

File No. RDSO-TMM0HM(H072)/1/2020-0/o PED/TMM/RDSO

अनुसंधान अभिकल्प और मानक संगठन लखनऊ - 226 011 EPBX (0522) 2451200 Fax (0522) 2458500 Research Designs & Standards Organisation Lucknow - 226 011 DID (0522) 2450115 DID (0522) 2465310



संख्याः टीएम / एच एम / टी आर टी / पार्ट. ॥

दिनांक -As signed

-	मुख्य अभियन्ता (ट्रैक मशीन)सभी क्षेत्रिय रेलवे	Chief Engineer (Track Machines) All Zonal Railways
II-	मुख्य कार्यशालाप्रबन्धक (ट्रैक मशीन)	Chief Workshop Manager (Track Machines)
	सी.पी.ओ.एच. कार्यशाला प्रयागराज , रायनापाडु, कंचरापारा, अहमदाबाद,	CPOH Workshop, Prayagraj , Rayanapadu, Kachrapara, Ahmedabad
III-	प्रधानाचार्य भा.रे.रे.प.म.प्र.के. पीपलगांव प्रयागराज—211011	Principal, IRTMTC, PipalGaon, Prayagraj-211011
	Details of addresses are enclosed herewith.	

विषय: ट्रैक रिलेइंग ट्रैन (मॉडल-P811S) (मशीन सं. 6122392, 6122402, 6122412, 6122422,

6122432 & 6122442 हेतु मान्य) मशीन की निरीक्षण जॉच सूची।

Sub: Inspection check list of Track Relaying Train (TRT) (Model-P811S) (applicable for

machine no. 6122392, 6122402, 6122412, 6122422, 6122432 & 6122442).

ट्रैक रिलेइंग ट्रैन (मॉडल- P811S) (मशीन सं. 6122392, 6122402, 6122412, 6122422, 6122432 & 6122442 हेतु मान्य) मशीन की निरीक्षण जॉच सूची का मसौदा ओ• ई• एम• द्वारा प्रदत्त अनुरक्षण कैटेलॉग एवम् फील्ड में कार्यरत कर्मचारियों के सुझावों के आधार पर तैयार कर पत्र सं॰ TM/HM/TRT/Pt-III दिनांक 10.10.2023 द्वारा 30 दिनों के लिए और अनंतिम निरीक्षण जॉच सूची पत्र सं॰ TM/HM/TRT/Pt-III दिनांक 01.01.2024 द्वारा 15 दिनों के लिए सभी क्षेत्रीय रेलवे, सी.पी.ओ.एच. एवं भा.रे.रे.प.म.प्र.के. को जारी किया गया था। परन्तु क्षेत्रीय रेलवे, सी.पी.ओ.एच. एवं भा.रे.रे.प.म.प्र.के से अभी तक कोई भी सुझाव / टिप्पणी प्राप्त नहीं हुई हैं। अब निरीक्षण जॉच सूची अतिंम रूप से तैयार किया गया है, जिसकी एक प्रति आपके सूचनार्थ एवम् फील्ड में कार्यरत कर्मचारियों के मार्गदर्शन हेतु संलग्न हैं। यद्यपि उपरोक्त सूची बनाते समय सभी सावधानियां बरती गई है, फिर भी यदि कोई त्रुटि हों तो कृपया सुधार हेतु अपने सुझावों / टिप्पणियों को ई—मेल / पत्राचार द्वारा अधोहस्ताक्षरी को अवश्य भेजे।

On the basis of maintenance manuals provided by OEM and suggestions received from field staff, draft inspection check list of Track Relaying Train (TRT) (Model-P811S) (applicable for machine no. 6122392, 6122402, 6122412, 6122422, 6122432 & 6122442) had been prepared and circulated to all zonal railways, C.P.O.Hs & IRTMTC vide letter no, TM/HM/TRT/Pt.-III dated: 10.10.2023 for 30 days and further provisional inspection check list circulated vide letter no, TM/HM/TRT/Pt.-III dated: 01.01.2024 for 15 days. No comments have been received from zonal railways, C.P.O.Hs & IRTMTC till date. Now the inspection check list has been finalized. A copy of the same is enclosed herewith for your kind information and guidance of the machine staff working in the field. Although every care has been taken during preparation of above said list, however the discrepancy noticed, if any, may kindly be brought to the knowledge of the undersigned for further improvement by e-mail/post.

