

## INSPECTION CHECK LIST FOR (UNIMAT- 4S)



REPORT NO TM- 169  
(Revision 1 of 2014)

October-2014

## INSPECTION OF UNIMAT 4S

**Name & Designation of Inspecting Official :**

**Date of Inspection :**

**Machine No. :**

**Base Station /division :**

**Location of working :**

**Block hours :**

**progress :**

**1. General :**

S. No	Items	Remarks given by inspecting officer
I.	Name of supervisor	
II.	Machine make	
III.	Year of manufacturing	
IV.	First POH of Machine done on	
V.	Last IOH of M/C done on	
VI.	Next IOH of M/C due on	
VII.	Last POH of M/C done on	
VIII.	Next POH of M/C due on	
IX.	Last POH of camping coach done on	
X.	Next POH of camping coach due on	
XI.	All log book filled properly	
XII.	Pending Maintenance Schedule and reasons Schedule I,II,III,IV,V,VI,VII	

**History of Machine:**-----  
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S. No.	Items	Prevailing Condition	
<b>2.</b>	<b>Mode of Working</b>		
I.	Pre and Post Tamping Operations being Done	Yes <input type="checkbox"/>	No <input type="checkbox"/>
II.	Depth of Clean Cushion under Sleeper (required min. is 150 mm)	Actual—	
		OK <input type="checkbox"/>	Less <input type="checkbox"/>
III.	Condition of Ballast	Caked <input type="checkbox"/>	clean <input type="checkbox"/>
IV.	Lifting working mode	Proportional (smoothing) <input type="checkbox"/>	design <input type="checkbox"/>
V.	Working method	Manual <input type="checkbox"/>	Measuring run <input type="checkbox"/>
VI.	3 <sup>rd</sup> rail lifting	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VII.	3 <sup>rd</sup> rail tamping	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VIII.	Parameter recorded in ALC	Yes <input type="checkbox"/>	Not recorded <input type="checkbox"/>
IX.	Hydraulic leakage from circuit	Location -----	
X.	Pneumatic leakage from circuit	Location -----	
XI.	Overall condition of the Machine health	Excellent <input type="checkbox"/>	Very good <input type="checkbox"/>
		Good <input type="checkbox"/>	Average <input type="checkbox"/>
XII.	Application of brake	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
XIII.	Overall Machine working performance	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>

**Remarks.**

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### 3. Oil/water/level in tank/container

S. No.	Items	Agent / Description	Prevailing Condition		
			OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
I.	Hydraulic oil	Servo System HLP68N or equivalent*	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
II.	Radiator	Water with coolant	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
III.	ZF Gear Box	CF-4 15W40	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
IV.	Diesel Oil	HSD	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
V.	Intermediate Gear Box	SAE-90	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
VI.	Reduction Gear Box	SAE-90	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
VII.	Engine Lube oil	CF-4 15W40	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
VIII.	Engine Lube oil on due date (After every 300hrs)	CF-4 15W40	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
IX.	Funk Gear Box	SAE-90	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
X.	Driving Axle Gear Box I	SAE-90	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
XI.	Driving Axle Gear Box II	SAE-90	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>
XII.	Compressor lube oil (if used)	CF-4 15W40	OK	<input type="checkbox"/>	Need top up <input type="checkbox"/>

\*equivalent of servo system HLP68N list issued by RDSO vide I.n.TM/HM/Oils dated dt.26/07/2012

Remarks

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#### 4. Filters

S. No.	Items	Prevailing Condition Remark	
I.	Cleaning of Air Cleaner filters outer (1no) (Cleaned after every 250hrs or on dirt indication and change after 500hrs)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
II.	Change of air cleaner inner (1no) ( after every 500hrs)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
III.	Change of engine oil filters (1no) ( after every 300 hrs )	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
IV.	Change of diesel filters (2nos) (To be done after every 300 hrs)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
V.	Change of ZF gear box filter (1no) ( after every 500hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VI.	Change of Servo valve filter (2nos) ( after every 250hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VII.	Change of Servo valve button filter (6nos) ( after every 250hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VIII.	Change of proportional valve filter (2no) ( after every 250hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
IX.	Change of return filter (2nos) ( after every 500hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
X.	Change of suction filter (3nos) (after every 500hrs or on choke indication)	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
XI.	Change of air dyer filter if used (2nos) (after every 500hrs or at least once 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	
<b>5.1 Tamping units</b>				
I.	Vibration shaft main bearing	Grease shell alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
II.	Tamping unit guide column	Grease shell alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
III.	Telescopic extention of tamping unit	Grease shell alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
IV.	Connecting rod bearing of squeezing cylinder lateral shifting cylinder, adjusting cylinder, lifting cylinder, frame slewing cylinder and slewing pin	Grease shell alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
V.	Tamping unit guiding plate and deflection pulley	Grease shell alvania RL2	Yes <input type="checkbox"/>	No <input type="checkbox"/>

