

East Central Railway

Office of
The GM(S&T)
Hajipur

No.-ECR/S&T/Technical circular/185/438

Date: 03.03.09

CSTE/C/MHX
CSTE/C-I/MHX

Sr.DSTE
DNR/DHN/MGS/SEE/SPJ

Dy.CSTE/W/DHN & MGS

Sub: Disconnection of Interlocked Signalling Gears for Inspection/
Maintenance/Repairing/Testing of interlocked Signalling gears.

Ref: Technical Circular No. -15

Please find enclosed herewith the above referred Technical Circular No.-15 regarding
Disconnection of Interlocked Signalling Gears for Inspection/Maintenance/Repairing/Testing of
interlocked Signalling gears.

Please ensure that a copy of this technical circular is distributed to all JE/SE/SSE
(Signal) of the division as well as counsel to all maintainers and recorded in Assurance Register.
This is for your information and compliance please.

DA: As above.


3/3/09

(Rajesh Kumar)
Dy.CSTE/Sig
for General Manager(S&T)

Copy to- 1. All DRM's

2.CCE, CSTE/W/HJP, CSTE/Pr/HJP, CSTE/PI, - for information please.

3. All S&T Officers of Hq. - for information please.

for General Manager(S&T)

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**East Central Railway
Signal & Telecommunication Department**

TECHNICAL CIRCULAR NO. 15

Sub: Disconnection of Interlocked Signalling gears for inspection/maintenance / repairing/testing of interlocked Signalling gears.

1. Disconnection of interlocked Signalling gears is require for specific maintenance schedules and also for repairing and testing of these gears.
 2. There shall not be any interference with any points, signals, or their fitting , signal wires or any interlocking or block gear for the purpose of effecting repairs, or for any other purpose, except with the prior permission of station Master.(GR-3.51(3))
 3. Before taking in hand any disconnection of points, Signals on any interlocking gear, person in-charge of the work shall advise the Station Master in writing on form S&T (T/351) and obtain his signature before the work is started and after it is completed.
 4. A maintainer who is in possession of a Competency Certificate cum Training History book only shall independently undertake works necessitating issues of Disconnection notices. Each maintainer shall have in his a possession a book of Disconnection Notices-Form No.- S&T (T/351). (SEM Part-II, para-11.4.1)
 5. These disconnection memo called as S&T (T/351) and before taking in hand any disconnection of points, Signals on any interlocking gear, person in-charge of the work shall strictly follow the GR-3.51 (3), SR 3.51(iii) and SEM Part-II, para-11.4.2.
 6. Disconnection memo need not be issued in following situations provided suitable precautions are taken (SEM Part-II, para-11.4.2)-
- 6.1 Cleaning and/or lubricating/graphiting without affecting any physical/electrical disconnection of -**
- (i) Lever frame basement.
 - (ii) Relay Room & battery room.
 - (iii) Apparatus case/battery boxes/Goomty.
 - (iv) Lifting barrier mechanism including winch.
 - (v) Lever lock and circuit controller without opening cover.
 - (vi) Inspection and cleaning of inside equipment by opening the covers of point machines, signal motors, reversers, apparatus cases and detectors.
 - (vii) Point, facing point lock and lock bar.
 - (viii) Cranks, compensators, pullies, wheels, roller stands, counter weights & levers.
 - (ix) Power supply equipment.
 - (x) Insulation joints.
 - (xi) Lens/roundels of signal, point indicator, trap indicator & shunt permitting indicator provided phantom indication to driver of an incoming train is prevented by covering lenses.
- 6.2 Testing of-**
- (i) Track locking, approach locking, back locking, indication locking, route release.
 - (ii) Checking various parameters of axle counter without disconnecting the equipment.
 - (iii) Power supply equipment.
 - (iv) Lever frame, SM's control frame, signal operation, point operation, level crossing gate & slot circuits.
 - (v) Point by obstruction test for lock only.
 - (vi) Checking and testing of track circuit parameters when the track is unoccupied.
 - (vii) Focussing of colour light signal provided phantom indication to driver of an incoming train is prevented by covering lenses.

