 16 | 16 | 16 | 16 | 16 |   |
| -4              | 2441        | Nut, Plain Hex.....                      | 16                              |    |   | 16 | 16 | 16 | 16 | 16 | 16 |   |
| -5              | 632357      | Spacer, Bracket, Engine Mount.....       |                                 |    |   | 1  | 1  | 1  | 1  |    | 1  |   |
| -6              | 627773      | Nut, Barrel.....                         | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |
| * * * *         |             |                                          |                                 |    |   |    |    |    |    |    |    |   |
| -7              | 627690      | Bracket, Generator.....                  | 1                               |    |   |    |    |    |    |    |    |   |
| ATTACHING PARTS |             |                                          |                                 |    |   |    |    |    |    |    |    |   |
| -8              | 538989      | Washer, Plain.....                       | 1                               |    |   |    | 1  |    |    |    | 1  |   |
| -9              | 634505      | Nut, Flanged.....                        | 1                               |    |   |    | 1  |    |    |    | 1  |   |
| -10             | 2794        | Washer, Plain.....                       | 1                               |    |   |    |    |    |    |    |    |   |
| -11             | 2439        | Nut, Plain Hex.....                      | 1                               |    |   |    |    |    |    |    |    |   |
| -12             | 2473        | Washer, Plain.....                       | 1                               |    |   | 1  | 1  | 1  |    |    | 1  |   |
| -13             | 627433      | Bolt, 5/16 - 18 x 5-1/4 Inch Long.....   | 1                               |    |   | 1  | 1  | 1  |    |    | 1  |   |

| FIG. INDEX | PART NUMBER | 12345 DESCRIPTION                             | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |
|------------|-------------|-----------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|
|            |             |                                               | A                               | BA | C | D | E | F | J | K | L | M |
|            |             | * * * *                                       |                                 |    |   |   |   |   |   |   |   |   |
| 3-14       | 534740      | \$ Gasket, Idler Support Pin .....            | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -15        | 534728      | Pin, Idler Support .....                      | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
|            |             | ATTACHING PARTS                               |                                 |    |   |   |   |   |   |   |   |   |
| -16        | MS35338-44  | Washer, Lock .....                            | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |
| -17        | 2437        | Nut, Plain Hex .....                          | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |
|            |             | * * * *                                       |                                 |    |   |   |   |   |   |   |   |   |
| -18        | 639304      | Valve Assembly, Oil Temperature Control ..... | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -19        | 625966      | \$ . Gasket .....                             | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -20        | 641651      | \$ Gasket, Governor Pad .....                 | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -21        | 639997      | Cover, Governor Pad .....                     | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
|            |             | ATTACHING PARTS                               |                                 |    |   |   |   |   |   |   |   |   |
| -22        | 22535       | Washer, 5 1/6 x 9/16 x 1/4 Inch Thick .....   | 8                               |    |   | 8 | 8 | 8 | 8 | 8 | 8 |   |
| -23        | 2473        | Washer, Plain .....                           | 4                               |    |   | 4 | 4 | 4 | 4 | 4 | 4 |   |
| -24        | MS35338-45  | Washer, Plain .....                           | 4                               |    |   | 4 | 4 | 4 | 4 | 4 | 4 |   |
| -25        | 2439        | Nut, Plain Hex .....                          | 4                               |    |   | 4 | 4 | 4 | 4 | 4 | 4 |   |
|            |             | * * * *                                       |                                 |    |   |   |   |   |   |   |   |   |
| -26        | 538804      | \$ Gasket, Oil Filler Neck .....              | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -27        | 538801      | Neck Assembly, Oil Filler .....               | 1                               |    |   |   | 1 | 1 | 1 | 1 | 1 |   |
| -27        | 538773      | Neck Assembly, Oil Filler .....               |                                 |    |   | 1 |   |   |   |   |   |   |
|            |             | ATTACHING PARTS                               |                                 |    |   |   |   |   |   |   |   |   |
| -28        | AN500-416-8 | Screw .....                                   | 3                               |    |   | 3 | 3 | 3 | 3 | 3 | 3 |   |
|            |             | * * * *                                       |                                 |    |   |   |   |   |   |   |   |   |
| -29        | 640620-8    | Cap Assembly, Oil .....                       | 1                               |    |   | 1 | 1 | 1 |   | 1 |   |   |
| -29        | 640620-5    | Cap Assembly, Oil .....                       |                                 |    |   |   |   |   | 1 |   | 1 |   |
| -30        | 635134      | . Gasket, Oil Filler .....                    | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -31        | ***         | Rod Assembly, Oil Gauge .....                 | 1                               |    |   |   | 1 | 1 |   |   |   |   |
| -32        | 25328       | . O-Ring .....                                | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -33        | 631928      | Hose, Housing Ext-To-Housing .....            | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -34        | 631915      | Housing, Ext, Oil Gauge Rod .....             | 1                               |    |   |   | 1 | 1 | 1 |   | 1 |   |
| -34        | 632151      | Housing, Ext. Oil Gauge Rod .....             |                                 |    |   | 1 |   |   |   |   |   |   |
| -34        | 634630      | Housing, Ext, Oil Gauge Rod .....             |                                 |    |   |   |   |   |   | 1 |   |   |
| -35        | 36151R      | Clamp, Hose, Worm Type .....                  | 2                               |    |   | 2 | 2 |   | 2 | 2 | 2 |   |
| -36        | 631266-1    | Clamp, Housing-To-Bracket .....               | 1                               |    |   | 1 | 1 |   | 1 | 1 | 1 |   |
| -37        | 631275-2    | Bracket, No. 2 Cyl. Intake Man. Flange .....  | 1                               |    |   |   | 1 | 1 | 1 |   | 1 |   |
| -37        | 632149      | Bracket, Oil Gauge Housing .....              |                                 |    |   | 1 |   |   |   |   |   |   |
|            |             | ATTACHING PARTS                               |                                 |    |   |   |   |   |   |   |   |   |
| -38        | 22904       | Screw .....                                   | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -39        | 2471        | Washer, Plain .....                           | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -40        | 20654       | Washer, Lock .....                            | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -41        | 13XX1896    | Nut, No. 10-32 .....                          | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
|            |             | * * * *                                       |                                 |    |   |   |   |   |   |   |   |   |
| -42        | 629202      | Gasket, Cam Hole Cover .....                  | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -43        | 642914      | Cover, Cam Hole .....                         | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
|            |             | ATTACHING PARTS                               |                                 |    |   |   |   |   |   |   |   |   |
| -44        | MS35338-44  | Washer, Lock .....                            | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |
| -45        | 626487      | Screw .....                                   | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |
|            |             | * * * *                                       |                                 |    |   |   |   |   |   |   |   |   |
| -46        | 641361      | Plate, Seal .....                             |                                 |    |   | 2 |   | 2 |   |   | 2 |   |
|            |             | ATTACHING PARTS                               |                                 |    |   |   |   |   |   |   |   |   |
| -47        | 628321-38   | Bolt .....                                    |                                 |    |   | 4 |   | 4 |   |   | 4 |   |

NOTES:

\*\*\* When ordering Oil Gauge Rod, give P/N stamped on Rod. If none, supply engine model, engine serial number, airplane model and year airplane was built.

① See Section VI for Customer Specifications.

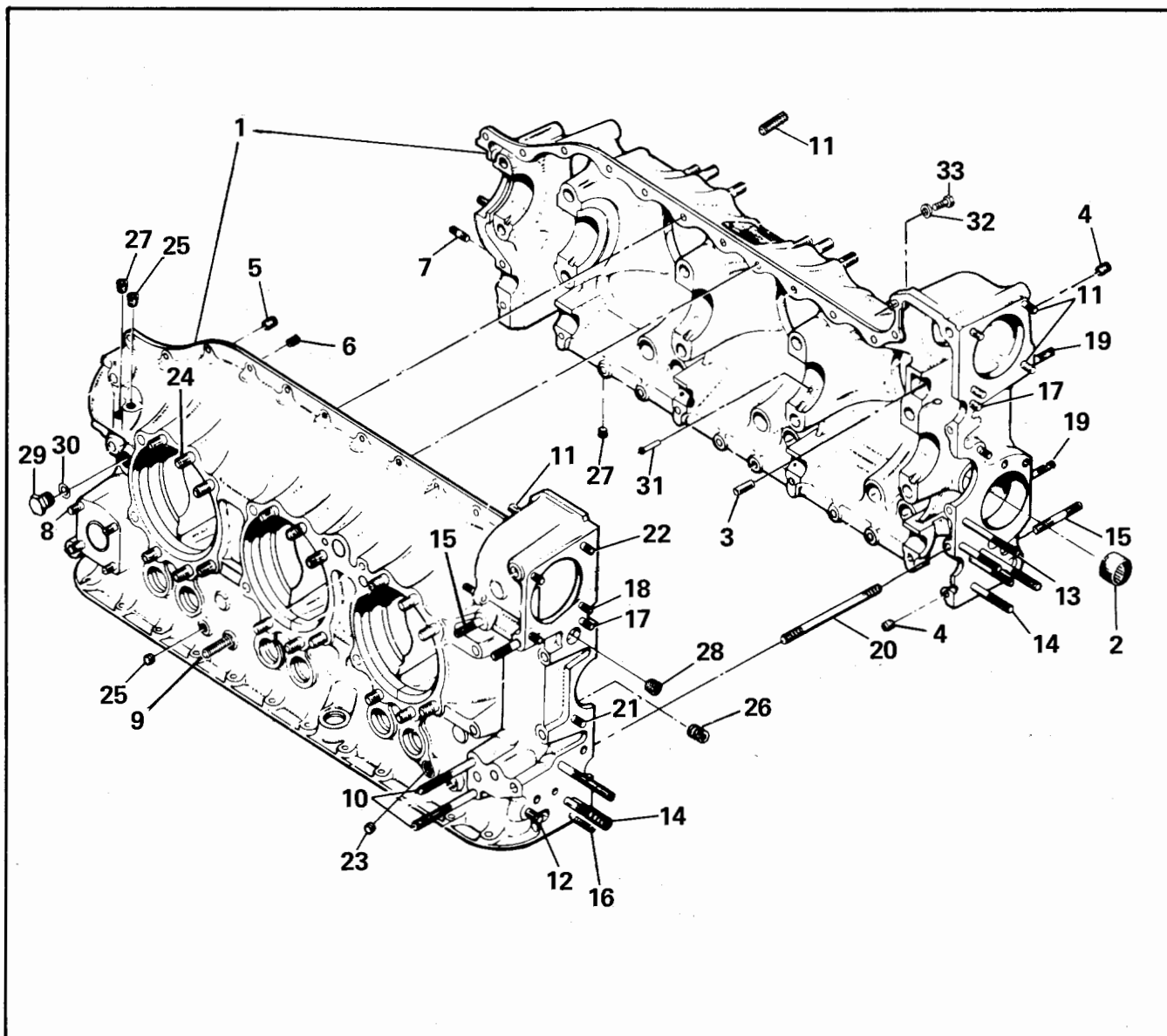


FIGURE 4. CRANKCASE STUDDING ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 12345 DESCRIPTION                      | QUANTITY PER ASSEMBLY |    |    |   |   |   |   |   |   |   |    |
|---------------|----------------|----------------------------------------|-----------------------|----|----|---|---|---|---|---|---|---|----|
|               |                |                                        | IO-520                |    |    |   |   |   |   |   |   |   | ①  |
|               |                |                                        | A                     | BA | C  | D | E | F | J | K | L | M |    |
| 4- 1          | 643196         | ①②Studding Assembly, Crankcase.....    |                       | 1  |    |   |   |   |   |   |   |   |    |
| - 1           | 643199         | ①②Studding Assembly, Crankcase.....    |                       |    | 1  |   |   |   |   |   |   |   |    |
| - 1           | 643200         | ①②Studding Assembly, Crankcase.....    |                       |    |    |   |   |   |   |   |   |   | 1  |
| - 2           | 630899         | . Bearing, Needle .....                |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| - 3           | 630873         | . Dowel, 3/16 x 1/2 Inch Long .....    |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| - 4           | MS122163       | . Helical Coil .....                   |                       | 2  | 2  |   |   |   |   |   |   |   | 2  |
| - 5           | MS122162       | . Helical Coil .....                   |                       | 4  | 4  |   |   |   |   |   |   |   | 4  |
| - 6           | MS122122       | . Helical Coil .....                   |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| - 7           | 401804         | †. Stud, 1/4 x 1-1/16 Inch Long.....   |                       | 2  |    |   |   |   |   |   |   |   | 2  |
| - 7           | 401801         | †. Stud, 1/4 x 1-3/16 Inch Long.....   |                       |    | 2  |   |   |   |   |   |   |   |    |
| - 8           | 401814         | †. Stud, 5/16 x 1-7/8 Inch Long.....   |                       | 4  | 4  |   |   |   |   |   |   |   | 4  |
| - 9           | 401873         | †. Stud, 3/8 x 1-7/8 Inch Long.....    |                       |    |    |   |   |   |   |   |   |   | 8  |
| -10           | 401842         | †. Stud, 3/8 x 2-9/16 Inch Long.....   |                       |    | 2  |   |   |   |   |   |   |   |    |
| -10           | 401860         | †. Stud, 3/8 x 1-9/16 Inch Long.....   |                       |    |    |   |   |   |   |   |   |   | 2  |
| -10           | 402127         | †. Stud, 3/8 x 1-19/32 Inch Long ..... |                       | 2  |    |   |   |   |   |   |   |   |    |
| -11           | 401885         | †. Stud, 5/16 x 1-5/16 Inch Long ..... |                       | 14 | 12 |   |   |   |   |   |   |   | 14 |
| -12           | 401927         | †. Stud, 3/8 x 3-1/2 Inch Long .....   |                       | 3  | 3  |   |   |   |   |   |   |   | 3  |
| -13           | 401932         | †. Stud, 5/16 x 4-1/8 Inch Long.....   |                       | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -14           | 401936         | †. Stud, 1/4 x 3-7/8 Inch Long.....    |                       | 5  | 5  |   |   |   |   |   |   |   | 5  |
| -15           | 401944         | †. Stud, 3/8 x 2-7/16 Inch Long.....   |                       |    | 3  |   |   |   |   |   |   |   |    |
| -15           | 401965         | †. Stud, 3/8 x 1-13/32 Inch Long ..... |                       | 2  |    |   |   |   |   |   |   |   | 2  |
| -16           | 401962         | †. Stud, 1/4 x 2-3/16 Inch Long.....   |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -17           | 401963         | †. Stud, 5/16 x 2-5/16 Inch Long ..... |                       | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -18           | 401863         | †. Stud, 5/16 x 2-5/16 Inch Long ..... |                       |    | 2  |   |   |   |   |   |   |   |    |
| -19           | 401977         | †. Stud, 3/8 x 2-3/32 Inch Long.....   |                       |    | 4  |   |   |   |   |   |   |   | 4  |
| -20           | 402034         | †. Stud, 5/16 x 6 Inch Long .....      |                       | 1  |    |   |   |   |   |   |   |   | 1  |
| -20           | 524183         | †. Stud, 5/16 x 6-7/8 Inch Long.....   |                       |    | 1  |   |   |   |   |   |   |   |    |
| -21           | 402151         | †. Stud, 5/16 x 1-1/4 Inch Long.....   |                       | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -22           | 401965         | †. Stud, 3/8 x 1-13/32 Inch Long ..... |                       | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -23           | 629518-1H      | . Plug, 1/8 - 27 NPTF .....            |                       | 1  | 2  |   |   |   |   |   |   |   |    |
| -24           | 639418-3       | ③. Stud, 7/16 x 2-1/16 Inch Long.....  |                       | 36 | 36 |   |   |   |   |   |   |   | 36 |
| -24           | 631867         | ③†. Stud.....                          |                       | 36 | 36 |   |   |   |   |   |   |   | 36 |
| -25           | 401752         | . Plug, Pipe, 1/8 - 27 .....           |                       | 3  | 3  |   |   |   |   |   |   |   | 5  |
| -26           | AN932C2        | . Plug, Pipe .....                     |                       | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -27           | 402941         | . Plug, Pipe, 1/16 - 27 .....          |                       | 4  | 4  |   |   |   |   |   |   |   | 4  |
| -28           | 2025           | . Plug, Pipe, 3/8 - 18 .....           |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -29           | 532432         | . Plug, Machine Thread, 5/8 - 18.....  |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -30           | AN900-10       | . Gasket, Copper .....                 |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -31           | 629847         | . Nozzle, Squirt.....                  |                       | 6  | 6  |   |   |   |   |   |   |   | 6  |
| -32           | 539374         | . Washer, Plain .....                  |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -33           | AN5-13A        | . Bolt .....                           |                       | 1  | 1  |   |   |   |   |   |   |   | 1  |

NOTES:

① For IO-520-BB, CB and MB configuration. See Figure 5.

② If replacing older configuration crankcase, it will be necessary to purchase EQ6530 for the 642088 crankcase and EQ6531 for the 642090 and 642092 crankcase.

③ Service in accordance with Service Bulletin M72-24.

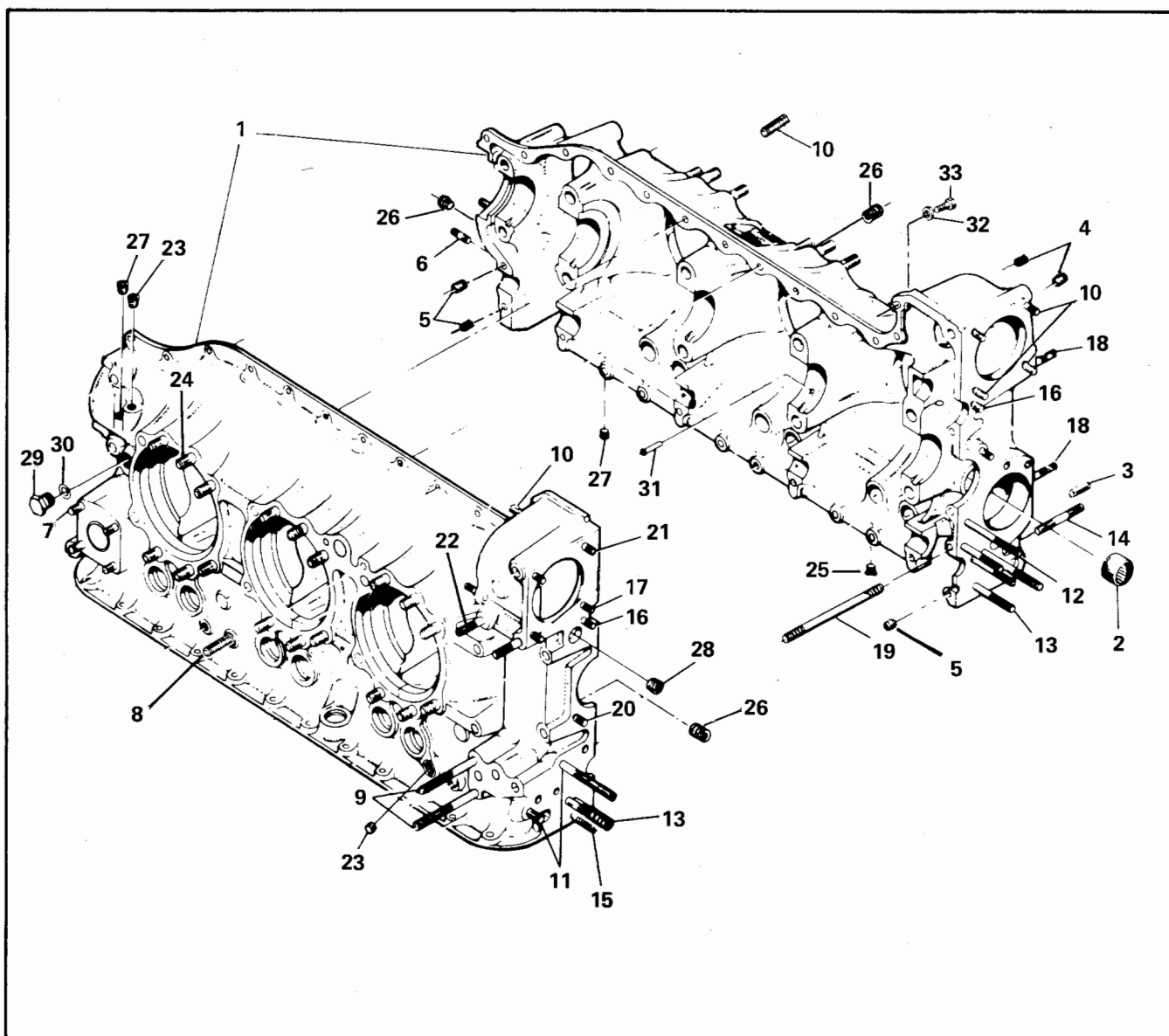


FIGURE 5. CRANKCASE STUDDING ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 12345<br>DESCRIPTION                    | QUANTITY PER ASSEMBLY<br>IO-520 |         |  |  |  |  |  |  |         |  |
|---------------|----------------|-----------------------------------------|---------------------------------|---------|--|--|--|--|--|--|---------|--|
|               |                |                                         | ①<br>BB                         | ①<br>CB |  |  |  |  |  |  | ①<br>MB |  |
| 5- 1          | 643203         | ①Studding Assembly, Crankcase.....      | 1                               |         |  |  |  |  |  |  |         |  |
| - 1           | 643204         | ①Studding Assembly, Crankcase.....      |                                 | 1       |  |  |  |  |  |  |         |  |
| - 1           | 643205         | ①Studding Assembly, Crankcase.....      |                                 |         |  |  |  |  |  |  | 1       |  |
| - 2           | 630899         | . Bearing, Needle .....                 | 1                               | 1       |  |  |  |  |  |  | 1       |  |
| - 3           | 630873         | . Dowel, 3/16 x 1/2 Inch Long .....     | 1                               | 1       |  |  |  |  |  |  | 1       |  |
| - 4           | MS122163       | . Helical Coil .....                    | 2                               | 2       |  |  |  |  |  |  | 2       |  |
| - 5           | MS122162       | . Helical Coil .....                    | 5                               | 5       |  |  |  |  |  |  | 5       |  |
| - 6           | 401804         | †. Stud, 1/4 x 1-1/16 Inch Long.....    | 2                               | 2       |  |  |  |  |  |  | 2       |  |
| - 7           | 401814         | †. Stud, 5/16 x 1-7/8 Inch Long.....    | 4                               | 4       |  |  |  |  |  |  | 4       |  |
| - 8           | 401873         | †. Stud, 3/8 x 1-7/8 Inch Long.....     |                                 |         |  |  |  |  |  |  | 8       |  |
| - 9           | 401842         | †. Stud, 3/8 x 2-9/16 Inch Long.....    |                                 | 2       |  |  |  |  |  |  |         |  |
| - 9           | 401860         | †. Stud, 3/8 x 1-9/16 Inch Long.....    |                                 |         |  |  |  |  |  |  | 2       |  |
| - 9           | 402127         | †. Stud, 3/8 x 1-19/32 Inch Long .....  | 2                               |         |  |  |  |  |  |  |         |  |
| -10           | 401885         | †. Stud, 5/16 x 1-5/16 Inch Long .....  | 14                              | 12      |  |  |  |  |  |  | 14      |  |
| -11           | 401927         | †. Stud, 3/8 x 3-1/2 Inch Long.....     | 3                               | 3       |  |  |  |  |  |  | 3       |  |
| -12           | 401932         | †. Stud, 5/16 x 4-1/8 Inch Long.....    | 2                               | 2       |  |  |  |  |  |  | 1       |  |
| -12           | 402359         | †. Stud, 5/16 x 4-23/32 Inch Long ..... |                                 |         |  |  |  |  |  |  | 1       |  |
| -13           | 401936         | †. Stud, 1/4 x 3-7/8 Inch Long.....     | 5                               | 5       |  |  |  |  |  |  | 5       |  |
| -14           | 401944         | †. Stud, 3/8 x 2-7/16 Inch Long.....    |                                 | 1       |  |  |  |  |  |  |         |  |
| -14           | 401965         | †. Stud, 3/8 x 1-13/32 Inch Long .....  | 2                               |         |  |  |  |  |  |  | 2       |  |
| -15           | 401962         | †. Stud, 1/4 x 2-3/16 Inch Long.....    | 1                               | 1       |  |  |  |  |  |  | 1       |  |
| -16           | 401963         | †. Stud, 5/16 x 2-5/16 Inch Long .....  | 2                               | 2       |  |  |  |  |  |  | 2       |  |
| -17           | 401863         | †. Stud, 5/16 x 2-5/16 Inch Long .....  |                                 | 2       |  |  |  |  |  |  |         |  |
| -18           | 401977         | †. Stud, 3/8 x 2-3/32 Inch Long.....    |                                 | 4       |  |  |  |  |  |  | 4       |  |
| -19           | 402034         | †. Stud, 5/16 x 6 Inch Long .....       | 1                               |         |  |  |  |  |  |  | 1       |  |
| -19           | 524183         | †. Stud, 5/16 x 6-7/8 Inch Long.....    |                                 | 1       |  |  |  |  |  |  |         |  |
| -20           | 402151         | †. Stud, 5/16 x 1-1/4 Inch Long.....    | 2                               | 2       |  |  |  |  |  |  | 2       |  |
| -21           | 401965         | †. Stud, 3/8 x 1-13/32 Inch Long .....  | 2                               | 2       |  |  |  |  |  |  | 2       |  |
| -22           | 401965         | †. Stud, 3/8 x 1-13/32 Inch Long .....  | 2                               |         |  |  |  |  |  |  | 2       |  |
| -22           | 401944         | †. Stud, 3/8 x 2-7/16 Inch Long.....    |                                 | 2       |  |  |  |  |  |  |         |  |
| -23           | 629518-1H      | . Plug, 1/8 - 27 NPTF .....             | 1                               | 2       |  |  |  |  |  |  |         |  |
| -24           | 639418-3       | ②. Stud, 7/16 x 2-1/16 Inch Long.....   | 36                              | 36      |  |  |  |  |  |  | 36      |  |
| -25           | 401752         | . Plug, Pipe, 1/8 - 27 .....            | 3                               | 3       |  |  |  |  |  |  | 5       |  |
| -26           | AN932C2        | . Plug, Pipe .....                      | 2                               | 2       |  |  |  |  |  |  | 2       |  |
| -27           | 402941         | . Plug, Pipe, 1/16 - 27 .....           | 4                               | 4       |  |  |  |  |  |  | 4       |  |
| -28           | 2025           | . Plug, Pipe, 3/8 - 18 .....            | 1                               | 1       |  |  |  |  |  |  | 1       |  |
| -29           | 532432         | . Plug, Machine Thread, 5/8 - 18.....   | 1                               | 1       |  |  |  |  |  |  | 1       |  |
| -30           | AN900-10       | . Gasket, Copper .....                  | 1                               | 1       |  |  |  |  |  |  | 1       |  |
| -31           | 629847         | . Nozzle, Squirt .....                  | 6                               | 6       |  |  |  |  |  |  | 6       |  |
| -32           | 539374         | . Washer, Plain .....                   | 1                               | 1       |  |  |  |  |  |  | 1       |  |
| -33           | AN5-13A        | . Bolt .....                            | 1                               | 1       |  |  |  |  |  |  | 1       |  |

NOTES:

① For IO-520-BA, C and M configuration. See Figure 4.

② Service in accordance with Service Bulletin M72-24.

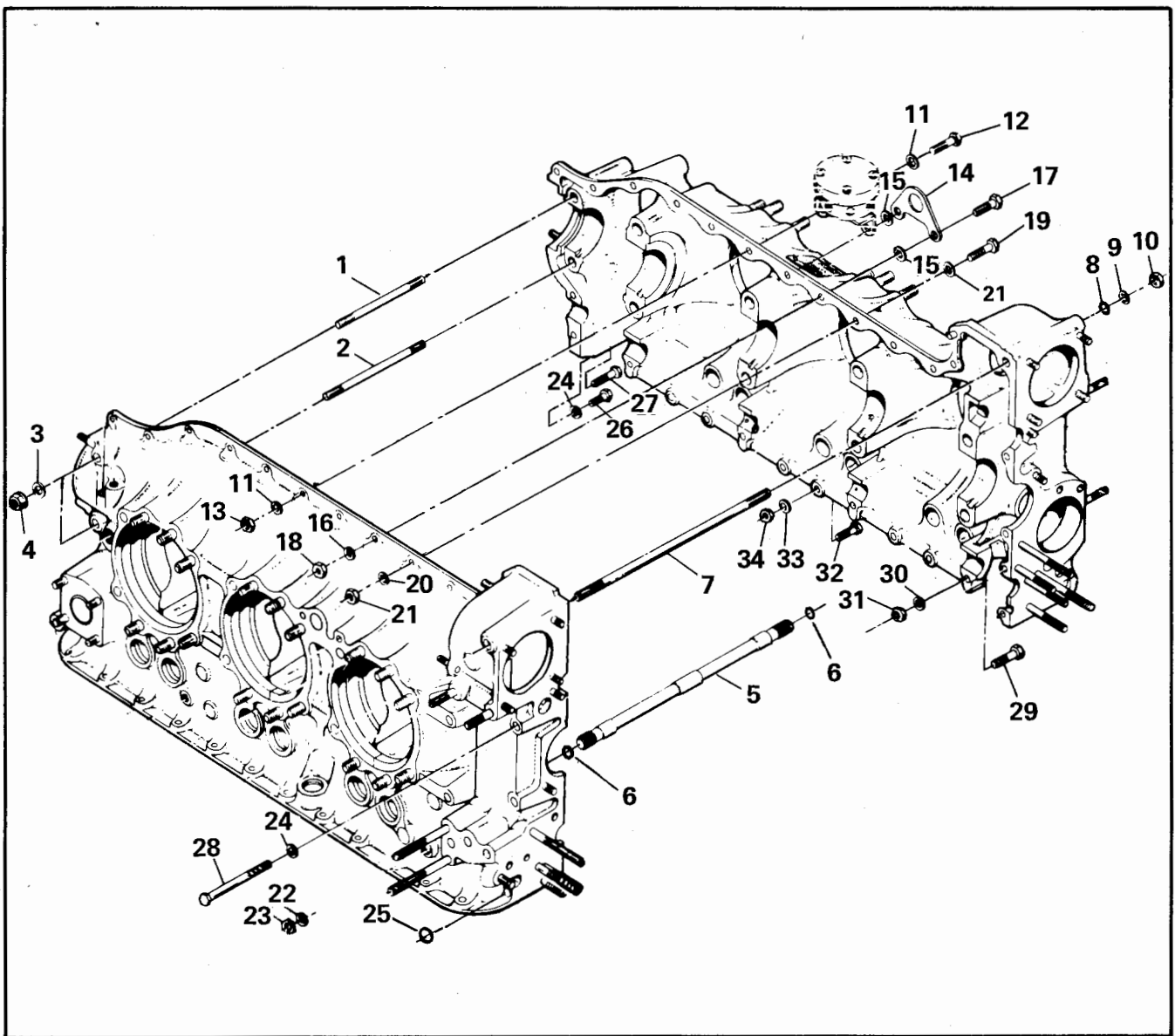


FIGURE 6. CRANKCASE ATTACHING PARTS

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                         | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |   |   |   |   |   |   |   |    |
|---------------|----------------|-----------------------------------------------|---------------------------------|----|----|---|---|---|---|---|---|---|----|
|               |                |                                               | A                               | BA | C  | D | E | F | J | K | L | M |    |
| 6-1           | 538944-5.31    | Bolt, Crankcase thru . . . . .                |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -2            | 538944-6.19    | Bolt, Crankcase thru . . . . .                |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -3            | 20202          | Washer, Plain . . . . .                       |                                 | 4  | 4  |   |   |   |   |   |   |   | 4  |
| -4            | 531001         | Nut, Flanged . . . . .                        |                                 | 4  | 4  |   |   |   |   |   |   |   | 4  |
| -5            | 641931-10.75   | Bolt, Crankcase thru . . . . .                |                                 | 8  | 8  |   |   |   |   |   |   |   | 8  |
| -6            | MS29513-010\$  | O-Ring . . . . .                              |                                 | 16 | 16 |   |   |   |   |   |   |   | 16 |
| -7            | 630693-10.44   | Bolt, Crankcase thru . . . . .                |                                 | 1  |    |   |   |   |   |   |   |   | 1  |
| -7            | 630693-12.14   | Bolt, Crankcase thru . . . . .                |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -8            | AN123862 \$    | O-Ring . . . . .                              |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -9            | 24239          | Washer, Plain . . . . .                       |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -10           | 2441           | Nut, Plain, Hex . . . . .                     |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -11           | 2473           | Washer, Plain . . . . .                       |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -12           | AN5-14A        | Bolt . . . . .                                |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -13           | 2439           | Nut, Plain, Hex . . . . .                     |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
|               |                | * * * *                                       |                                 |    |    |   |   |   |   |   |   |   |    |
| -14           | 538650         | Eye, Engine Lifting . . . . .                 |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
|               |                | ATTACHING PARTS                               |                                 |    |    |   |   |   |   |   |   |   |    |
| -15           | 538949         | Spacer, Crankcase-to-Lifting Eye . . . . .    |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -16           | 539374         | Washer, Plain . . . . .                       |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -17           | AN5-15A        | Bolt . . . . .                                |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -18           | 2439           | Nut, Plain, Hex . . . . .                     |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
|               |                | * * * *                                       |                                 |    |    |   |   |   |   |   |   |   |    |
| -19           | AN5-13A ①      | Bolt . . . . .                                |                                 | 9  | 8  |   |   |   |   |   |   |   | 9  |
| -19           | AN5-14A ①      | Bolt . . . . .                                |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -20           | 539374         | Washer, Plain . . . . .                       |                                 | 19 | 19 |   |   |   |   |   |   |   | 19 |
| -21           | 2439           | Nut, Plain, Hex . . . . .                     |                                 | 12 | 12 |   |   |   |   |   |   |   | 12 |
| -22           | 632120         | Washer, Plain . . . . .                       |                                 |    | 4  |   |   |   |   |   |   |   | 4  |
| -23           | 634511         | Nut, Flanged, 1/2 - 20 . . . . .              |                                 | 4  | 4  |   |   |   |   |   |   |   | 4  |
| -24           | 2473           | Washer, Plain . . . . .                       |                                 | 5  | 5  |   |   |   |   |   |   |   | 5  |
| -25           | 25328 \$       | O-Ring . . . . .                              |                                 | 1  | 1  |   |   |   |   |   |   |   |    |
| -26           | 537750         | Bolt, 5/16 - 18 x 1-1/8 Inch Long . . . . .   |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -27           | 539003         | Bolt, 5/16 - 18 x 1-3/8 Inch Long . . . . .   |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -28           | 630966-4.00    | Bolt, 5/16 - 18 x 4 Inch Long . . . . .       |                                 | 3  | 3  |   |   |   |   |   |   |   | 3  |
| -29           | MS20073-05-25  | Bolt, 5/16 - 24 x 2-11/16 Inch Long . . . . . |                                 | 3  | 3  |   |   |   |   |   |   |   | 3  |
| -29           | AN5-23A        | Bolt . . . . .                                |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -30           | 2473           | Washer, Plain . . . . .                       |                                 | 8  | 8  |   |   |   |   |   |   |   | 8  |
| -31           | 632443-6       | Nut, Marsden Lock . . . . .                   |                                 | 4  | 4  |   |   |   |   |   |   |   | 4  |
| -32           | 24878          | Bolt . . . . .                                |                                 | 6  | 5  |   |   |   |   |   |   |   |    |
| -32           | AN4-15A        | Bolt . . . . .                                |                                 |    |    |   |   |   |   |   |   |   | 5  |
| -33           | 20522          | Washer, Plain . . . . .                       |                                 | 12 | 10 |   |   |   |   |   |   |   | 10 |
| -34           | 632443-4       | Nut, Marsden, Lock . . . . .                  |                                 | 6  | 5  |   |   |   |   |   |   |   | 5  |

NOTE:

- ① If replacing bolts on the early style crankcase, which does not incorporate raised backbone bolt bosses, order backbone bolt replacement kit EQ6541. See Service Bulletin M77-14 Rev. 1

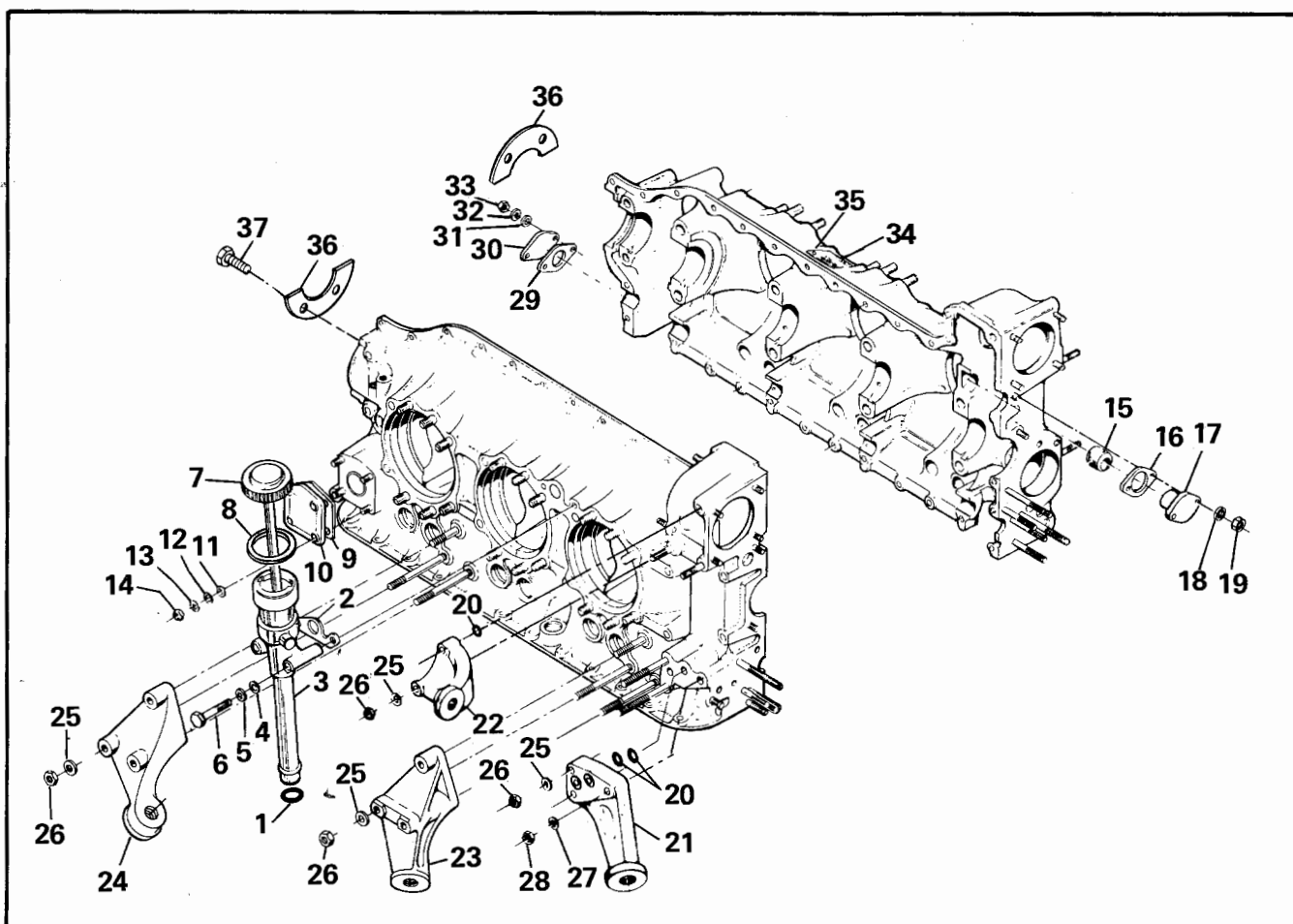


FIGURE 7. CRANKCASE ASSOCIATED PARTS

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                  | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |   |
|-----------------|----------------|-----------|----------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|---|
|                 |                |           |                                              | A                               | BA | C | D | E | F | J | K | L | M |   |
| 7- 1            | MS9021-210     | \$        | O-Ring .....                                 |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -2              | 630892         |           | Gasket, Neck Assembly-to-Crankcase .....     |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -3              | 632964-2       |           | Neck Assembly, Breather and Oil Filler ..... |                                 | 1  |   |   |   |   |   |   |   |   |   |
| -3              | 632964-1       |           | Neck Assembly, Breather and Oil Filler ..... |                                 |    | 1 |   |   |   |   |   |   |   | 1 |
| ATTACHING PARTS |                |           |                                              |                                 |    |   |   |   |   |   |   |   |   |   |
| -4              | 2473           |           | Washer, Plain .....                          |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -5              | MS35338-45     |           | Washer, Lock .....                           |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -6              | 539605         |           | Screw, 5/16 - 18 x 2-3/8 Inch Long .....     |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| * * * *         |                |           |                                              |                                 |    |   |   |   |   |   |   |   |   |   |
| -7              | 633233-3       |           | Gauge and Cap Assembly, Oil .....            |                                 | 1  |   |   |   |   |   |   |   |   |   |
| -7              | 633233-5       |           | Gauge and Cap Assembly, Oil (L.H.) .....     |                                 |    | 1 |   |   |   |   |   |   |   |   |
| -7              | 633233-6       |           | Gauge and Cap Assembly, Oil (R.H.) .....     |                                 |    | 1 |   |   |   |   |   |   |   |   |
| -7              | 633233-22      |           | Gauge and Cap Assembly, Oil (L.H.) .....     |                                 |    |   |   |   |   |   |   |   |   | 1 |
| -7              | 633233-23      |           | Gauge and Cap Assembly, Oil (R.H.) .....     |                                 |    |   |   |   |   |   |   |   |   | 1 |
| -8              | 633240 ①       |           | . Gasket .....                               |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -8              | 633355 ①       |           | . Gasket .....                               |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -9              | 641651         | \$        | Gasket, Governor Pad .....                   |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -10             | 639997         |           | Cover, Governor Pad .....                    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| ATTACHING PARTS |                |           |                                              |                                 |    |   |   |   |   |   |   |   |   |   |
| -11             | 22535          |           | Spacer, Governor .....                       |                                 | 8  | 8 |   |   |   |   |   |   |   | 8 |
| -12             | 2473           |           | Washer, Plain .....                          |                                 | 4  | 4 |   |   |   |   |   |   |   | 4 |
| -13             | MS35338-45     |           | Washer, Lock .....                           |                                 | 4  | 4 |   |   |   |   |   |   |   | 4 |

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                             | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |   |   |   |   |   |   |   |    |
|-----------------|----------------|---------------------------------------------------|---------------------------------|----|----|---|---|---|---|---|---|---|----|
|                 |                |                                                   | A                               | BA | C  | D | E | F | J | K | L | M |    |
| 7-14            | 2439           | Nut, Plain Hex . . . . .<br>* * * *               |                                 | 4  | 4  |   |   |   |   |   |   |   | 4  |
| -15             | 630871         | Bushing, Idler Gear . . . . .                     |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -16             | 534740         | Gasket, Flange-to-Bushing . . . . .               |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -17             | 630870         | Bushing, Flanged, Idler Gear . . . . .            |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| ATTACHING PARTS |                |                                                   |                                 |    |    |   |   |   |   |   |   |   |    |
| -18             | MS35338-44     | Washer, Lock . . . . .                            |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -19             | 2437           | Nut, Plain, Hex . . . . .<br>* * * *              |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -20             | MS9021-017 \$  | O-Ring . . . . .                                  |                                 |    | 2  |   |   |   |   |   |   |   | 4  |
| -21             | 630694         | Bracket Assy., Eng. Mount No. 1 Lower . . . . .   |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -21             | 630695         | Bracket Assy., Eng. Mount No. 2 Lower . . . . .   |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -22             | 631394         | Bracket Engine Mounting No. 1 Upper . . . . .     |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -22             | 631393         | Bracket Engine Mounting No. 2 Upper . . . . .     |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -23             | 631152         | Bracket Assy., Eng. Mount Cyl No. 1 & 6 . . . . . |                                 |    |    |   |   |   |   |   |   |   | 2  |
| -24             | 631154         | Bracket Assy., Eng. Mount Cyl No. 2 & 5 . . . . . |                                 |    |    |   |   |   |   |   |   |   | 2  |
| ATTACHING PARTS |                |                                                   |                                 |    |    |   |   |   |   |   |   |   |    |
| -25             | 2474           | Washer, Plain . . . . .                           |                                 |    | 9  |   |   |   |   |   |   |   | 12 |
| -26             | 2441           | Nut, Plain, Hex . . . . .                         |                                 |    | 9  |   |   |   |   |   |   |   | 12 |
| -27             | 2473           | Washer, Plain . . . . .                           |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -28             | 2439           | Nut, Plain, Hex . . . . .<br>* * * *              |                                 |    | 1  |   |   |   |   |   |   |   |    |
| -29             | 629202         | Gasket, Camshaft Cover . . . . .                  |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -30             | 629201         | Cover, Camshaft Hole . . . . .                    |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| ATTACHING PARTS |                |                                                   |                                 |    |    |   |   |   |   |   |   |   |    |
| -31             | 20522          | Washer, Plain . . . . .                           |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -32             | MS35338-44     | Washer, Lock . . . . .                            |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -33             | 2437           | Nut, Plain, Hex . . . . .<br>* * * *              |                                 | 2  | 2  |   |   |   |   |   |   |   | 2  |
| -34             | ***            | Plate, Identification . . . . .                   |                                 | RF | RF |   |   |   |   |   |   |   | RF |
| ATTACHING PARTS |                |                                                   |                                 |    |    |   |   |   |   |   |   |   |    |
| -35             | 24764          | Screw, Drive . . . . .<br>* * * *                 |                                 | 6  | 6  |   |   |   |   |   |   |   | 6  |
| -36             | 641361         | Plate, Seal . . . . .                             |                                 |    |    |   |   |   |   |   |   |   | 2  |
| ATTACHING PARTS |                |                                                   |                                 |    |    |   |   |   |   |   |   |   |    |
| -37             | 628321-.38     | Bolt . . . . .<br>* * * *                         |                                 |    |    |   |   |   |   |   |   |   | 4  |

**NOTE:**

\*\*\* See Service Bulletin M75-5.

- ① Cap assemblies which contain a leaf spring use P/N 633240 gasket, which is 1/16 inch thick.  
Cap assemblies which contain a coil spring use P/N 633355 gasket, which is 1/8 inch thick.

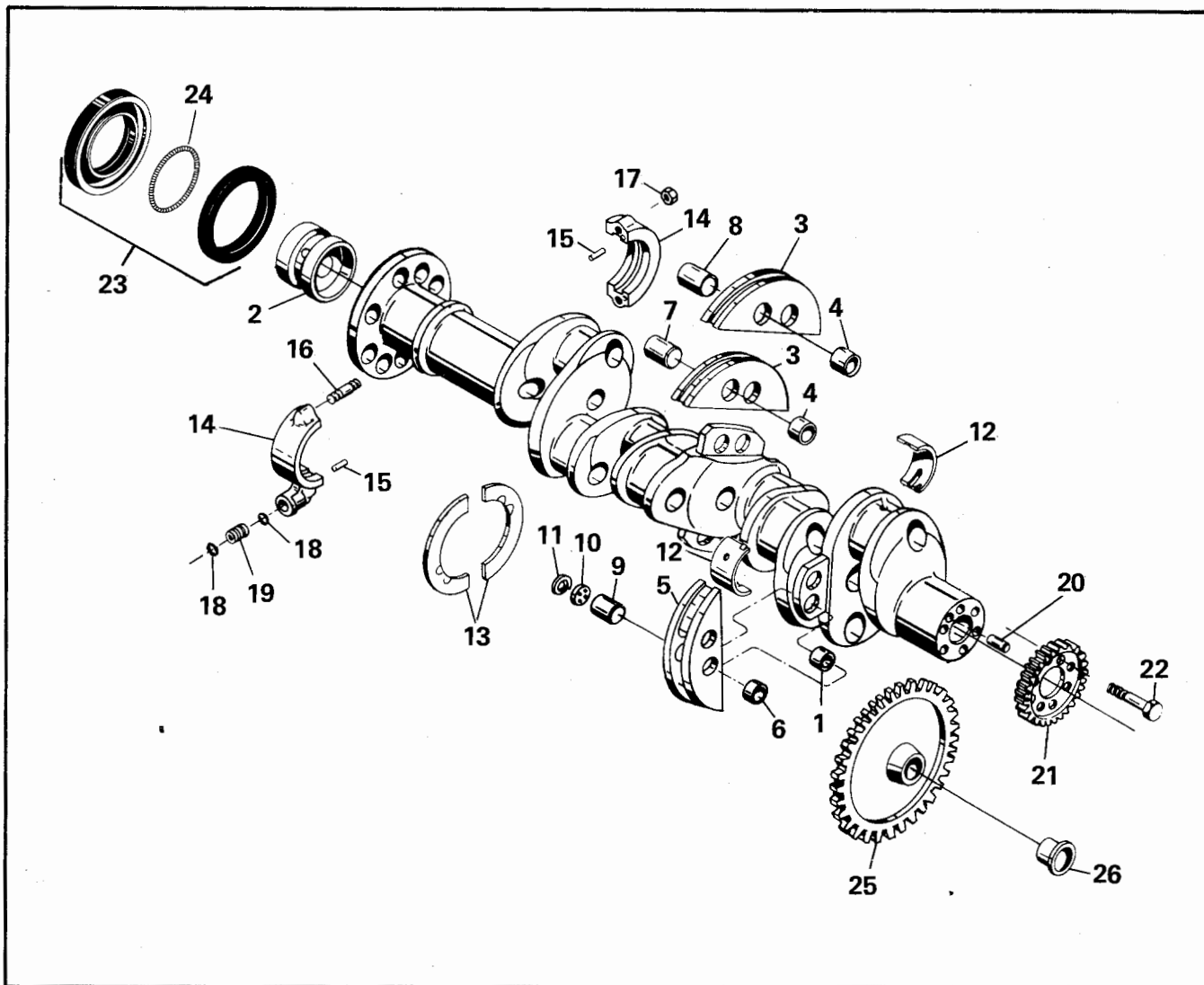


FIGURE 8. CRANKSHAFT GROUP

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                        | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |    |    |    |    |    |    |   |
|-----------------|----------------|----------------------------------------------|---------------------------------|----|---|----|----|----|----|----|----|---|
|                 |                |                                              | A                               | BA | C | D  | E  | F  | J  | K  | L  | M |
| 8-              | 631716         | ① Crankshaft and Damper Assembly .....       | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -1              | 350998         | † . Bushing, Damper .....                    | 8                               |    |   | 8  | 8  | 8  | 8  | 8  | 8  |   |
| -2              | 633189         | . Plug, Oil Control .....                    | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -3              | 639196         | . Counterweight Assy., 4th & 5th Order ..... | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -4              | 639193         | . . Bushing, Counterweight .....             | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |
| -5              | 639195         | . Counterweight Assy., 6th Order .....       | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -6              | 639193         | . . Bushing, Counterweight .....             | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |
| -7              | 630261-38      | . Pin, Damper, 4th Order .....               | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -8              | 630261-37      | . Pin, Damper, 5th Order .....               | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -9              | 630261-35      | . Pin, Damper, 6th Order .....               | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |
| ATTACHING PARTS |                |                                              |                                 |    |   |    |    |    |    |    |    |   |
| -10             | 635623         | . Plate, Pin Retaining .....                 | 16                              |    |   | 16 | 16 | 16 | 16 | 16 | 16 |   |
| -11             | 629104         | . Ring, Retaining .....                      | 16                              |    |   | 16 | 16 | 16 | 16 | 16 | 16 |   |
| * * * *         |                |                                              |                                 |    |   |    |    |    |    |    |    |   |
| -12             | 642720① † \$   | Bearing, Crankshaft .....                    | 10                              |    |   | 10 | 10 | 10 | 10 | 10 | 10 |   |
| -13             | 637579         | \$ Washer, Thrust .....                      | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |
| -14             | 626739         | † Collar Assy., Governor Oil Transfer .....  | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -15             | 626889         | . Roll Pin .....                             | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -16             | 401893         | † . Stud, 1/4 x 1-1/4 Inch Long .....        | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -17             | 632443-4       | . Nut, Marsden, Lock, 1/4 - 28 .....         | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -18             | MS9021-011\$   | O-Ring .....                                 | 2                               |    |   | 2  | 2  | 2  | 2  | 2  | 2  |   |
| -19             | 642249         | Sleeve, Governor Oil Transfer .....          | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -20             | 536563         | † Dowel, Crankshaft-to-Gear .....            | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -21             | 536421         | Gear, Crankshaft .....                       | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| ATTACHING PARTS |                |                                              |                                 |    |   |    |    |    |    |    |    |   |
| -22             | 536379         | Screw, 5/16 - 24 x 7/8 Inch Long .....       | 6                               |    |   | 6  | 6  | 6  | 6  | 6  | 6  |   |
| * * * *         |                |                                              |                                 |    |   |    |    |    |    |    |    |   |
| -23             | 641250         | Seal Assembly, Oil .....                     | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -24             | 641306         | . Spring .....                               | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -25             | 534757         | Gear Assembly, Idler .....                   | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |
| -26             | 534741         | . Bushing .....                              | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |

NOTE:

See Section IV for complete bearing set.

① Service earlier crankshafts and bearings in accordance with Service Bulletin M78-9 and M74-12 Rev. 1.

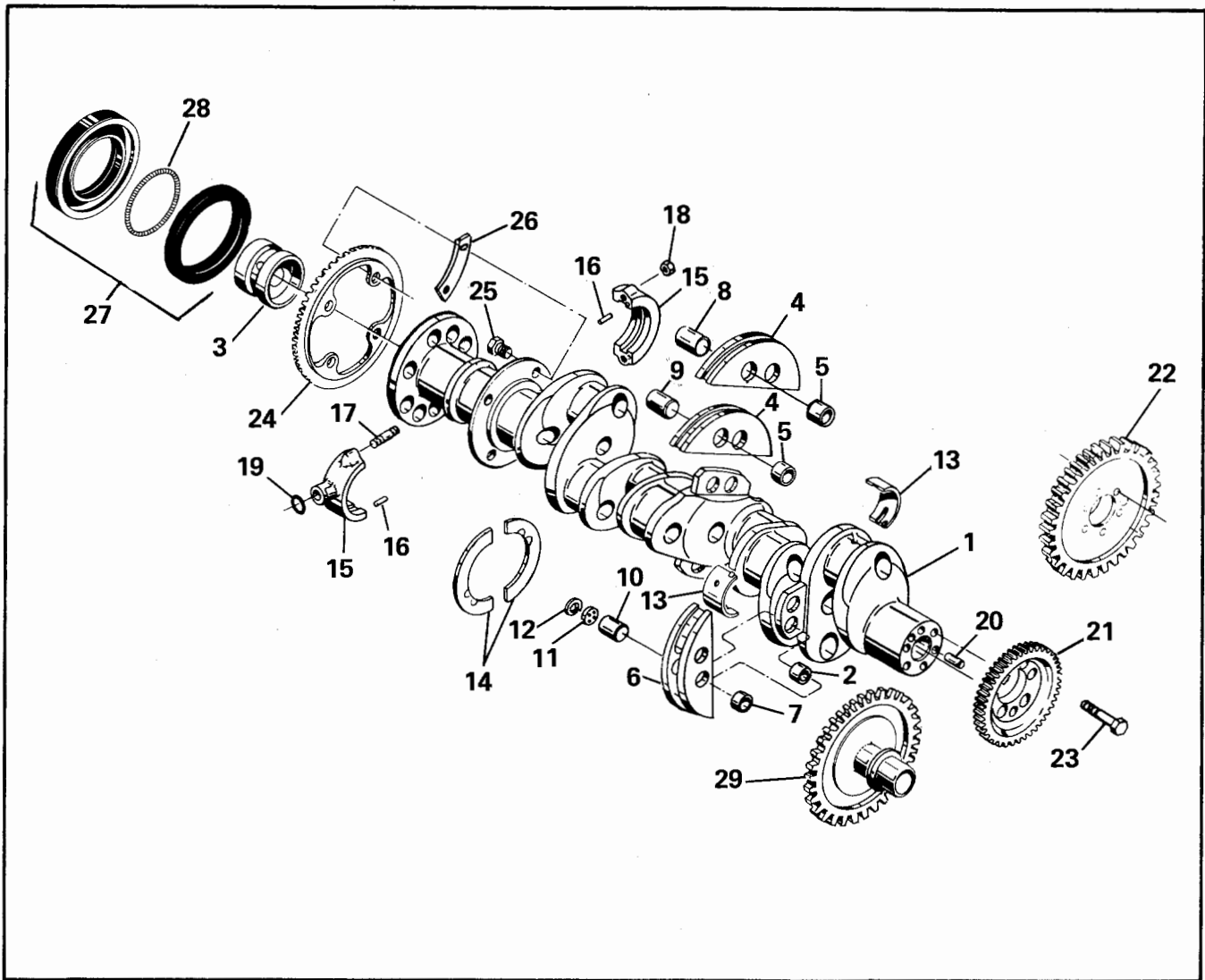


FIGURE 9. CRANKSHAFT GROUP

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY |    |        |   |   |   |   |   |   |    |  |
|-----------------|----------------|-----------|------------------------------------------|-----------------------|----|--------|---|---|---|---|---|---|----|--|
|                 |                |           |                                          | ② ②                   |    | IO-520 |   |   |   |   |   |   | ②  |  |
|                 |                |           |                                          | A                     | BA | C      | D | E | F | J | K | L | M  |  |
| 9-1             | 639243         | ①②        | Crankshaft and Damper Assembly .....     | 1                     |    |        |   |   |   |   |   |   |    |  |
|                 | 633620         |           | Crankshaft and Damper Assembly .....     |                       | 1  |        |   |   |   |   |   |   | 1  |  |
| -2              | 350998         | †         | . Bushing, Damper .....                  | 8                     | 8  |        |   |   |   |   |   |   | 8  |  |
| -3              | 633189         |           | . Plug, Oil Control .....                | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| -4              | 639196         |           | . Counterweight Assembly .....           | 2                     | 2  |        |   |   |   |   |   |   | 2  |  |
| -5              | 639193         |           | . . Bushing .....                        | 4                     | 4  |        |   |   |   |   |   |   | 4  |  |
| -6              | 639195         |           | . Counterweight Assembly .....           | 2                     | 2  |        |   |   |   |   |   |   | 2  |  |
| -7              | 639193         |           | . . Bushing .....                        | 4                     | 4  |        |   |   |   |   |   |   | 4  |  |
| -8              | 630261-38      |           | . Pin, Damper, 4th Order .....           | 2                     | 2  |        |   |   |   |   |   |   | 2  |  |
| -8              | 630261-37      |           | . Pin, Damper, 5th Order .....           |                       | 2  |        |   |   |   |   |   |   | 2  |  |
| -9              | 630261-35      |           | . Pin, Damper, 6th Order .....           | 2                     |    |        |   |   |   |   |   |   |    |  |
| -10             | 630261-35      |           | . Pin, Damper, 6th Order .....           | 4                     | 4  |        |   |   |   |   |   |   | 4  |  |
| ATTACHING PARTS |                |           |                                          |                       |    |        |   |   |   |   |   |   |    |  |
| -11             | 635623         |           | . Plate, Pin Retaining .....             | 16                    | 16 |        |   |   |   |   |   |   | 16 |  |
| -12             | 629104         |           | . Ring, Retaining .....                  | 16                    | 16 |        |   |   |   |   |   |   | 16 |  |
| * * * *         |                |           |                                          |                       |    |        |   |   |   |   |   |   |    |  |
| -13             | 635439         | \$ †      | Bearing, Crankshaft, Main .....          | 10                    | 10 |        |   |   |   |   |   |   | 10 |  |
| -14             | 637579         | \$        | Washer, Thrust .....                     | 4                     | 4  |        |   |   |   |   |   |   | 4  |  |
| -15             | 629680         |           | Collar Assembly .....                    | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| -16             | 626889         |           | . Dowel .....                            | 2                     | 2  |        |   |   |   |   |   |   | 2  |  |
| -17             | 401893         | †         | . Stud, 1/4 x 1-1/4 Inch Long .....      | 2                     | 2  |        |   |   |   |   |   |   | 2  |  |
| -18             | 632443-4       |           | . Nut, Marsden Lock .....                | 2                     | 2  |        |   |   |   |   |   |   | 2  |  |
| -19             | AN123962       | \$        | O-Ring .....                             | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| -20             | 536563         | †         | Dowel, Crankshaft to Gear .....          | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| -21             | 632892         |           | Gear, Crankshaft, Small .....            | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| -22             | 632893         |           | Gear, Crankshaft Large .....             | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| ATTACHING PARTS |                |           |                                          |                       |    |        |   |   |   |   |   |   |    |  |
| -23             | 536379         |           | Screw .....                              | 6                     | 6  |        |   |   |   |   |   |   | 6  |  |
| * * * *         |                |           |                                          |                       |    |        |   |   |   |   |   |   |    |  |
| -24             | 632018         |           | Gear, Face Alternator Drive .....        | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| ATTACHING PARTS |                |           |                                          |                       |    |        |   |   |   |   |   |   |    |  |
| -25             | 634080         |           | Screw, 5/16 - 24 x 13/32 Inch Long ..... | 4                     | 4  |        |   |   |   |   |   |   | 4  |  |
| -26             | 641909         |           | Lock Plates .....                        | 2                     | 2  |        |   |   |   |   |   |   | 2  |  |
| * * * *         |                |           |                                          |                       |    |        |   |   |   |   |   |   |    |  |
| -27             | 641250         |           | Seal Assembly, Oil .....                 | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| -28             | 641306         |           | . Spring .....                           | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |
| -29             | 629360         |           | Gear, Idler .....                        | 1                     | 1  |        |   |   |   |   |   |   | 1  |  |

NOTES:

See Section IV for complete Bearing Set.

① IO-520-B installed in Navion will use IO-520-C crankshaft assembly.

② For IO-520-BB, CB and MB configuration, see Figure 10.

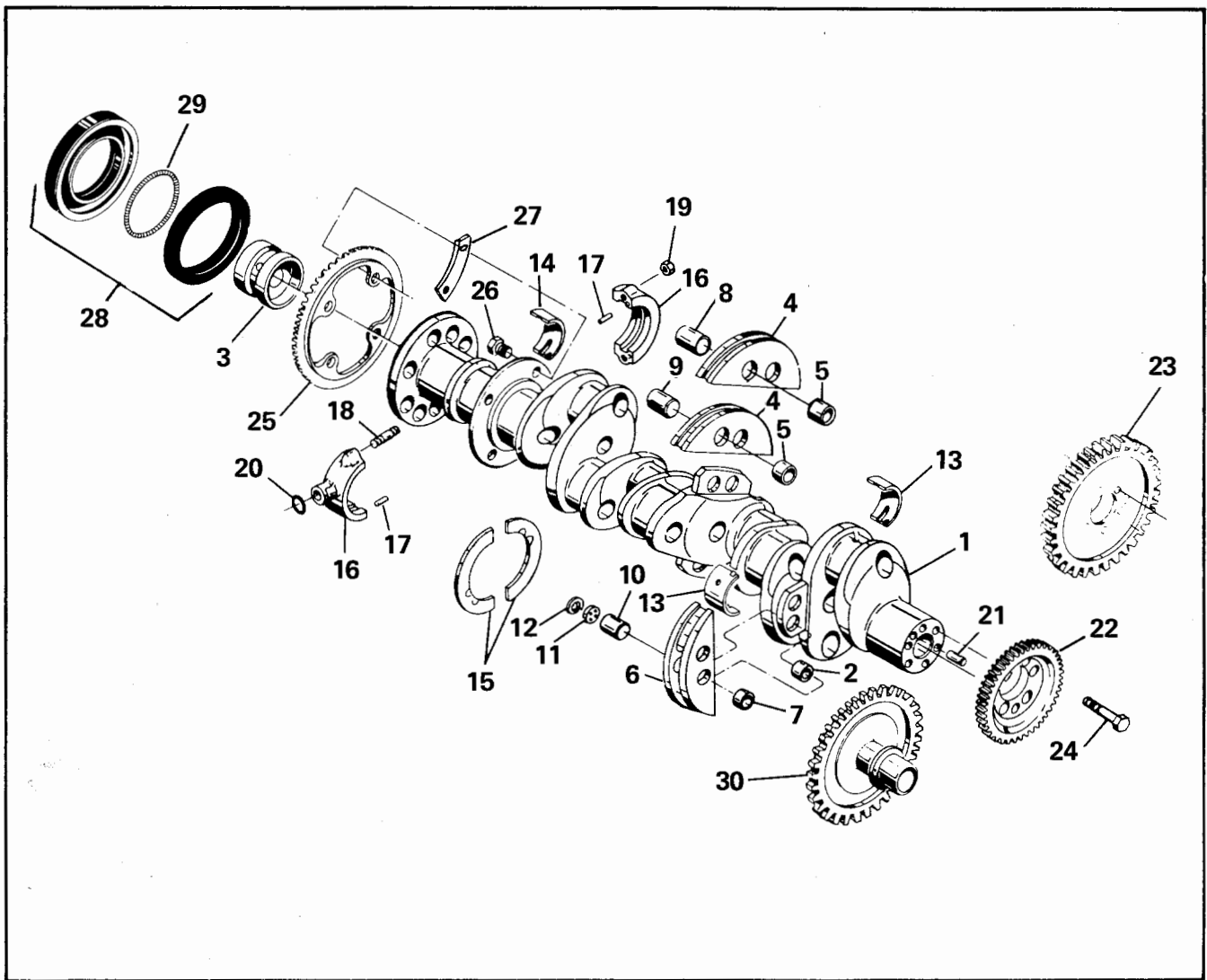


FIGURE 10. CRANKSHAFT GROUP

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                    | QUANTITY PER ASSEMBLY |    |        |  |  |  |  |    |
|-----------------|----------------|------------------------------------------|-----------------------|----|--------|--|--|--|--|----|
|                 |                |                                          | ①                     | ①  | IO-520 |  |  |  |  | ①  |
|                 |                |                                          | BB                    | CB |        |  |  |  |  | MB |
| 10- 1           | 642396         | ⊙ Crankshaft and Damper Assembly .....   | 1                     | 1  |        |  |  |  |  | 1  |
| -2              | 350998         | † . Bushing, Damper .....                | 8                     | 8  |        |  |  |  |  | 8  |
| -3              | 633189         | . Plug, Oil Control .....                | 1                     | 1  |        |  |  |  |  | 1  |
| -4              | 639196         | . Counterweight Assembly .....           | 2                     | 2  |        |  |  |  |  | 2  |
| -5              | 639193         | . . Bushing .....                        | 4                     | 4  |        |  |  |  |  | 4  |
| -6              | 639195         | . Counterweight Assembly .....           | 2                     | 2  |        |  |  |  |  | 2  |
| -7              | 639193         | . . Bushing .....                        | 4                     | 4  |        |  |  |  |  | 4  |
| -8              | 630261-38      | . Pin, Damper, 4th Order .....           | 2                     | 2  |        |  |  |  |  | 2  |
| -9              | 630261-37      | . Pin, Damper, 5th Order .....           | 2                     | 2  |        |  |  |  |  | 2  |
| -10             | 630261-40      | . Pin, Damper, 6th Order .....           | 4                     | 4  |        |  |  |  |  | 4  |
| ATTACHING PARTS |                |                                          |                       |    |        |  |  |  |  |    |
| -11             | 635623         | . Plate, Pin Retaining .....             | 16                    | 16 |        |  |  |  |  | 16 |
| -12             | 629104         | . Ring, Retaining .....                  | 16                    | 16 |        |  |  |  |  | 16 |
| * * * *         |                |                                          |                       |    |        |  |  |  |  |    |
| -13             | 642720         | \$ † Bearing, Crankshaft, Main .....     | 4                     | 4  |        |  |  |  |  | 4  |
| -14             | 634503         | \$ † Bearing, Crankshaft, Main .....     | 6                     | 6  |        |  |  |  |  | 6  |
| -15             | 637579         | \$ Washer, Thrust .....                  | 4                     | 4  |        |  |  |  |  | 4  |
| -16             | 629680         | Collar Assembly .....                    | 1                     | 1  |        |  |  |  |  | 1  |
| -17             | 626889         | . Dowel .....                            | 2                     | 2  |        |  |  |  |  | 2  |
| -18             | 401893         | † . Stud, 1/4 - 1-1/4 Inch Long .....    | 2                     | 2  |        |  |  |  |  | 2  |
| -19             | 632443-4       | . Nut, Marsden Lock .....                | 2                     | 2  |        |  |  |  |  | 2  |
| -20             | AN123962       | \$ O-Ring .....                          | 1                     | 1  |        |  |  |  |  | 1  |
| -21             | 536563         | † Dowel, Crankshaft to Gear .....        | 1                     | 1  |        |  |  |  |  | 1  |
| -22             | 632892         | Gear, Crankshaft, Small .....            | 1                     | 1  |        |  |  |  |  | 1  |
| -23             | 632893         | Gear, Crankshaft, Large .....            | 1                     | 1  |        |  |  |  |  | 1  |
| ATTACHING PARTS |                |                                          |                       |    |        |  |  |  |  |    |
| -24             | 536379         | Screw .....                              | 6                     | 6  |        |  |  |  |  | 6  |
| * * * *         |                |                                          |                       |    |        |  |  |  |  |    |
| -25             | 632018         | Gear, Face Alternator Drive .....        | 1                     | 1  |        |  |  |  |  | 1  |
| ATTACHING PARTS |                |                                          |                       |    |        |  |  |  |  |    |
| -26             | 634080         | Screw, 5/16 - 24 x 13/32 Inch Long ..... | 4                     | 4  |        |  |  |  |  | 4  |
| -27             | 641909         | Lock Plates .....                        | 2                     | 2  |        |  |  |  |  | 2  |
| * * * *         |                |                                          |                       |    |        |  |  |  |  |    |
| -28             | 641250         | Seal Assembly, Oil .....                 | 1                     | 1  |        |  |  |  |  | 1  |
| -29             | 641306         | . Spring .....                           | 1                     | 1  |        |  |  |  |  | 1  |
| -30             | 629360         | Gear, Idler .....                        | 1                     | 1  |        |  |  |  |  | 1  |

NOTE:

See Section IV for complete Bearing Set.

① For IO-520-BA, C and M configuration, see Figure 9.

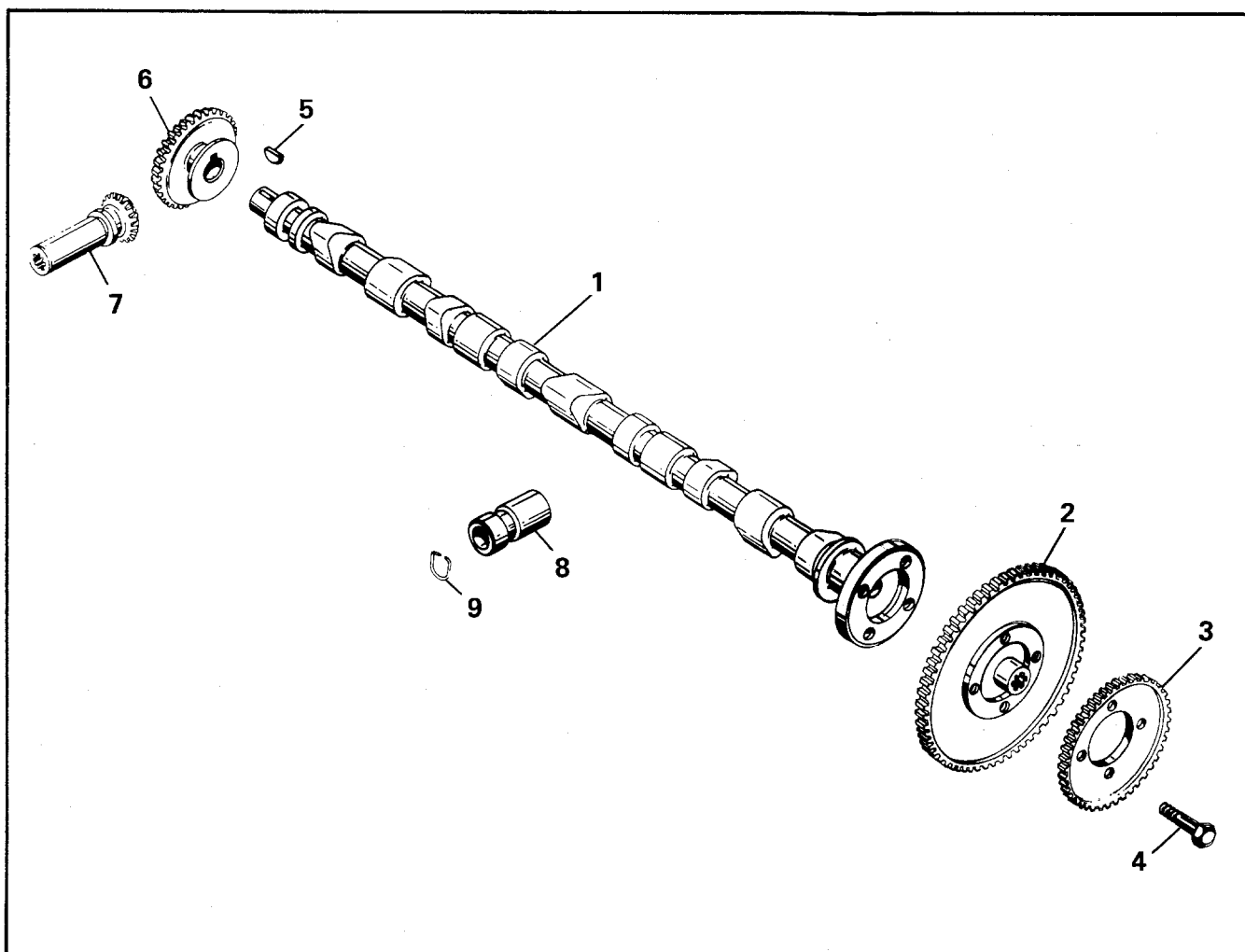


FIGURE 11. CAMSHAFT GROUP

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |    |    |    |    |    |    |   |  |
|-----------------|----------------|-----------|------------------------------------------|---------------------------------|----|---|----|----|----|----|----|----|---|--|
|                 |                |           |                                          | A                               | BA | C | D  | E  | F  | J  | K  | L  | M |  |
| 11- 1           | 535661         | †         | Camshaft .....                           | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -2              | 631845         |           | Gear, Camshaft .....                     | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -3              | 535662         |           | Gear, Cam Cluster .....                  | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| ATTACHING PARTS |                |           |                                          |                                 |    |   |    |    |    |    |    |    |   |  |
| -4              | 535666         |           | Screw, 5/16 - 24 x 25/32 Inch Long ..... | 4                               |    |   | 4  | 4  | 4  | 4  | 4  | 4  |   |  |
| * * * *         |                |           |                                          |                                 |    |   |    |    |    |    |    |    |   |  |
| -5              | MS35756-8      |           | Key, Woodruff .....                      | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -6              | 534655         |           | Gear, Bevel Governor Drive .....         | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -7              | 538076         |           | Gear, Bevel Governor Driven .....        | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -8              | 628488         |           | Lifter Assembly, Hydraulic Valve .....   | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |  |
| -9              | 641862         | ①         | . Ring, Snap .....                       | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |

NOTE:

- ① The new configuration of the 628488 hydraulic lifter incorporates this new Snap Ring P/N 641862 (red in color). However, Snap Ring P/N 628491 must be used with the older configuration of the lifter. The most discernible difference between the old and new lifter is in the ball socket. The old design socket tapered from the center nearly to the O.D. The newer design that must use the new Snap Ring (641862) shoulders roughly half-way between the center and O.D. The socket oil hole diameter differences are 1/16" for the old design and 1/8" for the new.

