



भारत सरकार - रेल मंत्रालय
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Government of India-Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011
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TM/HM/MDU/Pt.IV

Date: 10-01-2020

- I- मुख्य अभियन्ता (ट्रैक मशीन)
1. मध्य रेलवे, सीएसटी, मुम्बई-400 001
 2. फेयरली प्लेस, पूर्व रेलवे, कोलकाता-700 001
 3. बडौदा हाउस, उत्तर रेलवे, नयी दिल्ली-110 001
 4. उत्तरपूर्व रेलवे, गोरखपुर 273012
 5. मालीगांव, उत्तरपूर्व सीमान्त रेलवे, गुवाहाटी-781 011
 6. पार्क टाउन, दक्षिण रेलवे, चेन्नई-600 003
 7. रेल निलायम, दक्षिण मध्य रेलवे, सिकन्दराबाद-500 371
 8. गार्डन रीच, दक्षिणपूर्व रेलवे, कोलकाता-700 043
 9. चर्चगेट, पश्चिम रेलवे, मुम्बई-400 020
 10. उत्तर पश्चिम रेलवे, जयपुर-302 001
 11. पूर्व मध्य रेलवे, हाजीपुर-844 101
 12. दक्षिण पश्चिम रेलवे, हुबली-580 023
 13. उत्तर मध्य रेलवे, इलाहाबाद-211 015
 14. पूर्व तट रेलवे, भुवनेश्वर-751 001
 15. पश्चिम मध्य रेलवे, जबलपुर-482 001
 16. दक्षिण पूर्व मध्य रेलवे, बिलासपुर-495 004
- II- उप मुख्य अभियन्ता (ट्रैक मशीन)
1. सी.पी.ओ.एच. कार्यशाला पीओ धूमनगंज इलाहाबाद-221012
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- III- प्रधानाचार्य भारेरे.प.म.प्र.के. पीपल गांव इलाहाबाद-211011

Chief Engineer (Track Machines)
CST, C R, Mumbai - 400 001.
Fairlie Place, E R, Kolkata-700 001.
Baroda House, N R, New Delhi-110 001.
N E R, Gorakhpur-273 012.
Maligaon, N F R, Guwahati -781 011.
Park Town, S R, Chennai -600 003.
Rail Nilayam, SCR, Secunderabad-500 371.
Garden Reach, S E R, Kolkata-700 043.
Churchgate, W R, Mumbai-400 020
N W R, Jaipur-302 001.
E C R, Hazipur-844 101
SWR, Hubli-580 023
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WCR, Jabalpur-482 001
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Dy Chief Engineer (Track Machines)
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Rayanapadu, Vijaywada, Dist.-
Krishna, Andhra Pradesh-521241
Principal, IRTMTC, Pipal
Gaon, Allahabad-211011

विषय : प्लासर निर्मित मक डिस्पोजल यूनिट की निरीक्षण जाँच सूची

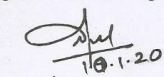
Sub: Inspection Check List of Plasser make MUCK DISPOSAL UNIT (MDU)

प्लासर निर्मित मक डिस्पोजल यूनिट की निरीक्षण जाँच सूची का अन्तिम पत्र सं टीएम/ एचएम/एम.डी.यू. /पार्ट.IV दि 24.10.2019 द्वारा जारी किया गया था, परन्तु क्षेत्रिय रेलवे से कोई टिप्पणी प्राप्त नहीं हुई अब निरीक्षण जाँच सूची को तैयार करने की प्रक्रिया पूर्ण की जा चुकी है । जिसकी प्रति, आपके सूचनार्थ तथा मशीन के कर्मचारियों जो फील्ड में काम कर रहे हैं के मार्गदर्शन हेतु संलग्न है । यद्यपि उपरोक्त संशोधन बनाते समय सभी सावधानियाँ बरती गई हैं फिर भी यदि कोई त्रुटि हो तो कृपया अपने सुझावों/ टिप्पणियों को सुधार हेतु ई-मेल/ फैंक्स/पत्राचार द्वारा अद्योहस्ताक्षरी को भेजे ।

Provisional Inspection Check List for Plasser make MUCK DISPOSAL UNIT (MDU) has been circulated vide letter no. TM/HM/ MDU pt.IV dt.24-10-2019, but no comments received from Zonal Railways. Now procedure of preparation for Inspection Check List is completed. A copy of the same is enclosed herewith for your information and guidance of the machine staff working in the field. However every care has been taken during preparation of the above said list, the discrepancy noticed, if any, may be brought to the knowledge of the undersigned for further improvement by email/fax/post.

