

T-023 Inspection Limits and Repair

P.T. Oil Sump Cover

Engine Application(s):	Allison 250-B15G; 250-B17, B17B, B17C, B17D, B17E; 250-C18, C18A, C18B, C18C; 250-C20, C20B, C20F, C20J, C20R/1, C20R/2, C20S															
Compliance:	Any time the P.T. Oil Sump Cover is removed for engine overhaul, it should be inspected to Extex criteria. The inspection will determine if the component is serviceable in its current condition, if it the component is repairable per this instruction or if the component should be replaced.															
Notes:	Replaces Service Letter T-95-013 issued by Superior Turbine on October 9, 1995. Refer to the Type Certificate Holder's published data for assembly, disassembly and engine operation.															
Revisions:	<table border="0"> <tr> <td>N/C</td> <td>Dated: 01/30/97</td> <td>Original issue.</td> </tr> <tr> <td>A</td> <td>Dated: 12/04/97</td> <td>Updated format.</td> </tr> <tr> <td>B</td> <td>Dated: 06/01/98</td> <td>New format. Added specifications for alkaline liquid bath, weld, metal spray and plate repair.</td> </tr> <tr> <td>C</td> <td>Dated: 09/08/09</td> <td>Updated EXTEX to TIMKEN.</td> </tr> <tr> <td>D</td> <td>Dated: 2/02/16</td> <td>Updated Timken to EXTEX Engineered Products.</td> </tr> </table>	N/C	Dated: 01/30/97	Original issue.	A	Dated: 12/04/97	Updated format.	B	Dated: 06/01/98	New format. Added specifications for alkaline liquid bath, weld, metal spray and plate repair.	C	Dated: 09/08/09	Updated EXTEX to TIMKEN.	D	Dated: 2/02/16	Updated Timken to EXTEX Engineered Products.
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Inspection Procedures

- 1.0 Clean part in an alkaline bath per standard practices using AMS 1536, AMS 1537, or equivalent.
- 2.0 Perform Non-Destructive Testing (NDT) via Fluorescent Penetrant Inspection (FPI) per AMS 2647, Method D, Sensitivity Level 3, or equivalent.
- 3.0 Inspect part using the following criteria.

Condition	Service Limit	Repair Limit	Corrective Action
Damage/Wear to seal surfaces	Chipped coating which does not extend into knife-edge seal rub groove. Diameter D: 2.723-2.724 inch Diameter E: 2.225-2.226 inch	Diameter D: 2.773 inch Diameter E: 2.275inch	Replace cover or repair seal by coating surfaces(s) with 85-15 Nickel Graphite (Metco 308NS or equivalent). Finish machine per Fig. 1. *Remove all existing seal material prior to repair.
Desired radial seal clearance to mating part knife-edges. (Ref. Fig.1: Dia. D and Dia. E)	N/A	N/A	Diameter may be sized smaller than print to obtain desire seal clearance.

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Knife-edge wear or damage which extends into parent metal. (Ref. Fig.1; Dia. D and Dia. E)	None	None	Replace Cover.
Condition	Service Limit	Repair Limit	Corrective Action
Loose bond line on seal material (Ref. Fig. 1: Dia. D & Dia. E)	No evidence of loose bond is acceptable.	N/A	Replace cover or repair seal by coating surfaces(s) with 85-15 Nickel Graphite (Metco 308NS or equivalent). Finish machine per Fig. 1. *Remove all existing seal material prior to repair.
Pilot diameter (Ref. Fig. 1: Dia. A)	2.849-2.850 inch	2.8485 inch	Replace cover or restore Diameter by plating. Grind to prepare surface, nickel plate per AMS 2404, MIL-C-26074, or equivalent. Grind in accordance with Figure 1.
Localized fretting/wear: Surface B to Forward edge of inner seal (Ref. Fig.1: Dim. F)	0.298-0.302 inch	0.298 inch minimum	Weld repair per AMS 2694 using Inconel 625 or similar weld wire. Grind to establish dimension of Dim. F per Fig. 1.
Cracks	None	N/A	Weld repair per AMS 2694 using Inconel 625 or similar weld wire. Machine or grind to establish dimension of Dim. F per Fig. 1.

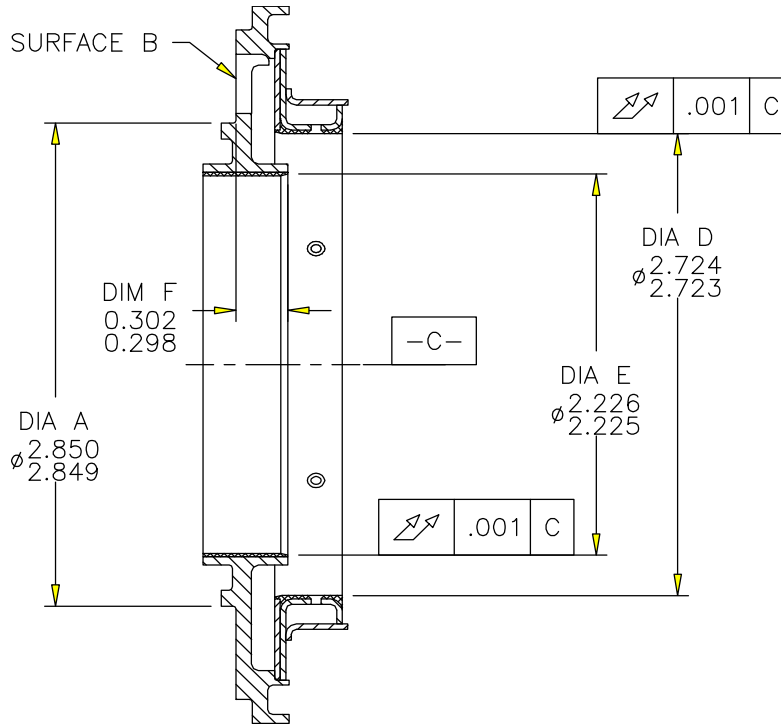
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AXIS -C- ESTABLISHED BY DIAMETER A AND SURFACE B.
DIAMETER D AND E CAN BE SMALLER TO OBTAIN LABYRINTH SEAL DESIRED CLEARANCE.
ALL UNSPECIFIED DIA. TO BE WITHIN 0.010 INCHES TOTAL RUN OUT.

FIGURE 1

Repair Procedures

- 1.0 Seal surfaces (Diameters D & E): Remove all existing seal material prior to repair. Coat surface(s) with 85-15 Nickel Graphite (Metco 308NS or equivalent). After machine finishing, diameters should fall within ranges shown in Figure 1. If less radial clearance to mating part knife-edges is desired, Diameters D & E may be machined smaller.
- 2.0 Pilot diameter (Diameter A): Grind to prepare surface, nickel plate per AMS 2404, MIL-C-26074, or equivalent. Grind in accordance with Figure 1.
- 3.0 Localized fretting/wear or cracks: Weld repair per AMS 2694 using Inconel 625 or similar weld wire. Grind to establish dimension of Dim. F per Fig. 1.