The Chief Mechanical Engineers  
All Indian Railways except SCR

Sub: Innovations and system improvements in Indian Railways

CME/SCR through his MCDO for the month of May, 2012 has informed about the following innovations/system improvements carried out by SCR on the freight side:

i) Diaphragm holder removing gadget.  
ii) Nut arrangement for double release valve.

The same are enclosed for your kind information.

Encl: 3 pages

Copy to: EDS(W)/RDSO

(Ashesh Agrawal)  
Exec. Dir. Mech. Engg. (Frt.)
LIs have been advised to develop full knowledge about the strength and weakness of their nominated LPs, their medical/family problems etc. which are detrimental to train operations and report them to the officer incharge for remedial action.

4. INNOVATIONS:
4.1 DIAPHRAGM HOLDER REMOVING GADGET:
In Rayapanadu Workshops, during DV overhauling process, all items are disassembled for cleaning, replacement of OH kit and damaged components, if any. In case of C3W & C3W2 DV disassembling which are about 1/3 rd of the total population of DVs, to separate the diaphragm holder from the DV, earlier staff were resorting to striking the disc using chisel and hammer. Use of chisel causes dents on the diaphragm holder which makes them unserviceable further.

To avoid damage to the diaphragm holder and also for easy extraction, shop has devised a gadget. This gadget has two stems which take support on the DV body and two pulling legs are inserted in to hole of the diaphragm holder and it is pulled up by unscrewing with spanner. This gadget helps in removal of diaphragm without any damage and in a scientific manner.
PRESENT METHOD:

5 SYSTEM IMPROVEMENTS:
5.1 Holding of Rexene to the berth

In order to improve the holding of rexene to the berth, LGDS switched over to stapling in place of nailing. All 16 work benches in trimming shop have been provided with stapling machine for ensuring this.

5.2. Nut arrangement for double release valve:

In Rayanapadu workshops Most of C3W & C3W2DV s are coming without double release valves. On studying the reasons, it was concluded that, in these type of DVs, double release valves are assembled and locked with circling which are prone for dropping /loosening during service while pulling DRV for release of CR and AR pressures. To avoid dropping of DRVs during manual pulling, shop has started a system of providing a nut to lock the DRV similar to new design DVs. Initially internal threading is done at QRV fitment port then after fitment of the DRV, the nut is fitted to lock the QRV to avoid dropping.
INCOMING DV WITH CIRCLIP ARRANGEMENT

DV MODIFIED WITH NUT ARRANGEMENT AT QRV PORT