



भारत सरकार - नई दिल्ली  
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टीएम/एच एम/एम पी टी पार्ट. III  
TM/HM/MPT, Pt- III

दिनांक- As Signed  
Date- As Signed

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

विषय : यूनिमेट एस एच एम एफ आई मशीन सं. 56901-978, 57106-128 & 57250-326 की निरीक्षण जांच सूची ।

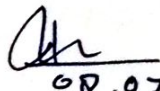
**Sub:** Inspection Check List of Unimat SH MFI M/C NO. (56901-978, 57106-128 & 57250-326)

यूनिमेट एस एच एम एफ आई मशीन सं. 56901-978, 57106-128 & 57250-326 की निरीक्षण जांच सूची का मसौदा ओईएम मैनुअल, आइआरटीएमएम-2019 से प्राप्त दिशा निर्देशों एवं पूर्वोत्तर रेलवे से प्राप्त सुझाव के आधार पर तैयार कर टीएम/एच एम/ एम पी टी ,पार्ट- III दि. 01.11.2024 द्वारा 30 दिनों के लिये जारी किया गया था और अनंतिम निरीक्षण जांच सूची पत्र सं. टीएम/एच एम/ एम पी टी ,पार्ट- III दि. 30.1.2025 द्वारा 15 दिनों के लिये सभी क्षेत्रीय रेलवे को, जारी किया गया था। इसके उपरान्त उत्तर मध्य रेलवे से दि. 09.05.2025 को, प्राप्त सुझाव के आधार पर अंतिम रूप से तैयार की गई है, जिसकी एक प्रति आपके सूचनार्थ तथा सभी मशीन के कर्मचारियों जो फील्ड में काम कर रहे हैं, के मार्गदर्शन हेतु संलग्न है। यद्यपि उपरोक्त सूची बनाते समय सभी सावधानियाँ बरती गई हैं, फिर भी यदि कोई त्रुटि हो तो कृपया अपने सुझावों/टिप्पणियों को सुधार हेतु ई-मेल/पत्राचार द्वारा अद्योहस्ताक्षरी को भेजें।

On the basis of OEM manual, IRTMM-2019 and suggestion received from North Eastern Railway draft Inspection Check List of Unimat SH MFI M/C NO. 56901-978, 57106-128 & 57250-326 had been prepared and circulated vide letter no. TM/HM/MPT/Pt-III dated 01/11/2024 for 30 days and provisional Inspection Check List circulated vide letter no. TM/HM/MPT/Pt-III dated 30/01/2025 for 15 days. After incorporating suggestions/comments received from North Central Railway on 09.05.2025 Inspection Check List has been finalized. A copy of the same is enclosed herewith for your information and guidance of the machine staff working in the field. Every care has been taken during preparation of the above said list, However the discrepancy noticed if any, may be brought to the knowledge of the undersigned through email/post for further improvement.

संलग्नक : उपरोक्त

Email id - dir.tm1@rdso.railnet.gov.in

  
08.07.25-  
(कैलाश नारायण)  
(Kailash Narayan)  
निदेशक रेल पथ मशीन-I  
Director/Track Machine-I

**I- मुख्य अभियन्ता (ट्रैक मशीन)**

- 1.0 मध्य रेलवे, सीएसटी, मुम्बई 400 001
- 2.0 पूर्वरेलवे, फेयरलीप्लेस, कोलकाता 700 001
- 3.0 उत्तररेलवे, बड़ौदा हाउस, नयी दिल्ली 110 001
- 4.0 पूर्वोत्तर रेलवे, गोरखपुर 273012
- 5.0 पूर्वोत्तर सीमान्त रेलवे, मालीगांव, गुवाहाटी-781 011
- 6.0 दक्षिण रेलवे, पार्कटाउन, चेन्नई-600 003
- 7.0 दक्षिण मध्य रेलवे, रेल निलयम, सिकन्दराबाद-500 025
- 8.0 दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता-700 043
- 9.0 पश्चिम रेलवे, चर्चगेट, मुम्बई-400 020
- 10.0 उत्तर पश्चिम रेलवे, जयपुर-302 001
- 11.0 पूर्व मध्य रेलवे, हाजीपुर-844 101
- 12.0 दक्षिण पश्चिम रेलवे, हुबली-580 023
- 13.0 उत्तर मध्य रेलवे, प्रयागराज-211 015
- 14.0 पूर्व तट रेलवे, भुवनेश्वर-751 001
- 15.0 पश्चिम मध्य रेलवे, जबलपुर-482 001
- 16.0 दक्षिण पूर्व मध्य रेलवे, बिलासपुर-495 004

