

INDIAN RAIWAYS

CRITICAL SPARES OF TRACK MACHINES

CSM-09-32

REVISION-1

2012-2013

PREFACE

For maintenance of any machine, timely availability of spare parts and consumables play an important role. Thus, to keep the machine in sound condition, first and foremost prerequisite is availability of spares and consumables. As there are thousands of items/spares which are required for maintenance of machine, it is very much required to identify critical spares which are vital and in turn, to ensure availability of such spares well within the scheduled time.

In this pursuit a committee was formed which after thorough scrutiny of consumption pattern of spares for different machines had finalized a list of critical spares for different types of tamping machines (CSM 3-X, CSM 09-32, Work Site Tampers, Unimat, Multipurpose tampers) Ballast Cleaning Machines (BCM, FRM), Dynamic Track Stabilizers, PQRS of 'Plasser' make, T-28 of 'Ameca' make and BRM of 'Kershaw' make.

On the basis of experience of Track machine working on Indian Railways, a need for revision of this list was felt. Accordingly, revised lists of critical spares are prepared. It may be noted that this is the list of spares required for the normal maintenance of CSM for one year only and does not include the spares required for IOH , POH and other spl. Maintenance. Requirement for such schedule maintenance (IOH/POH) and emergency maintenance/attention, may be assessed separately on need basis by zonal railways itself

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Director Track Machine-III

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SITE - At machine

STMD - Satellite depot

ZTMD - Zonal depot

CSM

HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
A. Valve:							
1.	4-way valve(satellite axle support)	HY 06RSD	1	6	0	0	0.2*
2.	4-way valve (holding lining + Cabin support)	HY06RSX	3	6	0	0	0.2*
3.	4-way valve (T/U lateral sate. support)	HY 06RSJ	1	6	0	0	0.2*
4.	4-way valve (satellite booster)	HY- V 10. RSDET	1	6	0	0	0.2*
5.	4-way valve (Lining bypass + big squeezing holding)	HY 10 RSX-A	3	6	0	0	0.2*
6.	4-way valve (rail clamp)	H.10 RSJA	2	6	0	0	0.2*
7.	4-way valve (Lifting cyl. holding)	HY 10 RSG-A	2	6	0	0	0.2*
8.	4-way valve (Big Squeezing)	HY 16 RSD - ET	2	6	0	0	0.2*
9.	4-way valve (Small Squeezing)	HY- 10 RSD-A	2	6	0	0	0.2*
10.	4-way valve (hand operated for bogie/ axle support)	HY- 153.02	1	6	0	0	0.2*
11.	proportional valves (T/U and satellite drive)	HYN-25RPE 325TD	3	6	0	0	0.2*
12.	Relief valve (high Pressure)	HY- 511.12	1	6	0	0	0.2*
13.	Safety valve (High Pressure)	HY- 511.08	1	6	0	0	0.2*
14.	Unloader valve (System Pressure)	HY- 511.11	1	6	0	0	0.2*
15.	Relief valve (vibration)	HY-511.06	2	6	0	0	0.2*
16.	Safety valve (System pressure)	HY- 511.15	1	6	0	0	0.2*
17.	Relief valve (Small counter Squeezing pressure)	HY-511-07	1	6	0	0	0.2*
18.	Safety valve (Radiator+ZF cooler)	HY- 56 R	3	6	0	0	0.2*
19.	Reducing valve (Sq. cyl. +Booster cyl.)	HY- 55 R	3	6	0	0	0.2*

*Minimum quantity 1

CSM

HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
20.	Safety/ valve (35 bar)	HY -511.10	1	6	0	0	0.2*
21.	Servo valve (Lining and lifting)	ELT- 76.00 MO	3	5	0	0	1
22.	Check valve (system pressure)	HY-151.18	1	6	0	0	0.2*
23.	Check valve (system Pump)	HY-151.03/0.5 bar	1	6	0	0	0.2*
24.	Check valve (oil cooler+ZF cooler)	HY-151.03/5 bar	2	6	0	0	0.2*
25.	Check valve (high pressure)	Hy-151.19	1	6	0	0	0.2*
26.	Check valve (vibration motor)	Hy-40.53	2	6	0	0	0.2*
B. Motor:							
1.	Hyd. Motor work drive	HY- 916.N.500	1	6	0	0	1
2.	Radiator Cooler motor	HY- 701.N.17L	1	6	0	0	0.2*
3.	Hyd. Cooler motor	HY-701N10	1	6	0	0	0.2*
4.	Hyd. Cooler motor (By Directional)	HY-701N14	1	6	0	0	0.2*
5.	ZF oil cooler motor	HY- 90.N 42L	1	6	0	0	0.2*
6.	Satellite Drive Motor	HY- 915.N.160	1	6	0	0	0.2*
7.	Motor for vibration	HY-72Sx35 L&R	2	6	0	0	0.2*
C. Pump:							
1	Double pump	HY- 806x38.17 R	2	6	0	0	0.2*
2	Double pump	HY- 806x38.22.R	1	6	0	0	0.2*
3	Variable pump	HY- 704.90L/EL/210 bar.	1	6	0	0	0.2*
4	Double pump	HY- 806x20.17 L or 20.14 L	1	6	0	0	0.2*

