

**INDIAN RAILWAYS**

**CRITICAL SPARES OF TRACK MACHINES**

**BOOKLET FOR TAMPING EXPRESS (09- 3X)**

**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 (09-3X Tamping Express, 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-3X 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

(Anil Choudhary)

Director Track Machine-III

# INDEX

<b>SI No</b>	<b>Category</b>	<b>Page No.</b>
<b>1</b>	<b>ENGINE</b>	<b>1</b>
<b>2</b>	<b>HYDRAULICS</b>	<b>2 – 10</b>
<b>3</b>	<b>MECHANICAL</b>	<b>11- 15</b>
<b>4</b>	<b>ELECTRICAL&amp;ELECTRONICS</b>	<b>16 -18</b>
<b>5</b>	<b>PNEUMATIC</b>	<b>19 -20</b>

SITE - At machine

STMD - Satellite depot

ZTMD - Zonal depot

**TAMPING EXPRESS**

**ENGINE**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>A. KTA 1150L</b>							
1.	Self-starter	20/3021038/MT50	1	3	1	0	0
2.	Alternator BOSCH make	28V/120A	2	2	0	0	1
3.	Lube Oil	15w40 CF4	45 lts	0.2	300 lts	200 lts	200 lts
4.	Lube oil filter	3166554	2	0.2	2	2	3
5.	Air cleaner	3226018& 3226019	2 Set	1	0	2	2
6.	V-belt	A-57	4	0.6	4	0	4
7.	Lub. Oil Pressure gauge	500109	1	5	0	0	1
8.	Lub. Oil pressure switch	VDO37/30(0-10bar)	1	3	0	0	1
9.	Temperature Switch	-	1	3	0	0	1
10.	Temperature gauge and sensor	500410-A	1	5	0	0	1
11.	Shut down coil	-	1	5	0	0	1
12.	Water Temperature gauge	500108-R	1	5	0	0	1
13.	Hose Pipe for lub. Oil pressure gauge	AS-0403000SS	1	3	0	0	1
14.	Lube oil Bypass	-	1	0.2	2	2	2
15.	Fuel filter	-	2	0.3	2	2	4
16.	House pipe (SLO BY PASS KTA 1150)	AS 0603500SS	1	1	1	0	1
<b>B. NTA 855L</b>							
1.	Self-starter	20/3021036/MT42	1	3	1	0	0
2.	Alternator BOSCH make	28V/55A	1	2	0	0	1
3.	Lube oil filter	3166554	1	0.2	1	0	4
4.	Lube oil bypass filter	3873576	1	0.2	2	2	2
5.	Air cleaner	3226018 & 32260189	1 Set	1	0	2	2
6.	V-belt	KCL200328 & 3058383	2	0.6	0	0	2
7.	Lube Oil Pressure gauge	500109	1	5	0	0	1
8.	Lube Oil pressure switch	VDO37/30(0-10bar)	1	3	0	0	1
9.	Temperature Switch	-	1	3	0	0	1
10.	Lub. Oil Temperature gauge and sensor	500410-A	1	1	0	0	1
11.	Water Temperature gauge	500108-R	1	1	0	0	1
12.	Ammeter	-VDO 80-0-80	1	5	0	0	1
13.	Fuel filter	-	1	0.2	2	2	2
14.	House pipe (SLO BY PASS NT 855)	AS060720055	1	1	1	0	1