Email address: hmtmmrdso@gmail.com

संलग्नक : उपरोक्त |

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(अमर देव मौर्य) निदेशक रेलपथ मशीन – III

File No.RDSO-TMM0HM(H072)/1/2020-O/o PED/TMM/RDSO

I-	मुख्य अभियन्ता (ट्रैक मशीन)	Chief Engineer (Track Machines)
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2.0	पूर्व रेलवे, फेयरलीप्लेस, कोलकाता—700 001	E R, Fairlie Place, Kolkata-700 001.
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	110001	
4.0	पूर्वीत्तर रेलवे, गोरखपुर 273012	N E R, Gorakhpur-273 012.
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	781011	
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7.0	दक्षिण मध्य रेलवे, रेल निलयम, सिकन्दराबाद—	SCR, Rail Nilayam, Secunderabad –
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8.0	दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता—700043	S E R, Garden Reach, Kolkata-700 043.
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15.0	पश्चिम मध्य रेलवे, जबलपुर—482001	WCR, Jabalpur-482 001
16.0	दक्षिण पूर्व मध्य रेलवे, बिलासपुर—495004	South East Central Rly, Bilaspur-495 004
II-	मुख्य अभियन्ता ,सी.पी.ओ.एच,पश्चिम रेलवे, मंडल रेल प्रबंधक कार्यालय, चामुंडा, माता मंदिर के पास , नरोड़ा रोड, पोo. सैजपुर बोधा, अहमदाबाद—382345	Chief Engineer. C.P.O.H, Western Railway, Divisional Railway Manager Office, Near Chamunda Mata Mandir, Naroda Road, P.O. – Saijpur Bogha, Ahmedabad-382345
III-	मुख्य कार्यशाला प्रबन्धक (ट्रैक मशीन)	Chief Workshop Manager (Track Machines)
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IV-	प्रधानाचार्य भा.रे.रे.प.म.प्र.के. पीपलगांव प्रयागराज—211011	Principal, IRTMTC, PipalGaon, Prayagraj- 211011



<u>भारत सरकार</u> Government of India

<u>रेल मंत्रालय</u> Ministry of Railways

Inspection Check List for
Track Relaying Train-Harsco
(TRT) (Model-P811S)
(Applicable for machine no. 6122392, 6122402, 6122412, 6122322, 6122432 & 6122442)



Report No- 299

February-2024

अनुसंधान अभिकल्प और मानक संगठन लखनऊ—226011 RESEARCH DESIGNS AND STANDARDS ORGANISATION LUCKNOW-226011

PREFACE

Any Machine can only be kept in good condition by regular Inspection of its various assemblies at different levels of inspections. To ensure that the components of On-Track machines are properly working & being maintained and the documentation of the same is being done properly, multi tiered Inspection of On-Track machines is also required. For the purpose IRTMM-2019 includes the duties of different inspecting authorities from Dy. CE/TMC to SSE/TMC with the objective to monitor the health of machines and to ensure that the officials concerned are carrying out their duties satisfactorily. For the guidance of the inspecting authorities, RDSO is dealing with the preparation and issuing the list of items to be inspected for a particular type of machine.

In this context, the Inspection check list for Track Relaying Train -Harsco (TRT) (Model-P811S) (Applicable for machine no. 6122392, 6122402, 6122412, 6122322, 6122432 & 6122442) is prepared as recommended by OEM and suggestions received from different Railways.

While every care has been taken to make the Inspection check list quite exhaustive, there will always be scope for further improvement. Suggestions from the railways in this regard will be welcome and may be sent to the undersigned for future improvement.

February-2024

(A.D.Maurya)
Director/Track Machine-III
RDSO/Lucknow-226011

Track Relaying Train-Harsco (TRT) (Model-P811S)(Applicable for machine no. 6122392, 6122402, 6122412, 6122322, 6122432 & 6122442)

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:
:
:
:
:
:

S. No	Items	Remarks give	en by i	nspecting officer	
1.0 G	eneral:		•		
1.1.	Name of supervisor				
1.2.	Machine make				
1.3.	Year of manufacturing				
1.4.	First POH of Machine done on				
1.5.	Last IOH of M/C done on				
1.6.	Next IOH of M/C due on				
1.7.	Last POH of M/C done on				
1.8.	Next POH of M/C due on				
1.9.	Last POH of camping coach done on				
1.10.	Next POH of camping coach due on				
1.11.	All log book filled properly				
1.12.	Pending Maintenance Schedule (I, II, III, IV,				
	V, VI & VII) and its reasons.				
1.13.	Failure register updated				
1.14.	Reserve stock of consumables and spare parts				
1.15.	General cleanliness of the machine	Ok		To be cleaned	
1.16.	Function of locking devices	Working		Not working	
1.17.	Condition of camping coach, if available	Satisfactory		Poor	
1.18.	Condition of machine base stabling siding	Satisfactory		Poor	
1.19.	Condition of rest house at stabling station, if available	Satisfactory		Poor	
1.20.	Provision of water & electric supply at stabling station	Available		Not available	
1.21.	Pre and Post preparation for machine operation being done	Yes		No	