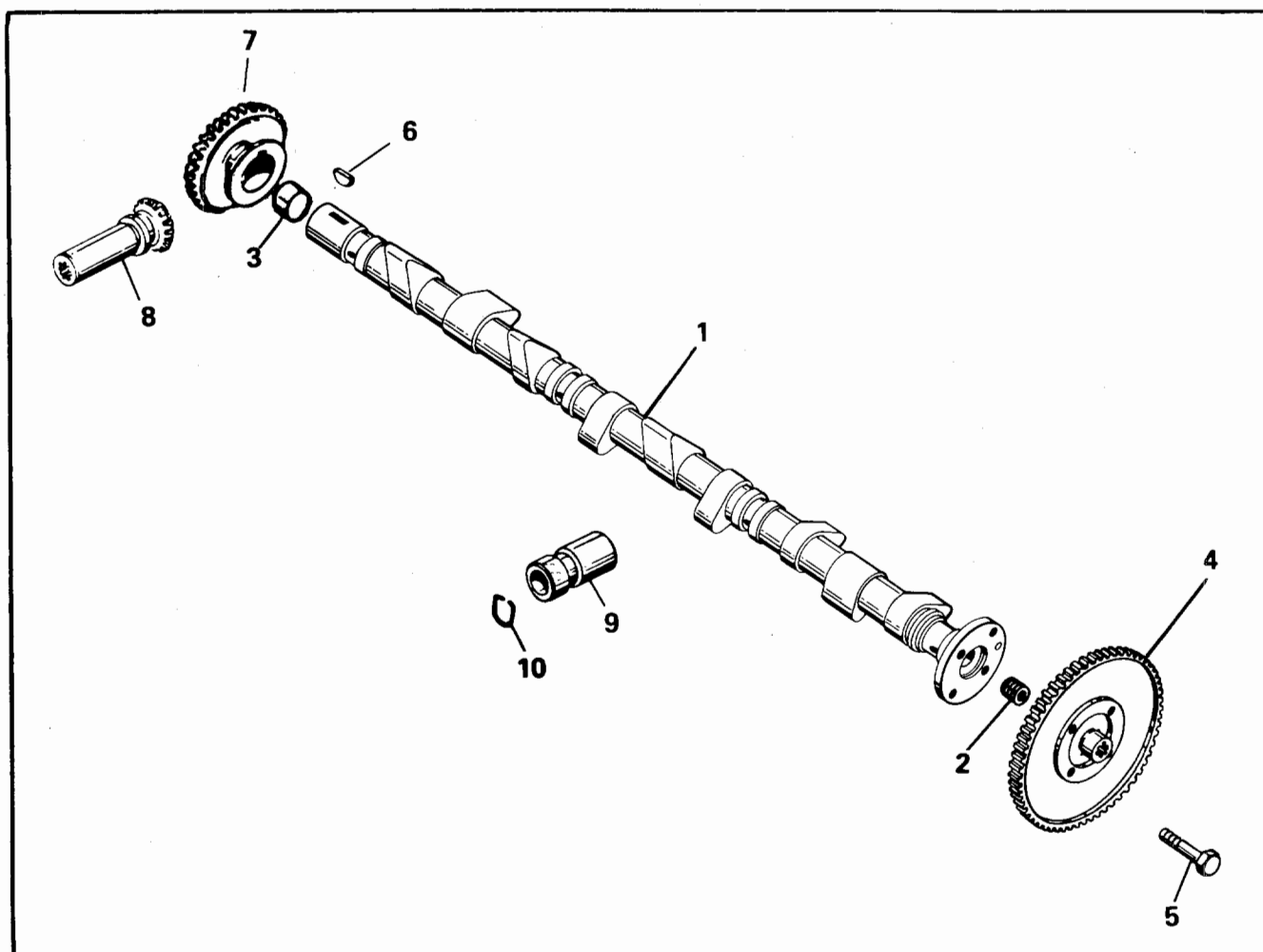


FIGURE 12. CAMSHAFT GROUP

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                             | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |   |   |   |   |   |   |   |    |
|-----------------|----------------|-----------|-----------------------------------------|---------------------------------|----|----|---|---|---|---|---|---|---|----|
|                 |                |           |                                         | A                               | BA | C  | D | E | F | J | K | L | M |    |
| 12- 1           | 629726A3       | †         | Camshaft, Service .....                 |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -2              | 524818         |           | . Plug, Pipe, 1/4 - 18 NPTF .....       |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -3              | 632092-4       |           | . Plug, Expansion .....                 |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -4              | 631845         |           | Gear, Camshaft .....                    |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| ATTACHING PARTS |                |           |                                         |                                 |    |    |   |   |   |   |   |   |   |    |
| -5              | 631088-.44     |           | Screw, 5/16 - 24 x 7/16 Inch Long ..... |                                 | 4  | 4  |   |   |   |   |   |   |   | 4  |
| * * * *         |                |           |                                         |                                 |    |    |   |   |   |   |   |   |   |    |
| -6              | MS35756-8      |           | Key, Woodruff .....                     |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -7              | 629748         |           | Gear, Bevel, Governor Drive .....       |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -8              | 629747         |           | Gear, Bevel, Governor Driven .....      |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |
| -9              | 628488         |           | Lifter Assembly, Hydraulic .....        |                                 | 12 | 12 |   |   |   |   |   |   |   | 12 |
| -10             | 641862         | ①         | . Ring, Snap .....                      |                                 | 1  | 1  |   |   |   |   |   |   |   | 1  |

NOTE:

- ① The new configuration of the 628488 hydraulic lifter incorporates this new Snap Ring P/N 641862 (red in color). However, Snap Ring P/N 628491 must be used with the older configuration of the lifter. The most discernible difference between the old and new lifter is in the ball socket. The old design socket tapered from the center nearly to the O.D. The newer design that must use the new Snap Ring (641862) shoulders roughly half-way between the center and O.D. The socket oil hole diameter differences are 1/16" for the old design and 1/8" for the new.

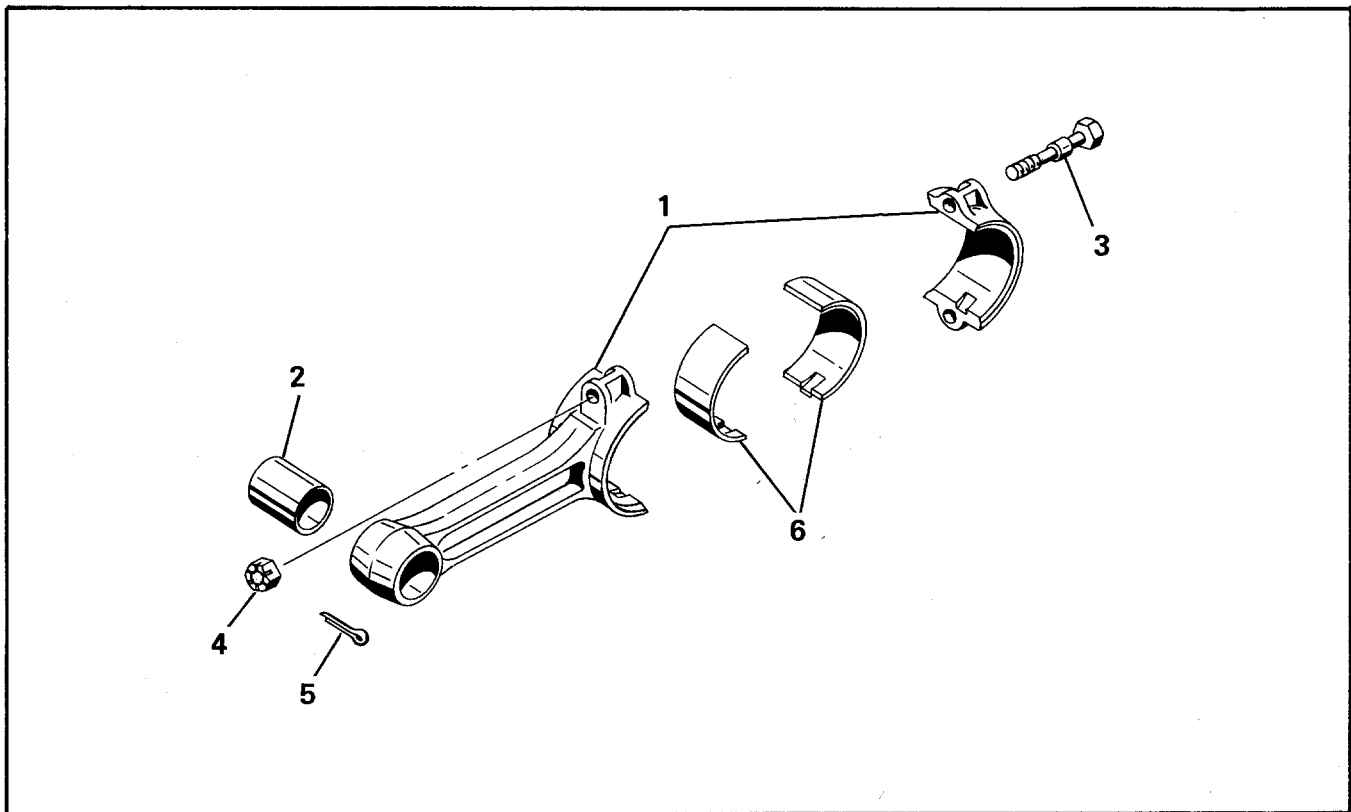


FIGURE 13. CONNECTING ROD ASSEMBLY

| FIG. INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY |    |    |    |    |    |    |    |    |    |
|------------|-------------|-----------|------------------------------------------|-----------------------|----|----|----|----|----|----|----|----|----|
|            |             |           |                                          | ① IO-520              |    |    |    |    |    |    |    |    |    |
|            |             |           |                                          | A                     | BA | C  | D  | E  | F  | J  | K  | L  | M  |
| 13A-1      | 633403      | ①         | Connecting Rod Assembly .....            | 6                     | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  | 6  |
| -2         | 530658      |           | . Bushing, Piston Pin .....              | 1                     | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  | 1  |
| -3         | 629340      |           | . Bolt, Connecting Rod .....             | 2                     | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  |
| -4         | 628109      |           | . Nut, 7/16 - 28, Slotted, Special ..... | 2                     | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  |
| -5         | AN381-25-10 |           | . Pin, Cotter .....                      | 2                     | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  | 2  |
| -6         | 630826      | †         | Bearing, Connecting Rod .....            | 12                    | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

NOTE:

① For IO-520-BB, CB and MB configuration, see Figure 13B.

| FIG. INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY |    |  |  |  |  |  |  |  |    |
|------------|-------------|-----------|------------------------------------------|-----------------------|----|--|--|--|--|--|--|--|----|
|            |             |           |                                          | ① IO-520              |    |  |  |  |  |  |  |  |    |
|            |             |           |                                          | BB                    | CB |  |  |  |  |  |  |  | MB |
| 13B-1      | 642399      | ①         | Connecting Rod Assembly .....            | 6                     | 6  |  |  |  |  |  |  |  | 6  |
| -2         | 530658      |           | . Bushing, Piston Pin .....              | 1                     | 1  |  |  |  |  |  |  |  | 1  |
| -3         | 629340      |           | . Bolt, Connecting Rod .....             | 2                     | 2  |  |  |  |  |  |  |  | 2  |
| -4         | 628109      |           | . Nut, 7/16 - 28, Slotted, Special ..... | 2                     | 2  |  |  |  |  |  |  |  | 2  |
| -5         | AN381-25-10 |           | . Pin, Cotter .....                      | 2                     | 2  |  |  |  |  |  |  |  | 2  |
| -6         | 642398      | †         | Bearing, Connecting Rod .....            | 12                    | 12 |  |  |  |  |  |  |  | 12 |

NOTE:

① For IO-520-BA, C and M configuration, see Figure 13A.

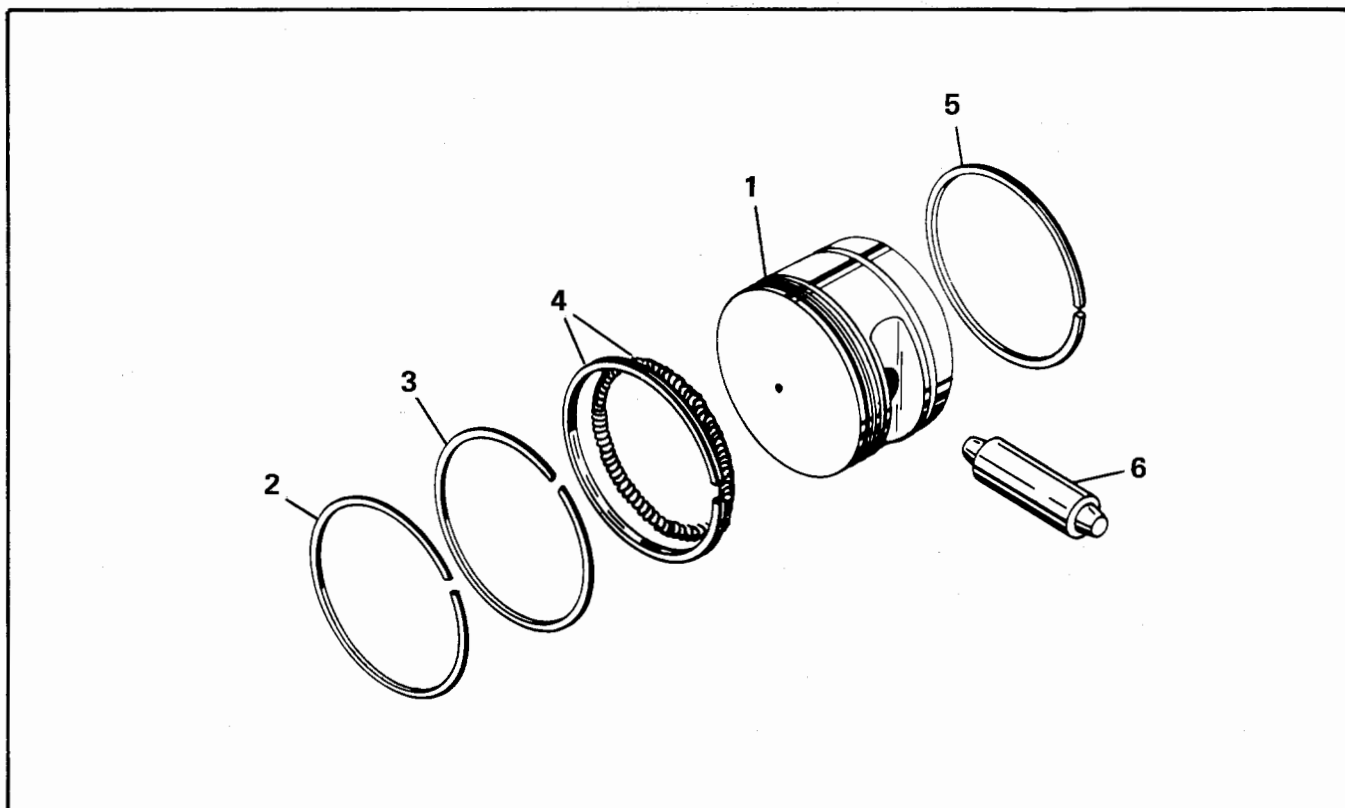


FIGURE 14. PISTON AND PIN ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                            | QUANTITY PER ASSEMBLY<br>IO-520 |     |     |     |     |     |     |     |     |     |  |
|---------------|----------------|-----------|----------------------------------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|               |                |           |                                        | A                               | BA  | C   | D   | E   | F   | J   | K   | L   | M   |  |
| 14-1          | 631475         | †         | Piston, 8.5:1 Compression Ratio .....  | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -2            | 640625         | \$ †      | Ring, Compression, Top Groove .....    | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -2            | 642602         | ①\$ †     | Ring, Compression, Top Groove .....    | opt                             | opt | opt | opt | opt | opt | opt | opt | opt | opt |  |
| -2            | 640230         | ②\$       | Ring, Compression, Top Groove .....    | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -3            | 640626         | \$ †      | Ring, Compression, Second Groove ..... | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -3            | 642603         | ①\$ †     | Ring, Compression, Second Groove ..... | opt                             | opt | opt | opt | opt | opt | opt | opt | opt | opt |  |
| -3            | 640231         | ②\$       | Ring, Compression, Second Groove ..... | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -4            | 641302         | ③\$ †     | Ring, Compression, Third Groove .....  | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -4            | 642604         | ①③\$ †    | Ring, Compression, Third Groove .....  | opt                             | opt | opt | opt | opt | opt | opt | opt | opt | opt |  |
| -4            | 636144         | ②③\$      | Ring, Compression, Third Groove .....  | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -5            | 629401         | \$ †      | Ring, Compression, Fourth Groove ..... | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -5            | 642606         | ①\$ †     | Ring, Compression, Fourth Groove ..... | opt                             | opt | opt | opt | opt | opt | opt | opt | opt | opt |  |
| -6            | 630046         | †         | Pin and Plug Assembly, Piston .....    | 6                               | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |

NOTES:

- ① These rings are optional and must be used in single cylinder sets only.
- ② These rings are for use with chrome cylinders.
- ③ These ring assemblies contain a 640628, 642604 and 636145 ring respectively, which cannot be serviced separately.

Complete ring sets are listed in Section IV.

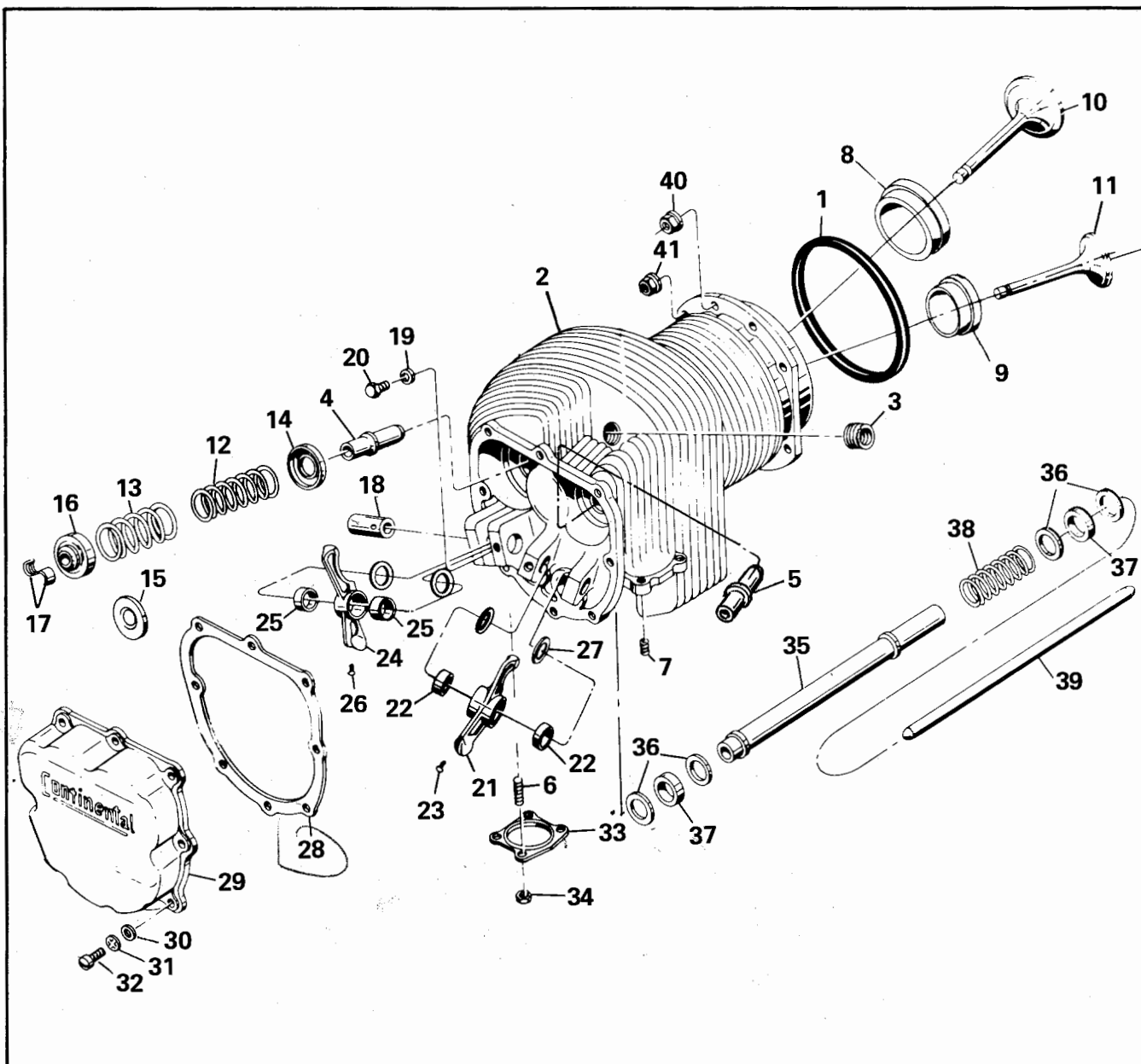


FIGURE 15. CYLINDER ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                       | QUANTITY PER ASSEMBLY |    |   |   |   |   |   |   |   |   |  |
|---------------|----------------|-----------|-----------------------------------|-----------------------|----|---|---|---|---|---|---|---|---|--|
|               |                |           |                                   | IO-520                |    |   |   |   |   |   |   |   |   |  |
|               |                |           |                                   | A                     | BA | C | D | E | F | J | K | L | M |  |
| 15-1          | 641066         | \$        | Packing, Cylinder Base .....      | 6                     | 6  | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |  |
|               | 639272A1       | Ⓚ         | Cylinder and Valve Assembly ..... | 6                     | 6  | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |  |
|               | 635448CPA1     | Ⓚ         | Cylinder and Valve Assembly ..... | 6                     | 6  | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |  |
|               |                |           | * * * *                           |                       |    |   |   |   |   |   |   |   |   |  |
| -2            | 639272         | .         | Cylinder Assembly .....           | 1                     | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |
| -2            | 635448CP       | Ⓚ         | Cylinder Assembly .....           | 1                     | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |
| -3            | 520112-3       | .         | Insert, Spark Plug Thread .....   | 2                     | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |  |
| -4            | 636242         | †         | Guide, Valve Exhaust .....        | 1                     | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |
| -5            | 631496         | †         | Guide, Valve Intake .....         | 1                     | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |
| -6            | 401893         | †         | Stud, 1/4 - 1-1/4 Inch Long ..... | 4                     | 4  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |  |
| -7            | MS122121       | .         | Insert .....                      | 4                     | 4  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |  |
| -8            | 630591         | †         | Insert, Intake Valve Seat .....   | 1                     | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |
| -9            | 35967          | †         | Insert, Exhaust Valve Seat .....  | 1                     | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |  |

|                 |                |                                              | QUANTITY PER ASSEMBLY |     |     |     |     |     |     |     |     |     |  |
|-----------------|----------------|----------------------------------------------|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|                 |                |                                              | IO-520                |     |     |     |     |     |     |     |     |     |  |
| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                        | A                     | BA  | C   | D   | E   | F   | J   | K   | L   | M   |  |
| 15-10           | 539988         | . Valve, Intake . . . . .                    | 1                     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |  |
| -11             | 637781         | . Valve, Exhaust . . . . .                   | 1                     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |  |
| -12             | 631521         | . Spring, Valve Inner . . . . .              | 2                     | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |  |
| -13             | 631520         | . Spring, Valve Outer . . . . .              | 2                     | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |  |
| -14             | 625393         | . Retainer, Valve Spring, Inner . . . . .    | 2                     | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |  |
| -15             | 35971          | . Retainer, Valve Spring, Intake . . . . .   | 1                     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |  |
| -16             | 629117         | . Roto Cap Assembly, Exhaust . . . . .       | 1                     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |  |
| -17             | 24802          | . Key, Valve Spring Retainer . . . . .       | 4                     | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |  |
| -18             | 539740         | Shaft, Valve, Rocker . . . . .               | 12                    | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |  |
| ATTACHING PARTS |                |                                              |                       |     |     |     |     |     |     |     |     |     |  |
| -19             | 2473           | Washer, Plain . . . . .                      | 12                    | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |  |
| -20             | 537019         | Screw, 5/16 - 24 x 17/32 Inch Long . . . . . | 12                    | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |  |
| * * * *         |                |                                              |                       |     |     |     |     |     |     |     |     |     |  |
| -21             | 539742         | Rocker Assembly, Intake Valve . . . . .      | 6                     | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -22             | 639629         | . Bushing, Valve Rocker . . . . .            | 2                     | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |  |
| -23             | 21007          | . Screw, Drive . . . . .                     | 1                     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |  |
| -24             | 641682         | Rocker Assembly, Exhaust Valve . . . . .     | 6                     | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -25             | 639629         | . Bushing, Valve Rocker . . . . .            | 2                     | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |  |
| -26             | 21007          | . Screw, Drive . . . . .                     | 1                     | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |  |
| -27             | 639573         | † Washer, Thrust . . . . .                   | 24                    | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  |  |
| -28             | 534857         | Gasket, Valve Rocker Cover . . . . .         | 6                     | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -29             | 625615         | Cover, Valve Rocker . . . . .                | 6                     | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| ATTACHING PARTS |                |                                              |                       |     |     |     |     |     |     |     |     |     |  |
| -30             | 20522          | Washer, Plain . . . . .                      | 48                    | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  |  |
| -31             | MS35338-44     | Washer, Lock . . . . .                       | 48                    | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  |  |
| -32             | 535118         | Screw, Fillister Head . . . . .              | 48                    | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  | 48  |  |
| * * * *         |                |                                              |                       |     |     |     |     |     |     |     |     |     |  |
| -33             | 631544         | \$ Gasket, Exhaust Flange . . . . .          | 6                     | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   | 6   |  |
| -33             | 628260         | \$ Gasket, Exhaust Flange . . . . .          | opt                   | opt | opt | opt | opt | opt | opt | opt | opt | opt |  |
| ATTACHING PARTS |                |                                              |                       |     |     |     |     |     |     |     |     |     |  |
| -34             | 21247          | Nut, 1/4 - 28 Brass, Exhaust . . . . .       | 24                    | 24  |     |     | 24  |     |     |     |     |     |  |
| -34             | 642803         | Nut, 1/4 - 28 Cres. Exhaust . . . . .        | opt                   | opt | 24  | 24  | opt | 24  | 24  | 24  | 24  | 24  |  |
| * * * *         |                |                                              |                       |     |     |     |     |     |     |     |     |     |  |
| -35             | 537296         | Housing, Push Rod . . . . .                  | 12                    | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |  |
| -36             | 534609         | Washer, Push Rod Housing . . . . .           | 48                    | 36  | 36  | 48  | 48  | 48  | 48  | 48  | 48  | 36  |  |
| -37             | 534610         | \$ Packing, Push Rod Housing . . . . .       | 24                    | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  | 24  |  |
| -38             | 626147         | Spring, Push Rod Housing . . . . .           | 12                    | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |  |
| -39             | 538304         | Push Rod Assembly . . . . .                  | 12                    | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |  |
| ATTACHING PARTS |                |                                              |                       |     |     |     |     |     |     |     |     |     |  |
| -40             | 531001         | Nut, Flanged, 7/16 - 20 . . . . .            | 36                    | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 36  | 36  |  |
| -41             | 634505         | Nut, Flanged, 1/2 - 20 . . . . .             | 12                    | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  | 12  |  |

NOTES:

- ① See Section VI for Specification Applications.
- ② Chrome Plate.

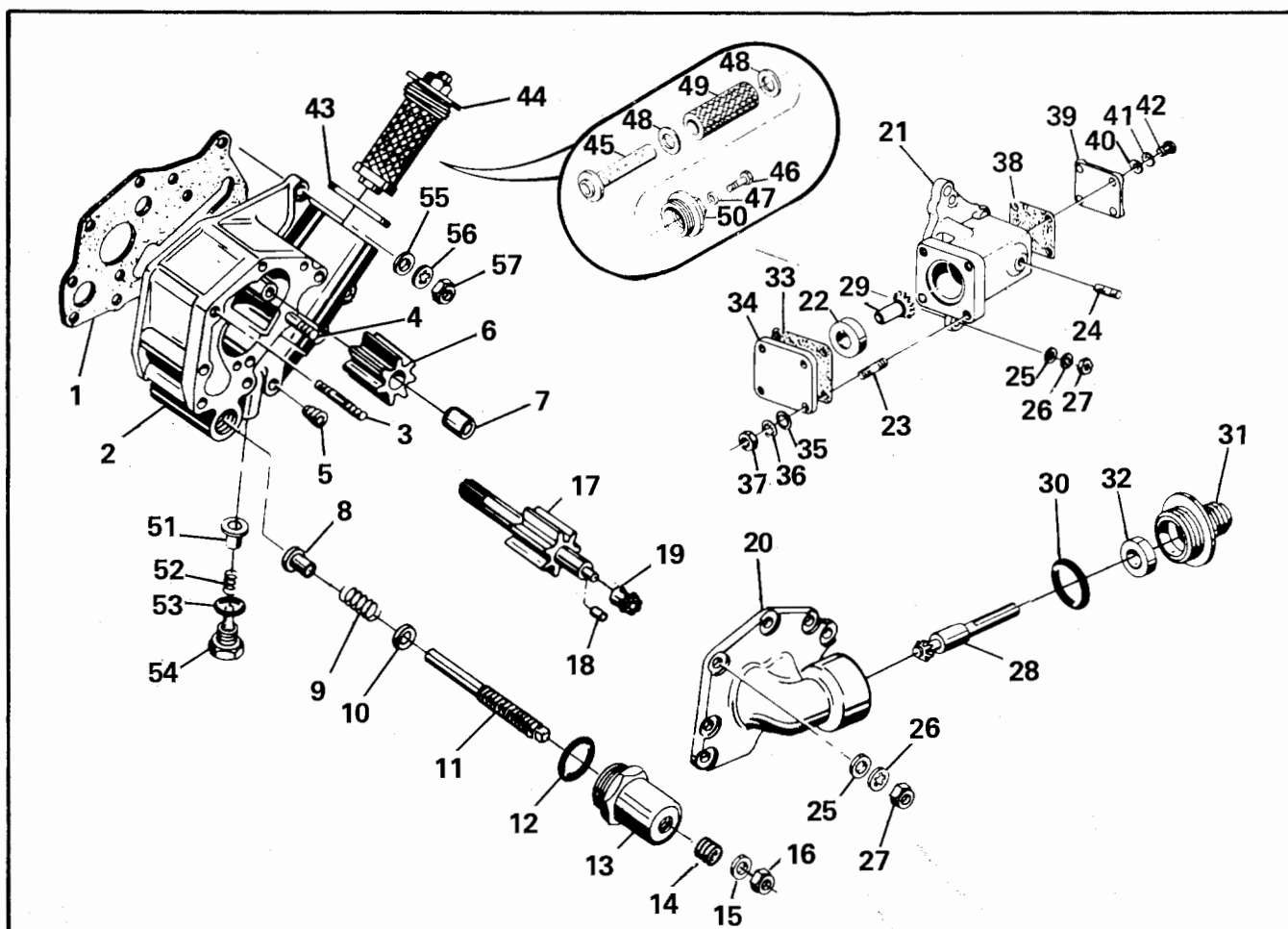


FIGURE 16. OIL PUMP ASSEMBLY (INTEGRAL TYPE OIL SCREEN)

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                 | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |
|---------------|----------------|-----------|---------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|
|               |                |           |                                             | A                               | BA | C | D | E | F | J | K | L | M |
| 16- 1         | 538185         | \$        | Gasket, Oil Pump Housing-to-Crankcase ..... | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
|               | 631714A7       |           | Housing Assembly, Oil Pump Complete .....   | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |
|               | 63171A8        |           | Housing Assembly, Oil Pump Complete .....   |                                 |    |   |   | 1 |   |   |   |   |   |
|               |                |           | * * * *                                     |                                 |    |   |   |   |   |   |   |   |   |
| -2            | 631714         | .         | Housing & Shaft Assembly, Oil Pump .....    | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -3            | 401800         | †         | . . Stud, 1/4 x 1-1/16 Inch Long .....      | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -4            | 401963         | †         | . . Stud, 1/4 x 1 Inch Long .....           | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -5            | AN932-2        | .         | Plug, Pipe .....                            | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -6            | 629218         | .         | Gear Assembly, Oil Pump Driven .....        | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -7            | 539523         | .         | Bushing, Oil Pump Gear .....                | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |
| -8            | 642336         | .         | Plunger, Oil Pressure Relief Valve .....    | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -9            | 634150         | .         | Spring, Oil Pressure Relief Valve .....     | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -10           | 631653         | .         | Washer, Spring Guide .....                  | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -11           | 642335         | .         | Screw, Adjusting .....                      | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -12           | AN900-18       | \$        | . Gasket, Copper Asbestos Annular .....     | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -13           | 642224         | .         | Housing Oil Pressure Relief Valve .....     | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -14           | MS124657       | .         | . Helical Coil .....                        | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -15           | X1473          | .         | Washer, Copper .....                        | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |
| -16           | 632762         | .         | Nut, Adjusting .....                        | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                        | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|-----------------|----------------|----------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|                 |                |                                              | A                               | BA | C | D | E | F | J | K | L | M |  |
| 16-17           | 629448         | . Shaftgear Assembly, Tach Drive, O/P .....  | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -17             | 633442         | . Shaftgear Assembly, Tach Drive .....       |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -18             | 535634         | . . Pin, Dowel .....                         | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -19             | 535008         | . Gear, Bevel, Tach Drive .....              | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -19             | 535900         | . Gear, Bevel, Tach Drive .....              |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -20             | 625886         | . Cover, Right Angle Tach Drive, O/P .....   | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -21             | 628859         | . Cover, Right Angle Tach Drive, O/P .....   |                                 |    |   |   | 1 |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                              |                                 |    |   |   |   |   |   |   |   |   |  |
| -22             | 531378         | \$ . . Seal, Oil Tach Drive Cover .....      |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -23             | 401893         | † . . Stud, 1/4 x 1-1/4 Inch Long .....      |                                 |    |   |   | 4 |   |   |   |   |   |  |
| -24             | 401816         | † . . Stud, 1/4 x 1-11/16 Inch Long .....    |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -25             | 20522          | . Washer, Plain .....                        | 6                               |    |   | 6 | 6 | 6 | 6 | 6 | 6 |   |  |
| -26             | MS35338-44     | . Washer, Lock .....                         | 6                               |    |   | 6 | 6 | 6 | 6 | 6 | 6 |   |  |
| -27             | 2437           | . Nut, Plain, Hex .....                      | 6                               |    |   | 6 | 6 | 6 | 6 | 6 | 6 |   |  |
| -28             | 631650         | . Shaft Assembly, Tach Drive .....           | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -29             | 535908         | . Gear Assembly, Bevel Tach Drive .....      |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -30             | 632085         | \$ . Gasket, Cover Tach Housing .....        | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -31             | 21208A2        | . Housing Assembly, Tach Drive .....         | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -32             | 642714         | \$ . . Seal, Oil, Tach Housing .....         | 1                               |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -33             | MS9134-01      | \$ . Gasket .....                            |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -34             | 640380         | . Cover, Tach Drive Pad .....                |                                 |    |   |   | 1 |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                              |                                 |    |   |   |   |   |   |   |   |   |  |
| -35             | 2472           | . Washer, Plain .....                        |                                 |    |   |   | 4 |   |   |   |   |   |  |
| -36             | MS35338-44     | . Washer, Lock .....                         |                                 |    |   |   | 4 |   |   |   |   |   |  |
| -37             | 2437           | . Nut, Plain, Hex .....                      |                                 |    |   |   | 4 |   |   |   |   |   |  |
| * * * *         |                |                                              |                                 |    |   |   |   |   |   |   |   |   |  |
| -38             | 535885         | \$ . Gasket, Cover-to-Cover .....            |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -39             | 535887         | . Cover, Tach Gear Box .....                 |                                 |    |   |   | 1 |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                              |                                 |    |   |   |   |   |   |   |   |   |  |
| -40             | 2471           | . Washer, Plain .....                        |                                 |    |   |   | 4 |   |   |   |   |   |  |
| -41             | 22910          | . Washer, Lock .....                         |                                 |    |   |   | 4 |   |   |   |   |   |  |
| -42             | 20655          | . Screw .....                                |                                 |    |   |   | 4 |   |   |   |   |   |  |
| * * * *         |                |                                              |                                 |    |   |   |   |   |   |   |   |   |  |
| -43             | AN900-28       | \$ . Gasket, Annular .....                   | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -44             | 538727         | . Filter Assembly, Oil .....                 | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -45             | Q9T116-218     | . . Tube Assembly Perforated .....           | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -46             | MS20073-04-10  | . Bolt, Drilled Hex Head .....               | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -47             | Q9S552-06      | . . Washer, Annular, 1/4 Inch .....          | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -48             | 535933         | . . Gasket, Felt, 5/8 Inch ID .....          | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| -49             | Q9T116-07      | . . Element Filter .....                     | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -50             | 628129         | . . Body Casting, Filter .....               | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -51             | 631638         | . Valve, Filter By-Pass .....                | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -52             | 631478         | . Spring, Filter By-Pass .....               | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -53             | AN900-14       | \$ . Gasket, Copper .....                    | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -54             | 631995         | . Pin and Plug Assy., Oil Pump By-Pass ..... | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -55             | 20522          | Washer, Plain .....                          | 7                               |    |   | 7 | 7 | 7 | 7 | 7 | 7 |   |  |
| -56             | MS35338-44     | Washer, Lock .....                           | 7                               |    |   | 7 | 7 | 7 | 7 | 7 | 7 |   |  |
| -57             | 2437           | Nut, Plain, Hex .....                        | 7                               |    |   | 7 | 7 | 7 | 7 | 7 | 7 |   |  |

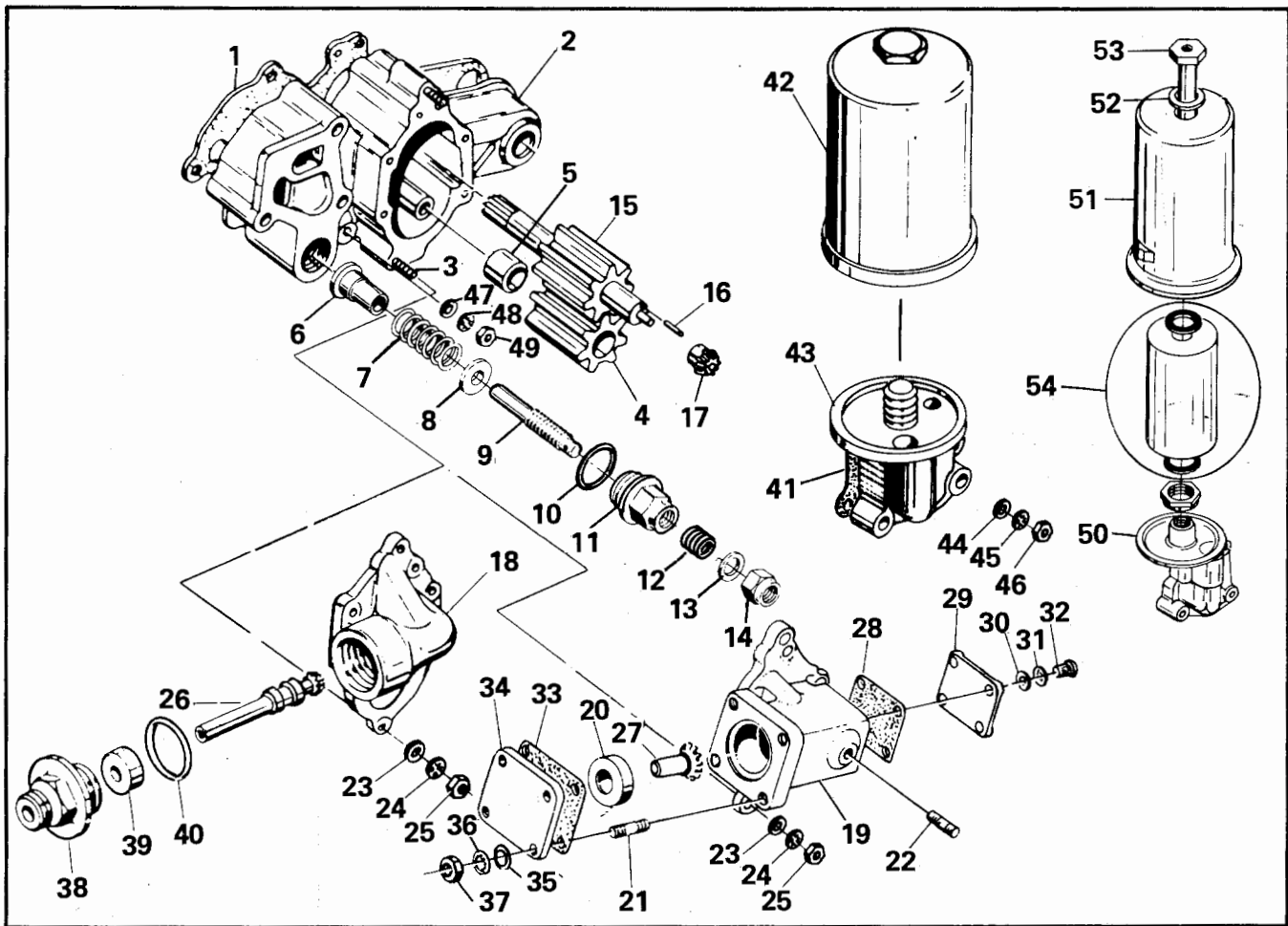


FIGURE 17. OIL PUMP ASSEMBLY (FULL FLOW TYPE FILTER)

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                 | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |   |
|---------------|----------------|-----------|---------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|---|
|               |                |           |                                             | A                               | BA | C | D | E | F | J | K | L | M |   |
| 17- 1         | 631034         | \$        | Gasket, Pump, Housing-to-Crankcase .....    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
|               | 632977A4       |           | Housing Assembly, Oil Pump, Complete .....  |                                 | 1  |   |   |   |   |   |   |   |   |   |
|               | 632970         |           | Housing Assembly, Oil Pump, Complete .....  |                                 |    | 1 |   |   |   |   |   |   |   | 1 |
|               |                |           | * * * *                                     |                                 |    |   |   |   |   |   |   |   |   |   |
| -2            | 632977         | .         | Housing and Shaft Assembly, Oil Pump .....  |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -3            | 401801         | †         | . . Stud, 1/4 x 1-1/16 Inch Long .....      |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -4            | 631016         | .         | Gear & Bushing Assy., Oil Pump Driven ..... |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -5            | 23024          | .         | . . Bushing, Oil Pump Gear .....            |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -6            | 642336         | .         | Plunger, Oil Pressure Relief Valve .....    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -7            | 634150         | .         | Spring, Oil Pressure Relief Valve .....     |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -8            | 631653         | .         | Washer, Spring Seat .....                   |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -9            | 642335         | .         | Screw, Adjusting .....                      |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -10           | AN900-18       | \$        | Gasket, Annular .....                       |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -11           | 642224         | .         | Housing, Oil Pressure Relief Valve .....    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -12           | MS124657       | .         | . . Helical Coil .....                      |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -13           | X1473          | .         | Washer, Copper .....                        |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -14           | 632762         | .         | Nut, Stop, 5/16 - 24 .....                  |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -15           | 631014         | .         | Shaftgear Assembly, Tach Drive .....        |                                 | 1  |   |   |   |   |   |   |   |   |   |
| -15           | 631075         | .         | Shaftgear Assembly, Tach Drive .....        |                                 |    | 1 |   |   |   |   |   |   |   | 1 |
| -16           | 535634         | .         | . . Pin, Dowel .....                        |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                         | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|-----------------|----------------|-----------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|                 |                |                                               | A                               | BA | C | D | E | F | J | K | L | M |  |
| 17-17           | 535008         | . Gear, Bevel, Tach Drive .....               |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -17             | 535900         | . Gear, Bevel, Tach Drive .....               |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| -18             | 631390         | . Cover, Right Angle Tach Drive, O/P .....    |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -19             | 631056A1       | . Cover Assembly, Right Angle Tach Drive ...  |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| -20             | 531378         | \$ . . Seal, Oil .....                        |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| -21             | 401893         | † . . Stud, 1/4 x 1-1/4 Inch Long .....       |                                 |    | 4 |   |   |   |   |   |   | 4 |  |
| -22             | 402711         | † . . Stud, 1/4 x 7/8 Inch Long .....         |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| -23             | 20522          | . Washer, Plain .....                         | 6                               | 8  |   |   |   |   |   |   |   | 8 |  |
| -24             | MS35338-44     | . Washer, Lock .....                          | 6                               | 8  |   |   |   |   |   |   |   | 8 |  |
| -25             | 2437           | . Nut, Plain, Hex .....                       | 6                               | 8  |   |   |   |   |   |   |   | 8 |  |
| -26             | 631650         | . Shaft Assembly, Tach Drive .....            | 1                               |    |   |   |   |   |   |   |   |   |  |
| -27             | 535908         | . Shaftgear Assembly, Bevel Tach Drive .....  |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| -28             | 535885         | \$ . Gasket, Cover-to-Cover .....             |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| -29             | 535887         | . Cover, Tach Gear Box .....                  |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| ATTACHING PARTS |                |                                               |                                 |    |   |   |   |   |   |   |   |   |  |
| -30             | 2471           | . Washer, Plain .....                         |                                 |    | 4 |   |   |   |   |   |   | 4 |  |
| -31             | 22910          | . Washer, Lock .....                          |                                 |    | 4 |   |   |   |   |   |   | 4 |  |
| -32             | 20655          | . Screw, Round Head, No. 10-24 x 1 Inch Long  |                                 |    | 4 |   |   |   |   |   |   | 4 |  |
| * * * *         |                |                                               |                                 |    |   |   |   |   |   |   |   |   |  |
| -33             | MS9134-01      | \$ . Gasket, Tach Drive Pad .....             |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| -34             | 640380         | . Cover, Tach Drive Pad .....                 |                                 |    | 1 |   |   |   |   |   |   | 1 |  |
| ATTACHING PARTS |                |                                               |                                 |    |   |   |   |   |   |   |   |   |  |
| -35             | 2472           | . Washer, Plain .....                         |                                 |    | 4 |   |   |   |   |   |   | 4 |  |
| -36             | MS35338-44     | . Washer, Lock .....                          |                                 |    | 4 |   |   |   |   |   |   | 4 |  |
| -37             | 2437           | . Nut, Plain, Hex .....                       |                                 |    | 4 |   |   |   |   |   |   | 4 |  |
| * * * *         |                |                                               |                                 |    |   |   |   |   |   |   |   |   |  |
| -38             | 21208A2        | . Housing, Tach Drive Assembly .....          | 1                               |    |   |   |   |   |   |   |   |   |  |
| -39             | 642714         | \$ . . Seal, Oil .....                        | 1                               |    |   |   |   |   |   |   |   |   |  |
| -40             | 632085         | \$ . Gasket, Annular .....                    | 1                               |    |   |   |   |   |   |   |   |   |  |
| -41             | 632266         | \$ Gasket, Oil Filter-to-Pump Housing .....   | 1                               | 1  |   |   |   |   |   |   |   | 1 |  |
| -42             | 643227         | Filter Assembly, Oil .....                    | 1                               | 1  |   |   |   |   |   |   |   | 1 |  |
| -43             | 641639         | Adapter Assembly, Oil Filter .....            | 1                               | 1  |   |   |   |   |   |   |   | 1 |  |
| ATTACHING PARTS |                |                                               |                                 |    |   |   |   |   |   |   |   |   |  |
| -44             | 2274           | Washer, Plain .....                           | 3                               | 3  |   |   |   |   |   |   |   | 3 |  |
| -45             | MS35338-46     | Washer, Lock .....                            | 3                               | 3  |   |   |   |   |   |   |   | 3 |  |
| -46             | 2441           | Nut, Plain, Hex .....                         | 3                               | 3  |   |   |   |   |   |   |   | 3 |  |
| * * * *         |                |                                               |                                 |    |   |   |   |   |   |   |   |   |  |
| -47             | 20522          | Washer, Plain .....                           | 2                               | 2  |   |   |   |   |   |   |   | 2 |  |
| -48             | MS35338-44     | Washer, Lock .....                            | 2                               | 2  |   |   |   |   |   |   |   | 2 |  |
| -49             | 2437           | Nut, Plain, Hex .....                         | 2                               | 2  |   |   |   |   |   |   |   | 2 |  |
|                 | No Number ①    | Filter Assembly, Oil .....                    |                                 |    |   |   |   |   |   |   |   |   |  |
| -50             | No Number ①    | Adapter, Oil Filter .....                     |                                 |    |   |   |   |   |   |   |   |   |  |
| -51             | 631646         | ① Housing, Oil Filter .....                   |                                 |    |   |   |   |   |   |   |   |   |  |
| -52             | 631784         | ① Gasket, Copper .....                        |                                 |    |   |   |   |   |   |   |   |   |  |
| -53             | 631783         | ① Stud Assembly Center .....                  |                                 |    |   |   |   |   |   |   |   |   |  |
| -54             | 632379         | ① Element, Oil Filter (Includes Gasket) ..... |                                 |    |   |   |   |   |   |   |   |   |  |

NOTE:

① Parts so indicated were used on early models. If adapter (49) is serviceable, new element (53) may be ordered. See Service Bulletin M76-20 if replacement adapter is required.

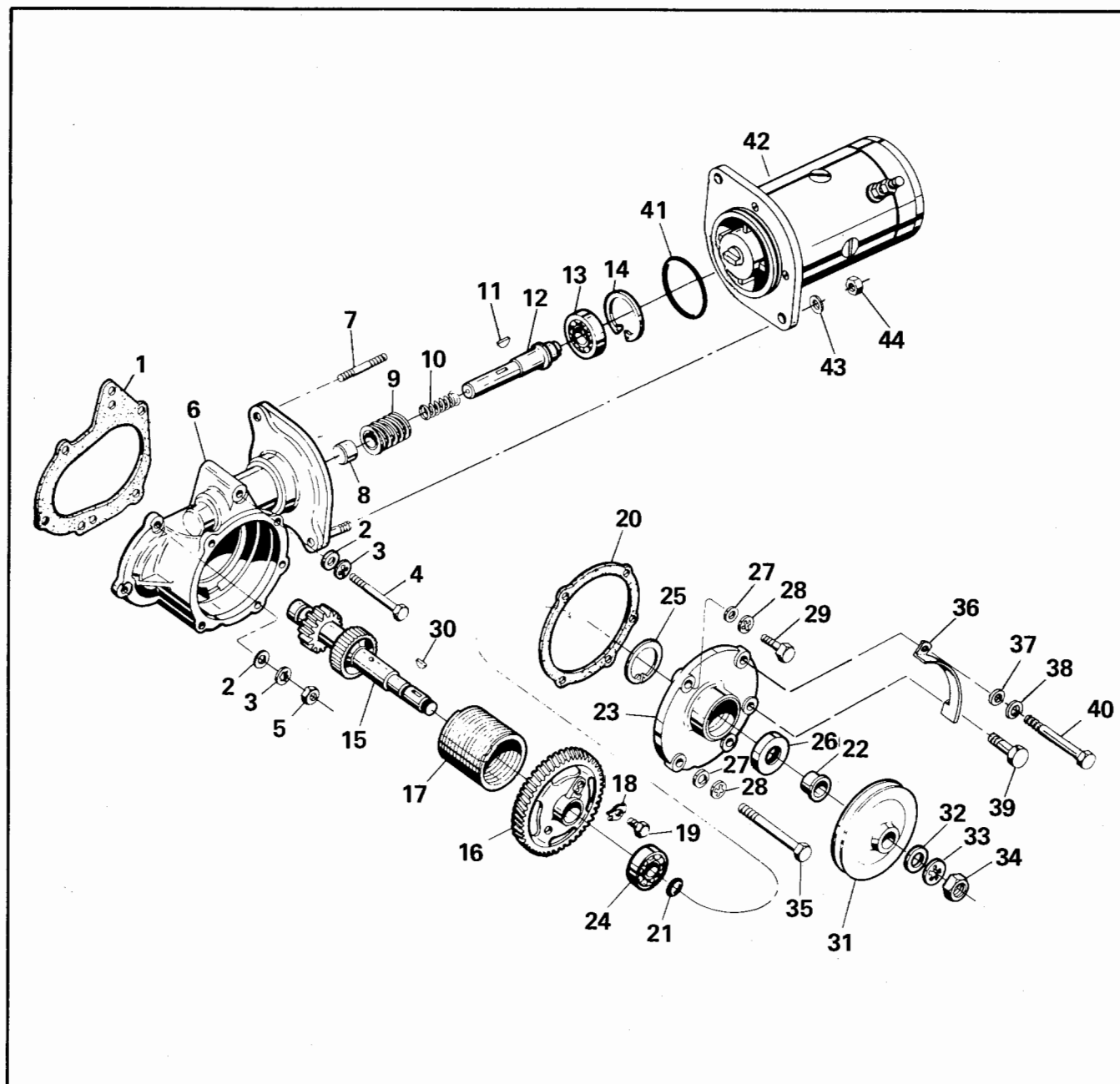


FIGURE 18. STARTER AND STARTER ADAPTER ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                    | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|---------------|----------------|-----------|------------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|               |                |           |                                                | A                               | BA | C | D | E | F | J | K | L | M |  |
| 18- 1         | 537745         |           | Gasket, Adapter-to-Crankcase .....             | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
|               | 635050A4 ①     |           | Adapter Assy., Starter, Complete (Less Sheave) | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
|               |                |           | ATTACHING PARTS                                |                                 |    |   |   |   |   |   |   |   |   |  |
| -2            | 2473           |           | Washer, Plain .....                            | 3                               |    |   | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
| -3            | MS35338-45     |           | Washer, Lock .....                             | 3                               |    |   | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
| -4            | 537742         |           | Screw, 5/16 - 18 x 2-13/16 Inch Long .....     | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -5            | 2439           |           | Nut, Plain .....                               | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
|               |                |           | * * * *                                        |                                 |    |   |   |   |   |   |   |   |   |  |
| -6            | 635050A1       |           | . Adapter Assembly, Starter .....              | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -7            | 402127 †       |           | . . Stud, 3/8 - 16 x 1-17/32 Inch Long .....   | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| -8            | 641368         |           | . . Bearing, Needle .....                      | 1                               |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |

|                 |             |                                      | QUANTITY PER ASSEMBLY |    |   |   |   |   |   |   |   |   |  |
|-----------------|-------------|--------------------------------------|-----------------------|----|---|---|---|---|---|---|---|---|--|
|                 |             |                                      | IO-520                |    |   |   |   |   |   |   |   |   |  |
| FIG. INDEX      | PART NUMBER | 1 2 3 4 5 DESCRIPTION                | A                     | BA | C | D | E | F | J | K | L | M |  |
| 18- 9           | 539805      | . Gear, Starter Worm                 | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -10             | 536552      | . Spring, Starter                    | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -11             | MS35756-8   | . Key, Woodruff                      | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -12             | 631252      | . Shaft, Worm Drive                  | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -13             | X13041      | . Bearing, Ball                      | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -14             | 502287      | . Ring, Retaining                    | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -15             | 539568      | . Shaftgear, Starter                 | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -16             | 539785      | . Gear, Starter Worm Wheel           | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -17             | 539800      | † . Spring, Clutch                   | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| ATTACHING PARTS |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -18             | 501867      | . Washer, Tab                        | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -19             | 633845      | . Screw, 1/4 - 20 x 11/32 Inch Long  | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| * * * *         |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -20             | 537749      | \$ . Gasket, Cover-to-Adapter        | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -21             | AN123862    | \$ . O-Ring                          | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -22             | 534980      | . Sleeve, Bearing Retainer           | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -23             | 537738A1    | . Cover, Starter Adapter             | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -24             | 534685      | . . Bearing, Ball                    | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -25             | 534715      | . . Ring, Retaining                  | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -26             | 534938      | \$ . . Seal, Oil                     | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| ATTACHING PARTS |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -27             | 2473        | . Washer, Plain                      | 3                     |    |   | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
| -28             | MS35338-45  | . Washer, Lock                       | 3                     |    |   | 3 | 3 | 3 | 3 | 3 | 3 |   |  |
| -29             | 537750      | . Screw, 5/16 - 18 x 1-1/8 Inch Long | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -30             | MS35756-8   | . Key, Woodruff                      | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| * * * *         |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -31             | 534775      | Sheave, Generator Drive              | 1                     |    |   | 1 | 1 | 1 | 1 |   | 1 |   |  |
| -31             | 635169      | Sheave, Alternator Drive             |                       |    |   |   |   |   |   | 1 |   |   |  |
| ATTACHING PARTS |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -32             | AN960C916   | Washer, Plain                        | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -33             | 13XX299     | Washer, Lock                         | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -34             | AN316-9R    | Nut, Check                           | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| * * * *         |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -35             | 538999      | Bolt, 5/16 - 18 x 3-5/8 Inch Long    | 2                     |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| -36             | 628760      | Indicator, Engine Timing             | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| ATTACHING PARTS |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -37             | 2473        | Washer, Plain                        | 2                     |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| -38             | MS35338-45  | Washer, Lock                         | 2                     |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| -39             | 537750      | Screw, 5/16 - 18 x 1-1/8 Inch Long   | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -40             | 538999      | Bolt, 5/16 - 18 x 3-5/8 Inch Long    | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| * * * *         |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -41             | MS9021-038  | \$ O-Ring                            | 1                     |    |   | 1 | 1 | 1 | 1 | 1 | 1 |   |  |
| -42             | 634592      | Starter, 12 Volt                     | 1                     |    |   | 1 |   | 1 | 1 | 1 | 1 |   |  |
| -42             | 637847      | Starter, 24 Volt                     |                       |    |   |   | 1 |   |   |   |   |   |  |
| ATTACHING PARTS |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |
| -43             | 539058      | Washer, Plain                        | 2                     |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| -44             | 2441        | Nut, Plain, Hex                      | 2                     |    |   | 2 | 2 | 2 | 2 | 2 | 2 |   |  |
| * * * *         |             |                                      |                       |    |   |   |   |   |   |   |   |   |  |

NOTE:

① This assembly is also available as rebuilt. See your local TCM Distributor.



| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                               | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |   |
|---------------|----------------|-----------|-------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|---|
|               |                |           |                                           | A                               | BA | C | D | E | F | J | K | L | M |   |
| 19- 1         | 630916         | \$        | Gasket, Adapter-to-Crankcase .....        |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
|               | 642083A2②      |           | Adapter Assembly, Starter Complete .....  |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
|               |                |           | ATTACHING PARTS                           |                                 |    |   |   |   |   |   |   |   |   |   |
| -2            | 2473           |           | Washer, Plain .....                       |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -3            | MS35338-45     |           | Washer, Lock .....                        |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -4            | 2439           |           | Nut, Plain, Hex .....                     |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
|               |                |           | * * * *                                   |                                 |    |   |   |   |   |   |   |   |   |   |
| -5            | 642083         |           | . Adapter Assembly Starter .....          |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -6            | 402151         | †         | . . Stud, 5/16 x 1-1/4 Inch Long .....    |                                 | 3  | 3 |   |   |   |   |   |   |   | 3 |
| -7            | 402127         | †         | . . Stud, 3/8 x 1-17/32 Inch Long .....   |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -8            | 401814         | †         | . . Stud, 5/16 x 1-7/8 Inch Long .....    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -9            | 401971         | †         | . . Stud, 5/16 x 1-5/8 Inch Long .....    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -10           | 641368         |           | . Bearing, Needle .....                   |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -11           | 630681         |           | . Gear Assembly, Starter Worm .....       |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -12           | 630680         |           | . . Bearing, Needle .....                 |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -13           | 630895         |           | . Shaftgear Assembly, Starter .....       |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -14           | 539800         | †         | . Spring, Clutch .....                    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
|               |                |           | ATTACHING PARTS                           |                                 |    |   |   |   |   |   |   |   |   |   |
| -15           | 501867         |           | . Washer, Tab .....                       |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -16           | 633845         |           | . Screw, 1/4 - 20 x 11/32 Inch Long ..... |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
|               |                |           | * * * *                                   |                                 |    |   |   |   |   |   |   |   |   |   |
| -17           | 534685         |           | . Bearing, Ball .....                     |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -18           | 521649         |           | . Ring, Retaining .....                   |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -19           | 631252         |           | . Shaft, Worm Drive .....                 |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -20           | 536552         |           | . Spring, Starter Worm Gear .....         |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -21           | MS35756-8      |           | . Key, Woodruff .....                     |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -22           | 539805         |           | . Gear, Starter Worm .....                |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -23           | X13041         |           | . Bearing, Ball .....                     |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -24           | 502287         |           | . Ring, Retaining .....                   |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -25           | AN123902       | \$        | . O-Ring .....                            |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -26           | 629668         |           | . Cover, Starter .....                    |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
|               |                |           | ATTACHING PARTS                           |                                 |    |   |   |   |   |   |   |   |   |   |
| -27           | 2473           |           | . Washer, Plain .....                     |                                 | 5  | 5 |   |   |   |   |   |   |   | 5 |
| -28           | MS35338-45     |           | . Washer, Lock .....                      |                                 | 5  | 5 |   |   |   |   |   |   |   | 5 |
| -29           | 2439           |           | . Nut, Plain, Hex .....                   |                                 | 5  | 5 |   |   |   |   |   |   |   | 5 |
|               |                |           | * * * *                                   |                                 |    |   |   |   |   |   |   |   |   |   |
| -30           | MS9021-038     | \$        | O-Ring .....                              |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -31           | 637847         |           | Motor, 24 Volt, Starter .....             |                                 |    | 1 |   |   |   |   |   |   |   | 1 |
| -31           | 634592         |           | Motor, 12 Volt, Starter .....             |                                 | 1  |   |   |   |   |   |   |   |   |   |
|               |                |           | ATTACHING PARTS                           |                                 |    |   |   |   |   |   |   |   |   |   |
| -32           | 539058         |           | Washer, Plain .....                       |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -33           | 2441           |           | Nut, Plain, Hex .....                     |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |

NOTES:

① This assembly is also available as as rebuilt. See your local TCM Distributor.

② An optional starter adapter and freon compressor kit for Air Conditioning is located in Section VI, Figures 65 and 66.

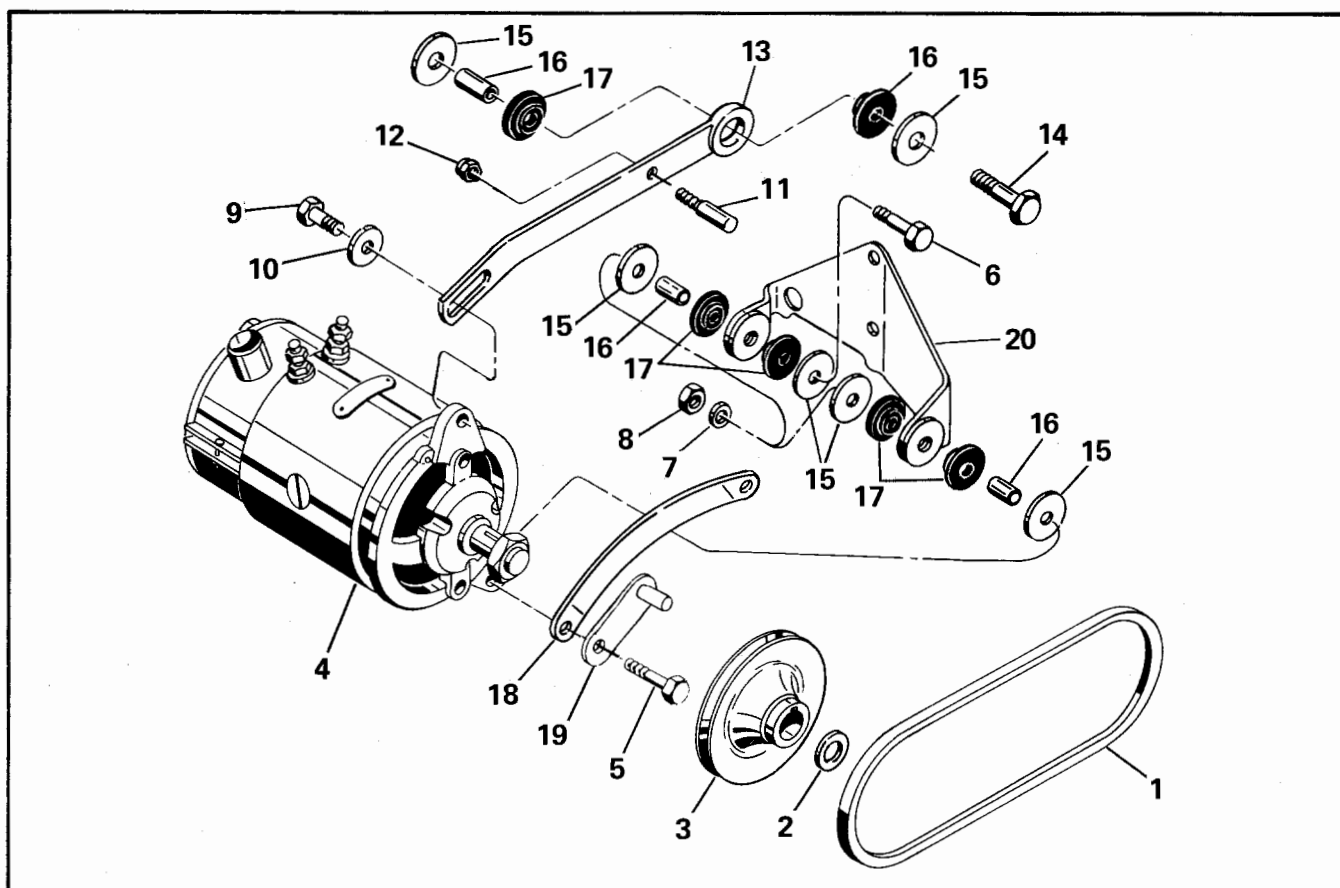


FIGURE 20. GENERATOR ASSEMBLY

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                  | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|-----------------|----------------|----------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|                 |                |                                        | A                               | BA | C | D | E | F | J | K | L | M |  |
| 20- 1           | 539547-31.19   | Belt, Generator Driven .....           | 1                               |    |   |   |   |   |   |   |   |   |  |
| -2              | 536213         | Spacer, Generator Driven .....         | 1                               |    |   |   |   |   |   |   |   |   |  |
| -3              | 627377         | Sheave, Generator Driven .....         | 1                               |    |   |   |   |   |   |   |   |   |  |
| -4              | 627272         | Generator, 12 Volt, 50 AMP .....       | 1                               |    |   |   |   |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                        |                                 |    |   |   |   |   |   |   |   |   |  |
| -5              | AN5-20A        | Bolt .....                             | 1                               |    |   |   |   |   |   |   |   |   |  |
| -6              | AN5-15A        | Bolt .....                             | 1                               |    |   |   |   |   |   |   |   |   |  |
| -7              | 2473           | Washer, Plain .....                    | 2                               |    |   |   |   |   |   |   |   |   |  |
| -8              | 2439           | Nut, Plain, Hex .....                  | 2                               |    |   |   |   |   |   |   |   |   |  |
| -9              | AN75A6         | Bolt .....                             | 1                               |    |   |   |   |   |   |   |   |   |  |
| -10             | 537539         | Washer, Plain .....                    | 1                               |    |   |   |   |   |   |   |   |   |  |
| * * * *         |                |                                        |                                 |    |   |   |   |   |   |   |   |   |  |
| -11             | 627673         | Idler, Kiss .....                      | 1                               |    |   |   |   |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                        |                                 |    |   |   |   |   |   |   |   |   |  |
| -12             | 22661          | Nut, Self-Locking, 1/4 - 28 .....      | 1                               |    |   |   |   |   |   |   |   |   |  |
| * * * *         |                |                                        |                                 |    |   |   |   |   |   |   |   |   |  |
| -13             | 627276         | Bracket, Generator Adjusting Arm ..... | 1                               |    |   |   |   |   |   |   |   |   |  |
| -14             | AN75A15        | Screw .....                            | 1                               |    |   |   |   |   |   |   |   |   |  |
| -15             | 627279         | Washer, Special .....                  | 6                               |    |   |   |   |   |   |   |   |   |  |
| -16             | 627281         | Bushing, Spacer .....                  | 3                               |    |   |   |   |   |   |   |   |   |  |
| -17             | 630519         | Bushing, Rubber .....                  | 6                               |    |   |   |   |   |   |   |   |   |  |
| -18             | 627068         | Bracket, Generator Support .....       | 1                               |    |   |   |   |   |   |   |   |   |  |
| -19             | 632112         | Bracket, Assembly, Kiss, Idler .....   | 1                               |    |   |   |   |   |   |   |   |   |  |
| -20             | 627690         | Bracket, Generator Mounting .....      | RF                              |    |   |   |   |   |   |   |   |   |  |

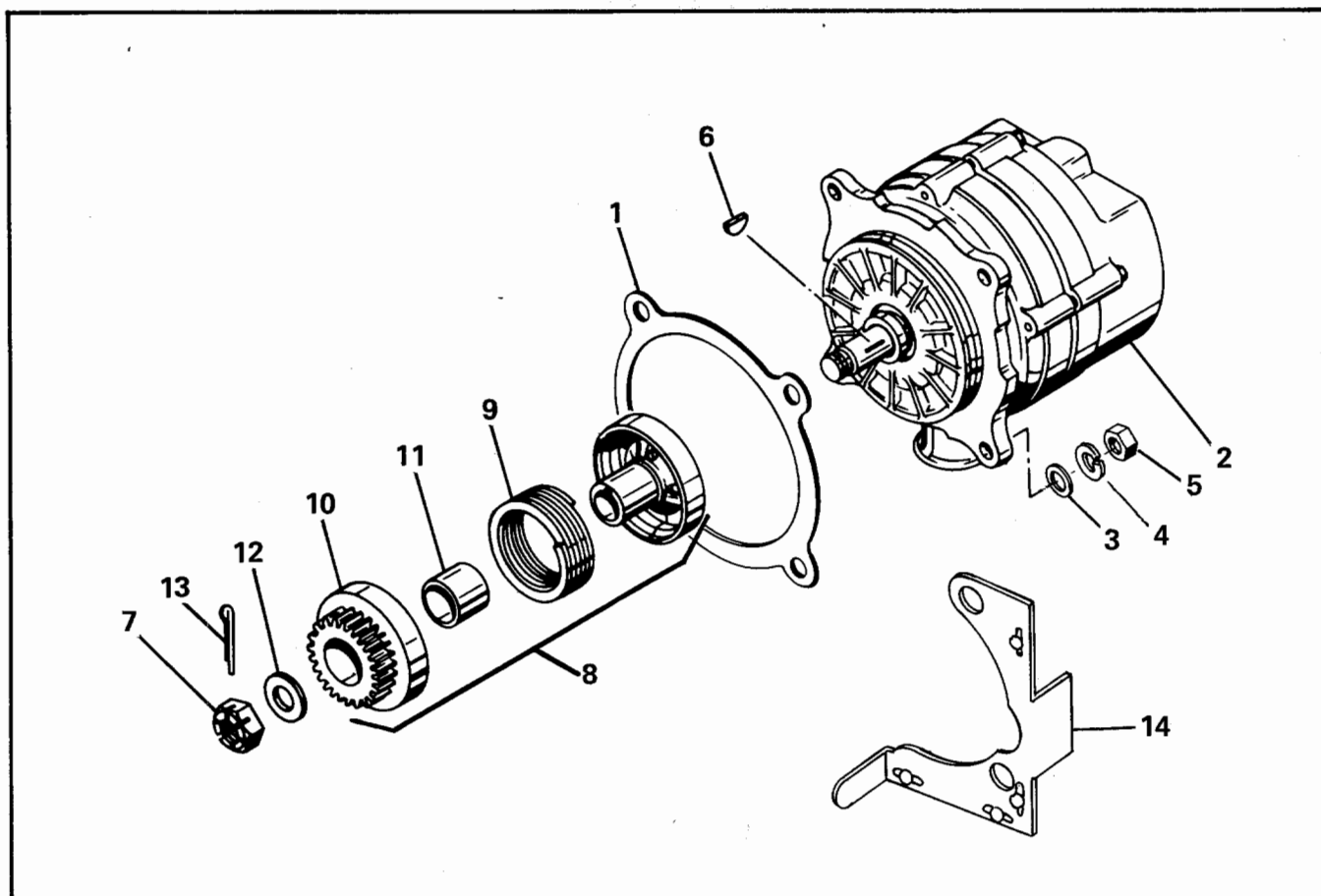


FIGURE 21. ALTERNATOR ASSEMBLY

| FIG. INDEX | PART NUMBER | DESCRIPTION                                   | QUANTITY PER ASSEMBLY |    |   |   |   |        |   |   |   |   |  |
|------------|-------------|-----------------------------------------------|-----------------------|----|---|---|---|--------|---|---|---|---|--|
|            |             |                                               | 1                     | 2  | 3 | 4 | 5 | IO-520 |   |   |   |   |  |
|            |             |                                               | A                     | BA | C | D | E | F      | J | K | L | M |  |
| 21- 1      | 629436      | \$ Gasket .....                               | 1                     | 1  |   |   |   |        |   |   |   | 1 |  |
| -2         | 641670      | Alternator, 12 Volt, 70 AMP .....             | 1                     |    |   |   |   |        |   |   |   |   |  |
| -2         | 632590      | Alternator, 24 Volt, 50 AMP .....             |                       |    | 1 |   |   |        |   |   |   |   |  |
|            |             | ATTACHING PARTS                               |                       |    |   |   |   |        |   |   |   |   |  |
| -3         | 2473        | Washer, Plain .....                           | 4                     | 4  |   |   |   |        |   |   |   | 4 |  |
| -4         | MS35338-45  | Washer, Lock .....                            | 4                     | 4  |   |   |   |        |   |   |   | 4 |  |
| -5         | 2439        | Nut, 5/16 - 18 .....                          | 4                     | 4  |   |   |   |        |   |   |   | 4 |  |
|            |             | * * * * *                                     |                       |    |   |   |   |        |   |   |   |   |  |
| -6         | 632437      | . Key, Woodruff .....                         | 1                     | 1  |   |   |   |        |   |   |   |   |  |
| -7         | 632436      | . Nut, Slotted Hex, 5/8 - 32 UN-2A Thread ... | 1                     | 1  |   |   |   |        |   |   |   |   |  |
| -8         | 640934      | Hub Assembly, Alternator Gear Driven .....    | 1                     | 1  |   |   |   |        |   |   |   | 1 |  |
| -9         | 630655      | . Spring Clutch .....                         | 1                     | 1  |   |   |   |        |   |   |   | 1 |  |
| -10        | 640932      | . Gear Assembly, Alternator Driven .....      | 1                     | 1  |   |   |   |        |   |   |   | 1 |  |
| -11        | 629638      | . . Bushing .....                             | 1                     | 1  |   |   |   |        |   |   |   | 1 |  |
| -12        | 630691      | Washer, Plain .....                           | 1                     | 1  |   |   |   |        |   |   |   | 1 |  |
| -13        | MS24665-302 | Pin, Cotter .....                             | 1                     | 1  |   |   |   |        |   |   |   |   |  |
| -14        | 640056      | Support Assembly, Baffle .....                | 1                     | 1  |   |   |   |        |   |   |   |   |  |

