



**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS**

**CHECK LIST FOR INSPECTION OF PLASSER MAKE  
WORKSITE TAMPING MACHINE  
(8049 ONWARDS)**

**REPORT NO TM- 129**

**MARCH -2009**

**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
<b>1.</b>	<b>Oil / Water Levels</b>		
i)	Hydraulic oil	Servo system – 68 or equivalent	Ok / Less
ii)	Diesel Oil	HSD	Ok / Less
iii)	Axle Gear Boxes	SAE-90 or equivalent	Ok / Less
iv)	ZF gear box	API CF4 15W40 or equivalent	Ok / Less
	a) Lower level at 1000 rpm & 40°C		
	b) Upper Level at 1000 rpm & 80°C		
v)	Reduction Gear box	SAE-90 or equivalent	Ok / Less
vi)	Working drive axle gear box	SAE-90 or equivalent	Ok / Less
vii)	Radiator	Water with coolant	Ok / Less
viii)	Distributor Gear box	SAE-90 or equivalent	Ok / Less
ix)	Engine lube oil	API CF4 15W40 or equivalent	Ok / Less
x)	Tamping unit centre arm pin assembly	SS-100 or equivalent	Ok / Less
xi)	Main bearing housing	SS-100 or equivalent	O.K./Less

S. No.	Items	Agent / Description	Prevailing Conditions
<b>2.</b>	<b>Lubrication (As per maintenance schedules)</b>		
<b>2.1</b>	<b>Tamping Bank</b>		
i)	Any leakage from circuit of central lubrication system.	----	If yes, attend immediately
ii)	Functioning of all distributor blocks of central lubrication system.	-----	O.K./ To be attended
iii)	Functioning of chocking indicator of central lubrication system		O.K. to be attended
<b>2.2</b>	<b>Lifting/ Lining Unit</b>		
i)	Clamp Pivot	Grease	Done/Not done
ii)	Lifting Unit Guide Column	Grease	Done/Not done
iii)	Lining rollers	Grease	Done/Not done
iv)	Clamp carrier	Grease	Done/Not done
v)	Lining cylinder pivot	Lube oil	Done/Not done
<b>2.3</b>	<b>Cardon Shaft</b>		
i)	Engine to ZF gear box	Grease	Done/Not done
ii)	ZF gear box to distributor gear box	Grease	Done/Not done
iii)	Distributor gear box to axle gear box	Grease	Done/Not done
iv)	Distributor to intermediate bearing	Grease	Done/Not done
v)	Intermediate bearing to rear axle	Grease	Done/Not done
vi)	Working drive Reduction gear box	Grease	Done/Not done
<b>2.4</b>	<b>Miscellaneous</b>		
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.	Items		Prevailing Conditions
<b>3.</b>	<b>Engine:</b>		

<b>Engine Model &amp; SI. No.:</b>		<b>Engine hours:</b>
i)	Starting problem	Yes / No
ii)	Condition of smoke	White/Black/Normal
iii)	Max engine temperature (approx. after 2 hours working)	°C
iv)	Leakage from engine cylinder head	No/ Yes (Head no.)
v)	Electrolyte level and specific gravity (min.1.24) & condition of batteries.	Ok / To be attended
vi)	Compressor working	Satisfactory/Unsatisfactory
vii)	Belt tension	Ok / To be tightened
viii)	Water leakage from radiator circuit	Ok / Leaking
ix)	RPM of the Engine	Rated
x)	Engine oil pressure	Rated
a)	At idle	1.5 kg/sq. cm
b)	At rated speed	2.5 kg/ sq. cm
xi)	Last change of Air Cleaner	Dated
		Engine hrs.
xii)	Last change of engine oil	Dated
		Engine hrs.
xiii)	Last change of engine oil filters	Dated
		Engine hrs.
xiv)	Last change of diesel filters	Dated
		Engine hrs.
xv)	Last change of batteries	Dated
		Engine hrs.
xvi)	Last over-hauling of the Engine	Dated
		Engine hrs.
xvii)	Last calibration of fuel injection pump	Dated
		Engine hrs.
xviii)	Last calibration of Injectors	Dated
		Engine hrs.
xix)	Whether working gauges are in order	
a)	R.P.M.	Yes/No
b)	Engine Oil Pressure	Yes/No
c)	Engine Temperature	Yes/No
d)	Battery charging Ammeter	Yes/No
e)	Voltmeter	Yes/No
f)	Hyd. Oil pressure	Yes/No
g)	Hyd. Oil temperature	Yes/No

