



**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS**

**INSPECTION CHECK LIST
FOR
POINT & CROSSING CHANGING MACHINE
(AMECA -T-28)**

REPORT No. TM-103

September -2006

**RESEARCH DESIGNS & STANDARDS ORGANISATION
MANAKNAGAR, LUCKNOW- 226 011.**

CHECK LIST FOR INSPECTION OF P&C CHANGING MACHINE (AMECA T-28)

Name & designation of Inspecting Official :

Date of inspection :

Machine no. :

Base station :

ITEMS TO BE CHECKED (As per maintenance schedules)

S. No.	Item	Agent/Description	Prevailing condition
1.	Oil/Water Levels of tank/Container:		
i)	Hydraulic oil tank	Servo system-68 (min 3/4th of tank)	Ok / Less
ii)	Diesel oil	HSD	Ok / Less
iii)	Rail wheel driving gear box	SAE90	Ok / Less
iv)	Crawler Motor	SAE90	Ok / Less
v)	Crawler reduction gear box	SAE90	Ok / Less
vi)	Engine lube oil	API CF4 15W40	Ok / Less
vii)	Emergency engine	Petrol	Ok / Less
viii)	Transmission gear box	SAE-90	Ok / Less
ix)	Driving gear box	SAE-90	Ok / Less
x)	Oil level of axle	SAE-90	Ok / Less
xi)	Rotation Reduction gear box	SAE-90	Ok / Less

S. No.	Item	Agent/ Description	Prevailing condition
2.	Engine: Engine model & no: Engine Hours:		
i)	Starting problem		Yes/No
ii)	Condition of smoke		White/Black/Normal /Grey
iii)	Engine temperature		°C
iv)	Leakage in Head-gasket		No/Yes (head no.)
v)	Electrolyte level in batteries		Ok/Less
vi)	Specific gravity of electrolyte (min.1.24)		Ok/Less
vii)	Self starter		Working/Not working
viii)	Belt tension (max. 15 mm at centre)		Ok/ To be tightened
ix)	Condition of Engine Hoses		Ok/ To be replaced
x)	Leakage in hoses		Yes/no
xi)	Condition of battery terminal		Good/bad
xii)	R.P.M. of the Engine (rated – 2400)		Actual
xiii)	Engine Oil Pressure (Rated) High rpm low rpm 2.5 kg/sq.cm 1.5kg/sq.cm Actual(on load after two hours working)		
xiv)	Last change of Air Cleaner inner and outer done on		Dated Engine hrs.
xv)	Last change of Engine oil done on		Dated Engine hrs.
xvi)	Last change of Engine oil filters done on		Dated Engine hrs.
xvii)	Last change of Diesel filters done on		
xviii)	Last change of batteries done on		Dated Engine hrs.
xix)	Radiator fins		Clean/Clogged
xx)	Battery charging		Ok/To be checked
xxi)	Last change/repair of self starter and Alternator done on		Dated Engine hrs.
xxii)	Last overhauling of the Engine done on		Dated Engine hrs.
xxiii)	Last calibration of fuel injection pump Done on		Dated Engine hrs.
xxiv)	Last calibration of fuel injectors done on		Dated Engine hrs.

S. No.	Item	Agent/ Description	Prevailing condition
xxv)	Last attention given by Service Engineer to Engine		Dated Engine hrs.
xxvi)	Last change of V-belt done on		Dated Engine hrs.
xxvii)	Last change of crank case breather (trolleys) done on		Dated Engine hrs.
xxviii)	Last change of spark plug (Trolleys) done on		Dated. Engine hrs..
xxix)	Whether Working Gauges are in order-		
	a) RPM		Yes/no
	b) Oil pressure		Yes/no
	c) Temperature		Yes/no
	d) Battery charging		Yes/no
xxx)	Any abnormal sound		Yes/no
xxxi)	Functioning of engine safety circuit		
	a) Low lube oil		Working/ Not working
	b) High temperature		Working/ Not working
3.	Lubrication:		
i)	Vertical and horizontal sliding cylinders	Grease	Done/Not done
ii)	Rail wheel up/down sliding cylinders	Grease	Done/Not done
iii)	Main beam bearing points on frame	Grease	Done/Not done
iv)	Transmission gear on driving rail wheel	Grease	Done/Not done
v)	Hooks hydraulic lifting system	Grease	Done/Not done
vi)	Pins and control levers	Grease	Done/Not done
vii)	Turn Table	Grease	Done/Not done
viii)	Rail wheel bearing	Grease	Done/Not done
ix)	Sliding plate	Grease	Done/Not done