**TAMPING EXPRESS**

**HYDRAULIC**

S.No	Brief des cription	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>A. VALVE, PRESSURE REGULATER &amp; CHECK VALVE</b>							
1.	Proportional valve (T/U, Up/Dn +satellite drive)	HYN25RPE2- 325TD	5	6	0	0	1
2.	Servo valve(lining + lifting)	ELT 76.00 MO	3	6	0	0	1
3.	Pressure reducing valve (Small Squeezing )	HY 55R	3	6	0	0	0.2*
4.	Pressure reducing valve (Small Squeezing)	HY 511-31	4	6	0	0	0.2*
5.	Relief valve (Cooler motors)	HY 56R	4	6	0	0	0.2*
6.	Reducing valve (Small Squeezing Counter	HY 511.22/100	4	6	0	0	0.2*
7.	4 way valve	HY 06RSD	2	6	0	0	0.2*
8.	4 Way valve for big squeezing cyl.	HY 10RSD-ET	12	6	0	0	0.2*
9.	4/3 way valve (Roller clamp rear+ Front)	HY 06RSJ	4	6	0	0	0.2*
10.	4 way valve (Unloader+ Satellite support on)	HY 06RSX	5	6	0	0	0.2*
11.	4 way valve (Small Squeezing +Axle Support)	HY 10RSD.B	15	6	0	0	0.2*
12.	4/3 way valve(Servo bypass)	HY 10RSG-B	2	6	0	0	0.2*
13.	4/3 way valve(lining bypass)	HY 10RSX-B	1	6	0	0	0.2*
14.	4 way valve (Big squeezing pressure )	HY V10-RSDET	4	6	0	0	0.2*
15.	4 way valve (Relief valve switch on)	HY 157.44	4	6	0	0	0.2*
16.	Check valve (Double pump)	HY151.03/0.5BAR	2	6	0	0	0.2*
17.	Check valve (Cooler)	HY151-03/5BAR	3	6	0	0	0.2*
18.	Check valve(non return)	HY151-06/0.5BAR	2	6	0	0	0.2*
19.	Check valve (Oil cooler)	HY 151.03/3BAR	2	6	0	0	0.2*
20.	Check valve (Unloader)	HY 151.18	2	6	0	0	0.2*
21.	Check valve (Radiator fan motor)	S10A1.0	2	6	0	0	0.2*
22.	Double Check valve	HY 155.03	1	6	0	0	0.2*
23.	Unloader valve (System pressure)	HY511-11	2	6	0	0	0.2*
24.	Unloader valve (Big Squeezing Counter )	HY511-12	1	6	0	0	0.2*
25.	Relief valve	HY511-16	2	6	0	0	0.2*
26.	Relief valve (Unloader for squeezing)	HY511-08	1	6	0	0	0.2*
27.	Relief valve (unloader +low press.)	HY 511-15	1	6	0	0	0.2*
28.	Relief valve (Vibration motors )	HY511-06	4	6	0	0	0.2*
29.	Stop cock	HY 152.03	1	6	0	0	0.2*

\*Minimum Quantity 1

**TAMPING EXPRESS**

**HYDRAULIC**

S.No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>B. MOTOR</b>							
1.	Satellite drive motor	HY 901 N160	2	6	0	0	1
2.	Work drive motor for satellite	HY 916 N800	1	6	0	0	1
3.	Oil cooler motor	HY90N52	4	6	0	0	2
4.	Radiator fan motor	A2FM45/6.1W	2	6	0	0	1
5.	Vibration motor	HY 72Sx28/RE	2	6	0	0	1
6.	Vibration motor	HY 72Sx28/LI	2	6	0	0	1
7.	Hyd. Motor Air condition**	HY935N10	1	6	0	0	1
<b>C. PUMP</b>							
1.	Double pump	HY 831x38.25 RE	2	6	0	0	1
2.	Double pump	HY831x35.17 RE	1	6	0	0	1
3.	Double pump	HY831x35.17 LI	3	6	0	0	1
4.	Variable pump for work drive	HYS 704x125L/EP-A210 bar	1	6	0	0	1
5.	Triple pump***	HY832x35x22.06LI	1	6	0	0	1
6.	Triple pump***	HY832x35.17.17LI	1	6	0	0	1
<b>D. FILTER ELEMENT</b>							
1.	Suction filter	HY-S.501.360.150ES	6	0.25	6	6	12
2.	Suction filter for axial piston pump	HY-S.501.160.P10ES	1	0.25	2	1	2
3.	Return filter	HY-R.501.330.10ES	2	0.25	2	4	4
4.	Proportional filter	HY-D.501.32.10ES	2	0.25	4	4	8
5.	Servo filter	DL.40.60.3ES	2	0.25	2	4	4
6.	Squeezing Pr. Filter	HY-D501.5.10ES	2	0.25	2	4	4
7.	ZF filter	HYD 501.225.25ES	1	0.2	1	2	2
<b>E. CYLINDER</b>							
1.	Axle support cyl.	UD.50.2200	4	4	0	0	1
2.	Axle support cyl. For satellite	UD.50.100	4	4	0	0	1
3.	Bogie support cyl. Machine	UD.50.550	2	4	0	0	1
4.	Bogie support cyl. Satellite	UD.50.200	2	4	0	0	1

