



**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS**

**INSPECTION CHECK LIST OF  
PLASSER QUICK RELAYING SYSTEM  
(PQRS)**

**REPORT NO. TM –108**

**March- 2007**

**RESEARCH DESIGNS & STANDARDS ORGANISATION  
LUCKNOW-226011**

## INSPECTION CHECK LIST FOR PLASSER QUICK RELAYING SYSTEM (PQRS)

Name & designation of Inspecting Official :

Date of inspection :

Machine no. :

Base station :

### ITEMS TO BE CHECKED

S. No.	Item	Prevailing conditions
1.	<b>Engine:</b> Engine model & no. Engine Hours:	
i)	Starting problem	Yes/No
ii)	Condition of smoke	White/Black/ /Normal
iii)	Engine temperature on load after two hour working. (Max.temp.95°)	Normal/Abnormal
iv)	Leakage in head-gasket	No/ Yes Head No.-----
v)	Self starter	Working/Not working
vi)	Belt tension	Ok/ to be tighten
vii)	Belt condition	Ok/damaged (belt no.)
viii)	Condition of battery terminals	Ok/ to be attended
ix)	R.P.M. of the engine:	Low idle      High idle
x)	Engine oil pressure a) 1.5 kg/cm <sup>a</sup> at idle speed b) 2.5 kg/cm <sup>a</sup> on load after two hours working	
xi)	Last change of air cleaner done on	Date Engine hrs.
xii)	Last change of engine oil done on	Dated Engine hrs

<b>S. No.</b>	<b>Item</b>	<b>Prevailing conditions</b>
xiii)	Last change of engine oil filters done on	Dated Engine hrs
xiv)	Last change of diesel filters done on	Dated Engine hrs
xv)	Last change of batteries done on	Dated Engine hrs
xvi)	Alternator/battery charging system	Working / not working
xvii)	Last overhauling of the engine done on	Dated Engine hrs
xviii)	Last calibration of fuel injection pump done on	Dated Engine hrs
xix)	Last calibration of fuel injectors done on	Dated Engine hrs
xxii)	Last attention given by the Service Engineer to engine	Dated Engine hrs
xx)	Whether Working Gauges are functional	
	a) R.P.M.	Yes/No
	b) Oil pressure	Yes/No
	c) Temperature	Yes/No
	d) Battery charging	Yes/No
xxi)	Any abnormal sound	Yes/No
xxii)	Functioning of engine safety circuit -	
	a) High temperature safety device	Working / Not working
	b) low lub. oil pressure safety device	Working / Not working
<b>2.</b>	<b>Oil Levels</b>	
i)	Hydraulic oil in tank Servo system 68 or equivalent oil	Ok/Less
ii)	HSD oil	Ok/Less
iii)	Engine lub oil APICF-4 15W 40 or equivalent oil	Ok/Less

<b>S. No.</b>	<b>Item</b>	<b>Prevailing conditions</b>
<b>3.</b>	<b>Hydraulic</b>	
i)	Lifting pressure (120bar)	
ii)	Forward and reverse Driving pressure (280bar)	
iii)	Pilot low pressure (25bar)	
iv)	Charge pressure (25bar)	
v)	Safety valve on lifting cylinder (100 bar)	
vi)	Hoses required to be changed (no. & sizes )	
vii)	Stock of hoses with the machine	Adequate/less
viii)	Stock of hose fittings	Adequate/less
ix)	Leakage in hydraulic system	Yes/No
x)	Hydraulic oil temperature (After working of machine for 2 hrs)	°C
<b>4.</b>	<b>CHAINS :</b>	
i)	Condition of simplex chain	Ok/ to be attended
ii)	Condition of Duplex chain	Ok/ to be attended
iii)	Condition of Drive chain	Ok/ to be attended
iv)	Tightness of simplex chain	Ok/ to be tighten
v)	Tightness of duplex chain	Ok/ to be tighten
vi)	Tightness of Drive Chain	Ok/ to be tighten
vii)	Condition of chain locks	Ok/ to be attended
<b>5.</b>	<b>Safety Items:</b>	
i)	Safety equipments as per Annexure-I	Available/deficient
ii)	Competency certificate of the Operator	Valid/expired
<b>6.</b>	<b>Block Working:</b>	
i)	Location of the block working	KM/TP
ii)	Duration of block (hrs/minutes)	
iii)	Output of work	meters