Email: hmtmmdso@gmail.com

DA: As above


(ओम प्रकाश)
निदेशक रेलपथ मशीन -III



भारत सरकार

रेल मंत्रालय

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

**INSPECTION CHECK LIST
FOR
MUCK DISPOSAL UNIT (MDU)**



REPORT NO. TM- 235

JANUARY -2020

अनुसंधान अभिकल्प और मानक संगठन लखनऊ

**RESEARCH DESIGNS & STANDARDS ORGANISATION
LUCKNOW- 226 011**

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-2000 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 draft of Check list for Inspection of MUCK DISPOSAL UNIT (MDU) is prepared as recommended by OEM. 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.

(Om Prakash)
Director/Track Machine-III
RDSO/Lucknow-226011

MUCK DISPOSAL UNIT (MDU)

Name & Designation of Inspecting Official :

Date of Inspection :

Machine No. :

Base Station /division :

Location of working :

Block hours :

Progress :

1.0	General :	
S. No	Items	Remarks given by inspecting officer
1.1.	Name of Machine In charge	
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 Schedule I,II,III,IV,V,VI,VII	

History of Machine:-----

S.no	Items	Prevailing Condition	
2.0	Engine (CUMMINS) QSB 6.7 141 KW with diesel fuel particulate filter @2300 rpm	Engine hours on date-	
2.1.	Over-hauling of the Engine As per Main. Schedule	Due <input type="checkbox"/>	Not due <input type="checkbox"/>
2.2.	Starting problem	No <input type="checkbox"/>	Required attention <input type="checkbox"/>
2.3.	Condition of smoke	White <input type="checkbox"/> Normal <input type="checkbox"/>	Black <input type="checkbox"/> Blue <input type="checkbox"/>
2.4.	Engine temperature during working a) CUMMINS) QSB 6.7 Optimum 75°c to 85° c b) Thermostat working	Actual ----- °C	
		Ok <input type="checkbox"/>	Required attention <input type="checkbox"/>
2.5.	Leakage in Head gasket	No <input type="checkbox"/>	Yes <input type="checkbox"/> (Head no.-)
2.6.	Compressor leakage	Yes <input type="checkbox"/>	No <input type="checkbox"/>
2.7.	Belt condition and tension	Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
2.8.	Leakage of water from water pump, seal hose and radiator	No <input type="checkbox"/>	Required attention <input type="checkbox"/>
2.9.	RPM of the Engine (rated 2100)	Actual---	
		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
2.10.	Tightness of engine mounting bolts	Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
2.11.	Engine oil pressure		
	CUMMINS QSB 6.7 Minimum 1.5 Kg/cm ² at idle rpm Minimum 2.5 Kg/cm ² on rated rpm after 2 hours working	Actual--- Actual---	
2.12.	Overall condition of Engine	Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>

Remarks:-

S.N.	Items	Prevailing Condition	
3.0	Working Condition		
3.1.	Infringement ,if any	Yes	No
3.2.	Hydraulic leakage from circuit	Location -----	
3.3.	Pneumatic leakage from circuit	Location -----	
3.4.	Overall condition of the Machine health	Excellent <input type="checkbox"/>	Very good <input type="checkbox"/>
		Good <input type="checkbox"/>	Average <input type="checkbox"/>
3.5.	Application of brakes	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
3.6.	Emergency backup system	Fuctioning <input type="checkbox"/>	Need attention <input type="checkbox"/>
3.7.	Clearance between brake shoes and wheel (max.3-5mm)	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
3.8.	Overall Machine working performance	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
4.0	Conveyor belt		
4.1.	Condition of Hydraulic pipes	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
4.2.	Tightness of all nut and bolts	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
4.3.	Condition of cables for any damage	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
4.4.	Check all moving parts for proper greasing	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
4.5.	Check for load holding valve seals	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
4.6.	Condition of conveyor belt	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
4.7.	Condition of swivelling belt	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>