\*\*\*On new 09-3x

**TAMPING EXPRESS**

**HYDRAULIC**

S.No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMT	ZTMD
5.	Satellite machine support cyl	HZGB.080.036.0160.2	2	4	0	0	1
6.	Track lifting cyl.	NZGB.125.050.0450	2	6	0	0	1
7.	Roller clamps opening / closing cyl	HZGB.063.036. 0100.01	8	4	0	0	1
8.	Tamping unit Up/Down Cyl.	HZDPA.080.040.0835.1.001	4	3	0	0	1
9.	Lining cyl.	NZGB.100.045.0300.1001	2	6	0	0	1
10.	Satellite brake cyl.	HZGB.040.025.0130.1	2	6	0	0	1
11.	Brake Cyl. Front	UD.216.450	2	4	0	0	1
12.	Frame Support Cylinder	UD.50.550 IND	8	4	0	0	1
13.	Satellite frame Cyl.	UD.50.200	4	4	0	0	1
14.	Machine work drives brake cyl. rear	UD216.450	1	4	0	0	1
15.	Satellite lateral movement cyl.	HZGB.100.050.04001	1	6	0	0	1
16.	Big squeezing cyl	HZSA-G.150.273	8	0.6	0	1	2
17.	Small squeezing cyl male	HZSI-A.40.418	8	0.6	0	0	2
18.	Female small squeezing complete cyl.	HZSI-G.57,5.403	8	0.6	0	0	2
<b>F. SEAL KIT &amp; O' RING</b>							
1.	Seal set Big squeezing cyl.	HZS-DS-243	8	0.5	2	0	2
2.	Seal set small squeezing cyl.	HZS-DS-401	16	0.5	4	0	2
3.	Seal set for Tamping unit up/down cyl.	HZD02.080.040 & HZ01.080	4 set	0.5	2	0	4
4.	Seal kit for track lifting	HZ.02.125.050	2	2	2	0	2
5.	Seal kit for lining cylinder	HZ.02.100.045 & HZ.01.100	2 set	2	1	0	1
6.	Seal kit for clamps open close cyl.	HZ.01.063.036	8	1	2	0	4
7.	Seal kit for axle support cyl.	UD.50.100DS	12	1	1	0	2
8.	Seal kit for axle support cyl. Of satellite	UD.50.200DS	2	1	1	0	1

**TAMPING EXPRESS**

**HYDRAULIC**

S.No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
9.	Axle support cyl seals	UD50.2200DS	8	1	2	0	4
10.	Seal for bogie support cyl	UD50.550 DS	4	1	1	0	1
11.	O' Ring mm size	OFF Sizes	-	3	2 sets	2 sets	2 sets

**G. HOSE**

1.	Hyd hose with fitting 600 mm	R02X4	-	6	2	0	2
2.	Hyd hose with fitting 850 mm	R02X4	-	6	1	0	1
3.	Hyd hose with fitting 1250mm	R02X4	-	6	3	0	3
4.	Hyd hose with fitting 1750 mm	R02X4	-	6	1	0	1
5.	Hyd hose with fitting 2300 mm	R02X4	-	6	1	0	1
6.	Hyd hose with fitting 2450 mm	R02X4	-	6	1	0	1
7.	Hyd hose with fitting 1500 mm	R02X4	-	6	1	0	1
8.	Hyd hose with fitting 1750 mm	R02x6	-	6	1	0	1
9.	Hyd hose with fitting 650 mm	R02x6	-	6	2	0	2
10.	Hyd hose with fitting 2650 mm	R02x6	-	6	1	0	1
11.	Hyd hose with fitting 3000 mm	R02x6	-	6	1	0	1
12.	Hyd hose with fitting 1250 mm	R02x6	-	6	1	0	1
13.	Hyd hose with fitting 1000 mm	R02x8	-	6	1	0	1
14.	Hyd hose with fitting 2650 mm	R02x8	-	6	2	0	2
15.	Hyd hose with fitting 1750 mm	R02x8	-	6	1	0	1
16.	Hyd hose with fitting 3950 mm	R02x8	-	6	1	0	1
17.	Hyd hose with fitting 950 mm	R02x10	-	6	1	0	1
18.	Hyd hose with fitting 1950 mm	R02x10	-	6	1	0	1
19.	Hyd hose with fitting 1750 mm	R02x10	-	6	1	0	1
20.	Hyd hose with fitting 750 mm	R02x12	-	6	2	0	2
21.	Hyd hose with fitting 750 mm	R02x12	-	6	1	0	1