<b>S. No.</b>	<b>Item</b>	<b>Prevailing conditions</b>
<b>7.</b>	<b>Staff:</b>	
i)	Strength of staff	Full/Deficient
ii)	Group performance	Excellent/V.good/Good
iii)	Cost awareness	Excellent/V.good/Good
iv)	Safety awareness	Excellent/V.good/Good
v)	Staff due for medical	Yes/No
<b>8.</b>	<b>General:</b>	
i)	Lights (head light & back light)	Working / to be attended
ii)	Braking system	Satisfactory / to be attended
iii)	Condition and clearance of brake shoes	Satisfactory /to be adjusted
iv)	Condition of oil coolers	Clean/clogged /leaking
v)	Electrolyte level in batteries	Ok/Less
vi):	Specific gravity of electrolyte (min1260)	Ok/Less
vii)	Condition of tools for machine working	Satisfactory/unsatisfactory
viii)	All log books filled properly	Yes/no
ix)	General cleanliness of the machine	Clean/ to be attended
x)	Gauge of auxiliary track (3400mm)	Ok/ to be adjusted
xi)	Spacing of supporting block/sleeper under AT rails ( should be within two meter)	Ok/ to be rectified
xii)	Duration of last breakdown	
xiii)	Pending maintenance schedule and reasons	
xiv)	Availability of spares and tools (as per Annexure-II )	Complete/Deficient
xv)	Any other remark by the Inspecting Officer	

**Signature of Inspecting Officer**

**LIST OF SAFETY TOOLS**

<b>Sl.no.</b>	<b>Description</b>	<b>Qty</b>
1.	Detonators	One box
2.	H.S. flags red	Two
3.	H.S. flag green	One
4.	H. S. Tri colour lamps	Two
5.	Chain & Pad lock	One set
6.	Terfor (2 t capacity)	One
7.	25t jack with traverser	One
8.	Wooden blocks off sizes (3' x 9" x 4.5")	twelve
9.	First aid box	One
10.	Petromax	One
11.	Hyd. Jacks 10T	Two
12.	Banner Flag	Two
13.	Working Time Table	One
14.	G&SR Manual	One
15.	Flasher Lights	Two

**ANNEXURE-II****LIST OF THE SPARE PARTS TO BE KEPT IN  
PQRS STORE VAN**

<b>S. No.</b>	<b>Description of Part</b>	<b>Part No.</b>	<b>Quantity</b>	<b>Position during inspection</b>
1.	A) V-Belt	A-44	One	
	B) V- Belt	A-51	One	
2.	HSD Oil Filter	409 and 003	One no. each	
3.	Lube Oil Filter	0604001000	Two	
4.	Lube Oil Servo Premium	15W40 CF4	60 lts.	
5.	Distilled water for battery		Two bottles	
6.	Hyd. oil HLP-68 or equivalent		One barrel	
7.	Grease RR-3 or equivalent		10 kgs.	
8.	Petroleum Jelly		250 gms	
9.	Emery paper/cloth fine		Two	
10.	Hyd. suction filter HSF-IN-330-EI or	HYS-501-360-150	Two	
11.	Hyd. Return filter HRF-In-330-EI or	HYR-501-330-10	One	
12.	High pressure Filter	Ht-IN-10B1.0/BYP-R1	one no.	
13.	Hyd. Pipe	SAE 100 R2 NO. : 04	5 M with end fittings	
14.	-do-	: 06	-do-	
15.	-do-	: 08	-do-	
16.	-do-	: 10	-do-	
17.	Hyd. Pipe	: 16	-do-	
18.	-do-	: 20	-do-	
19.	-do-	SAE R5-24	5M with end fittings	
20.	Relay	ELT:7010	Two	
21.	Head light bulbs		Four	
22.	Working light bulbs		Six	
23.	Fuses (4 amp)		Six	
24.	Self starter		One	
25.	Simplex chain/ Duplex chain / Drive chain		1 set each	
26.	Chain lock		Six	
27.	Pump coupler		One	

## ACKNOWLEDGEMENT

Following officers and staff have made valuable contributions in finalization of Inspection Check List of PQRS.

### RAILWAY:

1. S/SHRI. K.P.Singh SSE/PQRS/ NCR
2. “ Trilok Raj JE/PQRS/ NR/Sultanpur

### RDSO

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