



नाम

Name : _____

अनुक्रमांक

Roll No : _____

पाठ्यक्रम

Course : _____

दिनांक

Date : _____

प्राप्तांक

Marks Awarded : _____

अनुदेशक के आद्यक्षर

Instructor Initial : _____

OVERHAULING OF INTERLOCKING FRAME

PERIODICITY: All inter locking frames, interlocking key boxes and Station Master's slide control frame shall be overhauled once in every three years or earlier if necessary.

PROGRAMME OF OVER HAULING: The DSTE shall draw out a program of overhauling of interlocking frames, interlocking key boxes and Station Master's slide control frames on the division on monthly basis spread preferably over the first 9 months of a calendar year. Any overhauling work that may fall into arrears due to unforeseen circumstances shall be completed during the remaining three months.

The program shall indicate:-

- Particulars of interlocking of frames, Interlocking key Boxes and Station Master's slide control frames to be overhauled month by month.
- Dates of last overhauling.

A copy of the program shall be supplied to each supervisory SSE/SE/JE(SIGNALS) who has to carry out the overhauling accordingly.

Requirement of materials for overhauling:

The supervisory SE/JE (SIGNALS) shall check before undertaking the work that the material needed for overhauling of interlocking frames, interlocking key boxes and Station Master's slide control frames are available, if not he shall requisition the same sufficiently in advance so that it is available work in time.

Instruction for working of traffic during overhauling:

When interlocking frame is being overhauled, the station shall be worked in accordance with special instruction issued by each Railway to ensure full compliance with G.R 3.38 and 3.39 and Station Master shall be responsible for ensuring that all the facing points over which the train will pass are correctly set clamped and pad locked and that all training points over which the train will pass are correctly set, before taking OFF a signal .The manner in which Station Master will ensure this shall clearly be laid down. Detailed temporary working instructions shall be prepared

for every station by the Divisional Safety officers for each phase of the work in consultation with concerned DSTE and supplied to the station before overhauling is commenced.

A notification showing the date and time when the overhauling work would be taken in hand, its probable duration and instructions for the Station Master to issue caution order to drivers and loco foreman to advise drivers to observe the temporary speed restriction shall be issued jointly by the DSTE&DSO.

For the portion of the yard, which is controlled by the cabin to be over hauled.

- a) Before undertaking overhauling work when required, suitable communication facilities shall be provided.
- b) The drivers shall be issued a caution order at the last stopping station instructing him of speed restriction of 15km/hour at the station where overhauling of interlocking frame is in progress.
- c) Special instruction for reception /dispatch of trains and shunting operations, if any should be drawn keeping in view GR&SR 15.09(2) and annexed to the notification referred to.
- d) DISTANT/WARNER signal and Main home signal proceed aspect shall be made inoperative. DISTANT/WARNER signal shall be kept at 'ON' position.
- e) When ever work is required to be done during night hours, adequate lighting arrangements shall be provided.
- f) Section of the track, on which caution is to be imposed, must be specified only after the S.M on duty has assure himself that the line has been correctly set and facing points locked for the signals required movements he may permit the signals to be taken OFF for the reception or dispatch of a train.

Disconnection Memo on form No.S&T/DN (Annexure-2 Chapter-XI) shall be given by SSE/SE/JE(SIGNALS) in-charge to the S.M on duty and signature shall be obtained before starting the work and reconnection memo shall be given after the work is completed.

The issue of caution orders and the imposition of speed restriction of 15kmph shall remain in force until interlocking frame has been tested by the authorized official and normal working is restored.

DETAILED INSTRUCTION FOR OVERHAULING:

All interlocking frames shall be overhauled under the personal supervision of the SSE/SE/JE (SIGNAL) in charge.

Before taking up the overhauling of a lever frame the SSE/SE/JE in charge shall examine the lever frame and collect the necessary material to carry out repairs/rectify deficiencies noticed.

Quadrant, quadrant supports, levers, lever shoes, locking boxes, locking box supports and holding down bolts shall be examined to see that they are rigidly fixed and properly secured. The levers shall be aligned in straight line in case any misalignment exists. It shall be ensured that all the parts of the lever frame including the spare levers and their tappets are intact. It shall also be ensured that proper padlocking and sealing facility exists.

All notches in tappets, locks and lock rivets shall be examined to ensure that -

They have not become unduly worn or slack. False (spare) notches in tappets shall be filled up or the tappet should be replaced.

All interlocking bars shall be examined to ensure that they are rigid, truly straight and not twisted or buckled, spare holes in interlocking bar shall be filled up.