S. No.	Items	Agent / Description	Prevailing Condition	
5.0	Oil/water/level in Tank/Container			
5.1.	Hydraulic oil	Shell Tellus S2 V68 262 Ltrs	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
5.2.	Diesel Fuel tank	HSD 1800 Ltrs	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
5.3.	Engine Lube oil changed on due date (After every 300hrs)	CI4+ Premium Blue 15W40	Yes <input type="checkbox"/>	No <input type="checkbox"/>
5.4.	Engine cooling agent	DCA4 (Premix) 50 Ltrs	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
5.5.	Grease	Grease Shell Gadus S2 - or equivalent	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
5.6.	Hopper Belt Gearbox	Shell Spirax G80W-90 4x4 Ltrs	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
5.7.	Air Oiler	Shell Tellus S2 V68 250 ML	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
5.8.	Chain Lubricant	Shell Spirax G80W-90 57 Ltrs	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
5.9.	Pump Gearbox	Servo CF4 15W40 4 Ltrs	OK <input type="checkbox"/>	Need top up <input type="checkbox"/>
6.0	Filters			
6.1.	Cleaning of Air Cleaner filters outer (Cleaned after every 200 hrs or on dirt indication and change after 1000 hrs)		Done <input type="checkbox"/>	Not done <input type="checkbox"/>
6.2.	Change of air cleaner inner (after every 1000 engine hrs or one year which occurs earlier)		Done <input type="checkbox"/>	Not done <input type="checkbox"/>
6.3.	Change of air dryer filter, if used (2nos) (after every 500 engine hrs or at least once a year)		Done <input type="checkbox"/>	Not done <input type="checkbox"/>
6.4.	Change of engine oil filters (After every 300 hrs)		Done <input type="checkbox"/>	Not done <input type="checkbox"/>
6.5.	Change of diesel filters (To be done after every 300 hrs)		Done <input type="checkbox"/>	Not done <input type="checkbox"/>
6.6.	Change of suction filter (after every 500hrs or on choke indication)		Done <input type="checkbox"/>	Not done <input type="checkbox"/>
6.7.	Change of return line filter (after every 500hrs or on choke indication)		Done <input type="checkbox"/>	Not done <input type="checkbox"/>
Inspection check list for MDU January 2020			Page 7 of 13	

S. No.	Items	Agent / Description	Prevailing Condition	
7.0	Lubrication (Oiling & Greasing as per maintenance schedule)			
7.1.	All balls and socket pivot point	Oil by Servo system-100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
7.2.	Brake linkage, brake lever bearing & Brake rod	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
8.0	Electrical and Electronics			
8.1.	Condition of battery terminals		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
8.2.	Condition of batteries		Ok <input type="checkbox"/>	Not satisfactory <input type="checkbox"/>
8.3.	Electrolyte level in batteries (Plates should be embedded in electrolyte)		Ok <input type="checkbox"/>	Need top up <input type="checkbox"/>
8.4.	Specific gravity of electrolyte (min 1.24)		Ok <input type="checkbox"/>	Less <input type="checkbox"/>
8.5.	Condition of self starter		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
8.6.	Condition of alternator		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
8.7.	Safety circuit for Engine		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
8.8.	Safety circuit for Driving		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.0	Gauges and meters working status			
9.1.	Engine Oil Pressure gauge		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.2.	Engine Temperature gauge		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.3.	Battery charging meter		Ok <input type="checkbox"/>	Need Attention <input type="checkbox"/>
9.4.	Battery voltage meter		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
9.5.	Pneumatic pressure gauge		Ok <input type="checkbox"/>	Need Attention <input type="checkbox"/>
9.6.	Hydraulic oil pressure gauge		Ok <input type="checkbox"/>	Need Attention <input type="checkbox"/>
9.7.	Hydraulic oil temperature gauge		Ok <input type="checkbox"/>	Need Attention <input type="checkbox"/>

S. No.	Items	Prevailing Condition	
10.0	Pneumatic		
10.1.	Condition of brake shoe (worn out)	Satisfactory <input type="checkbox"/>	To be changed <input type="checkbox"/>
10.2.	Condition of pneumatic hoses	Satisfactory <input type="checkbox"/>	To be changed <input type="checkbox"/>
11.0	Hydraulic Pressure and Operation		
11.1.	System Pressure	240 bar	
11.2.	Air pressure	7.5-8.5 Kg/cm ²	
11.3.	Hydraulic Oil Temperature after working of machine for 2 hrs. (Max limit 76 ⁰ c)	----- °C	
12.0	Under Frame Inspection		
12.1.1	. Under Frame		
12.1.2	Visual Inspection of centre pivot mounting Bolts and Mounting of Suspension system ,Bogie frame etc.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.1.3	Examine the shock absorber for damages.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.1.4	Visual Inspect centre pivot cover.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.1.5	Check condition of transition coupler head stock/sole bar.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.2 Bogie frame & Wheels			
12.2.1	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"/>
12.2.2	Visual Inspection of wheels and under gear for any infringement.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.2.3	Visually inspect all the welding locations.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.2.4	Visually check the suspension brackets.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>