**TAMPING EXPRESS**

**HYDRAULIC**

S. No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
22.	Hyd hose with fitting 3200 mm	R02x12	-	6	1	0	1
23.	Hyd hose with fitting 1500 mm	R02x12	-	6	2	0	1
24.	Hyd hose with fitting 1000 mm	R02x12	-	6	1	0	1
25.	Hyd hose with fitting 1750 mm	R02x12	-	6	1	0	1
26.	Hyd hose with fitting 1750 mm	R02x16	-	6	2	0	2
27.	Hyd hose with fitting 1250 mm	R02x16	-	6	1	0	1
28.	Hyd hose with fitting 2750 mm	R02x16	-	6	1	0	1
29.	Hyd hose with fitting 900 mm	R02x16	-	6	1	0	1
30.	Hyd hose with fitting 1750 mm	2755-16	-	6	1	0	1
31.	Hyd hose with fitting 3000 mm	2755-16	-	6	1	0	1
32.	Hyd hose with fitting 1950 mm	2755-16	-	6	1	0	1
33.	Hyd hose with fitting 2750mm	2781-20	-	6	1	0	1
34.	Hyd hose with fitting 2900 mm	2781-20	-	6	1	0	1
35.	Hyd hose with fitting 1750 mm	2781-20	-	6	2	0	2
36.	Hyd hose with fitting 2900 mm	2786-20	-	6	1	0	1
37.	Hyd hose with fitting 1900 mm	2786-20	-	6	1	0	1
38.	Hyd hose with fitting 750 mm	2786-20	-	6	1	0	1
39.	Return hose with fitting 2500mm	R05x6	-	4	1	0	1
40.	Return hose with fitting 1750mm	R05x6	-	4	1	0	1
41.	Return hose with fitting 700mm	R05x6	-	4	2	0	2
42.	Return hose with fitting 1000mm	R05x6	-	4	1	0	1
43.	Return hose with fitting 1750mm	R05x16	-	4	1	0	1
44.	Return hose with fitting 2800mm	R05x16	-	4	1	0	1

**TAMPING EXPRESSHYDRAULIC**

S. No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
45.	Return hose with fitting 1000mm	R05x16	-	4	2	0	2
46.	Return hose with fitting 3650mm	R05x16	-	4	1	0	1
47.	Return hose with fitting 2650mm	R05x20	-	4	1	0	1
48.	Return hose with fitting 2150mm	R05x20	-	4	1	0	1
49.	Return hose with fitting 1750mm	R05x24	-	4	4	0	4
50.	Return hose with fitting 1150mm	R05x24	-	4	1	0	1
51.	Return hose with fitting 4000mm	R05x24	-	4	1	0	1
52.	Return hose with fitting 900mm	R05x24	-	4	2	0	2
53.	Hyd. Hose with fitting 1750mm	R02x4	-	6	1	0	1
54.	Hyd. hose with fitting 850mm	R02x4	-	6	1	0	1
55.	Hyd. hose with fitting 1500mm	R02x4	-	6	1	0	1
56.	Hyd. hose with fitting 2300mm	R02x4	-	6	1	0	1
57.	Hyd. hose with fitting 2400mm	R02x4	-	6	1	0	1
58.	Hyd. hose with fitting 1250mm	R02x4	-	6	3	0	3
59.	Hyd. hose with fitting 600mm	R02x4	-	6	2	0	2
60.	Hyd. hose with fitting 1750mm	R02x6	-	6	1	0	1
61.	Hyd. hose with fitting 650mm	R02x6	-	6	2	0	2
62.	Hyd...hose with fitting 2650mm	R02x6	-	6	1	0	1
63.	Hyd. hose with fitting 3000mm	R02x6	-	6	1	0	1
64.	Hyd. hose with fitting 1250mm	R02x6	-	6	1	0	1
65.	Hyd hose without fitting	R02X4	-	6	20m	25m	50m
66.	Hyd hose without fitting	R02X6	-	6	20m	25m	50m
67.	Hyd hose without fitting	R02X8	-	6	15m	25m	50m