**Note-** if machine is equipped with auto greasing unit for some part/section working of it should be ensured time to time

**5.2 Lifting and lining units**

I.	Additional lifting assembly Guide plate & deflection pulley	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
II.	Lifting cylinder pivot	ShellTellus-100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
III.	Clamp bolt & Clamp	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
IV.	Locking device of lifting/ lining unit	ShellTellus-100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
V.	Swivelling frame	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VI.	Sliding plate	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VII.	Lining roller	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VIII.	Vertical/longitudinal hook guide	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>

\*equivalent of servo system HLP68N list issued by RDSO vide I.n.TM/HM/Oils dated .26/07/2012

Remarks-----  
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S.No.	Item	Agent / Description	Prevailing Condition	
<b>5.3 Cardon shaft</b>				
I.	Engine to ZF gear box	Grease Shell Alvania RL2 /	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
II.	ZF to power divider gear box	Grease Shell Alvania grease RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
III.	Power divider gear box to driving axle-I	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
IV.	Power divider gear box to Intermediate shaft drive	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
V.	Intermediate shaft to Driving axle-II	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
<b>5.4 Miscellaneous</b>				
I.	Sensing rod , guide bush and deflection pulley of Measuring bogie	Oil Servo system- 100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
II.	Torque arm pivot	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
III.	King pin pivot	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
IV.	Gear box flange cover of driving and idle bogies	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
V.	All balls and socket pivot point	Oil by Servo system- 100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VI.	Sensing feeler rod, tensioning trolley, guide bush and chord displacement assembly of Front tension bogie.	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VII.	Brake linkage, brake lever bearing & Brake rod	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
VIII.	Guide rod & lateral plate of measuring trolley	Oil Servo system- 100	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
IX.	Lateral guide & guide rod of lining trolley	Grease Shell Alvania RL2	Done <input type="checkbox"/>	Not done <input type="checkbox"/>
X.	Suspension of machine bogie	Grease Shell Alvania RL2		

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**6. Engine Model no.:**

**Engine hours on date-**

S.no	Items	Prevailing Condition	
I.	Over-hauling of the Engine as per Main. Schedule	Due <input type="checkbox"/>	Not due <input type="checkbox"/>
II.	Starting problem	No <input type="checkbox"/>	Required attention <input type="checkbox"/>
III.	Condition of smoke	White <input type="checkbox"/> Normal <input type="checkbox"/>	Black <input type="checkbox"/>
IV.	Engine temperature during working Cummins Engine: Optimum 75 to 85°C	Actual ----- °C	
		Ok <input type="checkbox"/>	Required attention <input type="checkbox"/>
V.	Leakage in Head gasket	No <input type="checkbox"/>	Yes <input type="checkbox"/> (Head no.- )
VI.	Compressor leakage	Yes <input type="checkbox"/>	No <input type="checkbox"/>
VII.	Belt condition and tension	Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
VIII.	Leakage of water from water pump, seal hose and radiator	No <input type="checkbox"/>	Required attention <input type="checkbox"/>
IX.	RPM of the Engine (rated 2100)	Actual---	
		Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>
X.	Engine oil pressure (minimum)		
XI.	Cummins (KTA 1150L) 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---	
XII.	Overall condition of Engine	Ok <input type="checkbox"/>	Need attention <input type="checkbox"/>

Remarks

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**6. Electrical and Electronics**



S.no	Items	Prevailing Condition			
I.	Condition of battery terminals	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
II.	Condition of batteries	Ok	<input type="checkbox"/>	Not satisfactory	<input type="checkbox"/>
III.	Condition of self starter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
IV.	Condition of alternator	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
V.	Condition of Depth transducer (4nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
VI.	Condition of Lining transducer (2nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
VII.	Condition of Height transducer (2nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
VIII.	Working of Lining galvanometer	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
IX.	Working of X- Level galvanometer (2nos)	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
X.	Working of Lifting indication voltmeter LHS	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
XI.	Working of Lifting indication voltmeter RHS	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
XII.	Safety circuit for Engine	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
XIII.	Safety circuit for Driving	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
XIV.	Electrolyte level in batteries (Plates should be embedded in electrolyte)	Ok	<input type="checkbox"/>	Need top up	<input type="checkbox"/>
XV.	Specific gravity of electrolyte (min 1.24)	Ok	<input type="checkbox"/>	Less	<input type="checkbox"/>