S. No	Items	Pı	evaili	ng Condition	
1.22.	Back-up system of machine	Satisfactory		Poor	
1.23.	Condition of tools & plants (spanner, wrench etc.)	Ok		To be replaced	
1.24.	Material available at site {as per critical spares parts list of TRT issued by RDSO/LKO}	Yes		No	
Histor	y of Machine :				
••••••					•••••

S.No	Items	I	Prevaili	ng Condition	
2.0 Eng	gine Model No.: QSX15, 450 HP @ 2100 rpm				
	o di calcala di calcal	1 4			
	ngine hours On	date		T	
2.1.	Radiator coolant level	Ok		Less	
2.2.	HSD oil level	Ok		Less	
2.3.	Engine lube oil level	Ok		Less	
2.4.	Starting problem	Yes		No	
2.5.	Condition of smoke	White		Black	
		Normal		Blue	
2.6.	Engine temperature after 2 hrs working				
		°C		T	
2.7.	Leakage in Head gasket	No		Yes (Head no)	
2.8.	Electrolyte level in batteries	Ok		Less	
			Ш		
2.9.	Specific gravity of electrolyte (min 1.24)	Ok		Less	
2.10.	V-Belt tension	Ok		To be tightened	
2.11.	Condition of V-belts	Yes		No	
2.12.	Leakage in engine hoses	Ok		Need attention	
2.13.	Condition of battery terminals	Ok		Need attention	
2.14.	RPM of the Engine	Ok		Need calibration (Rated rpm	
2.15.	Engine oil pressure	Actual		(Rated Ipili)
2.15.	a) 1.5 Kg/cm² at idle speed	Actual			
2.10.	b) 2.5 Kg/cm² on rated speed after 2 hours wor	king.			
2.17.	Last change of Air Cleaner element	Done		Due	
		Date		1	ш
2.18.	Last change of engine oil	Done		Due	
		Date			
2.19.	Last change of engine oil filters	Done		Due	
		Date	ш		
2.20.	Last change of fuel filters	Done		Due	
		Date			
2.21.	Last changing/replacement of batteries	Done Date		Due	
2.22.	Condition of self starter	Ok		Need attention	
2.23.	Condition of air compressor	Ok		Need attention	
2.23.	Condition of air compressor	OK		need attention	
2.24.	Last repair/change of alternator	Done		Due	
		Date			

S.No	Items	Prevailing Condition				
2.25.	Last over-hauling of the Engine	Done		Due		
2.26	T 11 C CC 1: C PPE	Date		D		
2.26.	Last calibration of fuel injection pump/PT pump	Done Date		Due		
2.27.	Last calibration of Fuel Injectors	Done		Due		
		Date				
2.28.	Whether working gauges are in order					
	(a) R.P.M.	Ok		Need attention		
	(b) Oil Pressure	Ok		Need attention		
	(c) Temperature (engine/hydraulic oil)	Ok		Need attention		
	(d) Battery charging	Ok		Need attention		
3.0 Ma	nin Machine:	<u> </u>		<u>I</u>		
3.1.	Sled chain lubrication by lube oil	Done		Not done		
3.2.	Condition of N.T. rubber pads	Ok		Need attention		
3.3.	Clutch and drive shafts universals by grease	Done		Not done		
3.4.	Old sleeper pick up mechanism by grease	Done		Not done		
3.5.	New sleepers drop mechanism by grease	Done		Not done		
3.6.	Manganese rollers by grease	Done		Not done		
3.7.	Dynamic plow by grease	Done		Not done		
3.8.	Lubrication of Conveyor shaft bearings by grease	Done		Not done		
3.9.	Lubrication of conveyor chain by lube oil	Done		Not done		
3.10.	All thread in and thread out rollers by grease	Done		Not done	一一	
3.11.	Pump control linkage by grease	Done		Not done		
3.12.	Track laying frame stabilizer arms by grease	Done		Not done		
3.13.	Tightness of all nuts & bolts	Ok		Need attention		
3.14.	Sled chain Tension	Ok		Need attention		
3.15.	Condition of fingers of pick up unit	Ok		Need attention		
3.16.	Condition of sled rollers	Ok		Need attention		
3.17.	Condition of sled sprocket and chains	Ok		Need attention		
3.18.	Leakage from hydraulic system	Ok		Need attention		