**TAMPING EXPRESSHYDRAULIC**

S. No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
68.	Hyd. hose without fitting	R02X10	-	4	15m	25m	40m
69.	Hyd. hose without fitting	R02X12	-	4	15m	25m	40m
70.	Hyd. hose without fitting	R02X16	-	4	15m	20m	30m
71.	Hyd. hose without fitting	R02X20	-	4	10m	20m	30m

**H. HYDRAULIC FITTINGS & ADAPTOR:**

1.	Hyd. Hose fitting	4721-6-4	-	6	6	10	10
2.	Hyd. Hose fitting	4721-8-6	-	6	6	10	10
3.	Hyd. Hose fitting	4721-10-8	-	6	6	10	10
4.	Hyd. Hose fitting	4721-10-10	-	6	6	10	10
5.	Hyd. Hose fitting	4721-12-12	-	6	6	10	10
6.	Hyd. Hose fitting	4721-16-16	-	6	6	10	10
7.	Hyd. Hose fitting	4721-20-20	-	6	6	10	10
8.	Hyd. Return hose fitting	411- 6-6	-	6	6	10	10
9.	Hyd. Return hose fitting	411-16-16	-	6	2	3	4
10.	Hyd. Return hose fitting	411-20-20	-	6	2	2	4
11.	Hyd. Return hose fitting	411-24-24	-	6	2	2	4
12.	Hyd. Return hose fitting	411-32-32	-	6	4	4	2
13.	Adaptor (straight )	2021.4.6	-	6	5	10	10
14.	Adaptor (straight)	2021.4.8	-	6	5	10	10
15.	Adaptor (straight)	2021.6.6	-	6	5	10	10
16.	Adaptor (straight)	2021.6.8	-	6	5	10	10

**TAMPING EXPRESS**

**HYDRAULIC**

S.No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
17.	Adaptor (straight)	2021.6.10	-	6	5	10	10
18.	Adaptor (straight)	2021.8.8	-	6	5	10	10
19.	Adaptor (straight)	2021.8.10	-	6	4	10	10
20.	Adaptor (straight)	2021.12.12	-	6	4	10	10
21.	Adaptor (straight)	2021.16.12	-	6	4	4	4
22.	Adaptor (straight)	2021.16.16	-	6	3	4	4
23.	Adaptor (straight)	2021.20.20	-	6	3	3	3
24.	Adaptor (straight)	2021.24.24	-	6	2	3	3
25.	Adaptor (straight)	2021.32.32	-	6	2	2	2
26.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.4.6	-	6	5	10	10
27.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.4.8	-	6	5	4	6
28.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.6.6	-	6	5	4	6
29.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.6.8	-	6	5	4	4
30.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.8.10	-	6	5	4	4
31.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.12.12	-	6	5	4	2
32.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.16.16	-	6	4	2	2
33.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.20.20	-	6	4	2	2
34.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.24.24	-	6	2	2	2
35.	Adaptor (120 <sup>0</sup> /135 <sup>0</sup> )	2023.32.32	-	6	2	2	2
36.	Adaptor (90 <sup>0</sup> )	2024.4.6	-	6	4	4	2
37.	Adaptor (90 <sup>0</sup> )	2024.4.8	-	6	4	4	2
38.	Adaptor (90 <sup>0</sup> )	2024.20.20	-	6	2	2	2
39.	Adaptor (90 <sup>0</sup> )	2024.6.6	-	6	6	4	4
40.	Adaptor (90 <sup>0</sup> )	2024.6.8	-	6	4	4	4
41.	Adaptor (90 <sup>0</sup> )	2024.8.6	-	6	4	4	2

