



**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**CHECK LIST FOR INSPECTION OF
WORKSITE TAMPING MACHINE
(METEX MAKE)**

REPORT NO. TM-144

AUGUST-2010

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

Name & Designation of Inspecting Official :

Date of Inspection :

Machine No. :

Base Station :

Engine hours on date :

ITEMS TO BE CHECKED

S. No.	Items	Agent/Description	Prevailing Conditions
1.	Oil / Water Levels		
i)	Hydraulic oil	Servo system – 68 or equivalent	Ok / Less
ii)	Diesel tank	HSD	Ok / Less
iii)	Axle Gear Boxes	SAE-90 or equivalent	Ok / Less
iv)	Working drive reduction gear box	SAE-90 or equivalent	Ok / Less
v)	Distribution gear box	SAE-90 or equivalent	Ok / Less
vi)	Radiator	Water with coolant	Ok / Less
vii)	Engine lube oil	API CF4 15W40 or equivalent	Ok / Less
viii)	Vibration shaft main bearing	SS-68 or equivalent	O.K./Less
ix)	Intermediate support of shaft	SS-68 or equivalent	O.K./Less
x)	Air oiler	API CF4 15W40 or equivalent	Ok / Less
xi)	Drive intermediate shaft	SAE-90 or equivalent	Ok / Less
xii)	Guide rod of tamping unit	SS-68 or equivalent	O.K./Less

S. No.	Items	Agent / Description	Prevailing Conditions
2.	Lubrication (As per maintenance schedules)		
2.1	Tamping Bank		
	i) Connecting rod bearing.	Grease	Done/Not done
	ii) Eye and fork end of squeezing cylinder.	Grease	Done/Not done
	iii) Condition of Tamping Tools	-----	O.K./ To be replaced
	iv) Locking arrangement of Tamping Unit		Proper/To be attended
	v) General condition of Tamping Bank		OK/To be overhauled
2.2	Lifting/ Lining Unit		
	i) Locking arrangement of lifting Unit	-----	Proper/To be attended
	ii) Lifting Unit Guide Column	Grease	Done/Not done
	iii) Lining rollers	Grease	Done/Not done
	iv) Clamp carrier	Grease	Done/Not done
2.3	Miscellaneous		
	i) Middle feeler rod	Grease	Done/Not done
	ii) Torque arm pivot	Grease	Done/Not done
	iii) Brake linkage	Grease	Done/Not done
	iv) All the pivot joints of trolleys	Grease	Done/Not done
	v) Hand brake gear	Grease	Done/Not done
	vi) Axle gear box flange cover	Grease	Done/Not done

S. No.	I t e m s	Prevailing Conditions
4.	Hydraulic System	
i)	Working pressure	130-140 bar
ii)	Tamping unit vibration pressure	150 bar
iii)	Squeezing pressure	90-135 bar
iv)	Conditions of hoses and seals	OK/To be attended
v)	Condition of D.C valves	OK/ Leaking (Location)
vi)	Leakage in hydraulic system	No/To be attended
5.	Power Transmission	
i)	Oil leakage in Gear boxes	Yes/No
ii)	Tightness of engine mounting Bolts	Ok/ To be tighten
iii)	Condition of shock absorber.	OK/ To be attended
iv)	Any jerk in gear boxes (check play in torque support pin)	No/Yes (Location)
6.	Electrical	
i)	Battery Charging System	Working /To be attended
ii)	All lights	Working /To be attended
iii)	Electrical Horns	Working /To be attended
iv)	Engine safety circuit	Working /To be attended
v)	Requirement of PCB, if any	Part no.-----
vi)	Condition of electrical wiring	O.K. /To be attended
vii)	Working of limit switches	O.K. /To be attended
viii)	Functioning of intercom system	Working/ To be attended
ix)	Safety circuit of engine	Working/ To be attended

S. No.	I t e m s	Prevailing Conditions
7.	General	
i)	Infringement of tamping tools with one another	Yes/No
ii)	Actual nos. of tamping tools with which machine is working	Nos.
iii)	Tightness of 35 and 55 mm pin	O.K. /To be attended
iv)	All locking devices of machine working units	Satisfactory/ To be attended (Location)
v)	Any unusual sound from machine	No / Yes (location)
vi)	Leakage in Pneumatic circuit. Water separator working properly or not	
vii)	Braking system	No/Yes (location)
viii)	All log books filled properly	Yes/No
ix)	Condition of machine working tools (Spanner set etc)	Satisfactory/ To be attended
x)	Hydraulic oil temperature after 2 hrs. working	Yes/No
xi)	Condition of Oil Coolers	Satisfactory/ To be replaced
xii)	Track lifting roller height as per rail section	°C
xiii)	Last change of proportional valve filter	O.K./To be Cleaned
xiv)	Last change of hydraulic suction filter	OK/ To be adjusted
xv)	Last change of hydraulic return filter	Dated:
		Engine hours
xvi)	Working of bogie and wheel support cylinders	Dated
		Engine hours
xvii)	Working of tamping unit slide cylinder	Dated
		Engine hours
xviii)	Safety equipment as per Annexure-I	O.K./ To be attended
xix)	Emergency back up system	O.K./ To be attended
xx)	Expiry of fire extinguisher	Ok/To be changed