S. No.	Item	Prevailing condition
4.	Hydraulic Hoses	
i)	Any rubbing in hydraulic hoses	No/ Yes (Location)
ii)	Change flow filter element (10 micron)	Cleaned / Clogged
iii)	Leakage of oil from hydraulic circuit.	No/ To be attended
iv)	General condition of hoses	Ok / To be attended
v)	Hoses required to be changed	Indicate numbers and sizes
5.	General	
i)	General cleanliness of the machine	Ok / To be cleaned
ii)	Log books & Schedule registers are filled properly	Yes/No
iii)	Locking devices	Working / Not working
iv)	Condition of machine working tools (spanner set etc.)	Satisfactory / To be replaced
v)	Stabling conditions	Proper/Not proper
6.	Safety Item:	
i)	Availability of safety items (as per Annexure-I)	Yes / No
ii)	Availability of spares and tools for emergency. (as per Annexure-II)	Yes / No
iii)	Competency certificate of the Operator	Current/Expired
7.	During Block Working:	
i)	Location of the block	
ii)	Pre & post relaying operations being done	
iii)	Output of work	

S. No.	Item	Prevailing condition
i)	Strength of staff	Full / Deficient
ii)	Group performance	Excellent / V. good / Good / Average
iii)	Cost awareness among staff	Yes / No
iv)	Safety awareness amongst staff	Yes / No
v)	Staff due for medical	
vi)	Pending maintenance schedules & reasons	
vii)	Any other remarks by Inspecting Officer	
8.	General condition of the machine	Excellent/v.good/good/ average
9.	Control chart of output	Displayed/Not displayed
10.	Breakdown (permissible unit 3 days)	Within limit / beyond limit
11.	System pressure (bars)	Rated Actual
12.	Any other remark by the Inspecting officer.	

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(Signature of Inspecting Officer)

Name:
Designation:
Date:

Annexure-I

List Of Safety Tools

Sl.no	Description	Qty
1.	Detonators	1 box
2.	H.S. flags red	2
3.	H.S. flags green	1
4.	H. S. lamps	2
5.	Chain & pad lock	1 set
6.	Terfor (2 t capacity)	1
7.	50t Jack with traverser	1
8.	Crow bars	4
9.	Beaters	4
10.	Wooden blocks off sizes (3' x 9" x 4.5")	12
11.	Gauge cum level	1
12.	Banner flag	2
13.	Portable control phone	1
14.	First aid box	1
15.	Petromax	1

LIST OF SPARES & TOOLS FOR EMERGENCY

Sl.no	Description	Part no.	Qty
1.	Lube oil filter	41150030A	3
2.	Fuel filters	45310059A	3
3.	Hydraulic Return Filters	FBO 500/3	4
4.	Hydraulic Suction Filters	FBO160/3	4
5.	Hydraulic Pipes		1 set
6.	Air cleaner element	41130007A	3
7.	V.Belt	A57	4
8.	Fuses	7.5 Amp, 10 Amp & 15 Amp.	5 each
9.	Relay	529 0233 Model T-1853 Make SIPEA	10
10.	5 Pin relay		2
11.	Working light bulbs		5
12.	Stop Valve	6020062	1
13.	Battery fully charged 120 AH or 88AH 12 V		1
14.	Alternator 24V		1
15.	Battery terminal +ve and -ve		2 each
16.	Single core 1.5 mm ² PV wire.		20 m
17.	Head light and side light bulbs		4 each
18.	Tool Kit		1 set.

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