All tappets and connecting links pins shall be examined to see that they are not duly worn out and do not permit excessive lost motion.

All worn-out/ cracked parts must be replaced whenever necessary.

The inside of the locking and also the bars, the tappet and the locks shall be thoroughly cleaned with a stiff brush and kerosene. Afterwards they shall be polished with graphite mixed with thin oil and finally dusted with graphite.

Each interlocking bars shall be tested before refitting to ensure that the locking provided through it is correct and lost motion of the locked levers or their catch handles is within the permissible limit i.e., the lever block can not be moved more than 12mm over the lever quadrant in the case of locking operated directly by the lever in case of catch handle operated locking, it shall not be possible to raise the catch handle block more than 10mm, defects if any, shall be rectified.

Locking shall be rectified carefully, before replacing the covers, the locking shall be again powdered with graphite, and thin mineral oil shall be used for lubrication when graphite is found unsuitable owing to climatic conditions.

It shall be ensured that waste cotton pieces or any other foreign materials -

Are not left inside the locking boxes.

Before replacing the covers, the locking shall be carefully checked with the approved locking diagram.

RESUMPTION OF NORMAL WORKING:

It will be personal responsibility of the SSE/SE/JE(SIGNALS) to test all interlocking frames up to 20 working levers after completion of overhauling and to introduce normal working. As regards interlocking frames with 20 to 30 working levers, normal working can be introduced after completion of overhauling and testing of interlocking by the Supervisory SSE/SE/JE(SIGNALS) DSTE/ASTE must however test the locking as soon as possible after normal working has been resumed by the supervisory SSE/SE/JE(SIGNALS). When the lever frame to be overhauled is more than 20 working levers, as soon as the overhauling work has been completed it will be personal responsibility of the supervisory SSE/SE/JE(SIGNALS) in charge to intimate the officer concerned that the interlocking frame is ready for his test.

In regards to interlocking frames with more than 30 working levers, it will be the personal responsibility of the signal officer concerned to test all such interlocking frames after completion of overhauling and to introduce normal working.

The DSTE/ASTE must keep in close touch with the progress of the overhauling work and see that the duration of the work is reduced to what is actually necessary to avoid undue continuance of the restrictions imposed on the traffic working.

AFTER GIVING RECONNECTION:

- a) Date of O.H to be painted on the lever frame.
- b) Locking tray should be sealed and padlocked.
- c) Date of O.H with locking table/chart number to be recorded in signal history book.

CERTIFICATE OF OVERHAULING:

Locking overhauling certificate on form S&T / LO ANNEXURE-8 (para13.11)

For all mechanical interlocking frames shall be promptly submitted by the SE/JE (SIGNALS) to the DSTE, who shall after necessary scrutiny forward a consolidated certificate to the CSTE.

1. What is the periodicity of O.H. of interlocking frame, key boxes, and SM'S slides control frame?
2. (a) Who shall draw out the program of O.H.?

(b) When joint notification to be issued by D.S.O and DSTE and with what instructions to S.M.?
3. (a) What is the extra precaution required for DISTANT/WARNER/ MAIN HOME signals during O.H?

