

Rolls-Royce

M250-C47B OPERATION AND MAINTENANCE

2. Outer Combustion Case (See Figure 201)

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) Using a bright light (flashlight or equivalent) and mirror, inspect all the welds on the outer combustion case. (See Figure 203.) Welded areas are:
 - (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).

- (d) No cracks are allowed. An outer combustion case that is cracked must be removed from service and repaired.

- (2) Examine, utilizing the Leak-teck or Fluorescent Penetrant Inspection (FPI) method, the areas of horizontal butt weld between the air discharge tube attachment flanges and gas producer attachment flange on the forward side of the outer combustion case as follows:

- (a) Apply Leak-teck to the above designated areas [(1)(a) through (1)(c)] and utilizing a suitable power source, motor the engine to at least 20% N₁ and look for bubbles. No bubbles (crack indication) are allowed.
 - (b) Perform FPI on the above designated areas [(1)(a)] through [(1)(c)] utilizing an appropriate light source for cracks. No crack indications are allowed.
 - (c) No cracks are allowed. An outer combustion case that is cracked must be removed from service and repaired or replaced.

- (3) Inspect welds of brazed reinforcement wire patches for cracks. No cracks are allowed. An outer combustion case that is cracked must be removed from service and repaired or replaced.

- (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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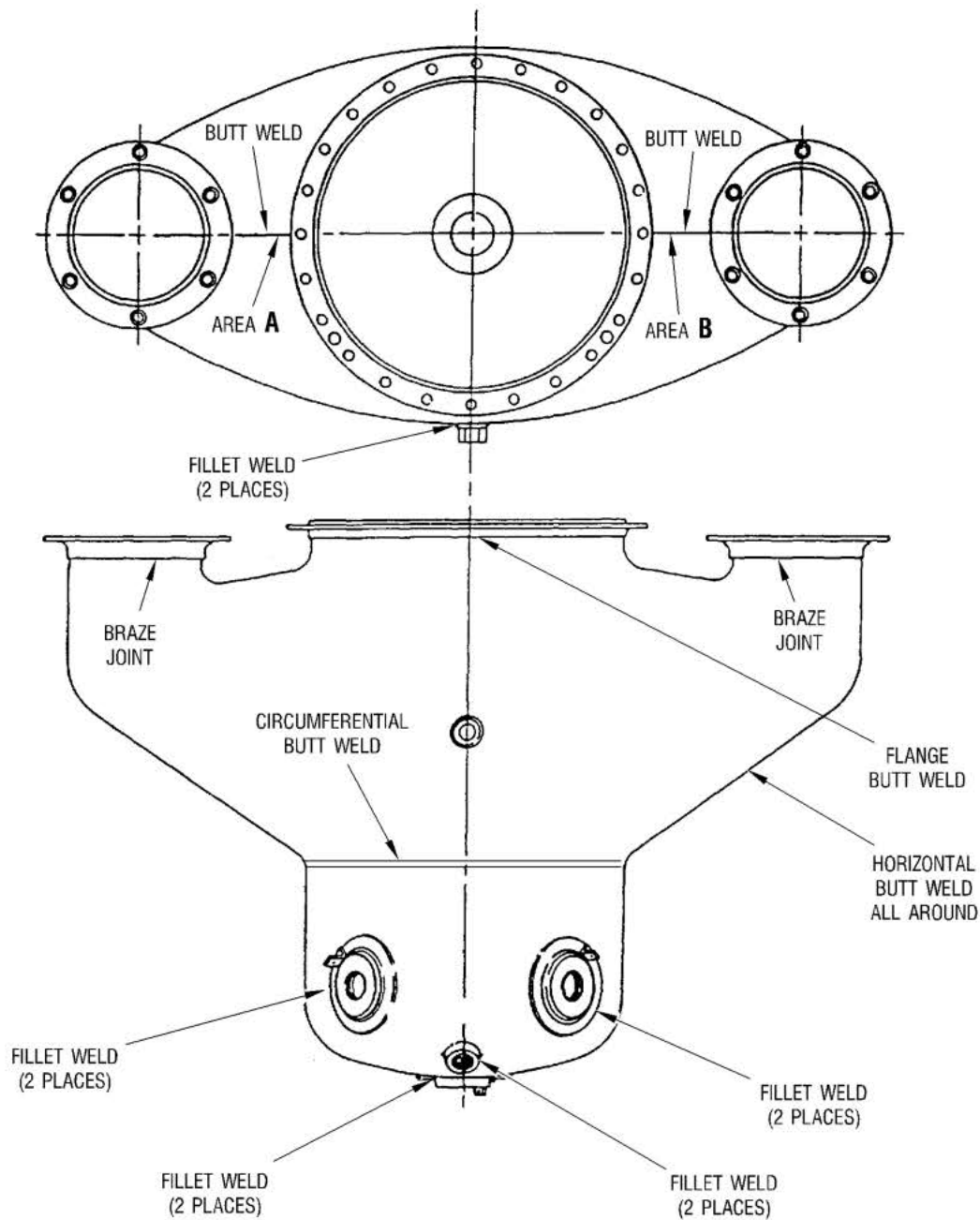
TABLE 202

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 203.)
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. 204. 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 three 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 AN 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.)

CAUTION:

ARC STRIKES WITHIN AREAS DEFINED BY NOTE 1 ARE NOT ACCEPTABLE NOR REPAIRABLE.

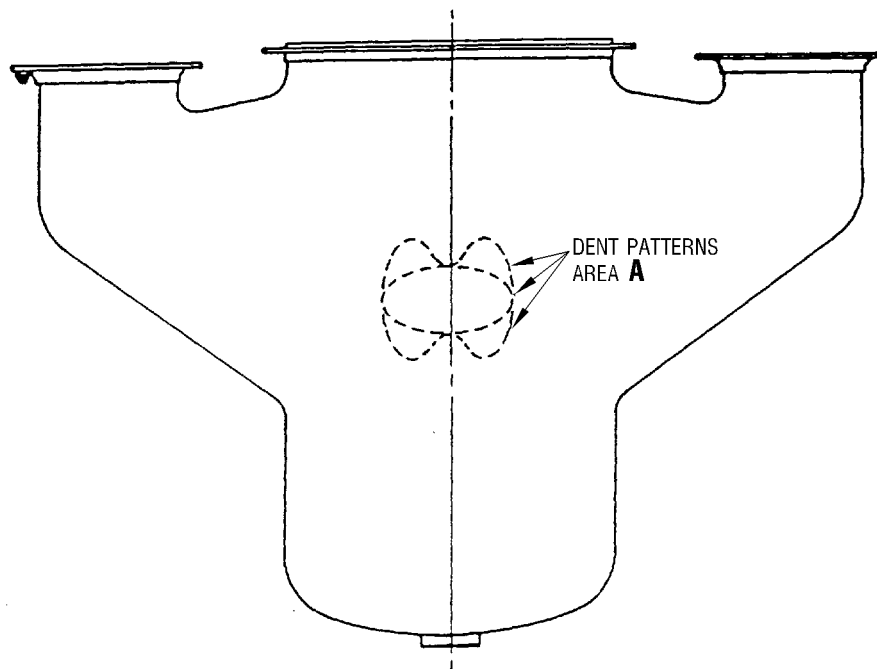
APP005XA

Visual Inspection and Weld Repair Areas of the Combustion Case
Figure 203

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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 204

3. Burner Drain Valves (See Figure 201.)

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.

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