S. No.	I t e m s	Prevailing Conditions
<b>4.</b>	<b>Hydraulic System</b>	
i)	System pressure	Approx 130 bar
ii)	Safety valve pressure for working system	Approx 170 bar
iii)	High pressure system	150 bar
iv)	Safety valve pressure for high pressure system	175 bar
v)	Counter pressure	35 bar
vi)	Safety valve counter pressure	90 bar
vii)	Tamping unit vibration pressure	150/180 bar
viii)	Squeezing pressure	110-125 bar
ix)	Accumulator pressure for working system	85 bar
x)	Conditions of hoses	OK/To be attended
xi)	Condition of D.C valves	OK/ Leaking (Location)
xii)	Leakage in hydraulic system	Yes/No
<b>5.</b>	<b>Power Transmission</b>	
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)
<b>6.</b>	<b>Electrical</b>	
i)	Battery Charging System	Working /To be attended
ii)	All lights	Working /To be attended
iii)	Limit switch	Working /To be attended
iv)	Electrical Horns	Working /To be attended
v)	Proximity switch	Working /To be attended
vi)	Pressure and temperature switch of engine circuit	Working /To be attended
vii)	Functioning of machine safety circuits	Working /To be attended
viii)	Requirement of PCB, if any	Part no.-----
ix)	Condition of electrical wiring	O.K. /To be attended

S. No.	I t e m s	Prevailing Conditions
<b>7.</b>	<b>General</b>	
i)	Condition of tamping bank	Smooth/ Required attention
ii)	Condition of tamping tool	O.K / To be replaced
iii)	Infringement of tamping tools with one another	Yes/No
iv)	Actual nos. of tamping tools with which machine is working	Nos.
v)	All locking devices of machine working units	Satisfactory/ To be attended (Location)
vi)	Air Oiler working properly or not	Yes/No
vii)	Leakage in Pneumatic circuit.	No/Yes (location)
viii)	Water separator working properly or not	Yes/No
ix)	Braking system	Satisfactory/ To be attended
x)	All log books filled properly	Yes/No
xi)	Condition of machine working tools (Spanner set etc)	Satisfactory/ To be replaced
xii)	Hydraulic oil temperature after 2 hrs. working	°C
xiii)	Condition of Oil Coolers	O.K./To be Cleaned
xiv)	Adjustment of track lifting roller height	OK/ To be adjusted
xv)	Leakage from vibration shaft housing	Yes/No
xvi)	Vibration shaft housing breathers	Clean / Clogged
xvii)	Last change of proportional valve filter	Dated:
		Engine hours
xviii)	Last change of ZF gear box oil	Dated
		Engine hours
xix)	Last change of ZF gear box filter	Dated
		Engine hours
xx)	Last change of hydraulic suction filter	Dated
		Engine hours
xxi)	Last change of hydraulic return filter	Dated
		Engine hours
xxii)	Working of bogie and wheel support cylinders	O.K/ To be attended
xxiii)	Working of tamping unit slide cylinder	O.K/ To be attended
xxiv)	Safety equipment as per Annexure-I	Available/Deficient
xxv)	Emergency back up system	Functioning/ To be attended
xxvi)		