**II- मुख्य अभियन्ता, सी.पी.ओ.एच.पश्चिम रेलवे, मंडल रेल प्रबंधक कार्यालय, चामुंडा, माता मंदिर के पास, नरोड़ा रोड, पो 0 सैजपुर बोधा, अहमदाबाद-382345**

**III- मुख्य कार्यशाला प्रबंधक (ट्रैक मशीन)**

- 1.0 सी.पी.ओ.एच. कार्यशाला, उत्तर मध्य रेलवे, पो 0 धूमनगंज, प्रयागराज-211012
- 2.0 सी.पी.ओ.एच. कार्यशाला, दक्षिण मध्य रेलवे, रायनापाडु, विजयवाडा, जिला कृष्णा, आन्ध्रप्रदेश. 521241
- 3.0 सी.पी.ओ.एच. कार्यशाला, पूर्व रेलवे, भूतबागान, रेलवेकॉलोनी, कंचरापाड़ा, पी.एस- बिजपुर पो 0 कंचरापाड़ा, पश्चिम बंगाल-743145

**IV- प्रधानाचार्य भा.रे.रे.प.म.प्र.के. प्रयागराज-211011**

**Chief Engineer (Track Machines)**

- C R, CST, Mumbai - 400 001.  
E R, Fairlie Place, Kolkata-700 001.  
N R, Baroda House, New Delhi-110 001.  
N E R, Gorakhpur-273 012.  
N F R, Maligaon, Guwahati -781 011.  
S R, Park Town, Chennai -600 003.  
SCR, Rail Nilayam, Secunderabad - 500 025.  
S E R, Garden Reach, Kolkata-700 043.  
W R, Churchgate, Mumbai-400 020  
N W R, Jaipur-302 001.  
E C R, Hazipur-844 101  
SWR, Hubli-580 023  
NCR, Prayagraj-211 015  
East Coast Rly, Bhubaneswar- 751 001  
WCR, Jabalpur-482 001  
South East Central Rly, Bilaspur-495 004  
**Chief Engineer. C.P.O.H, Western Railway, Divisional Railway Manager Office, Near Chamunda Mata Mandir, Naroda Road, P.O. - Saijpur Bogha, Ahmedabad-382345**

**Chief Workshop Manager (Track Machines)**

- CPOH Workshop, North Central Railway, PO. Dhoomanganj] Prayagraj-211012  
CPOH Workshop, South Central Railway, Rayanapadu, Vijaywada, Dist.-Krishna, Andhra Pradesh- 521241  
CPOH Workshop, Eastern Railway, Bhutbagan Railway Colony, Kanchrapara, P.S: Bizpur, P.O.: Kanchrapara, West Bengal-743145  
**Principal, IRTMTC, Pipal Gaon, Prayagraj- 211011**



**INSPECTION CHECK LIST  
FOR  
UNIMAT SH MFI M/C NO. 56901-978,  
57106-128 & 57250-326**



**REPORT NO. TM-309**

**June-2025**

## 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 check list for Inspection of UNIMAT SH MFI M/C NO. 56901-978, 57106-128 & 57250-326 is prepared. The suggestions and feedback from Zonal Railways has been taken and incorporated in Inspection Check list.

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.

(Kailash Narayan)  
Director/Track Machine-I  
RDSO/Lucknow-226011.

**INSPECTION OF UNIMAT SH MFI M/C NO.56901-978, 57106-128 &  
57250-326**

**Name & Designation of Inspecting  
Official :**

**Date of Inspection :**

**Machine No. :**

**Base Station /division :**

**Location of working :**

**Block hours :**

**Progress :**

<b>1.0 General</b>		
<b>S. No</b>	<b>Items</b>	<b>Remarks given by inspecting officer</b>
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 and reasons	
1.13	Schedule I,II,III,IV,V,VI,VII	
<b>History of Machine:-----</b> ----- ----- ----- -----		