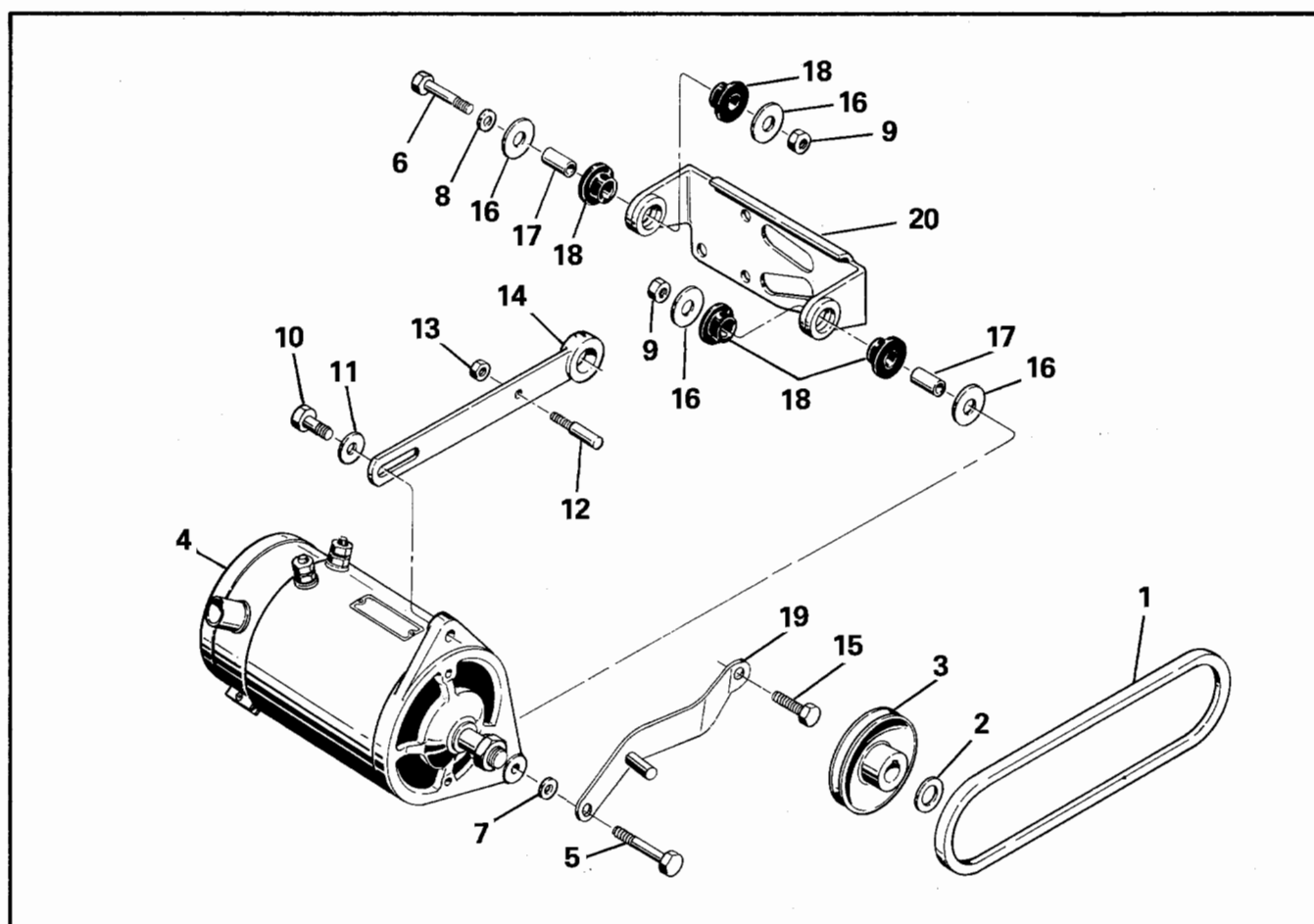


FIGURE 22. GENERATOR ASSEMBLY

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                 | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|-----------------|----------------|-----------|---------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|                 |                |           |                                             | A                               | BA | C | D | E | F | J | K | L | M |  |
| 22- 1           | 539547-32.00   |           | Belt, Generator Driven .....                |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -2              | 536213         |           | Spacer, Generator Driven .....              |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -3              | 627377         |           | Sheave, Generator Driven .....              |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -4              | 629417         |           | Generator, 24 Volt, 50 AMP .....            |                                 |    |   |   | 1 |   |   |   |   |   |  |
| ATTACHING PARTS |                |           |                                             |                                 |    |   |   |   |   |   |   |   |   |  |
| -5              | AN5-17A        |           | Bolt, 5/16 - 24 x 1-31/32 Inch Long .....   |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -6              | AN5-15A        |           | Bolt, 5/16 - 24 x 1-23/32 Inch Long .....   |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -7              | 2555           |           | Washer, Plain .....                         |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -8              | 2473           |           | Washer, Plain .....                         |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -9              | 2439           |           | Nut, Plain, Hex .....                       |                                 |    |   |   | 2 |   |   |   |   |   |  |
| -10             | AN75A6         |           | Bolt, 5/16 - 18 x 51/64 Inch Long .....     |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -11             | 537539         |           | Washer, Plain .....                         |                                 |    |   |   | 1 |   |   |   |   |   |  |
| * * * *         |                |           |                                             |                                 |    |   |   |   |   |   |   |   |   |  |
| -12             | 627673-2       |           | Pin, Idler, Kiss .....                      |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -13             | 22661          |           | Nut, Elastic Stop .....                     |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -14             | 629825         |           | Bracket, Assy., Gen. Belt Adj., Upper ..... |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -15             | AN75A10        |           | Bolt, 5/16 - 18 x 1-3/64 Inch Long .....    |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -16             | 627279         |           | Washer, Special .....                       |                                 |    |   |   | 4 |   |   |   |   |   |  |
| -17             | 627281         |           | Bushing .....                               |                                 |    |   |   | 2 |   |   |   |   |   |  |
| -18             | 630519         |           | Bushing .....                               |                                 |    |   |   | 4 |   |   |   |   |   |  |
| -19             | 630039         |           | Bracket Assy., Gen. Belt Adj., Upper .....  |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -20             | 628004         |           | Bracket, Generator, Mounting .....          |                                 |    |   |   | 1 |   |   |   |   |   |  |

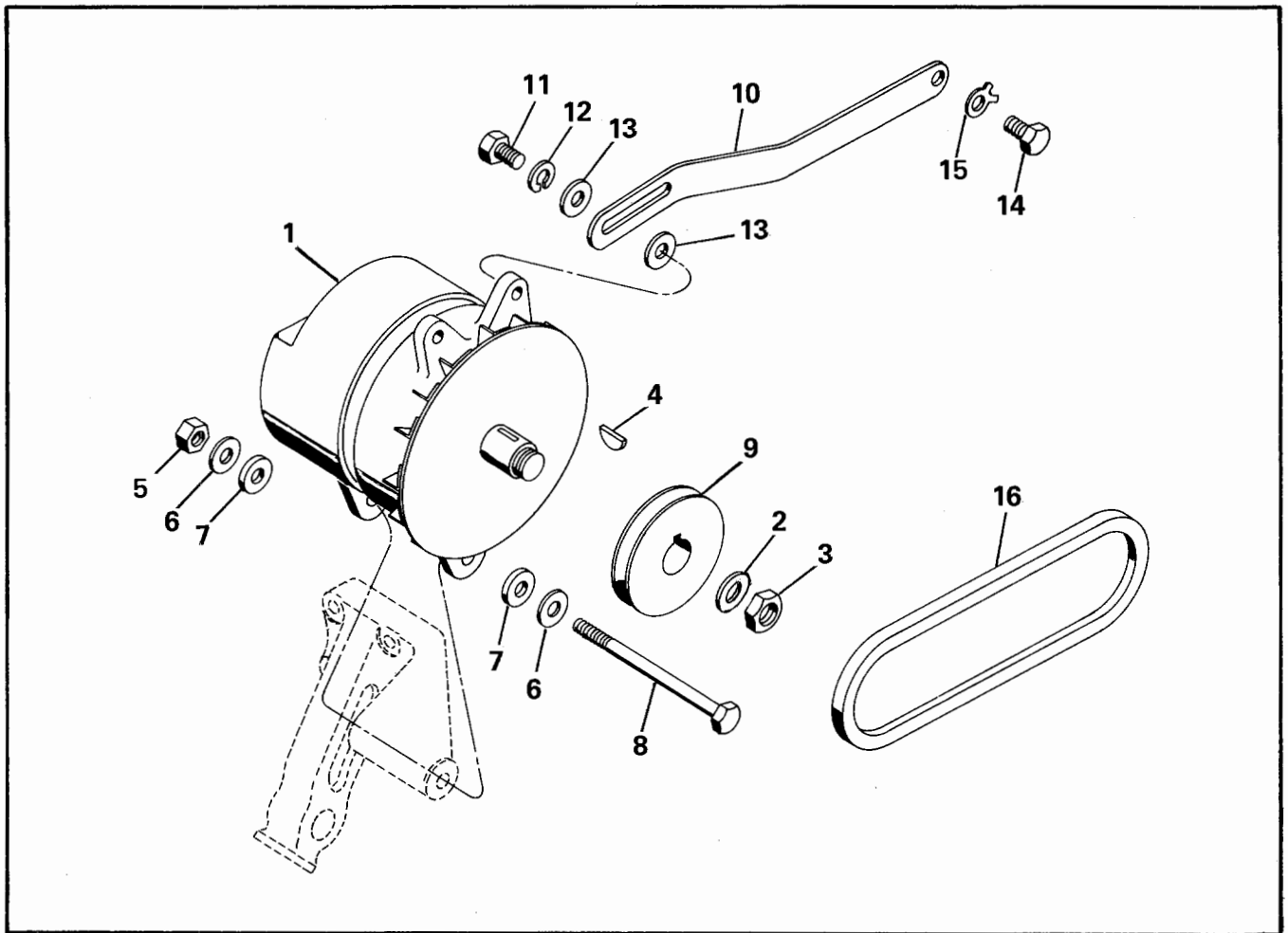


FIGURE 23. ALTERNATOR ASSEMBLY

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION              | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|-----------------|----------------|-----------|--------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|                 |                |           |                          | A                               | BA | C | D | E | F | J | K | L | M |  |
| 23- 1           | 641667         |           | Alternator .....         |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -2              | 630691         |           | Washer, Plain .....      |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -3              | 632436         |           | Nut .....                |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -4              | 632437         |           | Key .....                |                                 |    |   |   |   |   |   | 1 |   |   |  |
| ATTACHING PARTS |                |           |                          |                                 |    |   |   |   |   |   |   |   |   |  |
| -5              | 2441           |           | Nut .....                |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -6              | 22786          |           | Washer .....             |                                 |    |   |   |   |   |   | 2 |   |   |  |
| -7              | 24239          |           | Washer .....             |                                 |    |   |   |   |   |   | 2 |   |   |  |
| -8              | 634657         |           | Bolt .....               |                                 |    |   |   |   |   |   | 1 |   |   |  |
| * * * *         |                |           |                          |                                 |    |   |   |   |   |   |   |   |   |  |
| -9              | 640261         |           | Sheave .....             |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -10             | 634617         |           | Bracket .....            |                                 |    |   |   |   |   |   | 1 |   |   |  |
| ATTACHING PARTS |                |           |                          |                                 |    |   |   |   |   |   |   |   |   |  |
| -11             | 530346         |           | Screw .....              |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -12             | 13XX202B       |           | Lockwasher .....         |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -13             | 537539         |           | Washer .....             |                                 |    |   |   |   |   |   | 2 |   |   |  |
| -14             | 537750         |           | Screw .....              |                                 |    |   |   |   |   |   | 1 |   |   |  |
| -15             | 501868         |           | Washer, Tab .....        |                                 |    |   |   |   |   |   | 1 |   |   |  |
| * * * *         |                |           |                          |                                 |    |   |   |   |   |   |   |   |   |  |
| -16             | 539547-32.00   |           | Belt, 32 Inch Long ..... |                                 |    |   |   |   |   |   | 1 |   |   |  |

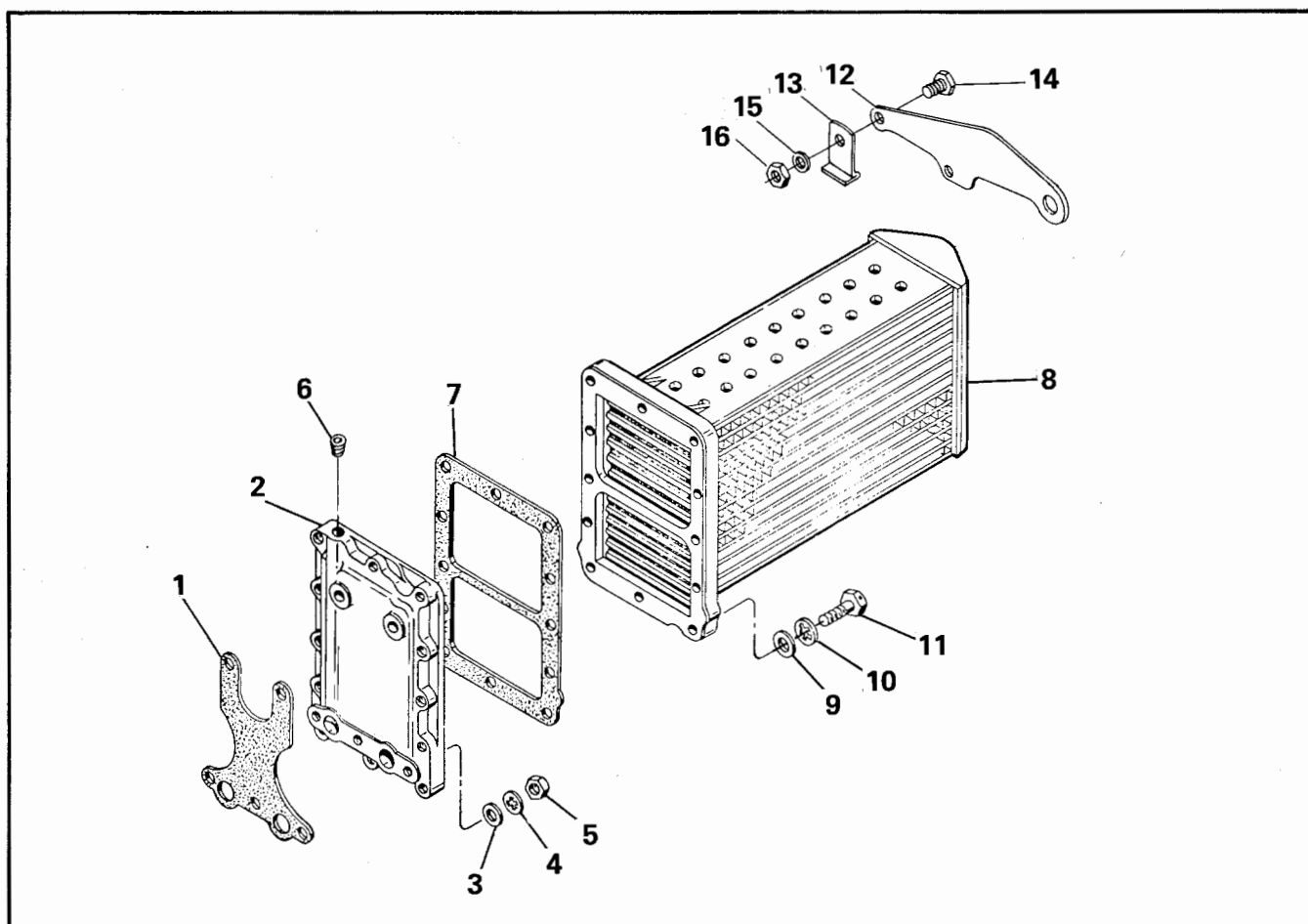


FIGURE 24. OIL COOLER

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                         | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |    |    |    |    |    |    |   |  |
|-----------------|----------------|-----------|-------------------------------------|---------------------------------|----|---|----|----|----|----|----|----|---|--|
|                 |                |           |                                     | A                               | BA | C | D  | E  | F  | J  | K  | L  | M |  |
| 24- 1           | 625303         | \$        | Gasket, Crankcase-to-Plate .....    | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -2              | 537312         |           | Plate, Oil Cooler Adapter .....     | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| ATTACHING PARTS |                |           |                                     |                                 |    |   |    |    |    |    |    |    |   |  |
| -3              | 20522          |           | Washer, Plain .....                 | 5                               |    |   | 5  | 5  | 5  | 5  | 5  | 5  |   |  |
| -4              | MS35338-44     |           | Washer, Lock .....                  | 5                               |    |   | 5  | 5  | 5  | 5  | 5  | 5  |   |  |
| -5              | 2437           |           | Nut, Plain, Hex .....               | 5                               |    |   | 5  | 5  | 5  | 5  | 5  | 5  |   |  |
| * * * *         |                |           |                                     |                                 |    |   |    |    |    |    |    |    |   |  |
| -6              | 2026           |           | Plug, Pipe 1/4 - 18 .....           | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -7              | 537282         | \$        | Gasket, Oil Cooler .....            | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| -8              | 626189         |           | Cooler Assembly, Oil .....          | 1                               |    |   | 1  | 1  | 1  | 1  | 1  | 1  |   |  |
| ATTACHING PARTS |                |           |                                     |                                 |    |   |    |    |    |    |    |    |   |  |
| -9              | 20522          |           | Washer, Plain .....                 | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |  |
| -10             | MS35338-44     |           | Washer, Lock .....                  | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |  |
| -11             | 535631         |           | Screw, 1/4 - 20 x 1 Inch Long ..... | 12                              |    |   | 12 | 12 | 12 | 12 | 12 | 12 |   |  |
| * * * *         |                |           |                                     |                                 |    |   |    |    |    |    |    |    |   |  |
| -12             | 632823         | ①         | Bracket, Oil Cooler Support .....   | 1                               |    |   | 1  | 1  |    |    | 1  |    |   |  |
| -13             | 632824         | ①         | Bracket, Oil Cooler Support .....   | 1                               |    |   | 1  | 1  |    |    | 1  |    |   |  |
| -14             | 629806         | ①         | Bolt, Special Off Set Head .....    | 1                               |    |   | 1  | 1  |    |    | 1  |    |   |  |
| -15             | 536779         | ①         | Washer, Plain .....                 | 1                               |    |   | 1  | 1  |    |    | 1  |    |   |  |
| -16             | 2437           | ①         | Nut, Hex .....                      | 1                               |    |   | 1  | 1  |    |    | 1  |    |   |  |

NOTE:

⓪ These parts are included in an assembly. EQ5968.

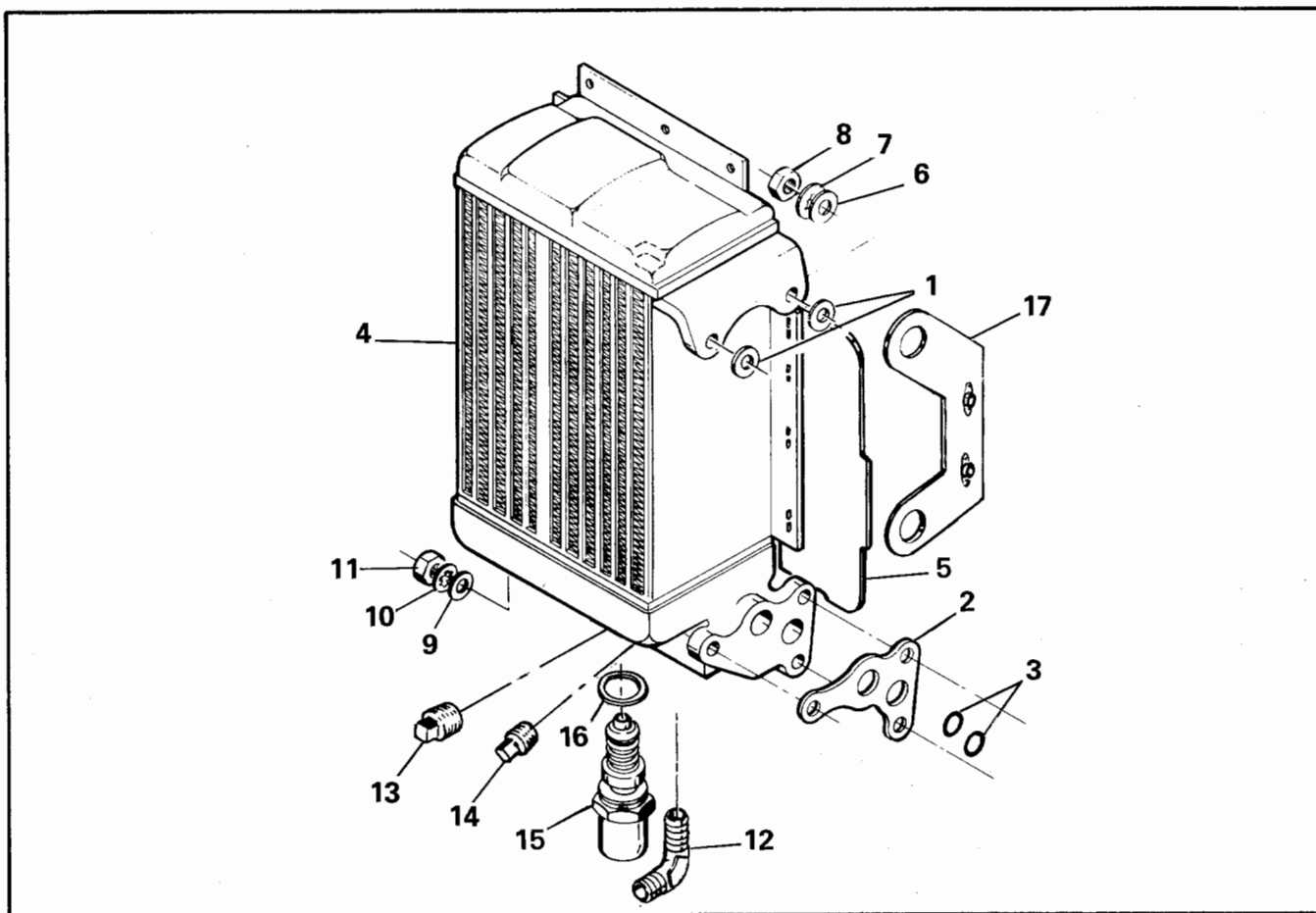


FIGURE 25. OIL COOLER

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                 | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |   |
|---------------|----------------|-----------|---------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|---|
|               |                |           |                                             | A                               | BA | C | D | E | F | J | K | L | M |   |
| 25-1          | 630849         | \$        | Gasket, Oil Cooler-to-Crankcase, Top .....  |                                 | 2  |   |   |   |   |   |   |   |   | 2 |
| -2            | 631059         | \$        | Gasket, Crankcase-to-Oil Cooler .....       |                                 | 1  |   |   |   |   |   |   |   |   | 1 |
| -3            | MS9021-017     | \$        | O-Ring, O/C-to-Engine Mtg Bracket .....     |                                 |    | 2 |   |   |   |   |   |   |   |   |
|               | 633287         |           | Oil Cooler & Baffle Assembly .....          |                                 | 1  |   |   |   |   |   |   |   |   | 1 |
|               | 633288         |           | Oil Cooler & Baffle Assembly .....          |                                 |    | 1 |   |   |   |   |   |   |   |   |
|               |                |           | * * * *                                     |                                 |    |   |   |   |   |   |   |   |   |   |
| -4            | 635996         | .         | Cooler, Oil .....                           |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -5            | 632224         | .         | Baffle, Oil Cooler .....                    |                                 | 1  |   |   |   |   |   |   |   |   | 1 |
| -5            | 632276         | .         | Baffle, Oil Cooler .....                    |                                 |    | 1 |   |   |   |   |   |   |   |   |
| -6            | 2474           |           | Washer, Plain .....                         |                                 | 4  | 4 |   |   |   |   |   |   |   | 4 |
| -7            | MS35338-46     |           | Washer, Lock .....                          |                                 | 4  | 4 |   |   |   |   |   |   |   | 4 |
| -8            | 2441           |           | Nut, Plain, Hex .....                       |                                 | 4  | 4 |   |   |   |   |   |   |   | 4 |
| -9            | 2473           |           | Washer, Plain .....                         |                                 | 1  |   |   |   |   |   |   |   |   |   |
| -10           | MS35338-45     |           | Washer, Lock .....                          |                                 | 1  |   |   |   |   |   |   |   |   |   |
| -11           | 2439           |           | Nut, Plain, Hex .....                       |                                 | 1  |   |   |   |   |   |   |   |   |   |
| -12           | 634628         |           | Elbow, 90 Degree, 1/8 NPTF to 1/8 Tube .... |                                 | 1  |   |   |   |   |   |   |   |   |   |
| -12           | 631658         |           | Elbow, 90 Degree, 1/8 NPTF to 1/4 Tube .... |                                 |    | 1 |   |   |   |   |   |   |   |   |
| -13           | 629518-1H      |           | Plug, Oil Cooler Outlet .....               |                                 |    | 1 |   |   |   |   |   |   |   | 1 |
| -14           | 629518-3H      |           | Plug, Oil Cooler Outlet .....               |                                 |    | 1 |   |   |   |   |   |   |   | 1 |
| -15           | 639305         |           | Valve Assy., Oil Temperature Control .....  |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -16           | 627496         | .         | Gasket .....                                |                                 | 1  | 1 |   |   |   |   |   |   |   | 1 |
| -17           | 632126         |           | Support Assembly, Baffle .....              |                                 | 1  | 1 |   |   |   |   |   |   |   |   |

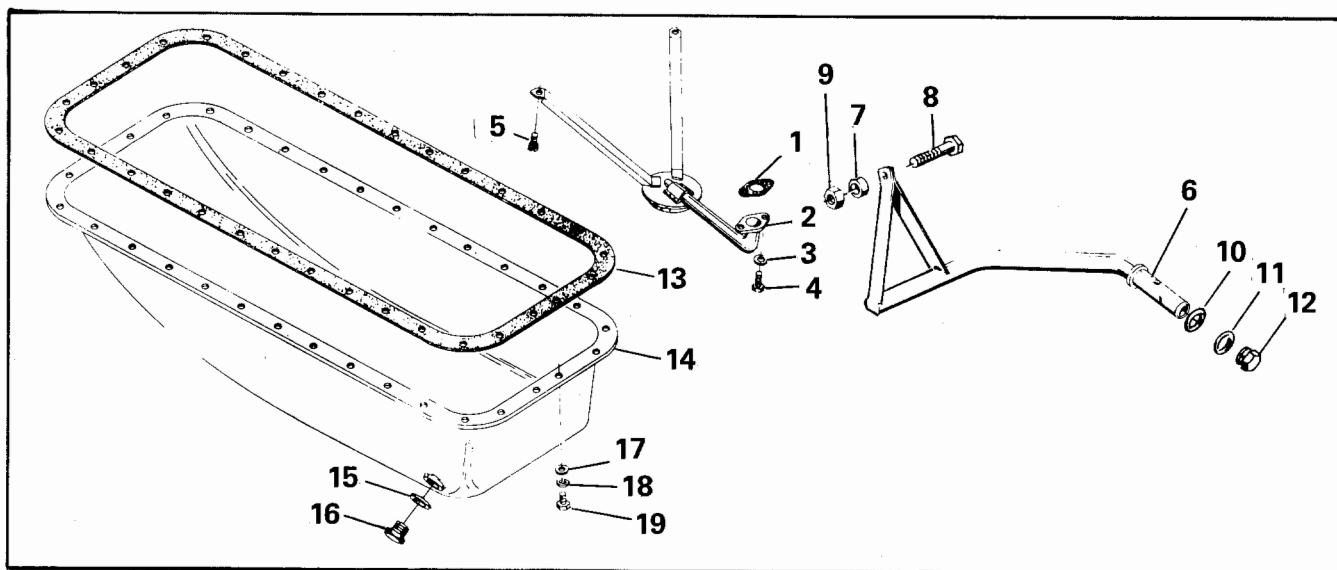


FIGURE 26. OIL SUMP

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |    |    |    |   |    |   |    |  |
|-----------------|----------------|-----------|------------------------------------------|---------------------------------|----|----|----|----|----|---|----|---|----|--|
|                 |                |           |                                          | A                               | BA | C  | D  | E  | F  | J | K  | L | M  |  |
| 26-1            | 534940         | \$        | Gasket, Suction Tube Assembly .....      | 1                               |    |    | 1  | 1  | 1  |   | 1  |   |    |  |
| -2              | 625207         |           | Tube Assembly, Suction, Oil Pump .....   | 1                               |    |    | 1  | 1  | 1  |   | 1  |   |    |  |
| ATTACHING PARTS |                |           |                                          |                                 |    |    |    |    |    |   |    |   |    |  |
| -3              | 20522          |           | Washer, Plain .....                      | 2                               |    |    | 2  | 2  | 2  |   | 2  |   |    |  |
| -4              | MS20074-04-04  |           | Bolt .....                               | 2                               |    |    | 2  | 2  | 2  |   | 2  |   |    |  |
| -5              | MS20074-04-03  |           | Bolt .....                               | 2                               |    |    | 2  | 2  | 2  |   | 2  |   |    |  |
| * * * * *       |                |           |                                          |                                 |    |    |    |    |    |   |    |   |    |  |
| -6              | 632946         |           | Tube Assembly, Suction, Oil Pump .....   |                                 |    | 1  |    |    |    |   |    |   | 1  |  |
| ATTACHING PARTS |                |           |                                          |                                 |    |    |    |    |    |   |    |   |    |  |
| -7              | 631367         |           | Washer, Special .....                    |                                 |    | 1  |    |    |    |   |    |   | 1  |  |
| -8              | AN4-17A        |           | Bolt .....                               |                                 |    | 1  |    |    |    |   |    |   | 1  |  |
| -9              | 632443-4       |           | Nut .....                                |                                 |    | 1  |    |    |    |   |    |   | 1  |  |
| * * * * *       |                |           |                                          |                                 |    |    |    |    |    |   |    |   |    |  |
| -10             | AN900-12       | \$        | Gasket, Annular .....                    |                                 |    | 1  |    |    |    |   |    |   | 1  |  |
| -11             | MS35769-12     | \$        | Gasket, Annular .....                    |                                 |    | 1  |    |    |    |   |    |   | 1  |  |
| -12             | 2265           |           | Plug, Hex .....                          |                                 |    | 1  |    |    |    |   |    |   | 1  |  |
| -13             | 534743         | \$        | Gasket, Oil Sump .....                   | 1                               |    | 1  | 1  | 1  | 1  |   | 1  |   | 1  |  |
| -14             | 633412         |           | Sump Assembly, Oil .....                 | 1                               |    |    |    |    | 1  |   |    |   |    |  |
| -14             | 537650         |           | Sump Assembly, Oil .....                 |                                 |    | 1  | 1  |    |    |   | 1  |   |    |  |
| -14             | 628698         |           | Sump Assembly, Oil .....                 |                                 |    |    |    | 1  |    |   |    |   |    |  |
| -14             | 632876         |           | Sump Assembly, Oil .....                 |                                 |    |    |    |    |    |   |    |   | 1  |  |
| -15             | AN900-10       | \$        | Gasket, Annular .....                    | 1                               |    | 2  | 2  |    | 1  |   | 2  |   | 1  |  |
| -15             | AN900-12       | \$        | Gasket, Annular .....                    |                                 |    |    |    | 2  |    |   |    |   |    |  |
| -16             | 532432         | Ⓢ         | Plug, Oil Drain .....                    | 1                               |    | 2  | 2  |    | 1  |   | 2  |   | 1  |  |
| -16             | 20274          |           | Plug, Oil Drain .....                    |                                 |    |    |    | 1  |    |   |    |   |    |  |
| -17             | 2473           |           | Washer, Plain .....                      | 30                              |    | 30 | 32 | 32 | 30 |   | 28 |   | 32 |  |
| -18             | 13XX202B       |           | Washer, Lock .....                       | 32                              |    | 32 | 32 | 32 | 32 |   | 32 |   | 32 |  |
| -19             | 530346         |           | Screw, 5/16 - 18 x 7/8 Inch Long .....   | 30                              |    | 30 | 32 | 32 | 30 |   | 28 |   | 32 |  |
| -19             | 537750         |           | Screw, 5/16 - 18 x 1-1/8 Inch Long ..... | 2                               |    |    |    |    | 2  |   | 2  |   |    |  |
| -19             | 537961         |           | Screw, 5/16 - 18 x 1 Inch Long .....     |                                 |    | 2  |    |    |    |   | 2  |   |    |  |

NOTE:

Ⓢ The magnetic drain plug, P/N 636376 may be used as an option to drain plug P/N 532432.

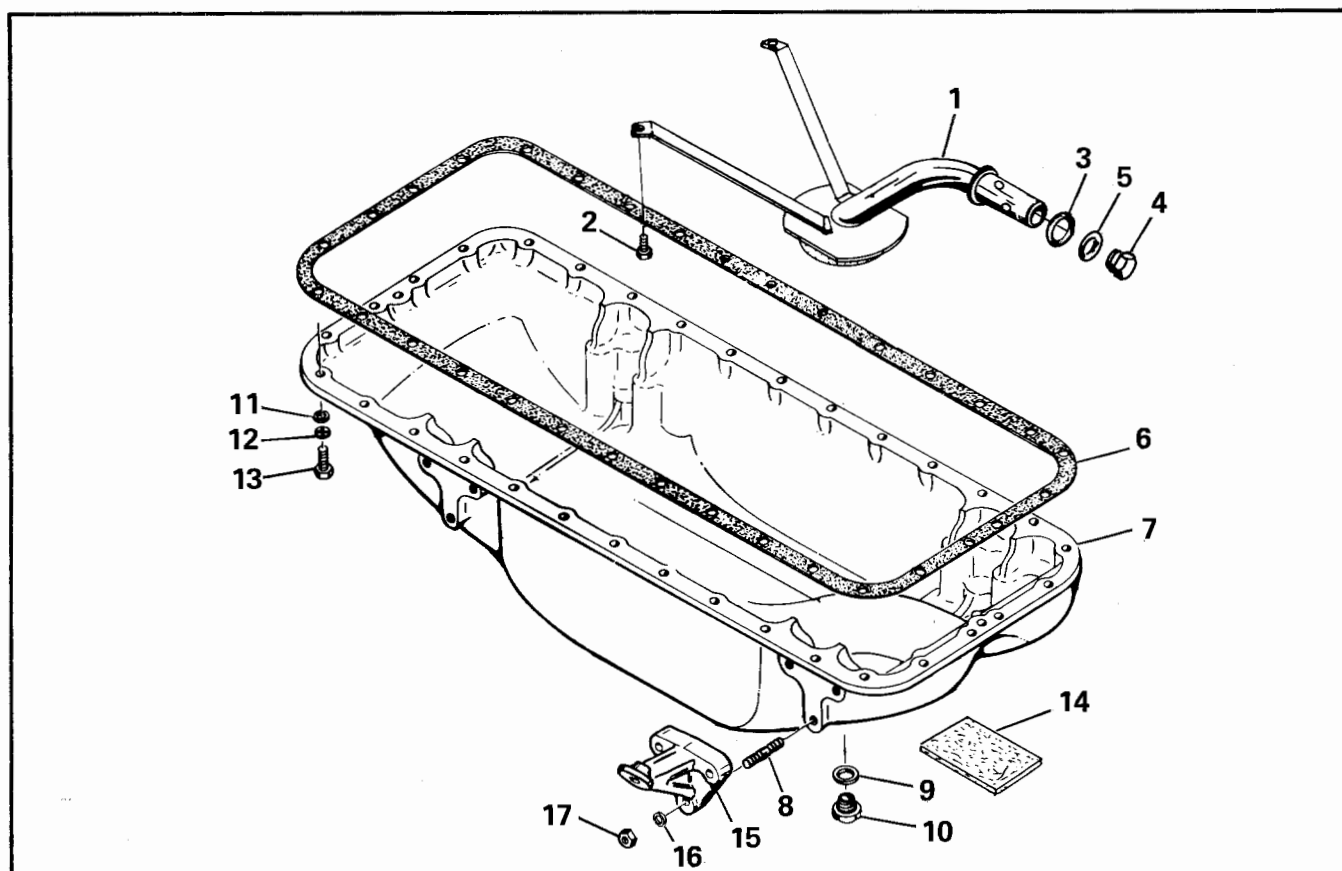


FIGURE 27. OIL SUMP

| FIG.<br>INDEX | PART<br>NUMBER | 1  | 2 | 3 | 4 | 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|---------------|----------------|----|---|---|---|---|------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|               |                |    |   |   |   |   |                                          | A                               | BA | C | D | E | F | J | K | L | M |  |
| 27- 1         | 631008         |    |   |   |   |   | Tube Assembly, Suction, Oil Pump .....   |                                 | 1  |   |   |   |   |   |   |   |   |  |
|               |                |    |   |   |   |   | ATTACHING PARTS                          |                                 |    |   |   |   |   |   |   |   |   |  |
| -2            | 630966-.56     |    |   |   |   |   | Bolt, 5/16 - 18 x 9/16 Inch Long .....   |                                 | 2  |   |   |   |   |   |   |   |   |  |
|               |                |    |   |   |   |   | * * * *                                  |                                 |    |   |   |   |   |   |   |   |   |  |
| -3            | AN900-12       | \$ |   |   |   |   | Gasket, Annular .....                    |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -4            | 2265           |    |   |   |   |   | Plug .....                               |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -5            | MS35769-12     | \$ |   |   |   |   | Gasket, Annular .....                    |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -6            | 534743         | \$ |   |   |   |   | Gasket, Oil Sump .....                   |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -7            | 628372A2       |    |   |   |   |   | Sump Assembly, Oil .....                 |                                 | 1  |   |   |   |   |   |   |   |   |  |
|               |                |    |   |   |   |   | * * * *                                  |                                 |    |   |   |   |   |   |   |   |   |  |
| -8            | 401860         | .  |   |   |   |   | Stud, 3/8 x 1-9/16 Inch Long .....       |                                 | 12 |   |   |   |   |   |   |   |   |  |
| -9            | AN900-10       | .  |   |   |   |   | Gasket, Annular .....                    |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -10           | 2265           | .  |   |   |   |   | Plug .....                               |                                 | 1  |   |   |   |   |   |   |   |   |  |
|               |                |    |   |   |   |   | ATTACHING PARTS                          |                                 |    |   |   |   |   |   |   |   |   |  |
| -11           | 2473           |    |   |   |   |   | Washer, Plain .....                      |                                 | 30 |   |   |   |   |   |   |   |   |  |
| -12           | 13XX202B       |    |   |   |   |   | Washer, Lock .....                       |                                 | 32 |   |   |   |   |   |   |   |   |  |
| -13           | 537750         |    |   |   |   |   | Screw, 5/16 - 18 x 1-1/8 Inch Long ..... |                                 | 30 |   |   |   |   |   |   |   |   |  |
| -13           | 539003         |    |   |   |   |   | Screw, 5/16 - 18 x 1-3/8 Inch Long ..... |                                 | 2  |   |   |   |   |   |   |   |   |  |
|               |                |    |   |   |   |   | * * * *                                  |                                 |    |   |   |   |   |   |   |   |   |  |
| -14           | 534625         |    |   |   |   |   | Felt, 3-1/16 x 4-1/16 .....              |                                 | 1  |   |   |   |   |   |   |   |   |  |
| -15           | 632663         |    |   |   |   |   | Bracket, Engine Mount .....              |                                 | 4  |   |   |   |   |   |   |   |   |  |
|               |                |    |   |   |   |   | ATTACHING PARTS                          |                                 |    |   |   |   |   |   |   |   |   |  |
| -16           | AN960-616L     |    |   |   |   |   | Washer, Plain .....                      |                                 | 12 |   |   |   |   |   |   |   |   |  |
| -17           | 2441           |    |   |   |   |   | Nut, Hex .....                           |                                 | 12 |   |   |   |   |   |   |   |   |  |

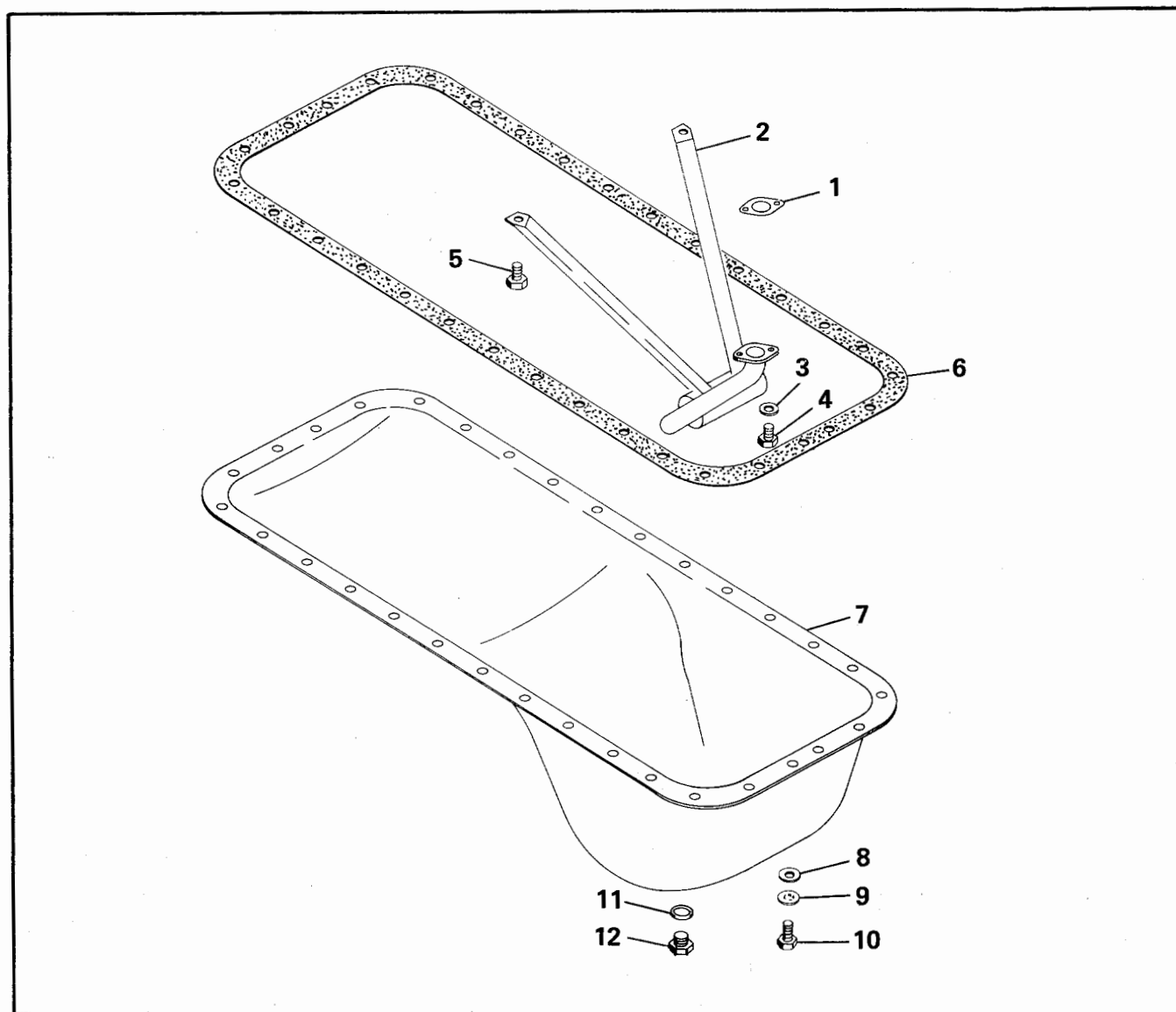


FIGURE 28. OIL SUMP

| FIG. PART |               | 1 2 3 4 5 | DESCRIPTION                               | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |    |   |   |    |  |  |
|-----------|---------------|-----------|-------------------------------------------|---------------------------------|----|---|---|---|---|---|----|---|---|----|--|--|
| INDEX     | NUMBER        |           |                                           | A                               | BA | C | D | E | F | J | K  | L | M |    |  |  |
| 28- 1     | 534940        | \$        | Gasket, Suction Tube Assembly . . . . .   |                                 |    |   |   |   |   |   | 1  |   |   | 1  |  |  |
| -2        | 635640        |           | Tube Assembly, Oil Pump Suction . . . . . |                                 |    |   |   |   |   |   | 1  |   |   | 1  |  |  |
| -3        | 20522         |           | Washer, Plain . . . . .                   |                                 |    |   |   |   |   |   | 2  |   |   | 2  |  |  |
| -4        | MS20074-04-04 |           | Bolt . . . . .                            |                                 |    |   |   |   |   |   | 2  |   |   | 2  |  |  |
| -5        | MS20074-04-03 |           | Bolt . . . . .                            |                                 |    |   |   |   |   |   | 2  |   |   | 2  |  |  |
| -6        | 534743        | \$        | Gasket . . . . .                          |                                 |    |   |   |   |   |   | 1  |   |   | 1  |  |  |
| -7        | 635616        |           | Sump Assembly, Oil . . . . .              |                                 |    |   |   |   |   |   | 1  |   |   | 1  |  |  |
| -8        | 2473          |           | Washer, Plain . . . . .                   |                                 |    |   |   |   |   |   | 28 |   |   | 28 |  |  |
| -9        | 13XX202B      |           | Washer, Lock . . . . .                    |                                 |    |   |   |   |   |   | 32 |   |   | 32 |  |  |
| -10       | 530346        |           | Screw, 5/16 x 7/8 Inch Long . . . . .     |                                 |    |   |   |   |   |   | 28 |   |   | 28 |  |  |
| -10       | 537750        |           | Screw, 5/16 x 1-1/8 Inch Long . . . . .   |                                 |    |   |   |   |   |   | 2  |   |   | 2  |  |  |
| -10       | 537961        |           | Screw, 5/16 x 1 Inch Long . . . . .       |                                 |    |   |   |   |   |   | 2  |   |   | 2  |  |  |
| -11       | AN900-10      | \$        | Gasket, Annular . . . . .                 |                                 |    |   |   |   |   |   | 1  |   |   | 1  |  |  |
| -12       | 532432        | ⓪         | Plug . . . . .                            |                                 |    |   |   |   |   |   | 1  |   |   | 1  |  |  |

NOTE:

① The magnetic drain plug, P/N 636376 may be used as an option to drain plug P/N 532432.

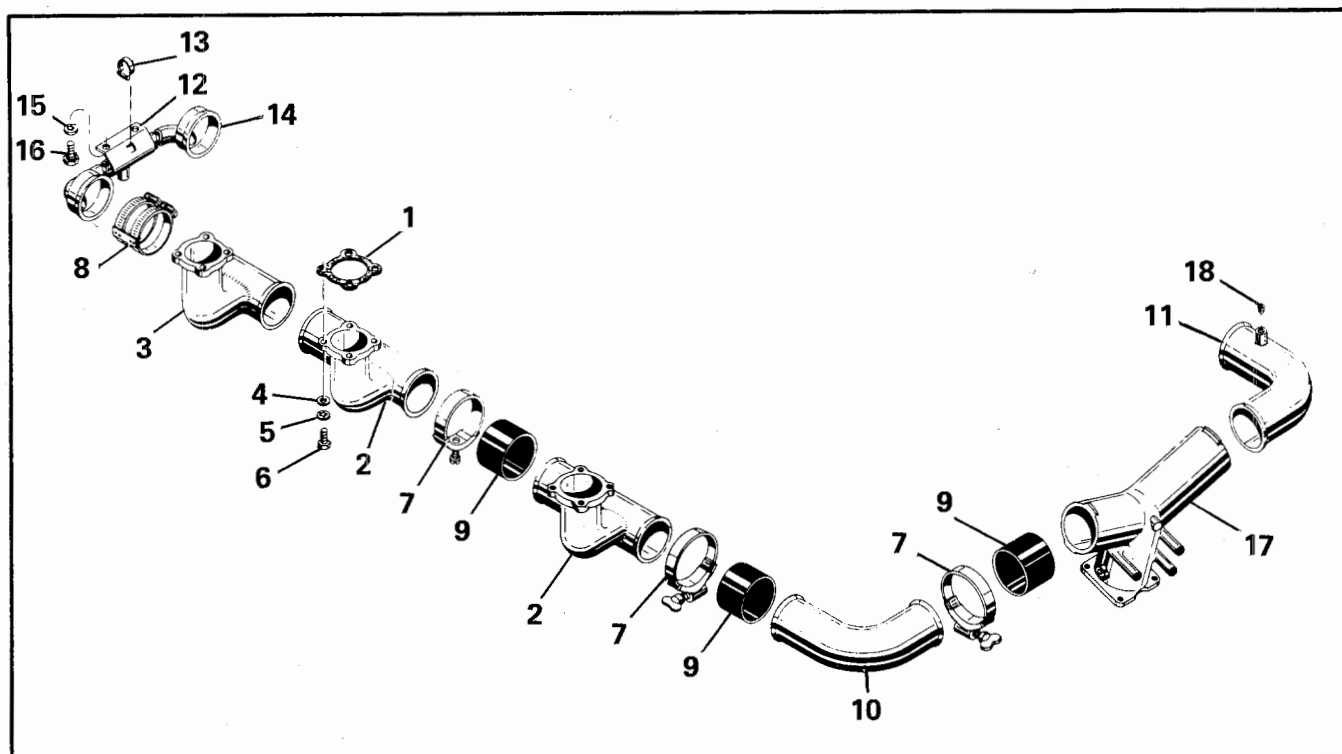


FIGURE 29. INDUCTION SYSTEM

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                           | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |    |   |   |   |   |   |   |  |
|-----------------|----------------|-----------|-------------------------------------------------------|---------------------------------|----|---|----|---|---|---|---|---|---|--|
|                 |                |           |                                                       | A                               | BA | C | D  | E | F | J | K | L | M |  |
| 29- 1           | 536413         | \$        | Gasket, Intake Manifold Flange .....                  |                                 |    |   | 6  |   |   |   |   |   |   |  |
| -2              | 629138         |           | Tube Assy., Intake Manifold, 1-2-3-4-5 Cylinder ..... |                                 |    |   | 5  |   |   |   |   |   |   |  |
| -3              | 629325         |           | Tube Assy., Intake Manifold, No. 6 Cylinder ..        |                                 |    |   | 1  |   |   |   |   |   |   |  |
| ATTACHING PARTS |                |           |                                                       |                                 |    |   |    |   |   |   |   |   |   |  |
| -4              | 20522          |           | Washer, Plain .....                                   |                                 |    |   | 24 |   |   |   |   |   |   |  |
| -5              | MS35338-44     |           | Washer, Lock .....                                    |                                 |    |   | 24 |   |   |   |   |   |   |  |
| -6              | 24835          |           | Screw, 1/4 - 20 x 7/8 Inch Long .....                 |                                 |    |   | 24 |   |   |   |   |   |   |  |
| * * * *         |                |           |                                                       |                                 |    |   |    |   |   |   |   |   |   |  |
| -7              | 631972         |           | Clamp, Hose .....                                     |                                 |    |   | 16 |   |   |   |   |   |   |  |
| -8              | 539487         |           | Clamp Assembly, Hose .....                            |                                 |    |   | 2  |   |   |   |   |   |   |  |
| -9              | 639660-13      |           | Hose, Intake Manifold .....                           |                                 |    |   | 10 |   |   |   |   |   |   |  |
| -10             | 535681         |           | Tube, Elbow 2-4-6 Side .....                          |                                 |    |   | 1  |   |   |   |   |   |   |  |
| -11             | 627820         |           | Tube Assembly, Elbow, 1-3-5 Side .....                |                                 |    |   | 1  |   |   |   |   |   |   |  |
| -12             | 633435         |           | Bracket, Balance Tube .....                           |                                 |    |   | 1  |   |   |   |   |   |   |  |
| -13             | AN737TW46      |           | Clamp, Balance Tube Bracket .....                     |                                 |    |   | 1  |   |   |   |   |   |   |  |
| -14             | 641261         |           | Tube Assembly, Balance .....                          |                                 |    |   | 1  |   |   |   |   |   |   |  |
| ATTACHING PARTS |                |           |                                                       |                                 |    |   |    |   |   |   |   |   |   |  |
| -15             | 13XX202B       |           | Washer, Lock (Ref. Figure 26) .....                   |                                 |    |   | RF |   |   |   |   |   |   |  |
| -16             | 530346         |           | Screw, 5/16 - 18 x 7/8 Inch Long (Ref. Fig. 26)       |                                 |    |   | RF |   |   |   |   |   |   |  |
| * * * *         |                |           |                                                       |                                 |    |   |    |   |   |   |   |   |   |  |
| -17             | 639761A1 ①     |           | Throttle Assembly, Air (See Figure 40) .....          |                                 |    |   | RF |   |   |   |   |   |   |  |
| -18             | 2024           |           | Plug, Pipe, 1/8 - 27 NPTF .....                       |                                 |    |   | 1  |   |   |   |   |   |   |  |

NOTE:

- ① If replacing old style throttle body, which has cast mount legs, it will be necessary to order, in addition to new throttle assembly, a 639410 bracket, a 639411 bracket and 4 each 530346 bolts.

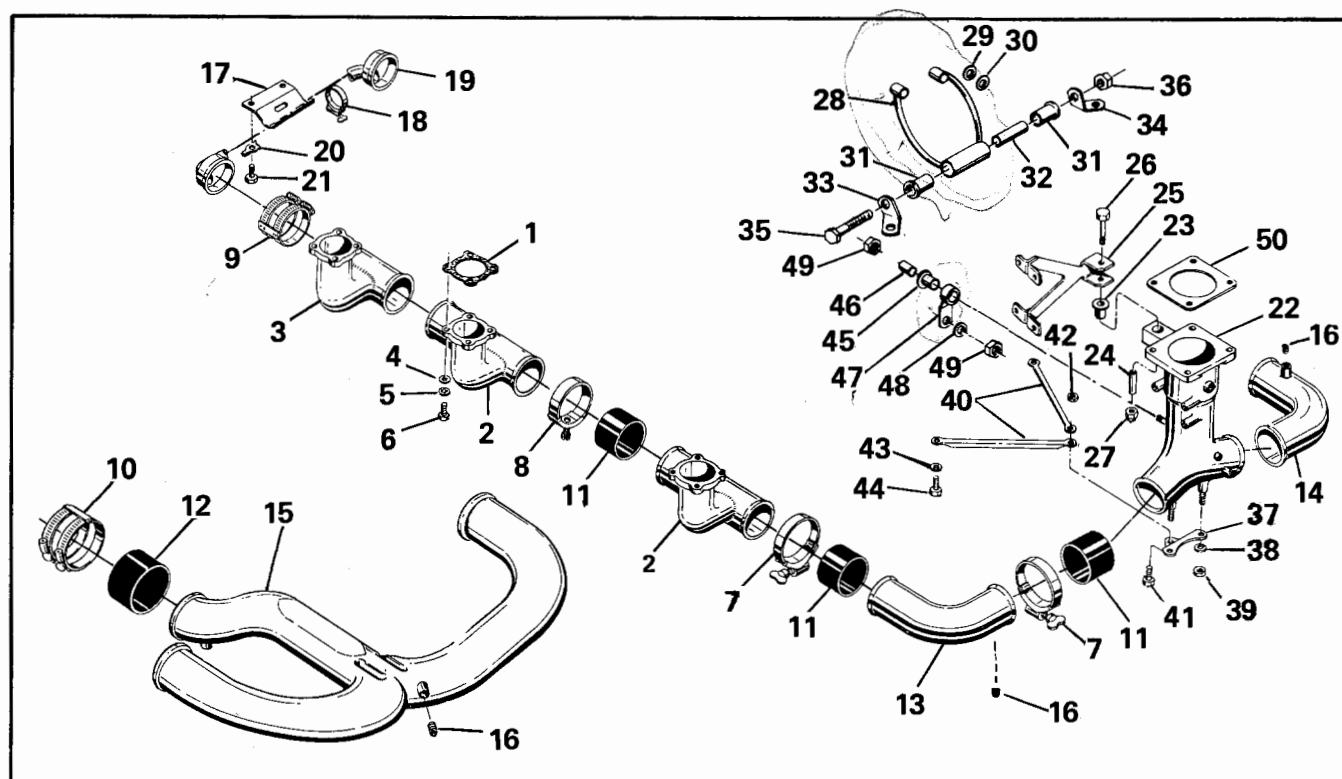


FIGURE 30. INDUCTION SYSTEM

| FIG.<br>INDEX | PART<br>NUMBER | 12345 | DESCRIPTION                                           | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |   |   |    |    |    |    |   |  |
|---------------|----------------|-------|-------------------------------------------------------|---------------------------------|----|----|---|---|----|----|----|----|---|--|
|               |                |       |                                                       | A                               | BA | C  | D | E | F  | J  | K  | L  | M |  |
| 30- 1         | 536413         |       | \$Gasket, Intake Manifold Flange .....                | 6                               | 6  | 6  |   |   | 6  | 6  | 6  | 6  |   |  |
| - 2           | 629138         |       | Tube Assy., Intake Manifold, 1-2-3-4-5 Cylinder ..... | 5                               | 5  | 5  |   |   | 5  | 5  | 5  | 5  |   |  |
| - 3           | 629325         |       | Tube Assy., Intake Manifold, No. 6 Cylinder ...       | 1                               | 1  | 1  |   |   | 1  | 1  | 1  | 1  |   |  |
|               |                |       | ATTACHING PARTS                                       |                                 |    |    |   |   |    |    |    |    |   |  |
| - 4           | 20522          |       | Washer, Plain .....                                   | 24                              | 24 | 24 |   |   | 24 | 24 | 24 | 24 |   |  |
| - 5           | MS35338-44     |       | Washer, Lock .....                                    | 24                              | 24 | 24 |   |   | 24 | 24 | 24 | 24 |   |  |
| - 6           | 24835          |       | Screw, 1/4 - 20 x 7/8 Inch Long .....                 | 24                              | 24 | 24 |   |   | 24 | 24 | 24 | 24 |   |  |
|               |                |       | * * * *                                               |                                 |    |    |   |   |    |    |    |    |   |  |
| - 7           | 631972         |       | Clamp, Hose .....                                     | 8                               |    | 8  |   |   | 8  | 8  | 8  | 8  |   |  |
| - 8           | 36151L         |       | Clamp, Hose .....                                     | 8                               | 8  | 8  |   |   | 8  | 8  | 8  | 8  |   |  |
| - 9           | 539487         |       | Clamp, Assembly, Hose .....                           | 2                               | 4  | 2  |   |   | 2  | 2  | 2  | 2  |   |  |
| -10           | 629163         |       | Clamp, Assembly, Hose .....                           |                                 | 1  |    |   |   |    |    |    |    |   |  |
| -11           | 639660-13      |       | Hose, Intake Manifold .....                           | 10                              | 8  | 10 |   |   | 10 | 10 | 10 | 10 |   |  |
| -12           | 539023         |       | Hose, Throttle Body-to-Manifold .....                 |                                 | 1  |    |   |   |    |    |    |    |   |  |
| -13           | 632328         |       | Tube Assy., Elbow 2-4-6 Side .....                    | 1                               |    |    |   |   | 1  | 1  | 1  | 1  |   |  |
| -13           | 630868         |       | Tube Assy., Elbow 2-4-6 Side .....                    |                                 |    | 1  |   |   |    |    |    |    |   |  |
| -14           | 632329         |       | Tube Assy., Elbow 1-3-5 Side .....                    | 1                               |    |    |   |   | 1  | 1  | 1  | 1  |   |  |
| -14           | 630886         |       | Tube Assy., Elbow 1-3-5 Side .....                    |                                 |    | 1  |   |   |    |    |    |    |   |  |
| -15           | 629601         |       | Manifold Assembly .....                               |                                 | 1  |    |   |   |    |    |    |    |   |  |
| -16           | 629518-1H      |       | Plug, Pipe; 1/8 - 27 NPTF .....                       | 2                               | 1  |    |   |   | 2  | 2  | 2  | 2  |   |  |
| -17           | 631406         |       | Bracket, Balance Tube .....                           |                                 | 1  |    |   |   |    |    |    |    |   |  |
| -17           | 632280         |       | Bracket, Balance Tube .....                           | 1                               |    | 1  |   |   |    | 1  |    |    |   |  |
| -17           | 633129         |       | Bracket, Balance Tube .....                           |                                 |    |    |   |   | 1  |    |    | 1  |   |  |
| -17           | 631790         |       | Bracket, Balance Tube .....                           |                                 |    |    |   |   |    |    | 1  |    |   |  |
| -18           | AN737TW46      |       | Clamp, Balance Tube Bracket .....                     | 1                               |    | 1  |   |   | 1  | 1  | 1  |    |   |  |
| -18           | 637255-4       |       | Clamp, Band, Balance Tube .....                       |                                 |    |    |   |   | 1  |    |    | 1  |   |  |
| -18           | 632444-2       |       | Clamp, Band, Balance Tube .....                       |                                 | 1  |    |   |   |    |    |    |    |   |  |
| -19           | 632369         |       | Tube Assembly, Balance .....                          | 1                               |    |    |   |   |    | 1  |    |    |   |  |

| FIG.<br>INDEX          | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                          | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |   |   |    |    |    |    |    |    |
|------------------------|----------------|------------------------------------------------|---------------------------------|----|----|---|---|----|----|----|----|----|----|
|                        |                |                                                | A                               | BA | C  | D | E | F  | J  | K  | L  | M  |    |
| 30-19                  | 631220         | Tube Assembly, Balance .....                   |                                 | 1  |    |   |   |    |    |    |    |    |    |
| -19                    | 631661         | Tube Assembly, Balance .....                   |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -19                    | 635645         | Tube Assembly, Balance .....                   |                                 |    |    |   |   | 1  |    |    |    | 1  |    |
| -19                    | 631745         | Tube Assembly, Balance .....                   |                                 |    |    |   |   |    |    | 1  |    |    |    |
| ATTACHING PARTS        |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -20                    | 13XX202B       | Washer, Lock .....                             | RF                              | RF | RF |   |   | RF | RF | RF | RF | RF | RF |
| -21                    | 537750         | Screw, 5/16 - 18 x 1-1/8 Inch Long .....       | RF                              |    |    |   |   | RF | RF | RF | RF | RF | RF |
| (See Figure 26 and 28) |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -21                    | 539003         | Screw, 5/16 - 18 x 1-3/8 Inch Long .....       |                                 | RF |    |   |   |    |    |    |    |    |    |
| (See Figure 27)        |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -21                    | 537961         | Screw, 5/16 - 18 x 1 Inch Long (See Figure 26) |                                 |    | RF |   |   |    |    |    |    |    |    |
| * * * * *              |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -22                    | 629397A1       | Throttle Assembly, Air (See Figure 33) .....   | RF                              |    |    |   |   | RF | RF | RF | RF | RF | RF |
| -22                    | 631287A1       | Throttle Assembly, Air (See Figure 36) .....   |                                 |    | RF |   |   |    |    |    |    |    |    |
| -23                    | 629353         | Bushing, Rubber, Air Valve Support .....       | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| -24                    | 629354         | Sleeve, Air Valve Support .....                | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| -25                    | 630474         | Bracket, Air Throttle Support .....            | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| ATTACHING PARTS        |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -26                    | 537728         | Bolt, 1/4 - 28 x 1-25/32 Inch Long .....       | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| -27                    | 22661          | Nut, Self-Locking .....                        | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| * * * * *              |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -28                    | 631832         | Bracket Assembly, Throttle Body Support ....   |                                 |    | 1  |   |   |    |    |    |    |    |    |
| ATTACHING PARTS        |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -29                    | 22535          | Spacer .....                                   |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -30                    | 539374         | Washer .....                                   |                                 |    | 1  |   |   |    |    |    |    |    |    |
| * * * * *              |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -31                    | 538468         | Bushing, Throttle Body Support Bracket .....   |                                 |    | 2  |   |   |    |    |    |    |    |    |
| -32                    | 539114         | Sleeve, Throttle Body Support Bracket .....    |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -33                    | 632016         | Bracket, Throttle Body Support Bracket L.H. .  |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -34                    | 632015         | Bracket, Throttle Body Support Bracket R. H.   |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -35                    | AN4-26A        | Bolt, 1/4 - 28 x 2-29/32 Inch Long .....       |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -36                    | 22661          | Nut, Self-Locking .....                        |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -37                    | 627836         | Bracket, Air Valve Support .....               | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| ATTACHING PARTS        |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -38                    | 20522          | Washer, Plain .....                            | 2                               |    |    |   |   | 2  | 2  | 2  | 2  | 2  | 2  |
| -39                    | 2437           | Nut, Plain, Hex .....                          | 2                               |    |    |   |   | 2  | 2  | 2  | 2  | 2  | 2  |
| * * * * *              |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -40                    | 627681         | Bracket, Crankcase-to-Air Throttle .....       | 2                               |    |    |   |   | 2  | 2  | 2  | 2  | 2  | 2  |
| ATTACHING PARTS        |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -41                    | 535666         | Screw, 5/16 - 24 x 25/32 Inch Long .....       | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| -42                    | 2439           | Nut, Plain, Hex .....                          | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| -43                    | 13XX202B       | Washer, Lock (See Figure 26) .....             |                                 |    |    |   |   |    |    |    | RF |    |    |
| -44                    | 537961         | Screw, 5/16 - 18 x 1 Inch Long (See Figure 26) |                                 |    |    |   |   |    |    |    | RF |    |    |
| * * * * *              |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -45                    | 631836         | Bushing, Throttle Support Bracket .....        |                                 |    | 2  |   |   |    |    |    |    |    |    |
| -46                    | 631837         | Sleeve, Throttle Support Bracket .....         |                                 |    | 1  |   |   |    |    |    |    |    |    |
| -47                    | 631840         | Bracket Assembly, Air Valve Support .....      |                                 |    | 1  |   |   |    |    |    |    |    |    |
| ATTACHING PARTS        |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -48                    | 538100         | Washer, Plain .....                            |                                 |    | 2  |   |   |    |    |    |    |    |    |
| -49                    | 2437           | Nut, Hex .....                                 |                                 |    | 2  |   |   |    |    |    |    |    |    |
| * * * * *              |                |                                                |                                 |    |    |   |   |    |    |    |    |    |    |
| -50                    | 630350         | \$ Gasket, Air Throttle Body .....             | 1                               |    |    |   |   | 1  | 1  | 1  | 1  | 1  | 1  |
| -50                    | 627368         | \$ Gasket, Air Throttle Body .....             |                                 |    | 1  |   |   |    |    |    |    |    |    |

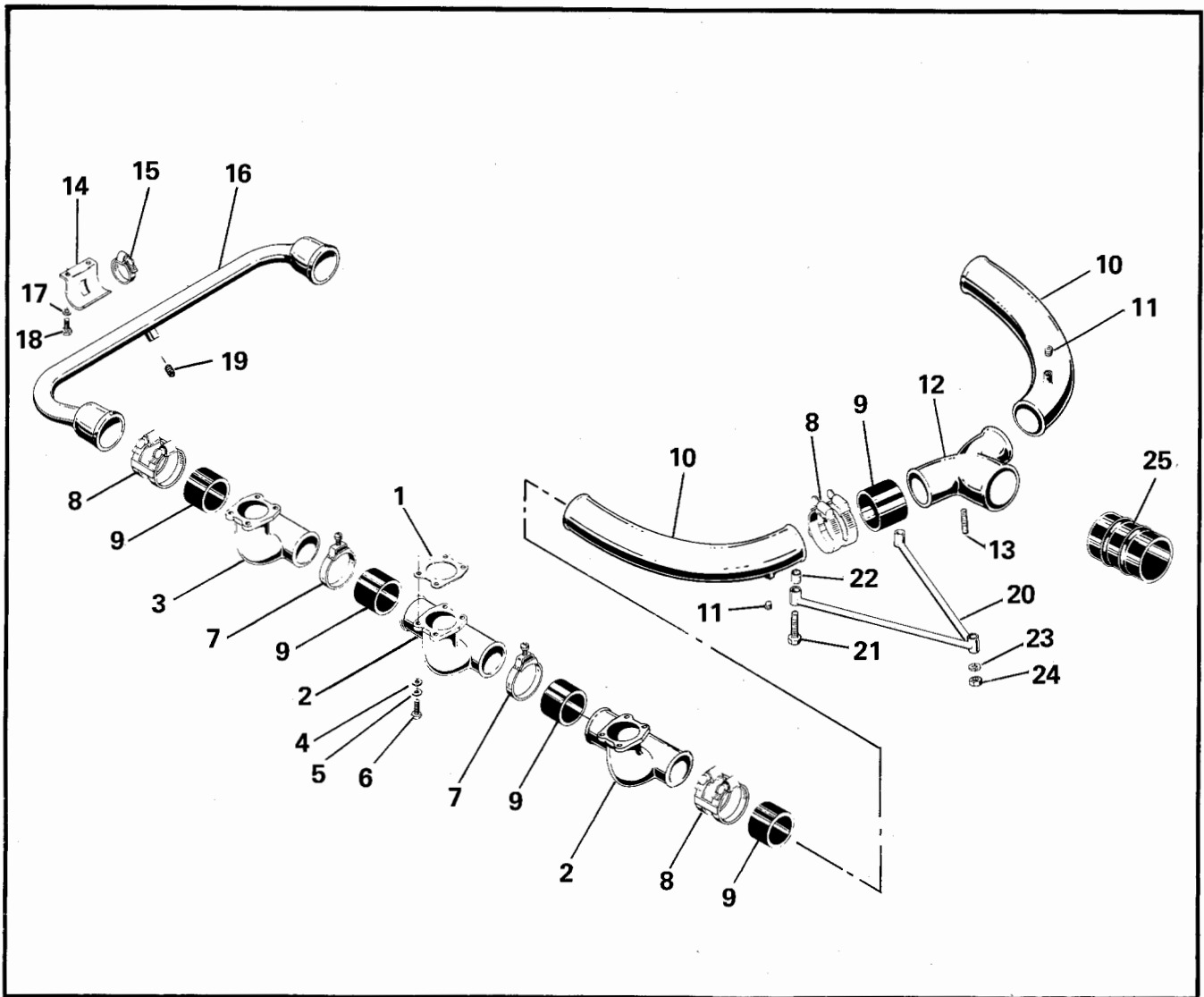


FIGURE 31. INDUCTION SYSTEM

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                                     | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |    |
|---------------|----------------|-----------|-----------------------------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|----|
|               |                |           |                                                                 | A                               | BA | C | D | E | F | J | K | L | M |    |
| 31- 1         | 536413         | \$        | Gasket Intake Manifold Flange . . . . .                         |                                 |    |   |   |   |   |   |   |   |   | 6  |
| -2            | 629138         |           | Tube Assy., Intake Manifold Cyl. 1-2-3-4-5 . . .                |                                 |    |   |   |   |   |   |   |   |   | 5  |
| -3            | 629325         |           | Tube Assy., Intake Manifold Cyl. No. 6 . . . . .                |                                 |    |   |   |   |   |   |   |   |   | 1  |
|               |                |           | ATTACHING PARTS                                                 |                                 |    |   |   |   |   |   |   |   |   |    |
| -4            | 20522          |           | Washer, Plain . . . . .                                         |                                 |    |   |   |   |   |   |   |   |   | 24 |
| -5            | MS35338-44     |           | Washer, Lock . . . . .                                          |                                 |    |   |   |   |   |   |   |   |   | 24 |
| -6            | 24835          |           | Screw, 1/4 - 20 x 7/8 Inch Long . . . . .                       |                                 |    |   |   |   |   |   |   |   |   | 24 |
|               |                |           | * * * *                                                         |                                 |    |   |   |   |   |   |   |   |   |    |
| -7            | 36151L         |           | Clamp, Hose . . . . .                                           |                                 |    |   |   |   |   |   |   |   |   | 8  |
| -8            | 539487         |           | Clamp Assembly, Hose . . . . .                                  |                                 |    |   |   |   |   |   |   |   |   | 6  |
| -9            | 639660-13      |           | Hose, Intake Manifold . . . . .                                 |                                 |    |   |   |   |   |   |   |   |   | 10 |
| -10           | 641163         |           | Tube, Elbow . . . . .                                           |                                 |    |   |   |   |   |   |   |   |   | 2  |
| -11           | 629518-1H      |           | Plug, Pipe . . . . .                                            |                                 |    |   |   |   |   |   |   |   |   | 2  |
| -12           | 641162         |           | Riser . . . . .                                                 |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -13           | 401852         | †         | Stud, 1/4 x 1-13/32 Inch Long . . . . .                         |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -14           | 641393         |           | Bracket, Balance Tube . . . . .                                 |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -15           | 634209         |           | Clamp, Balance Tube-to-Bracket . . . . .                        |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -16           | 641394         |           | Tube Assembly, Balance . . . . .                                |                                 |    |   |   |   |   |   |   |   |   | 1  |
|               |                |           | ATTACHING PARTS                                                 |                                 |    |   |   |   |   |   |   |   |   |    |
| -17           | 22535          |           | Washer (See Figure 26) . . . . .                                |                                 |    |   |   |   |   |   |   |   |   | RF |
| -18           | 537750         |           | Bolt, 15/16 - 18 x 1-1/8 Inch Long . . . . .<br>(See Figure 26) |                                 |    |   |   |   |   |   |   |   |   | RF |
|               |                |           | * * * *                                                         |                                 |    |   |   |   |   |   |   |   |   |    |
| -19           | 629518-2       |           | Plug, Pipe . . . . .                                            |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -20           | 641245         |           | Bracket, Crankcase-to-Riser . . . . .                           |                                 |    |   |   |   |   |   |   |   |   | 1  |
|               |                |           | ATTACHING PARTS                                                 |                                 |    |   |   |   |   |   |   |   |   |    |
| -21           | MS35303-40     |           | Screw, 5/16 - 18 x 2.00 Inch Long . . . . .                     |                                 |    |   |   |   |   |   |   |   |   | 2  |
| -22           | 538996         |           | Spacer . . . . .                                                |                                 |    |   |   |   |   |   |   |   |   | 2  |
| -23           | 2472           |           | Washer . . . . .                                                |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -24           | 2437           |           | Nut . . . . .                                                   |                                 |    |   |   |   |   |   |   |   |   | 1  |
|               |                |           | * * * *                                                         |                                 |    |   |   |   |   |   |   |   |   |    |
| -25           | 641551         |           | Flexible Duct . . . . .                                         |                                 |    |   |   |   |   |   |   |   |   | 1  |