S.No	Items		Prevaili	ng Condition		
3.19.	Leakage from exhaust vent	Ok		Need attention		
3.20.	Clearance between brake shoes and wheels	Ok		Need attention		
3.21.	Condition of machine working tools Ok Need attention					
3.22.	All log books filled properly	Yes		No		
4.0	GANTRY (Ashok Leyland model- H6E TIC	RC3R323, 22	5 hp at 2	2300 rpm)		
4.1.	Coolant level in radiator	Ok		Less		
4.2.	Engine lube oil level	Ok		Less		
4.3.	Hydraulic oil level	Ok		Less		
4.4.	Lube oil pressure after 2 Hrs working	Yes		No		
4.5.	V-Belt tension	Yes		No		
4.6.	Brake application	Ok		Need attention		
4.7.	Tightness of nuts & bolts	Ok		Need attention		
4.8.	Condition of brake shoes	Ok		Need attention		
4.9.	Condition of lock pins of all bridges and gantry rails of BRH	Ok		Need attention		
4.10.	Leakage from exhaust vent	Ok		Need attention		
4.11.	Condition of Rope	Ok		Need attention		
4.12.	Condition of drive chain for excess wear & developing cracks.	Ok		Need attention		
4.13.	Condition of bearing, pins and gear teeth for excessive wear	Ok		Need attention		
4.14.	Greasing of gantry wheel bearings.	Done		Not done		
4.15.	Greasing of intermediate gear bearings.	Done		Not done		
5.0 U	Under Frame Inspection					
5.1.	Under Frame					
5.1.1.	Visual Inspection of centre pivot mounting Bolts and Mounting of Suspension system, Bogie Frame etc.	Ok		To be attended		
5.1.2.	Examine the shock absorber for damages.	Ok		To be attended		
5.1.3.	Check condition of head stock/sole bar of transition Coupler and joints.	Ok		To be attended		

S.No	Items	Prevailing Condition				
5.2.	Bogie frame & Wheels	l				
5.2.1.	Visual Inspection of wheels and under gear for any infringement.	Ok		To be attended		
5.2.2.	Visual and Physical inspection of wheel shall be done at a frequency of once a year or after every 1000 engine running hours whichever is earlier.	Done		Not done		
5.2.3.	Visually inspect all the welding locations.	Ok		To be attended		
5.2.4.	Visually check the suspension brackets.	Ok		To be attended		
5.3.	Brake Rigging					
5.3.1.	Condition of the rubbing plates.	Ok		To be attended		
5.3.2.	Condition of brake beams breakages/damages.	Ok		To be attended		
5.3.3.	Condition of Brake hanger bracket, torque support for damages	Ok		To be attended		
5.4.	Draw Gear					
5.4.1.	Condition of the transition coupling and replace if required.	Ok		To be attended		
5.4.2.	Condition of draw hook, draw bars, rubber pads for damages	Ok		To be attended		
5.4.3.	Wear at any section on draw hook. (Should not exceed 10 mm).	Ok		To be attended		
5.4.4.	Wear on transition coupling shackle pins, trunion pins, shackle/link holes and draw hook holes (should not exceed 3mm).	Ok		To be attended		
5.4.5.	Condition of draw beam and locking pins on it.	Ok		To be attended		
5.4.6.	Condition of visually draft key locking pins.	Ok		To be attended		
5.5.	Buffing Gear					
5.5.1.	Condition of the wheel tyre profile and crack with tyre profile gauge as mention in procedure for inspection of wheels (On Track Machines) issued by RDSO report no. TM-170	Ok		To be attended		
5.5.2.	Condition of the buffers casing for cracks/damages.	Ok		To be attended		
5.5.3.	Corrosion of sole bar and other under frame members with track tight or inspection lamp.	Ok		To be attended		
5.6.	Running Gear and Wheels	l .				
5.6.1.	Condition of axle box covers.	Ok		To be attended		
5.6.2.	Condition of wheel tread for shattered rim, spread rim, shelled tread, thermal cracks, heat checks.	Ok		To be attended		
5.6.3.	Ultrasonic testing of axles of machine shall be done between 40,000 to 45,000 kms of running or three years, whichever is earlier.	Done		Not done		