**TAMPING EXPRESS**

**HYDRAULIC**

S. No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
42.	Adaptor (90 <sup>0</sup> )	2024.8.8	-	6	4	4	2
43.	Adaptor (90 <sup>0</sup> )	2024.8.10	-	6	4	4	2
44.	Adaptor (90 <sup>0</sup> )	2024.12.10	-	6	4	4	2
45.	Adaptor dummy cap**	210292.4	-	-	2	4	6
46.	Adaptor dummy cap**	210292.6	-	-	2	4	6
47.	Adaptor dummy cap**	210292.8	-	-	2	4	6
48.	Adaptor dummy cap**	210292.10	-	-	2	4	6
49.	Adaptor dummy cap**	210292.12	-	-	2	4	6
50.	Adaptor dummy cap**	210292.20	-	-	2	4	6
51.	Adaptor dummy cap**	210292.32	-	-	2	4	6
52.	Hydraulic pipe plug.**	900599.6	-	-	2	4	6
53.	Hydraulic pipe plug.**	900599.8	-	-	2	4	6
54.	Hydraulic pipe plug.**	900599.12	-	-	2	4	6
55.	Hydraulic pipe plug.**	900599.16	-	-	2	4	6
56.	Hydraulic pipe plug.**	900599.20	-	-	2	4	6
57.	Hydraulic pipe plug.**	900599.24	-	-	2	4	6
58.	Hydraulic pipe plug.**	900599.32	-	-	2	4	6
<b>I. OTHERS</b>							
1.	Bladder for Hyd. Accumulator	HY156.09HF	3	6	0	0	1
2.	Accumulator small 20 bar	HY156.06	6	6	0	0	1
3.	Hyd. Cooler	HY 157.39A	3	6	0	0	0.2*

\*\*emergency purpose only

**TAMPING EXPRESS**

**MECHANICAL**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>A. BEARING</b>							
1.	Bearing for datum wheel	32009X	16	4	2	0	8
2.	Bearing for idler wheel	6020RS	1	4	0	0	1
3.	Bearing for tower	6020UD	1	4	0	0	1
4.	Roller Bearing for Vibration shaft Inside	NUP2313EMIA3	8	1	2	2	4
5.	Roller Bearing for Vibration Shaft	NU2313EMIC3	8	1	2	0	4
6.	Support roller bearing	22209	4	1	0	2	2
7.	Ball bearing for roller	6002/2RS	4	2	0	0	2
8.	Bearing for sat m/c support	22208	4	1	4	0	8
9.	Needle bearing	NE6913	8	2	0	0	4
10.	Needle bearing	NKF75/35	8	2	0	0	4
11.	Vibration shaft bearing	U.20.220S	32	1	0	8	8
12.	Vibration shaft bearing	U.20.221P 83 mm	16	1	0	4	8
13.	Vibration shaft bearing	U.20223P 83mm	16	1	0	4	8
<b>B. CARDON SHAFT&amp; Gear Box</b>							
1.	Axle for datum wheel	UD 236.3001-8	8	5	0	0	2
2.	Sat Reduction G/box	WN74.300	2	2	0	0	1
3.	Cardon shaft for work drive G/box	LZ420LA40/UD72.2719G-A	1	6	0	0	1
4.	Cardon shaft Engine to ZF gear box	KG180.1300.110.00	1	6	0	0	1
5.	Cardon Shaft ( Dist. G.Box) to Axle gear box	KGW180.1100.110.00	2	6	0	0	1
6.	Cardon Shaft –ZF G to Dist. G Box	KGV180.1000.110.80	1	6	0	0	1
7.	Cardon shaft NT 855 Engine to Pump G box.	LZ400LA50/UD72.4224	1	6	0	0	1
8.	Vibration shaft (motor side)	UD.25.901	4	1	0	2	2
9.	Vibration shaft (outer side)	UD.25.902	4	1	0	2	2