*Minimum quantity 1

CSM

HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
D. Filter Element:							
1.	Servo filter element	DL.40.60.3E	2	0.25	2	4	2
2.	Proportional filter element	HY.D.501.32.10 ES.	1	0.25	1	2	1
3.	Suction filter element variable Pump	HY.S.501.90.10 ES.	2	0.25	4	6	6
4.	Button filter (servo valve)	Moog part no A-25446-002	6	0.25	6	6	12
5.	Return filter element	HYR.501.330.10 ES	2	0.25	2	2	4
6.	Suction filter element	HYS.501.360.150 ES.	4	0.25	4	4	8
7.	ZF filter element	HYD501.225.25 ES.	02	0.50	2	0	4
E. Cylinder:							
1	T/U Lifting/lowering cylinder	HZDPA.080.040.0760.1.001	2	3	0	0	0.25*
2	Lining Cylinder with Yoke	HZGB.100.045.03001.003.	2	6	0	0	0.2**
3	Track Lifting Cylinder with yoke	HZGB.125.050.0330.1.	2	6	0	0	0.2*
4	Booster Cylinder	HZQB.050.036.0600.1.002	1	6	0	0	0.2*
5	Satellite axle support cylinder	UD.50.2800	2	4	0	0	1
6	Axle support cylinder	UD.50.2200	4	4	0	0	0.25*
7	Axle support cylinder (front)	UD.50.550	2	4	0	0	0.25*
8	Satellite roller support cylinder	UD.50.1950 a	2	4	0	0	0.25*
9	Satellite lateral displacement	HZGB 100.050.04001	1	6	0	0	0.2*
10	Satellite Buffer Cylinder	HY-600.05a	2	6	0	0	0.2*
11	Bogie support cylinder rear	HZ MB.080.036.0210.2.024	8	4	0	0	2
12	rail clamp Open/ close cylinder	E 150.180	4	4	0	0	0.5*
13	Big sq cylinder with piston assembly	2E34.201B	4	0.5	0	0	1

*Minimum quantity 1

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HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
F. Seal Kit:							
1.	Seal Kit rail clamp Cylinder	E-150-180DS	4	1	1	2	0
2.	Seal Kit Cabin Support Cylinder	HZ-01-080 & HZ-02-080.036	8 set	1	1	2	0
3.	Seal Kit Wheel Support Cylinder	UD-50-100 DS	4	1	1	1	0
4.	Seal Kit Axle Support Cylinder	UD-50-550 DS	2	1	1	1	0
5.	Seal Kit Satellite axle Support Cylinder	UD-50-2800 DS	2	1	1	1	0
6.	Seal Kit Satellite axle roller Cylinder	UD-50-1950 ADS	2	1	1	1	0
7.	Seal Kit T/U UP/Down cylinder	HZ-01-080 & HZD-02.080.040	2 set	1	1	2	0
8.	Seal Kit Lining cylinder	HZ-01-100 & HZ-02.100.045	2 set	2	0	2	0
9.	Seal Kit Lifting cylinder	HZ-01-125 & HZ-02.125.50	2 set	2	0	2	0
10.	Seal Kit Booster cylinder	HZ-01-50 & HZ-02.050.036	1 set	2	0	1	0
11.	Seal Kit Shock Observer	HZ-05-600 ADS	2	2	0	2	0
12.	Seal Kit Satellite sliding	HZ-01-100 & HZ-02-100-50	1 set	2	0	1	0
13.	Seal set Squeezing big cyl.	HZ.DS.243	8	0.3	2	6	0
14.	Seal set for Squeezing small cyl.	HZ.DS.401	8	0.3	2	6	0
15.	Radial seal	DL- 12.22	16	0.5	2	12	0
16.	Kit for unloader valve R4U10	-	1	5	1	0	0
17.	Kit for unloader valve R4U06	-	1	5	1	0	0

