

North Eastern Railway

**Office of the,
Principal Chief Electrical Engineer,
North Eastern Railway / Gorakhpur.**

No- L/263/HOG/Pt-1

Date- 21/12/2021

**Sr. DEE/G/LJN, BSB & IZN
Sr. DEE/TRS/GKP & GD
Sr. DEE/Operation/LJN, BSB & IZN**

Sub:- JPO for HOG Hotel Load connection, disconnection and troubleshooting for train operation.

Please find enclosed herewith "JPO for HOG Hotel Load connection, disconnection and troubleshooting for train operation" for compliance and necessary action. JPO shall be circulated among down below staff and procedure laid within, shall be ensured.

DA- as above

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GUPTA

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(R. K. Gupta)

**Chief Electrical Service Engineer
North Eastern Railway, Gorakhpur**

Copy: **PCEE-** for kind information please.
PCME- for kind information please.
DRM/LJN, BSB & IZN- for kind information please.

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**Chief Electrical Service Engineer
North Eastern Railway, Gorakhpur**

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Office of The
Principal Chief Electrical Engineer
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Gorakhpur

No.: EL/NER/268/HOG/Part-1/jpo

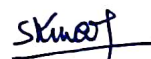
Dated-20/12/2021

Sub: JPO for HOG Hotel Load connection, disconnection and troubleshooting for train operation.

While connecting HOG Hotel Load Convertor (HLC) to Power Car/LSLRD, following procedure should be adopted-

1. The Hotel Load connection of locomotive to Power Car/LSLRD would take about 15 minutes and during this time Power Car will remain OFF.
This would cause no AC cooling in coaches and may initiate passengers' complaints. To avoid these situations, operating deptt shall arrange to place HOG rake with locomotive and crew before 60 minutes from departure time.
2. After attaching Loco to train by LP/LPS and CBC coupling completed, Power car staff will give memo to LP/LPS to open VCB and lower pantograph. LP will open VCB and lower pantograph and inform Power car staff in person. Power car staff will ensure by observing that both pantographs on Loco roof are in lowered condition and note the time.
3. Now, HOG couplers of power car will be connected to Loco by power car staff. First connect LP & ALP side IV couplers (power coupler, 5 pin) and then connect UIC coupler (13 pin) to their respective sockets on Loco. **(If on loco side, two UIC socket are available, then HOG UIC coupler should always be connected to ALP side (left side) and this marking is also available on loco, (other UIC socket is for Loco MU operation))**. For hotel load supply, on HOG panel in power car/LSLRD, DG/converter rotary (only in Power car) should be in converter position and converter ON/OFF rotary switch should be in converter 'ON' position. At this Juncture, if converter is healthy, then converter ON lamp will glow otherwise converter faulty lamp will glow on HOG panel in power car/LSLRD.
4. After completion of Hotel load connection, power car staff will give memo to LP to energise the loco.


20/12/21



5. LP will energise the Loco and after MR pressure created above 6.4 Kg/cm, LP will switch ON "BLHO switch" in loco cab, LSHO lamp will glow in A- Panel of loco cab and HOTEL LOAD CONTACTOR 'ON' lamp will glow on HOG panel in power car/LSLRD. After 5-10 seconds, converter-A and converter-B output available lamp should glow on HOG panel In Power Car/LSLRD.
6. On getting converter-A and/or converter-B output lamp glow indication on HOG panel, power car staff will give power supply to coaches by operating change over switch on HOG panel.

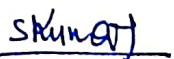
HOG Hotel Load disconnection-

1. Power car escorting staff will give memo to LP for panto down and disconnecting 25KV OHE supply.
2. LP will switch off Hotel Load by pressing BLHO switch to the "OFF" position in Loco cab, LSHO lamp will extinguish in A-Panel of Loco cab. LP will lower the panto.
3. After ensuring both pantographs are in lowered condition on the Loco roof, Power Car staff will switch OFF Pacco switch (rotary switch) on HOG panel of both converters.
4. Mechanically disconnect both side IV couplers (5 pin) and UIC coupler (13 pin) from Loco side.
5. Loco detaching can be permitted only after ensuring that HOG couplers (IVC & UIC) have been mechanically disconnected.

This process will take about 10 minutes.