Remarks

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**8.Gauges and meters working status**

S.no	Items	Prevailing Condition			
I.	RPM meter in Working Cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
II.	RPM meter in Front Cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
III.	Speedometer/Tachometer working Cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
IV.	Speedometer/Tachometer front Cabin	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
V.	Engine Oil Pressure meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
VI.	Engine Temperature meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
VII.	ZF oil pressure meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
VIII.	ZF oil temperature meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
IX.	Battery charging meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
X.	Battery voltage meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
XI.	Hydraulic oil pressure meters	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
XII.	Hydraulic driving pressure meters	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>
XIII.	Pneumatic pressure meter	Ok	<input type="checkbox"/>	Need attention	<input type="checkbox"/>

Remarks

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## 9. Pneumatic

I.	Air Oiler working properly	Yes <input type="checkbox"/>	Need attention <input type="checkbox"/>
II.	Water separator working properly	Yes <input type="checkbox"/>	Need attention <input type="checkbox"/>
III.	Working of dip cup	Yes <input type="checkbox"/>	Need attention <input type="checkbox"/>
IV.			
V.	Clearance between brake shoes and wheel	Ok <input type="checkbox"/>	To be changed <input type="checkbox"/>
VI.	Working of brake application	Satisfactory <input type="checkbox"/>	To be changed <input type="checkbox"/>
VII.	Working of unloader valve	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
VIII.	Locking system of lifting/lining units	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
IX.	Locking system of tamping units	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
X.	Locking system of lining trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
XI.	Locking system of middle feeler trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
XII.	Locking system of front feeler trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
XIII.	Locking system of measuring feeler trolley	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
XIV.	Locking system of split head tamping coupled LHS	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
XV.	Locking system of split head tamping coupled LHS	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>

Remarks

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### 10. Hydraulic Pressure and Operation

SI no.	Items	Prevailing Condition	
		Recommended value	Actual value
I.	System Pressure	130-140	
II.	High Pressure System	150	
III.	Squeezing pressure for concrete sleepers	135 -140	
IV.	Accumulator pressure	85 bar (max)	
V.	Vibration pressures	185 bar -----	
VI.			
	Tamping unit interlocking pressure	80 bar	
VII.	Emergency pump pressure	130 bar -----	--
VIII.	Air condition pressure	210 bar -----	---
IX.	Hydraulic. brake pressure	30 to 70 bar -----	-
X.	Air pressure	6-7 Kg/cm <sup>2</sup>	
XI.	ZF oil pressure	12-14 bar	
XII.	Hydraulic Oil Temperature after working of machine for 2 hrs. (Max limit 76 <sup>0</sup> c)	----- °C	

Remarks

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**11. Miscellaneous:**

Sl no.	Items	Prevailing Condition	
I.	Adjustment of track lifting roller height LHS	Ok <input type="checkbox"/>	To be adjusted <input type="checkbox"/>
II.	Adjustment of track lifting roller height RHS	Ok <input type="checkbox"/>	To be adjusted <input type="checkbox"/>
III.	Correction of alignment	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
IV.	Performance of Tamping unit up/down	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
V.	Performance of Lifting & Levelling	Satisfactory <input type="checkbox"/>	Need attention <input type="checkbox"/>
VI.	Condition of brake shoes	Ok <input type="checkbox"/>	To be changed <input type="checkbox"/>
VII.	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"/>
VIII.	Ultrasonic testing of axles of machine shall be done between 40,000 to 45,000 kms of running engine hours or three years, whichever is earlier.	Done <input type="checkbox"/>	Not done <input type="checkbox"/>

**12. Safety Items and staff matter:**

Sl no.	Items	Prevailing Condition	
I.	Safety equipment as per Annexure-I	Available <input type="checkbox"/>	deficient <input type="checkbox"/>
II.	Working of safety Emergency Braking System of the machine	Ok <input type="checkbox"/>	Defective <input type="checkbox"/>
III.	Competency certificate of operator	Current <input type="checkbox"/>	Expired <input type="checkbox"/>
IV.	Strength of staff	Full <input type="checkbox"/>	deficient <input type="checkbox"/>
V.	Safety awareness	Excellent <input type="checkbox"/>	V. Good <input type="checkbox"/>
		Good <input type="checkbox"/>	Average <input type="checkbox"/>
VI.	Staff due for Medical	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Remarks