S. No.	I t e m s	Prevailing Condition	
<b>2.0 Mode of Working</b>			
2.1	Pre and Post Tamping Operations being Done	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2.2	Depth of Clean Cushion under Sleeper (required min. is 150 mm)	-----mm	
		Ok <input type="checkbox"/>	Less <input type="checkbox"/>
2.3	Condition of Ballast	Caked <input type="checkbox"/>	Clean <input type="checkbox"/>
2.4	Lifting working mode	Proportional (Smoothering) <input type="checkbox"/>	Design <input type="checkbox"/>
2.5	Working method	Manual <input type="checkbox"/>	Measuring run <input type="checkbox"/>
2.6	Parameter recorded in ALC	Yes <input type="checkbox"/>	Not recorded <input type="checkbox"/>
2.7	Hydraulic leakage from circuit	Location-----	
2.8	Pneumatic leakage from circuit	Location-----	
2.9	Overall condition of the Machine health	Excellent <input type="checkbox"/> Good <input type="checkbox"/>	Very Good <input type="checkbox"/> Average <input type="checkbox"/>
2.10	Application of brake	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
2.11	Overall Machine working performance	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>

**Remarks.**

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S.No.	Items	Agent / Description	Prevailing Condition			
3.0. Oil/water/level in tank/container						
3.1.	Hydraulic oil	Shell Tellus S2 MX 68 / Shell Tellus S2 M100 or equivalent*	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.2.	Radiator	Water with coolant	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.3.	ZF Gear Box	SHELL SPIRAX S4 TXM -10W-30 or equivalent	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.4.	Diesel Oil	HSD	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.5.	Intermediate Gear Box	SHELL SPIRAX S2 G80W90 or equivalent	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.6.	Reduction Gear Box	SHELL SPIRAX S2 G80W90 or equivalent	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.7.	Engine Lube oil	Cummins API 15W40 CI4 PLUS or equivalent	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.8.	Change of Engine Lube oil due on date(After every 250 hrs)	Cummins API 15W40 CI4 PLUS or equivalent	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.9.	Pump Gear Box	SHELL OMALA S4 GXV 150	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.10.	Driving Axle Gear Box I	SHELL SPIRAX S2 G80W90 or equivalent	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
3.11.	Driving Axle Gear Box II	SHELL SPIRAX S2 G80W90 or equivalent	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>

Remarks

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#### 4. Filters

S. No.	I t e m s	Prevailing Condition	
4.0. Filters			
4.1.	Cleaning of Air Cleaner filters outer(1no.) (Cleaned after every 250hrs or on dirt indication and change after 1000hrs)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.2.	Change of air cleaner inner(1no) ( after every 1000hrs)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.3.	Change of diesel filters(2nos.) (to be done after every 250hrs)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.4.	Change of ZF gear box filter (2 no.) (after every 500hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.5.	Change of Servo valve filter (2nos)( after every 250hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.6.	Change of proportional valve filter (2nos)( after every 250hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.7.	Change of return filter (2nos.) ( after every 500hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.8.	Change of suction filter (3nos.) ( after every 500hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
4.9.	Change of air dryer filter (2nos.) ( after every 1000hrs or at least once a year)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>

Remarks-----  
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5.Lubrication (Oiling & Greasing as per maintenance schedule)					
S.No.	Item	Agent / Description	Prevailing Condition		
5.1.	<b>Tamping units</b>				
5.1.1.	Vibration shaft main bearing	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.1.2.	Tamping unit guide column	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.1.3.	Connecting rod bearing of squeezing cylinder lateral shifting cylinder, adjusting cylinder, lifting cylinder, frame slewing cylinder and slewing pin	Shell Gadus S3 V220 C2 Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.1.4.	Tamping unit guiding plate and deflection pulley	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
<b>Note-</b> if machine is equipped with auto greasing unit for some part/section working of it should be ensured time to time & Shell Gadus S3 V220 C2 grease should be used.					
5.2.	<b>Lifting and lining units</b>				
5.2.1.	Lifting cylinder pivot	ShellTellus-100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.2.2.	Clamp bolt & Clamp	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.2.3.	Locking device of lifting/ lining unit	ShellTellus-100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.2.4.	Swiveling frame	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.2.5.	Sliding plate	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.2.6.	Lining roller	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	
5.2.7.	Vertical/longitudinal hook guide	Shell Gadus S2 V100 2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>	

