

Rolls-Royce

M250-C30 SERIES OPERATION AND MAINTENANCE

Table 607

Inspection Checksheet

Owner _____ Date _____

A/C Make/Model _____ S/N _____ Reg No. _____ TSN _____

Engine S/N _____ TSN _____ TSO _____

This inspection checksheet is to be used when performing scheduled inspections. This form may be locally reproduced and/or expanded to reflect the aircraft operating environment. Keep the completed sheets as a permanent part of the aircraft engine records. Detailed information regarding each inspection item is contained in the referenced Operation and Maintenance Manual paragraphs.

CAUTION: BEFORE UNDERTAKING ANY INSPECTION OR MAINTENANCE ACTION, CONSULT THE REFERENCED PARAGRAPHS OF THE OPERATION AND MAINTENANCE MANUAL. FAILURE TO FOLLOW THE RECOMMENDED INSTRUCTIONS IN THE MANUAL COULD RESULT IN EQUIPMENT DAMAGE OR DESTRUCTION, POSSIBLY RESULTING IN PERSONNEL DEATH OR INJURY.

NOTE: THIS INSPECTION CHECKLIST CAN ONLY BE USED IF THE OPERATOR IS USING AN APPROVED THIRD GENERATION (HTS) OIL AND AN APPROVED AIRFRAME MOUNTED SCAVENGE OIL FILTER.

NOTE: COMPLIANCE TO THE 150 HOUR AND 300 HOUR ITEMS IN THIS TABLE MUST BE PERFORMED AT LEAST EVERY 12 CALENDAR MONTHS OR BY HOURS, WHICHEVER OCCURS FIRST.

Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
	<u>150 HOUR INSPECTION</u>			
1	Inspect for extension of impending oil filter bypass indicator. If indicator is extended, clean oil filter. It is possible for the impending oil filter bypass indicator to extend during a start of a cold soaked engine, giving an erroneous indication of a dirty oil filter. If the impending filter bypass indicator is extended, run the engine until the oil is at operating temperature and push the indicator button in. If the button remains in throughout the normal speed range of the engine, the filter does not require cleaning.	72-60-00, A0052.5.6 ALL PARA 1.C.		

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B0051.4.6-11

B0054.3.

B0051.4

B0054.3

B0051.4.9

B0054.3

All

B0051.3.1.4

B0053.4

B0056.3

.1.5

Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
	<u>150 HOUR INSPECTION</u>			
12	Clean and inspect the fuel nozzle. If no airframe mounted fuel filter is installed, inspect the fuel nozzle filter. Install fuel nozzle with proper number of spacers.	73-10-03		
	CAUTION: WHEN THERE IS EVIDENCE THE AIRFRAME OR ENGINE FUEL FILTER HAS BEEN BYPASSED, THE GAS PRODUCER FUEL CONTROL INLET FILTER AND THE FUEL NOZZLE FILTER, MUST BE CLEANED. (REFER TO SPECIAL INSPECTIONS, 72-00-00, TABLE 608.) IF ANY CONTAMINATION IS FOUND IN THE FUEL NOZZLE FILTER, THE FUEL CONTROL MUST BE SENT TO AN AUTHORIZED REPAIR FACILITY FOR INTERNAL CLEANING. REFERENCE MUST ALSO BE MADE TO THE AIRFRAME MAINTENANCE MANUAL FOR FUEL SYSTEM MAINTENANCE FOLLOWING FUEL CONTAMINATION.			
3	Inspect for extension of impending fuel filter bypass indicator. If indicator is extended, replace fuel filter. If contamination is present, inspect fuel filter in the fuel control and the filter in the fuel nozzle. Ground run engine to assure proper operation of control system.	73-10-05, PARA 2. 73-20-02, PARA 5.A.		
4	Visually inspect the outer combustion case (sheet metal and weld seams) for cracks. Pay particular attention to the weld seams in the area of the igniter plugs, dummy plug, drain valves, fuel nozzle bosses, armpit braze patch and adjacent areas. Use a bright light and mirror as necessary. The OCC does not have to be removed. Perform a Leak Tec check for installed OCC's and an FPI for removed OCC's.	72-40-00 Para 2.B.(1), (2), (3) and (4)		
	<u>300 HOUR INSPECTION</u>			
	In addition to the 150 hour inspection items, perform the following:			
1	Inspect the engine for obvious loose bolts, broken or loose connections, security of mounting accessories, and broken or missing safeties. Check accessible areas for obvious damage and evidence of fuel and oil leakage.			
	Check B-nuts for presence and alignment of torque stripes. B-nuts with missing torque stripes must be loosened and retightened, before application of new torque stripes.			
2	Inspect the compressor impeller leading edges for damage.	72-30-00, para 4.B.		
3	Clean the compressor, as required, with a chemical wash solution if dirt buildup is evident.	72-30-00, para 5.B.		
4	Without disassembly, inspect the turbine and exhaust collector supports for condition of welded joints, cracks and buckling.	72-50-00, para 6.L. and para 8.B.		