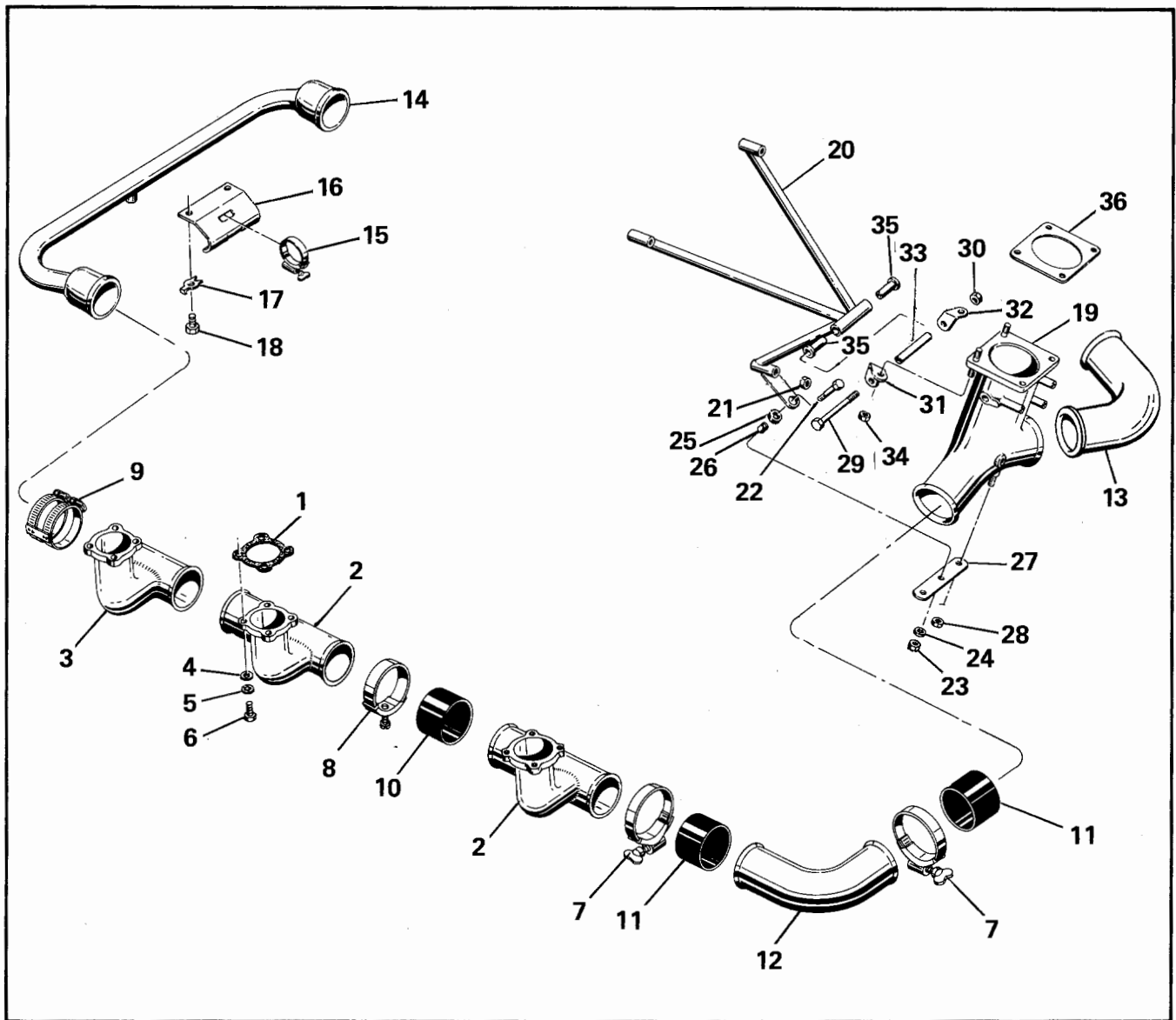


FIGURE 32. INDUCTION SYSTEM

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                             | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |    |   |   |   |   |   |  |
|-----------------|----------------|---------------------------------------------------|---------------------------------|----|---|---|----|---|---|---|---|---|--|
|                 |                |                                                   | A                               | BA | C | D | E  | F | J | K | L | M |  |
| 32- 1           | 536413         | \$ Gasket Intake Manifold Flange .....            |                                 |    |   |   | 6  |   |   |   |   |   |  |
| -2              | 629138         | Tube Assy., Intake Manifold 1-2-3-4-5 Cylinder .. |                                 |    |   |   | 5  |   |   |   |   |   |  |
| -3              | 629325         | Tube Assy., Intake Manifold No. 6 Cylinder ..     |                                 |    |   |   | 1  |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                                   |                                 |    |   |   |    |   |   |   |   |   |  |
| -4              | 20522          | Washer, Plain .....                               |                                 |    |   |   | 24 |   |   |   |   |   |  |
| -5              | MS35338-44     | Washer, Lock .....                                |                                 |    |   |   | 24 |   |   |   |   |   |  |
| -6              | 24835          | Screw, 1/4 - 20 x 7/8 Inch Long .....             |                                 |    |   |   | 24 |   |   |   |   |   |  |
| * * * *         |                |                                                   |                                 |    |   |   |    |   |   |   |   |   |  |
| -7              | 631972         | Clamp, Hose .....                                 |                                 |    |   |   | 8  |   |   |   |   |   |  |
| -8              | 36151L         | Clamp, Hose .....                                 |                                 |    |   |   | 8  |   |   |   |   |   |  |
| -9              | 539487         | Clamp Assembly, Hose .....                        |                                 |    |   |   | 2  |   |   |   |   |   |  |
| -10             | 639660-13      | Hose, Intake Manifold .....                       |                                 |    |   |   | 10 |   |   |   |   |   |  |
| -12             | 633822         | Tube Assembly, Elbow 2-4-6 Side .....             |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -13             | 633821         | Tube Assembly, Elbow 1-3-5 Side .....             |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -14             | 628766         | Tube Assembly, Balance .....                      |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -15             | AN737TW46      | Clamp, Balance Tube Bracket .....                 |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -16             | 633435         | Bracket, Balance Tube-to-Sump .....               |                                 |    |   |   | 1  |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                                   |                                 |    |   |   |    |   |   |   |   |   |  |
| -17             | 13XX202B       | Washer, Lock (See Figure 26) .....                |                                 |    |   |   | RF |   |   |   |   |   |  |
| -18             | 530346         | Screw, 5/16 x 7/8 Inch Long (See Figure 26) ..    |                                 |    |   |   | RF |   |   |   |   |   |  |
| * * * *         |                |                                                   |                                 |    |   |   |    |   |   |   |   |   |  |
| -19             | 628861A1       | Throttle Assembly, Air (See Figure 41) .....      |                                 |    |   |   | RF |   |   |   |   |   |  |
| -20             | 637794         | Bracket Assembly, Air, Throttle Support .....     |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -21             | 2437           | Nut, Hex, 1/4 - 28 .....                          |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -22             | AN4-7A         | Bolt, 1/4 - 28 x 29/32 Inch Long .....            |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -23             | 22661          | Nut, Self-Locking 1/4 - 28 .....                  |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -24             | 538100         | Washer, Grommet-to-Bracket .....                  |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -25             | M330S208       | Grommet, Air Throttle Bracket .....               |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -26             | 628833         | Sleeve, Air Throttle Bracket .....                |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -27             | 628816         | Bracket, Air Throttle Lower .....                 |                                 |    |   |   | 1  |   |   |   |   |   |  |
| ATTACHING PARTS |                |                                                   |                                 |    |   |   |    |   |   |   |   |   |  |
| -28             | 2437           | Nut, Hex, 1/4 - 28 .....                          |                                 |    |   |   | 2  |   |   |   |   |   |  |
| * * * *         |                |                                                   |                                 |    |   |   |    |   |   |   |   |   |  |
| -29             | AN4-26A        | Bolt, 1/4 - 28 x 2-25/32 Inch Long .....          |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -30             | 22661          | Nut, Self-Locking, 1/4 - 28 .....                 |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -31             | 539113         | Bracket, Air Valve Support, Left Side .....       |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -32             | 538470         | Bracket, Air Valve Support, Right Side .....      |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -33             | 539114         | Sleeve .....                                      |                                 |    |   |   | 1  |   |   |   |   |   |  |
| -34             | 23890          | Nut, Hex, 1/4 - 20 .....                          |                                 |    |   |   | 2  |   |   |   |   |   |  |
| -35             | 538468         | Bushing, Air Valve Support .....                  |                                 |    |   |   | 2  |   |   |   |   |   |  |
| -36             | 627368         | \$ Gasket, Air Throttle Body .....                |                                 |    |   |   | 1  |   |   |   |   |   |  |

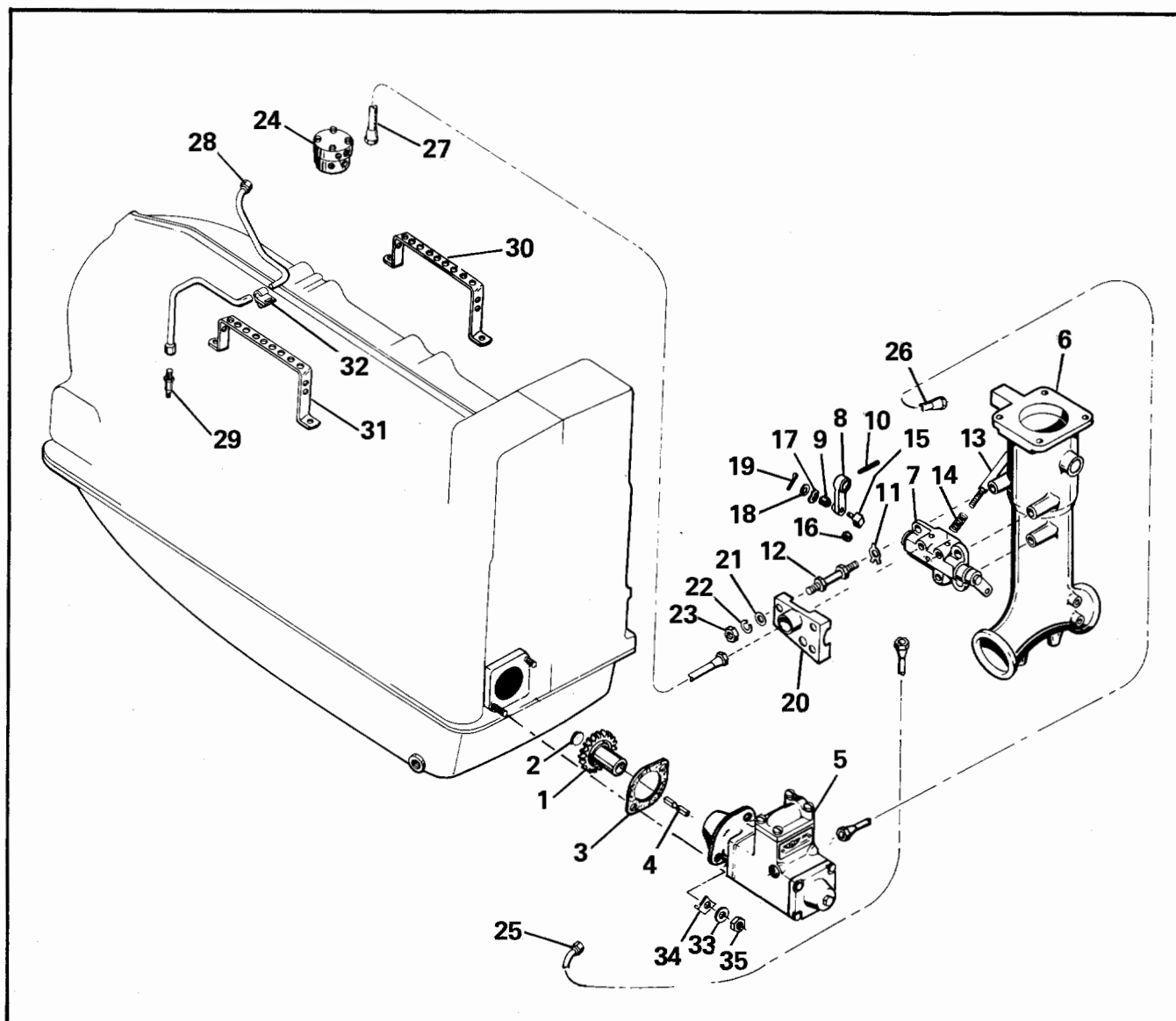


FIGURE 33. FUEL INJECTION SYSTEM

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|---------------|----------------|-----------|------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|               |                |           |                                          | A                               | BA | C | D | E | F | J | K | L | M |  |
| 33- 1         | 631684         |           | Gear Assembly, Fuel Pump .....           | 1                               |    |   |   |   | 1 | 1 | 1 | 1 |   |  |
| -2            | 539634         |           | . Plug .....                             | 1                               |    |   |   |   | 1 | 1 | 1 | 1 |   |  |
| -3            | 631685         | \$        | Gasket, Fuel Pump-to-Crankcase .....     |                                 |    |   |   |   |   |   |   |   |   |  |
| -4            | 631683         |           | Coupling, Fuel Pump Drive .....          |                                 |    |   |   |   |   |   |   |   |   |  |
|               | 639172A8 ①     |           | Fuel Injection Assembly, Complete .....  | 1                               |    |   |   |   |   | 1 |   |   |   |  |
|               | 639172A7       |           | Fuel Injection Assembly, Complete .....  |                                 |    |   |   |   | 1 |   |   |   |   |  |
|               | 639172A6       |           | Fuel Injection Assembly, Complete .....  |                                 |    |   |   |   |   |   | 1 |   |   |  |
|               | 639173A6       |           | Fuel Injection Assembly, Complete .....  |                                 |    |   |   |   |   |   |   | 1 |   |  |
| -5            | 638154-1A8     |           | . Fuel Pump & Vapor Separator Assy. .... | 1                               |    |   |   |   |   | 1 |   |   |   |  |
| -5            | 638154-1A16    |           | . Fuel Pump & Vapor Separator Assy. .... |                                 |    |   |   |   | 1 |   |   | 1 |   |  |
| -5            | 638154-1A12    |           | . Fuel Pump & Vapor Separator Assy. .... |                                 |    |   |   |   |   |   | 1 |   |   |  |
|               |                |           | (For Detail Parts See Figures 42 & 43)   |                                 |    |   |   |   |   |   |   |   |   |  |
| -6            | 629399A8       |           | . Throttle Body and Control Assy. ....   | 1                               |    |   |   |   | 1 | 1 | 1 | 1 |   |  |
|               | 629397A1       |           | . . Throttle and Lever Assembly .....    | 1                               |    |   |   |   | 1 | 1 | 1 | 1 |   |  |
|               |                |           | (For Detail Parts See Figure 47)         |                                 |    |   |   |   |   |   |   |   |   |  |

| FIG. INDEX                             | PART NUMBER  | 1 2 3 4 5 DESCRIPTION                                                        | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |     |     |     |     |   |  |
|----------------------------------------|--------------|------------------------------------------------------------------------------|---------------------------------|----|---|---|---|-----|-----|-----|-----|---|--|
|                                        |              |                                                                              | A                               | BA | C | D | E | F   | J   | K   | L   | M |  |
| 33-7                                   | 629703-2A3   | . . Control Assembly, Complete . . . . .<br>(For Detail Parts See Figure 46) | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -8                                     | 632555-5 ②   | . . . Lever . . . . .                                                        | RF                              |    |   |   |   | RF  | RF  | RF  | RF  |   |  |
| -9                                     | 632554-2     | . . . . Bushing . . . . .                                                    | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -10                                    | 626813       | . . . Pin, Tubular . . . . .                                                 | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| ATTACHING PARTS                        |              |                                                                              |                                 |    |   |   |   |     |     |     |     |   |  |
| -11                                    | 501867       | . . Washer, Tab . . . . .                                                    | 3                               |    |   |   |   | 3   | 3   | 3   | 3   |   |  |
| -12                                    | 630387       | . . Bolt . . . . .                                                           | 3                               |    |   |   |   | 3   | 3   | 3   | 3   |   |  |
| * * * *                                |              |                                                                              |                                 |    |   |   |   |     |     |     |     |   |  |
|                                        | 642283A1     | . . Link Rod Assembly, Complete . . . . .                                    | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
|                                        | 629364A1 ③   | . . Link Rod Assembly, Complete . . . . .                                    | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -13                                    | 642283       | . . . Link and Rod Assembly . . . . .                                        | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -13                                    | 629364 ③     | . . . Link and Rod Assembly . . . . .                                        | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -14                                    | 626634       | . . . Spring, Compression . . . . .                                          | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -15                                    | 632557-1     | . . . Rod End . . . . .                                                      | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -15                                    | 629330 ③     | . . . Rod End . . . . .                                                      | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -16                                    | MS21044N3    | . . . Nut, Self-Locking . . . . .                                            | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -17                                    | 625327-2     | . . Washer, Wave . . . . .                                                   | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |
| -18                                    | 537690       | . . Washer, Plain . . . . .                                                  | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |
| -19                                    | 2500         | . . Pin, Cotter . . . . .                                                    | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
|                                        | 629338A1     | . . Shroud Assembly, Complete . . . . .                                      | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -20                                    | 629338       | . . . Shroud Assembly . . . . .                                              | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| ATTACHING PARTS                        |              |                                                                              |                                 |    |   |   |   |     |     |     |     |   |  |
| -21                                    | 20522        | . . . Washer, Plain . . . . .                                                | 3                               |    |   |   |   | 3   | 3   | 3   | 3   |   |  |
| -22                                    | MS35338-44   | . . . Washer, Lock . . . . .                                                 | 3                               |    |   |   |   | 3   | 3   | 3   | 3   |   |  |
| -23                                    | 2437         | . . . Nut . . . . .                                                          | 3                               |    |   |   |   | 3   | 3   | 3   | 3   |   |  |
| * * * *                                |              |                                                                              |                                 |    |   |   |   |     |     |     |     |   |  |
| -24                                    | 631351A19④   | . . Manifold Valve Assembly, Fuel . . . . .                                  | 1                               |    |   |   |   | 1   | 1   | 1   |     |   |  |
| -24                                    | 631351A10⑤   | . . Manifold Valve Assembly, Fuel . . . . .                                  | opt                             |    |   |   |   | opt | opt | opt |     |   |  |
| -24                                    | 631351A24 ④  | . . Manifold Valve Assembly, Fuel . . . . .                                  |                                 |    |   |   |   |     |     |     | 1   |   |  |
| -24                                    | 631351A11⑤   | . . Manifold Valve Assembly, Fuel . . . . .                                  |                                 |    |   |   |   |     |     |     | opt |   |  |
| (For Detail Parts See Figures 44 & 45) |              |                                                                              |                                 |    |   |   |   |     |     |     |     |   |  |
| -25                                    | 635158-14.00 | . . Hose Assembly, Fuel Pump-to-Control . . . . .                            | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -26                                    | 635158-10.00 | . . Hose Assembly, Control-to-Fuel Pump . . . . .                            | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -27                                    | 635158-32.00 | . . Hose Assembly, Control-to-M/V . . . . .                                  | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -28                                    | 628154       | . . Tube Assembly, Cylinders 1 & 6 . . . . .                                 | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |
| -28                                    | 628153       | . . Tube Assembly, Cylinders 2 & 5 . . . . .                                 | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |
| -28                                    | 628152       | . . Tube Assembly, Cylinders 3 & 4 . . . . .                                 | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |
| -29                                    | 627335D13 ⑥  | . . Nozzle Assembly . . . . .                                                | 6                               |    |   |   |   | 6   | 6   | 6   | 6   |   |  |
| -30                                    | 628295       | . . Bracket, Fuel Discharge Tube, 2-4-6 Side . . . . .                       | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -31                                    | 641701       | . . Bracket, Fuel Discharge Tube, 1-3-5 Side . . . . .                       | 1                               |    |   |   |   | 1   | 1   | 1   | 1   |   |  |
| -32                                    | 626577-2     | . . Clamp . . . . .                                                          | 6                               |    |   |   |   | 6   | 6   | 6   | 6   |   |  |
| -33                                    | AN960-516L   | . . Washer, Plain . . . . .                                                  | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |
| -34                                    | MS35338-45   | . . Washer, Lock . . . . .                                                   | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |
| -35                                    | 2439         | . . Nut . . . . .                                                            | 2                               |    |   |   |   | 2   | 2   | 2   | 2   |   |  |

NOTES:

- ① Supersedes Equipment No. 5991A.
- ② This is a new style lever, which incorporates a hardened bushing. If replacing old style lever (629326) with no bushing, it will be necessary to order, in addition to new lever a new link rod assembly.
- ③ This link rod assembly is the old style configuration and is to be used only with levers with no bushings.
- ④ Use with Phase 2 and 3 style crankcases. (Backbone width 1.00 inch)
- ⑤ Use with Phase 1 style crankcases. (Backbone width .76 inch)
- ⑥ Check dash number on hex of old nozzle for complete part number (i.e. 627335D13B).

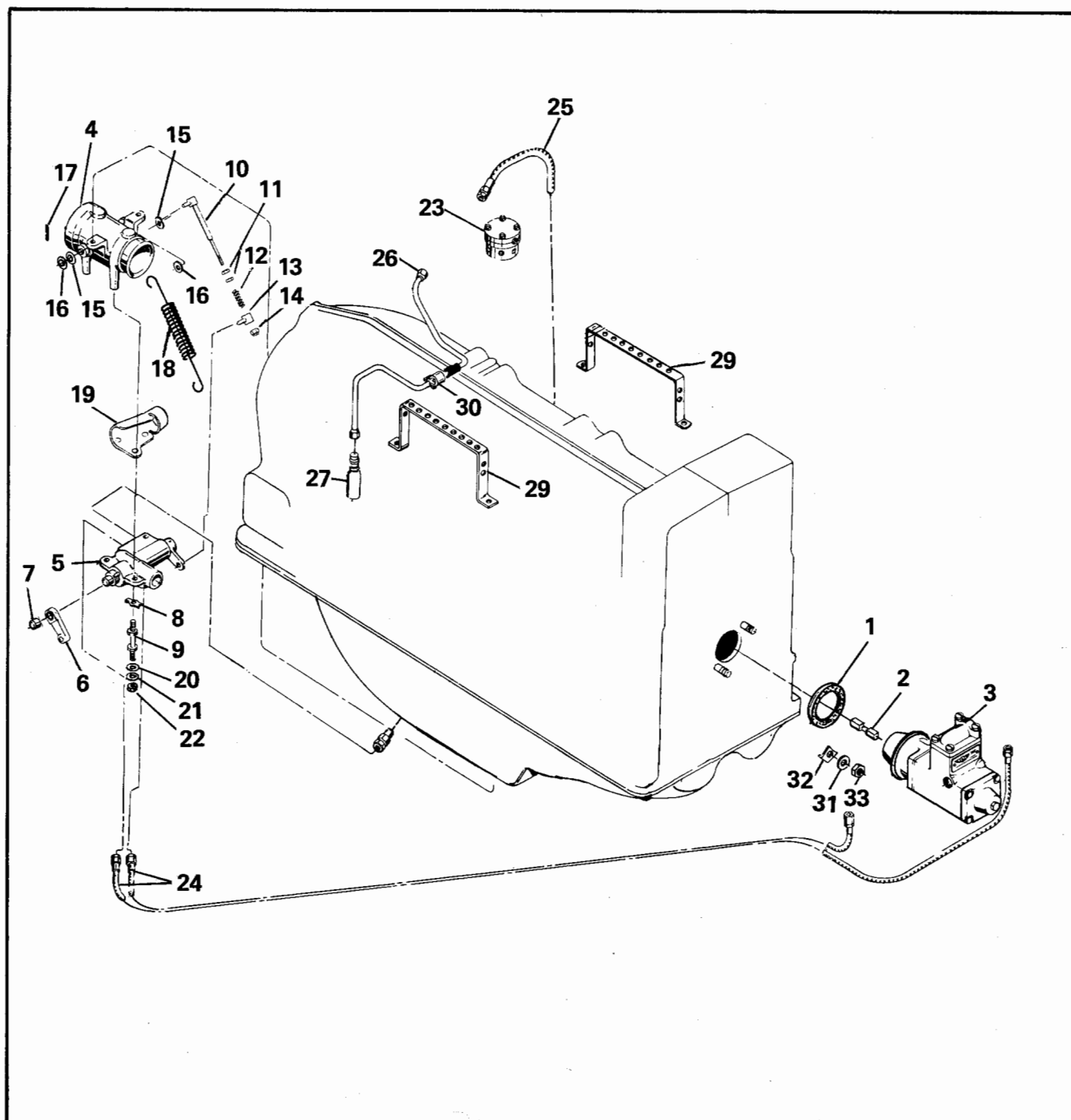


FIGURE 34. FUEL INJECTION SYSTEM

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                                                      | QUANTITY PER ASSEMBLY |    |   |   |   |   |   |   |   |   |  |
|---------------|----------------|-----------|----------------------------------------------------------------------------------|-----------------------|----|---|---|---|---|---|---|---|---|--|
|               |                |           |                                                                                  | ① IO-520              |    |   |   |   |   |   |   |   |   |  |
|               |                |           |                                                                                  | A                     | BA | C | D | E | F | J | K | L | M |  |
| 34- 1         | 630763         | \$        | Gasket, Fuel Pump-to-Crankcase .....                                             |                       | 1  |   |   |   |   |   |   |   |   |  |
| -2            | 631263         |           | Coupling, Crankshaft Gear-to-Fuel Pump .....                                     |                       | 1  |   |   |   |   |   |   |   |   |  |
|               | 639176A13①②    |           | Fuel Injection Assembly, Complete .....                                          |                       | 1  |   |   |   |   |   |   |   |   |  |
| -3            | 638154-2A7     | .         | Fuel Pump & Vapor Separator Assy. ....<br>(For Detail Parts See Figures 42 & 43) |                       | 1  |   |   |   |   |   |   |   |   |  |
| -4            | 631415A5       | .         | Throttle Body and Control Assy. ....                                             |                       | 1  |   |   |   |   |   |   |   |   |  |
|               | 631408A1       | . .       | Throttle and Lever Assembly .....                                                |                       | 1  |   |   |   |   |   |   |   |   |  |
|               |                |           | (For Detail Parts See Figure 49)                                                 |                       |    |   |   |   |   |   |   |   |   |  |

| FIG.<br>INDEX | PART<br>NUMBER | 12345 DESCRIPTION                              | QUANTITY PER ASSEMBLY<br>① IO-520 |     |   |   |   |   |   |   |   |   |  |
|---------------|----------------|------------------------------------------------|-----------------------------------|-----|---|---|---|---|---|---|---|---|--|
|               |                |                                                | A                                 | BA  | C | D | E | F | J | K | L | M |  |
| 34- 5         | 629904-2A5     | .. Control Assembly, Complete .....            |                                   | 1   |   |   |   |   |   |   |   |   |  |
|               |                | -For Detail Parts See Figure 46)               |                                   |     |   |   |   |   |   |   |   |   |  |
| - 6           | 632081         | ... Lever .....                                |                                   | 1   |   |   |   |   |   |   |   |   |  |
| - 7           | MS21042-5      | ... Nut .....                                  |                                   | 1   |   |   |   |   |   |   |   |   |  |
|               |                | ATTACHING PARTS                                |                                   |     |   |   |   |   |   |   |   |   |  |
| - 8           | 501867         | .. Washer, Tab .....                           |                                   | 3   |   |   |   |   |   |   |   |   |  |
| - 9           | 630387         | .. Bolt .....                                  |                                   | 3   |   |   |   |   |   |   |   |   |  |
|               |                | * * * *                                        |                                   |     |   |   |   |   |   |   |   |   |  |
|               | 632558A1       | .. Link Rod Assembly, Complete .....           |                                   | 1   |   |   |   |   |   |   |   |   |  |
|               | 625539A1       | ③ .. Link Rod Assembly, Complete .....         |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -10           | 632558         | ... Link and Rod Assembly .....                |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -10           | 625539         | ③ .. Link and Rod Assembly .....               |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -11           | AN121501       | ... Nut .....                                  |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -12           | 626634         | ... Spring, Compression .....                  |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -13           | 632557         | ... Rod End .....                              |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -13           | 625542         | ③ .. Rod End .....                             |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -14           | MS21044N3      | ... Nut, Self-Locking .....                    |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -15           | 625327-2       | .. Washer, Wave .....                          |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -16           | 537690         | .. Washer, Plain .....                         |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -17           | 2500           | .. Pin, Cotter .....                           |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -18           | 628371         | .. Spring .....                                |                                   | 1   |   |   |   |   |   |   |   |   |  |
|               | 632859A1       | .. Shroud Assembly, Complete .....             |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -19           | 632859         | ... Shroud Assembly .....                      |                                   | 1   |   |   |   |   |   |   |   |   |  |
|               |                | ATTACHING PARTS                                |                                   |     |   |   |   |   |   |   |   |   |  |
| -20           | 20522          | ... Washer, Plain .....                        |                                   | 3   |   |   |   |   |   |   |   |   |  |
| -21           | MS35338-44     | ... Washer, Lock .....                         |                                   | 3   |   |   |   |   |   |   |   |   |  |
| -22           | 2437           | ... Nut .....                                  |                                   | 3   |   |   |   |   |   |   |   |   |  |
|               |                | * * * *                                        |                                   |     |   |   |   |   |   |   |   |   |  |
| -23           | 631427-2A1     | ④ Manifold Valve Assembly, Fuel .....          |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -23           | 631427A6       | ⑤ Manifold Valve Assembly, Fuel .....          |                                   | opt |   |   |   |   |   |   |   |   |  |
|               |                | (For Detail Parts See Figures 44 & 45)         |                                   |     |   |   |   |   |   |   |   |   |  |
| -24           | 635158-38.00   | .. Hose Assembly, Control-to-Fuel Pump .....   |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -25           | 635158-32.00   | .. Hose Assembly, Control-to-M/V .....         |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -26           | 628154         | .. Tube Assembly, Cylinders 1 & 6 .....        |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -26           | 628153         | .. Tube Assembly, Cylinders 2 & 5 .....        |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -26           | 628152         | .. Tube Assembly, Cylinders 3 & 4 .....        |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -27           | 627335D13      | ⑥ Nozzle Assembly .....                        |                                   | 6   |   |   |   |   |   |   |   |   |  |
| -28           | 631246         | Bracket, Fuel Discharge Tubes, 1-3-5 Side .... |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -29           | 626486         | Bracket Fuel Discharge Tubes, 2-4-6 Side ..... |                                   | 1   |   |   |   |   |   |   |   |   |  |
| -30           | 626577-2       | Clamp .....                                    |                                   | 6   |   |   |   |   |   |   |   |   |  |
| -31           | 535847         | Washer, Holding .....                          |                                   |     |   |   |   |   |   |   |   |   |  |
| -32           | MS35338-45     | Washer, Lock .....                             |                                   | 2   |   |   |   |   |   |   |   |   |  |
| -33           | 2439           | Nut .....                                      |                                   | 2   |   |   |   |   |   |   |   |   |  |

NOTES:

- ① For IO-520-BB configuration. See Figure 35.
- ② Supersedes Equipment 5965-B.
- ③ This link rod assembly is the old style configuration, and is to be used only with levers with no bushings.
- ④ Use with Phase 2 style crankcases. (Backbone width 1.00 inch.)
- ⑤ Use with Phase 1 style crankcases. (Backbone width .76 inch.)
- ⑥ Check dash number on hex of old nozzle for complete part number (i.e., 627335D13A).

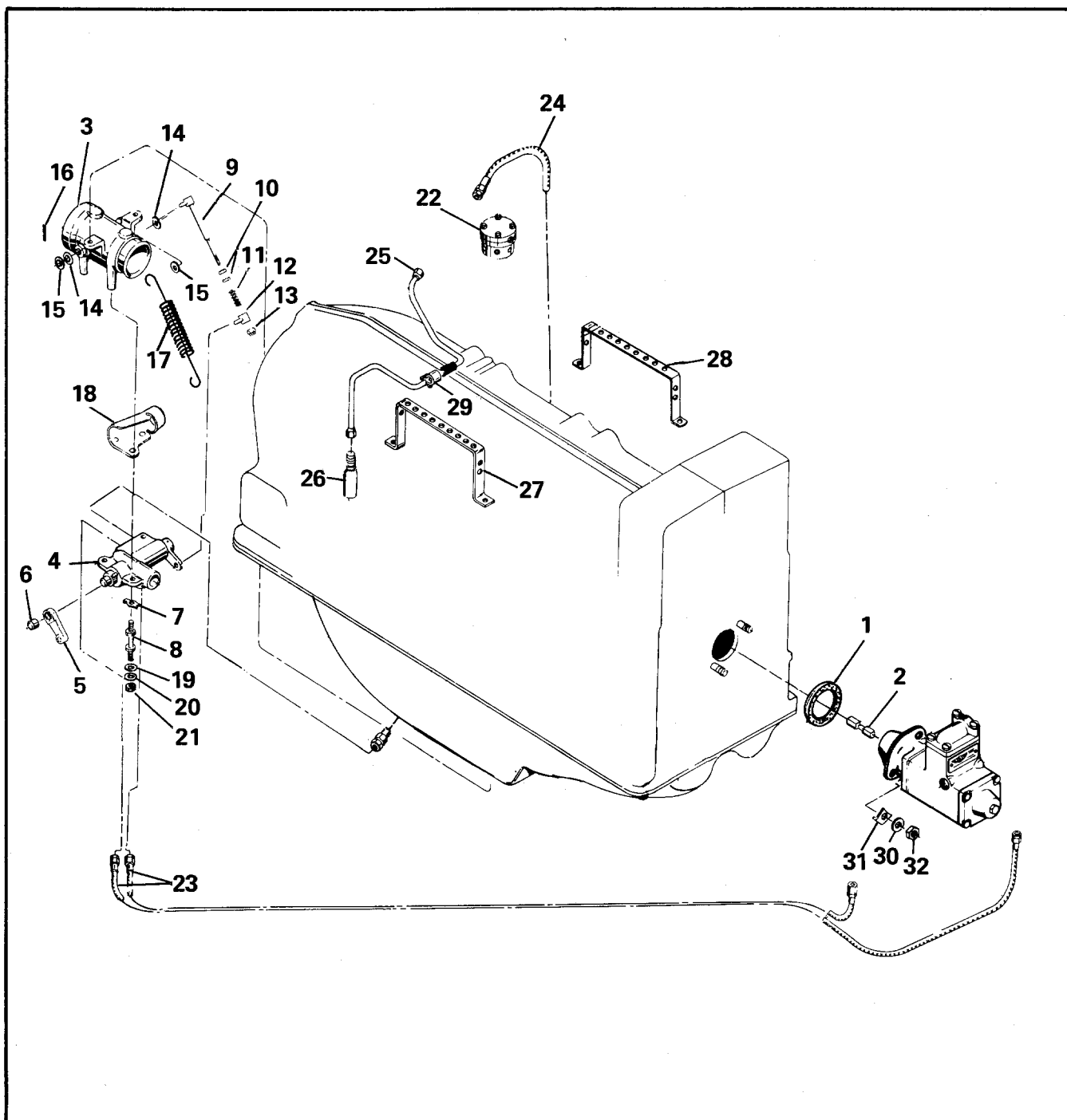


FIGURE 35. FUEL INJECTION SYSTEM

| FIG. INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                                                                        | QUANTITY PER ASSEMBLY |    |  |  |  |  |  |  |
|------------|-------------|-----------|------------------------------------------------------------------------------------|-----------------------|----|--|--|--|--|--|--|
|            |             |           |                                                                                    | ① IO-520              |    |  |  |  |  |  |  |
|            |             |           |                                                                                    |                       | BB |  |  |  |  |  |  |
| 35- 1      | 642238      | \$        | Gasket, Fuel Pump-to-Crankcase .....                                               | 1                     |    |  |  |  |  |  |  |
| -2         | 631263      |           | Coupling, Crankshaft Gear-to-Fuel Pump .....                                       | 1                     |    |  |  |  |  |  |  |
|            | 639176A15 ① |           | Fuel Injection Assembly Complete .....                                             | 1                     |    |  |  |  |  |  |  |
|            | 638154-16A4 | .         | Fuel Pump & Vapor Separator Assembly ...<br>(For Detail Parts See Figures 42 & 43) | 1                     |    |  |  |  |  |  |  |
| -3         | 631415A5    | .         | Throttle Body & Control Assembly .....                                             | 1                     |    |  |  |  |  |  |  |
|            | 631408A1 ②  | .         | Throttle and Lever Assembly .....                                                  | 1                     |    |  |  |  |  |  |  |
| -4         | 629904-2A5  | .         | Control Assembly Complete .....                                                    | 1                     |    |  |  |  |  |  |  |
|            |             |           | (For Detail Parts See Figure 46)                                                   |                       |    |  |  |  |  |  |  |

| FIG.<br>INDEX | PART<br>NUMBER | 12345 DESCRIPTION                                    | QUANTITY PER ASSEMBLY<br>① IO-520 |  |  |  |  |  |  |  |
|---------------|----------------|------------------------------------------------------|-----------------------------------|--|--|--|--|--|--|--|
|               |                |                                                      | BB                                |  |  |  |  |  |  |  |
| 35- 5         | 632081         | . . . Lever . . . . .                                | 1                                 |  |  |  |  |  |  |  |
| - 6           | MS21042-5      | . . . Nut . . . . .                                  | 1                                 |  |  |  |  |  |  |  |
|               |                | ATTACHING PARTS                                      |                                   |  |  |  |  |  |  |  |
| - 7           | 501867         | . . Washer, Tab . . . . .                            | 3                                 |  |  |  |  |  |  |  |
| - 8           | 630387         | . . Bolt . . . . .                                   | 3                                 |  |  |  |  |  |  |  |
|               |                | * * * *                                              |                                   |  |  |  |  |  |  |  |
|               | 632558A1       | . . Link Rod Assy., Cont. Assy-to-Throttle Body      | 1                                 |  |  |  |  |  |  |  |
| - 9           | 632558         | . . . Link and Rod Assembly . . . . .                | 1                                 |  |  |  |  |  |  |  |
| -10           | AN121501       | . . . . Nut . . . . .                                | 2                                 |  |  |  |  |  |  |  |
| -11           | 626634         | . . . Spring, Compression . . . . .                  | 1                                 |  |  |  |  |  |  |  |
| -12           | 632557         | . . . Rod End, Special . . . . .                     | 1                                 |  |  |  |  |  |  |  |
| -13           | MS21044N3      | . . . Nut, Self-Locking . . . . .                    | 1                                 |  |  |  |  |  |  |  |
| -14           | 625327-2       | . . Washer, Wave . . . . .                           | 2                                 |  |  |  |  |  |  |  |
| -15           | 537690         | . . Washer, Plain . . . . .                          | 2                                 |  |  |  |  |  |  |  |
| -16           | 2500           | . . Pin, Cotter . . . . .                            | 1                                 |  |  |  |  |  |  |  |
| -17           | 628371         | . . Spring . . . . .                                 | 1                                 |  |  |  |  |  |  |  |
|               | 632859A1       | . . Shroud Assembly, Complete . . . . .              | 1                                 |  |  |  |  |  |  |  |
| -18           | 632859         | . . . Shroud Assembly . . . . .                      | 1                                 |  |  |  |  |  |  |  |
|               |                | ATTACHING PARTS                                      |                                   |  |  |  |  |  |  |  |
| -19           | 20522          | . . . Washer, Plain . . . . .                        | 3                                 |  |  |  |  |  |  |  |
| -20           | MS35338-44     | . . . Washer, Lock . . . . .                         | 3                                 |  |  |  |  |  |  |  |
| -21           | 2437           | . . . Nut . . . . .                                  | 3                                 |  |  |  |  |  |  |  |
|               |                | * * * *                                              |                                   |  |  |  |  |  |  |  |
| 022           | 631427-2A1     | . Fuel Manifold Valve Assembly . . . . .             | 1                                 |  |  |  |  |  |  |  |
| -23           | 635158-38.00   | . Hose Assembly, Control-to-Fuel Pump . . . . .      | 2                                 |  |  |  |  |  |  |  |
| -24           | 635158-32.00   | . Hose Assembly, Control-to-Manifold Valve . . . . . | 1                                 |  |  |  |  |  |  |  |
| -25           | 628154         | . Tube Assembly . . . . .                            | 2                                 |  |  |  |  |  |  |  |
| -25           | 628153         | . Tube Assembly . . . . .                            | 2                                 |  |  |  |  |  |  |  |
| -25           | 628152         | . Tube Assembly . . . . .                            | 2                                 |  |  |  |  |  |  |  |
| -26           | 627335D13      | ③ Nozzle Assembly . . . . .                          | 6                                 |  |  |  |  |  |  |  |
| -27           | 631246         | Bracket Fuel Discharge Tube, 1-3-5 Side . . . . .    | 1                                 |  |  |  |  |  |  |  |
| -28           | 626486         | Bracket Fuel Discharge Tube, 2-4-6 Side . . . . .    | 1                                 |  |  |  |  |  |  |  |
| -29           | 626577-2       | Clamp . . . . .                                      | 6                                 |  |  |  |  |  |  |  |
| -30           | 535847         | Washer, Holding . . . . .                            | 2                                 |  |  |  |  |  |  |  |
| -31           | MS35338-45     | Washer, Lock . . . . .                               | 2                                 |  |  |  |  |  |  |  |
| -32           | 2439           | Nut . . . . .                                        | 2                                 |  |  |  |  |  |  |  |

NOTES:

① For IO-520-BA configuration, see Figure 34.

② For detail parts see Figure 49.

③ Check dash number on old nozzle for complete part number.

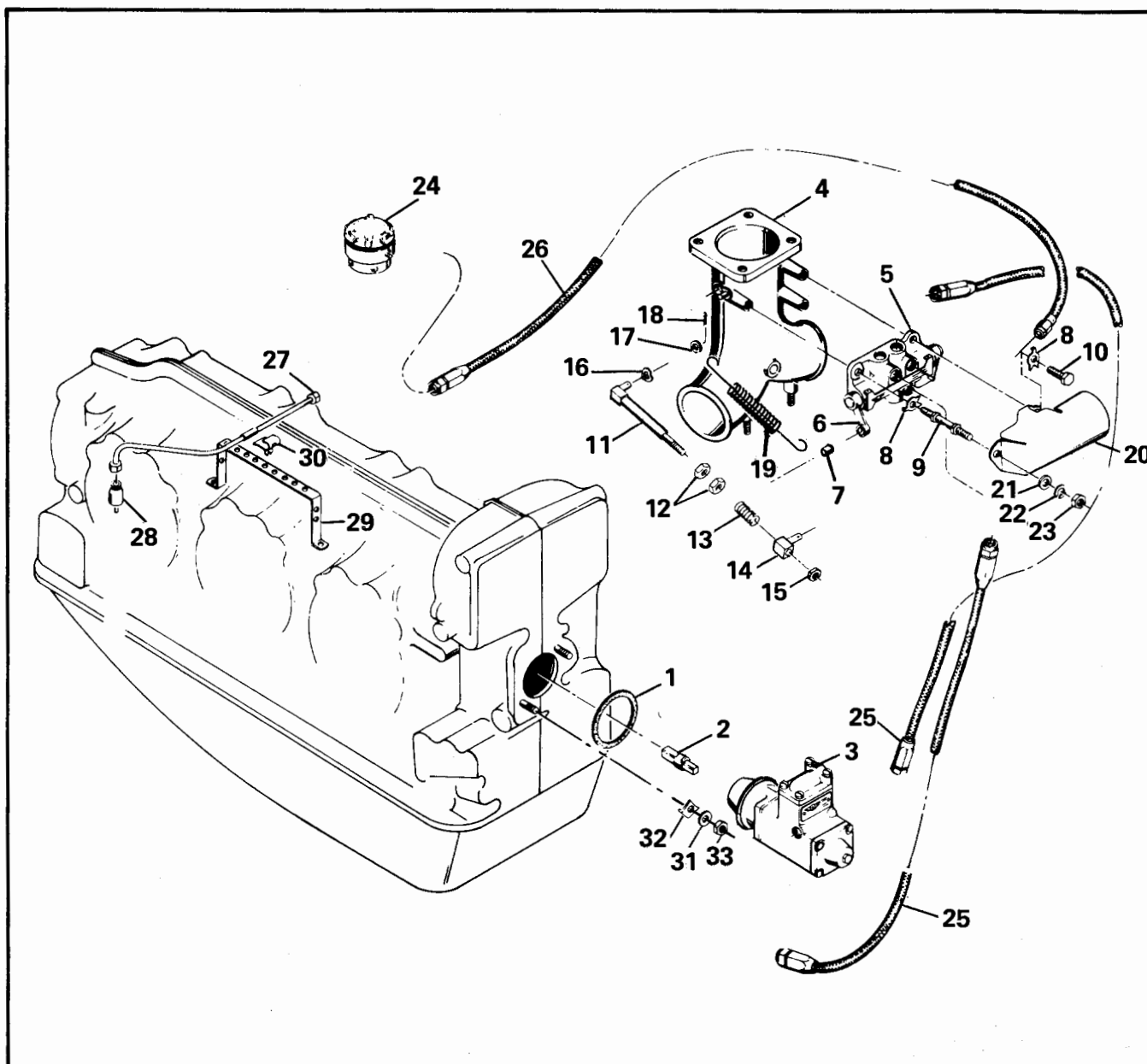


FIGURE 36. FUEL INJECTION SYSTEM

| FIG. INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                                                                   | QUANTITY PER ASSEMBLY<br>① IO-520 |    |   |   |   |   |   |   |   |   |  |
|------------|-------------|-----------|-------------------------------------------------------------------------------|-----------------------------------|----|---|---|---|---|---|---|---|---|--|
|            |             |           |                                                                               | A                                 | BA | C | D | E | F | J | K | L | M |  |
| 36- 1      | 630763      | \$        | Gasket, Fuel Pump-to-Crankcase .....                                          |                                   |    | 1 |   |   |   |   |   |   |   |  |
| -2         | 631263      |           | Coupling .....                                                                |                                   |    | 1 |   |   |   |   |   |   |   |  |
|            | 639177A5 ①② |           | Fuel Injection Assembly, Complete .....                                       |                                   |    | 1 |   |   |   |   |   |   |   |  |
| -3         | 638154-2A8  | .         | Fuel Pump & Vapor Separator Assembly ...<br>(For Details See Figures 42 & 43) |                                   |    | 1 |   |   |   |   |   |   |   |  |
| -4         | 631550A1    | .         | Throttle Body and Control Assembly .....                                      |                                   |    | 1 |   |   |   |   |   |   |   |  |
|            | 631287A1    | ..        | Throttle and Lever Assembly .....                                             |                                   |    | 1 |   |   |   |   |   |   |   |  |
|            |             |           | (For Details See Figure 48)                                                   |                                   |    |   |   |   |   |   |   |   |   |  |
| -5         | 632916-2A1  | ..        | Control Assembly, Complete .....                                              |                                   |    | 1 |   |   |   |   |   |   |   |  |
|            |             |           | (For Detail Parts See Figure 46)                                              |                                   |    |   |   |   |   |   |   |   |   |  |
| -6         | 632555-2    | ...       | Lever .....                                                                   |                                   |    | 1 |   |   |   |   |   |   |   |  |
| -7         | 632554-2    | ...       | Bushing .....                                                                 |                                   |    | 1 |   |   |   |   |   |   |   |  |

| FIG.<br>INDEX                          | PART<br>NUMBER | 12345 | DESCRIPTION                               | QUANTITY PER ASSEMBLY |    |     |   |   |   |   |   |   |   |  |
|----------------------------------------|----------------|-------|-------------------------------------------|-----------------------|----|-----|---|---|---|---|---|---|---|--|
|                                        |                |       |                                           | ① IO-520              |    |     |   |   |   |   |   |   |   |  |
|                                        |                |       |                                           | A                     | BA | C   | D | E | F | J | K | L | M |  |
| ATTACHING PARTS                        |                |       |                                           |                       |    |     |   |   |   |   |   |   |   |  |
| 36- 8                                  | 501867         | ..    | Washer, Tab .....                         |                       |    | 2   |   |   |   |   |   |   |   |  |
| - 9                                    | 630387         | ..    | Bolt .....                                |                       |    | 2   |   |   |   |   |   |   |   |  |
| -10                                    | 537629         | ..    | Bolt .....                                |                       |    | 1   |   |   |   |   |   |   |   |  |
|                                        |                |       | * * * *                                   |                       |    |     |   |   |   |   |   |   |   |  |
|                                        | 632558A1       | ..    | Link Rod Assembly, Complete .....         |                       |    | 1   |   |   |   |   |   |   |   |  |
| -11                                    | 632558         | ..    | Link and Rod Assembly .....               |                       |    | 1   |   |   |   |   |   |   |   |  |
| -12                                    | AN121501       | ..    | Nut .....                                 |                       |    | 2   |   |   |   |   |   |   |   |  |
| -13                                    | 626634         | ..    | Spring, Compression .....                 |                       |    | 1   |   |   |   |   |   |   |   |  |
| -14                                    | 632557         | ..    | Rod End .....                             |                       |    | 1   |   |   |   |   |   |   |   |  |
| -15                                    | MS21044N3      | ..    | Nut, Self-Locking .....                   |                       |    | 1   |   |   |   |   |   |   |   |  |
| -16                                    | 625327-2       | ..    | Washer, Wave .....                        |                       |    | 2   |   |   |   |   |   |   |   |  |
| -17                                    | 537690         | ..    | Washer, Plain .....                       |                       |    | 2   |   |   |   |   |   |   |   |  |
| -18                                    | 2500           | ..    | Pin, Cotter .....                         |                       |    | 1   |   |   |   |   |   |   |   |  |
| -19                                    | 628371         | ..    | Spring .....                              |                       |    | 1   |   |   |   |   |   |   |   |  |
| -20                                    | 632551         | ..    | Shroud Assembly .....                     |                       |    | 1   |   |   |   |   |   |   |   |  |
| ATTACHING PARTS                        |                |       |                                           |                       |    |     |   |   |   |   |   |   |   |  |
| -21                                    | 20522          | ..    | Washer, Plain .....                       |                       |    | 3   |   |   |   |   |   |   |   |  |
| -22                                    | MS35338-44     | ..    | Washer, Lock .....                        |                       |    | 3   |   |   |   |   |   |   |   |  |
| -23                                    | 2437           | ..    | Nut .....                                 |                       |    | 2   |   |   |   |   |   |   |   |  |
|                                        |                |       | * * * *                                   |                       |    |     |   |   |   |   |   |   |   |  |
| -24                                    | 631427-2A4     | ③     | Manifold Valve Assembly, Fuel .....       |                       |    | 1   |   |   |   |   |   |   |   |  |
| -24                                    | 631427A10      | ④     | Manifold Valve Assembly, Fuel .....       |                       |    | opt |   |   |   |   |   |   |   |  |
| (For Detail Parts See Figures 44 & 45) |                |       |                                           |                       |    |     |   |   |   |   |   |   |   |  |
| -25                                    | 635158-12.00   | ..    | Hose Assembly, Fuel Pump-to-Control ..... |                       |    | 2   |   |   |   |   |   |   |   |  |
| -26                                    | 635158-40.00   | ..    | Hose Assembly, Control-to-Manifold .....  |                       |    | 1   |   |   |   |   |   |   |   |  |
| -27                                    | 628154         | ..    | Tube Assembly, Cylinders 1 & 6 .....      |                       |    | 2   |   |   |   |   |   |   |   |  |
| -27                                    | 628153         | ..    | Tube Assembly, Cylinders 2 & 5 .....      |                       |    | 2   |   |   |   |   |   |   |   |  |
| -27                                    | 628152         | ..    | Tube Assembly, Cylinders 3 & 4 .....      |                       |    | 2   |   |   |   |   |   |   |   |  |
| -28                                    | 627335D13      | ⑤     | Nozzle Assembly .....                     |                       |    | 6   |   |   |   |   |   |   |   |  |
| -29                                    | 631246         |       | Bracket, Fuel Discharge Tubes .....       |                       |    | 2   |   |   |   |   |   |   |   |  |
| -30                                    | 626577-2       |       | Clamp .....                               |                       |    | 6   |   |   |   |   |   |   |   |  |
| -31                                    | 535847         |       | Washer, Holding .....                     |                       |    | 2   |   |   |   |   |   |   |   |  |
| -32                                    | MS35338-45     |       | Washer, Lock .....                        |                       |    | 2   |   |   |   |   |   |   |   |  |
| -33                                    | 2439           |       | Nut .....                                 |                       |    | 2   |   |   |   |   |   |   |   |  |

NOTES:

① For IO-520-CB configuration, see Figure 37.

② Supersedes Equipment 5966.

③ For use with Phase 2 style crankcases. (Backbone width 1.00 inch.)

④ For use with Phase 1 style crankcases. (Backbone width .76 inch.)

⑤ Check Dash number on hex of old nozzle for complete part number (i.e., 627335D13A).



| FIG.<br>INDEX   | PART<br>NUMBER | 12345 DESCRIPTION                           | QUANTITY PER ASSEMBLY |  |  |  |  |  |  |  |
|-----------------|----------------|---------------------------------------------|-----------------------|--|--|--|--|--|--|--|
|                 |                |                                             | ① IO-520              |  |  |  |  |  |  |  |
|                 |                |                                             | CB                    |  |  |  |  |  |  |  |
| ATTACHING PARTS |                |                                             |                       |  |  |  |  |  |  |  |
| 37- 7           | 501867         | . . Washer, Tab .....                       | 2                     |  |  |  |  |  |  |  |
| - 8             | 630387         | . . Bolt .....                              | 2                     |  |  |  |  |  |  |  |
| - 9             | 537629         | . . Bolt .....                              | 1                     |  |  |  |  |  |  |  |
|                 |                | * * * *                                     |                       |  |  |  |  |  |  |  |
|                 | 632558A1       | . . Link Rod Assembly .....                 | 1                     |  |  |  |  |  |  |  |
| -10             | 632558         | . . . Link and Rod Assembly .....           | 1                     |  |  |  |  |  |  |  |
| -11             | AN121501       | . . . . Nut .....                           | 2                     |  |  |  |  |  |  |  |
| -12             | 626634         | . . . Spring, Compression .....             | 1                     |  |  |  |  |  |  |  |
| -13             | 632557         | . . . Rod End .....                         | 1                     |  |  |  |  |  |  |  |
| -14             | MS21044N3      | . . . Nut, Self-Locking .....               | 1                     |  |  |  |  |  |  |  |
| -15             | 625327-2       | . . . Washer, Wave .....                    | 2                     |  |  |  |  |  |  |  |
| -16             | 537690         | . . . Washer, Plain .....                   | 2                     |  |  |  |  |  |  |  |
| -17             | 2500           | . . . Pin, Cotter .....                     | 1                     |  |  |  |  |  |  |  |
| -18             | 628371         | . . Spring .....                            | 1                     |  |  |  |  |  |  |  |
| -19             | 632551         | . . Shroud .....                            | 1                     |  |  |  |  |  |  |  |
| ATTACHING PARTS |                |                                             |                       |  |  |  |  |  |  |  |
| -20             | 20522          | . . Washer, Plain .....                     | 3                     |  |  |  |  |  |  |  |
| -21             | MS35338-44     | . . Washer, Lock .....                      | 3                     |  |  |  |  |  |  |  |
| -22             | 2437           | . . Nut .....                               | 2                     |  |  |  |  |  |  |  |
|                 |                | * * * *                                     |                       |  |  |  |  |  |  |  |
| -23             | 631427-2A2     | . Fuel Manifold Valve Assembly .....        | 1                     |  |  |  |  |  |  |  |
| -24             | 635158-12.00   | . Hose Assembly, Fuel Pump-to-Control ..... | 2                     |  |  |  |  |  |  |  |
| -25             | 635158-40.00   | . Hose Assembly, Control-to-Manifold .....  | 1                     |  |  |  |  |  |  |  |
| -26             | 628154         | . Tube Assembly .....                       | 2                     |  |  |  |  |  |  |  |
| -26             | 628153         | . Tube Assembly .....                       | 2                     |  |  |  |  |  |  |  |
| -26             | 628152         | . Tube Assembly .....                       | 2                     |  |  |  |  |  |  |  |
| -27             | 627335D13      | ③ Nozzle Assembly .....                     | 6                     |  |  |  |  |  |  |  |
| -28             | 631246         | Bracket, Fuel Discharge Tube .....          | 2                     |  |  |  |  |  |  |  |
| -29             | 626577-2       | Clamp .....                                 | 6                     |  |  |  |  |  |  |  |
| -30             | 535847         | Washer, Holding .....                       | 1                     |  |  |  |  |  |  |  |
| -31             | MS35338-45     | Washer, Lock .....                          | 1                     |  |  |  |  |  |  |  |
| -32             | 2439           | Nut .....                                   | 1                     |  |  |  |  |  |  |  |

NOTES:

① For IO-520-C configuration, see Figure 36.

② For detail parts see Figure 49.

③ Check dash number on old nozzle for complete part number.

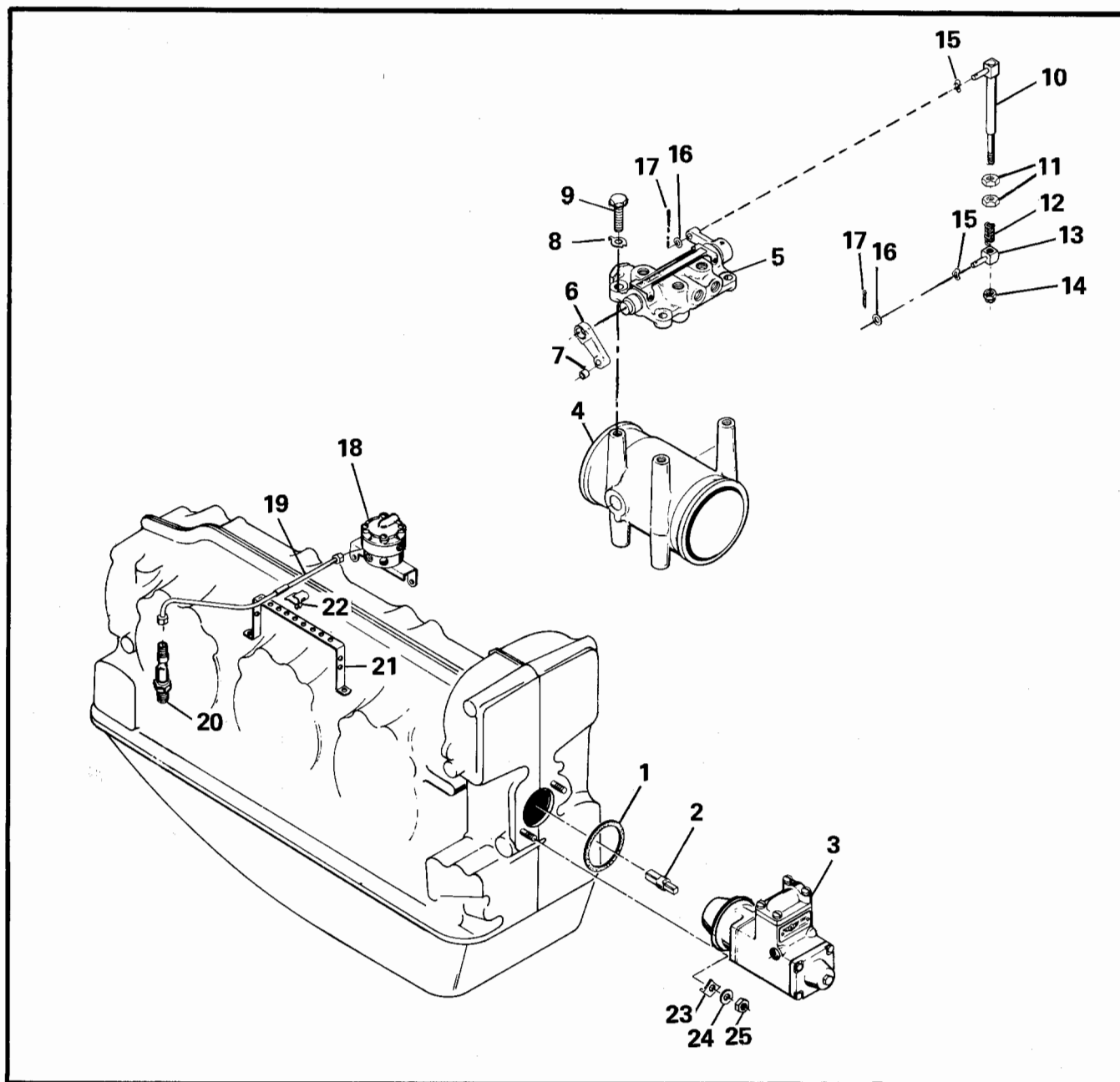


FIGURE 38. FUEL INJECTION SYSTEM

| FIG. INDEX | PART NUMBER | 1 2 3 4 5 DESCRIPTION                                                                  | QUANTITY PER ASSEMBLY |   |   |   |   |   |   |   |   |   |   |
|------------|-------------|----------------------------------------------------------------------------------------|-----------------------|---|---|---|---|---|---|---|---|---|---|
|            |             |                                                                                        | IO-520                |   |   |   |   |   |   |   |   |   | ① |
|            |             |                                                                                        | A                     | B | A | C | D | E | F | J | K | L | M |
| 38-1       | 630763      | \$ Gasket, Fuel Pump-to-Crankcase .....                                                |                       |   |   |   |   |   |   |   |   |   | 1 |
| -2         | 631263      | Coupling .....                                                                         |                       |   |   |   |   |   |   |   |   |   | 1 |
|            | 641057A4    | ① Fuel Injection Assembly, Complete .....                                              |                       |   |   |   |   |   |   |   |   |   | 1 |
| -3         | 638154-5A1  | . Fuel Pump and Vapor Separator Assembly . .<br>(For Detail Parts See Figures 42 & 43) |                       |   |   |   |   |   |   |   |   |   | 1 |
|            | 641028A1    | . Throttle and Control Assembly .....                                                  |                       |   |   |   |   |   |   |   |   |   | 1 |
| -4         | 641027      | . . Throttle Assembly .....                                                            |                       |   |   |   |   |   |   |   |   |   | 1 |
|            |             | (For Detail Parts See Figure 49)                                                       |                       |   |   |   |   |   |   |   |   |   |   |
| -5         | 632916-2A3  | . . Control Assembly .....                                                             |                       |   |   |   |   |   |   |   |   |   | 1 |
|            |             | (For Detail Parts See Figure 46)                                                       |                       |   |   |   |   |   |   |   |   |   |   |

| FIG.<br>INDEX                          | PART<br>NUMBER  | 1 2 3 4 5 DESCRIPTION                     | QUANTITY PER ASSEMBLY<br>IO-520 ① |    |   |   |   |   |   |   |   |   |   |
|----------------------------------------|-----------------|-------------------------------------------|-----------------------------------|----|---|---|---|---|---|---|---|---|---|
|                                        |                 |                                           | A                                 | BA | C | D | E | F | J | K | L | M |   |
| 38 -6                                  | 632555-2        | . . . Lever . . . . .                     |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -7                                     | 632554-2        | . . . . Bushing . . . . .                 |                                   |    |   |   |   |   |   |   |   |   | 1 |
| ATTACHING PARTS                        |                 |                                           |                                   |    |   |   |   |   |   |   |   |   |   |
| -8                                     | 501867          | . . Washer, Tab . . . . .                 |                                   |    |   |   |   |   |   |   |   |   | 3 |
| -9                                     | 537629          | . . Bolt . . . . .                        |                                   |    |   |   |   |   |   |   |   |   | 3 |
| * * * *                                |                 |                                           |                                   |    |   |   |   |   |   |   |   |   |   |
|                                        | 632558A1        | . . Link Rod Assembly, Complete . . . . . |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -10                                    | 632558          | . . . Link and Rod Assembly . . . . .     |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -11                                    | AN121501        | . . . . Nut . . . . .                     |                                   |    |   |   |   |   |   |   |   |   | 2 |
| -12                                    | 626634          | . . . Spring . . . . .                    |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -13                                    | 632557          | . . . Rod End . . . . .                   |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -14                                    | MS21044N3       | . . . Nut, Self-Locking . . . . .         |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -15                                    | 625327-2        | . . Washer, Wave . . . . .                |                                   |    |   |   |   |   |   |   |   |   | 2 |
| -16                                    | 537690          | . . Washer, Plain . . . . .               |                                   |    |   |   |   |   |   |   |   |   | 2 |
| -17                                    | 2500            | . . Pin, Cotter . . . . .                 |                                   |    |   |   |   |   |   |   |   |   | 2 |
| * * * *                                |                 |                                           |                                   |    |   |   |   |   |   |   |   |   |   |
| -18                                    | 641032-1-12A2 ② | Manifold Valve Assembly, Fuel . . . . .   |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -18                                    | 641032-1-12A1 ② | Manifold Valve Assembly, Fuel . . . . .   |                                   |    |   |   |   |   |   |   |   |   | 1 |
| (For Detail Parts See Figures 44 & 45) |                 |                                           |                                   |    |   |   |   |   |   |   |   |   |   |
| -19                                    | 641153          | . Tube Assembly, Cylinder No. 1 . . . . . |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -19                                    | 641154          | . Tube Assembly, Cylinder No. 2 . . . . . |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -19                                    | 641155          | . Tube Assembly, Cylinder No. 3 . . . . . |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -19                                    | 641156          | . Tube Assembly, Cylinder No. 4 . . . . . |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -19                                    | 641157          | . Tube Assembly, Cylinder No. 5 . . . . . |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -19                                    | 641158          | . Tube Assembly, Cylinder No. 6 . . . . . |                                   |    |   |   |   |   |   |   |   |   | 1 |
| -20                                    | 627335D12 ④     | Nozzle Assembly . . . . .                 |                                   |    |   |   |   |   |   |   |   |   | 6 |
| -21                                    | 626486          | Bracket, Fuel Discharge Tube . . . . .    |                                   |    |   |   |   |   |   |   |   |   | 2 |
| -22                                    | 626577-2        | Clamp . . . . .                           |                                   |    |   |   |   |   |   |   |   |   | 6 |
| -23                                    | 535847          | Washer, Holding . . . . .                 |                                   |    |   |   |   |   |   |   |   |   | 2 |
| -24                                    | MS35338-45      | Washer, Lock . . . . .                    |                                   |    |   |   |   |   |   |   |   |   | 2 |
| -25                                    | 2439            | Nut . . . . .                             |                                   |    |   |   |   |   |   |   |   |   | 2 |

NOTES:

- ① For IO-520-MB configuration, see Figure 39.
- ② For use with Phase 2 style crankcases. (Backbone width 1.00 inch)
- ③ For use with Phase 1 style crankcases. (Backbone width .76 inch)
- ④ Check dash number on old nozzle for complete part number (i.e. 627335D12D).

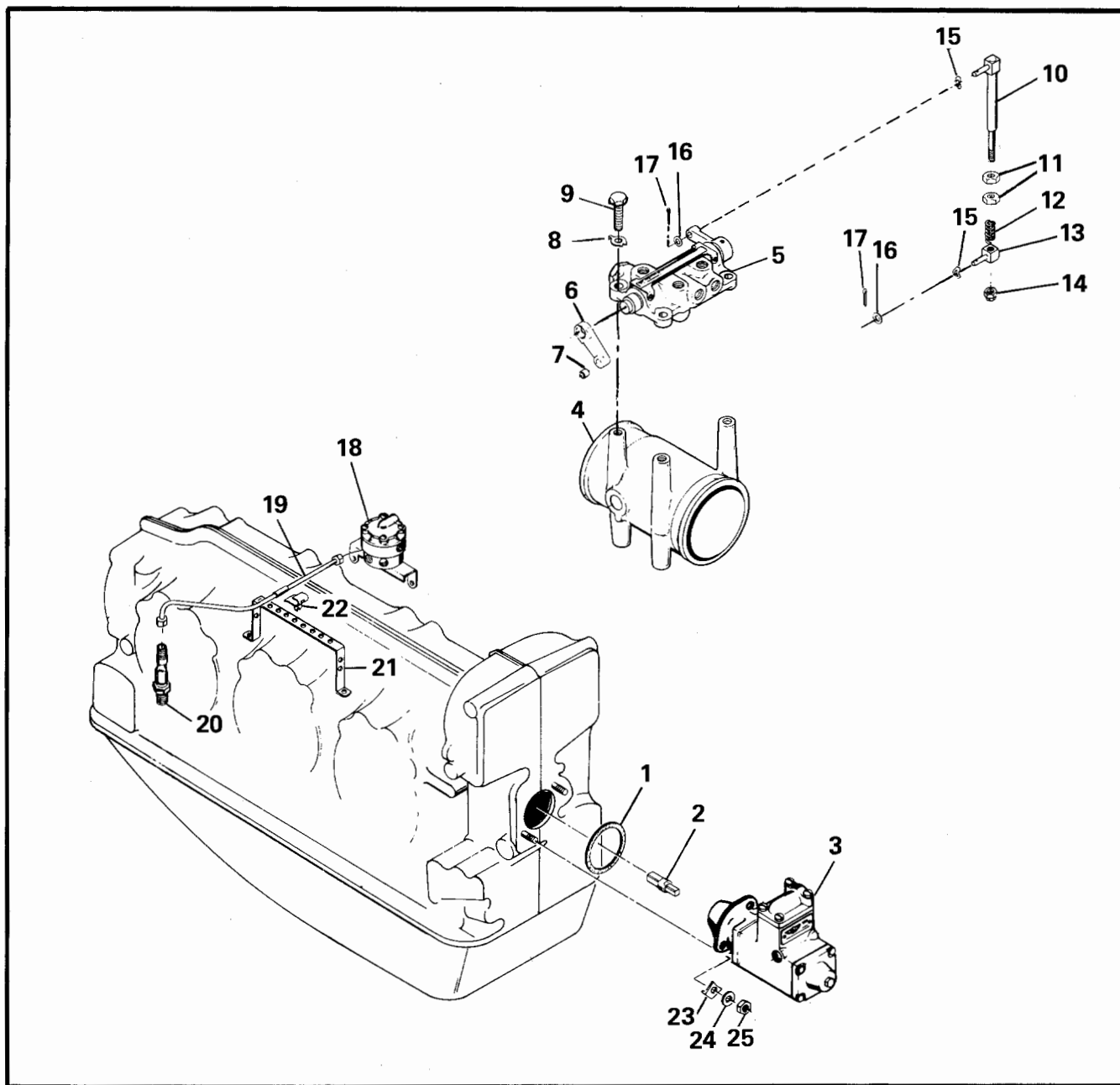


FIGURE 39. FUEL INJECTION SYSTEM

| FIG. INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                            | QUANTITY PER ASSEMBLY |  |  |  |  |  |  |      |
|------------|-------------|-----------|----------------------------------------|-----------------------|--|--|--|--|--|--|------|
|            |             |           |                                        | IO-520                |  |  |  |  |  |  |      |
|            |             |           |                                        |                       |  |  |  |  |  |  | ① MB |
| 39- 1      | 630763      | \$        | Gasket, Fuel Pump-to-Crankcase .....   |                       |  |  |  |  |  |  | 1    |
| -2         | 631263      |           | Coupling .....                         |                       |  |  |  |  |  |  | 1    |
|            | 641057A5    | ①         | Fuel Injection Assembly Complete ..... |                       |  |  |  |  |  |  | 1    |
| -3         | 638154-17A1 | .         | Fuel Pump Complete .....               |                       |  |  |  |  |  |  | 1    |
|            |             |           | (For detail parts see Figures 42 & 43) |                       |  |  |  |  |  |  |      |
|            |             |           | ATTACHING PARTS                        |                       |  |  |  |  |  |  |      |
|            | 641028A1    | .         | Throttle and Control Assembly .....    |                       |  |  |  |  |  |  | 1    |
| -4         | 641027      | ②         | Throttle Assembly .....                |                       |  |  |  |  |  |  | 1    |

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                             | QUANTITY PER ASSEMBLY |  |  |  |  |  |  |  |  |  | ①<br>MB |
|---------------|----------------|-----------|-----------------------------------------|-----------------------|--|--|--|--|--|--|--|--|--|---------|
|               |                |           |                                         | IO-520                |  |  |  |  |  |  |  |  |  |         |
|               |                |           |                                         |                       |  |  |  |  |  |  |  |  |  |         |
|               |                |           | * * * * *                               |                       |  |  |  |  |  |  |  |  |  |         |
| 39-5          | 632916-2A3     | . .       | Control Assembly . . . . .              |                       |  |  |  |  |  |  |  |  |  | 1       |
| -6            | 632555-2       | . . .     | Lever . . . . .                         |                       |  |  |  |  |  |  |  |  |  | 1       |
| -7            | 632554-2       | . . . .   | Bushing . . . . .                       |                       |  |  |  |  |  |  |  |  |  | 1       |
|               |                |           | ATTACHING PARTS                         |                       |  |  |  |  |  |  |  |  |  |         |
| -8            | 501867         | . .       | Washer, Tab . . . . .                   |                       |  |  |  |  |  |  |  |  |  | 3       |
| -9            | 537629         | . .       | Bolt . . . . .                          |                       |  |  |  |  |  |  |  |  |  | 3       |
|               |                |           | * * * * *                               |                       |  |  |  |  |  |  |  |  |  |         |
|               | 632558A1       | . .       | Link Rod Assembly . . . . .             |                       |  |  |  |  |  |  |  |  |  | 1       |
| -10           | 632558         | . . .     | Rod Assembly . . . . .                  |                       |  |  |  |  |  |  |  |  |  | 1       |
| -11           | AN121501       | . . . .   | Nut . . . . .                           |                       |  |  |  |  |  |  |  |  |  | 2       |
| -12           | 626634         | . . .     | Spring . . . . .                        |                       |  |  |  |  |  |  |  |  |  | 1       |
| -13           | 632557         | . . .     | Rod End . . . . .                       |                       |  |  |  |  |  |  |  |  |  | 1       |
| -14           | MS21044N3      | . . .     | Nut, Self-Locking . . . . .             |                       |  |  |  |  |  |  |  |  |  | 1       |
| -15           | 625327-2       | . . .     | Washer, Wave . . . . .                  |                       |  |  |  |  |  |  |  |  |  | 2       |
| -16           | 537690         | . . .     | Washer, Plain . . . . .                 |                       |  |  |  |  |  |  |  |  |  | 2       |
| -17           | 2500           | . . .     | Pin, Cotter . . . . .                   |                       |  |  |  |  |  |  |  |  |  | 2       |
| -18           | 641032-1-12A2  | .         | Fuel Manifold Valve Assembly . . . . .  |                       |  |  |  |  |  |  |  |  |  | 1       |
| -19           | 641153         | .         | Tube Assembly, Cylinder No. 1 . . . . . |                       |  |  |  |  |  |  |  |  |  | 1       |
| -19           | 641154         | .         | Tube Assembly, Cylinder No. 2 . . . . . |                       |  |  |  |  |  |  |  |  |  | 1       |
| -19           | 641155         | .         | Tube Assembly, Cylinder No. 3 . . . . . |                       |  |  |  |  |  |  |  |  |  | 1       |
| -19           | 641156         | .         | Tube Assembly, Cylinder No. 4 . . . . . |                       |  |  |  |  |  |  |  |  |  | 1       |
| -19           | 641157         | .         | Tube Assembly, Cylinder No. 5 . . . . . |                       |  |  |  |  |  |  |  |  |  | 1       |
| -19           | 641158         | .         | Tube Assembly, Cylinder No. 6 . . . . . |                       |  |  |  |  |  |  |  |  |  | 1       |
| -20           | 627335D12 ③    | .         | Nozzle Assembly . . . . .               |                       |  |  |  |  |  |  |  |  |  | 6       |
| -21           | 626486         |           | Bracket, Fuel Discharge Tube . . . . .  |                       |  |  |  |  |  |  |  |  |  | 2       |
| -22           | 626577-2       |           | Clamp, Tube-to-Bracket . . . . .        |                       |  |  |  |  |  |  |  |  |  | 6       |
|               |                |           | * * * * *                               |                       |  |  |  |  |  |  |  |  |  |         |
| -23           | 535847         | . .       | Washer, Holding . . . . .               |                       |  |  |  |  |  |  |  |  |  | 2       |
| -24           | MS35337-45     | . .       | Washer, Lock . . . . .                  |                       |  |  |  |  |  |  |  |  |  | 2       |
| -25           | 2439           | . .       | Nut . . . . .                           |                       |  |  |  |  |  |  |  |  |  | 2       |

NOTES:

- ① For IO-520-M configuration, see Figure 38.
- ② For detail parts, see Figure 49.
- ③ Check dash number on old nozzle for complete part number.