Remarks-----  
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S.No.	Item	Agent / Description		Prevailing Condition	
5.3.	Cardon shaft				
5.3.1.	Engine to ZF gear box	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.3.2.	ZF to power divider gear box	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.3.3.	Power divider gear box to driving axle-I	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.3.4.	Power divider gear box to Intermediate shaft drive	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.3.5.	Intermediate shaft to Driving axle-II	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.	Miscellaneous				
5.4.1.	Sensing rod , guide bush and deflection pulley of Measuring bogie.	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.2.	Torque arm pivot	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.3.	King pin pivot	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.4.	Gear box flange cover of driving and idle bogies	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.5.	All balls and socket pivot point	Oil Servo system- 100	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.6.	Sensing feeler rod, tensioning trolley, guide bush and chord displacement assembly of Front tension bogie.	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.7.	Brake linkage, brake lever bearing && Brake rod.	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.8.	Guide rod & lateral plate of measuring trolley	Oil Servo system- 100	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.9.	Lateral guide & guide rod of lining trolley.	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.10.	Suspension of machine bogie	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>
5.4.11.	Compactor	Shell Gadus S2 V100 2	Done	<input type="checkbox"/>	Not done <input type="checkbox"/>

Remarks-

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S.No.	Item	Prevailing Condition	
<b>6.0 Engine Model no. : CUMMINS QSN-14L</b>		<b>Engine hours on date:</b>	
6.1.	Over-hauling of the Engine as per Main. Schedule	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
6.2.	Starting problem	No <input type="checkbox"/>	Required attention <input type="checkbox"/>
6.3.	Condition of smoke	White <input type="checkbox"/> Normal <input type="checkbox"/>	Blank <input type="checkbox"/>
6.4.	Engine temperature during working Cummins Engine: Optimum 75 to 85°C	Actual °C----- Ok <input type="checkbox"/> Required attention <input type="checkbox"/>	
6.5.	Leakage in Head gasket	No <input type="checkbox"/>	Yes <input type="checkbox"/> (Head no....)
6.6.	Compressor leakage	Yes <input type="checkbox"/>	No <input type="checkbox"/>
6.7.	Belt condition and tension	Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
6.8.	Leakage of water from water pump, seal hose and radiator	No <input type="checkbox"/>	Required attention <input type="checkbox"/>
6.9.	RPM of the Engine (rated 2100)	Actual °C----- Ok <input type="checkbox"/> Need attention <input type="checkbox"/>	
6.10.	Engine oil pressure (minimum) Cummins (CUMMINS QSN-14L) Minimum 1-2 Kg/cm <sup>2</sup> at idle rpm Minimum 3-7 Kg/cm <sup>2</sup> on rated rpm after 2 hours working	Actual----- Actual-----	
6.11.	Overall condition of Engine	Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>

Remarks-

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S.No.	Item	Prevailing Condition			
7.0 Electrical and Electronics					
7.1.	Condition of battery terminals	Ok	<input type="checkbox"/>	Not satisfactory	<input type="checkbox"/>
7.2.	Condition of batteries	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.3.	Condition of self starter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.4.	Condition of alternator	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.5.	Condition of Depth transducer (4nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.6.	Condition of Lining transducer (2nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.7.	Condition of Height transducer (2nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.8.	Working of Lining galvanometer	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.9.	Working of X- Level galvanometer (2nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.10.	Working of Lifting indication voltmeter LHS	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.11.	Working of Lifting indication voltmeter RHS	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.12.	Safety circuit for Engine	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.13.	Safety circuit for Driving	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
7.14.	Electrolyte level in batteries (Plates should be embedded in electrolyte)	Ok	<input type="checkbox"/>	Need Top up	<input type="checkbox"/>
7.15.	Specific gravity of electrolyte (min 1.24)	Ok	<input type="checkbox"/>	Less	<input type="checkbox"/>

Remarks.

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S.No.	Item	Prevailing Condition			
8.0 Gauges and meters working status					
8.1.	Speedometer/Tachometer working Cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.2.	Speedometer/Tachometer front Cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.3.	Engine Control Module display in front cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.4.	Engine Control Module display in rear cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.5.	ZF oil pressure meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.6.	ZF oil temperature meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.7.	Battery charging digital display	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.8.	Battery voltage digital display	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.9.	Hydraulic oil pressure meters	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
8.10.	Pneumatic pressure meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>

Remarks.

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S.No.	Item	Prevailing Condition	
9.0 Pneumatic			
9.1.	Water separator working properly	Yes <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.2.	Working of drip cup	Yes <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.3.	Clearance between brake shoes and wheel	Ok <input type="checkbox"/>	To be adjusted <input type="checkbox"/>
9.4.	Working of brake application	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.5.	Working of unloader valve	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.6.	Locking system of lifting/lining units	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.7.	Locking system of tamping units	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.8.	Locking system of lining trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.9.	Locking system of middle feeler trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.10.	Locking system of front feeler trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.11.	Locking system of measuring feeler trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.12.	Locking system of split head tamping unit.	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>

Remarks.