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Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
300 HOUR INSPECTION (cont)				
5	Using a small mirror and a flashlight, inspect flow divider inside turbine and exhaust collector support for cracks or separated tack welds. If cracking of sheet metal or welds is found but limits are not exceeded, inspect every 25 hours until support is repaired, flow divider is removed, or limits are exceeded. Compliance with M250 CEB 72-3040 eliminates this inspection requirement.	72-50-00 , para 6.L. and para 8.B. B0056.3.5	x	
6	Inspect the engine fuel system for evidence of leakage. Check condition and security of fittings and tubing. Check fuel control lever for freedom of operation and full travel. Check condition and security of all linkages.	73-00-00 , para 2.A. B0056.3 .1.9	x	
7	Inspect the engine mounts for condition and security.	B0056.3.1.10	x	
8	Visually inspect the outer combustion case (sheet metal and weld seams) for cracks. Pay particular attention to the weld seams in the area of the igniter plugs, dummy plug, drain valves, fuel nozzle bosses, armpit braze patch and adjacent areas. Use a bright light and mirror as necessary. The OCC does not have to be removed. Perform a Leak Tec check for installed OCC's and an FPI for removed OCC's.	72-40-00 Para 2.B.(1), (2), (3) and (4) B0051.4	x	
9	Inspect electrical harness for loose, chafed, frayed, or broken wires and loose connectors.	B0053.3.1.8	x	
10	For aircraft with external energy absorbing ring installed, inspect ring upper bracket for cracks. Reference M250 CEB-A-72-3124 , Revision No. 2		x	
	CAUTION: NORMAL ENGINES USE A MINIMAL AMOUNT OF OIL. HOWEVER, ANY SUDDEN INCREASE IN OIL CONSUMPTION IS INDICATIVE OF OIL SYSTEM PROBLEMS AND MUST BE CORRECTED. ENGINE DAMAGE CAN OCCUR.			All
11	Check oil supply level. If the engine has been idle for more than 15 minutes, motor the engine for 30 seconds to scavenge any oil that may drain into the gearbox from the oil tank. Failure to completely scavenge the oil from the gearbox will cause a false indication of high oil consumption. See Post Flight Check No. 3.	72-00-00 , Table 101 Trouble-shooting , items 17 and 18. All		
	NOTE: Check oil supply level within 15 minutes of engine shutdown.			
12	Record component changes, inspections, and compliance with technical instructions as required. Report engine difficulties to Rolls-Royce and/or Authorized Maintenance Center (AMC) on M250 report, Form 8117-1 (Rev. 5-94) as required.	Standard Part 135 / 145 procedure.		

