

Rolls-Royce

M250-C30 SERIES OPERATION AND MAINTENANCE

TABLE 602 (cont)

INITIAL 	REFERENCE SECTION	REMARKS
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. 3. Check oil supply level. NOTE: Check oil supply level within 15 minutes of engine shutdown. 5. Check for extension of impending oil filter bypass indicator. If indicator is extended, clean oil filter. 6. Check for extension of impending fuel filter bypass indicator.		
	72-00-00, Table 101, Trouble-shooting, Items 17 and 18.	If the engine has been idle for more than 15 minutes, motor the engine for 30 seconds to scavenge any oil that may have drained 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. Some aircraft may have to be run to properly scavenge oil from the gearbox. Consult Aircraft Manual.
	72-40-00, Figure 203.	
	72-60-00, para 1.C.	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.
	73-10-05, para 2.	If indicator is extended, replace fuel filter.
	73-20-02, para 5.A.	Inspect and clean fuel strainer in the fuel control. Ground run engine to assure proper operation of control system.

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Table 603

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.

Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
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.		
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.		

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Table 603 (cont)				
Item	Inspection/Maintenance Action	REFERENCE SECTION	✓	Initial
	<u>150 HOUR INSPECTION</u> (cont)			
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.		
7	Inspect the engine mounts for condition and security.			
8		72-40-00, para 2.B.(1)		
9	Inspect electrical harness for loose, chafed, frayed, or broken wires and loose connectors.			
10	For aircraft with external energy absorbing ring installed, inspect ring upper bracket for cracks. Reference M250 CEB-A-72-3124, Revision No. 2			
	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.			
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 have drained 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.		
	NOTE: Check oil supply level within 15 minutes of engine shutdown.			
12	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, PARA 1.C.		

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2. Outer Combustion Case (See Figure 201, 202, or 203.)

A. Removal/Installation

Refer to Removal and installation para 1.A. and 1.B., this section, for removal and installation procedures.

B. Inspection and Repair

Inspect, repair or replace the outer combustion case in accordance with Table 202. In addition perform the following inspections:

- (1) [REDACTED]
- (a) Horizontal butt welds on outer surface and between the air discharge tube attachment flanges and gas producer attachment flange on forward side.
- (b) Both forward and aft circumferential seam welds between outer case and inner liner.
- (c) Welds for attaching bosses for fuel nozzle, both combustion case drain valves, both igniter plugs.

NOTE: Pay particular attention to welds in areas defined in sub-paragraphs (a) and where these horizontal butt welds meet the circumferential seam welds defined in sub-paragraph (b).

- (2) [REDACTED]
- (3) [REDACTED]
- (4) After repairs, make a careful, visual, leakage inspection of the outer combustion case during the check run. No leakage is acceptable.