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HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
G. Hoses:							
1.	Hyd. hose with fitting 1020 mm	R02x4	4	6	1	0	1
2.	Hyd. hose with fitting 770 mm	R02x4	2	6	1	0	1
3.	Hyd. hose with fitting 480 mm	R02x4	2	6	1	0	1
4.	Hyd. hose with fitting 580 mm	R02x4	4	6	1	0	1
5.	Hyd. hose with fitting 360 mm	R02x4	4	6	1	0	1
6.	Hyd. hose with fitting 650 mm	R02x4	4	6	1	0	1
7.	Hyd. hose with fitting 530 mm	R02x4	4	6	1	0	1
8.	Hyd. hose with fitting 490 mm	R02x4	4	6	1	0	1
9.	Hyd. hose with fitting 510 mm	R02x4	4	6	1	0	1
10.	Hyd. hose with fitting 450 mm	R02X4	6	6	1	0	1
11.	Hyd. hose without fitting	R02X4	-	6	25 m	15 m	10 m
12.	Hyd. hose without fitting	R02X6	-	6	20 m	15 m	10 m
13.	Hyd. hose without fitting	R02X8	-	6	20 m	15 m	10 m
14.	Hyd. hose without fitting	R02X10	-	6	15 m	15 m	10 m
15.	Hyd. hose without fitting	R02X12	-	6	10 m	15 m	10 m
16.	Hyd. hose without fitting	R02X16	-	6	10 m	10 m	10 m
17.	Hyd. hose without fitting	R02X20	-	6	10 m	10 m	10 m
18.	Hyd. return hose without fitting	R05x6	-	4	15m	10m	10 m
19.	Hyd. return hose without fitting	R05x12	-	4	10m	10m	10 m

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HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
20	Hyd. return hose without fitting	R05x16	-	4	10m	10m	10 m
21	Hyd. return hose without fitting	R05x24	-	4	15m	10m	10 m
22	Hyd. return hose without fitting	R05x32	-	4	10m	15m	10
H. Hydraulic Fittings & Adaptor:							
1	Hyd. Hose fitting	4721-6-4	-	6	4	10	10
2	Hyd. Hose fitting	4721-8-6	-	6	4	4	4
3	Hyd. Hose fitting	4721-10-8	-	6	4	4	4
4	Hyd. Hose fitting	4721-10-10	-	6	4	4	4
5	Hyd. Hose fitting	4721-12-12	-	6	4	4	4
6	Hyd. Hose fitting	4721-16-16	-	6	2	4	4
7	Hyd. Hose fitting	4721-20-20	-	6	2	2	4
8	Hyd. Return hose fitting	411- 6-6	-	6	2	6	4
9	Hyd. Return hose fitting	411-12-12	-	6	2	2	2
11	Hyd. Return hose fitting	411-24-24	-	6	2	2	2
12	Hyd. Return hose fitting	411-32-32	-	6	2	2	2
13	Adaptor (straight)	2021.4.6	-	6	4	10	10
14	Adaptor (straight)	2021.6.6	-	6	4	10	10
15	Adaptor (straight)	2021.6.8	-	6	4	4	4
16	Adaptor (straight)	2021.8.8	-	6	4	4	4
17	Adaptor (straight)	2021.8.10	-	6	4	4	4
18	Adaptor (straight)	2021.12.12	-	6	4	4	4

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HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
19	Adaptor (straight)	2021.16.16	-	6	3	4	4
20	Adaptor (straight)	2021.20.20	-	6	3	4	4
21	Adaptor (straight)	2021.24.24	-	6	2	4	2
22	Adaptor (straight)	2021.32.32	-	6	2	2	2
23	Adaptor	2023.4.6	-	6	4	6	6
24	Adaptor	2023.6.6	-	6	4	4	4
25	Adaptor	2023.6.8	-	6	4	2	4
26	Adaptor	2023.8.10	-	6	4	2	4
27	Adaptor	2023.12.12	-	6	4	2	4
28	Adaptor	2023.16.16	-	6	2	2	2
29	Adaptor	2023.20.20	-	6	2	2	2
30	Adaptor	2023.24.24	-	6	2	2	2
31	Adaptor	2023.32.32	-	6	2	2	2
32	Adaptor (90 ⁰)	2024.4.6	-	6	6	2	2
33	Adaptor (90 ⁰)	2024.20.20	-	6	2	2	2
34	Adaptor (90 ⁰)	2024.6.8	-	6	4	4	2
35	Adaptor (90 ⁰)	2024.8.6	-	6	4	4	2
36	Adaptor (90 ⁰)	2024.8.10	-	6	4	2	4
37	Adaptor (90 ⁰)	2024.12.12	-	6	2	4	4
38	Adaptor (90 ⁰)	2024.16.16	-	6	2	4	2
39	Adaptor (90 ⁰)	2024.24.24	-	6	2	2	2
40	Adaptor (90 ⁰)	2024.32.32	-	6	2	2	2
41	Adaptor	2027.6.6	-	6	6	4	4