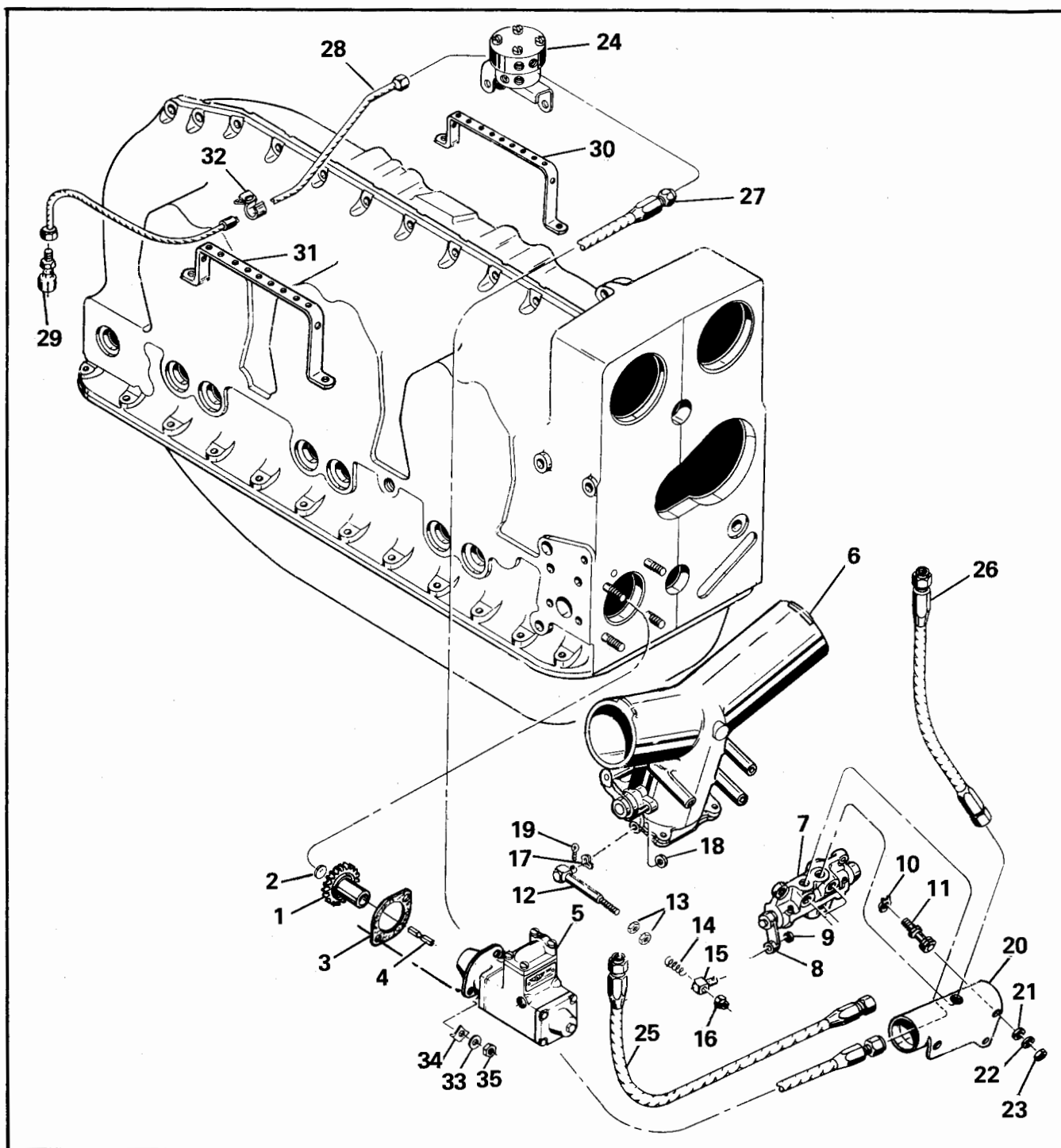


FIGURE 40. FUEL INJECTION SYSTEM

| FIG.<br>INDEX                          | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |
|----------------------------------------|----------------|-----------|--------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|
|                                        |                |           |                                            | A                               | BA | C | D | E | F | J | K | L | M |
| 40- 1                                  | 631684         |           | Gear Assembly, Fuel Pump Drive .....       |                                 |    |   | 1 |   |   |   |   |   |   |
| -2                                     | 539634         |           | . Plug .....                               |                                 |    |   | 1 |   |   |   |   |   |   |
| -3                                     | 631685         | \$        | Gasket, Fuel Pump-to-Crankcase .....       |                                 |    |   | 1 |   |   |   |   |   |   |
| -4                                     | 631683         |           | Coupling .....                             |                                 |    |   | 1 |   |   |   |   |   |   |
|                                        | 640103A12      | Ⓞ         | Fuel Injection Assembly Complete .....     |                                 |    |   | 1 |   |   |   |   |   |   |
| -5                                     | 638154-1A18    |           | . Fuel Pump & Vapor Separator Assembly ... |                                 |    |   | 1 |   |   |   |   |   |   |
| (For Detail Parts See Figures 42 & 43) |                |           |                                            |                                 |    |   |   |   |   |   |   |   |   |

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                          | QUANTITY PER ASSEMBLY<br>IO-520 |   |   |   |     |   |   |   |   |   |   |
|---------------|----------------|------------------------------------------------|---------------------------------|---|---|---|-----|---|---|---|---|---|---|
|               |                |                                                | A                               | B | A | C | D   | E | F | J | K | L | M |
| 40-6          | 640117A10      | . Throttle Body & Control Assembly .....       |                                 |   |   |   | 1   |   |   |   |   |   |   |
|               | 639761A1②③     | . Throttle and Lever Assembly .....            |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -7            | 625219-2A21    | . Control Assembly, Complete .....             |                                 |   |   |   | 1   |   |   |   |   |   |   |
|               |                | (For Detail Parts See Figure 46)               |                                 |   |   |   |     |   |   |   |   |   |   |
| -8            | 632555-24 ④    | . . . . Lever .....                            |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -9            | 632554-2       | . . . . Bushing .....                          |                                 |   |   |   | 1   |   |   |   |   |   |   |
|               |                | ATTACHING PARTS                                |                                 |   |   |   |     |   |   |   |   |   |   |
| -10           | 501867         | . . Washer, Tab .....                          |                                 |   |   |   | 3   |   |   |   |   |   |   |
| -11           | 630387         | . . Bolt .....                                 |                                 |   |   |   | 3   |   |   |   |   |   |   |
|               |                | * * * *                                        |                                 |   |   |   |     |   |   |   |   |   |   |
|               | 632558A1 ⑤     | . . Link Rod Assembly .....                    |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -12           | 632558 ⑤       | . . Link and Rod Assembly .....                |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -13           | AN121501       | . . . . Nut .....                              |                                 |   |   |   | 2   |   |   |   |   |   |   |
| -14           | 626634         | . . Spring, Compression .....                  |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -15           | 632557 ⑤       | . . Rod End, Special .....                     |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -16           | MS21044N3      | . . Nut, Self-Locking .....                    |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -17           | 625327-2       | . . Washer, Wave .....                         |                                 |   |   |   | 2   |   |   |   |   |   |   |
| -18           | 537690         | . . Washer, Plain .....                        |                                 |   |   |   | 2   |   |   |   |   |   |   |
| -19           | 2500           | . . Pin, Cotter .....                          |                                 |   |   |   | 1   |   |   |   |   |   |   |
|               | 632859A1       | . . Shroud Assembly, Complete .....            |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -20           | 632859         | . . Shroud Assembly .....                      |                                 |   |   |   | 1   |   |   |   |   |   |   |
|               |                | ATTACHING PARTS                                |                                 |   |   |   |     |   |   |   |   |   |   |
| -21           | 20522          | . . . Washer, Plain .....                      |                                 |   |   |   | 3   |   |   |   |   |   |   |
| -22           | MS35338-44     | . . . Washer, Lock .....                       |                                 |   |   |   | 3   |   |   |   |   |   |   |
| -23           | 2437           | . . . Nut .....                                |                                 |   |   |   | 3   |   |   |   |   |   |   |
|               |                | * * * *                                        |                                 |   |   |   |     |   |   |   |   |   |   |
| -24           | 631351A17 ⑥    | . Fuel Manifold Valve Assembly .....           |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -24           | 631351A6 ⑦     | . Fuel Manifold Valve Assembly .....           |                                 |   |   |   | opt |   |   |   |   |   |   |
|               |                | (For Detail Parts See Figure 44 & 45)          |                                 |   |   |   |     |   |   |   |   |   |   |
| -25           | 635158-12.00   | . Hose Assembly .....                          |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -26           | 635158-10.00   | . Hose Assembly .....                          |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -27           | 635158-40.00   | . Hose Assembly .....                          |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -28           | 628154         | . Tube Assembly, Cylinder 1 & 6 .....          |                                 |   |   |   | 2   |   |   |   |   |   |   |
|               | 628153         | . Tube Assembly, Cylinder 2 & 5 .....          |                                 |   |   |   | 2   |   |   |   |   |   |   |
|               | 628152         | . Tube Assembly, Cylinder 3 & 4 .....          |                                 |   |   |   | 2   |   |   |   |   |   |   |
| -29           | 627335D13 ⑧    | . Nozzle Assembly .....                        |                                 |   |   |   | 6   |   |   |   |   |   |   |
| -30           | 628295         | Bracket, Fuel Discharge Tube, 2-4-6 Side ..... |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -31           | 641701         | Bracket, Fuel Discharge Tube, 1-3-5 Side ..... |                                 |   |   |   | 1   |   |   |   |   |   |   |
| -32           | 626577-2       | Clamp .....                                    |                                 |   |   |   | 6   |   |   |   |   |   |   |
| -33           | AN960-516L     | Washer, Pin .....                              |                                 |   |   |   | 2   |   |   |   |   |   |   |
| -34           | MS35338-45     | Washer, Lock .....                             |                                 |   |   |   | 2   |   |   |   |   |   |   |
| -35           | 2439           | Nut .....                                      |                                 |   |   |   | 2   |   |   |   |   |   |   |

NOTES:

- ① Supersedes Equipment 6085-D.
- ② For detail parts see Figure 48.
- ③ If replacing old style throttle body, which has cast mount legs, it will be necessary to order, in addition to new throttle assembly, a 639410 bracket, a 639411 bracket and 4 each 530346 bolts.
- ④ This is a new style lever which incorporates a hardened bushing. If replacing old style lever (539989) with no bushing, it will be necessary to order, in addition to new lever, a new link rod assembly.
- ⑤ This link rod assembly is the new style configuration and is to be used only with levers that have bushings.
- ⑥ For use with Phase 2 and 3 style crankcases. (Backbone width 1.00 inch)
- ⑦ For use with Phase 1 style crankcases. (Backbone width .76 inch)
- ⑧ Check dash number on hex of old nozzle for complete dash number (i.e. 627335D13A).

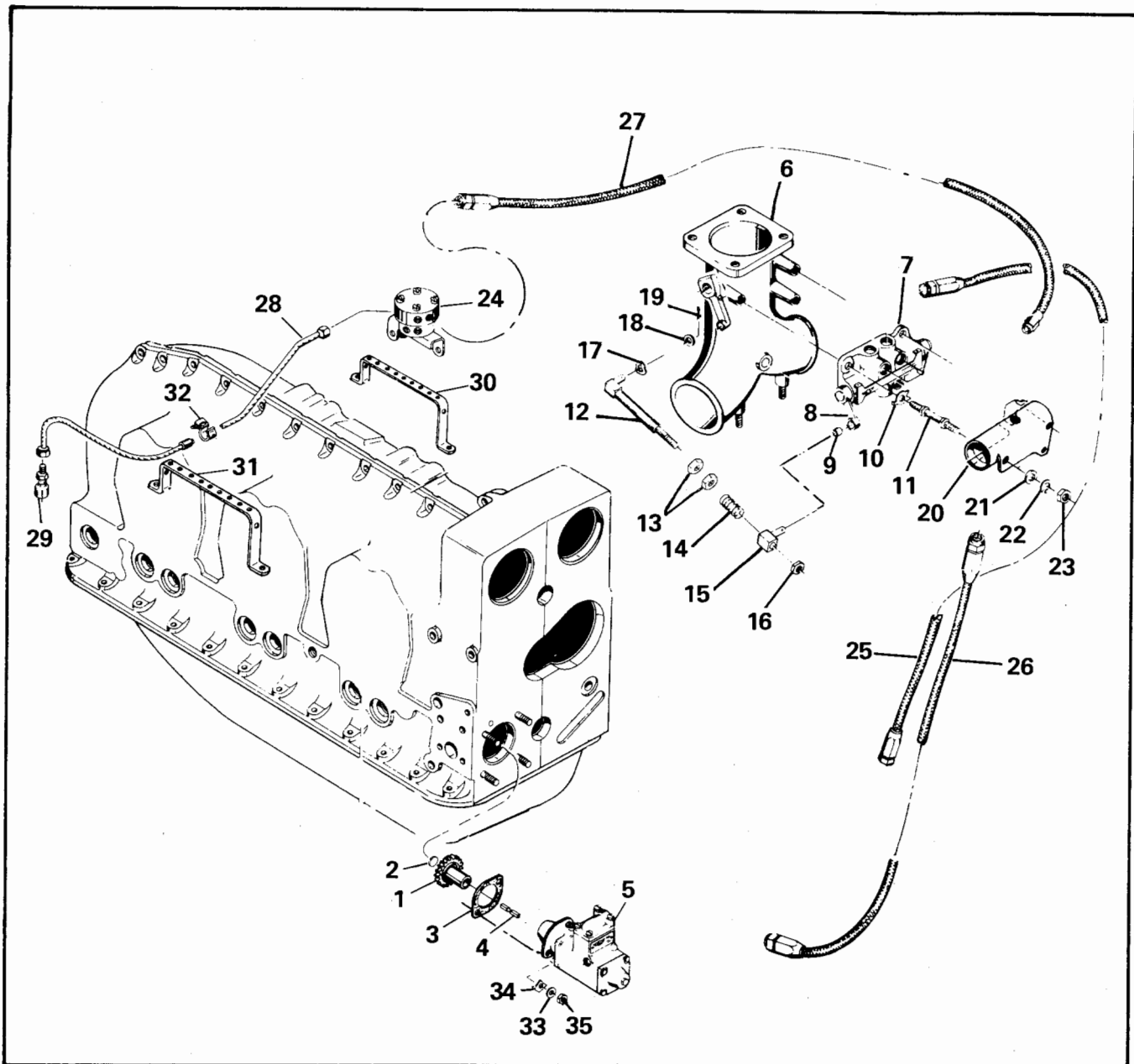


FIGURE 41. FUEL INJECTION SYSTEM

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                                                          | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |  |
|---------------|----------------|-----------|--------------------------------------------------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|--|
|               |                |           |                                                                                      | A                               | BA | C | D | E | F | J | K | L | M |  |
| 41- 1         | 631684         |           | Gear Assembly, Fuel Pump .....                                                       |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -2            | 539634         |           | . Plug .....                                                                         |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -3            | 631685         | \$        | Gasket, Fuel Pump-to-Crankcase .....                                                 |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -4            | 631683         |           | Coupling .....                                                                       |                                 |    |   |   | 1 |   |   |   |   |   |  |
|               | 639186A2       |           | Fuel Injection Assembly Complete .....                                               |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -5            | 638154-4A2     |           | . Fuel Pump & Vapor Separator Assembly ...<br>(For Detail Parts See Figures 42 & 43) |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -6            | 628891A2       |           | . Throttle Body and Control Assembly .....                                           |                                 |    |   |   | 1 |   |   |   |   |   |  |
|               | 628861A1 ①     |           | . . Throttle and Lever Assembly .....                                                |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -7            | 625219-2A9     |           | . . Control Assembly Complete .....                                                  |                                 |    |   |   | 1 |   |   |   |   |   |  |
|               |                |           | (For Detail Parts See Figure 46)                                                     |                                 |    |   |   |   |   |   |   |   |   |  |
| -8            | 632555-24 ②    |           | . . . Lever .....                                                                    |                                 |    |   |   | 1 |   |   |   |   |   |  |
| -9            | 632554-2       |           | . . . Bushing .....                                                                  |                                 |    |   |   | 1 |   |   |   |   |   |  |

| FIG.<br>INDEX                          | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |     |   |   |   |   |   |  |
|----------------------------------------|----------------|-----------|------------------------------------------|---------------------------------|----|---|---|-----|---|---|---|---|---|--|
|                                        |                |           |                                          | A                               | BA | C | D | E   | F | J | K | L | M |  |
| ATTACHING PARTS                        |                |           |                                          |                                 |    |   |   |     |   |   |   |   |   |  |
| 41-10                                  | 501867         | . .       | Washer, Tab                              |                                 |    |   |   | 3   |   |   |   |   |   |  |
| -11                                    | 630387         | . .       | Bolt                                     |                                 |    |   |   | 3   |   |   |   |   |   |  |
| * * * *                                |                |           |                                          |                                 |    |   |   |     |   |   |   |   |   |  |
|                                        | 632558A1 ③     | . .       | Link Rod Assembly                        |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -12                                    | 632558 ③       | . . .     | Link and Rod Assembly                    |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -13                                    | AN121501       | . . . .   | Nut                                      |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -14                                    | 626634         | . . .     | Spring, Compression                      |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -15                                    | 632557 ③       | . . .     | Rod End, Special                         |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -16                                    | MS21044N3      | . . .     | Nut, Self-Locking                        |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -17                                    | 625327-2       | . .       | Washer, Wave                             |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -18                                    | 537690         | . .       | Washer, Plain                            |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -19                                    | 2500           | . .       | Pin, Cotter                              |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -20                                    | 632859         | . .       | Shroud Assembly                          |                                 |    |   |   | 1   |   |   |   |   |   |  |
| ATTACHING PARTS                        |                |           |                                          |                                 |    |   |   |     |   |   |   |   |   |  |
| -21                                    | 20522          | . .       | Washer, Plain                            |                                 |    |   |   | 3   |   |   |   |   |   |  |
| -22                                    | MS35338-44     | . .       | Washer, Lock                             |                                 |    |   |   | 3   |   |   |   |   |   |  |
| -23                                    | 2437           | . .       | Nut                                      |                                 |    |   |   | 3   |   |   |   |   |   |  |
| * * * *                                |                |           |                                          |                                 |    |   |   |     |   |   |   |   |   |  |
| -24                                    | 631427A16 ④    | . .       | Fuel Manifold Valve Assembly             |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -24                                    | 631427A2 ⑤     | . .       | Fuel Manifold Valve Assembly             |                                 |    |   |   | opt |   |   |   |   |   |  |
| (For Detail Parts See Figures 44 & 45) |                |           |                                          |                                 |    |   |   |     |   |   |   |   |   |  |
| -25                                    | 635158-16.00   | . .       | Hose Assembly                            |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -26                                    | 635158-16.00   | . .       | Hose Assembly                            |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -27                                    | 635158-38.00   | . .       | Hose Assembly                            |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -28                                    | 628154         | . .       | Tube Assembly Cylinder 1 & 6             |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -28                                    | 628153         | . .       | Tube Assembly Cylinder 2 & 5             |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -28                                    | 628152         | . .       | Tube Assembly, Cylinder 3 & 4            |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -29                                    | 627335D13 ⑥    | . .       | Nozzle Assembly                          |                                 |    |   |   | 6   |   |   |   |   |   |  |
| -30                                    | 628295         |           | Bracket, Fuel Dishcharge Tube 2-4-6 Side |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -31                                    | 641701         |           | Bracket, Fuel Discharge Tube, 1-3-5 Side |                                 |    |   |   | 1   |   |   |   |   |   |  |
| -32                                    | 626577-2       |           | Clamp                                    |                                 |    |   |   | 6   |   |   |   |   |   |  |
| -33                                    | AN960-516L     |           | Washer, Plain                            |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -34                                    | MS35338-45     |           | Washer, Lock                             |                                 |    |   |   | 2   |   |   |   |   |   |  |
| -35                                    | 2439           |           | Nut                                      |                                 |    |   |   | 2   |   |   |   |   |   |  |

NOTES:

- ① For detail parts see Figure 48.
- ② This is a new style lever which incorporates a hardened bushing. If replacing old style lever (539989) with no bushing, it will be necessary to order, in addition to new lever a new link rod assembly.
- ③ This link rod and assembly is the new style configuration and is to be used only with levers that have bushings.
- ④ For use with Phase 2 & 3 style crankcases. (Backbone width 1.00 inch)
- ⑤ For use with Phase 1 style crankcases. (Backbone width .76 inch)
- ⑥ Check dash number on hex of old nozzle for complete part number (i.e. 627335D13A).

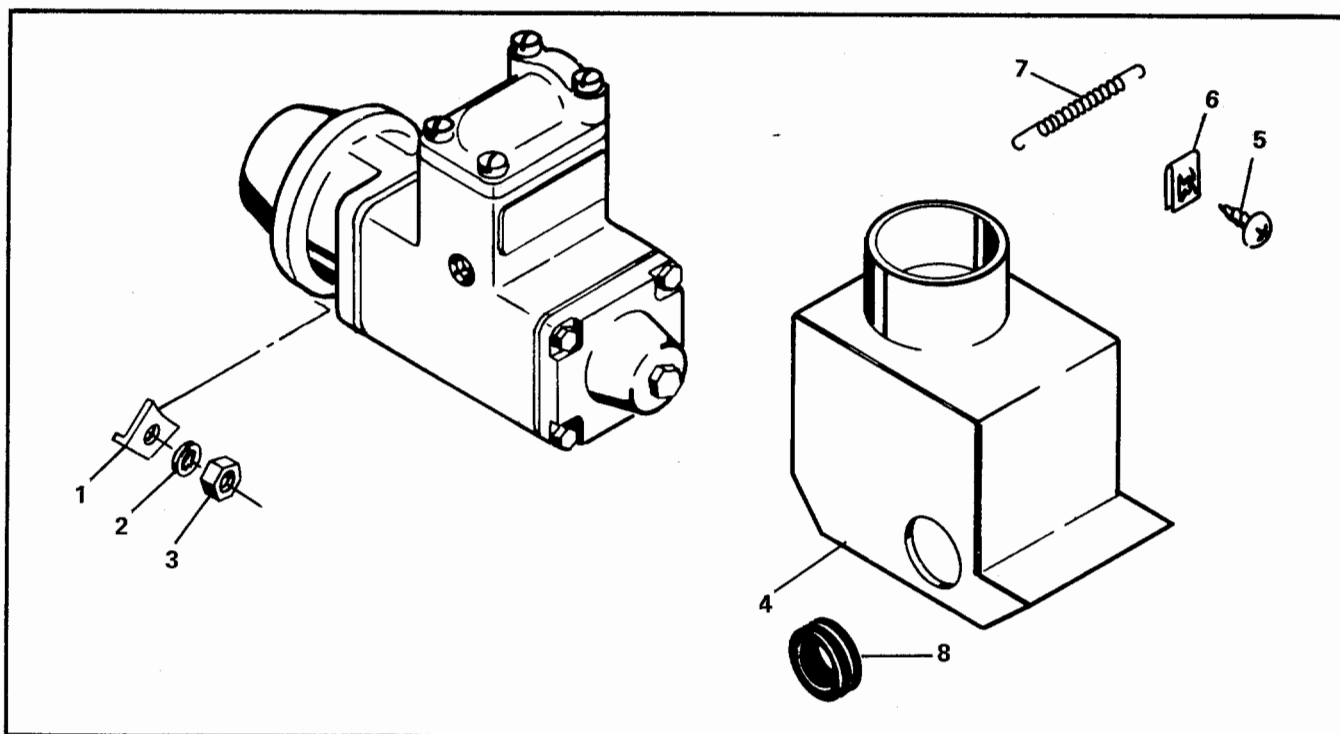


FIGURE 42. FUEL PUMP AND VAPOR SEPARATOR ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5                                  | DESCRIPTION | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |   |
|---------------|----------------|--------------------------------------------|-------------|---------------------------------|----|---|---|---|---|---|---|---|---|---|
|               |                |                                            |             | A                               | BA | C | D | E | F | J | K | L | M |   |
| 42-           | 638154-1A8     | Fuel Pump and Vapor Separator Assembly ... |             | 1                               |    |   |   |   |   | 1 |   |   |   |   |
|               | 638154-2A7     | Fuel Pump and Vapor Separator Assembly ... |             |                                 | 1  |   |   |   |   |   |   |   |   |   |
|               | 638154-2A8     | Fuel Pump and Vapor Separator Assembly ... |             |                                 |    | 1 |   |   |   |   |   |   |   |   |
|               | 638154-1A18    | Fuel Pump and Vapor Separator Assembly ... |             |                                 |    |   | 1 |   |   |   |   |   |   |   |
|               | 638154-4A2     | Fuel Pump and Vapor Separator Assembly ... |             |                                 |    |   |   | 1 |   |   |   |   |   |   |
|               | 638154-1A16    | Fuel Pump and Vapor Separator Assembly ... |             |                                 |    |   |   |   | 1 |   |   |   | 1 |   |
|               | 638154-1A12    | Fuel Pump and Vapor Separator Assembly ... |             |                                 |    |   |   |   |   |   | 1 |   |   |   |
|               | 638154-5A1     | Fuel Pump and Vapor Separator Assembly ... |             |                                 |    |   |   |   |   |   |   |   |   | 1 |
|               |                | (For Detail Parts See Figure 43)           |             |                                 |    |   |   |   |   |   |   |   |   |   |
|               |                | ATTACHING PARTS                            |             |                                 |    |   |   |   |   |   |   |   |   |   |
| -1            | AN960-516L     | Washer, Plain .....                        |             | 2                               |    |   | 2 | 2 | 2 | 2 | 2 | 2 | 2 |   |
| -1            | 535847         | Washer, Special .....                      |             |                                 | 2  | 2 |   |   |   |   |   |   |   | 2 |
| -2            | MS35338-45     | Washer, Lock .....                         |             | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| -3            | 2439           | Nut .....                                  |             | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|               |                | * * * *                                    |             |                                 |    |   |   |   |   |   |   |   |   |   |
| -4            | 640027         | . Shroud Assembly .....                    |             | 1                               |    |   |   |   | 1 | 1 | 1 | 1 |   |   |
| -4            | 631764         | . Shroud Assembly .....                    |             |                                 | 1  | 1 | 1 | 1 |   |   |   |   |   |   |
|               |                | ATTACHING PARTS                            |             |                                 |    |   |   |   |   |   |   |   |   |   |
| -5            | AN526-1024-4   | . Screw, Truss Head .....                  |             | 2                               |    |   |   |   | 2 | 2 | 2 | 2 |   |   |
| -6            | 537911         | . Nut, Speed .....                         |             | 2                               |    |   |   |   | 2 | 2 | 2 | 2 |   |   |
|               |                | * * * *                                    |             |                                 |    |   |   |   |   |   |   |   |   |   |
| -7            | 532377         | . Spring .....                             |             | 1                               |    |   |   | 1 | 1 | 1 | 1 | 1 |   |   |
| -8            | 626879-1       | . Grommet .....                            |             | 3                               | 3  | 3 | 3 | 3 | 3 | 3 | 3 | 3 |   |   |

NOTE:

For detail parts, see Fuel Injection Systems Overhaul Manual and Parts Catalog, Form X-30091.

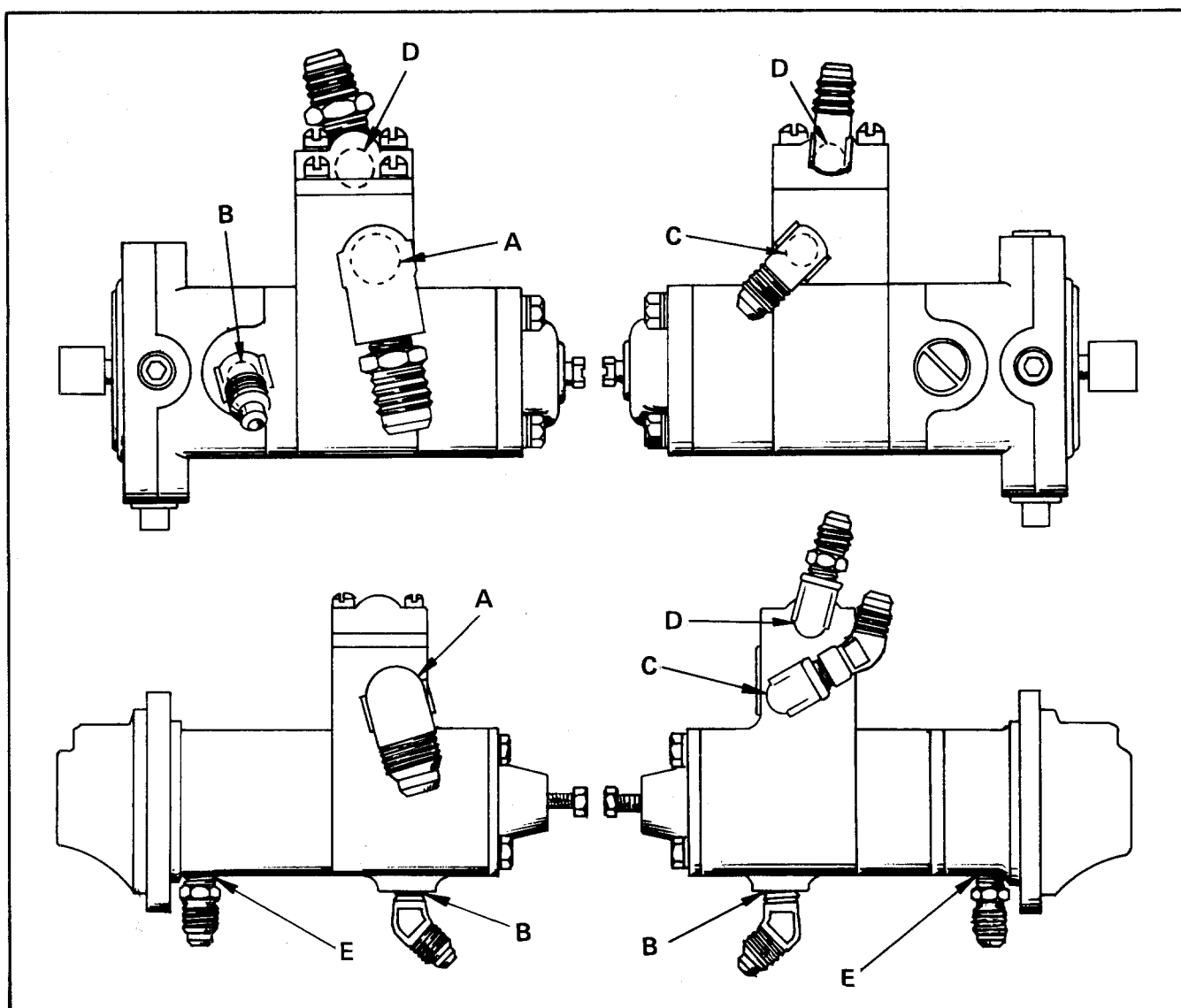


FIGURE 43. FUEL PUMP AND VAPOR SEPARATOR FITTING LOCATIONS

|                  | Fuel Pump &<br>Vapor Sep.<br>Number | INLET<br>Fitting<br>"A" Number | OUTLET<br>Fitting<br>"B" Number | MIXTURE<br>RETURN<br>Fitting<br>"C" Number | VAPOR<br>RETURN<br>Fitting<br>"D" Number | SEAL<br>DRAIN<br>Fitting<br>"E" Number |
|------------------|-------------------------------------|--------------------------------|---------------------------------|--------------------------------------------|------------------------------------------|----------------------------------------|
| IO-520-A,F,J,K,L | 638154 <sup>①</sup>                 | 632017<br>637286               | 628436                          | 627119<br>628476                           | 627119<br>628438                         | 628438                                 |
| IO-520-BA, BB    | 638154 <sup>①</sup>                 | 632017                         | 628437                          | 628437                                     | 628476                                   | 632115                                 |
| IO-520-C, CB     | 638154 <sup>①</sup>                 | 632017<br>631308<br>633121     | 628437                          | 628476                                     | 628438                                   | 632115                                 |
| IO-520-D         | 638154 <sup>①</sup>                 | 632017<br>MS20823-6B           | 628438                          | 627119<br>628437                           | 628476                                   | 628438                                 |
| IO-520-E         | 638154 <sup>①</sup>                 | 632017<br>MS20823-6B           | 628436                          | 627119<br>628438                           | 627119<br>628438                         | 628438                                 |
| IO-520-M, MB     | 638154 <sup>①</sup>                 | AN914-2<br>641249              | 628437                          | 628436                                     | 631293                                   | 632115                                 |

NOTE: <sup>①</sup> This part number not available. See Figure 42 for complete Fuel Pump Assembly.

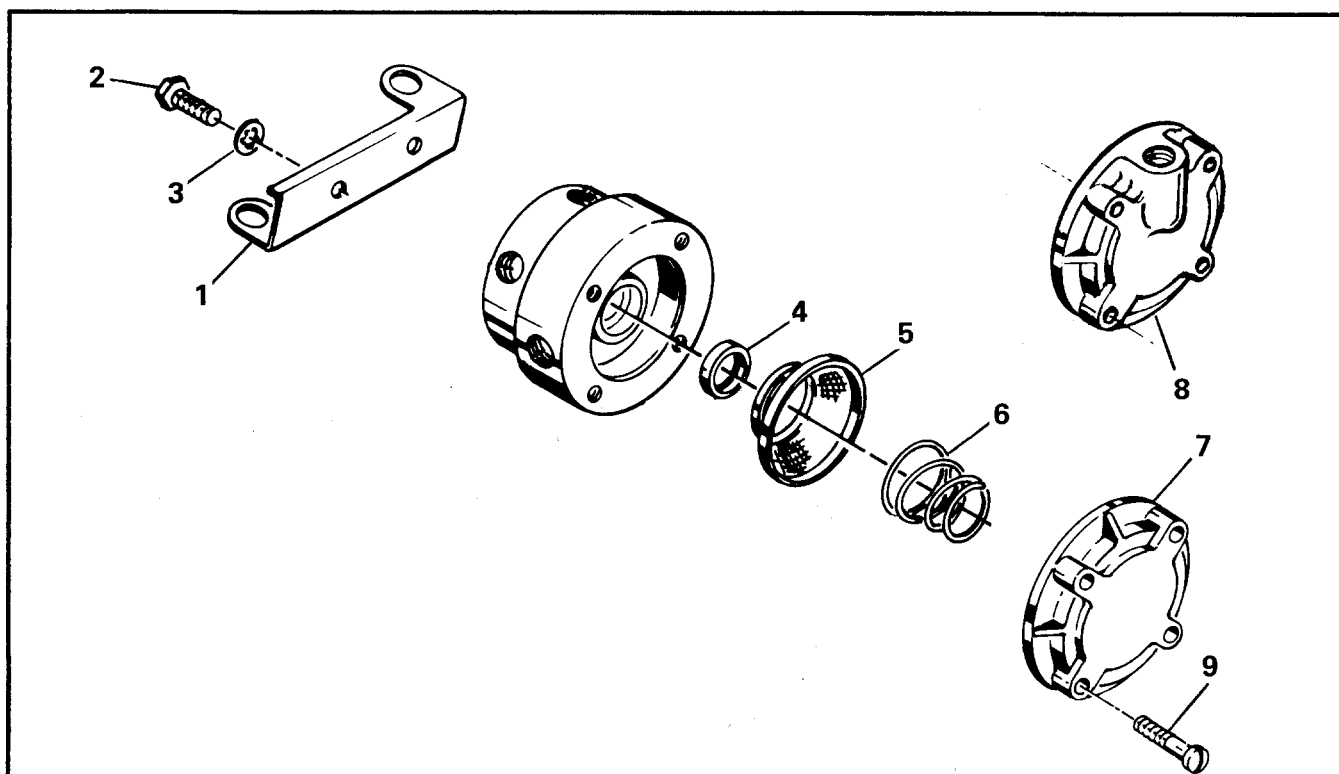


FIGURE 44. FUEL MANIFOLD VALVE ASSEMBLY

| FIG. INDEX      | PART NUMBER   | 1 2 3 4 5 DESCRIPTION                           | QUANTITY PER ASSEMBLY<br>IO-520 |     |     |     |     |     |     |     |     |     |     |
|-----------------|---------------|-------------------------------------------------|---------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 |               |                                                 | A                               | BA  | C   | D   | E   | F   | J   | K   | L   | M   |     |
| 44-             | 631351A19     | ① Fuel Manifold Valve Assembly Complete . . . . | RF                              |     |     |     |     |     | RF  | RF  | RF  |     |     |
|                 | 631427-2A1    | ① Fuel Manifold Valve Assembly Complete . . . . |                                 | RF  |     |     |     |     |     |     |     |     |     |
|                 | 631427-2A4    | ① Fuel Manifold Valve Assembly Complete . . . . |                                 |     | RF  |     |     |     |     |     |     |     |     |
|                 | 631351A17     | ① Fuel Manifold Valve Assembly Complete . . . . |                                 |     |     | RF  |     |     |     |     |     |     |     |
|                 | 631427A16     | ① Fuel Manifold Valve Assembly Complete . . . . |                                 |     |     |     | RF  |     |     |     |     |     |     |
|                 | 631351A20     | ① Fuel Manifold Valve Assembly Complete . . . . |                                 |     |     |     |     |     |     |     |     | RF  |     |
|                 | 641032-1-12A2 | ① Fuel Manifold Valve Assembly Complete . . . . |                                 |     |     |     |     |     |     |     |     |     | RF  |
| -1              | 642064        | ① . Bracket . . . . .                           | 1                               | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| -1              | 634011        | ② Bracket . . . . .                             | opt                             | opt | opt | opt | opt | opt | opt | opt | opt | opt | opt |
| ATTACHING PARTS |               |                                                 |                                 |     |     |     |     |     |     |     |     |     |     |
| -2              | AN500-10-5    | . Screw, Fillister Head . . . . .               | 2                               | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| -3              | 20654         | . Washer, Lock . . . . .                        | 2                               | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   | 2   |
| * * * *         |               |                                                 |                                 |     |     |     |     |     |     |     |     |     |     |
| -4              | 631330        | . Seal . . . . .                                | 1                               | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| -5              | 626557        | . Screen . . . . .                              | 1                               | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| -6              | 627378        | . Spring . . . . .                              | 1                               | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| -6              | 630184        | . Spring . . . . .                              | 1                               | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| -7              | 626553        | . Cover . . . . .                               | 1                               | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   |
| -8              | 634325        | . Cover . . . . .                               |                                 |     |     |     |     |     |     |     |     |     | 1   |
| ATTACHING PARTS |               |                                                 |                                 |     |     |     |     |     |     |     |     |     |     |
| -9              | AN500A8-10    | . Screw . . . . .                               | 4                               | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   | 4   |

NOTES:

- ① This manifold valve assembly is used with the new style crankcase. (Backbone width 1.00 inch). To order manifold valve assembly for old style crankcase, (backbone width .76 inch), refer to the appropriate Fuel Injection System Figure for your engine.
- ② This bracket is used with the old style crankcase. (Backbone width .76 inch)

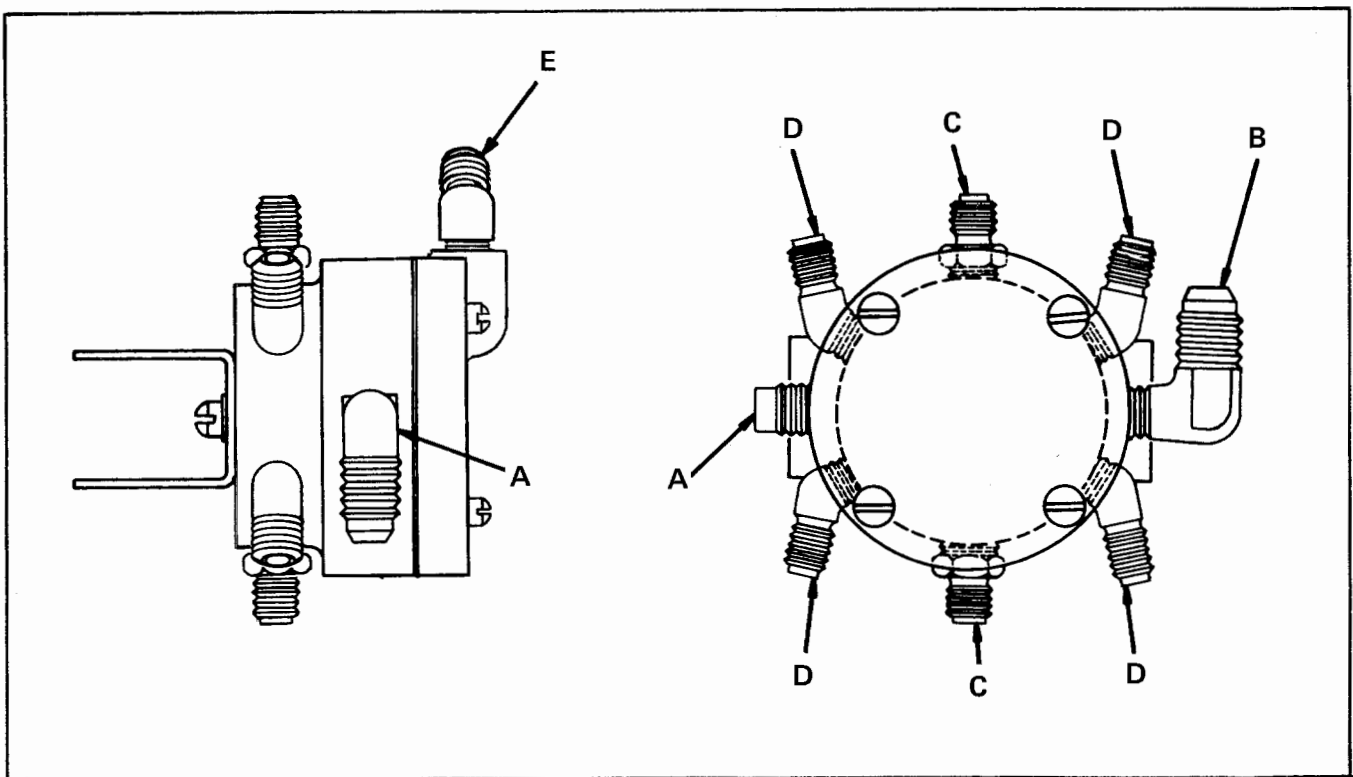


FIGURE 45. FUEL MANIFOLD VALVE FITTING LOCATIONS

|                    | Fuel Manifold<br>Assembly<br>Number | Fitting<br>"A" Number | Fitting<br>"B" Number | Fitting<br>"C" Number | Fitting<br>"D" Number | Fitting<br>"E" Number |
|--------------------|-------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| IO-520-A,D,F,J,K,L | 631351 ①                            | 631720                | 628437                | AN780-2               | 627331                | —                     |
| IO-520-BA, C, E    | 631427 ①                            | 631658                | 628437                | AN780-2               | 627331                | —                     |
| IO-520-M           | 641032 ①                            | 628437                | AN816-2B              | —                     | —                     | MS20823-4             |

NOTE: ① This part number not available. See Figure 44 for complete Manifold Valve Assembly.

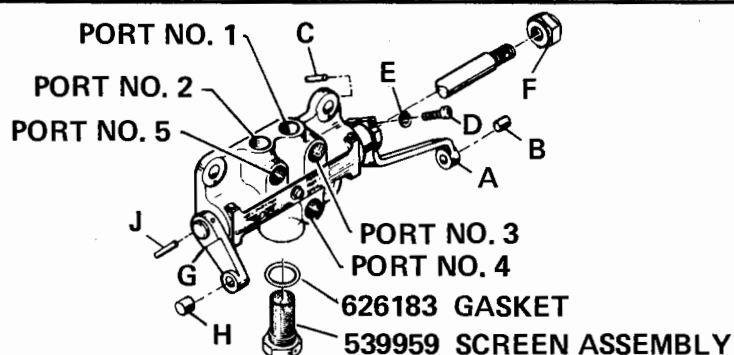


FIGURE 46. FUEL CONTROL FITTING LOCATIONS

| MODEL                               | IO-520-A, F,<br>J, K, L | IO-520-BA                  | IO-520-C               | IO-520-D               | IO-520-E                   | IO-520-M              |
|-------------------------------------|-------------------------|----------------------------|------------------------|------------------------|----------------------------|-----------------------|
| Control Assy.<br>Fuel Inj. P/N      | 629703-2 <sup>①</sup>   | 629904 <sup>①</sup>        | 632916-2 <sup>①</sup>  | 625219-2 <sup>①</sup>  | 629219-2 <sup>①</sup>      | 632916-2 <sup>①</sup> |
| Port No. 1<br>Fitting No.           | 628478                  | 630119<br>627119<br>628478 | 628478                 | 630119<br>628476       | X12470<br>627119<br>628478 | 628478                |
| Port No. 2<br>Fitting No.           | AN932C2                 | 2024<br>628476             | 2024                   | 628437                 | 628437                     | 2024                  |
| Port No. 3<br>Fitting No.           | 2024                    | AN932C2                    | 2024                   | 2024                   | 2024                       | 628478                |
| Port No. 4<br>Fitting No.           | 628478                  | 630119<br>628437           | 628437                 | 628437                 | 627642<br>2024<br>628438   | 628478                |
| Port No. 5<br>Fitting No.           | 628438                  | 628478                     | 628478                 | 2024                   | 2024                       | 628478                |
| Mixture Control<br>Lever "A" No.    | 632555-28 <sup>②</sup>  | 632081                     | 632555-35 <sup>②</sup> | 632555-33 <sup>②</sup> | 632555-46 <sup>②</sup>     | 632555-2 <sup>②</sup> |
| Bushing - Mixture<br>Lever "B" No.  | 632554-1                |                            | 632554-1               | 632554-1               | 632554-1                   | 632554-2              |
| Pin - Mixture<br>Lever "C" No.      | 626813-1                |                            |                        | 626813                 | 626813                     | 626813                |
| Screw - Mixture<br>Lever "D" No.    |                         |                            |                        | AN501-10-10            | AN501-10-10                |                       |
| Lockwasher -<br>Mixture Lever "E"   |                         |                            |                        | 13XX260                | 13XX260                    |                       |
| Castle Nut -<br>Mixture Lever "F"   |                         | MS21042-5                  | MS21042-5              |                        |                            |                       |
| Metering<br>Lever "G" No.           | 632555-5 <sup>②</sup>   | 632556 <sup>②</sup>        | 632555-2 <sup>②</sup>  | 632555-24 <sup>②</sup> | 632555-24 <sup>②</sup>     |                       |
| Bushing - Metering<br>Lever "H" No. | 632554-2                | 632554-2                   | 632554-2               | 632554-2               | 632554-2                   |                       |
| Pin - Metering<br>Lever "J" No.     | 626813                  | 626813                     | 626813                 | 626813                 | 626813                     |                       |

NOTES:

- ① This part number not available. See complete Control Assembly.
- ② These levers are a new style which incorporate hardened bushings. If replacing old style levers with no bushings, it will be necessary to order, in addition to new levers, a new link rod assembly. See appropriate application, Figures 33 thru 41.

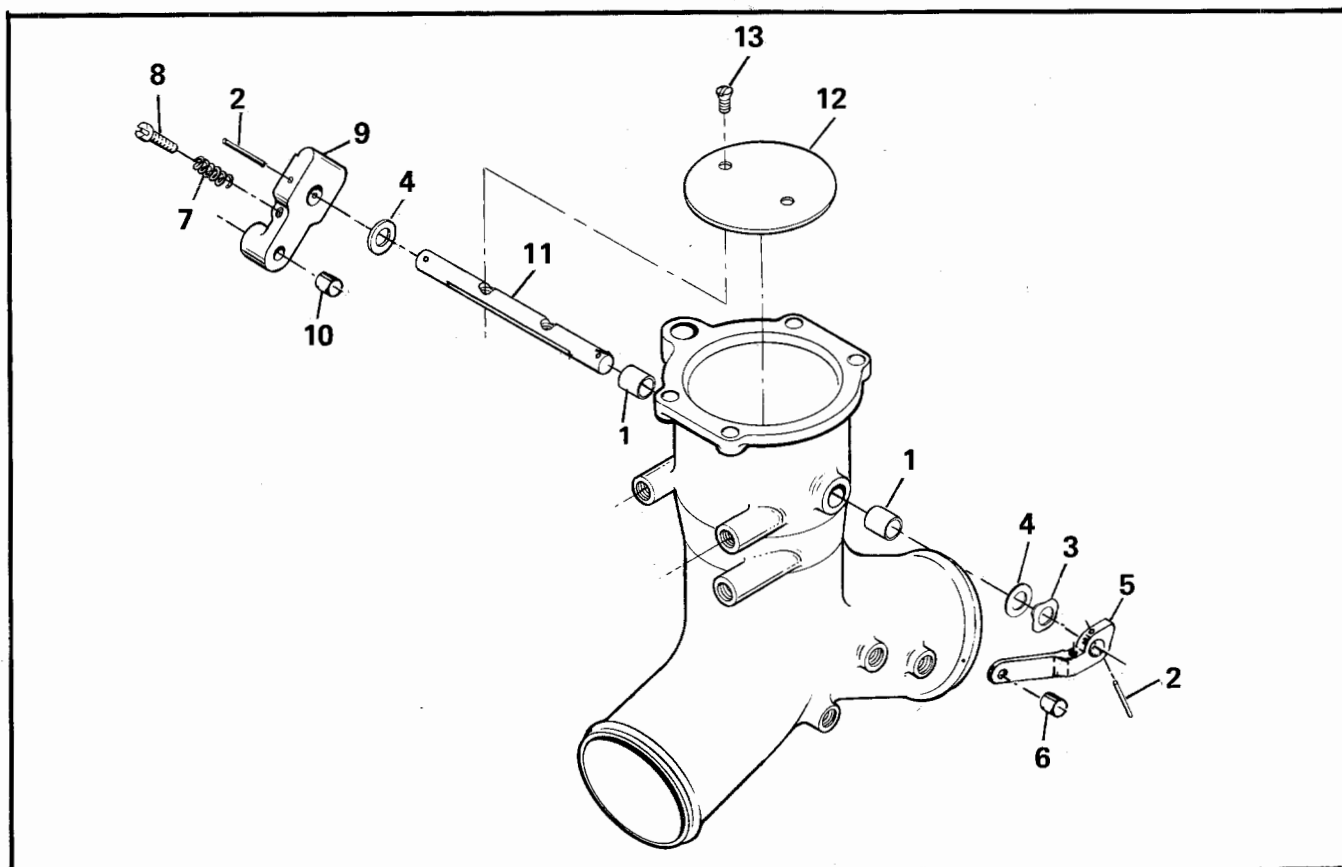


FIGURE 47. THROTTLE AND CONTROL ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                             | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |    |    |    |    |   |  |
|---------------|----------------|-----------|-----------------------------------------|---------------------------------|----|---|---|---|----|----|----|----|---|--|
|               |                |           |                                         | A                               | BA | C | D | E | F  | J  | K  | L  | M |  |
| 47-           | 629397A1       |           | Throttle and Control Assembly . . . . . | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -1            | 630455         |           | . Bushing . . . . .                     | 2                               |    |   |   |   | 2  | 2  | 2  | 2  |   |  |
| -2            | 626813         |           | . Pin . . . . .                         | 2                               |    |   |   |   | 2  | 2  | 2  | 2  |   |  |
| -3            | 625327-1       |           | . Washer, Wave . . . . .                | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -4            | 625457         |           | . Washer, Plain . . . . .               | AR                              |    |   |   |   | AR | AR | AR | AR |   |  |
| -5            | 632555-31 ①    |           | . Lever, Throttle Control . . . . .     | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -6            | 632554-1       |           | . Bushing . . . . .                     | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -7            | 626634         |           | . Spring . . . . .                      | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -8            | 639479         |           | . Screw, Adjusting . . . . .            | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -9            | 632555-23 ①    |           | . Lever . . . . .                       | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -10           | 632554-2       |           | . Bushing . . . . .                     | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -11           | 631819         |           | . Shaft, Throttle Plate . . . . .       | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -12           | 625601         |           | . Plate, Throttle . . . . .             | 1                               |    |   |   |   | 1  | 1  | 1  | 1  |   |  |
| -13           | 539942         |           | . Screw . . . . .                       | 2                               |    |   |   |   | 2  | 2  | 2  | 2  |   |  |

NOTE:

- ① These levers are a new style which incorporate hardened bushings. If replacing old style levers with no bushings, it will be necessary to order, in addition to new levers a new link rod assembly. See appropriate application Figures 33 thru 41.



| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION               | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |    |    |    |   |   |   |  |  |
|---------------|----------------|-------------------------------------|---------------------------------|----|---|---|----|----|----|---|---|---|--|--|
|               |                |                                     | A                               | BA | C | D | E  | F  | J  | K | L | M |  |  |
| 48-           | 631287A1       | Throttle and Control Assembly ..... |                                 |    |   | 1 |    |    |    |   |   |   |  |  |
|               | 639761A1       | Throttle and Control Assembly ..... |                                 |    |   |   | 1  |    |    |   |   |   |  |  |
|               | 628861A1       | Throttle and Control Assembly ..... |                                 |    |   |   |    | 1  |    |   |   |   |  |  |
| -1            | 630455         | . Bushing .....                     |                                 |    |   | 2 | 2  | 2  |    |   |   |   |  |  |
| -2            | 625238         | . Collar .....                      |                                 |    |   | 1 |    |    |    |   |   |   |  |  |
| -3            | 626813-1       | . Pin .....                         |                                 |    |   |   | 1  |    |    |   |   |   |  |  |
| -4            | 626813         | . Pin .....                         |                                 |    |   | 2 | 1  | 2  |    |   |   |   |  |  |
| -5            | 625327-1       | . Washer, Wave .....                |                                 |    |   | 1 | 1  | 1  |    |   |   |   |  |  |
| -6            | 625457         | . Washer, Plain .....               |                                 |    |   |   | AR | AR | AR |   |   |   |  |  |
| -7            | 632555-35 ①    | . Lever, Throttle, Control .....    |                                 |    |   | 1 |    |    |    |   |   |   |  |  |
| -7            | 632555-22 ①    | . Lever, Throttle, Control .....    |                                 |    |   |   | 1  |    |    |   |   |   |  |  |
| -7            | 632555-47 ①    | . Lever, Throttle, Control .....    |                                 |    |   |   |    |    | 1  |   |   |   |  |  |
| -8            | 632554-1       | . . Bushing .....                   |                                 |    |   | 1 | 1  | 1  |    |   |   |   |  |  |
| -9            | MS21042-5      | . Nut .....                         |                                 |    |   | 1 |    |    |    |   |   |   |  |  |
| -10           | 13XX260        | . Washer, Lock .....                |                                 |    |   |   |    |    | 1  |   |   |   |  |  |
| -11           | AN501-10-10    | . Screw .....                       |                                 |    |   |   |    |    | 1  |   |   |   |  |  |
| -12           | 632556 ①       | . Lever .....                       |                                 |    |   |   | 1  |    |    |   |   |   |  |  |
| -12           | 632555-44 ①    | . Lever .....                       |                                 |    |   |   |    |    | 1  | 1 |   |   |  |  |
| -13           | 632554-2       | . . Bushing .....                   |                                 |    |   |   | 1  | 1  | 1  |   |   |   |  |  |
| -14           | 626634         | . Spring .....                      |                                 |    |   |   | 1  | 1  | 1  |   |   |   |  |  |
| -15           | 639479         | . Screw, Adjusting .....            |                                 |    |   |   | 1  | 1  | 1  |   |   |   |  |  |
| -16           | 13XX18130      | . Nut .....                         |                                 |    |   |   | 1  | 1  | 1  |   |   |   |  |  |
| -17           | AN565E8H16     | . Screw, Set .....                  |                                 |    |   |   | 1  | 1  | 1  |   |   |   |  |  |
| -18           | 630379         | . Shaft, Throttle Plate .....       |                                 |    |   |   | 1  |    |    |   |   |   |  |  |
| -18           | 625600         | . Shaft, Throttle Plate .....       |                                 |    |   |   |    |    | 1  | 1 |   |   |  |  |
| -19           | 625601         | . Plate, Throttle .....             |                                 |    |   |   | 1  | 1  | 1  |   |   |   |  |  |
| -20           | 539942         | . Screw .....                       |                                 |    |   |   | 2  | 2  | 2  |   |   |   |  |  |

NOTE:

- ① These levers are a new style which incorporate hardened bushings. If replacing old style levers with no bushings, it will be necessary to order, in addition to new levers a new link rod assembly. See appropriate application Figures 33 thru 41.

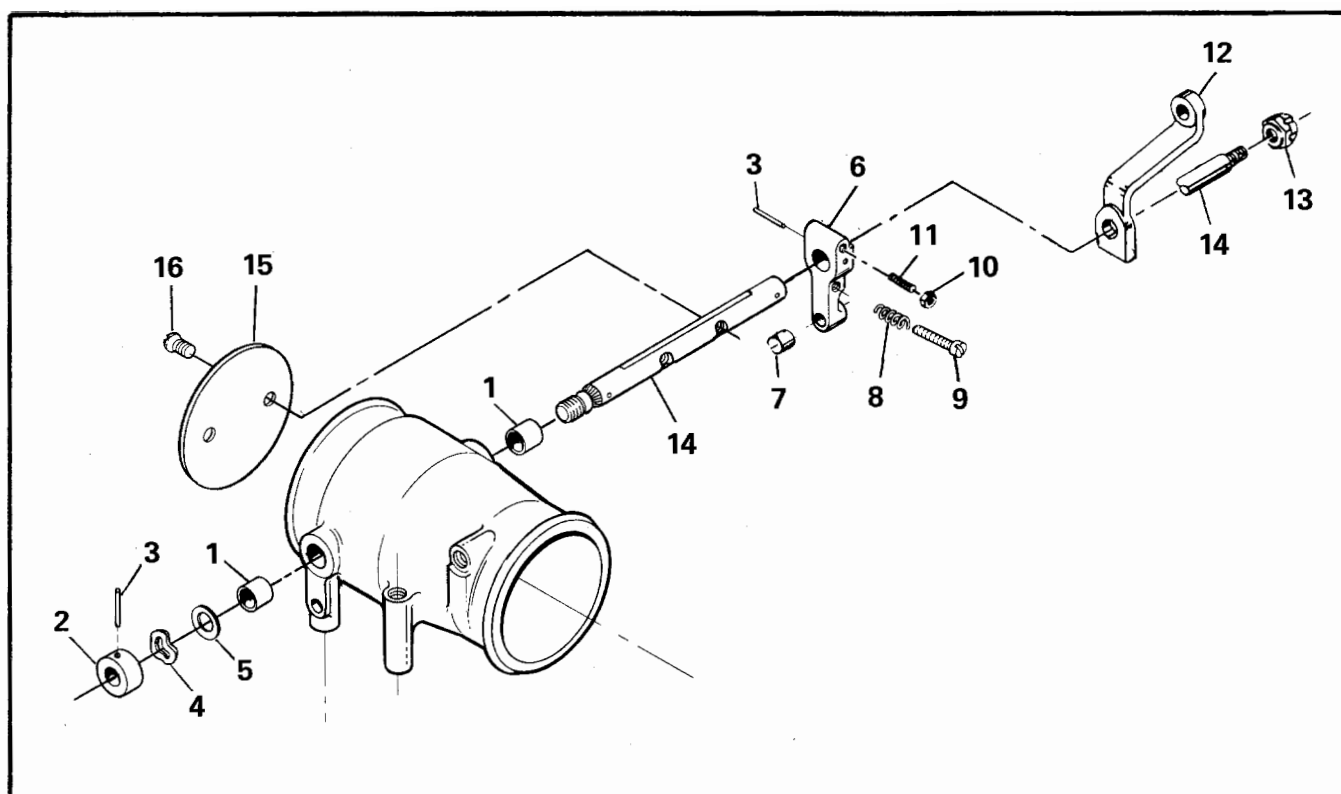


FIGURE 49. THROTTLE AND CONTROL ASSEMBLY

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                         | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |    |
|---------------|----------------|-----------|-------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|----|
|               |                |           |                                     | A                               | BA | C | D | E | F | J | K | L | M |    |
| 49-           | 631408A1       |           | Throttle and Control Assembly ..... |                                 | 1  |   |   |   |   |   |   |   |   |    |
|               | 641027         |           | Throttle and Control Assembly ..... |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -1            | 630455         |           | . Bushing .....                     |                                 | 2  |   |   |   |   |   |   |   |   | 2  |
| -2            | 625238         |           | . Collar .....                      |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -3            | 626813         |           | . Pin .....                         |                                 | 2  |   |   |   |   |   |   |   |   | 2  |
| -4            | 625327-2       |           | . Washer, Wave .....                |                                 | 1  |   |   |   |   |   |   |   |   |    |
| -4            | 625327-1       |           | . Washer, Wave .....                |                                 |    |   |   |   |   |   |   |   |   | 1  |
| -5            | 625457         |           | . Washer, Plain .....               |                                 | AR |   |   |   |   |   |   |   |   |    |
| -5            | 625457-1       |           | . Washer, Plain .....               |                                 |    |   |   |   |   |   |   |   |   | AR |
| -6            | 632556         | ①         | . Lever, Throttle Control .....     |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -7            | 632554-2       |           | . Bushing .....                     |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -8            | 626634         |           | . Spring .....                      |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -9            | 639479         |           | . Screw, Adjusting .....            |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -10           | 13XX18130      |           | . Nut .....                         |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -11           | AN565E8H16     |           | . Screw, Set .....                  |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -12           | 632081         |           | . Lever .....                       |                                 | 1  |   |   |   |   |   |   |   |   |    |
| -13           | MS21042-5      |           | . Nut .....                         |                                 | 1  |   |   |   |   |   |   |   |   |    |
| -14           | 630124         |           | . Shaft, Throttle Plate .....       |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -15           | 625601         |           | . Plate, Throttle .....             |                                 | 1  |   |   |   |   |   |   |   |   | 1  |
| -16           | 539942         |           | . Screw .....                       |                                 | 2  |   |   |   |   |   |   |   |   | 2  |

NOTE:

- ① This lever is a new style which incorporates a hardened bushing. If replacing old style lever with no bushing, it will be necessary to order, in addition to a new lever a new link rod assembly. See appropriate application Figures 33 thru 41.

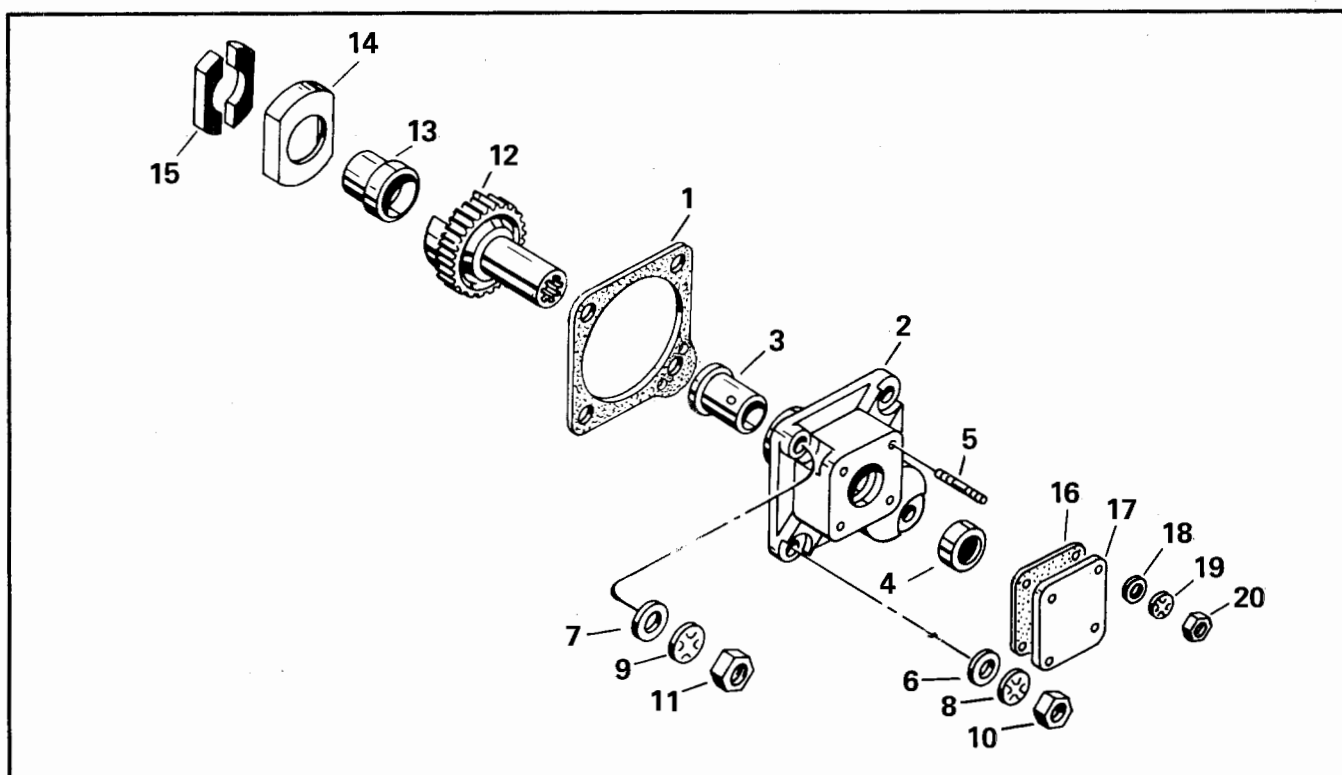


FIGURE 50. MAGNETO AND ACCESSORY DRIVE ASSEMBLY

| FIG. PART<br>INDEX NUMBER |            |    | 1 2 3 4 5 DESCRIPTION                      | QUANTITY PER ASSEMBLY<br>IO-520 |    |   |   |   |   |   |   |   |   |
|---------------------------|------------|----|--------------------------------------------|---------------------------------|----|---|---|---|---|---|---|---|---|
|                           |            |    |                                            | A                               | BA | C | D | E | F | J | K | L | M |
| 50- 1                     | 534863     | \$ | Gasket, Adapter-to-Crankcase .....         | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| -2                        | 632653A1   |    | Adapter Assy., Magneto & Accy. Drive ..... | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|                           |            |    | * * * *                                    |                                 |    |   |   |   |   |   |   |   |   |
| -3                        | 632330     | .  | Bushing, Adapter .....                     | 1                               | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| -4                        | 25102      | \$ | . Seal, Oil .....                          | 1                               | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| -5                        | 25008      | †  | . Stud, 1/4 x 1-13/32 Inch Long .....      | 4                               | 4  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| -6                        | 2473       |    | Washer, Plain .....                        | 6                               | 6  | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| -7                        | 401507     |    | Washer, Plain .....                        | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| -8                        | MS35338-45 |    | Washer, Lock .....                         | 6                               | 6  | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| -9                        | MS35338-46 |    | Washer, Lock .....                         | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| -10                       | 2439       |    | Nut, Plain Hex, 5/16 - 24 .....            | 6                               | 6  | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| -11                       | 2441       |    | Nut, Plain Hex, 3/8 - 24 .....             | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| -12                       | 629076     |    | Gear Assembly, Magneto & Accy. Drive ..... | 2                               |    |   | 2 | 2 | 2 | 2 | 2 |   |   |
| -12                       | 629422     |    | Gear Assembly, Magneto & Accy. Drive ..... |                                 | 2  | 2 |   |   |   |   |   |   | 2 |
| -13                       | 629077     | .  | Sleeve, Drive Gear .....                   | 1                               | 1  | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| -14                       | 531178     |    | Retainer, Magneto Drive Coupling .....     | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| -15                       | 638172     |    | Bushing, Drive Coupling, Rubber .....      | 4                               | 4  | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| -16                       | MS9134-01  | \$ | Gasket, Adapter-to-Cover .....             | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| -17                       | 640380     |    | Cover, Accessory Drive .....               | 2                               | 2  | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
|                           |            |    | ATTACHING PART                             |                                 |    |   |   |   |   |   |   |   |   |
| -18                       | 2472       |    | Washer, Plain .....                        | 8                               | 8  | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| -19                       | MS35338-44 |    | Washer, Lock .....                         | 8                               | 8  | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |
| -20                       | 2437       |    | Nut, Plain, Hex, 1/4 - 28 .....            | 8                               | 8  | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 |

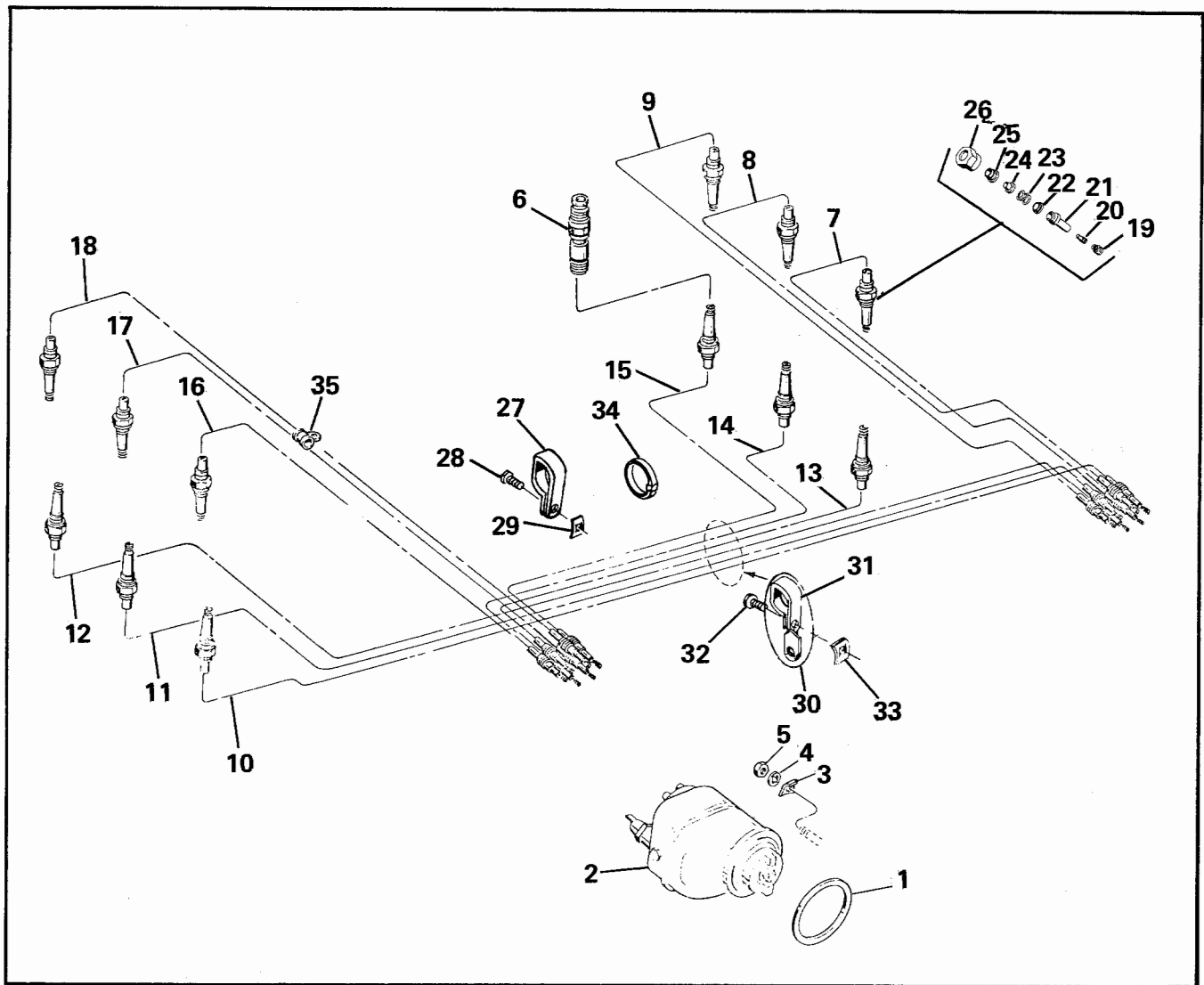


FIGURE 51. IGNITION SYSTEM

| FIG. PART       |            |           |                                               |    | QUANTITY PER ASSEMBLY |   |    |   |    |    |   |    |   |  |
|-----------------|------------|-----------|-----------------------------------------------|----|-----------------------|---|----|---|----|----|---|----|---|--|
| INDEX           | NUMBER     | 1 2 3 4 5 | DESCRIPTION                                   | A  | BA                    | C | D  | E | F  | J  | K | L  | M |  |
| 51- 1           | 534750     | \$        | Gasket, Magneto-to-Crankcase .....            | 2  |                       |   | 2  |   | 2  | 2  |   | 2  |   |  |
| -2              | 625765     |           | Magneto Assembly .....                        | 2  |                       |   | 2  |   | 2  | 2  |   | 2  |   |  |
| ATTACHING PARTS |            |           |                                               |    |                       |   |    |   |    |    |   |    |   |  |
| -3              | 535847     |           | Washer, Magneto Holding .....                 | 4  |                       |   | 4  |   | 4  | 4  |   | 4  |   |  |
| -4              | MS35338-45 |           | Washer, Lock .....                            | 4  |                       |   | 4  |   | 4  | 4  |   | 4  |   |  |
| -5              | 2439       |           | Nut .....                                     | 4  |                       |   | 4  |   | 4  | 4  |   | 4  |   |  |
| * * * *         |            |           |                                               |    |                       |   |    |   |    |    |   |    |   |  |
| -6              | 634675     |           | Spark Plug .....                              | 12 |                       |   | 12 |   | 12 | 12 |   | 12 |   |  |
|                 | 633311     |           | Harness Assembly .....                        | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -7              | 633580     | ①         | . Cable Assy., No. 1 Upper, 19 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -8              | 633580     | ①         | . Cable Assy., No. 3 Upper, 21 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -9              | 633579     | ①         | . Cable Assy., No. 5 Upper, 28 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -10             | 633579     | ①         | . Cable Assy., No. 2 Lower, 43 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -11             | 633579     | ①         | . Cable Assy., No. 4 Lower, 39 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -12             | 633579     | ①         | . Cable Assy., No. 6 Lower, 42 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -13             | 633579     | ①         | . Cable Assy., No. 1 Lower, 38 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -14             | 633579     | ①         | . Cable Assy., No. 3 Lower, 42 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -15             | 633579     | ①         | . Cable Assy., No. 5 Lower, 50 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -16             | 633580     | ①         | . Cable Assy., No. 2 Upper, 21 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -17             | 633580     | ①         | . Cable Assy., No. 4 Upper, 18 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -18             | 633580     | ①         | . Cable Assy., No. 6 Upper, 25 Inch Long .... | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -19             | 633586     | .         | . Spring .....                                | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -20             | 633585     | .         | . Electrode .....                             | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -21             | 633591     | .         | . Sleeve, Insulator .....                     | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -22             | 633592     | .         | . Washer .....                                | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -23             | 633590     | .         | . Spring .....                                | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -24             | 633583     | .         | . Ferrule .....                               | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -25             | 633589     | .         | . Ferrule .....                               | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -26             | 633593     | .         | . Nut, Spark Plug End .....                   | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -27             | 636692     | .         | . Clamp Assembly .....                        | 2  |                       |   | 2  |   | 2  | 2  |   | 2  |   |  |
| -28             | 636921     | .         | . Screw .....                                 | 2  |                       |   | 2  |   | 2  | 2  |   | 2  |   |  |
| -29             | 636920     | .         | . Nut, Tinnerman .....                        | 2  |                       |   | 2  |   | 2  | 2  |   | 2  |   |  |
| -30             | 636922     | .         | . Clamp Assembly .....                        | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -31             | 636919     | .         | . Clamp .....                                 | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -32             | 636687     | .         | . Screw .....                                 | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -33             | 633927     | .         | . Nut, Tinnerman .....                        | 1  |                       |   | 1  |   | 1  | 1  |   | 1  |   |  |
| -34             | 633926     | .         | . Ty-Rap .....                                | 10 |                       |   | 10 |   | 10 | 10 |   | 10 |   |  |
| -35             | 633925     | .         | . Clamp .....                                 | 15 |                       |   | 15 |   | 15 | 15 |   | 15 |   |  |

NOTE:

- ① Replacement cable assemblies are sold in two lengths only, with magneto end not terminated.  
633580 Cable Assembly for leads up to 28 inches long.  
633579 Cable Assembly for leads up to 50 inches long.