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**Signature of inspecting authority**

## List of Safety Equipments

<b>S. No.</b>	<b>Description</b>	<b>Quantity</b>
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	2 nos.
5.	Chain & Padlock	1 set
6.	Clamp with Padlock	2 nos.
8.	10 t jack	1 no.
9.	Crow bars	4 nos.
10.	Wooden blocks off sizes	8 nos.
11.	Gauge cum level	1 no.
12.	Rail thermometer (dial type)	1 no.
13	Banner flag	2 nos.
14.	Portable Control Phone	1 no
15.	First Aid Box	1 no
16.	Skids	2 nos.
18	Working time table of section where machine working	1 copy
19	G&SR book with upto date amendment slips	1 copy
20.	4 cell flasher light	1 no.
21.	Petromax /LPG lamps	1 no.
22.	Safety helmets	Machine staff
23.	Protective clothing, safety shoes and safety gloves	Machine staff
24.	Track Machine Manual	1 no.
25.	Accident Manual	1 no.
26.	Fire extinguisher	1 no.
27.	Hooter (manual)	2 nos.)
28.	Hydraulic Hand Pump	1 no.
29	Emergency pneumatic/Hydraulic hose of sizes suiting to different machines(complete with end fittings)	1 no.

## List of Spares for Emergency

Sl. No.	Description	Qty
	<b>Engine:</b>	
1.	Fuel filter	1 Set
2.	Lube oil filter	1 Set
3.	Air cleaner filter	2 Set
4.	Radiator hoses	1 Set
5.	Injector pipes	1 Set
6.	`V' belts	1 Set
7.	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.	Tamping unit Up / Dn cylinder seals	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	Squeezing filter element	4nos
2	Seal set for all hydraulic cylinders	1 set each
3	Proportional filters	2 No
4	Servo filters	2 Nos
5	ZF in-line filter	1 No
6.	Hydraulic suction filter	1 Set
7	Hydraulic return filters	1 Set
8	Hydraulic hoses R02-4	25 mtrs

Sl. No.	Description	Qty
9.	Hydraulic hoses R02-6	10 mtrs
10.	Hydraulic hoses- R02-8	10 mtrs
11.	Hydraulic hoses R02-10	10 mtrs
12.	Hydraulic hoses R02-12	10 mtrs
13.	Hydraulic hoses R02-16	10 mtrs
14.	Hydraulic hoses R02-20	10 mtrs
15.	Hydraulic hoses R05/R06 -24	10 mtrs
16.	Hydraulic hoses R05/R06 -32	10 mtrs
17.	Hydraulic hose fitting of different sizes	2 each
18.	HT bolts of different sizes	5 each
19.	O ring of different sizes	1 each
20.	Grease nipple	10 Nos
	<b>Electrical:</b>	
1.	PCB EK819	1 No
2.	PCB EK816	1 no
3.	EK IAP13.02a	01 no.
4.	Relay ELT- 7002/S4	2 Nos
5.	All type of Fuses	2 Nos each
6.	Head light , tail light & working light bulbs	2 Each
7.	Versine transducer carrier	1 No
8.	Versine transducer chord 1mm	16 mtrs
9.	Chord wire 2mmx80mts	80mts
10.	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	10 each



## PROTECTIVE EQUIPMENT

In order to keep hazards and their consequences to health as low as possible it is imperative to ensure suitable protective equipment as listed below

- Head protection.....Safety helmet
- Hand protection.....Leather and cotton gloves
- Foot protection..... Leather safety boots and shoes
- Warning clothing..... High visibility warning cloth.
- Breathing protection... Dust mask

**Note:** Inspecting official should wear the protective equipment when doing the inspection.

## ACKNOWLEDGEMENT

Following officers and staff have made their valuable contributions in finalization of the Inspection Check List for P&C Tamping Machine (UNIMAT 4S)

### RAILWAYS

1. S/SRI ' L.N. Mishra SSE/TM/ ECR

### RDSO

1. S/SRI Muslim Ahmad ARE/TM

2." " A.N.Srivastava, SSRE/TM

3. " " D.G.Sharma SSE/TM