S. No.	I t e m s	Prevailing Conditions
<b>8.</b>	<b>During Block Working</b>	
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)	
<b>9.</b>	<b>Staff</b>	
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
<b>10.</b>	General condition of the machine.	Excellent / Very good / Good /Average
<b>11</b>	Breakdown (Permissible unit 3 days)	Within limit/Beyond limit
<b>12.</b>	Pending Maintenance Schedule and reasons.	
<b>13.</b>	Availability of spares and tools (As per annexure –II )	Complete/Deficient
<b>14.</b>	Availability of staff amenities as per para 8.4.5 and annexure 8.2 of IRTMM	Complete/Deficient
<b>15.</b>	General observation of camping coach	O.K/ To be maintained
<b>16.</b>	Condition of machine stabling siding	Clean/To be cleaned
<b>17.</b>	Condition of rest house at stabling station	O.K/ To be attended
<b>18</b>	Date of return of camping coach	
<b>19.</b>	Any other remarks by Inspecting Officer	

Signature of Inspecting Officer

## Annexure -I

### 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.	H.S. Tri colour lamps	02 nos.
5.	Chain & Pad lock	01 set
6.	Terfor ( 2 t capacity )	01 no.
7.	25 t jack with traverser	02 no.
8.	Petromax	01 no.
9.	Wooden blocks off sizes	08 nos.
10.	Banner flag	02 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.	Hooter	01 no.
20.	Flasher lights	02 nos.



## SPARE PARTS TO BE KEPT IN MACHINE'S STORE

S. No.	Description of Items	Part No.	Qty.
<b>A. Tamping Unit</b>			
1.	Hex socket head cap screw	M10X25	2Nos.
2.	Spring washer	2E22.35	1 Nos.
3.	Hex bolt	M20X75	1 Nos.
4.	Spring washer	20 mm	2 Nos.
5.	Hex nut	M20	2 Nos.
6.	Adjusting screw	2E11.30	1 Nos.
7.	Castle nut	2E22.36	1 Nos.
8.	Hex bolt	M20X40	6 Nos.
9.	Washer	VS 12	4 Nos.
10.	Nut	M 14x1	2 No.
11.	Gear ring	GR 100	1 No.
12.	Filter (breather)	FLE-001/4"ZG.1234D	1 No.
13.	Spring washer	8DIN7980	4 Nos.
14.	Hex socket head cap screw	M8X20	4 Nos.
15.	Spring washer	8mm	8 Nos.
16.	Adjusting screw	E60.08AAS	4 Nos.
17.	Spring washer	33mm	2 Nos.
18.	Hex bolt	M20X1.5X50	4 Nos.
19.	Piston rod bush	2E34.231	1 Nos.
20.	Connecting rod bolt	G20.13	2 Nos.
21.	Toothed disc	FZ116	4 Nos.
22.	Washer	14mm	4 Nos.
23.	Disc	2E32.05	2 Nos.
24.	Washer	VS 24	2 Nos.
25.	Hex nut	M24X1	2 Nos.
26.	Washer	G20.14	2 Nos.
27.	Hex socket head cap screw	M16X35	2 Nos.
28.	Hex socket head cap screw	M16X110	4 Nos.
29.	Washer	VS16	4 Nos.
30.	Split pin	2X25	2 Nos.
31.	Lock nut	UD66.3273 – I	1 Nos.
32.	Cylinder pin	6M6x24	1 Nos.
33.	Cylinder pin	M6x18	2 Nos.
34.	Seal kit	HZS-DS-243	2 Nos.
35.	Piston screw	E36.48	1 No.
36.	Threaded pin	M6X8	2 Nos.
37.	Grease nipple big		4 Nos.