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HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
42	Adaptor	2027.6.8	-	6	5	5	0
43	Adaptor	2027.8.8	-	6	2	4	4
44	Adaptor	2027.10.10	-	6	4	2	4
45	Adaptor	2027.12.12	-	6	2	2	2
46	Adaptor	2027.16.16	-	6	2	2	2
47	Adaptor	2027.20.20	-	6	2	2	2
48	Adaptor	2027.24.24	-	6	2	2	2
49	Adaptor	2027.32.32	-	6	2	2	2
50	Adaptor dummy cap**	210292.4	-	-	2	4	6
51	Adaptor dummy cap**	210292.6	-	-	2	4	6
52	Adaptor dummy cap**	210292.8	-	-	2	4	6
53	Adaptor dummy cap**	210292.10	-	-	2	4	6
54	Adaptor dummy cap**	210292.12	-	-	2	4	6
55	Adaptor dummy cap**	210292.20	-	-	2	4	6
56	Adaptor dummy cap**	210292.32	-	-	2	4	6
57	Hydraulic pipe plug.**	900599.6	-	-	2	4	6
58	Hydraulic pipe plug.**	900599.8	-	-	2	4	6
59	Hydraulic pipe plug.**	900599.12	-	-	2	4	6
60	Hydraulic pipe plug.**	900599.16	-	-	2	4	6
61	Hydraulic pipe plug.**	900599.20	-	-	2	4	6
62	Hydraulic pipe plug.**	900599.24	-	-	2	4	6
63	Hydraulic pipe plug.**	900599.32	-	-	2	4	6
64	Adaptor	202411.6.8	35	6	4	2	4

**For Emergency purpose

CSM

HYDRAULICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
65	Adaptor	202411.8.10	25	6	2	2	4
66	Adaptor	202411.12.12	25	6	2	2	4
67	Adaptor	202411.16.16	25	6	1	2	4
68	Adaptor	2091.4.4	4	6	1	0	1
69	Adaptor	2092.4.4	4	6	1	0	1
70	Adaptor	2092.6.6	4	6	1	0	1
71	grease nipple	DINR1/4"ZDIN3404-MF	100	6	25	25	50
72	grease gun adopter	DIN R1/4"ZDIN 340-MI	-	6	10	10	15
73	Hydraulic straight reducer	2081.6.4	10	6	2	2	4
74	Hydraulic straight reducer.	2081.8.4	10	6	2	2	4
75	Hydraulic straight reducer.	2081.8.6	10	6	2	2	4
76	Hydraulic straight reducer.	2081.12.6	10	6	2	2	2
77	Hydraulic straight reducer.	2081.12.8	10	6	2	2	2
78	Hydraulic straight reducer.	2081.16.12	10	6	2	2	2
I. Others:							
1	Accumulator for counter pressure	HY-156-06	2	6	0	0	0.2*
2	Bladder for Accumulator	HY-156-3	1	6	0	0	0.2*
3	Bladder for Accumulator	HY-156-9	1	6	0	0	0.2*
4	Hydraulic Oil	HLP 68N or Equivalent	1600 lts	3	200 lit	0	400 lit
5	Hydraulic Oil	SS-100 or equivalent	50 lts	2	25 lit	0	25 lit
6	Gear Oil	HP-90 or Equivalent	50 lts	1	50 lit	0	100 lit
7	ZF Gear Oil	15W40 CF-4	60 lts	1	60 lit	0	60 lit
8	Grease	RL-2 or Equivalent	20 Kg	-	20	0	20 Kg