12.3 Brake Rigging			
12.3.1	Visually check the rubbing plates.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.3.2	Examine brake beams breakages/ damages.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.3.3	Inspection of Brake hanger bracket , torque support for damages.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.4 Draw Gear			
12.4.1	Check condition of the transition coupling and replace if required.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.4.2	Examine draw hook ,draw bars, rubber pads for damages.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.4.3	Ensure that wear at any section on draw hook should not exceed 10 mm.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.4.4	Ensure that wear on screw coupling shackle pins, trunion pins, shackle/link holes and draw hook holes should not exceed 3mm.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.4.5	Check condition of draw beam and locking pins on it.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.4.6	Examine visually draft key locking pins.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.5 Buffing Gear			
12.5.1	Visually examine 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 <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.5.2	Examine for corrosion of sole bar and other under frame member with track light or inspection lamp.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
12.5.3	Visually examine the buffers casing for cracks/damages.	Ok <input type="checkbox"/>	To be attended <input type="checkbox"/>
13.0	Safety Items and Staff Matter:		
13.1.	Safety equipment as per Annexure-I	Available <input type="checkbox"/>	Deficient <input type="checkbox"/>
13.2.	Working of safety Emergency Braking System of the machine	Ok <input type="checkbox"/>	Defective <input type="checkbox"/>
13.3.	Competency certificate of SSE/JE	Current <input type="checkbox"/>	Expired <input type="checkbox"/>
13.4.	Strength of staff.	Full <input type="checkbox"/>	deficient <input type="checkbox"/>
13.5.	Staff availing rest on due date.	Yes <input type="checkbox"/>	No <input type="checkbox"/>

13.6.	Staff amenities(As per latest correction slip).	Available <input type="checkbox"/>	deficient <input type="checkbox"/>
13.7.	Safety awareness.	Excellent <input type="checkbox"/> Good <input type="checkbox"/>	V. Good <input type="checkbox"/> Average <input type="checkbox"/>
13.8.	Staff due for Medical.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
13.9.	Condition of machine base siding.	Satisfactory <input type="checkbox"/>	Not satisfactory <input type="checkbox"/>

Remarks:-----

Signature of inspecting authority

List of Safety Equipment's

S.N	Description	Quantity
1.	Detonators in a tin case	1 box
2.	H.S. flag red	2 nos.
3.	H.S. flag green	1 nos.
4.	H.S. Tri Colour lamps/LED lamps	2 nos.
5.	Chain & Padlock	1 set
6.	Point Clamp with Padlock	2 nos.
7.	10 t jack with terfor	2no.
8.	Crow bars	2nos.
9.	Wooden blocks off sizes	8 nos.
10.	Rail thermometer (dial type)	1 no.
11.	Banner flag	2 nos.
12.	Walki talki	1 nos.
13.	First Aid Box	1 no
14.	Skids	4 nos.
15.	Working time table of section where machine working	1 copy
16.	G&SR book with up to date amendment slips	1 copy
17.	4 cell flasher light/ LED torch,6watt	1 no.
18.	LED Petromax	1 no.
19.	Safety helmets	Each Machine staff
20.	Protective clothing, safety shoes and safety gloves	Each Machine staff
21.	Track Machine Manual	1 no.
22.	Accident Manual	1 no.
23.	Fire extinguisher	1 no.(in each cabin)
24.	Hooter (Manual/ Remote)	2 nos.
25.	Hydraulic Hand Pump	1 no.
26.	Emergency pneumatic/Hydraulic hose off sizes	1 no.

ACKNOWLEDGEMENT

Following officers and staff have made their valuable contributions in finalization of
Inspection Check List for MUCK DISPOSAL UNIT (MDU)

RAILWAYS

Shri	Upendra Singh	SSE/TM/WR
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RDSO

1. S/Shri	Muslim Ahmad	ARE/TM
2. " "	A.N.Srivastava	SSRE/TM
3. . " "	A.K.Srivastava	SSE/TM