

Government of India
Ministry of Railways
Research, Designs & Standards Organisation
Manak Nagar, Lucknow - 226 011

No. EL/3.2.5/J3

Dated 8.12.1992.

Special Maintenance Instructions - RDSO/ELRS/SMI/151

1. Title :

Testing of Brazing Joint of field coils circuit of Traction Motor type TAO-659 & HS 1050 Er/HS15250A

2. Application :

On all ac locomotives fitted with Traction Motor type TAO-659 and HS 1050Er/HS15250A.

3. Object :

Railways have been reported large number of cases of failures of Traction Motors due to the open circuits/melting of fields interconnectors at their brazed joints.

To avoid such failure in service and detect well in advance the bad joints, it is suggested that railways should carry out the high current injection test on the series field circuit of Traction Motor to measure the voltage drop.

4. Equipment Required :

- 100 V Meggar
- Voltmeter, range 0-157
- Ammeter, range 0.1000 Amp.
- DC High Current injecting set range 0-1000 AMP.

5. Instruction drawing

RDSO's drawing No.SKEL.-4108.

5. Instruction :

- 6.1 Open the terminal box of Traction Motor
- 6.2 Measure the insulation resistance of field circuit by 1000V Meggar.
- 6.3 Connect the voltmeter, ammeter and DC high current injecting set as per RDSO's SKEL. Drg. No.4108.
- 6.4 Inject 500 Amp. from DC high current injecting set to series field circuit EF for TAO- 659 TM and F-FF for HS 1050 Er/HS15250A Traction Motor and measure the voltage drop at motor terminals and also record the same. The voltage drop across the series field circuit should be in the range of

Traction Motor		Voltage drop at 30 degree C
i)	TAO 659	4.288 ± 0.2 Volts

ii)	HS 1050 ER/ HS 15250A	4.48 \pm 0.2 Volts
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If it is found more than specified values as mentioned above, the investigation should be carried out thoroughly to detect the faulty or bad brazed joints and after re-brazing motor should be allowed for fitment on locomotive.

7. Schedule of Implementation

During each inspection schedule stages AOH/IOH/POH.

8. Agency of Implementation :

- All Traction Motor shops
- All Electric Loco sheds
- All POH & Repair shops.

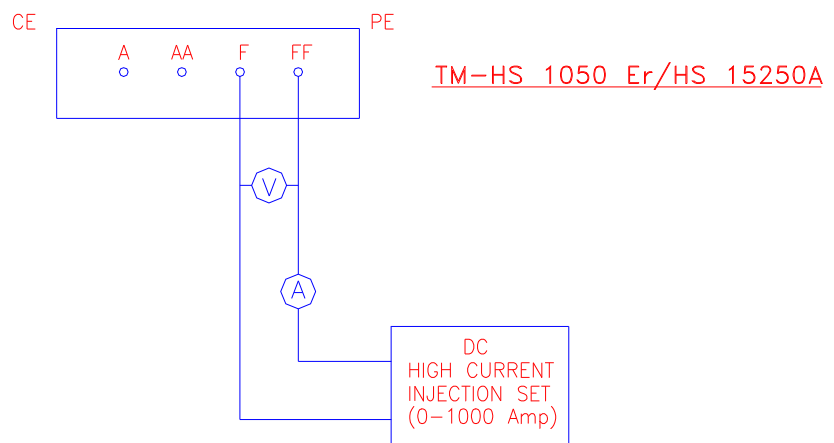
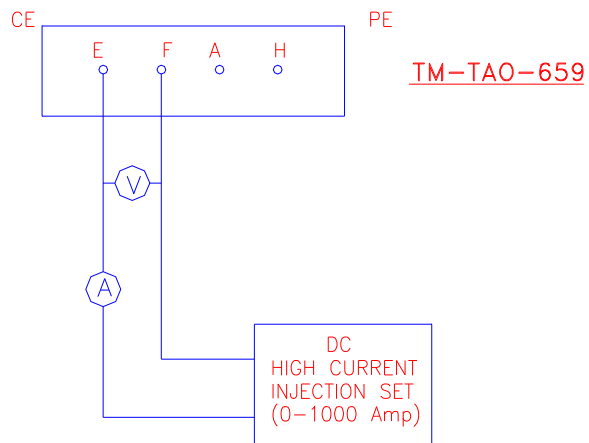
3. Distribution :

As per enclosed list.

DA: As Above



(P.K. Jain)
for Director General/Elec.



V = VOLTMETER --RANGE 0-15V
A = AMMETER --RANGE 0-1000 Amp.

REF:-	SCALE:-	APPROVED:-	FOR D.G.
TESTING OF BRAZED JOINTS OF FIELD COILS CIRCUIT OF TRACTION MOTOR			
RDSO.ELEC.DTE.		SKEL - 4108	

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