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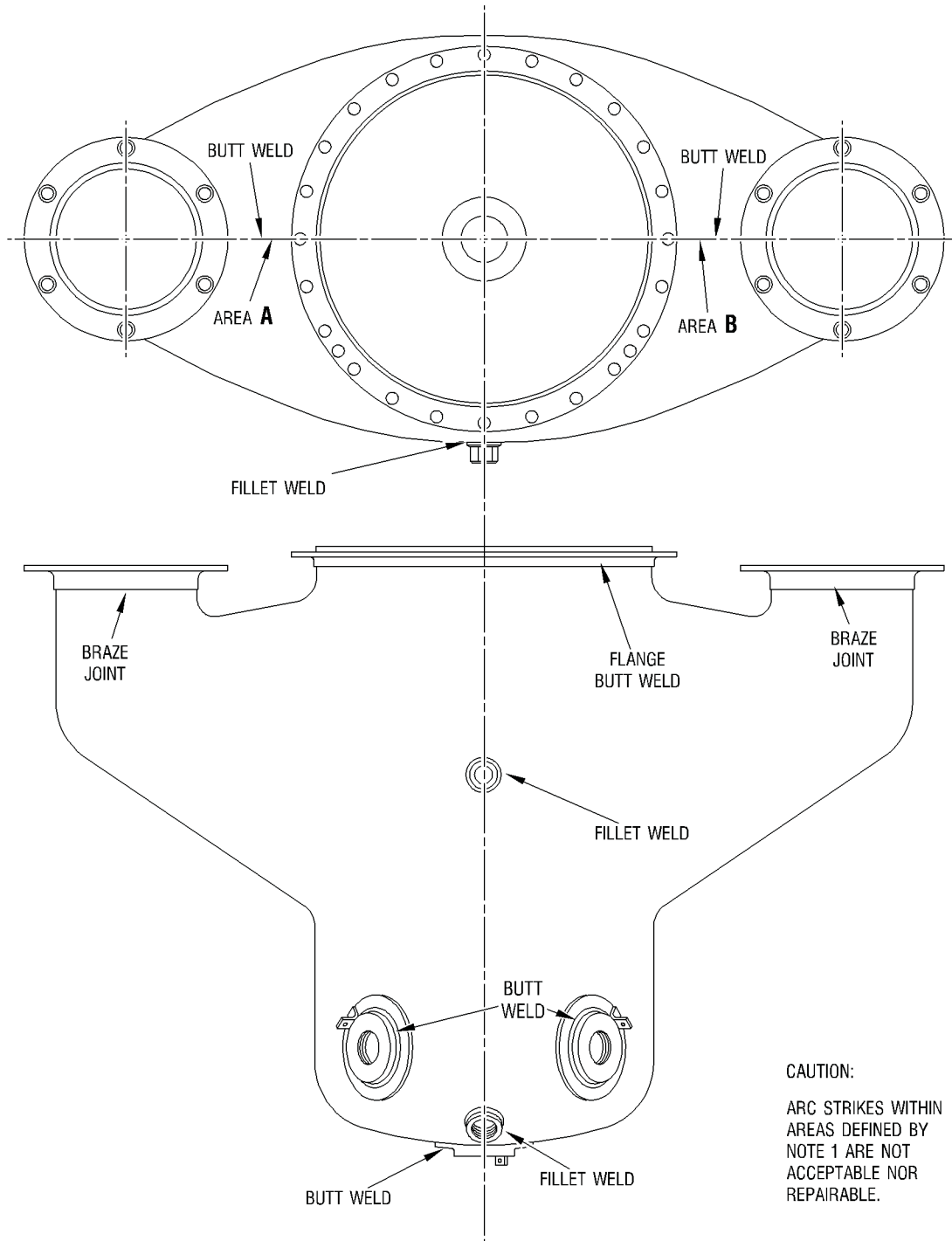
TABLE 202

Outer Combustion Case Inspection and Repair				
<u>Item</u>	<u>Condition</u>	<u>Serviceable Limit</u>	<u>Repairable Limit</u>	<u>Disposition</u>
1	Cracks in outer shell (FPI).	None.		Weld using 29-9 weld rod (AMS 5784) or send case to an overhaul facility for repair. (See Figure 206.)
2	Cracks in liner inner basket (FPI).	None.		Weld using 29-9 weld rod (AMS 5784) or send case to an overhaul facility for repair.
3	Entrapped material under liner basket (visual-dental mirror and/or bore-scope).	None.		Dislodge entrapped material using locally fabricated wire hooks. Remove all foreign material.
4	Dents.	Area A indicated on Fig. 207. Max. of one dent up to 0.125 in. (3.18 mm) depth by 3.00 in. (76.2 mm) length by 1.00 in. (25.4 mm) width. Other locations, max. of 3 dents up to 0.250 in. (6.35 mm) depth and 1.00 in. (25.4 mm) dia.	All dents that are repairable and meet the 145-155 psig. (998-1068 kPag) pressure test.	Straighten and reform. (FPI after repair.)
5	Stripped or crossed threads in fuel nozzle or drain valve bosses.	None.	Max. of one damaged thread per boss.	Chase threads.
6	Crack in drain plug boss (FPI).	None.		Weld using 29-9 weld rod (AMS 5784) or send case to an overhaul facility for repair.
7	Crack in fuel nozzle or igniter plug boss (FPI).	None.		Weld using 29-9 weld rod (AMS 5784) or send case to an overhaul facility for repair.
8	Out of round at air tube flange.	Max. of 0.004 in. (0.10 mm) out of round.		Send case to overhaul facility for repair.

