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Government of India (Bharat Sarkar)
Ministry of Railways (Rail Mantralaya)
Research Designs and Standards Organisation

Manak Nagar, Lucknow-226011.

No. EL/3.2.16/DB2.

Dated: 26-8-1978.

MODIFICATION SHEET NO. RDSO/WAM4/74

1. TITLE OF MODIFICATION:

Replacement of the air strainer-cum-check valve unit by oil bath type air filter for vacuum brake exhausters of electric locomotives.

2. APPLICATION TO CLASS OF ROLLING STOCK:

All electric locos fitted with VL-30 rotary exhausters of M/s. SIM Maneklal make. Also recommended for 250-RE Northey exhausters.

3. OBJECT OF MODIFICATION:

3.1 Several types of exhauster failures/defects on electric locomotives, such as excessive vacuum differential across the filter, over-loading, high temperature, seizure, etc., have been traced to inadequate filtration in the suction line. Dry type air strainers with felt filter elements get clogged in service.

3.2 As against the dry air filters, oil bath type air filters offer less resistance to air flow and also give a high efficiency of dust removal.

3.3 GD 80 H, D* type oil bath filters of capacity 270 to 300 cubic feet per minute (7650 to 8500 lpm) as well as the 'de-compressor' type oil bath filters provided with some of the earlier supplies of M/s. SIM Maneklal's VL-30 rotary exhausters, and having an efficiency of 98% dust removal, have been found satisfactory for electric loco applications.

*GD 80D, GD 80E and GD 80H filters were originally supplied by M/s. Vortex Co. of USA and fitted on ALCO/CM diesel electric locomotives. Such types of filters are indigenously available. GD 80 'H' type is supposed to be with a drain plug at the bottom and the 'D' type is without the same.

4. SPECIFICATIONS AND DRAWINGS:

1) Governing specification:

a) BSS 1701-1970:

b) Corresponding American Specification: US Army Specification No. MIL-A-13388 of April 1968 (revised)

- ii) Other details and test procedure etc. as per DLW drawing numbers TPL-0384 in four sheets; copies available with DLW.

5. MODIFICATION DATA:

a) Drawings and schematics:

- i) CLW drawing Nos. 05/1/49/41, 37; 02/4/49/131, 128, 118, 5; 05/1/49/42 - already circulated to Railways and copies obtainable from CLW.
- ii) Schematic attached to RDSO letter No. SD.DFM.A.4.2 dated 23-7-71 - also circulated to Railways.

b) Other connected references and drawings:

- i) Minutes of the meeting held in Board's office on 17-7-72 and issued vide Board's letter No. 72/Elec/440/10 dated 22-7-72.
- ii) Maintenance Instructions of GD 80H filter issued vide RDSO letter No. SD.DFM.A.4.2.1 dated 18-7-73 along with drawing No. RDSO.SK.DP.1415.

6. AGENCY FOR MODIFICATION:

- i) Electric loco sheds - during AOH.
- ii) Electric Loco POE Shops.
- iii) CLW- for locos under production and for future builds.

7. MATERIAL REQUIRED:

- i) Oil bath type air filter.
- ii) Flap type check valve/2" non-return valve.
- iii) Other small part fittings for piping and hose connections.

8.

WORK TO BE CARRIED OUT:

Replace the dry felt element type air filters in Exhauster suction pipe lines by oil bath type air filters. Allow adequate space to facilitate removal of cup in the case of GD 80 filters.

NOTE: The modification drawings mentioned at 5(a) above are for reference only. For individual applications, the piping layout can be decided keeping in view the exhauster positioning, existing piping layout, space availability and accessibility for maintenance.

9.

DISTRIBUTION:

As per distribution sheet enclosed.

Encl: Distribution sheet.

jsa:21-8.

T.S. Kaifra
(T.S. Kaifra)
for Director General (Elec) 22/5/78