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	Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
		<u>300 HOUR INSPECTION</u> (cont)			
B0055.4.1.6	13	Without disassembly, check the compressor discharge air tubes. Inspect for air leaks, dents, cracks, chafing, and proper clamping.	72-40-00, Table 203.	x	
B0056.3.1.13	14	Inspect compressor scroll for cracks. Pay particular attention to welded areas.		x	
B0053.3.2	15	Clean the burner drain valve. Ensure that the airframe overboard is clear. Refer to aircraft manual for maintenance procedures.	72-40-00, PARA 3.	x	
B0055.4.4	16	Inspect the anti-icing, bleed air, and overspeed solenoid valves for loose, chafed, frayed or broken wires, loose connections and security of attachment.		x	
B0054.3.2	17	Inspect the horizontal and vertical firewall shields for cracks. Continued sheet metal or tube cracking may be an indication of excessive engine, engine accessory, or airframe vibration.	72-50-00, PARA 6.K.	x	
B0051.3.5	18	Check fuel control and power turbine governor for proper rigging.	73-20-01, PARA 2.C. and 73-20-02, PARA 2.C.	x	
B0052.5.8 B0055.4.8	19	On power and accessory gearbox cover, check the applied torque on all turbine and exhaust collector support-to-gearbox retaining nuts. Torque must be 120-150 lb in. (14-17 N·m). Compliance with M250 CEB-72-3017 cancels this periodic inspection requirement.	72-50-00, PARA 1.B.	x	
B0053.3.4	20	Remove, clean, operationally test, and reinstall the magnetic drain plugs: a. Standard type - examine the chip detector end of the plugs for cracks. b. Quick disconnect - examine the locking pins and flanged inserts for wear. Torque 60-80 lb in. (6.8-9.0 Nm). No cracks are permitted. Examine each chip detector separately.	72-00-00, PARA 8.E.	x	
B0053.3.5	21	Inspect ignition lead for burning, chafing or cracking of conduit. Also, check for loose connectors and/or broken lockwire. Perform operational check of ignitors.	74-20-02, PARA 2. 74-20-01, PARA 2.B.	x	

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Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
	<u>300 HOUR INSPECTION</u> (cont)			
B0056.3.4	22 Remove, inspect, clean and reinstall the oil filter.	72-60-00, PARA 1.C.	x	
B0056.3.7	23 Measure and record power turbine support pressure oil nozzle flow from scavenge oil strut. Record and retain flow record. Flow _____ Compare with previous flow. Any large deviation could indicate carbon buildup. While motoring N ₁ to 16-18% the minimum flow is 90cc in 15 seconds.	72-50-00, PARA 6.E.	x	
B0350	24 Drain the oil system and refill. Oil changed at: 300 hours: <u> x </u> 600 hours: <u> </u>	72-00-00, PARA 8.D., Engine-Servicing.		
	<u>NOTE:</u> With an STC approved external scavenge oil filter, and using approved high thermal stability (HTS) oil, the oil change interval is 600 hours or 12 months. <u>NOTE:</u> Refer to M250 CSL-3126, Recommended Sequence, Engine Oil Change for additional instructions.			
B0056.3.4	25 Service oil filter. If excessive carbon is found in the filter, inspect the scavenge and pressure oil system. Refer to 72-50-00 PARA 6.E., 6.F., 6.G., 6.H., 7.A., and 7.B.	72-60-00, PARA 1.C.	x	
B0056.3.46	26 Inspect P _c filter for proper clamping and security.	73-20-03	x	
"	27 Without disassembly or removal of the P _c filter assembly from the mounting bracket, inspect using a 10X magnification and a bright light to detect any signs of cracks, paying particular attention to both of the end fittings at their junction with the end walls. If cracks are detected, remove assembly and comply with M250 CEB-A-75-3017 .		x	
"	<u>NOTE:</u> Compliance with M250 CEB-A-75-3017 eliminates this inspection requirement.			
B0055.4.1.7	28 Inspect compressor mount for cracks.	72-00-00, PARA 1.A. (3), Engine-Inspection/ Check.3	x	

	Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
		300 HOUR INSPECTION (cont)			
B0056.3.8	29	Clean power turbine support scavenge oil strut.	72-50-00, PARA 6.G.	x	
B0056.3.9	30	Clean external sump.	72-50-00, PARA 6.G.	x	
B0056.3.10	31	Clean No.1 bearing oil pressure reducer.	72-30-00, PARA 2.A. (1)	x	
B0056.12	32	Clean pressure oil fitting screen assembly.	72-50-00, PARA 6.G.	x	
		CAUTION: EXTREME CARE SHOULD BE EXERCISED TO PREVENT TWISTING OF OIL NOZZLE DURING REMOVAL. DO NOT ATTEMPT TO STRAIGHTEN OR REUSE IF TWISTED.			
B0056.3.11	33	Clean power turbine pressure oil nozzle.	72-50-00, PARA 6.G.	x	
B0051.4 B0054.3.6-	34	Remove and disassemble fuel nozzle. Clean and inspect fuel nozzle filter assembly. Assemble and install fuel nozzle.	73-10-03	x	
B0056.3.13-15	35	Remove, inspect, and reinstall the turbine pressure oil check valve.	72-60-00, PARA 2.K.	x	
		NOTE: Check Valve P/N 23074872 and subsequent part numbers are not applicable to this inspection (these valves are considered "ON CONDITION").			
B0056.3.6	36	Inspect the fourth-stage turbine wheel-to-exhaust collector inner cone clearance.	72-00-00, PARA 1.A. (4), Engine-Inspection/Check.	x	
		NOTE: Compliance with M250 CEB 72-3044 eliminates this inspection requirement.			
B0053.3.1.10	37	Inspect the rear engine mount for security and excessive bearing wear.	72-00-00, PARA 1.A. (5), Engine-Inspection/Check.	x	
B0055.4.5-7	38	Remove, clean, inspect, and reinstall the P _c filter. If engine performance deteriorates, P _c filter cleaning interval may have to be reduced.	73-20-03 PARA 2. and 3.	x	
		CAUTION: PROPER TIGHTENING OF ENGINE TUBING CONNECTIONS IS CRITICAL TO FLIGHT SAFETY. CORRECT TORQUE VALUES MUST BE USED AT ALL TIMES. EXCESSIVE TORQUE ON PNEUMATIC SENSING SYSTEM CONNECTIONS RESULTS IN CRACKING OF THE FLARE CAUSING AN AIR LEAK WHICH CAN CAUSE FLAMEOUT, POWER LOSS OR OVERSPEED.			
B0053.3.9	39	Inspect N ₁ shafting.	72-50-00, PARA 6.A.	x	

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B0052.5
B0055.4.3

B0056.3.1.12

A035.3.4

Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
	<u>300 HOUR INSPECTION</u> (cont)			
	NOTE: Compliance with M250 CEB 72-3059, 72-3096, 72-3100, A-72-3134 (twin engine applications), and A-72-3135 (single engine applications) eliminates this inspection requirement.			
40	On power and accessory gearbox cover, check the applied torque on all turbine and exhaust collector support-to-gearbox retaining nuts. Torque must be 120-150 lb in. (14-17 N.m).	72-50-00, para 1.B.	x	
41	Inspect the thermocouple assembly (TOT/MGT).	77-20-01 PARA 2.B.	x	
Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
	<u>600 HOUR INSPECTION</u>			
	The following inspection is required every 600 hours time since last inspection.			
1	Do the scavenge oil filter impending bypass function check as in Facet Service Bulletin No. 090589 (Ref. Rolls-Royce CSL 3116) for all aircraft equipped with an external scavenge filter system. Follow the Facet instructions and time intervals, or follow this recommended inspection interval each 600 hours.		x	
Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
	<u>2000 HOUR INSPECTION</u>	OVERHAUL - TRACKED ON LINE ITEM IN CALM		
	The following inspection is required every 2000 hours time since last inspection.			
1	Fuel control filter inspection.	73-20-02, PARA 5.A.		
2	Fuel nozzle filter inspection (if applicable)	73-10-03, PARA 3.C.		
3	Remove and replace the low pressure fuel filter element. Before discarding filter, inspect for signs of contaminants. If any are found, inspect the entire fuel system and clean if necessary.	73-10-05, PARA 2.		
4	Inspect the combustion liner.	72-40-00, PARA 1.C.		
5	Examine the outer combustion case for cracks using Leak-Tek and/or Fluorescent Penetrant Inspection (FPI).	72-40-00, PARA 2.B.(2) (3), and (4).		
6	Inspect the compressor discharge air tubes.	72-40-00, PARA 4.C.		
7	Inspect the N ₂ overspeed mounting dampers.	73-21-00, PARA 7.B.		

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