

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

No.EL/3.2.21

12.01.1998

**SPECIAL MAINTENANCE INSTRUCTIONS NO RDSO/ELRS/SMI/193**  
**MAINTENANCE PRACTICES FOR IMPROVING RELIABILITY OF**  
**CABLE HEAD TERMINATION SYSTEM FOR 25 KV**  
**ACLOCOS/EMUs**

**1. OBJECT**

- 1.1** Failures reported by user railways on cable head terminations supplied by M/s BSES, Bombay reveal that most of these failures have taken place during charging, commissioning of locomotives. After review of the installation/maintenance practices, it is considered necessary to adopt the installation/ commissioning instructions suggested by manufacturer in order to improve the reliability of cable head termination system.
- 1.2** This SMI lays down the fitment details to be followed by sheds and workshops at the time of installation of the cable head terminations.

**2. FITMENT PROCEDURE**

- 2.1** Install the stud and tighten it fully.
- 2.2** Using silicon grease to lubricate.
- the bushing stud on all the sides.
  - inside surfaces of Elbow on both the ends.
  - the basic insulating plug.
  - the cap.
- 2.3** Install the elbow over the bushing ensuring that the elbow enters through the stud assembly.
- 2.4** Insert the basic insulating plug and engage it through the stud. Tighten the basic insulating plug with a torque of 7 to 8 kg-m(50to 60 ft-lb) using torque wrench.
- 2.5** Install the cap on the basic insulating plug.
- 2.6** Install the elbow support.
- 2.7** Check & ensure that the XLPE cable is in position.

**NOTE:-**

1. Grease must be applied at all locations where proper tightening is required for interface.
2. Grease must be applied on the bushing while testing the transformer during overhaul.

3. **INSTRUCTION DRAWINGS**

Nil.

4. **APPLICATION**

All AC electric locomotives/ EMUs fitted with cable head termination arrangement.

5. **AGENCY FOR IMPLEMENTATION**

All AC electric loco/EMU sheds, shops and production units.