*Minimum quantity 1

CSM

MECHENICAL

S. No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
A. Engine (MWM TBD 232 V 12/KTA1150L)							
1.	Lube oil	-	45 liters	0.3	100lts	200 lts	200lts
2.	Lube oil filter element	-	2	0.3	2	2	2
3.	Fuel pre filter element for MWM	5 lit	1	0.3	2	2	2
4.	Fuel Secondary filter element for MWM	-	2	0.3	4	4	4
5.	Fuel filter element for CUMMINS	5 lt cap	2	0.3	4	4	4
6.	Air cleaner	-	2	0.5	0	2	2
7.	V-Belt	-	4	0.4	4	2	2
8.	V-Belt for Compressor (MWM)	B-110	2	0.4	2	2	2
9.	Alternator	Bosch make 28V/55A	2	4	0	0	1
10.	Self- starter	-	1	2	0	0	1
11.	Battery	12 volts/180AH	2	1	0	0	2
12.	Battery Lug	-	4	1	4	4	2
13.	Lube oil pressure switch	-	1	4	0	0	1
14.	Temperature switch	-	1	4	0	0	1
15.	Engine Mounting Pad		4	3	0	0	4
B. Bearing							
1	Bearing	32009X	16	1	8	4	4
2	Ball bearing	16010	2	2	0	0	1
3	Ball bearing	6208	16	4	0	0	4
4	Ball bearing	6002Z	8	4	0	0	2
5	Needle bearing	NKI 70/35	6	1	3	3	0
6	Needle bearing	NA 6913	6	1	3	3	0

CSM

MECHANICAL

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
C. Shaft (vibration+ cardon)							
1	Vibration shaft bearings	NJ 2216 MC3	4	1	0	0	2
2	Vibration shaft bearings	U.20.218P(6220)	2	1	0	0	1
3	Vibration shaft bearings	(NU 2220 MC3)	4	1	0	0	2
4	Vibration shaft bearings	(NJ 219 MC3)	8	1	0	0	4
5	Vibration shaft bearings	(NJP 2216 MC3)	4	1	0	0	2
6	Cardon shaft (small)	LZ 325, LA-35-0112131	1	6	0	0	0.2*
7	Cardon shaft	KGW180.1250.110.00	1	6	0	0	0.2*
8	Cardon shaft	KGW.150.1000.110.00	1	6	0	0	0.2*
9	Cardon shaft	KGW.180.950.110.00	1	6	0	0	0.2*
10	Cardon shaft	KGW.150.950.110.00	2	6	0	0	0.2*
11	Cardon shaft	LZ420-LA-50/UD72-2719	1	6	0	0	0.2*
D. Bolt and Nut							
1	Hex bolts	M 8x30mm	-	6	10	10	10
2	Hex bolts	M 8x40mm	-	6	10	10	10
3	Hex bolts	M 8x50mm	-	6	10	10	10
4	Hex bolts	M 10x35mm	-	6	10	10	10
5	Hex bolts	M 10x45mm	-	6	10	10	10
6	Hex bolts	M 10x55mm	-	6	10	10	10
7	Hex bolts	M 10X65mm	-	6	10	10	10
8	Hex bolts	M10x75mm,	-	6	10	10	10
9	Hex bolts	M10x90mm,	-	6	10	10	10

*Minimum quantity 1

CSM

MECHENICAL

S. No	Brief description	Part no.	Nos. per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
10	Hex bolts	M 12x35mm	-	6	10	10	10
11	Hex bolts	M20x45mm	-	6	10	10	10
12	Hex bolts	M 12x50mm	-	6	10	10	10
13	Hex bolts	M 12x65mm	-	6	5	5	10
14	Hex bolts	M 12x75mm	-	6	5	5	5
15	Hex bolts	M 12x100mm	-	6	4	5	5
16	Hex bolts	M 14x35mm	-	6	10	10	10
17	Hex bolts	M 16x45mm	-	6	10	10	10
18	Hex bolts	M 16x65mm	-	6	10	10	10
19	Hex bolts	M 16x75mm	-	6	5	5	10
20	Hex bolts	M 16x100mm	-	6	4	4	10
21	Hex bolts	M 20x50mm	-	6	5	5	10
22	Hex bolts	M 20x55mm	-	6	32	32	32
23	Hex bolts	M 20x75mm	-	6	5	10	10
24	Hex bolts	M 20x90mm	-	6	10	10	10
25	Hex nut	M 8x1.25mm	-	6	10	10	10
26	Hex nut	M10x1.5mm	-	6	10	10	10
27	Hex nut	M 12x1.75mm	-	6	10	10	10
28	Hex nut	M16x2.00mm	-	6	5	5	5
29	Ny lock nut	M12	-	6	10	10	15
30	Ny lock nut	M14	-	6	6	6	10
31	Socket head cap bolt	M 8x20mm	-	6	5	10	10