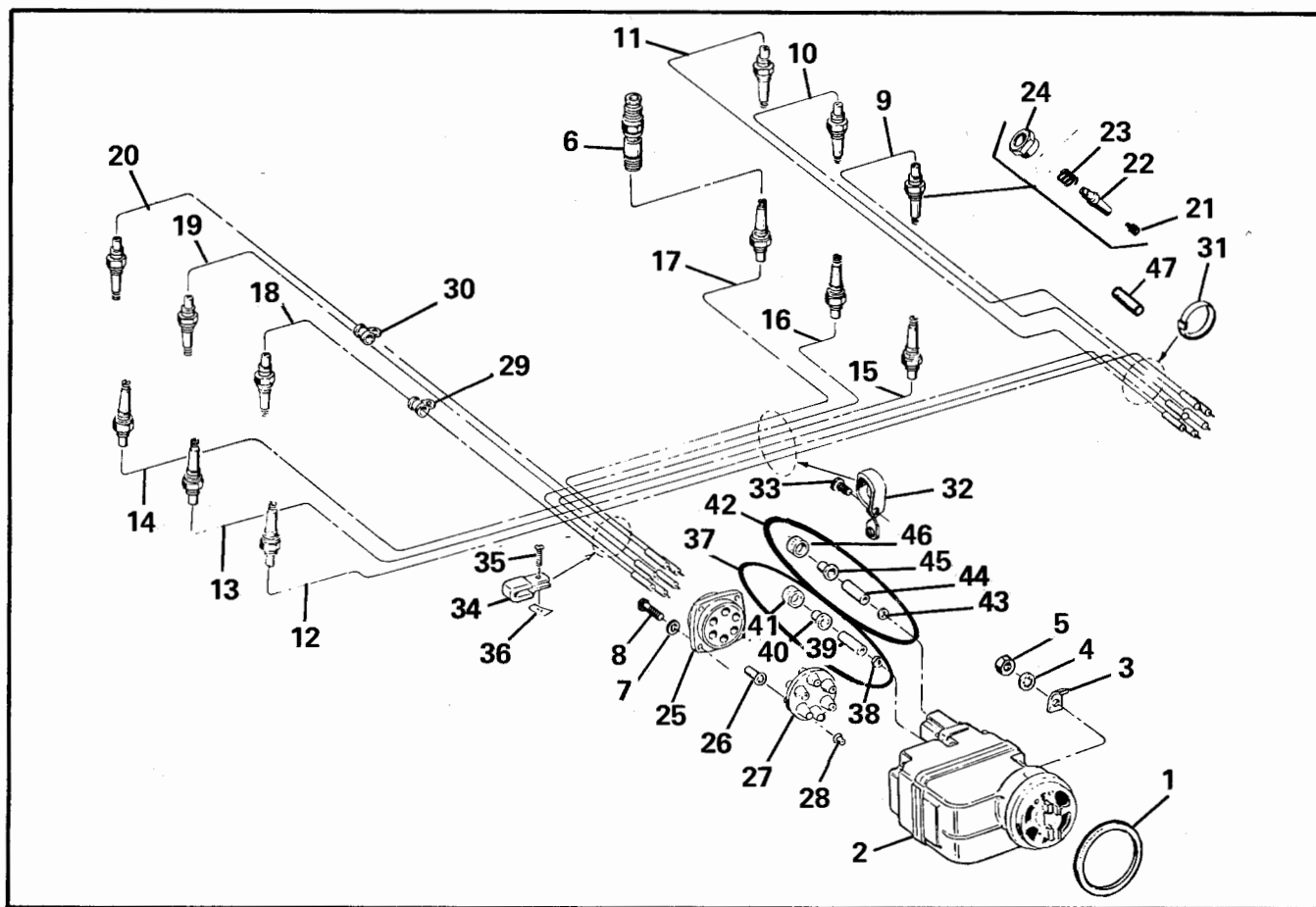


FIGURE 52. IGNITION SYSTEM

TABULATED CABLE LENGTHS

|                  |    | BA    | C     | E & K |                 |    | BA    | C     | E & K |
|------------------|----|-------|-------|-------|-----------------|----|-------|-------|-------|
| RIGHT<br>MAGNETO | 1T | 15.31 | 14.44 | 15.44 | LEFT<br>MAGNETO | 1B | 35.81 | 35.94 | 35.44 |
|                  | 2B | 39.31 | 37.94 | 38.94 |                 | 2T | 22.31 | 19.94 | 19.94 |
|                  | 3T | 20.31 | 18.94 | 19.94 |                 | 3B | 40.81 | 40.44 | 40.44 |
|                  | 4B | 35.81 | 35.44 | 35.44 |                 | 4T | 18.81 | 16.44 | 17.44 |
|                  | 5T | 28.31 | 27.94 | 27.94 |                 | 5B | 47.81 | 46.94 | 47.44 |
|                  | 6B | 42.31 | 41.44 | 41.94 |                 | 6T | 26.81 | 23.94 | 22.94 |

| FIG.            |            | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                        | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |   |    |   |   |    |   |   |
|-----------------|------------|----------------|-----------|------------------------------------|---------------------------------|----|----|---|----|---|---|----|---|---|
| INDEX           |            |                |           |                                    | A                               | BA | C  | D | E  | F | J | K  | L | M |
| 52- 1           | 534750     | \$             |           | Gasket, Magneto-to-Crankcase ..... |                                 | 2  | 2  |   | 2  |   |   | 2  |   |   |
| -2              | 628472     |                |           | Magneto Assembly, L.H. ....        |                                 | 1  |    |   | 1  |   |   |    |   |   |
| -2              | 628473     |                |           | Magneto Assembly, R.H. ....        |                                 | 1  |    |   | 1  |   |   |    |   |   |
| -2              | 632958     |                |           | Magneto Assembly, L.H. ....        |                                 |    | 1  |   |    |   |   |    |   |   |
| -2              | 632959     |                |           | Magneto Assembly, R. H. ....       |                                 |    | 1  |   |    |   |   |    |   |   |
| -2              | 631237     |                |           | Magneto Assembly .....             |                                 |    |    |   |    |   |   | 2  |   |   |
| ATTACHING PARTS |            |                |           |                                    |                                 |    |    |   |    |   |   |    |   |   |
| -3              | 535847     |                |           | Washer, Magneto Holding .....      |                                 | 4  | 4  |   | 4  |   |   | 4  |   |   |
| -4              | MS35338-45 |                |           | Washer, Lock .....                 |                                 | 4  | 4  |   | 4  |   |   | 4  |   |   |
| -5              | 2439       |                |           | Nut .....                          |                                 | 4  | 4  |   | 4  |   |   | 4  |   |   |
| * * * *         |            |                |           |                                    |                                 |    |    |   |    |   |   |    |   |   |
| -6              | 634675     |                |           | Spark, Plug .....                  |                                 | 12 | 12 |   | 12 |   |   | 12 |   |   |

| FIG.<br>INDEX   | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                        | QUANTITY PER ASSEMBLY<br>IO-520 |    |    |   |    |   |   |   |    |   |  |
|-----------------|----------------|----------------------------------------------|---------------------------------|----|----|---|----|---|---|---|----|---|--|
|                 |                |                                              | A                               | BA | C  | D | E  | F | J | K | L  | M |  |
| 52 -            | 636953         | Harness Assembly, Ignition .....             |                                 | 1  |    |   |    |   |   |   |    |   |  |
|                 | 636951         | Harness Assembly, Ignition .....             |                                 |    | 1  |   |    |   |   |   |    |   |  |
|                 | 636954         | Harness Assembly, Ignition .....             |                                 |    |    |   | 1  |   |   |   | 1  |   |  |
| ATTACHING PARTS |                |                                              |                                 |    |    |   |    |   |   |   |    |   |  |
| -7              | 25321          | Washer, Lock .....                           |                                 | 8  | 8  |   | 8  |   |   |   | 8  |   |  |
| -8              | 25320          | Screw .....                                  |                                 | 8  | 8  |   | 8  |   |   |   | 8  |   |  |
| * * * * *       |                |                                              |                                 |    |    |   |    |   |   |   |    |   |  |
| -9              | 637409-48 ①    | Cable Assembly No. 1 Upper .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -10             | 637409-48 ①    | Cable Assembly No. 3 Upper .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -11             | 637409-48 ①    | Cable Assembly No. 5 Upper .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -12             | 637409-48 ①    | Cable Assembly No. 2 Lower .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -13             | 637409-48 ①    | Cable Assembly No. 4 Lower .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -14             | 637409-48 ①    | Cable Assembly No. 6 Lower .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -15             | 637409-48 ①    | Cable Assembly No. 1 Lower .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -16             | 637409-48 ①    | Cable Assembly No. 3 Lower .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -17             | 637409-48 ①    | Cable Assembly No. 5 Lower .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -18             | 637409-48 ①    | Cable Assembly No. 2 Upper .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -19             | 637409-48 ①    | Cable Assembly No. 4 Upper .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -20             | 637409-48 ①    | Cable Assembly No. 6 Upper .....             |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -21             | 629506         | Spring, Spark Plug Terminal .....            |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -22             | 629505         | Sleeve, Spark Plug Terminal .....            |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -23             | 629504         | Spring .....                                 |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -24             | 629502         | Nut, Spark Plug End .....                    |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -25             | 633009         | Plate, Cable Outlet .....                    |                                 | 1  |    |   | 1  |   |   |   | 1  |   |  |
| -25             | 638139         | Plate, Cable Outlet .....                    |                                 |    | 1  |   |    |   |   |   |    |   |  |
| -26             | 629498         | Ferrule, Cable .....                         |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -27             | 629496         | Grommet, Plate .....                         |                                 | 1  |    |   | 1  |   |   |   | 1  |   |  |
| -27             | 635361         | Grommet, Plate .....                         |                                 |    | 1  |   |    |   |   |   |    |   |  |
| -28             | 629495         | Eyelet, Cable Contact .....                  |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -29             | 632106         | Clamp .....                                  |                                 | 13 | 13 |   | 13 |   |   |   | 13 |   |  |
| -30             | 631737-2       | Clamp .....                                  |                                 | 2  | 2  |   | 2  |   |   |   | 2  |   |  |
| -31             | 629494         | Strap .....                                  |                                 | 9  | 9  |   | 9  |   |   |   | 9  |   |  |
| -32             | 635363         | Clamp Assembly .....                         |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -33             | 635360         | Screw .....                                  |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -34             | 631739         | Clamp .....                                  |                                 | 2  | 2  |   | 2  |   |   |   | 2  |   |  |
| -35             | 632105         | Screw .....                                  |                                 | 2  | 2  |   | 2  |   |   |   | 2  |   |  |
| -36             | 629837         | Nut, Speed .....                             |                                 | 2  | 2  |   | 2  |   |   |   | 2  |   |  |
| -37             | 628739         | Kit, Retard Terminal, L.H. Magneto .....     |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -38             | 629010         | Washer .....                                 |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -39             | 629009         | Bushing, Insulated .....                     |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -40             | 629008         | Bushing, Shouldered .....                    |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -41             | 629007         | Nut, Coupling, 3/8 - 32 .....                |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -42             | 628740         | Kit, Ground Terminal, L.H. & R.H. Magneto .. |                                 | 2  | 2  |   | 2  |   |   |   | 2  |   |  |
| -43             | 629010         | Washer .....                                 |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -44             | 629009         | Bushing, Insulated .....                     |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -45             | 629008         | Bushing, Shouldered .....                    |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -46             | 629011         | Nut, Coupling, 7/16 - 28 .....               |                                 | 1  | 1  |   | 1  |   |   |   | 1  |   |  |
| -47             | 635991         | Tubing, Spiral .....                         |                                 |    | AR |   |    |   |   |   |    |   |  |
| -48             | 641519         | ②Shield, Water .....                         |                                 |    | 2  |   |    |   |   |   |    |   |  |

NOTE:

- ① Service leads furnished in two lengths only, with magneto ends not terminated.  
637409-48 Cable Assembly for leads up to 48 inches long.  
637409-72 Cable Assembly for leads up to 72 inches long.

② Not Illustrated

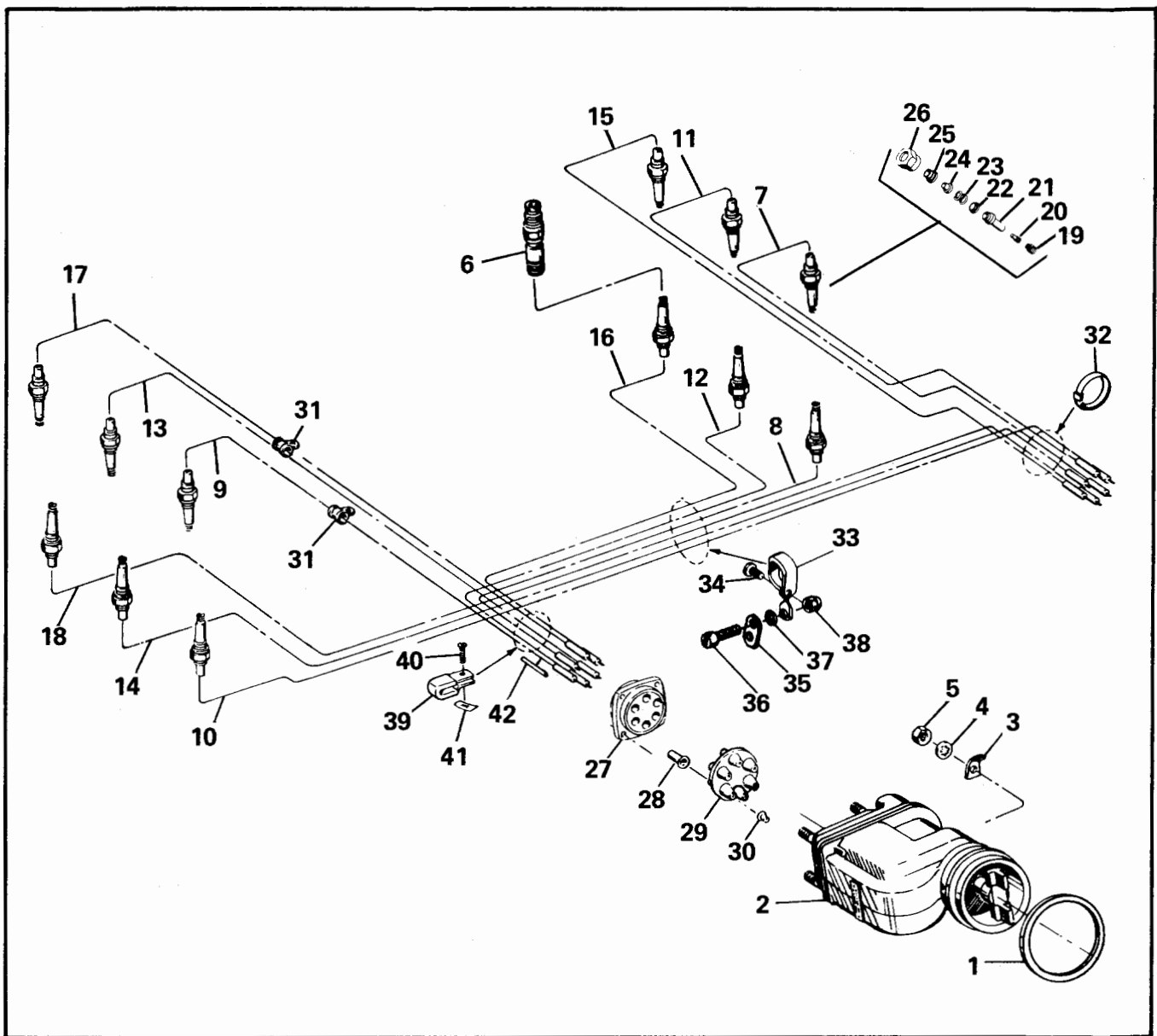


FIGURE 53. IGNITION SYSTEM

| FIG.<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 DESCRIPTION                          | QUANTITY PER ASSEMBLY<br>IO-520 |   |   |   |   |   |   |   |   |   |    |
|---------------|----------------|------------------------------------------------|---------------------------------|---|---|---|---|---|---|---|---|---|----|
|               |                |                                                | A                               | B | A | C | D | E | F | J | K | L | M  |
| 53- 1         | 534750         | \$ Gasket, Magneto-to-Crankcase .....          |                                 |   |   |   |   |   |   |   |   |   | 2  |
| -2            | 628472         | Magneto Assembly, L.H. ....                    |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -2            | 628473         | Magneto Assembly, R.H. ....                    |                                 |   |   |   |   |   |   |   |   |   | 1  |
|               |                | ATTACHING PARTS                                |                                 |   |   |   |   |   |   |   |   |   |    |
| -3            | 535847         | Washer, Magneto Holding .....                  |                                 |   |   |   |   |   |   |   |   |   | 4  |
| -4            | MS35338-45     | Washer, Lock .....                             |                                 |   |   |   |   |   |   |   |   |   | 4  |
| -5            | 2439           | Nut, Plain, Hex .....                          |                                 |   |   |   |   |   |   |   |   |   | 4  |
|               |                | * * * *                                        |                                 |   |   |   |   |   |   |   |   |   |    |
| -6            | 634675         | Spark Plug .....                               |                                 |   |   |   |   |   |   |   |   |   | 12 |
|               | 636415         | Harness Assembly .....                         |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -7            | 633580         | ① . Lead Assy. No. 1 Upper, 19.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -8            | 633579         | ① . Lead Assy. No. 1 Lower, 38.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -9            | 633580         | ① . Lead Assy. No. 2 Upper, 21.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -10           | 633579         | ① . Lead Assy. No. 2 Lower, 43.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -11           | 633580         | ① . Lead Assy. No. 3 Upper, 21.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -12           | 633579         | ① . Lead Assy. No. 3 Lower, 42.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -13           | 633580         | ① . Lead Assy. No. 4 Upper, 18.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -14           | 633579         | ① . Lead Assy. No. 4 Lower, 39.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -15           | 633580         | ① . Lead Assy. No. 5 Upper, 28.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -16           | 633579         | ① . Lead Assy. No. 5 Lower, 50.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -17           | 633580         | ① . Lead Assy. No. 6 Upper, 25.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -18           | 633579         | ① . Lead Assy. No. 6 Lower, 42.00 Inch Long .. |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -19           | 633590         | . . Spring, Spark Plug Terminal .....          |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -20           | 633585         | . . Electrode Screw .....                      |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -21           | 633591         | . . Sleeve, Spark Plug Terminal .....          |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -22           | 633592         | . . Washer .....                               |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -23           | 633586         | . . Spring .....                               |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -24           | 633583         | ② . Ferrule .....                              |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -25           | 633589         | ② . Ferrule, Nut End .....                     |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -26           | 633593         | . . Nut, Plug End .....                        |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -27           | 633009         | ③ . Plate, Cable Outlet .....                  |                                 |   |   |   |   |   |   |   |   |   | 2  |
| -28           | 635699         | . Ferrule, Cable .....                         |                                 |   |   |   |   |   |   |   |   |   | 12 |
| -29           | 629496         | . Grommet .....                                |                                 |   |   |   |   |   |   |   |   |   | 2  |
| -30           | 635700         | . Eyelet .....                                 |                                 |   |   |   |   |   |   |   |   |   | 12 |
| -31           | 633925         | . Clamp .....                                  |                                 |   |   |   |   |   |   |   |   |   | 12 |
| -32           | 633926         | . Strap .....                                  |                                 |   |   |   |   |   |   |   |   |   | 9  |
| -33           | 633924         | . Clamp .....                                  |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -34           | 633928         | . Screw .....                                  |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -35           | 636150         | . Bracket .....                                |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -36           | 635988-8       | . Screw .....                                  |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -37           | 635990-5       | . Washer, Lock .....                           |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -38           | 635989         | . Nut .....                                    |                                 |   |   |   |   |   |   |   |   |   | 1  |
| -39           | 636692         | . Clamp .....                                  |                                 |   |   |   |   |   |   |   |   |   | 2  |
| -40           | 633928         | . Screw .....                                  |                                 |   |   |   |   |   |   |   |   |   | 2  |
| -41           | 633927         | . Nut .....                                    |                                 |   |   |   |   |   |   |   |   |   | 2  |
| -42           | 635991         | . Tubing, Spiral .....                         |                                 |   |   |   |   |   |   |   |   |   | 1  |

NOTES:

- ① Service leads are furnished in two lengths only, with magneto end not terminated. Cut to length specified in description column. (Part number 633580 for leads up to 28 inches in length and part number 633579 for leads up to 50 inches in length.)
- ② Service sleeves Use Thomas and Betts Crimping Tool, No. WT-217.
- ③ Attaching hardware furnished as part of magneto assembly.



### SECTION III

### OVERSIZE AND UNDERSIZE PARTS LIST

| PART NO.    | NAME            | DESCRIPTION     | PART NO.   | NAME | DESCRIPTION    |
|-------------|-----------------|-----------------|------------|------|----------------|
| 35967P005   | Insert          | .005" OS on OD  | 401860P003 | Stud | .003" OS on PD |
| 35967P010   | Insert          | .010" OS on OD  | 401860P007 | Stud | .007" OS on PD |
| 35967P015   | Insert          | .015" OS on OD  | 401860P012 | Stud | .012" OS on PD |
| 35967P020   | Insert          | .020" OS on OD  |            |      |                |
| 35967P030   | Insert          | .030" OS on OD  | 401863P003 | Stud | .003" OS on PD |
|             |                 |                 | 401863P007 | Stud | .007" OS on PD |
|             |                 |                 | 401863P012 | Stud | .012" OS on PD |
| 350998P0015 | Bushing-C/Shaft | .0015" OS on OD |            |      |                |
| 350998P003  | Bushing-C/Shaft | .003" OS on OD  | 401870P003 | Stud | .003" OS on PD |
| 350998P005  | Bushing-C/Shaft | .005" OS on OD  | 401870P007 | Stud | .007" OS on PD |
|             |                 |                 | 401870P012 | Stud | .012" OS on PD |
| 401800P003  | Stud            | .003" OS on PD  |            |      |                |
| 401800P007  | Stud            | .007" OS on PD  | 401873P003 | Stud | .003" OS on PD |
| 401800P012  | Stud            | .012" OS on PD  | 401873P007 | Stud | .007" OS on PD |
|             |                 |                 | 401873P012 | Stud | .012" OS on PD |
| 401801P003  | Stud            | .003" OS on PD  |            |      |                |
| 401801P007  | Stud            | .007" OS on PD  | 401881P003 | Stud | .003" OS on PD |
| 401801P012  | Stud            | .012" OS on PD  | 401881P007 | Stud | .007" OS on PD |
|             |                 |                 | 401881P012 | Stud | .012" OS on PD |
| 401804P003  | Stud            | .003" OS on PD  |            |      |                |
| 401804P007  | Stud            | .007" OS on PD  | 401885P003 | Stud | .003" OS on PD |
| 401804P012  | Stud            | .012" OS on PD  | 401885P007 | Stud | .007" OS on PD |
|             |                 |                 | 401885P012 | Stud | .012" OS on PD |
| 401808P003  | Stud            | .003" OS on PD  |            |      |                |
| 401808P007  | Stud            | .007" OS on PD  | 401893P003 | Stud | .003" OS on PD |
| 401808P012  | Stud            | .012" OS on PD  | 401893P007 | Stud | .007" OS on PD |
|             |                 |                 | 401893P012 | Stud | .012" OS on PD |
| 401814P003  | Stud            | .003" OS on PD  |            |      |                |
| 401814P007  | Stud            | .007" OS on PD  | 401895P003 | Stud | .003" OS on PD |
| 401814P012  | Stud            | .012" OS on PD  | 401895P007 | Stud | .007" OS on PD |
|             |                 |                 | 401895P012 | Stud | .012" OS on PD |
| 401816P003  | Stud            | .003" OS on PD  |            |      |                |
| 401816P007  | Stud            | .007" OS on PD  | 401899P003 | Stud | .003" OS on PD |
| 401816P012  | Stud            | .012" OS on PD  | 401899P007 | Stud | .007" OS on PD |
|             |                 |                 | 401899P012 | Stud | .012" OS on PD |
| 401832P003  | Stud            | .003" OS on PD  |            |      |                |
| 401832P007  | Stud            | .007" OS on PD  | 401927P003 | Stud | .003" OS on PD |
| 401832P012  | Stud            | .012" OS on PD  | 401927P007 | Stud | .007" OS on PD |
|             |                 |                 | 401927P012 | Stud | .012" OS on PD |
| 401842P003  | Stud            | .003" OS on PD  |            |      |                |
| 401842P007  | Stud            | .007" OS on PD  | 401932P003 | Stud | .003" OS on PD |
| 401842P012  | Stud            | .012" OS on PD  | 401932P007 | Stud | .007" OS on PD |
|             |                 |                 | 401932P012 | Stud | .012" OS on PD |
| 401852P003  | Stud            | .003" OS on PD  |            |      |                |
| 401852P007  | Stud            | .007" OS on PD  | 401936P003 | Stud | .003" OS on PD |
| 401852P012  | Stud            | .012" OS on PD  | 401936P007 | Stud | .007" OS on PD |
|             |                 |                 | 401936P012 | Stud | .012" OS on PD |

| PART NO.   | NAME | DESCRIPTION    | PART NO.     | NAME            | DESCRIPTION    |
|------------|------|----------------|--------------|-----------------|----------------|
| 401944P003 | Stud | .003" OS on PD | 402159P003   | Stud            | .003" OS on PD |
| 401944P007 | Stud | .007" OS on PD | 402159P007   | Stud            | .007" OS on PD |
| 401944P012 | Stud | .012" OS on PD | 402159P012   | Stud            | .012" OS on PD |
| 401950P003 | Stud | .003" OS on PD | 402359P003   | Stud            | .003" OS on PD |
| 401950P007 | Stud | .007" OS on PD | 402359P007   | Stud            | .007" OS on PD |
| 401950P012 | Stud | .012" OS on PD | 402359P012   | Stud            | .012" OS on PD |
| 401962P003 | Stud | .003" OS on PD | 402711P003   | Stud            | .003" OS on PD |
| 401962P007 | Stud | .007" OS on PD | 402711P007   | Stud            | .007" OS on PD |
| 401962P012 | Stud | .012" OS on PD | 402711P012   | Stud            | .012" OS on PD |
| 401963P003 | Stud | .003" OS on PD | 524183P003   | Stud            | .003" OS on PD |
| 401963P007 | Stud | .007" OS on PD | 524183P007   | Stud            | .007" OS on PD |
| 401963P012 | Stud | .012" OS on PD | 524183P012   | Stud            | .012" OS on PD |
| 401965P003 | Stud | .003" OS on PD | 535661P020   | Camshaft        | .020" OS on OD |
| 401965P007 | Stud | .007" OS on PD | 536563P005   | Dowel           | .005" OS on OD |
| 401965P012 | Stud | .012" OS on PD | 538404P003   | Stud            | .003" OS on PD |
| 401971P003 | Stud | .003" OS on PD | 538404P007   | Stud            | .007" OS on PD |
| 401971P007 | Stud | .007" OS on PD | 538404P012   | Stud            | .012" OS on PD |
| 401971P012 | Stud | .012" OS on PD | 539800M015   | Spring-Clutch   | .015" US on ID |
| 401977P003 | Stud | .003" OS on PD | 626739M001   | Collar-Gov.     | .001" US on ID |
| 401977P007 | Stud | .007" OS on PD | 626739M010   | Collar-Gov.     | .010" US on ID |
| 401977P012 | Stud | .012" OS on PD | 626739M011   | Collar-Gov.     | .011" US on ID |
| 402034P003 | Stud | .003" OS on PD | 628750M010   | Bearing-C/Rod   | .010" US on ID |
| 402034P007 | Stud | .007" OS on PD | 629401P005   | Ring - Piston   | .005" OS on OD |
| 402034P012 | Stud | .012" OS on PD | 629401P010   | Ring - Piston   | .010" OS on OD |
| 402066P003 | Stud | .003" OS on PD | 629401P015   | Ring - Piston   | .015" OS on OD |
| 402066P007 | Stud | .007" OS on PD | 629726A3P020 | Camshaft        | .020" OS on OD |
| 402066P012 | Stud | .012" OS on PD | 630046P005   | Pin-Piston      | .005" OS on OD |
| 402127P003 | Stud | .003" OS on PD | 630464M010   | Bearing-C/Shaft | .010" US on ID |
| 402127P007 | Stud | .007" OS on PD | 630591P005   | Insert          | .005" OS on OD |
| 402127P012 | Stud | .012" OS on PD | 630591P010   | Insert          | .010" OS on OD |
| 402129P003 | Stud | .003" OS on PD | 630591P015   | Insert          | .015" OS on OD |
| 402129P007 | Stud | .007" OS on PD | 630591P020   | Insert          | .020" OS on OD |
| 402129P012 | Stud | .012" OS on PD | 630591P030   | Insert          | .030" OS on OD |
| 402151P003 | Stud | .003" OS on PD | 630826M010   | Bearing-C/Rod   | .010" US on ID |
| 402151P007 | Stud | .007" OS on PD | 631475P010   | Piston          | .010" OS on OD |
| 402151P012 | Stud | .012" OS on PD | 631475P015   | Piston          | .015" OS on OD |
| 402153P003 | Stud | .003" OS on PD |              |                 |                |
| 402153P007 | Stud | .007" OS on PD |              |                 |                |
| 402153P012 | Stud | .012" OS on PD |              |                 |                |
| 402158P003 | Stud | .003" OS on PD |              |                 |                |
| 402158P007 | Stud | .007" OS on PD |              |                 |                |
| 402158P012 | Stud | .012" OS on PD |              |                 |                |

| PART NO.   | NAME            | DESCRIPTION    | PART NO.   | NAME            | DESCRIPTION    |
|------------|-----------------|----------------|------------|-----------------|----------------|
| 631496P005 | Guide-Valve     | .005" OS on OD | 640625P005 | Ring-Piston     | .005" OS on OD |
| 631496P010 | Guide-Valve     | .010" OS on OD | 640625P015 | Ring-Piston     | .015" OS on OD |
| 631496P015 | Guide-Valve     | .015" OS on OD |            |                 |                |
| 631496P020 | Guide-Valve     | .020" OS on OD | 640626P005 | Ring-Piston     | .005" OS on OD |
| 631496P030 | Guide-Valve     | .030" OS on OD | 640626P015 | Ring-Piston     | .015" OS on OD |
|            |                 |                |            |                 |                |
| 631867P003 | Stud            | .003" OS on PD | 641302P005 | Ring-Piston     | .005" OS on OD |
| 631867P006 | Stud            | .006" OS on PD | 641302P015 | Ring-Piston     | .015" OS on OD |
| 631867P009 | Stud            | .009" OS on PD |            |                 |                |
|            |                 |                | 642602P005 | Ring-Piston     | .005" OS on OD |
| 634503M010 | Bearing-C/Shaft | .010" US on ID | 642602P015 | Ring-Piston     | .015" OS on OD |
|            |                 |                |            |                 |                |
| 635439M010 | Bearing-C/Shaft | .010" US on ID | 642603P005 | Ring-Piston     | .005" OS on OD |
|            |                 |                | 642603P015 | Ring-Piston     | .015" OS on OD |
|            |                 |                |            |                 |                |
| 636242P005 | Guide-Valve     | .005" OS on OD | 642604P005 | Ring-Piston     | .005" OS on OD |
| 636242P010 | Guide-Valve     | .010" OS on OD | 642604P015 | Ring-Piston     | .015" OS on OD |
| 636242P015 | Guide-Valve     | .015" OS on OD |            |                 |                |
| 636242P020 | Guide-Valve     | .020" OS on OD | 642606P005 | Ring-Piston     | .005" OS on OD |
| 636242P030 | Guide-Valve     | .030" OS on OD | 642606P015 | Ring-Piston     | .015" OS on OD |
|            |                 |                |            |                 |                |
| 639573P010 | Washer-Thrust   | .010" OS on OD | 642398M010 | Bearing-C/Rod   | .010" US on ID |
| 639573P020 | Washer-Thrust   | .020" OS on OD |            |                 |                |
| 639573P030 | Washer-Thrust   | .030" OS on OD | 642720M010 | Bearing-C/Shaft | .010" US on ID |



## SECTION IV

### REPAIR PARTS SETS AND MATERIALS

| PART NUMBER  | DESCRIPTION                     | SIZE                | CODE                |
|--------------|---------------------------------|---------------------|---------------------|
| 642188       | Gasket Paste                    | 1 Oz. Tube          | ALL                 |
| 63242A3 ✓    | Gasket Set - Complete Overhaul  | Standard            | A, D, E, F, J, K, L |
| 632429A3     | Gasket Set - Complete Overhaul  | Standard            | BA                  |
| 632430A1     | Gasket Set - Complete Overhaul  | Standard            | C, M                |
| 642110       | ①Gasket Set - Top Overhaul      | Standard            | ALL                 |
| 640625A3     | Ring Set - Single Cylinder      | Standard            | ALL                 |
| 640625A3P005 | Ring Set - Single Cylinder      | .005" OS on OD      | ALL                 |
| 640625A3P010 | Ring Set - Single Cylinder      | .010" OS on OD      | ALL                 |
| 640625A3P015 | Ring Set - Single Cylinder      | .015" OS on OD      | ALL                 |
| 639742       | ②Ring Set - Single Cylinder     | Standard            | ALL                 |
| 630464A1     | Bearing Set - Crankshaft        | Standard            | A, D, E, F, J, K, L |
| 630464A1M010 | Bearing Set - Crankshaft        | .010" US on ID      | A, D, E, F, J, K, L |
| 642720A1     | ③Bearing Set - Crankshaft       | Standard            | A, D, E, F, J, K, L |
| 642720A1M010 | ③Bearing Set - Crankshaft       | .010" US on ID      | A, D, E, F, J, K, L |
| 642839A2     | Bearing Set - Crankshaft        | Standard            | B, C, M             |
| 642839A2M010 | Bearing Set - Crankshaft        | .010" US on ID      | B, C, M             |
| 642720A2     | Bearing Set - Crankshaft        | Standard            | BB, CB, MB          |
| 642720A2M010 | Bearing Set - Crankshaft        | .010" US on ID      | BB, CB, MB          |
| 626531-1     | Enamel - Gold, Engine           | 1 Quart             | ALL                 |
| 626531-2     | Enamel - Gold, Engine           | 1 Gallon            | ALL                 |
| 535011S      | Lockwire - 0.040 in. dia. steel | Order by 1 lb. roll | ALL                 |
| 641543       | Thread, Silk                    | 260 Yd. Spool       | ALL                 |

#### NOTES:

- ①This set does not contain intake hoses.
- ②For use with chrome cylinder.
- ③For use with Phase 3 style crankcases. See Service Bulletin M78-9.



## SECTION V

### NUMERICAL PARTS LIST

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| AN121501    | 34-11                | 2                  |
|             | 35-10                | 2                  |
|             | 36-12                | 2                  |
|             | 37-11                | 2                  |
|             | 38-11                | 2                  |
|             | 39-11                | 2                  |
|             | 40-13                | 2                  |
|             | 41-13                | 2                  |
| AN123862    | 02-17                | 2                  |
|             | 06-08                | 2                  |
|             | 18-21                | 1                  |
| AN123902    | 19-25                | 1                  |
| AN123962    | 09-19                | 1                  |
|             | 10-20                | 1                  |
| AN316-9R    | 18-34                | 1                  |
| AN381-25-10 | 13A-05               | 2                  |
|             | 13B-05               | 2                  |
| AN4-15A     | 06-32                | 5                  |
| AN4-17A     | 26-08                | 1                  |
| AN4-26A     | 30-35                | 1                  |
|             | 32-29                | 1                  |
| AN4-7A      | 32-22                | 1                  |
| AN5-12A     | 02-10                | 9                  |
|             | 02-22                | 1                  |
| AN5-13A     | 01-33                | 1                  |
|             | 02-10                | 9                  |
|             | 02-22                | 1                  |
|             | 04-33                | 1                  |
|             | 05-32                | 1                  |
|             | 06-19                | 9                  |
| AN5-14A     | 02-26                | 2                  |
|             | 06-12                | 1                  |
|             | 06-19                | 1                  |
| AN5-15A     | 02-26                | 2                  |
|             | 06-17                | 2                  |
|             | 20-06                | 1                  |
|             | 22-06                | 1                  |
| AN5-17A     | 22-05                | 1                  |
| AN5-20A     | 20-05                | 1                  |
| AN5-23A     | 06-29                | 1                  |
| AN500-10-5  | 44-02                | 2                  |
| AN500-416-8 | 03-28                | 3                  |
| AN500A10-4  | 02-30                | 2                  |

| PART NUMBER  | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|--------------|----------------------|--------------------|
| AN500A8-10   | 44-09                | 4                  |
| AN501-10-10  | 46-                  |                    |
|              | 48-11                | 1                  |
| AN526-1024-4 | 42-05                | 2                  |
| AN565E8H16   | 48-17                | 1                  |
|              | 49-11                | 1                  |
| AN737TW46    | 29-13                | 1                  |
|              | 30-18                | 1                  |
|              | 32-15                | 1                  |
| AN75A10      | 22-15                | 1                  |
| AN75A15      | 20-14                | 1                  |
| AN75A6       | 20-09                | 1                  |
|              | 22-10                | 1                  |
| AN780-2      | 45-                  |                    |
| AN816-2B     | 45-                  |                    |
| AN900-10     | 01-26                | 1                  |
|              | 04-30                | 1                  |
|              | 05-29                | 1                  |
|              | 26-15                | 1                  |
|              | 27-09                | 1                  |
|              | 28-11                | 1                  |
| AN900-12     | 26-10                | 1                  |
|              | 26-15                | 2                  |
|              | 27-03                | 1                  |
| AN900-14     | 16-53                | 1                  |
| AN900-18     | 16-12                | 1                  |
|              | 17-10                | 2                  |
| AN900-28     | 16-43                | 1                  |
| AN914-2      | 43-                  |                    |
| AN932-2      | 16-05                | 1                  |
| AN932C2      | 04-26                | 2                  |
|              | 05-25                | 2                  |
|              | 46-                  |                    |
| AN960-516L   | 33-33                | 2                  |
|              | 40-33                | 2                  |
|              | 41-33                | 2                  |
|              | 42-01                | 2                  |
| AN960-616L   | 27-16                | 12                 |
| AN960C916    | 18-32                | 1                  |
| MS122121     | 15-07                | 4                  |
| MS122122     | 01-05                | 1                  |
|              | 04-06                | 1                  |

| PART NUMBER   | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|---------------|----------------------|--------------------|
| MS122162      | 01-04                | 4                  |
|               | 04-05                | 4                  |
|               | 05-05                | 5                  |
| MS122163      | 04-04                | 2                  |
|               | 05-04                | 2                  |
| MS124657      | 16-14                | 1                  |
|               | 17-12                | 1                  |
| MS20073-04-10 | 16-46                | 1                  |
| MS20073-05-25 | 06-29                | 3                  |
| MS20074-04-03 | 26-05                | 2                  |
|               | 28-05                | 2                  |
| MS20074-04-04 | 26-04                | 2                  |
|               | 28-04                | 2                  |
| MS20823-4     | 45-                  |                    |
| MS20823-6B    | 43-                  |                    |
| MS21042-5     | 34-07                | 1                  |
|               | 35-06                | 1                  |
|               | 46-                  |                    |
|               | 48-09                | 1                  |
|               | 49-13                | 1                  |
| MS21044N3     | 33-16                | 1                  |
|               | 34-14                | 1                  |
|               | 35-13                | 1                  |
|               | 36-15                | 1                  |
|               | 37-14                | 1                  |
|               | 38-14                | 1                  |
|               | 39-14                | 1                  |
|               | 40-16                | 1                  |
|               | 41-16                | 1                  |
| MS24665-302   | 21-13                | 1                  |
| MS29513-010   | 02-05                | 16                 |
|               | 06-06                | 16                 |
| MS35303-40    | 31-21                | 2                  |
| MS35337-45    | 39-24                | 2                  |
| MS35338-44    | 03-16                | 2                  |
|               | 03-44                | 2                  |
|               | 07-18                | 2                  |
|               | 07-32                | 2                  |
|               | 15-31                | 48                 |
|               | 16-26                | 6                  |
|               | 16-36                | 4                  |
|               | 16-56                | 7                  |
|               | 17-24                | 6                  |
|               | 17-36                | 4                  |
|               | 17-53                | 2                  |
|               | 24-04                | 5                  |
|               | 24-10                | 12                 |
|               | 29-05                | 24                 |
|               | 30-05                | 24                 |
|               | 31-05                | 24                 |
|               | 32-05                | 24                 |
|               | 33-22                | 3                  |
|               | 34-20                | 3                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
|             | 35-19                | 3                  |
|             | 36-21                | 3                  |
|             | 37-20                | 3                  |
|             | 40-22                | 3                  |
|             | 41-22                | 3                  |
|             | 50-19                | 8                  |
| MS35338-45  | 03-24                | 4                  |
|             | 07-05                | 2                  |
|             | 07-13                | 4                  |
|             | 18-03                | 3                  |
|             | 18-28                | 3                  |
|             | 18-38                | 2                  |
|             | 19-03                | 2                  |
|             | 19-28                | 5                  |
|             | 21-04                | 4                  |
|             | 25-10                | 1                  |
|             | 33-34                | 2                  |
|             | 34-31                | 2                  |
|             | 35-30                | 2                  |
|             | 36-31                | 2                  |
|             | 37-30                |                    |
|             | 38-24                | 2                  |
|             | 40-34                | 2                  |
|             | 41-34                | 2                  |
|             | 42-02                | 2                  |
|             | 50-08                | 6                  |
|             | 51-04                | 4                  |
|             | 52-04                | 4                  |
|             | 53-04                | 4                  |
| MS35338-46  | 17-45                | 3                  |
|             | 25-07                | 4                  |
|             | 50-09                | 2                  |
| MS35756-8   | 11-05                | 1                  |
|             | 12-06                | 1                  |
|             | 18-11                | 1                  |
|             | 18-30                | 1                  |
|             | 19-21                | 1                  |
| MS35769-12  | 26-11                | 1                  |
|             | 27-05                | 1                  |
| MS9021-011  | 08-18                | 2                  |
| MS9021-017  | 07-20                | 2                  |
|             | 25-03                | 2                  |
| MS9021083   | 18-41                | 1                  |
|             | 19-30                | 1                  |
| MS9021-210  | 07-01                | 1                  |
| MS9134-01   | 16-33                | 1                  |
|             | 17-33                | 1                  |
|             | 50-16                | 2                  |
| M330S208    | 32-25                | 1                  |
| Q95552-06   | 16-47                | 1                  |
| Q9T116-07   | 16-49                | 1                  |
| Q9T116-218  | 16-45                | 1                  |
| X12470      | 46-                  |                    |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| X13041      | 18-13                | 1                  |
|             | 19-23                | 1                  |
| X1473       | 16-15                | 1                  |
|             | 17-13                | 1                  |
| 13XX18130   | 48-16                | 1                  |
|             | 49-10                | 1                  |
| 13XX1896    | 03-41                | 1                  |
| 13XX202B    | 23-12                | 1                  |
|             | 26-18                | 32                 |
|             | 27-12                | 32                 |
|             | 28-09                | 32                 |
|             | 29-15                | RF                 |
|             | 30-20                | RF                 |
|             | 30-43                | RF                 |
|             | 32-17                | RF                 |
| 13XX260     | 46-                  |                    |
|             | 48-10                | 1                  |
| 13XX299     | 18-33                | 1                  |
| 20202       | 06-03                | 4                  |
| 2024        | 29-18                | 1                  |
|             | 46-                  |                    |
| 2025        | 01-22                | 4                  |
|             | 04-28                | 1                  |
|             | 05-27                | 1                  |
| 2026        | 24-06                | 1                  |
| 20274       | 26-16                | 1                  |
| 20522       | 06-33                | 12                 |
|             | 07-31                | 2                  |
|             | 15-30                | 48                 |
|             | 16-25                | 6                  |
|             | 16-55                | 7                  |
|             | 17-23                | 6                  |
|             | 17-52                | 2                  |
|             | 24-03                | 5                  |
|             | 24-09                | 12                 |
|             | 26-03                | 2                  |
|             | 28-03                | 2                  |
|             | 29-04                | 24                 |
|             | 30-04                | 24                 |
|             | 30-38                | 2                  |
|             | 31-04                | 24                 |
|             | 32-04                | 24                 |
|             | 33-21                | 3                  |
|             | 34-19                | 3                  |
|             | 35-18                | 3                  |
|             | 36-20                | 3                  |
|             | 37-19                | 3                  |
|             | 40-21                | 3                  |
|             | 41-21                | 3                  |
| 20654       | 03-40                | 1                  |
|             | 44-03                | 2                  |
| 20655       | 16-42                | 4                  |
|             | 17-32                | 4                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 21007       | 15-23                | 1                  |
|             | 15-26                | 1                  |
| 21208A2     | 16-31                | 1                  |
|             | 17-38                | 1                  |
| 21247       | 15-34                | 24                 |
| 22535       | 03-22                | 8                  |
|             | 07-11                | 8                  |
|             | 30-29                | 1                  |
|             | 31-17                | RF                 |
| 2265        | 26-12                | 1                  |
|             | 27-04                | 1                  |
|             | 27-10                | 1                  |
| 22661       | 20-12                | 1                  |
|             | 22-13                | 1                  |
|             | 30-27                | 1                  |
|             | 30-36                | 1                  |
|             | 32-23                | 1                  |
|             | 32-30                | 1                  |
| 2274        | 17-44                | 3                  |
| 22786       | 23-06                | 2                  |
| 22904       | 03-38                | 1                  |
| 22910       | 16-41                | 4                  |
|             | 17-31                | 4                  |
| 23024       | 17-05                | 2                  |
| 23890       | 32-34                | 2                  |
| 24239       | 02-18                | 2                  |
|             | 06-09                | 2                  |
|             | 23-07                | 2                  |
| 2437        | 03-17                | 2                  |
|             | 07-19                | 2                  |
|             | 07-33                | 2                  |
|             | 16-27                | 6                  |
|             | 16-37                | 4                  |
|             | 16-57                | 7                  |
|             | 17-25                | 6                  |
|             | 17-37                | 4                  |
|             | 17-54                | 2                  |
|             | 24-05                | 5                  |
|             | 24-16                | 1                  |
|             | 30-39                | 2                  |
|             | 30-49                | 2                  |
|             | 31-24                | 1                  |
|             | 32-21                | 1                  |
|             | 32-28                | 2                  |
|             | 33-23                | 3                  |
|             | 34-21                | 3                  |
|             | 35-20                | 3                  |
|             | 36-22                | 2                  |
|             | 37-21                | 2                  |
|             | 40-22                | 3                  |
|             | 41-23                | 3                  |
|             | 50-20                | 8                  |



| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 350998      | 08-01                | 8                  |
|             | 09-02                | 8                  |
|             | 10-02                | 8                  |
| 35967       | 15-09                | 1                  |
| 35971       | 15-15                | 1                  |
| 36151L      | 30-08                | 8                  |
|             | 31-07                | 8                  |
|             | 32-08                | 8                  |
| 36151R      | 03-35                | 2                  |
| 401507      | 50-07                | 2                  |
| 401752      | 04-25                | 3                  |
|             | 05-24                | 3                  |
| 401800      | 16-03                | 1                  |
| 401801      | 04-07                | 2                  |
|             | 17-03                | 2                  |
| 401804      | 04-07                | 2                  |
|             | 05-06                | 2                  |
| 401808      | 01-06                | 5                  |
| 401814      | 04-08                | 4                  |
|             | 05-07                | 4                  |
|             | 19-08                | 1                  |
| 401816      | 16-24                | 1                  |
| 401832      | 01-28                | 2                  |
| 401842      | 04-10                | 2                  |
|             | 05-09                | 2                  |
| 401852      | 01-11                | 1                  |
|             | 31-13                | 1                  |
| 401860      | 04-10                |                    |
|             | 05-09                | 2                  |
|             | 27-08                | 12                 |
| 401863      | 04-18                | 2                  |
|             | 05-17                | 2                  |
| 401870      | 01-09                | 2                  |
| 401873      | 04-09                |                    |
|             | 05-08                | 8                  |
| 401881      | 01-17                | 1                  |
| 401885      | 01-10                | 12                 |
|             | 04-11                | 14                 |
|             | 05-10                | 14                 |
| 401893      | 08-16                | 2                  |
|             | 09-17                | 2                  |
|             | 10-18                | 2                  |
|             | 15-06                | 4                  |
|             | 16-23                | 4                  |
|             | 17-21                | 4                  |
| 401895      | 01-31                | 2                  |
| 401899      | 01-07                | 4                  |
| 401927      | 04-12                | 3                  |
|             | 05-11                | 3                  |
| 401932      | 04-13                | 2                  |
|             | 05-12                | 2                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 401936      | 04-14                | 5                  |
|             | 05-13                | 5                  |
| 401944      | 04-15                | 3                  |
|             | 05-14                | 3                  |
|             | 05-22                | 2                  |
| 401950      | 01-20                | 1                  |
| 401962      | 04-16                | 1                  |
|             | 05-15                | 1                  |
| 401963      | 04-17                | 2                  |
|             | 05-16                | 2                  |
|             | 16-04                | 1                  |
| 401965      | 01-12                | 2                  |
|             | 04-15                | 2                  |
|             | 04-22                | 2                  |
|             | 05-14                | 2                  |
|             | 05-21                | 2                  |
|             | 05-22                | 2                  |
| 401971      | 19-09                | 1                  |
| 401977      | 04-19                | 4                  |
|             | 05-18                | 4                  |
| 402034      | 04-20                | 1                  |
|             | 05-19                | 1                  |
| 402066      | 01-08                | 16                 |
| 402127      | 04-10                | 2                  |
|             | 05-09                | 2                  |
|             | 18-07                | 2                  |
|             | 19-07                | 2                  |
| 402129      | 01-13                | 2                  |
| 402151      | 01-14                | 2                  |
|             | 04-21                | 2                  |
|             | 05-20                | 2                  |
|             | 19-06                | 3                  |
| 402158      | 01-15                | 5                  |
| 402159      | 06-16                | 2                  |
| 402359      | 05-12                | 1                  |
| 402711      | 17-22                | 1                  |
| 402941      | 04-27                | 4                  |
|             | 05-26                | 4                  |
| 501867      | 18-18                | 1                  |
|             | 19-15                | 1                  |
|             | 33-11                | 3                  |
|             | 34-08                | 3                  |
|             | 35-07                | 3                  |
|             | 36-08                | 2                  |
|             | 37-07                | 2                  |
|             | 38-08                | 3                  |
|             | 39-08                | 3                  |
|             | 40-10                | 3                  |
|             | 41-10                | 3                  |
| 501868      | 23-15                | 1                  |
| 502287      | 18-14                | 1                  |
|             | 19-24                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 520112-3    | 15-03                | 2                  |
| 521649      | 19-18                | 1                  |
| 524183      | 04-20                | 1                  |
|             | 05-19                | 1                  |
| 524818      | 12-02                | 1                  |
| 530346      | 23-11                | 1                  |
|             | 26-19                | 30                 |
|             | 28-10                | 28                 |
|             | 29-16                | RF                 |
|             | 32-18                | RF                 |
| 530658      | 13A-02               | 1                  |
|             | 13B-02               | 1                  |
| 531001      | 02-07                | 12                 |
|             | 06-04                | 4                  |
|             | 15-40                | 36                 |
| 531178      | 50-14                | 2                  |
| 531378      | 16-22                | 1                  |
|             | 17-20                | 4                  |
| 531548      | 01-03                | 2                  |
| 532377      | 42-07                | 1                  |
| 532432      | 01-25                | 1                  |
|             | 04-29                | 1                  |
|             | 05-28                | 1                  |
|             | 26-16                | 1                  |
|             | 28-12                | 1                  |
| 534609      | 15-36                | 48                 |
| 534610      | 15-37                | 24                 |
| 534625      | 27-14                | 1                  |
| 534655      | 11-06                | 1                  |
| 534685      | 18-24                | 1                  |
|             | 19-17                | 1                  |
| 534715      | 18-25                | 1                  |
| 534728      | 03-15                | 1                  |
| 534740      | 03-14                | 1                  |
|             | 07-16                | 1                  |
| 534741      | 08-26                | 1                  |
| 534743      | 26-13                | 1                  |
|             | 27-06                | 1                  |
|             | 28-06                | 1                  |
| 534750      | 51-01                | 2                  |
|             | 52-01                | 2                  |
|             | 53-01                | 2                  |
| 534757      | 08-25                | 1                  |
| 534775      | 18-31                | 1                  |
| 534857      | 15-28                | 6                  |
| 534863      | 50-01                | 2                  |
| 534938      | 18-26                | 1                  |
| 534940      | 26-01                | 1                  |
|             | 28-01                | 1                  |
| 534980      | 18-22                | 1                  |
| 535008      | 16-19                | 1                  |
|             | 17-17                | 1                  |
| 535118      | 15-32                | 48                 |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 535631      | 24-11                | 12                 |
| 535634      | 16-18                | 1                  |
|             | 17-16                | 1                  |
| 535661      | 11-01                | 1                  |
| 535662      | 11-03                | 1                  |
| 535666      | 11-04                | 4                  |
|             | 30-41                | 1                  |
| 535681      | 29-10                | 1                  |
| 535810      | 02-19                | 1                  |
| 535847      | 34-30                |                    |
|             | 35-29                | 2                  |
|             | 36-30                | 2                  |
|             | 37-29                |                    |
|             | 28-23                | 2                  |
|             | 39-23                | 2                  |
|             | 42-01                | 2                  |
|             | 51-03                | 4                  |
|             | 52-03                | 4                  |
|             | 53-03                | 4                  |
| 535885      | 16-38                | 1                  |
|             | 17-28                | 1                  |
| 535887      | 16-39                | 1                  |
|             | 17-29                | 1                  |
| 535900      | 16-19                | 1                  |
|             | 17-17                | 1                  |
| 535908      | 16-29                | 1                  |
|             | 17-27                | 1                  |
| 535933      | 16-18                | 2                  |
| 536213      | 20-02                | 1                  |
|             | 22-02                | 1                  |
| 536379      | 08-22                | 6                  |
|             | 09-23                | 6                  |
|             | 10-24                | 6                  |
| 536413      | 29-01                | 6                  |
|             | 30-01                | 6                  |
|             | 31-01                | 6                  |
|             | 32-01                | 6                  |
| 536421      | 08-21                | 1                  |
| 536552      | 18-10                | 1                  |
|             | 19-20                | 1                  |
| 536563      | 08-20                | 1                  |
|             | 09-20                | 1                  |
|             | 10-21                | 1                  |
| 536779      | 24-15                | 1                  |
| 537019      | 15-20                | 12                 |
| 537282      | 24-07                | 1                  |
| 537296      | 15-35                | 12                 |
| 537312      | 24-02                | 1                  |
| 537505      | 01-29                | 1                  |
| 537539      | 20-10                | 1                  |
|             | 22-11                | 1                  |
|             | 23-13                | 2                  |

| PART NUMBER  | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|--------------|----------------------|--------------------|
| 537629       | 36-10                | 1                  |
|              | 37-09                | 1                  |
|              | 38-09                | 3                  |
|              | 39-09                | 3                  |
| 537650       | 26-14                | 1                  |
| 537690       | 33-18                | 2                  |
|              | 34-16                | 2                  |
|              | 35-15                | 2                  |
|              | 36-17                | 2                  |
|              | 37-16                | 2                  |
|              | 38-16                | 2                  |
|              | 39-16                | 2                  |
|              | 40-18                | 2                  |
|              | 41-18                | 2                  |
| 537721       | 01-02                | 1                  |
| 537728       | 30-26                | 1                  |
| 537738A1     | 18-23                | 1                  |
| 537742       | 18-04                | 1                  |
| 537745       | 18-01                | 1                  |
| 537749       | 18-20                | 1                  |
| 537750       | 06-26                | 1                  |
|              | 18-29                | 1                  |
|              | 18-39                | 1                  |
|              | 23-14                | 1                  |
|              | 26-19                | 2                  |
|              | 27-13                | 30                 |
|              | 28-10                | 2                  |
|              | 30-21                | RF                 |
|              | 31-18                | RF                 |
| 537911       | 42-06                | 2                  |
| 537961       | 26-19                | 2                  |
|              | 28-10                | 2                  |
|              | 30-21                | RF                 |
|              | 30-44                | RF                 |
| 538076       | 11-07                | 1                  |
| 538100       | 30-48                | 2                  |
|              | 32-24                | 1                  |
| 538185       | 16-01                | 1                  |
| 538304       | 15-39                | 12                 |
| 538404       | 01-19                | 12                 |
| 538468       | 30-31                | 2                  |
|              | 32-35                | 2                  |
| 538470       | 32-32                | 1                  |
| 538650       | 02-24                | 1                  |
|              | 06-14                | 1                  |
| 538727       | 16-44                | 1                  |
| 538773       | 03-26                | 1                  |
| 538801       | 03-27                | 1                  |
| 538804       | 03-26                | 1                  |
| 538944-10.50 | 02-01                | 4                  |
| 538944-5.31  | 06-01                | 1                  |
| 538944-6.19  | 06-02                | 1                  |
| 538944-8.88  | 02-02                | 2                  |

| PART NUMBER  | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|--------------|----------------------|--------------------|
| 538949       | 02-25                | 1                  |
|              | 06-15                | 2                  |
| 538989       | 02-08                | 3                  |
|              | 03-08                | 1                  |
| 538996       | 31-22                | 2                  |
| 538999       | 18-35                | 2                  |
|              | 18-40                | 1                  |
| 539003       | 06-27                | 1                  |
|              | 27-13                | 2                  |
|              | 30-21                | RF                 |
| 539023       | 30-12                | 1                  |
| 539058       | 03-03                | 16                 |
|              | 18-43                | 2                  |
|              | 19-32                | 2                  |
| 539113       | 32-31                | 1                  |
| 539114       | 30-32                | 1                  |
|              | 32-33                | 1                  |
| 539374       | 02-14                | 1                  |
|              | 04-32                | 1                  |
|              | 05-31                | 1                  |
|              | 06-16                | 1                  |
|              | 06-20                | 19                 |
| 539487       | 29-08                | 2                  |
|              | 30-09                | 2                  |
|              | 31-08                | 6                  |
|              | 32-09                | 2                  |
| 539518       | 03-01                | 4                  |
| 539523       | 16-07                | 2                  |
| 539547-31.19 | 20-01                | 1                  |
| 539547-32.00 | 22-01                | 1                  |
|              | 23-16                | 1                  |
| 539568       | 18-15                | 1                  |
| 539605       | 07-06                | 2                  |
| 539634       | 33-02                | 1                  |
|              | 40-02                | 1                  |
|              | 41-02                | 1                  |
| 539740       | 15-18                | 12                 |
| 539742       | 15-21                | 6                  |
| 539785       | 18-16                | 1                  |
| 539800       | 18-17                | 1                  |
|              | 19-14                | 1                  |
| 539805       | 18-09                | 1                  |
|              | 19-22                | 1                  |
| 539942       | 47-13                | 2                  |
|              | 48-12                | 2                  |
|              | 49-16                | 2                  |
| 539988       | 15-10                | 1                  |
| 625207       | 26-02                | 1                  |
| 625219-2A21  | 40-07                | 1                  |
| 625219-2A9   | 41-07                | 1                  |
| 625238       | 48-02                | 1                  |
|              | 49-02                | 1                  |
| 625303       | 24-01                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 625327-1    | 47-03                | 1                  |
|             | 48-05                | 1                  |
|             | 49-04                | 1                  |
| 625327-2    | 33-17                | 2                  |
|             | 34-15                | 2                  |
|             | 35-14                | 2                  |
|             | 36-62                | 2                  |
|             | 37-15                | 2                  |
|             | 38-15                | 2                  |
|             | 39-15                | 2                  |
|             | 40-17                | 2                  |
|             | 41-17                | 2                  |
|             | 49-04                | 1                  |
| 625393      | 15-14                | 2                  |
| 625457      | 47-04                | AR                 |
|             | 48-06                | AR                 |
|             | 49-05                | AR                 |
| 625457-1    | 49-05                | AR                 |
| 625539      | 34-10                | 1                  |
| 625539A1    | 34-09                | 1                  |
| 625542      | 34-13                | 1                  |
| 625600      | 48-19                | 1                  |
| 625601      | 47-12                | 1                  |
|             | 48-20                | 1                  |
| 625615      | 15-29                | 6                  |
| 625765      | 51-02                | 2                  |
| 625886      | 16-20                | 1                  |
| 625966      | 03-19                | 1                  |
| 626147      | 15-38                | 12                 |
| 626189      | 24-08                | 1                  |
| 626486      | 35-27                | 1                  |
|             | 38-21                | 2                  |
|             | 39-21                | 2                  |
| 626487      | 03-45                | 2                  |
| 626553      | 44-07                | 1                  |
| 626557      | 44-05                | 1                  |
| 626577-2    | 33-32                | 6                  |
|             | 34-28                | 6                  |
|             | 35-28                | 6                  |
|             | 36-29                | 6                  |
|             | 37-28                | 6                  |
|             | 38-22                | 6                  |
|             | 39-22                | 6                  |
|             | 40-32                | 6                  |
|             | 41-32                | 6                  |
| 626634      | 33-14                | 1                  |
|             | 34-12                | 1                  |
|             | 35-11                | 1                  |
|             | 36-13                | 1                  |
|             | 37-12                | 1                  |
|             | 38-12                | 1                  |
|             | 39-12                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 626634      | 40-14                | 1                  |
|             | 41-14                | 1                  |
|             | 47-07                | 1                  |
|             | 48-14                | 1                  |
|             | 49-08                | 1                  |
| 626739      | 08-14                | 1                  |
| 626813      | 33-10                | 1                  |
|             | 46-                  |                    |
|             | 47-02                | 2                  |
|             | 48-04                | 2                  |
|             | 49-03                | 2                  |
| 626813-1    | 46-                  |                    |
|             | 48-03                | 1                  |
| 626879-1    | 42-08                | 3                  |
| 626889      | 08-15                | 2                  |
|             | 09-16                | 2                  |
|             | 10-17                | 2                  |
| 627068      | 20-18                | 1                  |
| 627119      | 43-                  |                    |
| 627272      | 20-04                | 1                  |
| 627276      | 20-13                | 1                  |
| 627279      | 20-15                | 6                  |
|             | 22-16                | 4                  |
| 627281      | 20-16                | 3                  |
|             | 22-17                | 2                  |
| 627331      | 45-                  |                    |
| 627335D12   | 38-20                | 6                  |
|             | 39-20                | 6                  |
| 627335D13   | 33-29                | 6                  |
|             | 34-26                | 6                  |
|             | 35-25                | 6                  |
|             | 36-27                | 6                  |
|             | 37-26                | 6                  |
|             | 40-29                | 6                  |
|             | 41-29                | 6                  |
| 627368      | 30-50                | 1                  |
|             | 32-36                | 1                  |
| 627377      | 20-03                | 1                  |
|             | 22-03                | 1                  |
| 627378      | 44-06                | 1                  |
| 627433      | 02-16                | 4                  |
|             | 03-13                | 1                  |
| 627496      | 25-16                | 1                  |
| 627642      | 46-                  |                    |
| 627673      | 20-11                | 1                  |
| 627673-2    | 22-12                | 1                  |
| 627681      | 30-40                | 2                  |
| 627690      | 03-07                | 1                  |
|             | 20-20                | RF                 |
| 627820      | 29-11                | 1                  |
| 627836      | 30-37                | 1                  |
| 628004      | 22-20                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 628109      | 13A-04               | 2                  |
|             | 13B-04               | 2                  |
| 628129      | 16-50                | 1                  |
| 628152      | 33-28                | 2                  |
|             | 34-25                | 2                  |
|             | 35-24                | 2                  |
|             | 36-26                | 2                  |
|             | 37-25                | 2                  |
|             | 40-28                | 2                  |
|             | 41-28                | 2                  |
| 628153      | 33-29                | 2                  |
|             | 34-25                | 2                  |
|             | 35-24                | 2                  |
|             | 36-26                | 2                  |
|             | 37-25                | 2                  |
|             | 40-28                | 2                  |
|             | 41-28                | 2                  |
| 628154      | 33-28                | 2                  |
|             | 34-25                | 2                  |
|             | 35-24                | 2                  |
|             | 36-26                | 2                  |
|             | 37-25                | 2                  |
|             | 40-28                | 2                  |
|             | 41-28                | 2                  |
| 628257      | 03-02                | 1                  |
| 628260      | 15-33                | Opt                |
| 628295      | 33-30                | 1                  |
|             | 40-30                | 1                  |
|             | 41-30                | 1                  |
| 628321-.38  | 03-47                | 4                  |
|             | 07-37                | 4                  |
| 628371      | 34-18                | 1                  |
|             | 35-17                | 1                  |
|             | 36-19                | 1                  |
|             | 37-18                | 1                  |
| 628372A2    | 27-07                | 1                  |
| 628436      | 43-                  |                    |
| 628437      | 43-                  |                    |
|             | 45-                  |                    |
|             | 46-                  |                    |
| 628438      | 43-                  |                    |
|             | 46-                  |                    |
| 628472      | 52-02                | 1                  |
|             | 53-02                | 1                  |
| 628473      | 52-02                | 1                  |
|             | 53-02                | 1                  |
| 628476      | 43-                  |                    |
|             | 46-                  |                    |
| 628478      | 46-                  |                    |
| 628488      | 11-08                | 12                 |
|             | 12-09                | 12                 |
| 628698      | 26-14                | 1                  |
| 628739      | 52-37                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 628740      | 52-42                | 2                  |
| 628760      | 18-36                | 1                  |
| 628766      | 32-14                | 1                  |
| 628816      | 32-27                | 1                  |
| 628833      | 32-26                | 1                  |
| 628859      | 16-21                | 1                  |
| 628861A1    | 32-19                | RF                 |
|             | 41-06                | 1                  |
|             | 48-                  |                    |
| 628891A2    | 41-06                | 1                  |
| 629007      | 52-41                | 1                  |
| 629008      | 52-40                | 1                  |
|             | 52-45                | 1                  |
| 629009      | 52-39                | 1                  |
|             | 52-44                | 1                  |
| 629010      | 52-38                | 1                  |
|             | 52-43                | 1                  |
| 629011      | 52-46                | 1                  |
| 629076      | 50-12                | 2                  |
| 629077      | 50-13                | 1                  |
| 629104      | 08-11                | 16                 |
|             | 09-12                | 16                 |
|             | 10-12                | 16                 |
| 629117      | 15-16                | 1                  |
| 629138      | 29-02                | 5                  |
|             | 30-02                | 5                  |
|             | 31-02                | 5                  |
|             | 32-02                | 5                  |
| 629163      | 30-10                | 1                  |
| 629201      | 07-30                | 1                  |
| 629202      | 03-42                | 1                  |
|             | 07-29                | 1                  |
| 629218      | 16-06                | 1                  |
| 629325      | 29-03                | 1                  |
|             | 30-03                | 1                  |
|             | 31-03                | 1                  |
|             | 32-03                | 1                  |
| 629330      | 33-15                | 1                  |
| 629338      | 33-20                | 1                  |
| 629338A1    | 33-19                | 1                  |
| 629340      | 13A-03               | 2                  |
|             | 13B-03               | 2                  |
| 629353      | 30-23                | 1                  |
| 629354      | 30-24                | 1                  |
| 629360      | 09-29                | 1                  |
|             | 10-30                | 1                  |
| 629364      | 33-13                | 1                  |
| 629364A1    | 33-                  | 1                  |
| 629397A1    | 30-22                | RF                 |
|             | 33-06                | 1                  |
|             | 47-                  |                    |
| 629399A8    | 33-06                | 1                  |
| 629401      | 14-05                | 6                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 629417      | 22-04                | 1                  |
| 629422      | 50-12                | 2                  |
| 629436      | 21-01                | 1                  |
| 629448      | 16-17                | 1                  |
| 629494      | 52-31                | 9                  |
| 629495      | 52-28                | 1                  |
| 629496      | 52-27                | 1                  |
|             | 53-29                | 2                  |
| 629498      | 52-26                | 1                  |
| 629502      | 52-24                | 1                  |
| 629504      | 52-23                | 1                  |
| 629505      | 52-22                | 1                  |
| 629506      | 52-21                | 1                  |
| 629518-1H   | 31-11                | 2                  |
|             | 01-21                | 1                  |
|             | 01-23                | 1                  |
|             | 04-23                | 1                  |
|             | 05-22                | 1                  |
|             | 25-13                | 1                  |
|             | 30-16                | 1                  |
| 629518-2    | 31-19                | 1                  |
| 629518-3H   | 01-24                | 2                  |
|             | 25-14                | 1                  |
| 629601      | 30-15                | 1                  |
| 629638      | 21-11                | 1                  |
| 629668      | 19-26                | 1                  |
| 629680      | 09-15                | 1                  |
|             | 10-16                | 1                  |
| 629703-2A3  | 33-07                | 1                  |
| 629726A3    | 12-01                | 1                  |
| 629747      | 12-08                | 1                  |
| 629748      | 12-07                | 1                  |
| 629806      | 24-14                | 1                  |
| 629825      | 22-14                | 1                  |
| 629837      | 52-36                | 2                  |
| 629847      | 01-30                | 6                  |
|             | 04-31                | 6                  |
|             | 05-30                | 6                  |
| 629904-2A5  | 34-05                | 1                  |
|             | 35-04                | 1                  |
| 630039      | 22-19                | 1                  |
| 630046      | 14-06                | 6                  |
| 630119      | 46-                  |                    |
| 630124      | 49-14                | 1                  |
| 630184      | 44-06                | 1                  |
| 630261-35   | 08-09                | 4                  |
|             | 09-09                | 2                  |
|             | 09-10                | 4                  |
| 630261-37   | 08-09                | 2                  |
|             | 09-08                | 2                  |
|             | 10-09                | 2                  |
| 630261-38   | 08-07                | 2                  |
|             | 09-08                | 2                  |
|             | 10-08                | 2                  |