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JPO for Trouble shooting, if HOG Hotel Load is not working-

- I. Action to be taken by Loco Pilot & Power car staff in case of HLC converter trips during run or/and at the time of start:

S/N	Trouble/Indications-A	Action to be taken
1	If converter is not working	a) Switch OFF BLHO to open the hotel load contactor. b) OFF and then ON the Hotel load converter' MCB in SB-2 panel. c) Switch ON BLHO to close Hotel load contactor.
2	If Hotel load converter's LCD Display is working, input "ON" indication is illuminating but converter is tripping and <u>INPUT EARTH FAULT</u> lamp is glowing-> Fault is in Loco.	Switch OFF BLHO and inform to power car escorting staff on Walkie-Talkie to start DG supply.
3	If Hotel load converter's LCD Display is working, input "ON" indication is illuminating but converter is tripping and <u>OUT PUT EARTH FAULT</u> lamp is glowing->Fault is in Power car.	Switch OFF BLHO and inform to power car escorting staff on Walkie-Talkie to check the power car.

S/N	Trouble/Indications-B	Action to be taken
1.	If "CONV-A ON" or "CONV-B ON" indications are not coming in power car interlocking panel.	Power car staff will check with LP for working indication of convertor-A & -B in Loco.
2.	If there is any Fault indication of CONV-A fault or CONV- B fault in power car.	Power car staff will press the concern CONV reset Push Button in power car and try to switch ON HOG.
3.	A. If LSHO is glowing in loco and HOTEL LOAD CONTACTOR ON indication not coming in power car on DG set panel (HOTEL LOAD CONTACTOR ON lamp not glowing). B. If CONV-A ON or CONV-B ON indications are available and CONV-A O/P ON or CONV-B O/P ON lamps not glowing.	LP will check the converters display in Loco. If parameters are showing healthy there, then LP will inform Power car staff for remedial action. (Power car staff will check the availability of 750 Volt AC supply in power car, if not available, then check the respective coupler properly).
4.	In loco, after switching on the BLHO lever, converter should display "converter running". If it displays "Waiting for ON command".	LP should inform to power car staff for checking continuity of IVC and UIC wires in power car.
5.	If none of the above works and fault still persists (converter-A or converter- B output available lamp is glowing on HOG panel but power supply is not coming to	Power Car staff will check the supply at input of isolating contactor, if available, then proper functioning of isolation contactor and its control circuit along with

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	power car).	fuses to be checked, Otherwise start DG supply.
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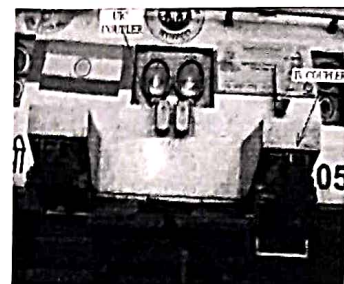
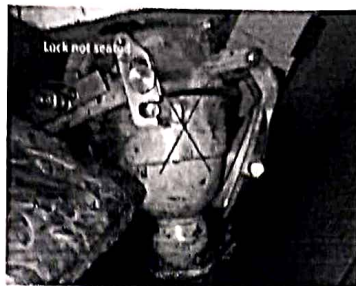
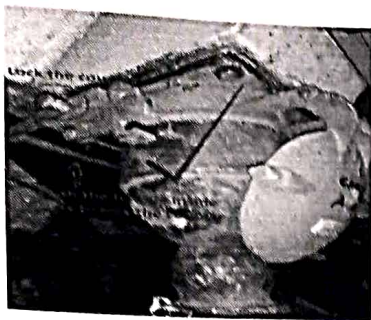


Fig.CONNECTION OF HOTEL LOAD "IV COUPLERS" WITH LOCKING Always connect ALP side UIC

II) Action to be taken by SSE/TRS staff at destination in case of converter trips during run. TRS/TRO staff and Power Car staff will stay back on arrival at destination-

S/N	Trouble	Action to be taken
1	Hotel load converter not working and LCD display is OFF.	Check 110V DC supply availability. Trip and Reset the HLC converter MCB in SB-2 panel, check supply.
2	If input "ON" indicator is not glowing.	Check BLHO switch and energize same.
3	If LCD Display is working and input "ON" lamp is glowing, converter "ON" command is given from power car, and display showing message-> Waiting for "ON" command.	Switch OFF BLHO, shutdown VCB/Panto. Remove UIC and IVC from loco. Put wire link between IVC-socket pin 7 or 10 and UIC-socket pin 11. Switch "ON" Panto/VCB/BLHO and check converter's 750V/3-Ph output. If found ok, power car staff shall check respective UIC coupler wiring.

4) Conclusion (to be mentioned in joint report):

A) Fault in loco -

1) Transient

2) Permanent (Fault code is to be mentioned):

B) Fault in Coach/Power car (Fault code with Coach/Power car number is to be mentioned):

NOTE: In case train arrived at destination in HOG not working condition, joint inspection of Loco Hotel Load converter and Power Car shall be done by SSE/JE(Power Car)/ACM & SSE/JE(TRS or TRO, preferably by TRS) to record readings of meters, position of all indications, switches etc. Control message to this incident will be given by HQ Electric control in advance to destination.

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