S.No	Items	Prevailing Condition			
6.0	Safety Items and Staff Matter:	1			
6.1.	Safety equipment as per Annexure-I	Available		Deficient	
6.2.	Working of safety emergency braking system of the machine	Ok		Defective	
6.3.	Competency certificate of SSE/JE.	Current		Expired	
6.4.	Strength of staff.	Full		deficient	
6.5.	Staff availing rest on due date.	Yes		No	
6.6.	Staff amenities (As per latest correction slip).	Available		deficient	
6.7.	Safety awareness.	Excellent		V. Good	
		Good		Average	
6.8.	Staff due for Medical.	Yes		No	
Any ot	her remarks by Inspecting Officer:	•			

Signature of inspecting authority

Annexure-I

List of Safety Equipments

SN.	Description	Quantity	Sta	itus
1.	Red hand signal flags	2 Nos	Available	Deficient
2.	Green hand signal flag	1 No	Available	Not available
3.	Tri- colour hand signal lamps/LED torch	2 nos.	Available	Deficient
4.	Chain with padlock	2 nos.	Available	Deficient
5.	Fire Extinguisher (each cabin) (valid up to)	1 no.	Available	Deficient
6.	Hooter (manual/remote Controlled)	2 nos.	Available	Deficient
7.	Jack 50 t Traverse type*	2 nos.	Available	Deficient
8.	Wooden blocks off sizes	4 nos.	Available	Deficient
9.	Crow bars	4 nos.	Available	Deficient
10.	Hydraulic hand pump	1 no.	Available	Not available
11.	Emergency pneumatic/hydraulic hose off size suiting to different machines (complete with end fitting)	-	Available	Deficient
12.	Machine specific equipment, if any.	-	Available	Not
13.	Fog signals (detonators) in a tin case	10 Nos.	Available	available Deficient
14.	Working time table of section where machine is working with up-to-date amendment slips	1 сору	Available	Not available
15.	G & SR book with up-to-date amendment slips	1 copy	Available	Not available
16.	4 cell flasher light LED lamp cum flasher light (rechargeable)	1 no.	Available	Not available
17.	Banner flag	2 nos.	Available	Deficient
18.	First Aid Box (valid up to)	1 no.	Available	Deficient
19.	Skids	10 nos.	Available	Deficient
20.	Safety helmets	For each machine staff	Available	Deficient
21.	Protective clothing, safety shoes and safety gloves	For each machine staff	Available	Deficient
22.	Walkie talkie with frequency of SM, Guard and Loco Pilots	2 nos.	Available	Not available
23.	Internal communication system Walkie talkie and/or head mounting system	-	Available	Deficient
24.	Track Machine Manual with latest correction slips.	1 no.	Available	Not available
25.	Accident Manual with latest correction slips.	1 no.	Available	Not available
26.	Tail lamp	1 nos.	Available	Not available

Note-* Proposal is sent to Railway board vide letter no. TM/HM/1, VOL-2 dated 22/08/2019 for approval of jack (machine wise).

GENERAL SAFETY NOTES

- 1. The machine has to be operated according to existing Indian Railways rules and regulations.
- 2. The safety of all machine staff is most important in the operation and maintenance of the machine.
- 3. Always alert the men working close to the machine.
- 4. Do not forget to look out for signals and obstructions on track.
- 5. Make sure that all protection equipment and safety devices are in place on the machine and in working order especially when it is being driven from site to site.
- 6. Always keep the machine clean. Excessive oil or grease on the machine can make surface slippery and is also potential to fire hazard.
- 7. Always lock the machine before leaving. Make sure that the machine is protected in accordance with Railways regulations.
- 8. Wherever there is an opportunity while waiting to go out for a job, do some of the smaller maintenance job, such as tightening loose nut & bolts and cleaning the machine.
- 9. Do not permit unauthorized persons to operate the machine.
- 10. It is prohibited to use fire on or near the machine.
- 11. Always wear proper dress, safety shoes and helmet while operation of the machine.

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	Shri	Mohammad Rafique	SSE/TM/SECR/BSP
	Shri	Sunil	SSE/TM/NR /UMB
	Shri	Bhushan Hivrale	Machine In-charge (Harsco Rail) (Machine no6122422)
	Shri	Vinod Verma	Site In-charge (Harsco Rail) (Machine no6122422)
RDSO			
	Shri	Rakesh Tiwari	ARE/TM
	Shri	Prem Kumar	SSRE/TM
	Shri	A.K.Srivastava	SSE/TM
	Shri	Ravi Kumar	SSRE/TM