| PART NUMBER  | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|--------------|----------------------|--------------------|
| 630261-40    | 10-10                | 4                  |
| 630350       | 30-50                | 1                  |
| 630379       | 48-18                | 1                  |
| 630387       | 33-12                | 3                  |
|              | 34-09                | 3                  |
|              | 35-08                | 3                  |
|              | 36-09                | 2                  |
|              | 37-08                | 2                  |
|              | 40-11                | 3                  |
|              | 41-11                | 3                  |
| 630455       | 47-01                | 2                  |
|              | 48-01                | 2                  |
|              | 49-01                | 2                  |
| 630474       | 30-25                | 1                  |
| 630519       | 20-17                | 6                  |
|              | 22-18                | 4                  |
| 630591       | 15-08                | 1                  |
| 630655       | 21-09                | 1                  |
| 630680       | 19-12                | 1                  |
| 630681       | 19-11                | 1                  |
| 630691       | 21-12                | 1                  |
|              | 23-02                | 1                  |
| 630693-10.44 | 06-07                | 1                  |
| 630693-12.14 | 06-07                | 1                  |
| 630694       | 07-21                | 1                  |
| 630695       | 07-21                | 1                  |
| 630763       | 34-01                | 1                  |
|              | 36-01                | 1                  |
|              | 38-01                | 1                  |
|              | 39-01                | 1                  |
| 630826       | 13A-06               | 12                 |
| 630849       | 25-01                | 2                  |
| 630866       | 30-14                | 1                  |
| 630868       | 30-13                | 1                  |
| 630870       | 07-17                | 1                  |
| 630871       | 07-15                | 1                  |
| 630873       | 04-03                | 1                  |
|              | 05-03                | 1                  |
| 630892       | 07-02                | 1                  |
| 630895       | 19-13                | 1                  |
| 630899       | 04-02                | 1                  |
|              | 05-02                | 1                  |
| 630916       | 19-01                | 1                  |
| 630966-.56   | 27-02                | 2                  |
| 630966-4.00  | 06-28                | 3                  |
| 631008       | 27-01                | 1                  |
| 631014       | 17-15                | 1                  |
| 631016       | 17-04                | 1                  |
| 631034       | 17-01                | 1                  |
| 631056A1     | 17-19                | 1                  |
| 631059       | 25-02                | 1                  |
| 631075       | 17-15                | 1                  |
| 631088-.44   | 12-05                | 4                  |
| 631152       | 07-23                | 2                  |
| 631154       | 07-24                | 2                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 631220      | 30-19                | 1                  |
| 631237      | 52-02                | 2                  |
| 631246      | 34-27                | 1                  |
|             | 35-26                | 1                  |
|             | 36-28                | 2                  |
|             | 37-27                | 2                  |
| 631252      | 18-12                | 1                  |
|             | 19-19                | 1                  |
| 631263      | 34-02                | 1                  |
|             | 35-02                | 1                  |
|             | 36-02                | 1                  |
|             | 37-02                | 1                  |
|             | 38-02                | 1                  |
|             | 39-02                | 1                  |
| 631266-1    | 03-36                | 1                  |
| 631275-2    | 03-37                | 1                  |
| 631287A1    | 30-22                | RF                 |
|             | 36-04                | 1                  |
|             | 37-03                | 1                  |
|             | 48-                  | 1                  |
| 631293      | 43-                  |                    |
| 631330      | 44-04                | 1                  |
| 631351A6    | 40-24                | Opt                |
| 631351A10   | 33-25                | Opt                |
| 631351A11   | 33-24                | Opt                |
| 631351A17   | 40-24                | 1                  |
|             | 44-                  | RF                 |
| 631351A19   | 33-24                | 1                  |
|             | 44-                  | RF                 |
| 631351A20   | 44-                  | RF                 |
| 631351A24   | 33-24                | 1                  |
| 631367      | 26-07                | 1                  |
| 631390      | 17-18                | 1                  |
| 631393      | 07-22                | 1                  |
| 631394      | 07-22                | 1                  |
| 631406      | 30-17                | 1                  |
| 631408A1    | 34-04                | 1                  |
|             | 35-03                | 1                  |
|             | 49-                  | 1                  |
| 631415A5    | 34-04                | 1                  |
|             | 35-03                | 1                  |
| 631427-2A1  | 34-22                | 1                  |
|             | 35-21                | 1                  |
|             | 44-                  | RF                 |
| 631427-2A2  | 37-22                | 1                  |
| 631427-2A4  | 36-23                | 1                  |
|             | 44-                  | RF                 |
| 631427A10   | 36-23                | Opt                |
| 631427A16   | 41-24                | 1                  |
|             | 44-                  | RF                 |
| 631427A2    | 41-24                | Opt                |
| 631427A6    | 34-22                | Opt                |
| 631475      | 14-01                | 6                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 631478      | 16-52                | 1                  |
| 631496      | 15-05                | 1                  |
| 631520      | 15-13                | 2                  |
| 631521      | 15-12                | 2                  |
| 631544      | 15-33                | 6                  |
| 631550A1    | 36-04                | 1                  |
| 631550A3    | 37-03                | 1                  |
| 631638      | 16-51                | 1                  |
| 631646      | 17-48                | 1                  |
| 631650      | 16-28                | 1                  |
|             | 17-26                | 1                  |
| 631653      | 16-10                | 1                  |
|             | 17-08                | 1                  |
| 631658      | 25-12                | 1                  |
|             | 45-                  |                    |
| 631661      | 30-19                | 1                  |
| 631683      | 33-04                | 1                  |
|             | 40-04                | 1                  |
|             | 41-04                | 1                  |
| 631684      | 33-01                | 1                  |
|             | 40-01                | 1                  |
|             | 41-01                | 1                  |
| 631685      | 40-03                | 1                  |
|             | 41-03                | 1                  |
| 631714      | 16-02                | 1                  |
| 631714A7    | 16-                  | 1                  |
| 631714A8    | 16-                  | 1                  |
| 631716      | 08-                  | 1                  |
| 631720      | 45-                  |                    |
| 631737-2    | 52-30                | 2                  |
| 631739      | 52-34                | 2                  |
| 631745      | 30-19                | 1                  |
| 631764      | 42-04                | 1                  |
| 631783      | 17-50                | 1                  |
| 631784      | 17-49                | 1                  |
| 631790      | 30-17                | 1                  |
| 631832      | 30-28                | 1                  |
| 631836      | 30-45                | 2                  |
| 631837      | 30-46                | 1                  |
| 631840      | 30-47                | 1                  |
| 631845      | 11-02                | 1                  |
|             | 12-04                | 1                  |
| 631867      | 01-18                | 24                 |
|             | 04-24                | 36                 |
| 631915      | 03-34                | 1                  |
| 631927      | 01-27                | 1                  |
| 631928      | 03-33                | 1                  |
| 631972      | 29-07                | 16                 |
|             | 30-07                | 8                  |
|             | 32-07                | 8                  |
| 631995      | 16-54                | 1                  |
| 632015      | 30-34                | 1                  |
| 632016      | 30-33                | 1                  |
| 632017      | 43-                  |                    |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 632018      | 09-24                | 1                  |
|             | 10-25                | 1                  |
| 632081      | 34-06                | 1                  |
|             | 35-05                | 1                  |
|             | 46-                  |                    |
|             | 49-12                | 1                  |
| 631085      | 16-30                | 1                  |
|             | 17-40                | 1                  |
| 632092-4    | 12-03                | 1                  |
| 632015      | 52-35                | 2                  |
| 632106      | 52-29                | 13                 |
| 632112      | 20-19                | 1                  |
| 632115      | 43-                  |                    |
| 632120      | 06-22                | 4                  |
| 632126      | 25-17                | 1                  |
| 632149      | 03-37                | 1                  |
| 632151      | 03-34                | 1                  |
| 632224      | 25-05                | 1                  |
| 632266      | 17-41                | 1                  |
| 632276      | 25-05                | 1                  |
| 632280      | 30-17                | 1                  |
| 632328      | 30-13                | 1                  |
| 632329      | 30-14                | 1                  |
| 632330      | 50-03                | 1                  |
| 632357      | 03-05                | 1                  |
| 632369      | 30-19                | 1                  |
| 632379      | 17-51                | 1                  |
| 632436      | 21-07                | 1                  |
|             | 23-03                | 1                  |
| 632437      | 21-06                | 1                  |
|             | 23-04                | 1                  |
| 632443-4    | 06-34                | 6                  |
|             | 08-17                | 2                  |
|             | 09-18                | 2                  |
|             | 10-19                | 2                  |
|             | 26-09                | 1                  |
| 632443-6    | 06-31                | 4                  |
| 632444-2    | 30-18                | 1                  |
| 632551      | 36-19                | 1                  |
|             | 37-18                | 1                  |
| 632554-1    | 46-                  |                    |
|             | 47-06                | 1                  |
|             | 48-08                | 1                  |
| 632554-2    | 33-09                | 1                  |
|             | 36-07                | 1                  |
|             | 37-06                | 1                  |
|             | 38-07                | 1                  |
|             | 39-07                | 1                  |
|             | 40-09                | 1                  |
|             | 41-09                | 1                  |
|             | 46-                  |                    |
|             | 47-10                | 1                  |
|             | 48-13                | 1                  |
|             | 49-07                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 632555-2    | 36-06                | 1                  |
|             | 37-05                | 1                  |
|             | 38-06                | 1                  |
|             | 39-06                | 1                  |
|             | 46-                  |                    |
| 632555-22   | 48-07                | 1                  |
| 632555-23   | 47-09                | 1                  |
| 632555-24   | 40-08                | 1                  |
|             | 41-08                | 1                  |
|             | 46-                  |                    |
| 632555-28   | 46-                  |                    |
| 632555-31   | 47-05                | 1                  |
| 632555-33   | 46-                  |                    |
| 632555-35   | 46-                  |                    |
|             | 48-07                | 1                  |
| 632555-44   | 48-12                | 1                  |
| 632555-46   | 46-                  |                    |
| 632555-47   | 48-07                | 1                  |
| 632555-5    | 33-08                | RF                 |
|             | 46-                  |                    |
| 632556      | 46-                  |                    |
|             | 48-12                | 1                  |
|             | 49-06                | 1                  |
| 632557      | 34-13                | 1                  |
|             | 35-12                | 1                  |
|             | 36-14                | 1                  |
|             | 37-13                | 1                  |
|             | 38-13                | 1                  |
|             | 39-13                | 1                  |
|             | 40-15                | 1                  |
|             | 41-15                | 1                  |
| 632557-1    | 33-15                | 1                  |
| 632558      | 34-10                | 1                  |
|             | 35-09                | 1                  |
|             | 36-11                | 1                  |
|             | 37-10                | 1                  |
|             | 38-10                | 1                  |
|             | 39-10                | 1                  |
|             | 40-12                | 1                  |
|             | 41-12                | 1                  |
| 632558A1    | 34-09                | 1                  |
|             | 35-08                | 1                  |
|             | 36-10                | 1                  |
|             | 37-09                | 1                  |
|             | 38-09                | 1                  |
|             | 39-09                | 1                  |
|             | 40-11                | 1                  |
|             | 41-11                | 1                  |
| 632590      | 21-02                | 1                  |
| 632653A1    | 50-02                | 2                  |
| 632663      | 27-15                | 4                  |
| 632762      | 16-16                | 1                  |
|             | 17-14                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 632823      | 24-12                | 1                  |
| 632824      | 24-13                | 1                  |
| 632859      | 34-18                | 1                  |
|             | 35-17                | 1                  |
|             | 40-20                | 1                  |
|             | 41-20                | 1                  |
| 632859A1    | 34-17                | 1                  |
|             | 35-16                | 1                  |
|             | 40-19                | 1                  |
| 632876      | 26-14                | 1                  |
| 632892      | 09-21                | 1                  |
|             | 10-22                | 1                  |
| 632893      | 09-22                | 1                  |
|             | 10-23                | 1                  |
| 632916-2A1  | 36-05                | 1                  |
|             | 37-04                | 1                  |
| 632916-2A3  | 38-05                | 1                  |
|             | 39-05                | 1                  |
| 632946      | 26-06                | 1                  |
| 632958      | 52-02                | 1                  |
| 632959      | 52-02                | 1                  |
| 632964-1    | 07-03                | 1                  |
| 632064-2    | 07-03                | 1                  |
| 632970      | 17-                  | 1                  |
| 632977      | 17-02                | 1                  |
| 632977A4    | 17-                  | 1                  |
| 633009      | 52-25                | 1                  |
|             | 53-27                | 2                  |
| 633121      | 43-                  |                    |
| 633129      | 30-17                | 1                  |
| 633189      | 08-02                | 1                  |
|             | 09-03                | 1                  |
|             | 10-03                | 1                  |
| 633233-23   | 07-07                |                    |
| 633233-3    | 07-07                | 1                  |
| 633233-5    | 07-07                | 1                  |
| 633233-6    | 07-07                | 1                  |
| 633240      | 07-08                | 1                  |
| 633287      | 25-03                | 1                  |
| 633288      | 25-03                | 1                  |
| 633311      | 51-                  | 1                  |
| 633403      | 13A-01               | 6                  |
| 633412      | 26-14                | 1                  |
| 633435      | 29-12                | 1                  |
|             | 32-16                | 1                  |
| 633442      | 16-17                | 1                  |
| 633579      | 51-09                | 1                  |
|             | 51-10                | 1                  |
|             | 51-11                | 1                  |
|             | 51-12                | 1                  |
|             | 51-13                | 1                  |
|             | 51-14                | 1                  |
|             | 51-15                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 633579      | 53-08                | 1                  |
|             | 53-10                | 1                  |
|             | 53-12                | 1                  |
|             | 53-14                | 1                  |
|             | 53-16                | 1                  |
|             | 53-18                | 1                  |
| 633580      | 51-07                | 1                  |
|             | 51-08                | 1                  |
|             | 51-16                | 1                  |
|             | 51-17                | 1                  |
|             | 51-18                | 1                  |
|             | 53-07                | 1                  |
|             | 53-09                | 1                  |
|             | 53-11                | 1                  |
|             | 53-13                | 1                  |
|             | 53-15                | 1                  |
|             | 53-17                | 1                  |
| 633583      | 51-24                | 1                  |
|             | 53-24                | 1                  |
| 633585      | 51-20                | 1                  |
|             | 53-20                | 1                  |
| 633586      | 51-19                | 1                  |
|             | 53-23                | 1                  |
| 633589      | 51-25                | 1                  |
|             | 53-25                | 1                  |
| 633590      | 51-23                | 1                  |
|             | 53-19                | 1                  |
| 633591      | 51-21                | 1                  |
|             | 53-21                | 1                  |
| 633592      | 51-22                | 1                  |
|             | 53-22                | 1                  |
| 633593      | 51-26                | 1                  |
|             | 53-26                | 1                  |
| 633620      | 09-                  | 1                  |
| 633821      | 32-13                | 1                  |
| 633822      | 32-12                | 1                  |
| 633845      | 18-19                | 1                  |
|             | 19-16                | 1                  |
| 633924      | 53-33                | 1                  |
| 633925      | 51-35                | 15                 |
|             | 53-31                | 12                 |
| 633926      | 51-34                | 10                 |
|             | 53-32                | 9                  |
| 633927      | 51-33                | 1                  |
|             | 53-41                | 1                  |
| 633928      | 53-34                | 1                  |
|             | 53-40                | 2                  |
| 634011      | 44-01                | Opt                |
| 634080      | 09-25                | 4                  |
|             | 10-26                | 4                  |
| 634150      | 16-09                | 1                  |
|             | 17-07                | 1                  |
| 634209      | 31-15                | 1                  |

| PART NUMBER  | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|--------------|----------------------|--------------------|
| 634325       | 44-08                | 1                  |
| 634503       | 10-14                | 6                  |
| 634505       | 03-09                | 1                  |
|              | 15-41                | 12                 |
| 634511       | 02-09                | 3                  |
|              | 06-23                | 4                  |
| 634592       | 18-42                | 1                  |
|              | 19-31                | 1                  |
| 634617       | 23-10                | 1                  |
| 634628       | 25-12                | 1                  |
| 634630       | 03-34                | 1                  |
| 634657       | 23-08                | 1                  |
| 634673       | 03-02                | 1                  |
| 634675       | 51-06                | 12                 |
|              | 52-06                | 12                 |
|              | 53-06                | 12                 |
| 635050A1     | 18-06                | 1                  |
| 635050A4     | 18-                  | 1                  |
| 635134       | 03-30                | 1                  |
| 635158-10.00 | 33-26                | 1                  |
|              | 40-26                | 1                  |
| 635158-12.00 | 36-24                | 2                  |
|              | 37-23                | 2                  |
|              | 40-25                | 1                  |
| 635158-14.00 | 33-25                | 1                  |
| 635158-16.00 | 41-25                | 1                  |
|              | 41-26                | 1                  |
| 635158-32.00 | 33-27                | 1                  |
|              | 34-24                | 1                  |
|              | 35-23                | 1                  |
| 635158-38.00 | 34-23                | 2                  |
|              | 35-22                | 2                  |
|              | 41-27                | 1                  |
| 635158-40.00 | 36-25                | 1                  |
|              | 37-24                | 1                  |
|              | 40-27                | 1                  |
| 635169       | 18-31                | 1                  |
| 635360       | 52-33                | 1                  |
| 636361       | 52-27                | 1                  |
| 635363       | 52-32                | 1                  |
| 635439       | 09-13                | 10                 |
| 635448CP     | 15-02                | 1                  |
| 635448CPA1   | 15-                  | 6                  |
| 635616       | 28-07                | 1                  |
| 635623       | 08-10                | 16                 |
|              | 09-11                | 16                 |
|              | 10-11                | 16                 |
| 635640       | 28-02                | 1                  |
| 635645       | 30-19                | 1                  |
| 635699       | 53-28                | 12                 |
| 635700       | 53-30                | 12                 |
| 635988-8     | 53-36                | 1                  |
| 635989       | 53-38                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 635990-5    | 53-37                | 1                  |
| 635991      | 52-47                | A9                 |
|             | 53-42                | 1                  |
| 635996      | 25-04                | 1                  |
| 636144      | 14-04                | 6                  |
| 636150      | 53-35                | 1                  |
| 636242      | 15-04                | 1                  |
| 636415      | 53-                  | 1                  |
| 636687      | 51-32                | 1                  |
| 636692      | 51-27                | 2                  |
|             | 53-39                | 2                  |
| 636919      | 51-31                | 1                  |
| 636920      | 51-29                | 2                  |
| 636921      | 51-28                | 2                  |
| 636922      | 51-30                | 1                  |
| 636951      | 52-                  | 1                  |
| 636953      | 52-                  | 1                  |
| 636954      | 52-                  | 1                  |
| 637255-4    | 30-18                | 1                  |
| 637286      | 43-                  |                    |
| 637409-48   | 52-09                | 1                  |
|             | 52-10                | 1                  |
|             | 52-11                | 1                  |
|             | 52-12                | 1                  |
|             | 52-13                | 1                  |
|             | 52-14                | 1                  |
|             | 52-15                | 1                  |
|             | 52-16                | 1                  |
|             | 52-17                | 1                  |
|             | 52-18                | 1                  |
|             | 52-19                | 1                  |
|             | 52-20                | 1                  |
| 637579      | 08-13                | 4                  |
|             | 09-14                | 4                  |
|             | 10-15                | 4                  |
| 637781      | 15-11                | 1                  |
| 637794      | 32-20                | 1                  |
| 637847      | 18-42                | 1                  |
|             | 19-31                | 1                  |
| 638139      | 52-25                | 1                  |
| 638154-1A8  | 33-05                | 1                  |
|             | 42-01                | 1                  |
| 638154-1A12 | 33-05                | 1                  |
|             | 42-01                | 1                  |
| 638154-1A16 | 33-05                | 1                  |
|             | 42-01                | 1                  |
| 638154-1A18 | 40-05                | 1                  |
|             | 42-01                | 1                  |
| 638154-2A7  | 34-03                | 1                  |
|             | 42-01                | 1                  |
| 638154-2A8  | 36-03                | 1                  |
|             | 42-01                | 1                  |
| 638154-4A2  | 41-05                | 1                  |
|             | 42-01                | 1                  |
| 638154-5A1  | 38-03                | 1                  |
|             | 42-01                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 638154-16A4 | 35-                  | 1                  |
| 638154-16A6 | 37-02                | 1                  |
| 638154-17A1 | 39-03                | 1                  |
| 638172      | 50-15                | 4                  |
| 639172A6    | 33-04                | 1                  |
| 639172A7    | 33-04                | 1                  |
| 639172A8    | 33-04                | 1                  |
| 639173A6    | 33-                  | 1                  |
| 639176A13   | 34-                  | 1                  |
| 639176A15   | 35-                  | 1                  |
| 639177A5    | 36-                  | 1                  |
| 639177A6    | 37-                  | 1                  |
| 639186A2    | 41-04                | 1                  |
| 639193      | 08-04                | 4                  |
|             | 08-06                | 4                  |
|             | 09-05                | 4                  |
|             | 09-07                | 4                  |
|             | 10-05                | 4                  |
|             | 10-07                | 4                  |
| 639195      | 08-05                | 2                  |
|             | 09-06                | 2                  |
|             | 10-06                | 2                  |
| 639196      | 08-03                | 2                  |
|             | 09-04                | 2                  |
|             | 10-04                | 2                  |
| 639243      | 09-01                | 1                  |
| 639272      | 15-02                | 1                  |
| 639272A1    | 15-                  | 6                  |
| 639304      | 03-17                | 1                  |
| 639305      | 25-15                | 1                  |
| 639418-3    | 01-18                | 24                 |
|             | 04-24                | 36                 |
|             | 05-23                | 36                 |
| 639418-4    | 01-19                | 12                 |
| 639479      | 47-08                | 1                  |
|             | 48-15                | 1                  |
|             | 49-09                | 1                  |
| 639573      | 15-27                | 24                 |
| 639629      | 15-22                | 2                  |
|             | 15-25                | 2                  |
| 639660-13   | 29-09                | 10                 |
|             | 30-11                | 10                 |
|             | 31-09                | 10                 |
|             | 32-10                | 10                 |
| 639761A1    | 29-17                | RF                 |
|             | 40-06                | 1                  |
|             | 48-                  | 1                  |
| 639997      | 03-21                | 1                  |
|             | 07-10                | 1                  |
| 640027      | 42-04                | 1                  |
| 640056      | 21-14                | 1                  |
| 640103A12   | 40-                  | 1                  |
| 640117A10   | 40-06                | 1                  |

| PART NUMBER   | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|---------------|----------------------|--------------------|
| 640230        | 14-02                | 6                  |
| 640231        | 14-03                | 6                  |
| 640261        | 23-09                | 1                  |
| 640380        | 16-34                | 1                  |
|               | 17-34                | 1                  |
|               | 50-17                | 2                  |
| 640620-5      | 03-29                | 1                  |
| 640620-8      | 03-29                | 1                  |
| 640625        | 14-02                | 6                  |
| 640626        | 14-03                | 6                  |
| 640932        | 21-10                | 1                  |
| 640934        | 21-08                | 1                  |
| 641027        | 38-04                | 1                  |
|               | 39-04                | 1                  |
|               | 49-                  | 1                  |
| 641028A1      | 38-03                | 1                  |
|               | 39-03                | 1                  |
| 641032-1-12   | 44-                  | RF                 |
| 641032-1-12A1 | 38-18                | 1                  |
| 641032-1-12A2 | 38-18                | 1                  |
|               | 39-18                | 1                  |
| 641057A4      | 38-02                | 1                  |
| 641057A5      | 39-02                | 1                  |
| 641066        | 15-01                | 6                  |
| 641153        | 38-19                | 1                  |
|               | 39-19                | 1                  |
| 641154        | 38-19                | 1                  |
|               | 39-19                | 1                  |
| 641155        | 38-19                | 1                  |
|               | 39-19                | 1                  |
| 641156        | 38-19                | 1                  |
|               | 39-19                | 1                  |
| 641157        | 38-19                | 1                  |
|               | 39-19                | 1                  |
| 641158        | 38-19                | 1                  |
|               | 39-19                | 1                  |
| 641162        | 31-12                | 1                  |
| 641163        | 31-10                | 2                  |
| 641245        | 31-20                | 1                  |
| 641249        | 43-                  |                    |
| 641250        | 08-23                | 1                  |
|               | 19-27                | 1                  |
|               | 10-28                | 1                  |
| 641261        | 29-14                | 1                  |
| 641302        | 14-04                | 6                  |
| 641306        | 08-24                | 1                  |
|               | 09-28                | 1                  |
|               | 10-29                | 1                  |
| 641361        | 07-36                | 2                  |
|               | 03-46                | 2                  |
| 641368        | 18-08                | 1                  |
|               | 19-10                | 1                  |

| PART NUMBER  | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|--------------|----------------------|--------------------|
| 641393       | 31-14                | 1                  |
| 641394       | 31-16                | 1                  |
| 641519       | 52-48                | 1                  |
| 641551       | 31-25                | 1                  |
| 641584       | 17-42                | 1                  |
| 641639       | 17-43                | 1                  |
| 641651       | 03-20                | 1                  |
|              | 07-09                | 1                  |
| 641667       | 23-01                | 1                  |
| 641670       | 21-02                | 1                  |
| 641682       | 15-24                | 6                  |
| 641701       | 33-31                | 1                  |
|              | 40-31                | 1                  |
|              | 41-31                | 1                  |
| 641862       | 11-09                | 1                  |
|              | 12-10                | 1                  |
| 641909       | 09-26                | 2                  |
|              | 10-27                | 2                  |
| 641930-9.81  | 02-03                | 1                  |
| 641931-10.75 | 02-04                | 7                  |
|              | 06-05                | 8                  |
| 642064       | 44-01                | 1                  |
| 642083       | 19-05                | 1                  |
| 642083A2     | 19-                  | 1                  |
| 642158A1     | 01-01                | 1                  |
| 642187A1     | 01-01                | 1                  |
| 642224       | 16-13                | 1                  |
|              | 17-11                | 1                  |
| 642238       | 35-01                | 1                  |
|              | 37-02                | 1                  |

| PART NUMBER | FIGURE<br>&<br>INDEX | QTY<br>PER<br>ASSY |
|-------------|----------------------|--------------------|
| 642249      | 08-19                | 1                  |
| 642250      | 02-29                | 1                  |
| 642283      | 33-13                | 1                  |
| 642283A1    | 33-12                | 1                  |
| 642335      | 16-11                | 1                  |
|             | 17-09                | 1                  |
| 642336      | 16-08                | 1                  |
|             | 17-06                | 1                  |
|             | 10-01                | 1                  |
| 642398      | 13B-06               | 12                 |
| 642399      | 13B-01               | 6                  |
| 642532A1    | 01-01                | 1                  |
| 642602      | 14-02                | Opt                |
| 642603      | 14-03                | Opt                |
| 642604      | 14-04                | Opt                |
| 642606      | 14-05                | Opt                |
| 642714      | 16-32                | 1                  |
|             | 17-39                | 1                  |
| 642720      | 08-12                | 10                 |
|             | 10-13                | 4                  |
| 642803      | 15-34                | 24                 |
| 642914      | 03-43                | 1                  |
| 643196      | 04-01                | 1                  |
| 643199      | 04-01                | 1                  |
| 643200      | 04-01                | 1                  |
| 643203      | 05-01                | 1                  |
| 643204      | 05-01                | 1                  |
| 643205      | 05-01                | 1                  |

## **SECTION VI**

### **CUSTOMER SPECIFICATION**

This section contains a parts listing of customer specifications of the basic engines for each model. There is a Figure and Index column which refers to an illustrated view of the parts or assembly differences. Figures 54 thru 66 are located on pages 6-19 thru 6-28 in the rear of this section. The other Figures referenced in this section are located throughout Section II.

| MODEL<br>SPEC | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                  | QTY | FIGURE<br>INDEX |
|---------------|----------------|-----------|----------------------------------------------|-----|-----------------|
| IO-520-A5     | 539518         |           | Bracket, Engine Mounting .....               | 3   | 3-1             |
|               | 628257         |           | Bracket, Engine Mounting Cyl. No. 2 .....    | 1   | 3-2             |
|               | 632357         |           | Spacer .....                                 | 1   | 3-5             |
| IO-520-A6     | 539914         |           | Bracket, Engine Mounting .....               | 4   | Not Illus.      |
|               | 538517         |           | Sump Assembly, Oil .....                     | 1   | 58-1            |
|               | 629518-4H      |           | Plug, Oil Drain .....                        | 1   | 58-2            |
|               | 639174A3       |           | Fuel Injection Assembly, Complete .....      | 1   | Not Illus.      |
|               | 638154-1A9     |           | . Fuel Pump Assembly, Complete .....         | 1   | Not Illus.      |
|               | 632017         |           | . . Fitting, 90 Degree .....                 | 1   | 43-"A"          |
|               | MS20823-6B     |           | . . Fitting, 45 Degree .....                 | 1   | 43-"A"          |
|               | 628434         |           | . . Fitting, Connector .....                 | 1   | 43-"E"          |
|               | 63151A18       |           | . Manifold Valve Assembly, Fuel .....        | 1   | Not Illus.      |
|               | 631658         |           | . . Fitting, 90 Degree .....                 | 1   | 45-"A"          |
|               | 627321         |           | Regulator, Voltage, 12 Volt .....            | 1   | 61-1            |
| IO-520-A7     | 632062-4A1     |           | Rod Assembly, Oil Gauge .....                | 1   | 3-30            |
|               | 25328          |           | . O-Ring .....                               | 1   | 3-31            |
|               | 632149         |           | Bracket, Oil Gauge Housing .....             | 1   | 3-36            |
| IO-520-A9     | 642707         |           | Generator, 12 Volt, 34 Amp .....             | 1   | Not Illus.      |
|               | 631237         |           | Magneto Assembly .....                       | 2   | 52-2            |
|               | 627804         |           | Harness Assembly, Right Mag .....            | 1   | Not Illus.      |
|               | 627805         |           | Harness Assembly, Left Mag .....             | 1   | Not Illus.      |
|               | 626334         |           | Plug, Special .....                          | 1   | 56-1            |
|               | 625966         |           | Gasket .....                                 | 1   | 56-2            |
|               | AN123866       |           | O-Ring .....                                 | 1   | 56-3            |
|               | 639151         |           | Oil Cooler Assembly & Associated Parts ..... | 1   | 57-             |
|               | 538517         |           | Sump Assembly, Oil .....                     | 1   | 58-1            |
|               | 629518-4H      |           | Plug, Oil Drain .....                        | 1   | 58-2            |
|               | 627322         |           | Regulator, Voltage .....                     | 1   | 61-1            |
| IO-520-A10    | 628257         |           | Bracket, Engine Mount, Cyl. No. 2 .....      | 1   | 3-2             |
|               | 632357         |           | Spacer, Engine Mount Bracket .....           | 1   | 3-5             |
|               | 536038         |           | Nut, Exhaust .....                           | 24  | 15-34           |
| IO-520-A12    | 631237         |           | Magneto Assembly .....                       | 2   | 52-2            |
|               | 636954         |           | Harness Assembly .....                       | 1   | 52-             |
|               | 626334         |           | Plug, Special .....                          | 1   | 56-1            |
|               | 625996         |           | Gasket .....                                 | 1   | 56-2            |
|               | AN123866       |           | O-Ring .....                                 | 1   | 56-3            |
|               | 639151         |           | Oil Cooler Assembly & Associated Parts ..... | 1   | 57-             |
|               | 538517         |           | Oil Sump Assembly .....                      | 1   | 58-1            |
|               | 629518-4H      |           | Plug, Oil Drain .....                        | 1   | 58-2            |
| IO-520-A14    | 627321         |           | Regulator, Voltage, 12 Volt .....            | 1   | 61-1            |
|               | 628257         |           | Bracket, Engine Mounting, Cyl. No. 2 .....   | 1   | 3-2             |
|               | 632357         |           | Spacer, Engine Mounting Bracket .....        | 1   | 3-5             |
|               | 639173A5       |           | Fuel Injection Assembly, Complete .....      | 1   | Not Illus.      |
|               | 631351A20      |           | . Manifold Valve Assembly, Fuel .....        | 1   | 33-24           |
|               | 536038         |           | Nut, Exhaust .....                           | 24  | 15-34           |

| MODEL<br>SPEC        | PART<br>NUMBER | 12345 DESCRIPTION                                            | QTY | FIGURE<br>INDEX |
|----------------------|----------------|--------------------------------------------------------------|-----|-----------------|
| IO-520-BA2           | 632958         | Magneto Assembly, Left Hand .....                            | 1   | 52-2            |
|                      | 632959         | Magneto Assembly, Right Hand .....                           | 1   | 52-2            |
|                      | 636951         | Harness Assembly .....                                       | 1   | 52-             |
|                      | 641519         | Shield, Magneto Water .....                                  | 2   | Not Illus.      |
| IO-520-BA3,<br>BB3   | 631547         | Alternator .....                                             | 1   | Not Illus.      |
| IO-520-BA6,<br>BB6   | 632958         | Magneto Assembly, Left Hand .....                            | 1   | 52-2            |
|                      | 632959         | Magneto Assembly, Right Hand .....                           | 1   | 52-2            |
|                      | 636951         | Harness Assembly, Ignition .....                             | 1   | 52-             |
|                      | 641519         | Shield, Magneto Water .....                                  | 2   | Not Illus.      |
| IO-520-BA7,<br>BB7   | 631547         | Alternator, 12 Volt, 20 Amp .....                            | 1   | Not Illus.      |
|                      | 632958         | Magneto Assembly, Left Hand .....                            | 1   | 52-2            |
|                      | 632959         | Magneto Assembly, Right Hand .....                           | 1   | 52-2            |
|                      | 636951         | Harness Assembly, Ignition .....                             | 1   | 52-             |
|                      | 641519         | Shield, Magneto Water .....                                  | 2   | Not Illus.      |
| IO-520-BA8,<br>BB8   | 636141         | Magneto Assembly .....                                       | 2   | Not Illus.      |
|                      | 633311         | Harness Assembly, Ignition .....                             | 1   | 51-             |
| IO-520-BA10,<br>BB10 | 640030         | Magneto Assembly .....                                       | 2   | Not Illus.      |
|                      | 636603         | Harness Assembly, Ignition .....                             | 1   | Not Illus.      |
|                      | 641519         | Shield, Magneto Water .....                                  | 2   | Not Illus.      |
| IO-520-BA11,<br>BB11 | 632970         | Housing Assembly, Oil Pump, Complete<br>(See IO-520-C) ..... |     | 17-             |
|                      | 637847         | Starter, 24 Volt .....                                       | 1   | 19-31           |
|                      | 641668         | Alternator, 24 Volt, 50 Amp .....                            | 1   | Not Illus.      |
|                      | 631237         | Magneto Assembly .....                                       | 2   | 52-2            |
|                      | 636954         | Harness Assembly, Ignition .....                             | 1   | 52-             |
| IO-520-BA12          | 643197         | Studding Assembly, Crankcase .....                           | 1   | Not Illus.      |
|                      | 402359         | . Stud, 5/16 x 4-23/32 Inch Long .....                       | 1   | 55-3            |
|                      | 630693-11.67   | Bolt, Crankcase Thru .....                                   | 1   | 6-7             |
|                      | 640826         | Spacer, Thru Bolt .....                                      | 1   | Not Illus.      |
|                      | 639176A14      | Fuel Injection Assembly, Complete .....                      | 1   | Not Illus.      |
|                      | 638154-2A9     | . Fuel Pump Assembly .....                                   | 1   | Not Illus.      |
|                      | 628437         | . . Fitting, 90 Degree .....                                 | 1   | 43-"B"          |
|                      | 641502         | . . Nut, Swivel .....                                        | 1   | 43-"B"          |
|                      | 628478         | . . Fitting, 90 Degree .....                                 | 1   | 43-"C"          |
|                      | 641502         | . . Nut, Swivel .....                                        | 1   | 43-"C"          |

| MODEL<br>SPEC           | PART<br>NUMBER | 12345 DESCRIPTION                       | QTY | FIGURE<br>INDEX |
|-------------------------|----------------|-----------------------------------------|-----|-----------------|
| IO-520-BA12<br>(Cont'd) | 642087A3       | Adapter Assembly, Starter .....         | 1   | 65-&66-         |
|                         | 640030         | Magneto Assembly .....                  | 2   | Not Illus.      |
|                         | 636603         | Harness Assembly, Ignition .....        | 1   | Not Illus.      |
|                         | 641519         | Shield, Magneto Water .....             | 2   | Not Illus.      |
| IO-520-BB12             | 643210         | Studding Assembly, Crankcase .....      | 1   | Not Illus.      |
|                         | 402359         | . Stud, 5/16 x 4-23/32 Inch Long .....  | 1   | 55-3            |
|                         | 630693-11.67   | Bolt, Crankcase Thru .....              | 1   | 6-7             |
|                         | 640826         | Spacer, Thru Bolt .....                 | 1   | Not Illus.      |
|                         | 639176A16      | Fuel Injection Assembly, Complete ..... | 1   | Not Illus.      |
|                         | 638154-16A5    | . Fuel Pump Assembly .....              | 1   | Not Illus.      |
|                         | 628437         | . . Fitting, 90 Degree .....            | 1   | 43-"B"          |
|                         | 641502         | . . Nut, Swivel .....                   | 1   | 43-"B"          |
|                         | 628478         | . . Fitting, 90 Degree .....            | 1   | 43-"C"          |
|                         | 641502         | . . Nut, Swivel .....                   | 1   | 43-"C"          |
|                         | 642087A3       | Adapter Assembly, Starter .....         | 1   | 65-&66-         |
|                         | 640030         | Magneto Assembly .....                  | 2   | Not Illus.      |
|                         | 636603         | Harness Assembly, Ignition .....        | 1   | Not Illus.      |
|                         | 641519         | Shield, Magneto Water .....             | 2   | Not Illus.      |
| IO-520-BA14             | 643197         | Studding Assembly, Crankcase .....      | 1   | Not Illus.      |
|                         | 402359         | . Stud, 5/16 x 4-28/32 Inch Long .....  | 1   | 55-3            |
|                         | 630693-11.67   | Bolt, Crankcase Thru .....              | 1   | 6-7             |
|                         | 640826         | Spacer, Thru Bolt .....                 | 1   | Not Illus.      |
|                         | 639176A14      | Fuel Injection Assembly, Complete ..... | 1   | Not Illus.      |
|                         | 638154-2A9     | . Fuel Pump Assembly .....              | 1   | Not Illus.      |
|                         | 628437         | . . Fitting, 90 Degree .....            | 1   | 43-"B"          |
|                         | 641502         | . . Nut, Swivel .....                   | 1   | 43-"B"          |
|                         | 628478         | . . Fitting, 90 Degree .....            | 1   | 43-"C"          |
|                         | 641502         | . . Nut, Swivel .....                   | 1   | 43-"C"          |
|                         | 642087A3       | Adapter Assembly, Starter .....         | 1   | 65-&66-         |
|                         | 637847         | Starter, 24 Volt .....                  | 1   | 65-46           |
|                         | 640030         | Magneto Assembly .....                  | 1   | Not Illus.      |
|                         | 636603         | Harness Assembly, Ignition .....        | 1   | Not Illus.      |
|                         | 641519         | Shield, Magneto Water .....             | 2   | Not Illus.      |
| IO-520-BB14             | 643210         | Studding Assembly, Crankcase .....      | 1   | Not Illus.      |
|                         | 402359         | . Stud, 5/16 x 4-23/32 Inch Long .....  | 1   | 55-3            |
|                         | 630693-11.67   | Bolt, Crankcase Thru .....              | 1   | 6-7             |
|                         | 640826         | Spacer, Thru Bolt .....                 | 1   | Not Illus.      |
|                         | 639176A16      | Fuel Injection Assembly, Complete ..... | 1   | Not Illus.      |
|                         | 638154-16A5    | . Fuel Pump Assembly .....              | 1   | Not Illus.      |
|                         | 628437         | . . Fitting, 90 Degree .....            | 1   | 43-"B"          |
|                         | 641502         | . . Nut, Swivel .....                   | 1   | 43-"B"          |
|                         | 628478         | . . Fitting, 90 Degree .....            | 1   | 43-"C"          |
|                         | 641502         | . . Nut, Swivel .....                   | 1   | 43-"C"          |
|                         | 642087A3       | . . Adapter Assembly, Starter .....     | 1   | 65-&66-         |
|                         | 637847         | Starter, 24 Volt .....                  | 1   | 65-46           |

| MODEL<br>SPEC           | PART<br>NUMBER | 12345 DESCRIPTION                          | QTY | FIGURE<br>INDEX |
|-------------------------|----------------|--------------------------------------------|-----|-----------------|
| IO-520-BB14<br>(Cont'd) | 640030         | Magneto Assembly .....                     | 2   | Not Illus.      |
|                         | 636603         | Harness Assembly, Ignition .....           | 1   | Not Illus.      |
|                         | 641519         | Shield, Magneto Water .....                | 2   | Not Illus.      |
| IO-520-BB15             | 643210         | Studding Assembly, Crankcase .....         | 1   | Not Illus.      |
|                         | 402359         | . Stud, 5/16 x 4-23/32 Inch Long .....     | 1   | 55-3            |
|                         | 630693-11.67   | Bolt, Crankcase Thru .....                 | 1   | 6-7             |
|                         | 640826         | Spacer, Thru Bolt .....                    | 1   | Not Illus.      |
|                         | 639176A16      | Fuel Injection Assembly, Complete .....    | 1   | Not Illus.      |
|                         | 638154-16A5    | . Fuel Pump Assembly .....                 | 1   | Not Illus.      |
|                         | 628437         | . . Fitting, 90 Degree .....               | 1   | 43-"B"          |
|                         | 641502         | . . Nut, Swivel .....                      | 1   | 43-"B"          |
|                         | 628478         | . . Fitting, 90 Degree .....               | 1   | 43-"C"          |
|                         | 641502         | . . Nut, Swivel .....                      | 1   | 43-"C"          |
|                         | 642087A3       | Adapter Assembly, Starter .....            | 1   | 65-&66-         |
|                         | 637847         | Starter, 24 Volt .....                     | 1   | 65-46           |
|                         | 642320A1       | Cylinder Assembly & Associated Parts ..... |     | 64-             |
|                         | 640030         | Magneto Assembly .....                     | 1   | Not Illus.      |
|                         | 636603         | Harness Assembly, Ignition .....           | 1   | Not Illus.      |
|                         | 641519         | Shield, Magneto Water .....                | 2   | Not Illus.      |
| IO-520-C2<br>CB2        | 634661         | Solenoid, 24 Volt .....                    | 1   | 62-1            |
| IO-520-C3<br>CB3        | 641668         | Alternator, 24 Volt, 50 Amp .....          | 1   | Not Illus.      |
| IO-520-C5               | 643199         | Studding Assembly, Crankcase .....         | 1   | Not Illus.      |
|                         | 401801         | . Stud, 1/4 x 1-1/16 Inch Long .....       | 2   | 55-2            |
|                         | 641668         | Alternator, 24 Volt, 50 Amp .....          | 1   | Not Illus.      |
|                         | 22535          | Washer, Plain .....                        | 2   | 30-20           |
|                         | 537750         | Screw, 5/16 x 1-1/18 Inch Long .....       | 2   | 30-21           |
|                         | 636141         | Magneto Assembly .....                     | 2   | Not Illus.      |
| IO-520-CB5              | 633311         | Harness Assembly, Ignition .....           | 1   | 50-             |
|                         | 643195         | Studding Assembly, Crankcase .....         | 1   | Not Illus.      |
|                         | 401801         | . Stud, 1/4 x 1-1/16 Inch Long .....       | 2   | 55-2            |
|                         | 641668         | Alternator, 24 Volt, 50 Amp .....          | 1   | Not Illus.      |
|                         | 22535          | Washer, Plain .....                        | 2   | 30-20           |
|                         | 537750         | Screw, 5/16 x 1-1/18 Inch Long .....       | 2   | 30-21           |
| IO-520-C6<br>CB6        | 636141         | Magneto Assembly .....                     | 2   | Not Illus.      |
|                         | 633311         | Harness Assembly, Ignition .....           | 1   | 50-             |
|                         | 632977A1       | Housing Assembly, Oil Pump, Complete ..... | 1   | 17-             |
|                         | 634592         | Starter, 12 Volt .....                     | 1   | 19-31           |
|                         | 641670         | Alternator, 12 Volt, 70 Amp .....          | 1   | 21-2            |
|                         | 22535          | Washer, Plain .....                        | 2   | 30-20           |

| MODEL<br>SPEC                | PART<br>NUMBER | 12345 DESCRIPTION                         | QTY | FIGURE<br>INDEX |
|------------------------------|----------------|-------------------------------------------|-----|-----------------|
| IO-520-C6<br>CB6<br>(cont'd) | 537750         | Screw, 5/16 x 1-1/18 Inch Long .....      | 2   | 30-21           |
|                              | 627670         | Bracket, Air Valve Support .....          | 1   | Not Illus.      |
|                              | 627681         | Bracket, Throttle Body Support .....      | 2   | 30-40           |
|                              | 535666         | Screw, 5/16 x 25/32 Inch Long .....       | 1   | 30-41           |
|                              | 2439           | Nut .....                                 | 1   | 30-42           |
|                              | 13XX202B       | Washer, Lock .....                        | 1   | 30-43           |
|                              | 538949         | Washer, Plain .....                       | 1   | Not Illus.      |
|                              | 625765         | Magneto Assembly .....                    | 2   | 51-2            |
|                              | 633311         | Harness Assembly, Ignition .....          | 1   | 51-             |
|                              | 639807         | Regulator, 12 Volt .....                  | 1   | 60-1            |
| IO-520-C7                    | 643199         | Studding, Assembly, Crankcase .....       | 1   | Not Illus.      |
|                              | 401801         | . Stud, 1/4 x 1-1/16 Inch Long.....       | 2   | 55-2            |
|                              | 538944-6.74    | Bolt, Crankcase Thru .....                | 1   | 6-1             |
|                              | 538944-6.96    | Bolt, Crankcase Thru .....                | 1   | 6-2             |
|                              | 641668         | Alternator, 24 Volt, 50 Amp .....         | 1   | Not Illus.      |
|                              | 22535          | Washer, Plain .....                       | 2   | 30-20           |
|                              | 537750         | Screw, 5/16 x 1-1/18 Inch Long .....      | 2   | 30-21           |
|                              | 640030         | Magneto Assembly .....                    | 2   | Not Illus.      |
|                              | 636603         | Harness Assembly, Ignition .....          | 1   | Not Illus.      |
|                              | 641519         | Shield, Magneto Water.....                | 2   | Not Illus.      |
| IO-520-CB7                   | 643195         | Studding Assembly, Crankcase.....         | 1   | Not Illus.      |
|                              | 401801         | . Stud, 1/4 x 1-1/16 Inch Long.....       | 2   | 55-2            |
|                              | 538944-6.74    | Bolt, Crankcase Thru .....                | 1   | 6-1             |
|                              | 538944-6.96    | Bolt, Crankcase Thru .....                | 1   | 6-2             |
|                              | 641668         | Alternator, 24 Volt, 50 Amp .....         | 1   | Not Illus.      |
|                              | 22535          | Washer, Plain .....                       | 2   | 30-20           |
|                              | 537750         | Screw, 5/16 x 1-1/8 Inch Long .....       | 2   | 30-21           |
|                              | 640030         | Magneto Assembly .....                    | 2   | Not Illus.      |
|                              | 636603         | Harness Assembly, Ignition .....          | 1   | Not Illus.      |
|                              | 641519         | Shield, Magneto Water.....                | 2   | Not Illus.      |
| IO-520-CB8                   | 643195         | Studding Assembly, Crankcase.....         | 1   | Not Illus.      |
|                              | 401801         | . Stud, 1/4 x 1-1/8 Inch Long.....        | 2   | 55-2            |
|                              | 538944-6.74    | Bolt, Crankcase Thru .....                | 1   | 6-1             |
|                              | 538944-6.96    | Bolt, Crankcase Thru .....                | 1   | 6-2             |
|                              | 641668         | Alternator, 24 Volt, 50 Amp .....         | 1   | Not Illus.      |
|                              | 22535          | Washer, Plain .....                       | 2   | 30-20           |
|                              | 537750         | Screw, 5/16 x 1-1/8 Inch Long .....       | 2   | 30-21           |
|                              | 642320A1       | Cylinder Assembly & Associated Parts..... |     | 64-             |
|                              | 640030         | Magneto Assembly .....                    | 2   | Not Illus.      |
|                              | 636603         | Harness Assembly, Ignition .....          | 1   | Not Illus.      |
|                              | 641519         | Shield, Magneto Water.....                | 2   | Not Illus.      |
| IO-520-CB9                   | 643195         | Studding Assembly, Crankcase.....         | 1   | Not Illus.      |
|                              | 401801         | . Stud, 1/4 x 1-1/8 Inch Long.....        | 2   | 55-2            |
|                              | 538944-6.74    | Bolt, Crankcase Thru .....                | 1   | 6-1             |

| MODEL<br>SPEC          | PART<br>NUMBER | 12345 DESCRIPTION                                                     | QTY | FIGURE<br>INDEX |
|------------------------|----------------|-----------------------------------------------------------------------|-----|-----------------|
| IO-520-CB9<br>(Cont'd) | 538944-6.96    | Bolt, Crankcase Thru .....                                            | 1   | 6-2             |
|                        | 642055A1       | Alternator Assembly .....                                             | 1   | Not Illus.      |
|                        | 642320A1       | Cylinder Assembly & Associated Parts .....                            |     | 64-             |
|                        | 639177A7       | Fuel Injection Assembly, Complete .....                               | 1   | Not Illus.      |
|                        | 631427-2A7     | . Fuel Manifold Valve Assembly .....                                  | 1   | Not Illus.      |
|                        | 640030         | Magneto Assembly .....                                                | 2   | Not Illus.      |
|                        | 636603         | Harness Assembly, Ignition .....                                      | 1   | Not Illus.      |
|                        | 641519         | Shield, Magneto Water .....                                           | 2   | Not Illus.      |
| IO-520-D2              | 401506         | Washer, Plain .....                                                   | 1   | 2-14            |
|                        | 627272         | Generator, 12 Volt, 50 Amp & Associated Parts<br>(See IO-520-A) ..... |     | 20-             |
| IO-520-D4              | 527272         | Generator, 12 Volt, 50 Amp & Associated Parts<br>(See IO-520-A) ..... |     | 20-             |
|                        | 640103A10      | Fuel Injection Assembly, Complete .....                               | 1   | Not Illus.      |
|                        | 638154-1A7     | . Fuel Pump Assembly .....                                            | 1   | Not Illus.      |
|                        | 632017         | . . Fitting, 90 Degree .....                                          | 1   | 43-"A"          |
|                        | 637286         | . . Fitting, 45 Degree .....                                          | 1   | 43-"A"          |
|                        | 628437         | . . Fitting, 90 Degree .....                                          | 1   | 43-"B"          |
|                        | 627321         | Regulator, Voltage, 12 Volt .....                                     | 1   | 61-1            |
|                        |                |                                                                       |     |                 |
| IO-520-D7              | 637847         | Starter, 24 Volt .....                                                | 1   | 18-42           |
|                        | 626334         | Plug, Special .....                                                   | 1   | 56-1            |
|                        | 625966         | Gasket .....                                                          | 1   | 56-2            |
|                        | AN123866       | O-Ring .....                                                          | 1   | 56-3            |
|                        | 639171         | Oil Cooler & Associated Parts .....                                   | 1   | 57-             |
| IO-520-D8              | 637847         | Starter, 24 Volt .....                                                | 1   | 18-42           |
|                        | 631111         | Alternator and Associated Parts .....                                 |     | 63-             |
|                        | 631656         | Regulator, Voltage .....                                              |     | 60-1            |
| IO-520-D9              | 632062-14A1    | Rod Assembly, Oil Gauge .....                                         | 1   | 3-30            |
|                        | 25328          | . O-Ring .....                                                        | 1   | 3-31            |
| IO-520-D10             | 642532A1       | Studding Assembly, Crankcase .....                                    | 1   | Not Illus.      |
|                        |                | (Same as Basic C/C except omit 401881) .....                          |     | 54-1            |
|                        | 539518         | Bracket, Engine Mount .....                                           | 3   | 3-1             |
|                        | 634673         | Bracket, Engine Mount, Cyl. No. 2 .....                               | 1   | 3-2             |
|                        | 635169         | Sheave, Starter Adapter .....                                         | 1   | 18-31           |
|                        | 641667         | Alternator and Associated Parts<br>(See IO-520-K) .....               |     | 23-             |
|                        | 640104A4       | Fuel Injection Assembly, Complete .....                               | 1   | Not Illus.      |
|                        | 638154-1A13    | . Fuel Pump Assembly .....                                            | 1   | Not Illus.      |
|                        | 632017         | . . Fitting, 90 Degree .....                                          | 1   | 43-"A"          |
|                        | 637286         | . . Fitting, 45 Degree .....                                          | 1   | 43-"A"          |
|                        | 628437         | . . Fitting, 90 Degree .....                                          | 1   | 43-"B"          |
|                        | 627119         | . . Fitting, 90 Degree .....                                          | 1   | 43-"C"          |
|                        |                |                                                                       |     |                 |
|                        |                |                                                                       |     |                 |

| MODEL<br>SPEC          | PART<br>NUMBER | 12345 DESCRIPTION                                                     | QTY | FIGURE<br>INDEX |
|------------------------|----------------|-----------------------------------------------------------------------|-----|-----------------|
| IO-520-D10<br>(Cont'd) | 628437         | . . Fitting, 90 Degree .....                                          | 1   | 43-"C"          |
|                        | 628438         | . . Fitting, Connector .....                                          | 1   | 43-"C"          |
|                        | 640116A4       | . Throttle Body & Control Assembly .....                              | 1   | Not Illus.      |
|                        | 639176A2       | . . Throttle and Lever Assembly .....                                 | 1   | Not Illus.      |
|                        | 625219-2A22    | . . Control Assembly, Complete .....                                  | 1   | Not Illus.      |
|                        | 635158-44.00   | . Hose Assy., Control-to-Manifold Valve .....                         | 1   | Not Illus.      |
|                        | 635158-16.00   | . Hose Assy., Control-to-F/P Outlet .....                             | 1   | Not Illus.      |
|                        | 635158-10.00   | . Hose Assy., Control-to-F/P Inlet .....                              | 1   | Not Illus.      |
|                        | 631237         | Magneto Assembly .....                                                | 2   | 52-2            |
|                        | 636954         | Harness Assembly, Ignition .....                                      | 1   | 52-             |
|                        | 632062-17A1    | Rod Assembly, Oil Gauge .....                                         | 1   | 3-30            |
|                        | 25328          | . O-Ring .....                                                        | 1   | 3-31            |
|                        | 639807         | Regulator, Voltage, 12 Volt .....                                     | 1   | 60-1            |
|                        | 634660         | Solenoid .....                                                        | 1   | 62-1            |
| IO-520-D11             | 627272         | Generator, 12 Volt, 50 Amp & Associated Parts<br>(See IO-520-A) ..... |     | 20-             |
|                        | 640105A3       | Fuel Injection Assembly, Complete .....                               | 1   | Not Illus.      |
|                        | 638154-1A7     | . Fuel Pump Assembly .....                                            | 1   | Not Illus.      |
|                        | 632017         | . . Fitting, 90 Degree .....                                          | 1   | 43-"A"          |
|                        | 637286         | . . Fitting, 45 Degree .....                                          | 1   | 43-"A"          |
|                        | 628437         | . . Fitting, 90 Degree .....                                          | 1   | 43-"B"          |
|                        | 640119A4       | . Throttle Body & Control Assembly .....                              | 1   | Not Illus.      |
|                        | 639766A1       | . . Throttle and Lever Assembly .....                                 | 1   | Not Illus.      |
|                        | 626813         | . . . Pin .....                                                       | 1   | 48-4            |
|                        | 632555-33      | . . . Lever, Throttle Control .....                                   | 1   | 48-7            |
|                        | 632554-1       | . . . Bushing .....                                                   | 1   | 48-8            |
|                        | 13XX260        | . . . Washer, Lock .....                                              | 1   | 48-10           |
|                        | AN501-10-10    | . . . Screw .....                                                     | 1   | 48-11           |
|                        | 625219-2A23    | . . Control Assembly .....                                            | 1   | Not Illus.      |
|                        | 632555-46      | . . . Lever, Mixture Control .....                                    | 1   | 46-"A"          |
|                        | 632554-1       | . . . Bushing .....                                                   | 1   | 46-"B"          |
|                        | 635158-44.00   | . Hose Assy., Control-to-Manifold Valve .....                         | 1   | Not Illus.      |
|                        | 635158-16.00   | . Hose Assy., Control-to-F/P Outlet .....                             | 1   | Not Illus.      |
|                        | 635158-10.00   | . Hose Assy., Control-to-F/P Return .....                             | 1   | Not Illus.      |
|                        | 632062-12A1    | Rod Assembly, Oil Gauge .....                                         | 1   | 3-30            |
|                        | 25328          | . O-Ring .....                                                        | 1   | 3-31            |
|                        | 627321         | Regulator, Voltage, 12 Volt .....                                     | 1   | 61-1            |
|                        | 634179         | Solenoid .....                                                        | 1   | 62-1            |
| IO-520-D13             | 631237         | Magneto Assembly .....                                                | 2   | 52-2            |
|                        | 627804         | Harness Assembly, Right Hand .....                                    | 1   | Not Illus.      |
|                        | 627805         | Harness Assembly, Left Hand .....                                     | 1   | Not Illus.      |
| IO-520-D15             | 642532A1       | Studding Assembly, Crancase .....                                     | 1   | Not Illus.      |
|                        | 539518         | (Same as Basic C/C except omit 401881) .....                          |     | 54-1            |
|                        |                | Bracket, Engine Mount .....                                           | 1   | 3-1             |

| MODEL<br>SPEC          | PART<br>NUMBER | 12345 DESCRIPTION                                       | QTY | FIGURE<br>INDEX |
|------------------------|----------------|---------------------------------------------------------|-----|-----------------|
| IO-520-D15<br>(Cont'd) | 634673         | Bracket, Engine Mount, Cyl. No. 2.....                  | 1   | 3-2             |
|                        | 635169         | Sheave, Starter Adapter.....                            | 1   | 18-31           |
|                        | 641667         | Alternator and Associated Parts<br>(See IO-520-K) ..... |     | 23-             |
|                        | 640103A11      | Fuel Injection Assembly, Complete .....                 | 1   | Not Illus.      |
|                        | 638154-1A11    | . Fuel Pump Assembly .....                              | 1   | Not Illus.      |
|                        | 627119         | . . Fitting, 90 Degree .....                            | 1   | 43-"C"          |
|                        | 628438         | . . Fitting, Connector .....                            | 1   | 43-"E"          |
|                        | 628476         | . . Fitting, 45 Degree .....                            | 1   | 43-"E"          |
|                        | 639807         | Regulator, Voltage, 12 Volt .....                       | 1   | 60-1            |
|                        | 634660         | Solenoid .....                                          | 1   | 62-1            |
| IO-520-D17             | 627272         | Generator, 12 Volt 50 Amp & Associated Parts .....      | 1   | 20-             |
|                        | 640104A4       | Fuel Injection Assembly, Complete .....                 | 1   | Not Illus.      |
|                        | 638154-1A13    | . Fuel Pump Assembly, Complete .....                    | 1   | Not Illus.      |
|                        | 632017         | . . Fitting, 90 Degree .....                            | 1   | 43-"A"          |
|                        | 637286         | . . Fitting, 45 Degree .....                            | 1   | 43-"A"          |
|                        | 628437         | . . Fitting, 90 Degree .....                            | 1   | 43-"B"          |
|                        | 627119         | . . Fitting, 90 Degree .....                            | 1   | 43-"C"          |
|                        | 628436         | . . Fitting, 45 Degree .....                            | 1   | 43-"C"          |
|                        | 640116A3       | . Throttle Body and Control Assembly .....              | 1   | Not Illus.      |
|                        | 639761A2       | . . Throttle and Lever Assembly .....                   | 1   | Not Illus.      |
|                        | 625219-2A22    | . . Control Assembly, Complete .....                    | 1   | Not Illus.      |
|                        | 631237         | Magneto Assembly .....                                  | 2   | 52-2            |
| IO-520-D18             | 636954         | Harness Assembly .....                                  | 1   | 52-             |
|                        |                |                                                         |     |                 |
| IO-520-D18             | 637847         | Starter, 24 Volt .....                                  | 1   | 18-42           |
|                        | 631111         | Alternator and Associated Parts .....                   | 1   | 63-             |
| IO-520-D19             | 639171         | Oil Cooler and Associated Parts .....                   | 1   | 57-             |
| IO-520-D22             | 630693-10.44   | Bolt, Crankcase Thru .....                              | 1   | 2-19            |
|                        | 637847         | Starter, 24 Volt .....                                  | 1   | 18-42           |
|                        | 639713A8       | Fuel Injection Assembly, Complete .....                 | 1   | Not Illus.      |
|                        | 639715A7       | . Thottle Body & Control Assembly .....                 | 1   | Not Illus.      |
|                        | 639596         | . . Throttle and Lever Assembly .....                   | 1   | Not Illus.      |
|                        | 632556         | . . . Lever, Throttle Control .....                     | 1   | 48-7            |
|                        | 632554-1       | . . . . Bushing .....                                   | 1   | 48-8            |
|                        | 639717-2A2     | . . Control Assembly, Complete .....                    | 1   | Not Illus.      |
|                        | 632555-49      | . . . Lever, Mixture Control .....                      | 1   | 46-"A"          |
|                        | 632554-1       | . . . . Bushing .....                                   | 1   | 46-"B"          |
|                        | MS21042-5      | . . . Nut, Castle .....                                 | 1   | 46-"F"          |
|                        | 626334         | Plug, Special .....                                     | 1   | 56-1            |
|                        | 625966         | Gasket .....                                            | 1   | 56-2            |
|                        | AN123866       | O-Ring .....                                            | 1   | 56-3            |
|                        | 639171         | Oil Cooler and Associated Parts .....                   | 1   | 57-             |
|                        |                |                                                         |     |                 |
|                        |                |                                                         |     |                 |

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| IO-520-D23    | 642532A1       | Studding Assembly, Crankcase.....            |     |                 |
|               |                | (Same as Basic except omit 401881) .....     | 1   | 54-1            |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                   | 1   | 2-19            |
|               | 639713A8       | Fuel Injection Assembly, Complete .....      | 1   | Not Illus.      |
|               | 639715A7       | . Throttle Body and Control Assembly .....   | 1   | Not Illus.      |
|               | 639596         | . . Throttle and Lever Assembly .....        | 1   | Not Illus.      |
|               | 632556         | . . . Lever, Throttle Control .....          | 1   | 48-7            |
|               | 632554-1       | . . . . Bushing .....                        | 1   | 48-8            |
|               | 639717-2A2     | . . Control Assembly, Complete .....         | 1   | Not Illus.      |
|               | 632555-49      | . . . Lever, Mixture Control .....           | 1   | 46-"A"          |
|               | 632554-1       | . . . . Bushing .....                        | 1   | 46-"B"          |
|               | MS21042-5      | . . . Nut, Castle .....                      | 1   | 46-"F"          |
| IO-520-D24    | 642532A1       | Studding Assembly, Crankcase.....            |     | 54-1            |
|               |                | (Same as Basic C/C except omit 401885) ..... | 1   | 2-19            |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                   | 1   | Not Illus.      |
|               | 639713A8       | Fuel Injection Assembly, Complete .....      | 1   | Not Illus.      |
|               | 639716A7       | . Throttle Body and Control Assembly .....   | 1   | Not Illus.      |
|               | 639596         | . . Throttle and Lever Assembly .....        | 1   | 48-7            |
|               | 632556         | . . . Lever, Throttle Control .....          | 1   | 48-8            |
|               | 632554-1       | . . . . Bushing .....                        |     |                 |
|               | 639717-2A2     | . . Control Assembly, Complete .....         | 1   | Not Illus.      |
|               | 632555-49      | . . . Lever Assembly, Mixture Control .....  | 1   | 46-"A"          |
|               | 632554-1       | . . . . Bushing .....                        | 1   | 46-"B"          |
|               | MS21042-5      | . . . Nut, Castle .....                      | 1   | 46-"F"          |
|               | 626334         | Plug, Special .....                          | 1   | 56-1            |
|               | 625966         | Gasket .....                                 | 1   | 56-2            |
|               | AN123866       | O-Ring .....                                 | 1   | 56-3            |
|               | 639171         | Oil Cooler and Associated Parts .....        | 1   | 57-             |
| IO-520-D26    | 642532A1       | Studding Assembly, Crankcase.....            | 1   | Not Illus.      |
|               |                | (Same as Basic C/C except omit 401881) ..... |     | 54-1            |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                   | 1   | 2-19            |
|               | 641728         | Gear Assembly, Mag Drive (2-4-6 Side) .....  | 1   | Not Illus.      |
|               | 629076         | Gear Assembly, Mag Drive (1-3-5 Side) .....  | 1   | 50-12           |
|               | 639713A9       | Fuel Injection Assembly, Complete .....      | 1   | Not Illus.      |
|               | 638154-1A15    | . Fuel Pump Assembly .....                   | 1   | Not Illus.      |
|               | 639715A7       | . Throttle Body and Control Assembly .....   | 1   | Not Illus.      |
|               | 639596         | . . Throttle and Lever Assembly .....        | 1   | Not Illus.      |
|               | 632556         | . . . Lever, Throttle Control .....          | 1   | 48-7            |
|               | 632554-1       | . . . . Bushing .....                        | 1   | 48-8            |
|               | 639717-2A2     | . . Control Assembly, Complete .....         | 1   | Not Illus.      |
|               | 632555-49      | . . . Lever, Mixture Control .....           | 1   | 46-"A"          |
|               | 632554-1       | . . . . Bushing .....                        | 1   | 46-"B"          |
|               | MS21042-5      | . . . Nut, Castle .....                      | 1   | 46-"F"          |

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|---------------|----------------|-----------------------------------------------------------------------------------|-----|--------------------|
| IO-520-D27    | 642532A1       | Studding Assembly, Crankcase.....<br>(Same as Basic C/C except omit 401881) ..... | 1   | 54-1               |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                                                        | 1   | 2-19               |
|               | 641728         | Gear Assembly, Mag Drive (2-4-6 Side) .....                                       | 1   | Not Illus.         |
|               | 629076         | Gear Assembly, Mag Drive (1-3-5 Side) .....                                       | 1   | 50-12              |
|               | 639713A8       | Fuel Injection Assembly, Complete .....                                           | 1   | Not Illus.         |
|               | 639715A7       | . Throttle Body and Control Assembly .....                                        | 1   | Not Illus.         |
|               | 639596         | . . Throttle and Lever Assembly .....                                             | 1   | Not Illus.         |
|               | 632556         | . . . Lever, Throttle Control.....                                                | 1   | 48-7               |
|               | 632554-1       | . . . . Bushing .....                                                             | 1   | 48-8               |
|               | 639717-2A2     | . Control Assembly, Complete.....                                                 | 1   | Not Illus.         |
|               | 632555-49      | . . . Lever, Mixture Control .....                                                | 1   | 46-"A"             |
|               | 632554-1       | . . . . Bushing .....                                                             | 1   | 46-"B"             |
|               | MS210425       | . . . Nut, Castle .....                                                           | 1   | 46-"F"             |
|               | 626334         | Plug, Special .....                                                               | 1   | 56-1               |
|               | 625966         | Gasket .....                                                                      | 1   | 56-2               |
|               | AN123866       | O-Ring .....                                                                      | 1   | 56-3               |
|               | 639171         | Oil Cooler and Associated Parts.....                                              |     | 57-1               |
| IO-520-D28    | 637847         | Starter, 24 Volt .....                                                            | 1   | 18-42              |
| IO-520-D29    | 642532A1       | Studding Assembly, Crankcase.....<br>(Same as Basic C/C except omit 401881) ..... | 1   | Not Illus.<br>54-1 |
|               | 642266         | Bracket Assy., Engine Mounting.....                                               | 1   | Not Illus.         |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                                                        | 1   | 2-19               |
|               | 637847         | Starter, 24 Volt .....                                                            | 1   | 18-42              |
|               | 639713A11      | Fuel Injection Assembly, Complete .....                                           | 1   | Not Illus.         |
|               | 638154-1A17    | . Fuel Pump Assembly, Complete .....                                              | 1   | Not Illus.         |
|               | 639715A7       | . Throttle Body and Control Assembly .....                                        | 1   | Not Illus.         |
|               | 639596         | . . Throttle and Lever Assembly .....                                             | 1   | Not Illus.         |
|               | 632556         | . . . Lever, Throttle Control.....                                                | 1   | 48-7               |
|               | 632554-1       | . . . . Bushing .....                                                             | 1   | 48-8               |
|               | 639717-2A2     | . Control Assembly, Complete .....                                                | 1   | Not Illus.         |
|               | 632555-49      | . . . Lever, Mixture Control .....                                                | 1   | 46-"A"             |
|               | 632554-1       | . . . . Bushing .....                                                             | 1   | 46-"B"             |
|               | MS21042-5      | . . . Nut, Castle .....                                                           | 1   | 46-"F"             |
| IO-520-D30    | 642532A1       | Studding Assembly, Crankcase.....<br>(Same as Basic C/C except omit 401881) ..... | 1   | Not Illus.<br>54-1 |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                                                        | 1   | 2-19               |
|               | 642266         | Bracket Assy., Engine Mount Cyl. No. 2 .....                                      | 1   | Not Illus.         |
|               | 639713A11      | Fuel Injection Assembly, Complete .....                                           | 1   | Not Illus.         |
|               | 638154-1A17    | . Fuel Pump Assembly, Complete .....                                              | 1   | Not Illus.         |
|               | 639715A7       | . Throttle Body and Control Assembly .....                                        | 1   | Not Illus.         |
|               | 639596         | . . Throttle and Lever Assembly .....                                             | 1   | Not Illus.         |
|               | 632556         | . . . Lever, Throttle Control.....                                                | 1   | 48-7               |
|               | 632554-1       | . . . . Bushing .....                                                             | 1   | 48-8               |

| MODEL<br>SPEC          | PART<br>NUMBER | 12345 DESCRIPTION                                                                          | QTY | FIGURE<br>INDEX    |
|------------------------|----------------|--------------------------------------------------------------------------------------------|-----|--------------------|
| IO-520-D30<br>(Cont'd) | 639717-2A2     | . . . Control Assembly, Complete . . . . .                                                 | 1   | Not Illus.         |
|                        | 632555-49      | . . . . Lever, Mixture Control . . . . .                                                   | 1   | 46-"A"             |
|                        | 632554-1       | . . . . Bushing . . . . .                                                                  | 1   | 46-"B"             |
|                        | MS21042-5      | . . . Nut, Castle . . . . .                                                                | 1   | 46-"F"             |
|                        | 626334         | Plug, Special . . . . .                                                                    | 1   | 56-1               |
|                        | 625966         | Gasket . . . . .                                                                           | 1   | 56-2               |
|                        | AN123866       | O-Ring . . . . .                                                                           | 1   | 56-3               |
|                        | 639171         | Oil Cooler and Associated Parts . . . . .                                                  | 1   | 57-                |
| IO-520-D31             | 642186A1       | Studding Assembly, Crankcase . . . . .<br>(Same as Basic C/C except omit 401881) . . . . . | 1   | Not Illus.<br>54-1 |
|                        | 630693-10.44   | Bolt, Crankcase Thru . . . . .                                                             | 1   | 2-19               |
|                        | 642266         | Bracket, Engine Mounting, Cyl. No. 2 . . . . .                                             | 1   | Not Illus.         |
|                        | 637847         | Starter, 24 Volt . . . . .                                                                 | 1   | 18-42              |
|                        | 639713A8       | Fuel Injection Assembly, Complete . . . . .                                                | 1   | Not Illus.         |
|                        | 639715A7       | . Throttle Body and Control Assembly . . . . .                                             | 1   | Not Illus.         |
|                        | 639596         | . . Throttle and Lever Assembly . . . . .                                                  | 1   | Not Illus.         |
|                        | 632556         | . . . Lever, Throttle Control . . . . .                                                    | 1   | 48-7               |
|                        | 632554-1       | . . . . Bushing . . . . .                                                                  | 1   | 48-8               |
|                        | 639717-2A2     | . . Control Assembly, Complete . . . . .                                                   | 1   | Not Illus.         |
|                        | 632555-49      | . . . Lever, Mixture Control . . . . .                                                     | 1   | 46-"A"             |
|                        | 632554-1       | . . . . Bushing . . . . .                                                                  | 1   | 46-"B"             |
|                        | MS21042-5      | . . . Nut, Castle . . . . .                                                                | 1   | 46-"F"             |
|                        | 641728         | Gear Assembly, Mag Drive (2-4-6 Side) . . . . .                                            | 1   | Not Illus.         |
|                        | 629076         | Gear Assembly, Mag Drive (1-3-5 Side) . . . . .                                            | 1   | 50-12              |
| IO-520-D32             | 642331A1       | Studding Assembly, Crankcase . . . . .                                                     | 1   | Not Illus.         |
|                        | 401881         | . Stud, 5/16 x 1-1/8 Inch Long . . . . .                                                   | 3   | 1-6                |
|                        | 401808         | . Stud, 1/4 x 1-5/16 Inch Long . . . . .<br>(Omit 401881) . . . . .                        | 2   | 1-6<br>54-1        |
|                        | 630693-10.44   | Bolt, Crankcase Thru . . . . .                                                             | 1   | 2-19               |
|                        | 642266         | Bracket, Engine Mounting, Cyl. No. 2 . . . . .                                             | 1   | Not Illus.         |
|                        | 642329         | Adapter, Oil Cooler Pad . . . . .                                                          | 1   | Not Illus.         |
|                        | 637847         | Starter, 24 Volt . . . . .                                                                 | 1   | 18-42              |
|                        | 639713A9       | Fuel Injection Assembly, Complete . . . . .                                                | 1   | Not Illus.         |
|                        | 638154-1A15    | . Fuel Pump Assembly, Complete . . . . .                                                   | 1   | Not Illus.         |
|                        | 639715A7       | . Throttle Body and Control Assy. . . . .                                                  | 1   | Not Illus.         |
|                        | 639596         | . . Throttle and Lever Assembly . . . . .                                                  | 1   | Not Illus.         |
|                        | 632556         | . . . Lever, Throttle Control . . . . .                                                    | 1   | 48-7               |
|                        | 632554-1       | . . . . Bushing . . . . .                                                                  | 1   | 48-8               |
|                        | 639717-2A2     | . . Control Assembly, Complete . . . . .                                                   | 1   | Not Illus.         |
|                        | 632555-49      | . . . Lever, Mixture Control . . . . .                                                     | 1   | 46-"A"             |
|                        | 632554-1       | . . . . Bushing . . . . .                                                                  | 1   | 46-"B"             |
|                        | MS21042-5      | . . . Nut, Castle . . . . .                                                                | 1   | 46-"F"             |
|                        | 641728         | Gear Assembly, Mag Drive (2-4-6 Side) . . . . .                                            | 1   | Not Illus.         |
|                        | 629076         | Gear Assembly, Mag Drive (1-3-5 Side) . . . . .                                            | 1   | 50-12              |

| MODEL<br>SPEC | PART<br>NUMBER | 12345 DESCRIPTION                                                                 | QTY | FIGURE<br>INDEX    |
|---------------|----------------|-----------------------------------------------------------------------------------|-----|--------------------|
| IO-520-D33    | 642532A1       | Studding Assembly, Crankcase.....<br>(Same as Basic C/C except omit 401881) ..... | 1   | Not Illus.<br>54-1 |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                                                        | 1   | 2-19               |
|               | 642266         | Bracket, Engine Mount Cyl. No. 2 .....                                            | 1   | Not Illus.         |
|               | 637847         | Starter, 24 Volt .....                                                            | 1   | 18-42              |
|               | 639713A11      | Fuel Injection Assembly, Complete .....                                           | 1   | Not Illus.         |
|               | 638154-1A17    | . Fuel Pump Assembly, Complete .....                                              | 1   | Not Illus.         |
|               | 639716A7       | . Throttle Body and Control Assembly .....                                        | 1   | Not Illus.         |
|               | 639596         | . . Throttle and Lever Assembly .....                                             | 1   | Not Illus.         |
|               | 632556         | . . . Lever, Throttle Control .....                                               | 1   | 48-7               |
|               | 632554-1       | . . . . Bushing .....                                                             | 1   | 48-8               |
|               | 639717-2A2     | . . Control Assembly, Complete .....                                              | 1   | Not Illus.         |
|               | 632555-49      | . . . Lever, Mixture Control .....                                                | 1   | 46-"A"             |
|               | 632554-1       | . . . . Bushing .....                                                             | 1   | 46-"B"             |
|               | MS21042-5      | . . . Nut, Castle .....                                                           | 1   | 46-"F"             |
|               | 642306         | Magneto Assembly .....                                                            | 2   | Not Illus.         |
| IO-520-D34    | 642532A1       | Studding Assembly, Crankcase.....<br>(Same as Basic C/C except omit 401881) ..... | 1   | Not Illus.<br>54-1 |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                                                        | 1   | 2-19               |
|               | 642266         | Bracket Assy. Engine Mounting Cyl. No. 2 .....                                    | 1   | Not Illus.         |
|               | 637847         | Starter, 24 Volt .....                                                            | 1   | 18-42              |
|               | 639713A11      | Fuel Injection Assembly, Complete .....                                           | 1   | Not Illus.         |
|               | 638154-1A17    | . Fuel Pump Assembly .....                                                        | 1   | Not Illus.         |
|               | 639713A7       | . Throttle Body and Control Assembly .....                                        | 1   | Not Illus.         |
|               | 642306         | Magneto Assembly .....                                                            | 2   | Not Illus.         |
|               | 626334         | Plug, Special .....                                                               | 1   | 56-1               |
|               | 625966         | Gasket .....                                                                      | 1   | 56-2               |
|               | AN123866       | O-Ring .....                                                                      | 1   | 56-3               |
|               | 639171         | Oil Cooler and Associated Parts.....                                              | 1   | 57-                |
| IO-520-D35    | 642331A1       | Studding Assembly, Crankcase.....<br>(Omit 401881, see Fig. 54-1) .....           | 1   | Not Illus.         |
|               | 401808         | . Stud, 1/4 x 1-5/16 Inch Long.....                                               | 2   | 1-6                |
|               | 401841         | . Stud, 1/4 x 2-1/8 Inch Long.....                                                | 3   | 1-6                |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                                                        | 1   | 2-19               |
|               | 642266         | Bracket Assembly, Engine Mount Cyl. No. 2 .....                                   | 1   | Not Illus.         |
|               | 637847         | Starter, 24 Volt .....                                                            | 1   | 18-42              |
|               | 642306         | Magneto Assembly .....                                                            | 2   | Not Illus.         |
|               | 629076         | Gear Assembly, Mag Drive 1-3-5 Side .....                                         | 1   | 50-12              |
|               | 641728         | Gear Assembly, Mag Drive 2-4-6 Side .....                                         | 1   | Not Illus.         |
|               | 639713A9       | Fuel Injection Assembly, Complete .....                                           | 1   | Not Illus.         |
|               | 638154-1A15    | . Fuel Pump Assembly .....                                                        | 1   | Not Illus.         |
|               | 639715A7       | . Throttle Body and Control Assembly .....                                        | 1   | Not Illus.         |
| IO-520-E2     | 538989         | Washer, Plain .....                                                               | 4   | 2-8                |
|               | 634511         | Nut .....                                                                         | 4   | 2-9                |
|               | 539518         | Bracket, Engine Mounting .....                                                    | 3   | 3-1                |

