

Northern Railway

NRHQ Operating Circular No. 019

Headquarters Office,
Baroda House,
New Delhi-110001

No-230-Elect/TRS/202/Operational Circulars

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Sr. Divnl. Elect. Engineer/ RSO,
Northern Railway, D.R.M. Office,
New Delhi & Lucknow.

Sr. Divnl. Elect. Engineer/ TRD,
Northern Railway, D.R.M Office,
Ambala, Firozpur & Moradabad.

Sr. Divnl. Mech. Engineer/ Power,
Northern Railway,
D.R.M. Office,
New Delhi.


Sr. Divnl. Mech. Engineer/ O&F
Northern Railway, D.R.M. Office,
Ambala, Firozpur, Moradabad & Lucknow.

Sub: Operational guidelines to prevent failures of WAG-9MU locos.

Holding of WAG-9 MU is increasing day by day on freight services and there is requirement that all Crew should be conversant with their operation and trouble-shooting to avoid failures & ensure smooth operation of the trains.

Position of different cocks & switches, procedure of energizing & changing cab, procedure of stabling, making one loco dead in case of trouble in other loco and some other important features and instructions to be followed on in WAG-9 MU locos are detailed in annexure attached.

A drive to be launched for one month to counsel all the running staff on operation of WAG-9MU and report on this behalf to be submitted to this Office by 15.03.23.


13/2/23
(Pankaj Kumar Singh)
Chief Elect. Loco Engineer

Copy to:

1. PCEE : For kind information please
2. CRSE/O&F : For necessary action please
3. Principal, ETC/GZB: For necessary action

1. Position of the cocks & switches in WAG-9MU loco:

Annexure

List of the cocks & switches in WAG-9MU loco:					
S.N.	Name of cock/switch	Master loco		Slave loco	
1	Panto selector switch 85	Auto		Auto	
2	IG-38 key	Open		Open	
3	E-70 Brake panel				
	Mode	Isolating cock position			
		47	74	136	70
	Master live	Close	Open	Open	Open
	Slave live	Close	Open	Close	Open
	Slave dead	Close	Close	Close	Close
	CCB system				
	Mode	Isolating cock position			
		47	74	136	PER COS
	Master live	Close	Open	Open	Close
	Slave live	Close	Open	Close	Close
	Slave dead	Close	Close	Close	Close
4	Mode switch (in CCB loco)	Working cab	Non working cab	Working cab	Non working cab
		Lead	Trail	Trail	Trail

2. Procedure of energizing WAG-9MU loco:

a) Action on slave loco:

- A-9 handle to be taken out after putting it at 'Neutral' position in both cabs (in E-70 brake system).
- A-9 to be locked on FS position & mode switches to be kept at 'Trail' position in both cabs (in CCB system).
- FP charging cock 136 to be closed.
- MCB 112.1 to be put at 'ON' position.
- All other MCBs to be ensured 'ON' subject to no booking.
- BL key to be put at 'D' position and put back at 'OFF' position after display of the node 504 on display unit.
- SA-9 to be placed at release position in both cabs.
- Doors and windows to be closed.

b) Action on master loco:

- FP charging cock 136 to be opened.
- MCB 112.1 to put at 'ON' position.
- All other MCBs to be ensured 'ON' subject to no booking.
- BL key to be put at 'ON' position and energize the loco.
- SA-9 to be ensured on 'Apply' position in working cab and on 'Release' position in non-working cab.
- A-9 to put be at 'Run' position in working cab and also to be ensured at 'Neutral' position in non-working cab (in E-70 brake system).
- A-9 to be ensured at 'FS' & locked and mode switch to be ensured at 'Trail' position in non-working cab (in CCB system).

- Mode switch to be kept at 'Lead' position and A-9 in working cab to be unlocked & put at 'Run' position after message 'OK to Run' on EBV screen (in CCB system).

Note:

- Status of the slave loco can be confirmed by seeing node no. in column of the slave loco on display screen of master loco.
- MU communication can be ensured by seeing number of the both locos in train configuration.
- Loco to be energized from master loco within 10 min. of putting MCE 'ON' in slave loco, otherwise MCE in slave loco will become 'OFF'.

3. Procedure of changing cab in WAG-9MU loco:

a) Action on master loco to make it slave loco:

- Apply loco brake with SA-9.
- FP charging cock 136 to be closed.
- A-9 handle to be taken out after putting it at 'Neutral' position (in E-70 brake system).
- A-9 to be locked on FS position & mode switch to be put at 'Trail' position in working cab. These may also to be ensured in non working cab (in CCB system).
- Open VCB and lower the pantograph.
- BL key to be taken out after putting at 'OFF' position.
- SA-9 may be put back at 'Release' position.

b) Action to be taken in slave loco to make it master loco:

- Put SA-9 on apply position in working cab.
- FP charging cock 136 to be opened.
- Energize the loco as usual. Loco should be energized within 10 min. of lowering the pantograph of other loco, otherwise MCE in other loco will become 'OFF'.
- A-9 handle to be placed at 'Run' position in working cab & ensure creation of 5kg/cm² BP pressure (in E-70 brake system).
- Mode switch to be put at 'LEAD' in working cab. A-9 handle to be put at 'Run' after unlocking after message 'OK to RUN' on EBV screen (in CCB system).
- Application & releasing of loco brake with SA-9 to be ensured before moving.
- Creation of BP pressure 5 kg/cm² and FP pressure 6kg/cm² to be ensured. Application of loco brake & drop of BP pressure also to be ensured with A-9 before moving the loco.