6.3 Adjustment of –

- (i) Wire transmission except double wire operated transmission.
- (ii) Tightening of terminal using insulated tools without causing any shorts on adjacent terminals.

6.4 Replacement of –

- (i) Electric signal lamp provided phantom indication to driver of an incoming train is prevented by covering lenses.
- (ii) Bond wire, one at a time.
- (iii) Plug in relay in case traffic condition permits.
- (iv) Indicator lamps.
- (v) Push button/switch/key of panel.
- (vi) Lock bar clips/bar stop, one at a time.
- (vii) G.D tubes.
- (viii) Fuse, one at a time.
- (ix) Pulley, bottom roller/top roller in wire and rod transmission one at a time and split pins.
- (x) Batteries/cells without affecting disconnection of supply to main equipment.

6.5 Suitable Precautions-

- (i) Intimate on duty SM in written or verbally.
- (ii) Obtain movement of train position and avoid interfere with any signaling gears on approach of a train on particular route of movement.
- (iii) Any other precaution that may be warranted by the situation.

7 Other than above situations, when it is necessary to disconnect any equipment for repairs, replacement or adjustment, the competent maintainer shall advise the Station Master in writing on Form S&T (T/351) and obtain his signature before the work is started and after it is completed. Some situations in which positively require the issue of a Disconnection memo are-

(i) Block Instruments-

- (a) Opening of the back cover of a Block/Token/Tablet/Tokenless instrument and UFSBI for making any adjustments or change of wiring or disconnection of the instrument.

(ii) Mechanical Gears-

- (a) Disconnection of a rod from the corresponding lever of the lever frame for any purpose whatsoever or from the unit the point, lock etc. to which it is connected.
- (b) Disconnection of a lock bar or a facing point lock plunger or the switch extension.
- (c) Removal of the slides of mechanical point detector (both point slides as well as signal slides).
- (d) Adjustment of stroke of rod operated point/lockbar.
- (e) Changing of Booms and Wire Ropes of a Lifting barrier (except of these case where Swing gates as a stand by are available).
- (f) Disconnection of any crank & compensator and any part of rodding transmission.
- (g) Replacement of wire transmission of semaphore signal.
- (h) Replacement of semaphore signal.
- (i) Removal of a key lock from the lever to which it is fixed, etc.

(iii) Electrical Gears-

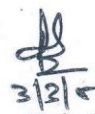
- (a) Removal of the slides of Electrical point detector (both point slides as well as signal slides).
- (b) Removal of slides of Electrical Point Machine & its connection from point, and any other internal part e.g. friction clutch, gears, motors etc & any work on Electric point machine other than lubrication, oiling & graphiting.
- (c) Disconnection of a circuit controller or a lever lock-cum-circuit controller from the lever to which it is connected.
- (d) Opening of a key transmitter or local release of its key.
- (e) Disconnection of an arm circuit controller from the semaphore arm.

- (f) Any work on a Signal machine detector and other parts of the machine excluding the cleaning of contacts and any work other than lubrication, oiling.
- (g) Insulation Test of Cables by disconnecting the cores from the terminals.
- (h) Any soldering work of a plug in relay..
- (i) Changing of any part of Reverser.
- (j) Disconnection of Station Master's slide.
- (k) Removal or Replacement of LED lit signal aspect.
- (l) Replacement of panel switches.
- (m) Replacement of terminals.

Other than the above examples, where situations of disconnection of interlocked gears exists disconnection memo must be issued.

- 8. When it is necessary to disconnect point, equipments, switches or signals for repairs, replacement or alteration, Warner/Distant and Stop signals governing the lines in question shall be kept in the 'On' position and make in-operative until the work is completed.
- 9. The maintainer must seal the equipment opened by him under his competence.

This issue with the approval of CSTE.


3/2/09
(Rajesh Kumar)
Dy.C.S.T.E.(Signal)
for General Manager(S&T)

Docket No. - ECR/S&T/Technical Circular/185

Date - 03.03.2009