S. No.	Description of Items	Part No.	Qty.
38.	Piston	2E36.457	1No.
39.	Cylinder	2E34.150B	1No.
40.	Seal Kit	HZS.DS.401	1 Nos.
41.	Seal kit	H2D02.080.040	1 Nos
42.	Tamping Way limitation (Bracket)	2E33.70	1 No.
43.	Washer	VS10	2 No.
44.	Hex socket head cap screw	M10X30	2 Nos.
45.	Washer	14MM	2 Nos.
46.	Hex nut	16 MM	4 Nos.
47.	Washer	10MM	2 Nos.
48.	Hex bolt	M12X90	4 Nos.
49.	Hex socket head cap screw	16X35	4 Nos.
50.	Hex nut	M42X1	1 No.
51.	Safety nut	M10x1	2Nos.
52.	Bolt	2E32.63A	2Nos.
53.	Split pin	3.2x28Din	2Nos.
54.	Bolt	2E33.65	2Nos.
55.	Bolt	2E33.62	2Nos.
56.	Piston	2E35.303	1No.
57.	Piston rod bush	2E35.250	1No.
58.	Split pin	8x80	1no.
59.	Spring washer	42mm	2Nos.
60.	Bolt	2E31.04	1No.
61.	Washer	VS20	20Nos.
62.	Washer	2E31.19A	2Nos.
63.	Fitting key	2E22.31	1No.
64.	Washer	VS16	10Nos.
65.	Hex bolt	CU30.406	10Nos.
66.	Nut	KM13	1No.
67.	Clutch flange	UD22.28	1 No.
68.	Lock plate	MB13	1No.
69.	Seal kit	HZ01.080	1No.
70.	Hex nut	16 mm	4Nos.
71.	Tamping tools	---	1Set
72.	Hex nut	12mm	4No.
73.	Adjusting screw	DL10.73	4Nos.

**B. Wheel support**

1.	Seal kit	UD50.100DS	2 Nos.
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<b>S. No.</b>	<b>Description of Items</b>	<b>Part No.</b>	<b>Qty.</b>
<b>C</b>	<b>Lifting and lining unit</b>		
1.	Seal kit	HZ02.100.045	1 No
2.	Washer	8MM	2 Nos.
3.	Seal kit	HZ01.125	1 No.
4.	Seal kit	HZ02.125.050	1 No.
5.	Seal kit	E150.180DS	1 No.
6.	Hex bolt	M8X30	4 Nos.
7.	Clamp roller	DL150.011	1 No.
8.	Seal Kit	HZ01.100	1 No.
<b>D</b>	<b>Brake System</b>		
1.	Brake shoe	WN146-730.K-4	2 Nos.
2.	Seal kit	W33.200ADS	1No.
<b>E.</b>	<b>Versine Transducer</b>		
1.	Chord wire	EL-T576.10	7m
2.	Cheese head screw	M4X30	4 Nos.
3.	Rod	EL-T609.45	2 Nos.
4.	Potentiometer	EL-T595	1 No.
5.	Carrier	EL-T67.00B	1 No.
6.	Chord Wire	2 mm	50 m
7	Power supply PCB	ELT-813.00LV	1 No.
<b>F</b>	<b>Measuring Bogies</b>		
1	PN. Cylinder	PN2Z.G.70/20/300	1No.
2	PN. Cylinder	PN2Z.G.100/25/400	1No.
3	Rod	UD251.13101	2Nos.

## ACKNOWLEDGEMENT

Following officers and staff have made their valuable contribution in preparation of Inspection Check List of Plasser Make Work Site Tamper (DUO-8049 onwards).

### RAILWAY.

S/SRI

- |    |                  |                 |
|----|------------------|-----------------|
| 1. | S.K.Asthana      | AEN/TMC/NCR/ALD |
| 2. | Titu Ram Chauhan | SE/TMC/NCR      |
| 3. | Puneet kumar     | SE/TMC/NR       |
| 4. | Yashwant Mishra  | JE/II/TM/NR     |

### RDSO

S/SRI

- |    |                |        |
|----|----------------|--------|
| 1. | H.C. Pandey    | DD/TM  |
| 2. | M.N.Siddiqui,  | SE/TM  |
| 3. | A.N.Srivastava | SRE/TM |
| 4. | Prem Kumar     | SRE/TM |