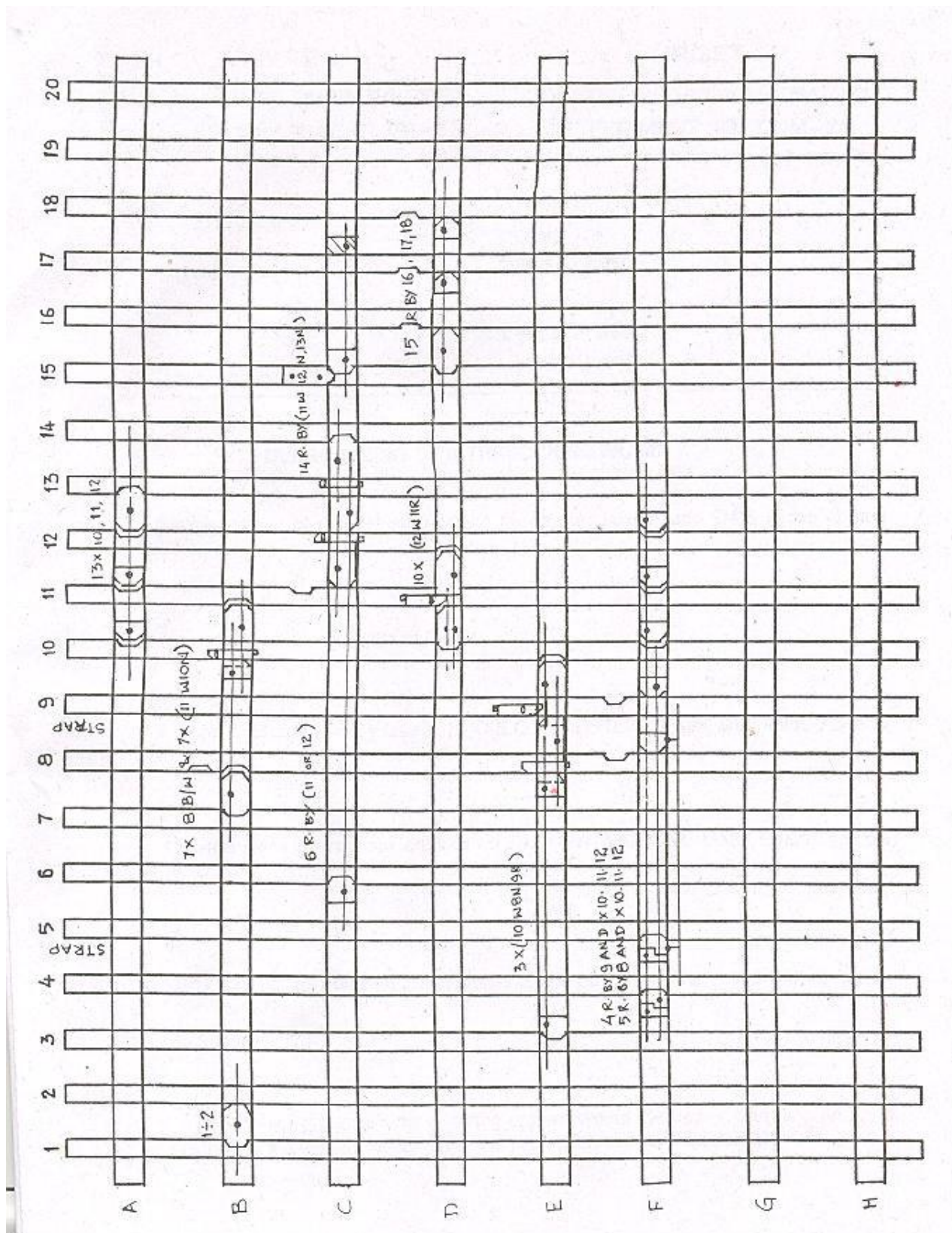
(b) When O.H can not be completed by sun-set of the day of commencement what further action is required?
4. (a) During O.H. who is responsible for ensuring correct setting of routes , clamping and pad locking of points etc. before taking 'OFF' the signals to receive/ dispatch of train.

(b) Who shall prepare the detailed temporary working instructions for every station and with whom consultation.
5. Who is authorized for giving Disconnection? Reconnection memo and to whom it should be given?

6. After giving S&T disconnection, remove the seal and padlock from the tray and ensure the following
- a) That the locking is as per the approved locking chart,
 - b) That the number interlocking bar are equal to with locking chart,
 - c) That all interlocking bars are bear the number of first end lock and the number of channel of locking box and its position in the channel if not available it should be punched.
 - d) That all loose locks are marked with their respective lock number and number of channel of locking box.
7. Material used for lubricating the locking tray, bottom, top bars and special locks?
8. Write down the process of O.H
9. Who is responsible for resuming the normal working after O.H and locking testing
- a) Up to 20 working levers?
 - b) Working levers between 20 to 30?
 - c) Above 30 working levers?
10. When you give reconnection memo and what further action will you take after it?

LOCKING TABLE

Lever No.	Release by	Locks Normal	Lock Bothways	Releases
1	2	-	-	-
2	-	-	-	1
3	-	(10W8N9R)	-	-
4	9	10,11,12	-	-
5	8	10,11,12	-	-
6	(11 or 12)	-	-	-
7	-	(11W10N)	8	-
8	-	-	-	5
9	-	-	-	4
10	-	4,5,13(12W11R) and (3W8N9R)	-	(7W11R)
11	-	4,5,13(7W10N)(10W12R)	-	(6)(14)
12	-	4,5,13 (10W11R)	-	(6)(14)
13	-	10,11,12	-	-
14	(11 or 12 or 13)	-	-	-
15	16,17,18	-	-	-
16	-	-	-	15
17	-	-	-	15
18	-	-	-	15



Date;

Signature of trainee