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S.No.	Item	Prevailing Condition	
		Recommended value	Actual value
10. 0 Hydraulic Pressure and Operation			
10.1.	System Pressure	130-140	
10.2.	High Pressure System	150	
10.3.	Squeezing pressure for concrete sleepers	135 -140	
10.4.	Accumulator pressure	85 bar (max)	
10.5.	Vibration pressures	185 bar	
10.6.	Tamping unit interlocking pressure	80 bar	
10.7.	Emergency pump pressure	130 bar	
10.8.	Air condition pressure	210 bar	
10.9.	Hydraulic. brake pressure	30 to 70 bar	
10.10.	Air pressure	7-8 Kg/cm2	
10.11.	ZF oil pressure	12- 18 bar	
10.12.	Hydraulic Oil Temperature after working of machine for 2 hrs. (Max limit 85 °c)	-----°C	

Remarks.

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S.No.	Item	Prevailing Condition	
<b>11.0</b>	<b>Miscellaneous</b>		
11.1.	Adjustment of track lifting roller height LHS	Ok <input type="checkbox"/>	To be adjusted <input type="checkbox"/>
11.2.	Adjustment of track lifting roller height RHS	Ok <input type="checkbox"/>	To be adjusted <input type="checkbox"/>
11.3.	Correction of alignment	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
11.4.	Performance of Tamping unit up/down	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
11.5.	Performance of Lifting & Levelling unit	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
11.6.	Condition of brake shoes	Ok <input type="checkbox"/>	To be changed <input type="checkbox"/>
11.7.	Visual and Physical inspection of wheel shall be done at a frequency of once in a year or after every 1000 engine running hours whichever is earlier	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
11.8.	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 <input type="checkbox"/>	Not done <input type="checkbox"/>
<b>12.Safety Items and Staff Matter</b>			
12.1.	Safety equipment as per Annexure-I	Available <input type="checkbox"/>	Deficient <input type="checkbox"/>
12.2.	Working of safety Emergency Braking System of the machine	Ok <input type="checkbox"/>	Defective <input type="checkbox"/>
12.3.	Competency certificate of operator	Current <input type="checkbox"/>	Expired <input type="checkbox"/>
12.4.	Strength of staff	Full <input type="checkbox"/>	Deficient <input type="checkbox"/>
12.5.	Safety awareness	Excellent <input type="checkbox"/> Good <input type="checkbox"/>	V,Good <input type="checkbox"/> Average <input type="checkbox"/>
12.6.	Staff due for Medical	Yes <input type="checkbox"/>	No <input type="checkbox"/>

**Signature of inspecting  
authority**

## Annexure - I

List of Safety Equipments		
S.No.	Description	Quantity
1.	10 Detonators in a tin case	1 box
2.	H.S. flag red	2 nos.
3.	H.S. flag green	2 nos.
4.	H.S. Tri colour lamps/LED Torch	2 nos.
5.	Chain with Padlock	2 set
6.	Clamp with Padlock	2 set
7.	50t*jack with traverser	1 no.
8.	20t* jack with traverser	1 no.
9.	Crow bars	4nos.
10.	Wooden blocks off sizes	4nos.
11.	Banner flag	2 nos.
12.	Walky-talky with frequency of SM, Guard and Loco Pilots	2 nos.
13.	First Aid Box	2 no
14.	Skids	2 nos.
15.	Working time table of section where machine is working	1 copy
16.	G&SR book with up to date amendment slips	1 copy
17.	4 cell flasher light/ LED lamp cum flasher light (rechargeable).	1 no.
18.	LED Petromax	1 no.
19.	Safety helmets	For each Machine staff
20.	Protective clothing, safety shoes and safety gloves	For each Machine staff
21.	Track Machine Manual	1 no.
22.	Accident Manual	1 no.
23.	Fire extinguisher	2 no.
24.	Hooter (Manual/ Remote)	2 nos.
25.	Tail Lamp	1 no.
26.	Hydraulic Hand Pump	1 no.
27.	Emergency pneumatic/Hydraulic hose off sizes suiting to different machines(complete with end fittings)	1 no.

## Note-

1. Inspecting official should wear the safety items 21 & 22 while doing the inspection.
2. All the working units should be properly locked and a tag should be attached to the unit showing the name of person who has locked the unit.
3. Proposal is sent to Railway board vide letter no. TM/HM/1,VOL-2, dt. 22/08/2019 for approval of jack machine wise.