S. No.	Items	Prevailing Conditions
8.	During Block Working	
i)	Location of block working	KM/TP
ii)	Pre and post tamping operations being done	Yes/No
iii)	Duration of block (Hrs/Minutes)	
iv)	Work done (nos. of sleepers)	
v)	Depth of tamping tool (clearance between the bottom edge of the sleeper and top of tamping tool blade)	Normal Actual 10-15mm
vi)	Condition of ballast	Caked/Clean
vii)	Depth of clean cushion under sleeper (required min.150 mm)	
9.	Staff	
i)	Strength of staff	Full / Deficient
ii)	Group Performance	Excellent / V. Good /Good / Average
iii)	Cost awareness	Excellent / V. Good /Good / Average
iv)	Safety awareness	Excellent / V. Good /Good / Average
v)	Staff due for Medical/ Competency	
vi)	Competency certificate of operator	Current/Expired
10.	General condition of the machine.	Excellent / Very good / Good /Average
11	Breakdown (Permissible unit 3 days)	Within limit/Beyond limit
12.	Pending Maintenance Schedule and reasons.	
13.	Availability of staff amenities as per para 8.4.5 and annexure 8.2 of IRTMM	Complete/Deficient
14.	General observation of camping coach	O.K/ To be maintained
15.	Condition of machine stabling siding	Clean/To be cleaned
16.	Condition of rest house at stabling station	O.K/ To be attended
17	Date of return of camping coach	
18.	Any other remarks by Inspecting Officer	

Signature of Inspecting Officer

LIST OF SPARES TO BE KEPT IN MACHINE'S STORE

SL. NO.	PART NAME	PART NO.	QTY.
A.	TAMPING UNIT		
1.	Pin	2.8X20.T.029GOST 3128-70	02
2.	Bolt	MIZ-6gX25.66.029GOST7798-70	02
3.	Washer	12.65G.029GOST 6402-70	10
4.	Bushing	1023.46.00.013	02
5.	Bushing	1023.46.00.018	02
6.	Washer	30.65G.029GOST 6402-70	02
7.	Nut	1023.46.00.019	02
8.	Cotter Pin	5.0X45.029GOST 397-79	02
9.	Washer	C.24.02.st..3rim.029Gost 11371-78	10
10.	Nut	1023.46.00.008.02	
11.	Ring	029.035.36-2-2Gost 18829-73-T-111-2-130°C	04
12.	Grease cup	1.2Zn6chrGHOT 19853-74	10
13.	Seal kit for Lifting /lowering cylinder	---	01 set
14.	Seal kit for hydraulic cylinder (Outer squeezing)	--	02
15.	Seal kit for hydraulic cylinder (Inner squeezing)	---	02
16.	Pneumatic clapper cylinder	94.31.09.200	01
B.	LIFTING/LINING UNIT		
1.	Seal kit for Lifting /lowering cylinder	---	01 set
2.	Kapron thread	0.70 st 6-06-.387-74	25metre
3.	Grip roller assembled	6.48.01.100	01
C.	BOGIE		
1.	Brake Shoe	43.01.00.049	04
D.	HYDRAULIC		
1.	Hydraulic Filters		01 set

List of Safety Equipments

S. No.	Description	Quantity
1.	Detonators	01 box
2.	H.S. flag red	02 nos.
3.	H.S. flag green	01 nos.
4.	Banner flag	02 nos.
5.	H.S. Tri colour lamps	02 nos.
6.	Chain & Pad lock	01 set
7.	Terfor (2 t capacity)	01 no.
8.	25 t jack with traverser	02 no.
9.	Petromax	01 no.
10.	Wooden blocks off sizes	08 nos.
11.	Portable Control Phone	01 no
12.	First Aid Box	01 no
13	Skids	04 nos.
14.	Walkie Talkie Set	01 no
15.	Switch clamp	02 nos.
16.	G&SR book	01 no.
17.	Track machine Manual	01 no.
18.	Fire extinguisher	01 no.
19.	Remote controlled Hooter	01 no.
20.	Flasher lights	02 nos.
	Safety Helmet	10 nos
22	Leather safety boots and shoes	10 nos
23	Leather and cotton gloves	10 nos
24	High visibility warning clothes	10 nos

Note: While doing the inspection of machine items 21 to 24 should be kept in mind

- i) Inspecting official should wear the safety items 21 to 24 while doing the inspection.
- ii) Prior to perform maintenance operations on tamping units, it is necessary to stop the engine to remove pressure from pneumatic and hydraulic devices and to make sure that stopping of the tamping unit is safe.
- iii) 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.

ACKNOWLEDGEMENT

Following officers and staff have made their valuable contribution in preparation of Inspection Check List of Work Site Tamper (Metex make).

RAILWAY.

S/SRI

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| 1. | I.K.Gupta | SE/TMC/NCR |
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RDSO

S/SRI

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