

BRP-Powertrain

MAINTENANCE MANUAL

5.1) Maintenance Schedule

General note Perform the following maintenance tasks at the intervals shown in the maintenance check list. See chapter 05-20-00 25 hr. check.

Legend: X = do the task
blank = no task required

NOTES: If the points 1-3 in order to continue with the maintenance schedule.
If one of the points 1-3 not OK, the engine must be checked and repaired in accordance with the BRP-Powertrain instructions for continued airworthiness.

Points of Inspection	Interval Operating hours		Chapter Reference	Signature
	as indicated	100 hr.		
1.) Visual inspection of the engine				
General visual inspection of the engine for damage or abnormalities. Check cooling air duct and cooling fins of the cylinders for obstruction, cracks, wear and good condition. Take note of changes caused by temperature influence.	recommended 50 hr.	X	12-20-00 sec. 3)	
Visual inspection of the temperature sensor and the oil pressure sensor. Inspect for tight fit and good condition.		X		
Inspect all coolant hoses for damage, including leakage, hardening from heat, porosity, loose connections and secure attachment. Verify routing is free of kinks and restrictions.		X	12-20-00 sec. 9.1)	
Carry out visual inspection of leakage bore at the base of the water pump for signs of leakage.		X	12-20-00 sec. 4)	
Inspect the expansion tank for damage and abnormalities. Check coolant level, replenish as necessary. Inspect radiator cap. Inspect protection rubber on expansion tank base for correct fit.		X	12-20-00 sec. 9.1,9.4) 12-10-00 sec. 3.1)	
Inspect the overflow bottle for damage and abnormalities. Verify coolant level, replenish as necessary. Inspect line from expansion tank to overflow bottle for damage, leakage and clear passage. Inspect venting bore in cap of overflow bottle for clear passage.		X	12-20-00 sec. 9.5) 12-10-00 sec. 3.1)	

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Points of Inspection	Interval Operating hours		Chapter Reference	Signature															
	as indicated	100 hr.																	
Inspect all oil lines for damage, leakage, hardening from heat, porosity, security of connections and attachments. Verify routing is free of kinks and restrictions.		X	12-20-00 sec. 4)																
Inspect all fuel lines for damage, leakage, hardening from heat, porosity, security connections and attachments. Verify routing is free of kinks and restrictions. In the case of steel fuel lines (912 F, 912 S and/or optional), also check for any cracks and/or scuffing marks.		X	12-20-00 sec. 4)																
Inspect the wiring and its connections for secure fit, damage and signs of wear.		X	12-20-00 sec. 13.1)																
Check the oil filter for damage, tightness and abnormal wear.			12-20-00 sec. 13.5)																
2.) Magnetic plug																			
Check the magnetic plug.		X	12-20-00 sec. 12)																
3.) Compression check																			
Check the compression by the differential pressure method. Test pressure_____hPa (psi)	every 200 hr.		12-20-00 sec. 5)																
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="5" style="text-align: center;">Pressure drop (% or fraction)</th> </tr> <tr> <th style="width: 10%;">Cyl #</th> <th style="width: 10%;">1</th> <th style="width: 10%;">2</th> <th style="width: 10%;">3</th> <th style="width: 10%;">4</th> </tr> </thead> <tbody> <tr> <td>bar/psi</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>					Pressure drop (% or fraction)					Cyl #	1	2	3	4	bar/psi				
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4.) Checking the engine suspension																			
Inspect engine suspension and fasteners for secure fit, including damage from heat, deformation, cracks.		X	12-20-00 sec. 3.1)																
5.) Checking the air intake system																			
Inspect suspension and fasteners for secure fit, including damage from heat, deformation, cracks.		X																	

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Points of Inspection	Interval Operating hours		Chapter Reference	Signature
	as indicated	100 hr.		
6.) Engine external parts				
Inspect screws and nuts of all external parts for tight fit. Inspect safety wiring, replace as necessary.		X		
7.) Engine cleaning				
Engine cleaning		X	12-20-00 sec. 1)	
8.) Checking the air filter				
Checking the air filter.		X	12-20-00 sec. 2)	
9.) Checking the carburetors				
Checking the idle speed.		X	12-20-00 sec.10.3.1)	
Checking the ventilation of the float chambers. Any trouble with the float chamber ventilation impairs engine and carburetor function and must therefore be avoided. Check that the passage of the ventilation lines is free and that no kinks can arise.	200 hr.			
Check for free movement of the carburetor actuation (throttle lever and starting carburetor). Check that the bowden cable allows the full travel of the throttle lever from stop to stop.		X	12-20-00 sec. 10.6)	
Removal/assembly of the two carburetors for carburetor inspection.	every 200 hr.		Heavy MM 73-00-00 sec. 3)	
Check carburetor synchronization. Mechanical and pneumatic synchronization.		X	12-20-00 sec. 10.1) 10.2) 10.3)	
Check weight of floater.	every 200 hr. (or annual check)		12-20-00 sec. 10.4.1)	
10.) Inspecting carburetor sockets and drip tray				
Inspect the carburetor sockets for damage and abnormalities, checking for cracks, wear and good condition. Take note of changes caused by temperature influence. (¹ See SB-912-030 - latest edition.	every 200 hr. (¹)		Heavy MM 73-00-00 sec. 3.4.3)	
11.) Spark plug connectors				
Check that resistance spark plug connectors fit tightly on the spark plugs. Minimum pull-off force is 30 N (7 lb).	every 200 hr.			