4. Procedure of stabling the WAG-9MU loco:

- Loco brakes to be released after applying wooden wedges under the wheels of both locos & parking/hand brakes to ensure loco will not roll down if loco brakes release itself after leaking the brake pressure to '0'.
- Loco brakes to be applied with SA-9.
- A-9 handle to be taken out after putting at 'Neutral' position and BP pressure to be ensured '0' (E-70 brake).
- A-9 to be locked at 'FS' position (in CCB system).
- Open VCB and lower the pantograph.

- MCE to be put 'OFF' and BL key to be taken out.
- All lights to be put 'OFF'.
- MCB 112.1 to be tripped.
- MCE of slave loco also to be put 'OFF' after going there, all lights also to be put 'OFF' and MCB 112.1 to be tripped.
- Doors and windows of both locos to be closed.
- Other instructions contained in SR 5.23 and issued locally also to be observed to avoid rolling down of the loco.

5. Procedure of making one loco dead in case of trouble:

a) For making slave loco dead:

- Cock no. 47, 74 & 70 to be closed (in E-70 brake). Cock no. 136 is closed, also to be ensured.
- MR & BC pipes will remain attached with open position of cocks in between both locos, if these are also required to be detached or cocks are required to be closed, cock no. 47 of the loco made dead to be kept opened.
- Make the loco dead as usual in case of single loco.
- Parking to be released manually & pneumatic brakes also to be released manually if not released.

b) For making master loco dead:

- Procedure to be adopted to make the loco dead shall be as above.
- Slave loco to be converted into master loco.

6. Passing of neutral section:

- VCB to be opened at 'DJ open board'.
- VCB to be closed after 1 OHE mast of 'DJ close board'/after ensuring raised pantograph of slave loco has cleared the neutral section.

Note: Opening and closing of VCB in slave loco to be ensured by seeing the node of slave loco.

7. Other important features & instructions:

- Information for panto raising or lowering of the slave loco is displayed on DDU of master loco.
- Loco number and fault message number both are displayed on DDU in case of any fault message, loco number & fault number to be noted before acknowledging the fault message and trouble-shooting to be done in faulty loco accordingly.
- In some of the MU locos, 'LSRPT' lamp (Signaling lamp for rear panto) is provided on 'A' panel, which glows to indicate the LP if panto of slave loco lowers.
- Panto of the slave loco to be checked immediately if LSRPT glows or any information of fault in slave loco is displayed on DDU and if it is found dropped, trouble-shooting to be done after clearing the block section/within 10 min. to avoid MCE of slave loco 'OFF' and BP pressure drop to '0'.
- If panto of slave loco is found not dropped, trouble-shooting to be done according to the fault number displayed on DDU.

- f) One switch ZRPT is provided in SB-1 cubical to bypass LSRPT lamp if it malfunctions. Normal position of ZRPT is 'ON', it should be put at 'OFF' if LSRPT malfunctions.
- g) If VCB of the slave loco trips, LSDJ of master loco will not glow. Check node of slave loco on DDU of master loco and if it comes to 504; block section to be cleared within 10 min. and trouble-shooting to be done, otherwise MCE will become 'OFF' and BP pressure will drop to '0'.
- h) If pantograph of slave loco lowers, fault message "F0903P1-PAN LOWERED LONGER THAN 10 MIN. Control electronics will switch off" will appear. In that case train to be stopped at next block/suitable station before 10 min. and do trouble shooting, otherwise MCE of slave loco will become 'OFF' and BP pressure will drop to '0'.
- i) If fault message 'F1901P1-TRAIN BUS COMMUNICATION DISTURBANCE',
- Bring TE/BE to '0'.
 - Close VCB with BLDJ.
 - Check cable for MU operations.
 - If train bus is isolated; multiple operations will not be available.
 - TLC to be apprised and to be booked in log book.
 - Keep continue the normal operation, LSFI will glow continuously.
 - MCE in master loco to be put 'OFF-ON' at next stopping/suitable station.
 - If fault repeats, slave loco to be made dead and TLC to be apprised.
- j) If BP pressure also drops with above fault message and train stops:
- Check slave loco, if it has shut down but all is observed normal, its MCE to be put 'ON'.
 - MCE of master loco to be put 'OFF & ON' and take T/E normally to move the train.
 - If same problem repeats, slave loco to be made dead.
 - If anything is observed abnormal in slave loco, action to be taken accordingly.
- k) Parking brakes can be applied and released of both locos with BPPB of the master loco.
- l) If master loco fails, it should be made dead and slave loco to be made master loco and block section to be cleared with cautious speed & observing the instructions as per G&SR/issued locally.
- m) If slave loco is provided with CCB system, mode switches in both cabs of this to be put at 'TRAIL' otherwise brake application in train will not take place.
- n) BPCS of master loco can be used for constant speed feature.
- o) After application of the vigilance penalty brake, it may be released from master loco as in single loco.
- p) UIC coupler between master and slave loco to be checked if VCB can't be closed after display of the fault message "F1901P1- Train Bus Communication Disturbance".
- q) If any MCB in the slave loco trips and it is possible to continue loco operation, it may to be reset at next stopping/suitable station.
- r) BL key should not to be operated from middle cab of any loco for energizing or during trouble shooting, otherwise both locos will move in opposite directions after giving T/E.
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