CSM

MECHENICAL

S. No	Brief description	Part no.	Nos. per M/C	Estt.. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
32	Socket head cap bolt	M 8x35 mm	-	6	10	10	10
33	Socket head cap bolt	M 8x45 mm	-	6	10	10	10
34	Socket head cap bolt	M 8x55 mm	-	6	5	10	10
35	Socket head cap bolt	M 10x20 mm	-	6	5	10	10
36	Socket head cap bolt	M 10x30 mm	-	6	10	10	10
37	Socket head cap bolt	M 10x40 mm	-	6	10	10	10
38	Socket head cap bolt	M 10x50 mm	-	6	5	10	10
39	Socket head cap bolt	M 10x60mm	-	6	5	10	10
40	Socket head cap bolt	M 10x70 mm	-	6	4	10	10
41	Socket head cap bolt	M 10x80 mm	-	6	4	10	10
42	Socket head cap bolt	M 10x90 mm	-	6	4	10	10
43	Socket head cap bolt	M 12x35mm	-	6	10	10	10
44	Socket head cap bolt	M 12x45 mm	-	6	10	10	10
45	Socket head cap bolt	M 12x55 mm	-	6	5	10	10
46	Socket head cap bolt	M 12x65 mm	-	6	5	10	10
47	Socket head cap bolt	M 12x75 mm	-	6	4	10	10
48	Socket head cap bolt	M 14x25 mm	-	6	5	10	10
49	Socket head cap bolt	M 14x35 mm	-	6	10	10	10
50	Socket head cap bolt	M 14x45 mm	-	6	10	10	10
51	Socket head cap bolt	M 14x 65 mm	-	6	5	10	10
52	Socket head cap bolt	M 14x75 mm	-	6	4	10	10
53	Socket head cap bolt	M 16x35 mm	-	6	10	10	10

CSM

MECHANICAL

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
54	Socket head cap bolt	M 16x45 mm	-	6	10	10	10
55	Socket head cap bolt	M 16x55 mm	-	6	5	10	10
56	Socket head cap bolt	M 16x65 mm	-	6	5	10	10
57	Socket head cap bolt	M 20x45 mm	-	6	10	10	10
58	Socket head cap bolt	M 20x55 mm	-	6	10	10	10
59	Socket head cap bolt	M 20x65 mm	-	6	5	10	10
E. O' Ring							
1	O' ring	126-67x131-9(126x3)	4	3	2	0	2
2	O' ring	38x48	4	3	2	0	2
3	O' ring	36x42/44	4	3	2	0	2
4	O' ring	162x169	1	3	2	0	2
5	O' ring	88-57x2-67(PU)	3	3	2	0	2
6	O' ring	126.37x5.33	4	3	2	0	2
F. Oil Seal							
1	Seal ring	BA 20x40x10 mm	1	2	1	1	1
2	Seal ring	BA 85x110x13mm	2	2	1	1	1
3	Seal ring	BA 130x165x13 DIN 3760	2	1	0	0	2
4	Grooved seal ring	U.400.325	8	1	0	0	2
5	Flat ring	DL 12.09	8	1	0	0	2
6	Gasket	DL 12.08	8	1	0	0	2
G. Tamping Unit							
1	Tamping arm bush	2E.34.210	8	1	0	2	2
2	Tamping arm big pin assembly.	2E.31.04	8	1	0	2	2
3	Tamping arm small pin assembly.	G.20.13	8	1	0	1	1
4	Flange	DL.23.104	8	1	0	1	1