**TAMPING EXPRESS**

**MECHANICL**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>C. NUT , BOLTS &amp;WASHER</b>							
1.	Nut for T/U lifting cyl.	UD65.1177	4	2	0	0	2
2.	M16 Ny lock Nut	NYLOCK M16	32	6	16	0	16
3.	M14 Ny lock Nut	NYLOCK NUTS	64	6	16	0	16
4.	M12 Ny lock Nut	NYLOCK NUTS	8	6	32	0	4
5.	Hex nut (for lining roller)	M24X1.5Din 934.8	4	6	2	2	4
6.	Nut	DL150.1564	8	6	0	0	4
7.	Nut for connecting Rod bolt	M24X1.5Din934.8	40	2	8	0	20
8.	Hex nut (For Big Pin of T/ Arm )	M42X15Din934-8	24	2	12	12	4
9.	Bolt (Big pin for T/Arm )	2E.31.04	24	0.6	4	12	12
10.	Hex bolt M12X40	WN119M12.40.1	8	5	4	4	4
11.	Hex bolt	M10X30 Din 933.8.8	24	5	12	12	4
12.	Hex bolt for T/Tool fixing	M20x1.5x80DIN960-10.9	96	0.2	96	96	96
13.	Hex bolt	M12x35	-	5	12	12	12
14.	Hex bolt	M12x40	-	5	12	12	12
15.	Hex bolt	M12x50	-	5	12	12	12
16.	Hex bolt	M14x40	-	5	12	12	12
17.	Hex bolt	M14x50	-	5	12	12	12
18.	Hex bolt	M16x35	-	5	12	12	12
19.	Hex bolt	M10x30	-	5	48	12	24
20.	Hex bolt M 16X 45	M16X45,WN19.M16X45	32	5	16	10	10
21.	Hex bolt M14X42	WN119M14X42	64	5	32	32	32
22.	Allen bolt	M10X25Din 9128.8/Verz	256	1	12	12	24
23.	Allen bolt for lining roller assy	M5X35Din 912.8.8	4	1	2	2	4
24.	Allen bolt	M16x80	-	5	12	12	12
25.	Allen bolt for suspension	M16X110Din912	24	5	12	12	12
26.	Allen Bolt	M20x35	-	5	10	12	12
27.	Allen Bolt	M12x35	-	5	12	12	12
28.	Allen Bolt	M12x40	-	5	12	12	12

**TAMPING EXPRESS**

**MECHANICAL**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMT	ZTMD
29.	Allen Bolt	M12x50	-	5	12	12	24
30.	Allen Bolt	M16x35	-	5	20	12	18
31.	Washer	20 mm	96	0.2	96	96	288
32.	Washer	UD 19.209	48	0.2	48	48	144
33.	Spring washer 10mm	V10/ VERZ	48	1	24	24	12
34.	Flat washer for small pin	G20.14	40	1	20	12	12
35.	Spring washer	BS24/Verz	40	1	20	20	12
<b>D. TAMPING UNIT</b>							
1.	Tamping unit RHS	UD.19.900RE	2	0.6	0	2	2
2.	Tamping unit LHS	UD.19.900LI	2	0.6	0	2	2
3.	Arm (T/Arm plate)	UD61.17151	2	0.6	1	1	1
4.	Spacer sleeve for Big pin of T/Arm	2E.31.02A	24	0.6	12	12	12
5.	Bush for T/ Arm	2E.34.210	48	0.6	8	8	16
6.	Pickle Lang gerraded ( Tamping Tool)	WN 300.NI-Z70.500-IFRI	32	0.6	32	32	32
7.	Pickle Lang gerraded ( Tamping Tool)	WN300.NI-Z70.500-IFRV	16	0.6	16	16	16
8.	Spacer bush	UD 54.205	8	2	0	0	4
9.	Radial seals	DL.12.22	48	1	24	0	24
10.	Sleeve for small pin (40mm)	UD19.222	8	1	4	4	6
11.	Connecting Rod bolt small pin CSM type (35mm)	G20.13	16	1	4	8	8
12.	Glassier Bush Male cyl.. -3X type Squeezing	UD19.225	16	1	8	0	16
13.	Glassier Bush For Female	MB5040DX	32	1	8	0	16
14.	Spacer ring on vibration shaft	UD25908	16	1	8	0	8
15.	Spacer ring on vibration shaft	UD25306	16	1	8	0	8
16.	Spacer ring on vibration shaft	UD 25.307	8	1	4	0	4
17.	Spacer ring on vibration shaft	2E.22.12	8	1	4	0	4