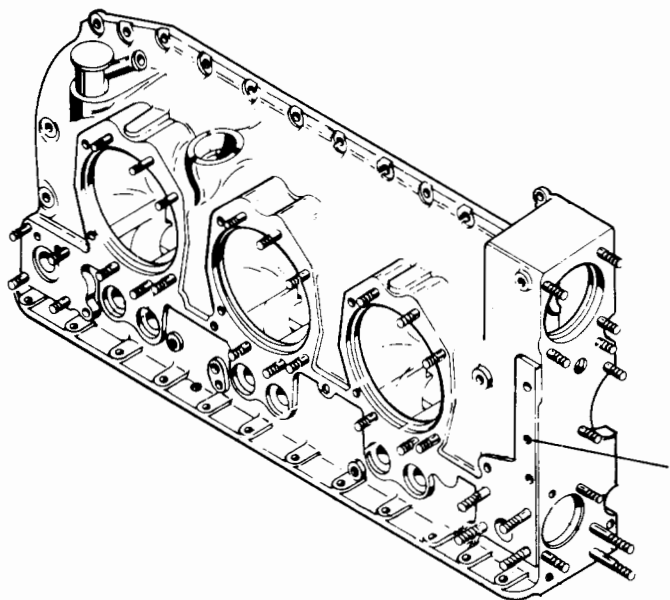
| MODEL<br>SPEC         | PART<br>NUMBER | 12345 DESCRIPTION                                                                  | QTY | FIGURE<br>INDEX |
|-----------------------|----------------|------------------------------------------------------------------------------------|-----|-----------------|
| IO-520-E2<br>(Cont'd) | 634673         | Bracket, Engine Mounting, Cyl. No. 2.....                                          | 1   | 3-2             |
|                       | 635169         | Sheave, Starter Adapter.....                                                       | 1   | 18-31           |
|                       | 639187A2       | Fuel Injection Assembly, Complete.....                                             | 1   | Not Illus.      |
|                       | 636887A1       | . Throttle Body and Control Assembly.....                                          | 1   | Not Illus.      |
|                       | 636670         | .. Throttle and Lever Assembly.....                                                | 1   | Not Illus.      |
|                       | 632555-44      | ... Lever, Throttle Control.....                                                   | 1   | 48-7            |
|                       | 632554-2       | .... Bushing.....                                                                  | 1   | 48-8            |
|                       | 629904-2A4     | .. Control Assembly, Complete.....                                                 | 1   | Not Illus.      |
|                       | 626334         | Plug, Special.....                                                                 | 1   | 56-1            |
|                       | 625966         | Gasket.....                                                                        | 1   | 56-2            |
|                       | AN123866       | O-Ring.....                                                                        | 1   | 56-3            |
|                       | 639151         | Oil Cooler and Associated Parts.....                                               | 1   | 57-1            |
| IO-520-E3             | 538989         | Washer, Plain.....                                                                 | 4   | 2-8             |
|                       | 634511         | Nut.....                                                                           | 4   | 2-9             |
|                       | 539518         | Bracket, Engine Mounting.....                                                      | 3   | 3-1             |
|                       | 634673         | Bracket, Engine Mounting, Cyl. No. 2.....                                          | 1   | 3-2             |
|                       | 640620-10      | Cap Assembly, Oil.....                                                             | 1   | 3-28            |
|                       | 635134         | . Gasket, Oil Filler.....                                                          | 1   | 3-29            |
|                       | 635169         | Sheave, Starter Adapter.....                                                       | 1   | 18-31           |
|                       | 641658         | Alternator, 24 Volt, 50 Amp.....<br>(For Associated Parts, see Fig. 23-2 thru -16) | 1   | Not Illus.      |
|                       | 632801         | Tube Assembly, Oil Suction.....                                                    | 1   | Not Illus.      |
|                       | 633448         | Sump, Oil.....                                                                     | 1   | Not Illus.      |
|                       | AN900-10       | Gasket, Oil Drain.....                                                             | 1   | Not Illus.      |
|                       | 532432         | Plug, Oil Drain.....                                                               | 1   | Not Illus.      |
|                       | 639187A2       | Fuel Injection Assembly, Complete.....                                             | 1   | Not Illus.      |
|                       | 636887A1       | . Throttle Body and Control Assembly.....                                          | 1   | Not Illus.      |
|                       | 636670         | .. Throttle and Lever Assembly.....                                                | 1   | Not Illus.      |
|                       | 632555-44      | ... Lever, Throttle Control.....                                                   | 1   | 48-7            |
|                       | 632554-2       | .... Bushing.....                                                                  | 1   | 48-8            |
|                       | 629904-2A4     | .. Control Assembly, Complete.....                                                 | 1   | Not Illus.      |
| IO-520-E6             | 538989         | Washer, Plain.....                                                                 | 4   | 2-8             |
|                       | 634511         | Nut.....                                                                           | 4   | 2-9             |
|                       | 539518         | Bracket, Engine Mounting.....                                                      | 3   | 3-1             |
|                       | 634673         | Bracket, Engine Mounting, Cyl. No. 2.....                                          | 1   | 3-2             |
|                       | 640620-10      | Cap Assembly, Oil Filler.....                                                      | 1   | 3-28            |
|                       | 635134         | . Gasket, Oil Filler.....                                                          | 1   | 3-29            |
|                       | 635169         | Sheave, Starter Adapter.....                                                       | 1   | 18-31           |
|                       | 641658         | Alternator, 24 Volt, 50 Amp.....<br>(For Associated Parts, see Fig. 23-2 thru -16) | 1   | Not Illus.      |
|                       | 632801         | Tube Assembly, Oil Suction.....                                                    | 1   | Not Illus.      |
|                       | 633448         | Sump, Oil.....                                                                     | 1   | Not Illus.      |
|                       | AN900-10       | Gasket, Oil Drain.....                                                             | 1   | Not Illus.      |
|                       | 532432         | Plug, Oil Drain.....                                                               | 1   | Not Illus.      |
|                       | 639187A4       | Fuel Injection Assembly, Complete.....                                             | 1   | Not Illus.      |
|                       | 636887A1       | . Throttle Body and Control Assembly.....                                          | 1   | Not Illus.      |

| MODEL<br>SPEC         | PART<br>NUMBER | 12345 DESCRIPTION                                   | QTY | FIGURE<br>INDEX |
|-----------------------|----------------|-----------------------------------------------------|-----|-----------------|
| IO-520-E6<br>(Cont'd) | 636670         | .. Throttle and Lever Assembly .....                | 1   | Not Illus.      |
|                       | 632555-44      | ... Lever, Throttle Control .....                   | 1   | 48-7            |
|                       | 632554-2       | .... Bushing .....                                  | 1   | 48-8            |
|                       | 629904-2A4     | .. Control Assembly, Complete .....                 | 1   | Not Illus.      |
|                       | 626334         | Plug, Special .....                                 | 1   | 56-1            |
|                       | 625966         | Gasket .....                                        | 1   | 56-2            |
|                       | AN123866       | O-Ring .....                                        | 1   | 56-3            |
| IO-520-E7             | 639171         | Oil Cooler and Associated Parts .....               | 1   | 57-1            |
|                       | 538989         | Washer, Plain .....                                 | 4   | 2-8             |
|                       | 634511         | Nut .....                                           | 4   | 2-9             |
|                       | 539518         | Bracket, Engine Mounting .....                      | 3   | 3-1             |
|                       | 634673         | Bracket, Engine Mounting, Cyl. No. 2 .....          | 1   | 3-2             |
|                       | 639187A4       | Fuel Injection Assembly, Complete .....             | 1   | Not Illus.      |
|                       | 636887A1       | .. Throttle Body and Control Assembly .....         | 1   | Not Illus.      |
|                       | 636670         | .. Throttle and Lever Assembly .....                | 1   | Not Illus.      |
|                       | 632555-44      | ... Lever, Throttle Control .....                   | 1   | 48-7            |
|                       | 632554-2       | .... Bushing .....                                  | 1   | 48-9            |
|                       | 629904-2A4     | .. Control Assembly, Complete .....                 | 1   | Not Illus.      |
|                       | 626334         | Plug, Special .....                                 | 1   | 56-1            |
|                       | 625966         | Gasket .....                                        | 1   | 56-2            |
|                       | AN123866       | O-Ring .....                                        | 1   | 56-3            |
|                       | 639171         | Oil Cooler and Associated Parts .....               | 1   | 57-             |
| IO-520-F2             | 539518         | Bracket, Engine Mounting .....                      | 4   | 3-1             |
|                       | 627272         | Generator, 12 Volt, 50 Amp & Associated Parts ..... |     | 20-             |
|                       | 626486         | Bracket, Fuel Discharge Tubes .....                 | 2   | 33-30           |
|                       | 631237         | Magneto Assembly .....                              | 2   | 52-2            |
|                       | 627804         | Harness Assembly, Right Hand .....                  | 1   | Not Illus.      |
|                       | 627805         | Harness Assembly, Left Hand .....                   | 1   | Not Illus.      |
|                       | 626334         | Plug, Special .....                                 | 1   | 56-1            |
|                       | 625966         | Gasket .....                                        | 1   | 56-2            |
|                       | AN123866       | O-Ring .....                                        | 1   | 56-3            |
|                       | 639151         | Oil Cooler and Associated Parts .....               | 1   | 57-             |
|                       | 538517         | Sump, Oil .....                                     | 1   | 58-1            |
|                       | 629518-4H      | Plug, Oil Drain .....                               | 1   | 58-2            |
| IO-520-F5             | 627321         | Regulator, Voltage .....                            | 1   | 61-1            |
|                       | 637847         | Starter, 24 Volts .....                             | 1   | 18-42           |
|                       | 629417         | Generator, 24 Volt, 50 Amp & Associated Parts ..... |     | 22-             |
|                       | 642862         | Bracket Assembly, Generator .....                   | 1   | 22-19           |
|                       | 626486         | Bracket, Fuel Discharge Tubes .....                 | 2   | 33-30           |
|                       | 631237         | Magneto Assembly .....                              | 2   | 52-2            |
|                       | 627804         | Harness Assembly, Right Hand .....                  | 1   | Not Illus.      |
|                       | 627805         | Harness Assembly, Left Hand .....                   | 1   | Not Illus.      |
|                       | 626334         | Plug, Special .....                                 | 1   | 56-1            |

| MODEL<br>SPEC         | PART<br>NUMBER | 12345 DESCRIPTION                              | QTY | FIGURE<br>INDEX |
|-----------------------|----------------|------------------------------------------------|-----|-----------------|
| IO-520-F5<br>(Cont'd) | 625996         | Gasket .....                                   | 1   | 56-2            |
|                       | AN123866       | O-Ring .....                                   | 1   | 56-3            |
|                       | 639151         | Oil Cooler and Associated Parts .....          | 1   | 57-             |
|                       | 538517         | Sump, Oil .....                                | 1   | 58-1            |
|                       | 629518-4H      | Plug, Oil Drain .....                          | 1   | 58-2            |
| IO-520-F6             | 642532A1       | Studding Assembly, Crankcase .....             | 1   | Not Illus.      |
|                       |                | (Same as Basic C/C except omit 401881) .....   |     | 54-1            |
|                       | 538989         | Washer, Plain .....                            | 4   | 2-8             |
|                       | 634511         | Nut .....                                      | 4   | 2-9             |
|                       | 539518         | Bracket, Engine Mounting .....                 | 3   | 3-1             |
|                       | 634673         | Bracket, Engine Mounting, Cyl. No. 2 .....     | 1   | 3-2             |
|                       | 641667         | Alternator and Associated Parts .....          | 1   | 23-             |
|                       | 626486         | Bracket, Fuel Discharge Tubes .....            | 2   | 33-30           |
|                       | 631237         | Magneto Assembly .....                         | 2   | 52-2            |
|                       | 627804         | Harness Assembly, Right Hand .....             | 1   | Not Illus.      |
|                       | 627805         | Harness Assembly, Left Hand .....              | 1   | Not Illus.      |
|                       | 626334         | Plug, Special .....                            | 1   | 56-1            |
|                       | 625966         | Gasket .....                                   | 1   | 56-2            |
|                       | AN123866       | O-Ring .....                                   | 1   | 56-3            |
|                       | 639151         | Oil Cooler and Associated Parts .....          |     | 57-             |
|                       | 538517         | Sump, Oil .....                                | 1   | 58-1            |
|                       | 629518-4H      | Plug, Oil Drain .....                          | 1   | 58-2            |
| IO-520-F7             | 539518         | Bracket, Engine Mounting .....                 | 3   | 3-1             |
|                       | 634673         | Bracket, Engine Mounting, Cyl. No. 2 .....     | 1   | 3-2             |
|                       | 635169         | Sheave, Starter Adapter .....                  |     |                 |
|                       | 637847         | Starter, 24 Volt .....                         | 1   | 18-42           |
|                       | 641658         | Alternator, 24 Volt, 50 Amp .....              | 1   | Not Illus.      |
|                       |                | (For Associated Parts, see Fig. 23-2 thru -16) |     |                 |
|                       | 626334         | Plug, Special .....                            | 1   | 56-1            |
|                       | 625966         | Gasket .....                                   | 1   | 56-2            |
|                       | AN123866       | O-Ring .....                                   | 1   | 56-3            |
| IO-520-F9             | 639151         | Oil Cooler and Associated Parts .....          | 1   | 57-             |
|                       | 630693-10.44   | Bolt, Crankcase Thru .....                     | 1   | 2-19            |
|                       | 639173A4       | Fuel Injection Assembly Complete .....         | 1   | 33-             |
|                       |                | (See IO-520-L)                                 |     |                 |
|                       | 626334         | Plug, Special .....                            | 1   | 56-1            |
|                       | 625966         | Gasket .....                                   | 1   | 56-2            |
|                       | AN123866       | O-Ring .....                                   | 1   | 56-3            |
| IO-520-F10            | 639171         | Oil Cooler and Associated Parts .....          | 1   | 57-             |
|                       | 630693-10.44   | Bolt, Crankcase Thru .....                     | 1   | 2-19            |
|                       | 642266         | Bracket, Engine Mounting, Cyl. No. 2 .....     | 1   | Not Illus.      |
|                       | 637847         | Starter, 24 Volt .....                         | 1   | 18-42           |
|                       | 639173A4       | Fuel Injection Assembly, Complete .....        | 1   | 33-             |
|                       |                | (See IO-520-L) .....                           |     |                 |

| MODEL<br>SPEC | PART<br>NUMBER | 12345 DESCRIPTION                                  | QTY | FIGURE<br>INDEX |
|---------------|----------------|----------------------------------------------------|-----|-----------------|
| IO-520-F11    | 630693-10.44   | Bolt, Crankcase Thru .....                         | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2.....          | 1   | Not Illus.      |
|               | 639173A4       | Fuel Injection Assembly, Complete .....            | 1   | 33-             |
|               |                | (See IO-520-L)                                     |     |                 |
|               | 626334         | Plug, Special .....                                | 1   | 56-1            |
|               | 625966         | Gasket .....                                       | 1   | 56-2            |
|               | AN123866       | O-Ring .....                                       | 1   | 56-3            |
| IO-520-F12    | 639171         | Oil Cooler and Associated Parts .....              | 1   | 57-             |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                         | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2.....          | 1   | Not Illus.      |
|               | 637847         | Starter, 24 Volt .....                             | 1   | 18-42           |
|               | 639173A4       | Fuel Injection Assembly, Complete (See IO-520-L) . | 1   | 33-             |
|               | 642306         | Magneto Assembly .....                             | 2   | Not Illus.      |
|               |                |                                                    |     |                 |
| IO-520-F13    | 630693-10.44   | Bolt, Crankcase Thru .....                         | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2.....          | 1   | Not Illus.      |
|               | 637847         | Starter, 24 Volt .....                             | 1   | 18-42           |
|               | 639173A4       | Fuel Injection Assembly, Complete (See IO-520-L) . | 1   | 33-             |
|               | 642306         | Magneto Assembly .....                             | 2   | Not Illus.      |
|               | 626334         | Plug, Special .....                                | 1   | 56-1            |
|               | 625966         | Gasket .....                                       | 1   | 56-2            |
|               | AN123866       | O-Ring .....                                       | 1   | 56-3            |
| IO-520-K2     | 639171         | Oil Cooler and Associated Parts .....              | 1   | 57-             |
|               | 637847         | Starter, 24 Volt .....                             | 1   | 18-42           |
|               | 641658         | Alternator, 24 Volt, 50 Amp .....                  | 1   | Not Illus.      |
|               | AN101348       | Bolt, 3/8 x 5 Inch Long .....                      | 1   | 23-8            |
|               | 632958         | Magneto, Left Hand .....                           | 1   | Not Illus.      |
|               | 640441         | Magneto, Right Hand .....                          | 1   | Not Illus.      |
|               | 636951         | Harness Assembly .....                             | 1   | 52-             |
| IO-520-L3     | 630693-10.44   | Bolt, Crankcase Thru .....                         | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2.....          | 1   | Not Illus.      |
|               | 637847         | Starter, 24 Volt .....                             | 1   | 18-42           |
|               | 626334         | Plug, Special .....                                | 1   | 56-1            |
|               | 625966         | Gasket .....                                       | 1   | 56-2            |
|               | AN123866       | O-Ring .....                                       | 1   | 56-3            |
|               | 639171         | Oil Cooler and Associated Parts .....              | 1   | 57-             |
| IO-520-L4     | 630693-10.44   | Bolt, Crankcase Thru .....                         | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2.....          | 1   | Not Illus.      |
|               | 637847         | Starter, 24 Volt .....                             | 1   | 18-42           |
| IO-520-L5     | 643237A1       | Studding Assembly, Crankcase.....                  | 1   | Not Illus.      |
|               | 401808         | Stud, 1/4 x 1-5/16 Inch Long .....                 | 3   | 1-6             |
|               | 401841         | Stud, 1/4 x 2-1/8 Inch Long .....                  | 3   | 1-6             |
|               | 538944-10.00   | Bolt, Crankcase Thru .....                         | 2   | 2-2             |

| MODEL<br>SPEC | PART<br>NUMBER | 12345 DESCRIPTION                          | QTY | FIGURE<br>INDEX |
|---------------|----------------|--------------------------------------------|-----|-----------------|
| IO-520-L5     | 641930-10.95   | Bolt, Crankcase Thru .....                 | 1   | 2-3             |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                 | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2 ..... | 1   | Not Illus.      |
|               | 637847         | Starter, 24 Volt .....                     | 1   | 18-42           |
|               | 642306         | Magneto Assembly .....                     | 2   | Not Illus.      |
|               | 643228         | Harness Assembly .....                     | 1   | Not Illus.      |
| IO-520-L7     | 630693-10.44   | Bolt, Crankcase Thru .....                 | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2 ..... | 1   | Not Illus.      |
|               | 637847         | Starter, 24 Volt .....                     | 1   | 18-42           |
|               | 626334         | Plug, Special .....                        | 1   | 56-1            |
|               | 625966         | Gasket .....                               | 1   | 56-2            |
|               | AN123866       | O-Ring .....                               | 1   | 56-3            |
|               | 639171         | Oil Cooler and Associated Parts .....      | 1   | 57-             |
|               | 642306         | Magneto Assembly .....                     | 2   | Not Illus.      |
| IO-520-L8     | 643228         | Harness Assembly .....                     | 1   | Not Illus.      |
|               | 630693-10.44   | Bolt, Crankcase Thru .....                 | 1   | 2-19            |
|               | 642266         | Bracket, Engine Mounting, Cyl. No. 2 ..... | 1   | Not Illus.      |
|               | 637847         | Starter, 24 Volt .....                     | 1   | 18-42           |
|               | 642306         | Magneto Assembly .....                     | 2   | Not Illus.      |
|               | 643228         | Harness Assembly .....                     | 1   | Not Illus.      |



\* Studding Assembly same as basic except for omission of No. 401801 stud in location noted.

FIGURE 54.

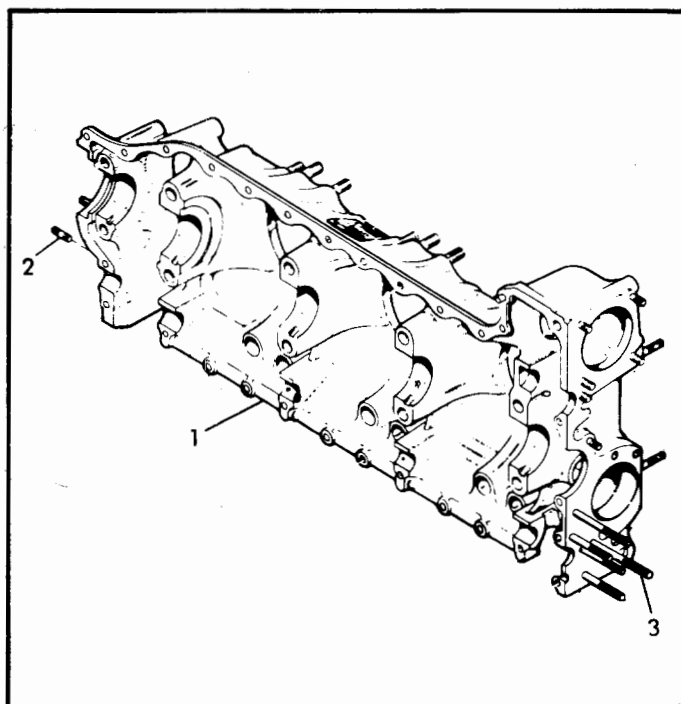


FIGURE 55.

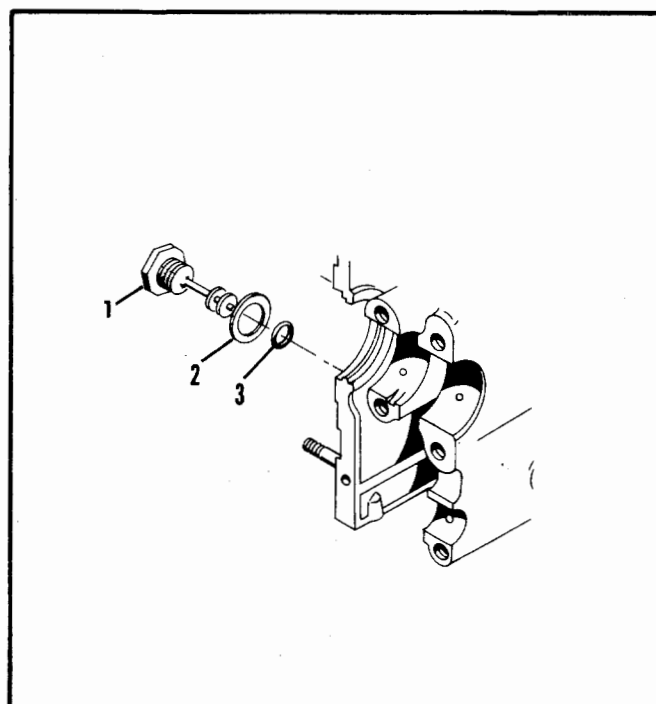


FIGURE 56.

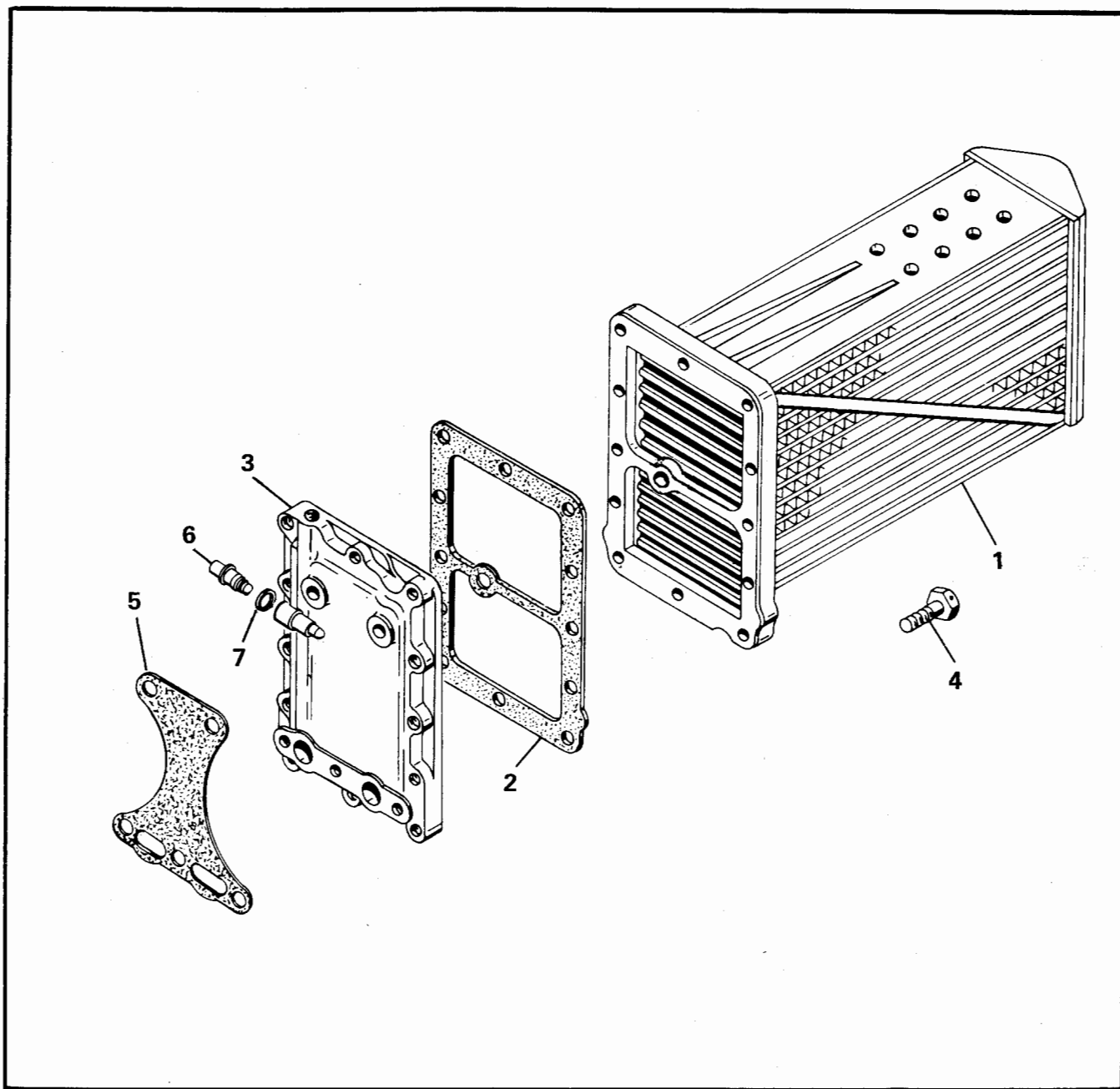


FIGURE 57.

| FIG. & INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                              | QTY. |
|--------------|-------------|-----------|------------------------------------------|------|
| -1           | 639151      |           | Oil Cooler . . . . .                     | 1    |
| -1           | 639171      |           | Oil Cooler . . . . .                     | 1    |
| -2           | 626342      |           | Gasket, Oil Cooler-to-Plate . . . . .    | 1    |
| -3           | 626332      |           | Plate, Oil Cooler . . . . .              | 1    |
| -4           | 535668      |           | Screw . . . . .                          | 12   |
| -5           | 626341      |           | Gasket, Plate-to-Crankcase . . . . .     | 1    |
| -6           | 639305      |           | Valve, Oil Temperature Control . . . . . | 1    |
| -7           | 627496      |           | Gasket . . . . .                         | 1    |

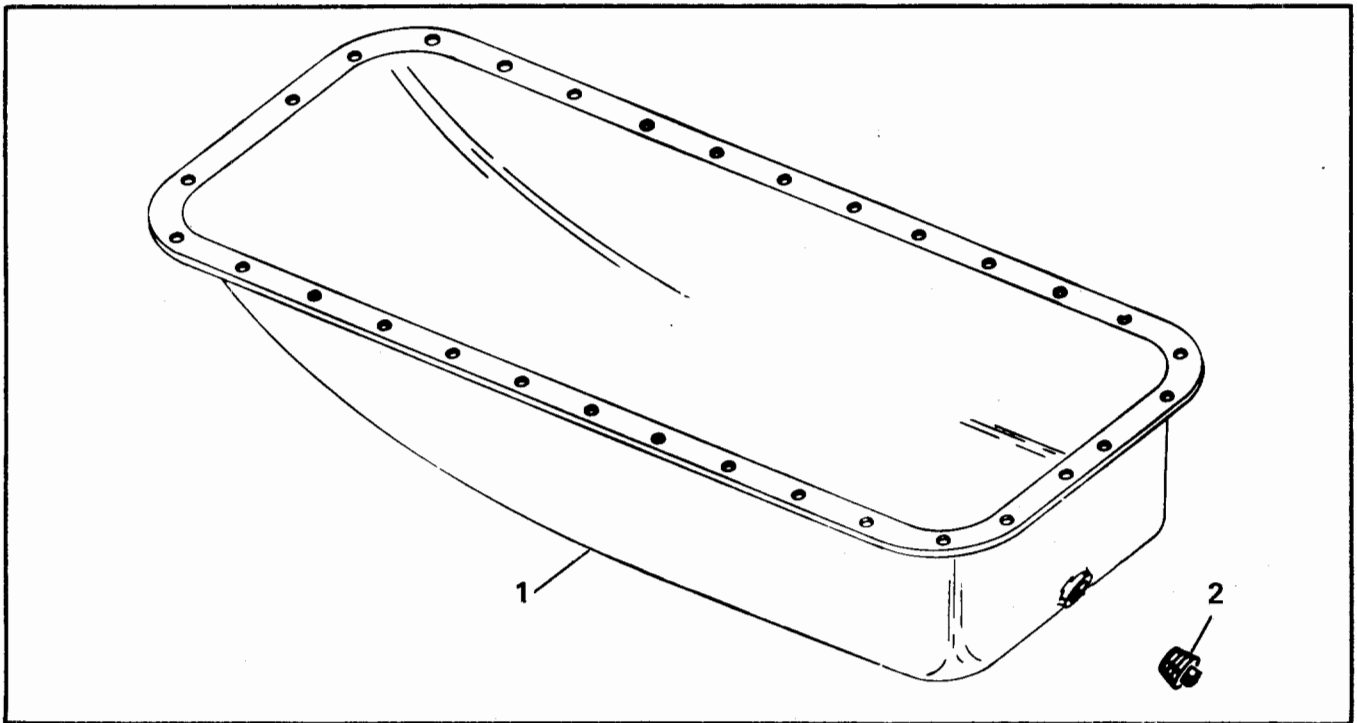


FIGURE 58.

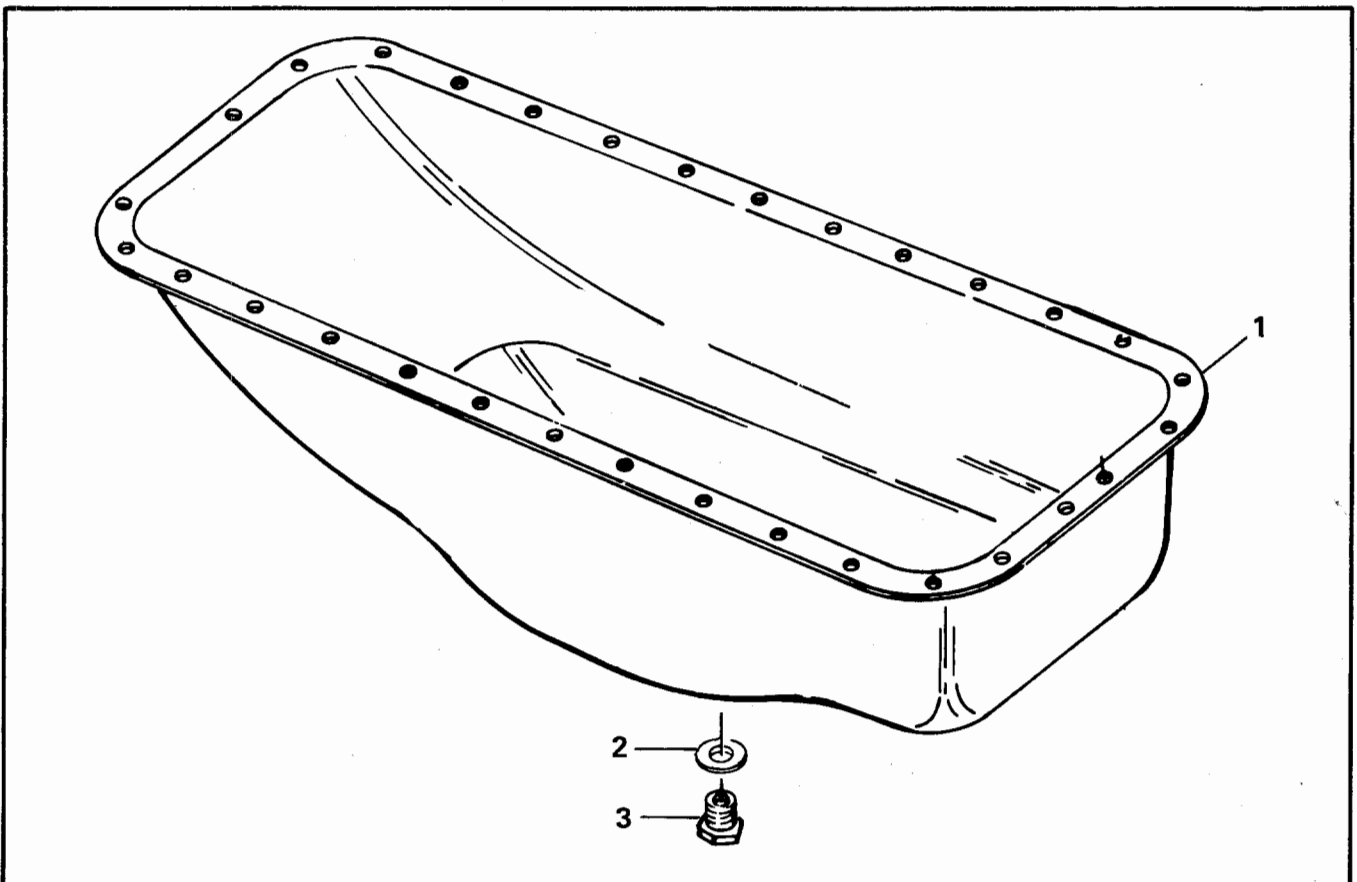


FIGURE 59.

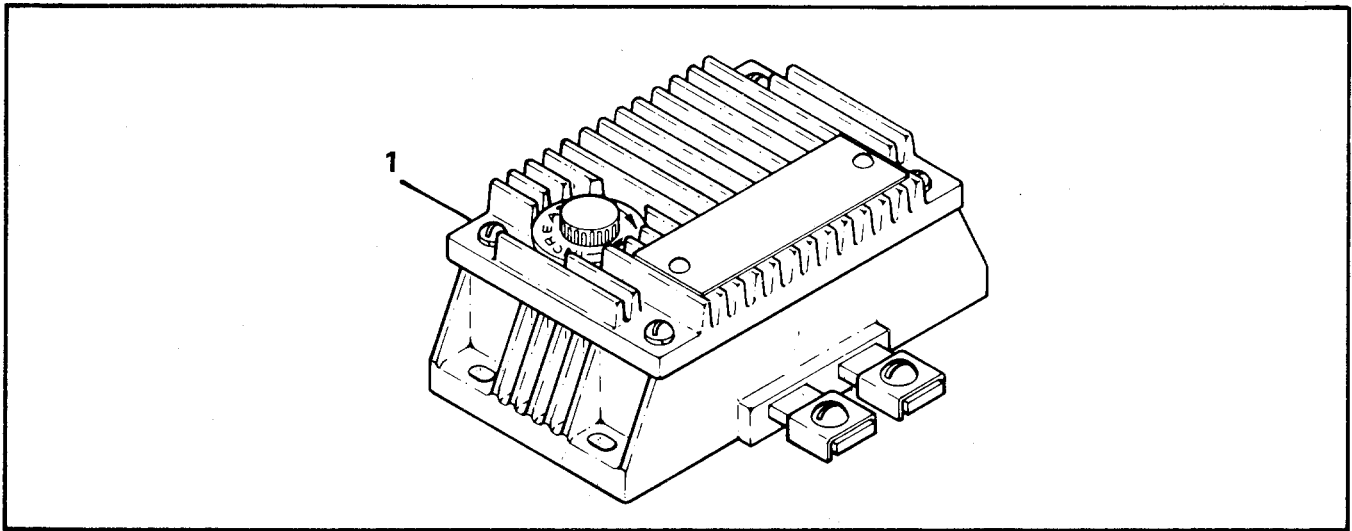


FIGURE 60.

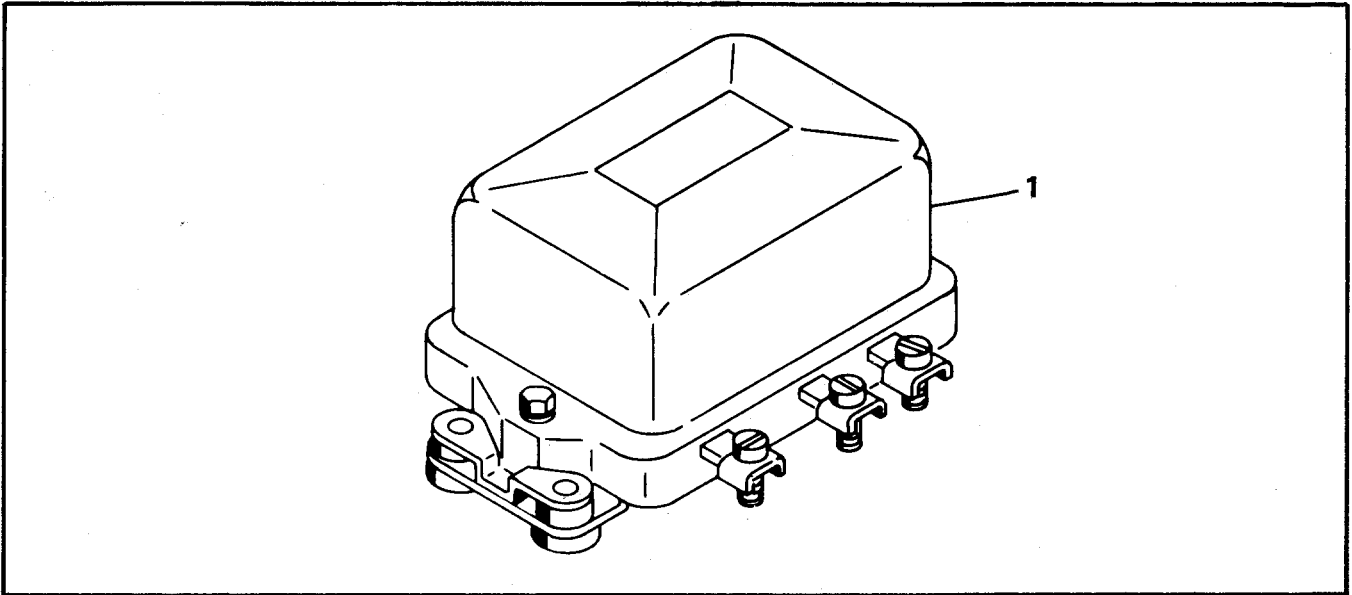


FIGURE 61.

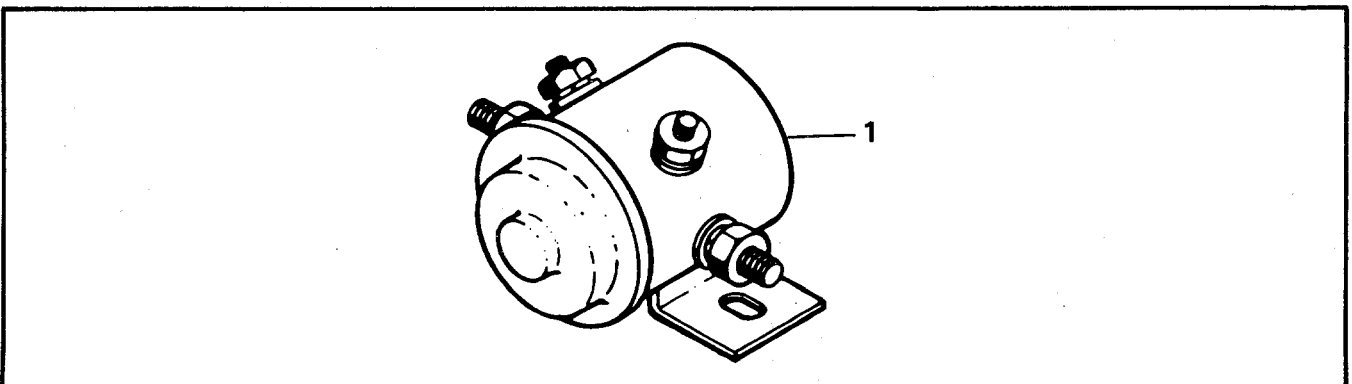


FIGURE 62.

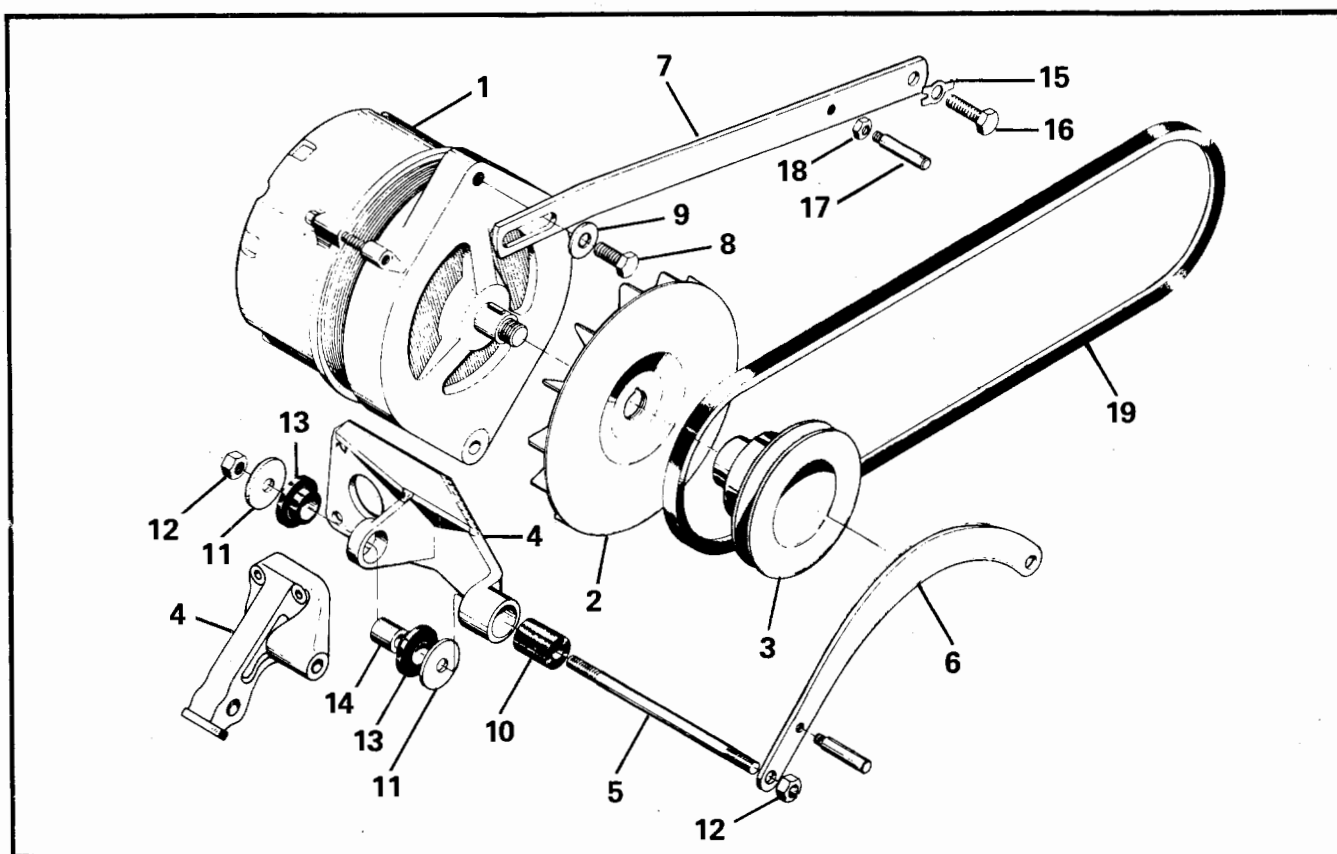


FIGURE 63. ALTERNATOR

| FIG. &<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                           | QTY. |
|-----------------|----------------|-----------|-------------------------------------------------------|------|
| 63-1            | 631111         |           | Alternator . . . . .                                  | 1    |
| -2              | 631094         |           | Fan, Alternator . . . . .                             | 1    |
| -3              | 630985         |           | Sheave, Alternator Driven . . . . .                   | 1    |
| -4              | 631000         |           | Bracket Assembly . . . . .                            | 1    |
| -4              | 634673         |           | Bracket, Engine Mount and Alternator . . . . .        | 1    |
| -5              | 630989         |           | Shaft, Alternator Mount . . . . .                     | 1    |
| -6              | 631200         |           | Bracket Assembly, Alternator Support, Lower . . . . . | 1    |
| -7              | 632312         |           | Bracket, Alternator Adjusting Arm, Upper . . . . .    | 1    |
| -8              | 628730         |           | Screw, Bracket At Alternator . . . . .                | 1    |
| -9              | 537539         |           | Washer, Bracket at Alternator . . . . .               | 1    |
| -10             | 630988         |           | Bushing, Rubber, Lower Support . . . . .              | 1    |
| -11             | 633062         |           | Washer, Lower Support . . . . .                       | 2    |
| -12             | 2439           |           | Nut, Plain . . . . .                                  | 2    |
| -13             | 630519         |           | Bushing, Rubber . . . . .                             | 2    |
| -14             | 627281         |           | Bushing . . . . .                                     | 1    |
| -15             | 501868         |           | Washer, Tab . . . . .                                 | 1    |
| -16             | 537750         |           | Screw . . . . .                                       | 1    |
| -17             | 627673-2       |           | Idler, Kiss . . . . .                                 | 1    |
| -18             | 22661          |           | Nut, Elastic Stop . . . . .                           | 1    |
| -19             | 539547-31.19   |           | Belt . . . . .                                        | 1    |

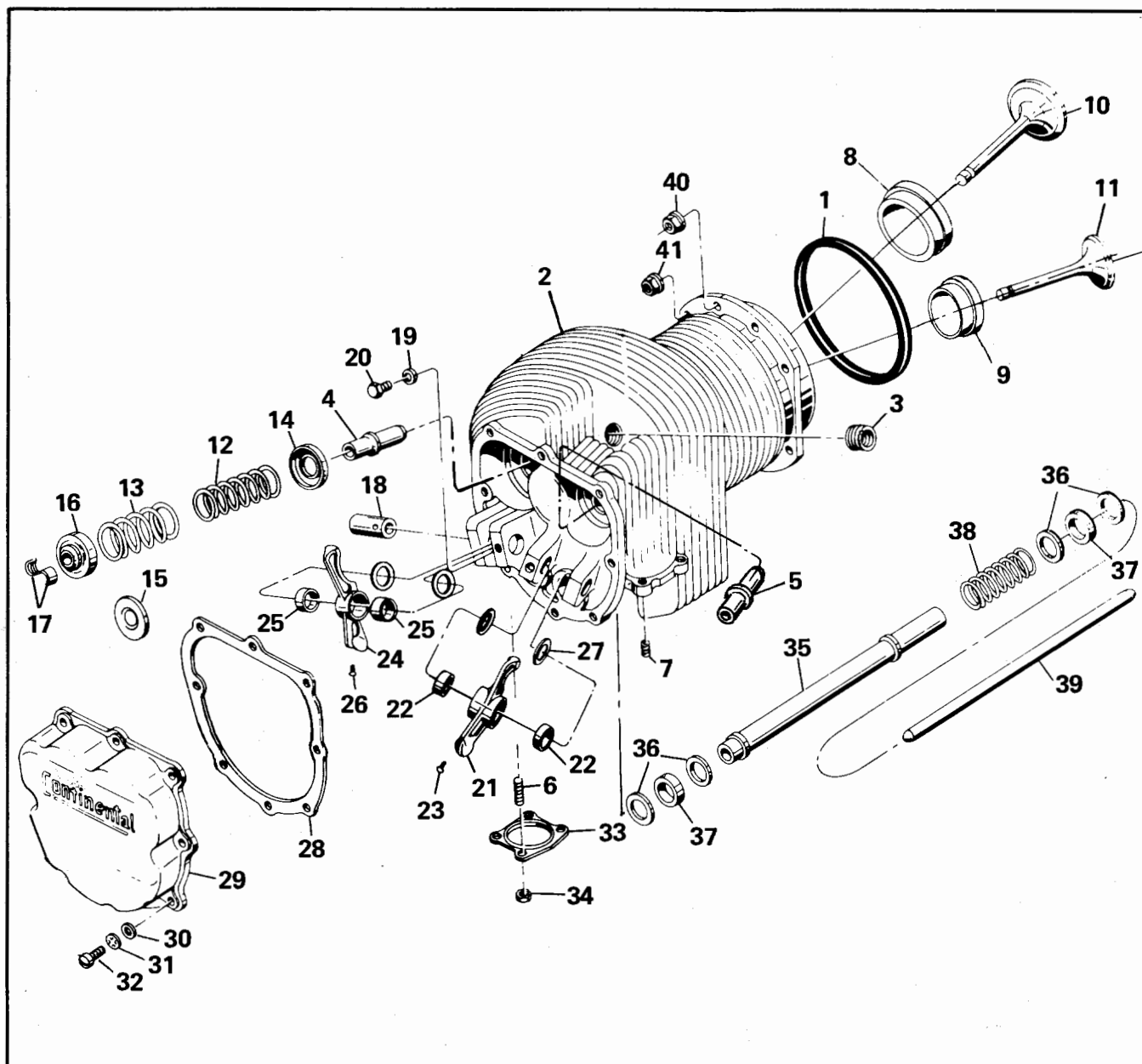


FIGURE 64. CYLINDER ASSEMBLY

| FIG. & INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                               | QTY. |
|--------------|-------------|-----------|-------------------------------------------|------|
| 64-1         | 641066      | \$        | Packing, Cylinder Base . . . . .          | 6    |
|              | 642320A1    |           | Cylinder and Valve Assembly . . . . .     | 6    |
|              |             |           | * * * * *                                 |      |
| -2           | 642320      |           | . Cylinder Assembly . . . . .             | 1    |
| -3           | 520112-3    |           | . . Insert, Spark Plug Thread . . . . .   | 2    |
| -4           | 636242      | †         | . . Guide, Valve Exhaust . . . . .        | 1    |
| -5           | 631496      | †         | . . Guide, Valve Intake . . . . .         | 1    |
| -6           | 401893      | †         | . . Stud, 1/4 - 1-1/4 Inch Long . . . . . | 4    |
| -7           | MS122121    |           | . . Insert . . . . .                      | 4    |
| -8           | 642318      | †         | . . Insert, Intake Valve Seat . . . . .   | 1    |
| -9           | 35967       | †         | . . Insert, Exhaust Valve Seat . . . . .  | 1    |
| -10          | 539988      |           | . Valve, Intake . . . . .                 | 1    |
| -11          | 637781      |           | . Valve, Exhaust . . . . .                | 1    |

| FIG. &<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                  | QTY. |
|-----------------|----------------|-----------|----------------------------------------------|------|
| 64-12           | 631521         | .         | Spring, Valve Inner . . . . .                | 2    |
| -13             | 631520         | .         | Spring, Valve Outer . . . . .                | 2    |
| -14             | 625393         | .         | Retainer, Valve Spring, Inner . . . . .      | 2    |
| -15             | 35971          | .         | Retainer, Valve Spring, Intake . . . . .     | 1    |
| -16             | 629117         | .         | Roto Cap Assembly, Exhaust . . . . .         | 1    |
| -17             | 24802          | .         | Key, Valve Spring Retainer . . . . .         | 4    |
| -18             | 539740         | .         | Shaft, Valve, Rocker . . . . .               | 12   |
| ATTACHING PARTS |                |           |                                              |      |
| -19             | 2473           | .         | Washer, Plain . . . . .                      | 12   |
| -20             | 537019         | .         | Screw, 5/16 - 24 x 17/32 Inch Long . . . . . | 12   |
| * * * *         |                |           |                                              |      |
| -21             | 539742         | .         | Rocker Assembly, Intake Valve . . . . .      | 6    |
| -22             | 639629         | .         | Bushing, Valve Rocker . . . . .              | 2    |
| -23             | 21007          | .         | Screw, Drive . . . . .                       | 1    |
| -24             | 641682         | .         | Rocker Assembly, Exhaust Valve . . . . .     | 6    |
| -25             | 639629         | .         | Bushing, Valve Rocker . . . . .              | 2    |
| -26             | 21007          | .         | Screw, Drive . . . . .                       | 1    |
| -27             | 639573         | †         | Washer, Thrust . . . . .                     | 24   |
| -28             | 534857         | .         | Gasket, Valve Rocker Cover . . . . .         | 6    |
| -29             | 625615         | .         | Cover, Valve Rocker . . . . .                | 6    |
| ATTACHING PARTS |                |           |                                              |      |
| -30             | 20522          | .         | Washer, Plain . . . . .                      | 48   |
| -31             | MS35338-44     | .         | Washer, Lock . . . . .                       | 48   |
| -32             | 535118         | .         | Screw, Fillister Head . . . . .              | 48   |
| * * * *         |                |           |                                              |      |
| -33             | 631544         | \$        | Gasket, Exhaust Flange . . . . .             | 6    |
| -33             | 628260         | \$        | Gasket, Exhaust Flange . . . . .             | Opt. |
| ATTACHING PARTS |                |           |                                              |      |
| -34             | 21247          | .         | Nut, 1/4 - 28 Brass, Exhaust . . . . .       | 24   |
| -34             | 536038         | .         | Nut, 1/4 - 28 Cres. Exhaust . . . . .        | Opt. |
| * * * *         |                |           |                                              |      |
| -35             | 537296         | .         | Housing, Push Rod . . . . .                  | 12   |
| -36             | 534609         | .         | Washer, Push Rod Housing . . . . .           | 48   |
| -37             | 534610         | \$        | Packing, Push Rod Housing . . . . .          | 24   |
| -38             | 626147         | .         | Spring, Push Rod Housing . . . . .           | 12   |
| -39             | 538304         | .         | Push Rod Assembly . . . . .                  | 12   |
| ATTACHING PARTS |                |           |                                              |      |
| -40             | 531001         | .         | Nut Flanged, 7/16 - 20 . . . . .             | 36   |
| -41             | 634505         | .         | Nut, Flanged, 1/2 - 20 . . . . .             | 12   |

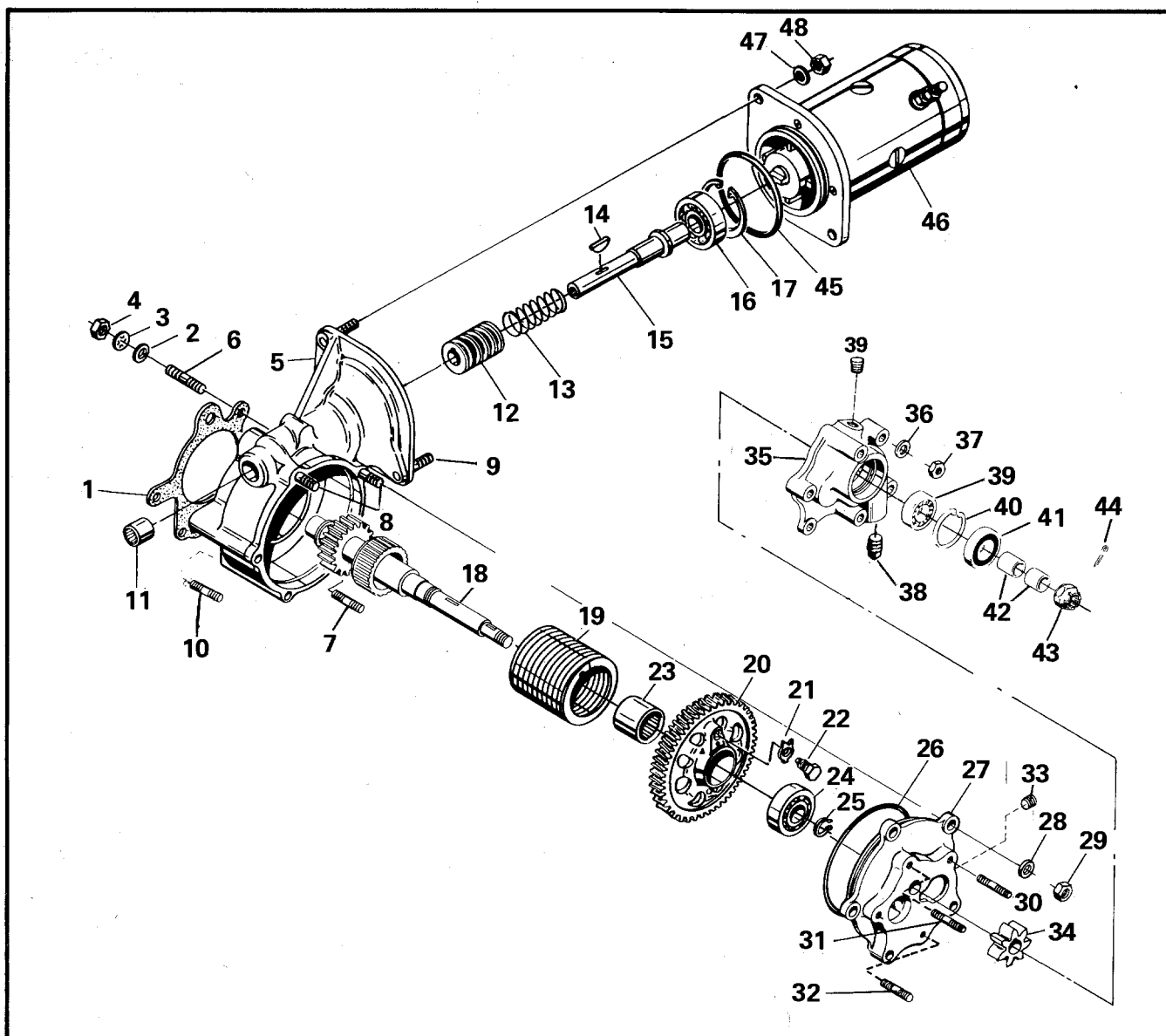


FIGURE 65. STARTER AND STARTER ADAPTER ASSEMBLY

| FIG. & INDEX | PART NUMBER | 1 2 3 4 5 | DESCRIPTION                                         | QTY. |
|--------------|-------------|-----------|-----------------------------------------------------|------|
| 65-1         | 630916      | \$        | Gasket . . . . .                                    | 1    |
|              | 642087A3    |           | Adapter Assembly, Starter Drive, Complete . . . . . | 1    |
|              |             |           | ATTACHING PARTS                                     |      |
| -2           | 2473        |           | Washer, Plain . . . . .                             | 4    |
| -3           | MS35338-45  |           | Washer, Lock . . . . .                              | 4    |
| -4           | 2439        |           | Nut, Plain, Hex . . . . .                           | 4    |
|              |             |           | * * * * *                                           |      |
| -5           | 642087      |           | . Adapter Assembly . . . . .                        | 1    |
| -6           | 352655      | †         | . . Stud, 5/16 x 2-11/16 Inch Long . . . . .        | 1    |
| -7           | 401814      | †         | . . Stud, 5/16 x 1-7/8 Inch Long . . . . .          | 1    |
| -8           | 401881      | †         | . . Stud, 5/16 x 1-1/8 Inch Long . . . . .          | 2    |
| -9           | 402127      | †         | . . Stud, 3/8 x 1-17/32 Inch Long . . . . .         | 2    |
| -10          | 401971      | †         | . . Stud, 5/16 x 1-5/8 Inch Long . . . . .          | 1    |

| FIG. &<br>INDEX | PART<br>NUMBER | 1 2 3 4 5 | DESCRIPTION                                          | QTY. |
|-----------------|----------------|-----------|------------------------------------------------------|------|
| 65-11           | 641368         | .         | Bearing, Needle . . . . .                            | 1    |
| -12             | 539805         | .         | Gear, Starter Worm . . . . .                         | 1    |
| -13             | 536552         | .         | Spring, Starter Worm Gear . . . . .                  | 1    |
| -14             | 631252         | .         | Shaft, Worm Drive . . . . .                          | 1    |
| -15             | MS35756-8      | .         | Key, Woodruff . . . . .                              | 1    |
| -16             | X13041         | .         | Bearing Ball . . . . .                               | 1    |
| -17             | 502287         | .         | Ring, Retaining . . . . .                            | 1    |
| -18             | 640803         | .         | Shaftgear Assembly, Starter . . . . .                | 1    |
| -19             | 539800         | †         | Spring, Clutch . . . . .                             | 1    |
| -20             | 630681         | .         | Gear Assembly, Starter . . . . .                     | 1    |
| ATTACHING PARTS |                |           |                                                      |      |
| -21             | 501867         | .         | Washer, Tab . . . . .                                | 1    |
| -22             | 633845         | .         | Screw, Special, 1/4 - 20 x 13/32 Inch Long . . . . . | 1    |
| * * * *         |                |           |                                                      |      |
| -23             | 630680         | .         | Bearing, Roller . . . . .                            | 1    |
| -24             | 640731         | .         | Bearing, Ball . . . . .                              | 1    |
| -25             | 502293         | .         | Ring, Retaining . . . . .                            | 1    |
| -26             | AN123902       | \$        | O-Ring . . . . .                                     | 1    |
| -27             | 640749         | .         | Cover Assembly . . . . .                             | 1    |
| ATTACHING PARTS |                |           |                                                      |      |
| -28             | 2473           | .         | Washer, Plain . . . . .                              | 3    |
| -29             | 2439           | .         | Nut, Plain, Hex . . . . .                            | 3    |
| * * * *         |                |           |                                                      |      |
| -30             | 401813         | †         | Stud, 5/16 x 1-11/16 Inch Long . . . . .             | 2    |
| -31             | 401899         | †         | Stud, 5/16 x 2 Inch Long . . . . .                   | 1    |
| -32             | 352655         | †         | Stud, 5/16 x 2-5/8 Inch Long . . . . .               | 1    |
| -33             | AN932-2        | .         | Plug, Pipe 1/8 - 27 . . . . .                        | 1    |
| -34             | 640808         | .         | Gear, Scavenge Pump, Driver . . . . .                | 1    |
| -35             | 640741A1       | .         | Body Assembly, Scavenge Pump . . . . .               | 1    |
| ATTACHING PARTS |                |           |                                                      |      |
| -36             | 2473           | .         | Washer, Plain . . . . .                              | 4    |
| -37             | 2439           | .         | Nut, Plain, Hex . . . . .                            | 4    |
| * * * *         |                |           |                                                      |      |
| -38             | 629518-4H      | .         | Plug . . . . .                                       | 1    |
| -39             | 637817         | .         | Bearing, Ball . . . . .                              | 1    |
| -40             | 502020         | .         | Ring, Retaining . . . . .                            | 1    |
| -41             | 642383         | .         | Seal, Oil . . . . .                                  | 1    |
| -42             | 640733         | .         | Sleeve, Starter Shaft . . . . .                      | 2    |
| -43             | MS9358-15      | .         | Nut, Castle . . . . .                                | 1    |
| -44             | MS9245-62      | .         | Pin, Cotter . . . . .                                | 1    |
| -45             | MS9021.038     | \$        | O-Ring . . . . .                                     | 1    |
| -46             | 637847         | .         | Starter, 24 Volt . . . . .                           | 1    |
| ATTACHING PARTS |                |           |                                                      |      |
| -47             | 401507         | .         | Washer, Plain . . . . .                              | 2    |
| -48             | 2441           | .         | Nut, Plain, Hex . . . . .                            | 2    |
| * * * *         |                |           |                                                      |      |

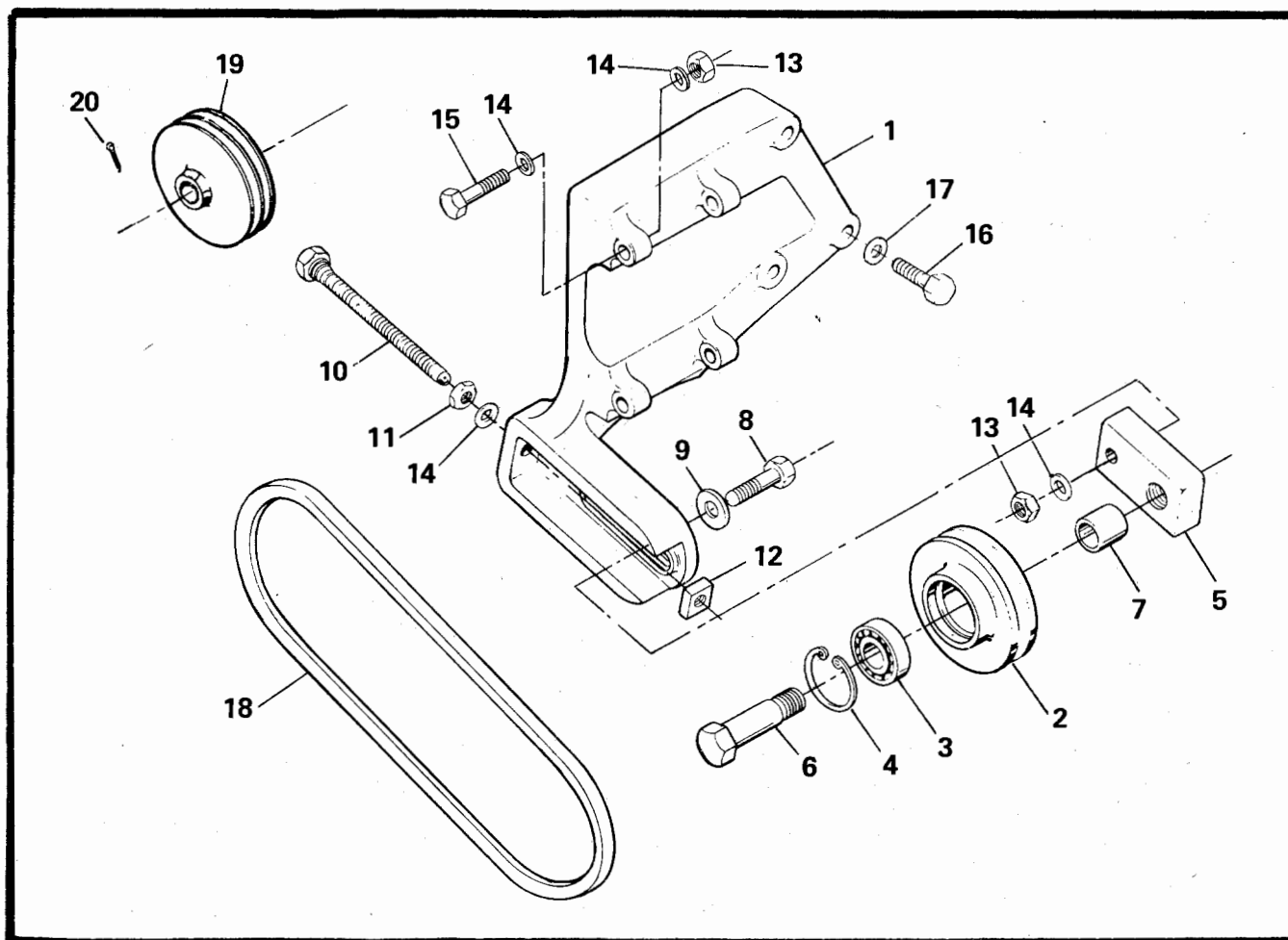


FIGURE 66. FREON COMPRESSOR BRACKET ASSEMBLY

| FIG. INDEX | PART NUMBER  | 12345 DESCRIPTION                         | QTY |
|------------|--------------|-------------------------------------------|-----|
| 66-        | EQ6544       | Kit Assy., Freon Compressor Bracket ..... | Opt |
|            | 643560       | . Bracket Assy., Freon Compressor .....   | 1   |
| -1         | 640767       | . Bracket .....                           | 1   |
| -2         | 643558       | . Sheave Assembly .....                   | 1   |
| -3         | 643368       | . Bearing, Ball .....                     | 1   |
| -4         | MS16631-1165 | . Ring, Retaining .....                   | 1   |
| -5         | 640781       | . Arm, Idler Sheave .....                 | 1   |
| -6         | 643556       | . Screw .....                             | 1   |
| -7         | 643559       | . Spacer .....                            | 1   |
| -8         | AN101319     | . Bolt .....                              | 1   |
| -9         | 640947       | . Washer, Special .....                   | 1   |
| -10        | 640774       | . Bolt, Special .....                     | 1   |
| -11        | AN316-6R     | . Nut .....                               | 1   |
| -12        | 640777       | . Nut, Rectangular .....                  | 1   |
| -13        | MS20364-624C | . Nut .....                               | 4   |
| -14        | AN960-616    | . Washer, Plain .....                     | 10  |
| -15        | AN101319     | . Bolt .....                              | 4   |
| -16        | MS90728-66   | . Bolt .....                              | 2   |
| -17        | 24239        | . Washer .....                            | 2   |
| -18        | 642759       | . Belt .....                              | 1   |
| -19        | 640801       | . Sheave, Driver .....                    | 1   |
| -20        | MS9245-62    | . Pin, Cotter .....                       | 1   |