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MECHANICAL

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
5	Flange	DL.23.103A	8	1	0	1	1
6	Flange	2E.22.09	8	1	0	1	1
7	Flange	2E.22.11	8	1	0	1	1
8	Teflon washers	2E.34.228. 7.00	8	1	1	1	1
9	Big squeezing cylinder male	HZSA-A-150-245 KPL	4	1	0	0	1
10	Big squeezing cylinder female	HZSA-G-150-246 KPL	4	1	0	0	1
11	Small squeezing cylinder male	HZSI-A-57.5. 404 KPL	4	1	0	0	1
12	Small squeezing cylinder female	HZSI-G-57.5. 403 KPL	4	1	0	0	1
13	Tamping tools caps	2E.31.19 ART	32	0.3	32	32	32
14	Tamping tools	-	32	0.3	32	32	32
15	Tamping arm big	CU.30.412	8	0.6	0	0	1
16	Tamping arm small	CU.30.413	8	0.6	0	0	1
17	Guide rod for T/U	UD-70-752	4	0.6	0	0	2
H. General							
1	Rubber mounting (damping block)	M-12	12	3	4	6	6
2	Rubber mounting (damping block)	M-10	16	3	4	6	6
3	Coupling for funk gear box	WN220-27	1	4	0	0	1
4	Rail tongue roller	DL150-011	8	1	2	2	4
5	Lining roller	-	2	2	0	0	2
6	Roller disc for lifting units	E-150	4	3	0	0	4
7	roller for shadow board trolley	-	2	4	0	0	2
8	Lining transducer fork	-	2	2	2	0	4
9	T/U transducer fork	-	2	2	2	0	4

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ELECTRCAL & ELECTRONICS

S. No	Brief description	Part no.	Nos per M/C.	Estt. Life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
A. Meters and gauges							
1.	Engine RPM meter	EL-T 1264	2	3	0	0	0.2*
2.	Galvanometer	EL-T 80.00	4	3	0	0	0.2*
3.	Water temp. gauge	EL-T 1259	2	3	0	0	0.2*
4.	ZF pressure gauge	EL-T 1001	1	6	0	0	0.2*
5.	ZF temp gauge	EL-T 1200	1	6	0	0	0.2*
6.	Speedometer (Front)	EL-T1263	1	3	0	0	0.2*
7.	Speedometer (Rear)	-	1	3	0	0	0.2*
8	Ammeter	EL-T 1262	1	6	0	0	0.2*
B. PCB							
1	Power supply	EK813 SV00b	5	2	1	0	1
2	Leveling control	EK 347 LV02	2	6	1	1	0.2*
3	Lining control	EK349 LV01	1	6	0	1	0.2*
4	Multiplex	EK28 V00	1	5	0	0	0.2*
5	T/U Up/Dn19control	EK16 V00b	2	6	0	0	0.2*
6	Front input	EK345LV00	1	6	0	0	0.2*
7	Pendulum Control	EK346LV0a	1	6	0	0	0.2*
8	Satellite compensation	EK348LV00	1	6	0	0	0.2*
9	Over slew	EK290LV00b	1	6	0	0	0.2*
10	Power supply	EK812SV00	1	6	0	0	0.2*
11	Power supply	EK851SV0b	1	6	0	0	0.2*
12	Distance simulator	EK99V00	1	6	0	0	0.2*
13	Pendulum compensation	EK110LV00	1	6	0	0	0.2*

*Minimum quantity 1

CSM

ELECTRICAL & ELECTRONICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
14	Satellite drive control	EK24V00b	1	6	0	0	0.2*
15	Machine drive control	EK319LV00	1	6	0	0	0.2*
16	Variable pump control	942600	1	6	0	0	0.2*
17	QL PCB	-	1	6	0	0	0.2*
18	Input/ output of programmer	EK553P00	9	6	0	0	0.2*
19	Time delay of programmer	EK552P00	1	6	0	0	0.2*
20	Relay PCB	EL-T 1163	6	6	0	0	0.2*
21	Relay PCB	E-LT 1157	2	6	0	0	0.2*
22	Relay PCB	EL-T 1442	1	6	0	0	0.2*
23	Pulse counter of encoder PCB	E-LT 5034	1	6	0	0	0.2*
24	Power pack	E-LT7050/400	5	2	0	0	1
C. Relay							
1	Relay	ELT 7045/24	5	2	1	2	3
2	Relay	ELT 7018	4	2	1	0	2
3	Relay	LR 24VDC	5	2	1	1	2
4	Relay	EL-T 7002/ S4	41	2	4	4	20
5	Relay	ELT 663	31	2	2	4	12
6	Relay	ELT 277	10	2	2	4	12
7	Relay	ELT.1218s	30	2	5	5	10
8	Relay	ELT. 7010	4	2	1	1	1