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NOTES:

WELD REPAIR ON OVERHAUL PART NOT PERMITTED:

1. IF WITHIN 1/4 IN. OF BUTT WELD IN AREAS **A** AND **B**.
2. IF WITHIN ORIGINAL FLANGE BUTT WELD AND LARGER THAN REQUIRED TO REPAIR A PIN HOLE LEAK.
3. IF IN FLANGE MATERIAL. (SEE NOTE 2.)

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Visual Inspection Areas of the Combustion Case
Figure 205

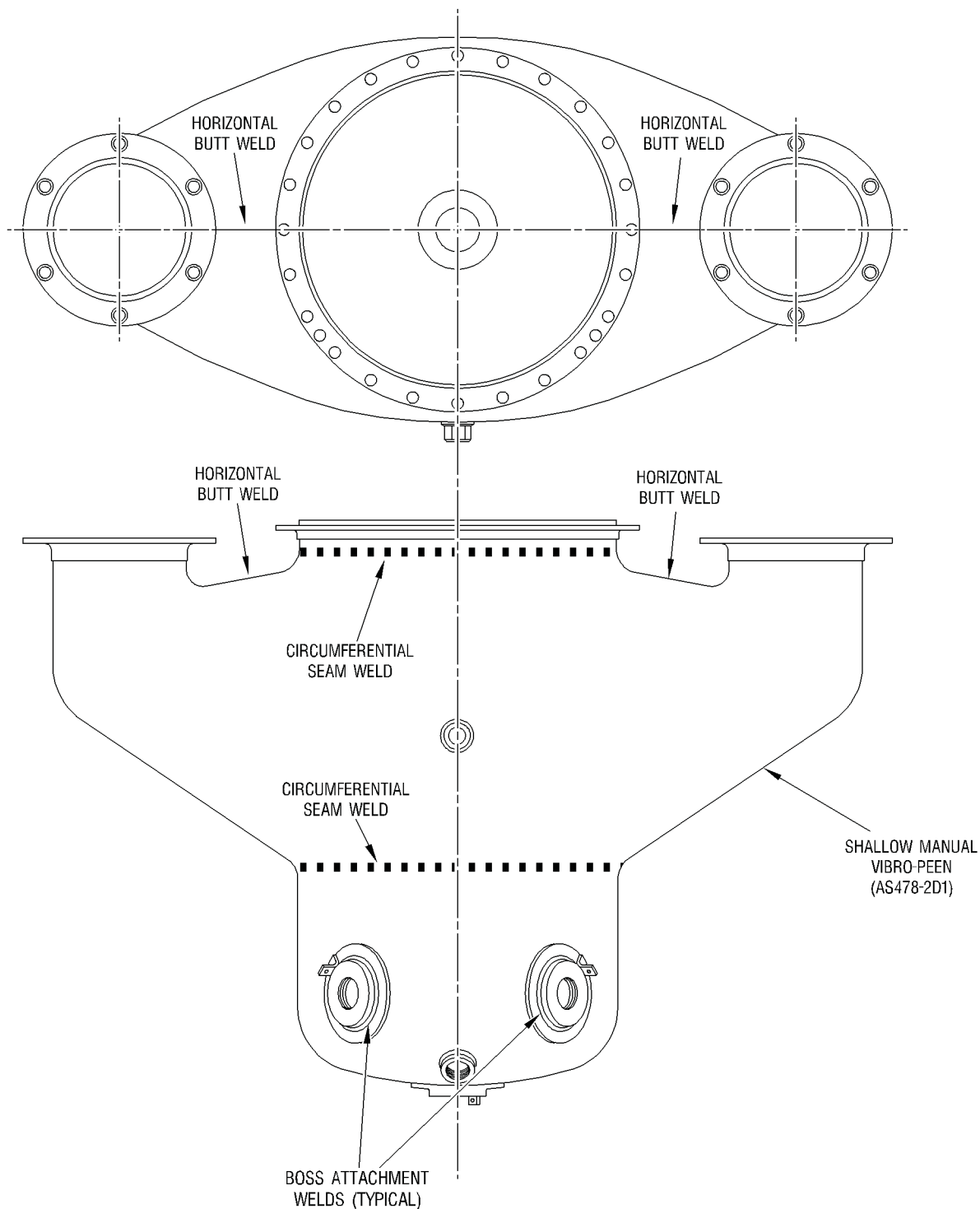
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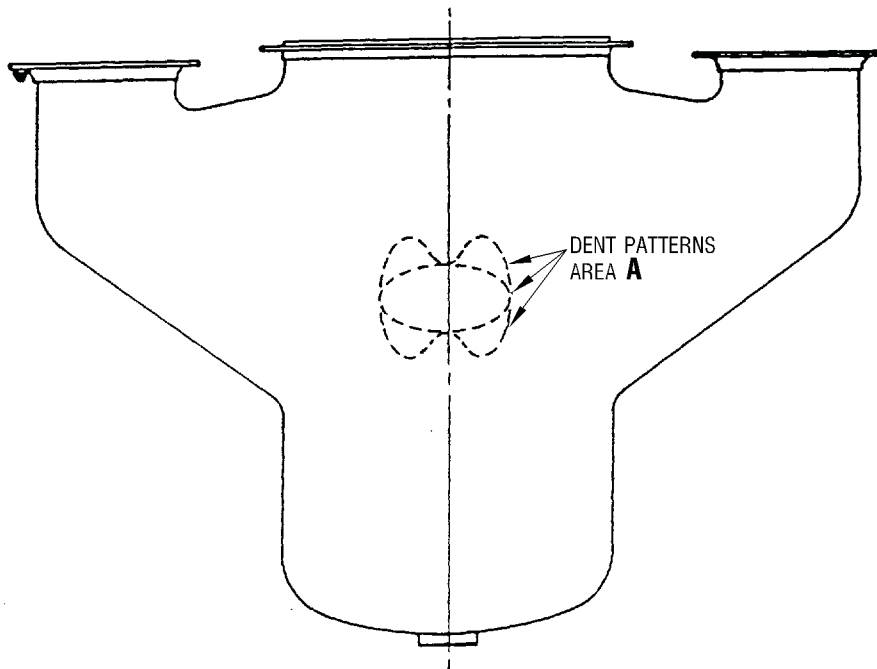
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Weld Repairable Areas of Outer Combustion Case
Figure 206

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MAX DENT LIMIT

AREA **A** ONE DENT, 1 IN. x 3 IN. x 1/8 IN. DEPTH

APP007XD

Dent Limits – Top of Outer Combustion Case
Figure 207

3. Burner Drain Valves (See Figure 201, 202, or 203.)

A. Removal

Remove the burner drain valves using a wrench on the drain valve boss to offset torque when removing the valves.

B. Installation

Apply antiseize compound to the threads of the burner drain valves. Lubricate packings and place them on the burner drain valves. Install the valves in the outer combustion case. Tighten to 120–140 lb in. (14–16 N·m). Use a wrench on the boss to offset torque. Secure with lockwire.

C. Cleaning

Clean the valves in carbon solvent (Cities Service No. 26 or equivalent). Flush the valves with Stoddard solvent or kerosene. Pass fluid through the valves to verify that it is open. Blow dry with clean shop air.

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