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12.) Spark plugs				
Remove all spark plugs, check the heat range designation, clean, check electrode gap and adjust if necessary. Replace as required.		X	12-20-00 sec. 13.2)	
Replacing spark plugs.	every 200 hr.	X ⁽¹⁾	12-20-00 sec. 13.2)	
⁽¹⁾ use of leaded fuel more than 30% of operation.				
13.) Flushing the cooling system				
Flushing the cooling system where conventional coolants are used.	when replacing the coolant		12-20-00 sec. 9.3)	
14.) Checking the propeller gear box				
Check the friction torque in free rotation on gearboxes with overload clutch. Actual friction torque _____ Nm (in.lbs)		X	12-20-00 sec. 14.1)	
Gearboxes with overload clutch ⁽¹⁾ use of leaded fuel more than 30% of operation. Inspect overload clutch.	every 600 hr. ⁽¹⁾		05-50-00 sec. 2) SB-912-033	
Checking the propeller gearbox with overload clutch. ⁽²⁾ only for engine type 912 S/ULS/ULSFR	every 1000 hr. ⁽²⁾		12-20-00 sec. 14.2)	
Checking the propeller gearbox without overload clutch. ⁽³⁾ only for engine type 912 UL/ULS/ULSFR	every 600 hr. ⁽³⁾		12-20-00 sec. 14.2)	
15.) Oil change				
Drain oil from oil tank.	every 50 hr. ⁽¹⁾	X	12-20-00 sec. 11.2)	
Check the oil tank and clean the oil tank if contaminated. ⁽¹⁾ use of leaded fuel more than 30% of operation.	every 200 hr.	X ⁽¹⁾	12-20-00 11.5)	
Remove old oil filter from engine and install new oil filter.	every 50 hr. ⁽¹⁾	X	12-20-00 sec. 11.3)	
Cut old oil filter without producing any metal chips and inspect following components for wear and/or missing material Filter mat Findings: _____	every 50 hr. ⁽¹⁾	X	12-20-00 sec.11.4)	

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Filter cover Findings: _____ _____				
Sealing lip (wear, cracks, missing material) Findings: _____ _____				
Spring of bypass valve (small) Findings: _____ _____				
Positioning spring (large) Findings: _____ _____				
Refill oil tank with approx. 3 litres of oil. For oil quality, see Operators Manual and SI-912 -016, latest edition.	every 50 hr. ⁽¹⁾	X	12-20-00 sec. 11.2)	
⁽¹⁾ use of leaded fuel more than 30% of operation				
16.) Oil level check				
Verify oil level, replenish as necessary.		X	12-10-00 sec. 4.1)	
17.) Checking the V-belt tension				
On configurations with auxiliary generator, check the attachment and the V-belt tension.		X	12-20-00 sec. 6)	
18.) Smooth performance of the engine				
Inspection of turning of the crankshaft. For all engines with crankcase up to S/N 27811 inclusive. torque _____Nm NOTE: At engines with new crankcase S/N 06.0010 or higher only inspect in case of suspected hard movement.		X	05-50-00 sec. 3.13)	
19.) Engine test run				
Observe the safety instructions!				

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	as indicated	100 hr.		
Start the engine and run to operating temperature. Limits see Operators Manual 912 series. Ignition check at _____ rpm engine speed. Speed drop without ignition circuit: A (Off)_____rpm B (Off)_____rpm A/B (difference)_____rpm Inspect carb heat system. Hit the preheating and make a note of speed drop. Speed drop_____rpm. Preheating "OFF", engine idle running and make a note of idle speed running _____rpm. After engine test run, re-tighten the oil filter by hand (only at cold engine). Checks for leaks.		X	12-20-00 sec. 8)	
General note				
All Service Bulletins are complied with.		X		
Return to service				
At the identified engine (as per sec. 5), on (Date) _____ the_____hr. Check at_____hr. (TSN____, TSO____) was carried out according to recommendations of the engine manufac turer and was recorded in the Engine Log book.				
Location, Date_____				
Inspector_____				
Aircraft mechanic_____				
Certificate No._____				