*Minimum quantity 1

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ELECTRCAL & ELECTRONICS

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
D. General							
1	Limit Switch	LJW	5	1	1	2	2
2	Proximity switch	EL-T1151a	2	2	0	0	2
3	Proximity switch	EL-T1422k	3	2	0	0	2
4	Transducer tamping depth	-	3	2	1	0	1
5	Potentiometer	ELT 500 HQ	4	6	0	0	1
6	Potentiometer	ELT 595 HQ	5	6	0	0	1
7	Satellite transducer spring	-	1	1	1	0	1
8	Transducer chord wire	0.80mm	50m	1	10m	20m	30m
9	Lining & leveling chord	1.35mm	80m	2	40m	0	40m
10	Head light bulb (pin type)	24V/36W	6	1	5	2	3
11	Working light assy.	24V/36W	30	2	0	0	10
12	Micro fuse	272-4A	16	2	2	4	6
13	Distance encoder	ELT 7023/700	1	3	0	0	1
14	Contact element	N O (26020)	60	6	2	0	10
15	Contact element	N C (23068)	10	6	1	0	10
16	IC	OP O4	25	6	0	0	2
17	IC	OP 11	20	6	0	0	2
18	Hooter	-	1	3	0	0	1
19	Flasher Light	-	1	3	0	0	1
20	Satellite transducer	EL-T1041	1	3	0	0	1
21	Oil pressure sensor	0-25bar (360/081/037/018)	2	5	0	0	1

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PNEUMATIC

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
A. SEAL							
1.	seal kit for 1 1/2" dia. cylinder	-	12	2	0	1	1
2.	seal kit for 2 1/4" dia. cylinder	-	8	2	0	1	1
3.	seal kit for 3" dia. cylinder	-	6	2	0	1	1
4.	seal kit for 4" dia. cylinder	-	6	2	0	1	1
5.	Seal set for satellite brake cylinder	8"	2	2	0	1	1
6.	Seal set for m/c brake cylinder	12"	2	2	0	1	1
B. OTHERS							
1	2-way valve for satellite brake	90362	1	2	0	0	1
2	Air oiler	90180	1	3	0	0	1
3	Brake valve for satellite (4-way)	90254	2	2	0	0	1
4	Brake valve for machine	90364	4	2	0	1	1
5	Over flow valve	M 301890	1	1	0	0	1
6	Cooling coil	DL 90.37	1	1	0	0	1
7	Pressure regulator	90186	5	2	0	1	2
8	Safety valve	90204	2	2	0	0	1
9	Stop cock for working system	90259	1	2	0	0	1
10	Water separator (in working cabin)	90181A	1	2	0	0	1
11	Water separator near engine	90356	1	2	0	0	1
12	2-way valve	90151	1	2	0	0	1
13	3-way valve	90336	15	2	0	4	4
14	4-way valve for datum	90341	1	2	0	0	1
15	4-way valve	90344	7	2	0	2	2
16	4-way valve	90343	2	2	0	0	1
17	Actuating cylinder for engine	WM 607-B1	1	2	0	0	1
18	Throttle valve	WM67	2	6	0	0	1

CSM

PNEUMATIC

S. No	Brief description	Part no.	Nos per M/C	Estt. life cycle in Yrs.	Requirement per m/c		
					SITE	STMD	ZTMD
19	cylinder for ZF Engage / Disengage	90233	1	4	0	0	1
20	Satellite engage cylinder	PN 2Z-KF-50/18/70	1	2	0	0	1
21	Air unloader	90200	1	0.5	1	0	1
22	Pne. horn	-	2	2	0	0	1
23	Cylinder for satellite engage, disengage	PN-2ZKF-50-18-70	1	2	0	0	1
24	pressure Reducing valve	90183 (90188)	6	2	0	1	1
25	brake valve	90364	2	1	1	0	1
26	Brake shoes	-	10	2	0	0	10
27	Tank drain	90215	2	2	0	0	1
28	Pneumatic hose	6.33 mm	-	3	25 m	20 m	20 m
29	Pneumatic hose	12.5 mm	-	3	10 m	10 m	20 m
30	Clip for pneumatic hose	6.33 mm	-	3	20 m	10 m	40m
31	Clip for pneumatic hose	12.5 mm	-	3	10 m	5 m	20m
32	hose assy compressor and cooling coil	90267	1	2	0	0	1
33	Pne. Nipple with nut 6.3mm	-	-	2	4	4	6
34	Pne. Nipple with nut 12.5mm	-	-	2	4	4	6
35	Ball and socket M-16	-	-	3	2	2	2
36	Pne. Elbow (90°) for 12.5mm	-	-	3	2	2	4
37	Pne. Elbow (90°) for 6.3mm	-	-	3	4	4	6
38	Pne. Elbow with both side nipple	-	-	3	4	6	12
39	Pne. Elbow T type	-	-	3	4	6	12