## Annexure-II

## List of Spares for Emergency

Sl. No.	Description	Qty
	<b>Engine:</b>	
1.	Fuel filter	1 Set
2.	Lube oil filter (3401544)	1 Set
3.	Air cleaner filter (Outer-4020551,inner-4020552)	2 Set
4.	Radiator hoses	1 Set
5.	Injector pipes	1 Set
6.	`V' belt (for alternator-54.13.209)	1 no.
7.	`V' belt (for Compressor-54.13.187)	1 no.
8.	`V' belt (for alternator-54.83.426)	1 no.
9.	Fuel flexible hoses	1 Set
	<b>Tamping Unit:</b>	
1.	Piston for squeezing cylinder	1 Set
2.	Gland bush for squeezing cylinder	1 Set
3.	Piston Locking Screw	1 No
4.	<b>Tamping unit Up / Dn cylinder seals</b>	1 No
5.	Tamping unit Up / Dn cylinder piston rod	1 No
6.	Tamping tool cu30.6220-BE	8 Nos
7.	Tamping tool cu30.6820-BE	8 Nos
8.	Tamping tool bolts cu30.406	8 Nos
9.	Tamping tool lock bolt (WN119-M20.100-1)	16Nos
10.	Tamping depth transducer ( EL-T750.00/ZS)	02 Nos
11.	35 mm pin with steel bush, nut & washer	1 No
12.	Squeezing cylinder piston rod	1 No
13.	Tool tilting cylinder	1 No
14.	Bolt ( W.31.133A )	2 Nos
15.	Bolt (CU.37.632)	2 Nos
	<b>Hydraulic:</b>	
1.	Seal set for all hydraulic cylinders	1 set each
2.	Proportional filters	2 No
3.	Servo filters	2 Nos
4.	ZF in-line filter (0501.333.764)	2 Nos.
5.	Hydraulic suction filter (HY-S 501.560.150ES)	1 Set
6.	Hydraulic return filters (HY-R 501.330.10ES)	1 Set



Sl. No.	Description	Qty
7.	Hydraulic hoses R02-4	25 mtrs
8.	Hydraulic hoses R02-6	10 mtrs
9.	Hydraulic hoses- R02-8	10 mtrs
10.	Hydraulic hoses R02-10	10 mtrs
11.	Hydraulic hoses R02-12	10 mtrs
12.	Hydraulic hoses R02-16	10 mtrs
13.	Hydraulic hoses R02-20	10 mtrs
14.	Hydraulic hoses R05/R06 -24	10 mtrs
15.	Hydraulic hoses R05/R06 -32	10 mtrs
16.	Hydraulic hose fitting of different sizes	2 each
170	HT bolts of different sizes	5 each
18	O ring of different sizes	1 each
19	Grease nipple	10 Nos
	<b>Electrical:</b>	
1.	EK IAP13.02a	01 no.
2.	Relay ELT- 7002/S4	2 Nos
3.	All type of Fuses	2 Nos each
4.	Head light , tail light & working light bulbs	2 Each
5	Versine transducer carrier	1 No
6	Versine transducer chord 1mm	16 mtrs
7	Chord wire 2mmx80mts	80mts
8.	Battery lug	4 Nos
	<b>Miscellaneous:</b>	
1	Track lifting roller	1 No
2.	Pneumatic hose 6.3 mm	15 mtrs
3	Pneumatic hose 12.5 mm	05 mtrs
4	Brake shoes	8 Nos
5	Brake cylinder seal	1set
6.	Cardan shaft nut and bolt	1 each

**ACKNOWLEDGEMENT**

Following officers and staff have made their valuable contributions in finalization of the Provisional Inspection Check List for Unimat SH MFI M/C NO. 56901-978, 57106-128 & 57250-326 .

**RAILWAYS**

1.	S/Shri Mahendra Yadav	SSE/TM/NER
2.	S/Shri Varun Singh	SSE/TM/NER
3.	S/Shri Riket Kumar	SSE/TM/NER
4.	S/Shri Pushpendra Chauhan	SSE/TM/NCR
5.	S/Shri Abhishek Kumar	SSE/TM/NCR

**RDSO**

1	S/Shri	D S Prajapati	ARE/TM
2	" "	Prem Kumar	SSRE/TM
3	" "	Prakhar Gupta	SSRE/TM
4	" "	Pradip Kumar Shukla	SSRE/TM
5	" "	D.G.Sharma	SSE/CIVIL

04/06/2025