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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RESEARCH DESIGNS AND STANDARDS ORGANISATION

Manak Nagar, Lucknow-226011.

No.EL/3.2.39/2

24th May 1980.

MODIFICATION SHEET NO.RDSO/NA44/97

MODIFICATION TO ELGI OIL PRESSURE SWITCHES (QPB)
FOR MINIMISING CRACKING OF BAKELITE BODY

1. Object:

Failure of ELGI pressure switches due to cracking of bakelite body are being reported. The firm has been advised to improve the design and changeover to bakelite powder of higher strength. However, it is noticed that the surface of the flange on which the bakelite body is mounted has not been originally machined and the bakelite body is mounted on the cast surface which is uneven. Uneven surface is likely to cause stresses on the body and result in the cracking. In some cases, 9'0' Clock fixing screw has been also found impinging on the body due to excessive length, causing additional stress on the unsupported portion.

2. Work to be done:

- 2.1 Dismantle the pressure switch. Observe for any incipient cracks in the bakelite body. In case of their presence, discard the body.
- 2.2
- i) Machine the top surface of the upper flange with minimum cut to a fine finish as indicated in drg. No. SKEL 3270.
 - ii) Check for any burrs and ridges in the base of the bakelite body in contact with the flange surface and remove the same with a smooth file.
 - iii) Prepare a gasket to suit the bakelite base as per drg. No. SKEL 3268.
 - iv) Secure the bakelite body to the top flange after inserting the gasket. Provide spring washers size M6 under cylindrical screw head conforming to IS:6735* (Note: These washers have lesser outer diameter when compared to generally used spring washers.) Check that the length of the screws does not exceed 20 mm for coupling the flanges. While tightening,

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select diametrically opposite screws and apply uniform pressure. Avoid excessive tightening.

3. Application:

All locos fitted with ELGI pressure switches type PSI/2-R for QPH application.

4. Material required:

- i) One no. 0.4 mm thick, compressed asbestos fibre jointing gasket, oil resisting type grade A/O conforming to IS:2712* similar to "Permanite-oil" gasket and shall conform to drg. No. SKEL 3268.
- ii) 3 Nos. spring washers, type 'B', size M6 conforming to IS:6735** phosphate coated.

5. Material rendered surplus:

Nil.

6. Drg. No.

SKEL 3270 and 3268.

7. Agency of modification:

Railways: Locomotives in service.

8. Distribution:

As per list enclosed.

D. S. Baweja
(D.S. BAWEJA)

for Director General/Elec.

Encl: 1 Mailing list
2 SKEL 3268 & 3270

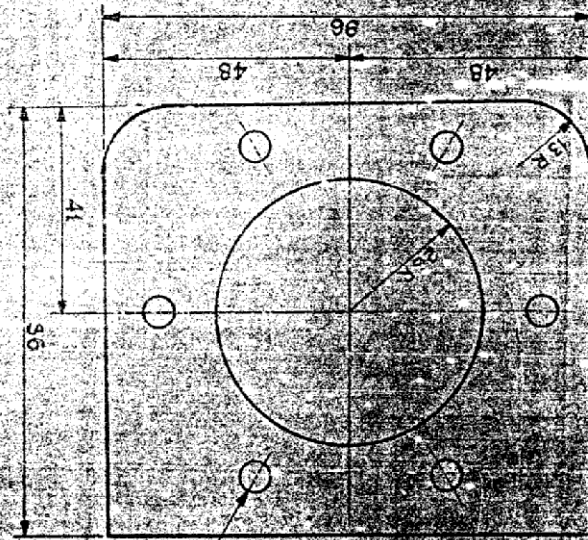
** IS: 6735 - 1972 Spring washers for screws with cylindrical head.

* IS:2712-1971 - Compressed asbestos fibre jointing.

* See drg. No. 3270 to 3268

APPROVED FOR D.G.

MATERIAL -
 COMPRESSED ASBESTOS FIBRE JOINTING GASKET OIL
 RESISTIVE TYPE THICKNESS 0.4 mm. GRADE A/O
 CONFORMING TO IS: 2712 SIMILAR TO PERMANITE OIL.



6 NOS. 6.2 ± 0.2 ϕ HOLES
 EQUALLY SPACED PCD
 74.5 ± 0.2

SK. EL. 3268