**TAMPING EXPRESS**

**MECHANICAL**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
18.	Spacer ring on vib shaft	WN 121.65,1.85-24,6-1	16	1	8	0	8
19.	Vibration shaft assy of EN 24 grind finished	UD.25.902 2E.22.31(4 nos)	8	1	4	0	4
20.	Guide column finished chrome plated	WN.153.82F7 .1365-1	16	1	0	0	2
21.	Guide column bush (oil groove on top of bush )	DL.12.06.E	32	1	0	0	8
22.	Guide column cover plate	DL.12.51	16	1	0	0	8
23.	Adjust bolt with spring washer of guide column	E.60.08.AAS	16	1	8	0	8
24.	Mounting bracket (guide column bottom fixing )	UD.19.936(1)&E.61.04(1)	16	1	0	0	8
25.	Mounting bracket (guide column top fixing plate )	TDL.20.10& UD.19.624	32	1	0	0	8
26.	Guide column seal set 'o' ring groove seal ring	85x6N-Din 3771-V400-32	96	1	0	0	12
27.	Pressure disc	2E-34-211	32	1	0	0	8
28.	Flange	UD.25.909A	16	1	0	0	4
29.	Flange	2E.2Z.11	8	1	0	0	2
30.	Sleeve	CU 20.730	8	1	0	0	2
31.	Sleeve	CU 20.731	8	1	0	0	2
32.	Sliding sleeve	CU 20.732	8	1	0	0	2
33.	Circlip	A 20Din471	16	1	0	0	8
34.	Spacer ring	UD.25.908	32	1	0	0	16
35.	Spacer ring	UD25.306	32	1	0	0	8
36.	Spacer ring	2E.22.12	16	1	0	0	8
37.	Spacer ring	UD.25.307	16	1	0	0	8
38.	Spacer ring	WN 121-65,1.85.Z 16-1	32	1	0	0	8
39.	Spacer ring	WN 121-65, 1.85 16-1	16	1	0	0	8
40.	Piston rod Assy small squeezing female	HZSA.K57.5.403	8	0.6	1	0	2
41.	Piston rod Assy small male squeezing	HZSI.K.57.5.403	8	0.6	1	0	2
42.	Piston for small Squeezing Cyl.	UD.35.303	16	0.6	1	0	2
43.	Bush for cover plate male small sq. cyl	UD19.285	8	0.6	1	0	2
44.	Piston rod for big Squeezing. Cyl	2E.36.452	8	0.6	0	0	2

**TAMPING EXPRESS**

**MECHANICAL**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>E. OTHERS</b>							
1.	Roller for trolley	UD257/406-3	4	2	0	0	8
2.	Axle for roller	UD257/406-1	4	2	0	0	2
3.	Circlip for roller	32Din 472	8	2	0	0	4
4.	Middle feeler trolley	UD257.405	2	2	0	0	1
5.	Fitting Key (For lining roller)	UD 150.1557	4	2	0	0	1
6.	Bush for lining roller	WN121.30H7.35J6.20.1	8	2	0	0	1
7.	Glassier bush for lining roller	MB 6560 DX.	8	1	0	0	4
8.	Roller for sat m/c support	UD80.4208	2	0.6	0	0	4
9.	Distance washer	UD50.4209	4	1	0	0	2
10.	Circlip	I 80 Din 472	4	1	0	0	2
11.	Measuring bogie wheel	EBUD237 II	3	2	0	2	4
12.	Sensing wheel	UD236.3001-7SC	1	2	0	0	2
13.	Brake shoe	WN146-730.K-3 WN146- 730.K-4	12	1	12	0	12
14.	Lever male yoke for lifting roller	UD313.1806	4	2	0	0	1
15.	Clamp roller	UD311.505	8	2	0	1	2
16.	Jacket for clamp roller	CU150.2403	8	2	0	0	4
17.	Bush for clamp roller	DL150.06	8	2	0	1	2
18.	Splined shaft in work drive reduction G/box	UD76.205	2	1	0	1	1
19.	Pump Drive G Box	WN80.7400	1	1	0	0	1
20.	Distribution Gear Box	UD64.1700/8	1	1	0	0	1
21.	Fitting Key for Vibration shaft motor side	2E.22.31	12	1	2	0	6
22.	GR 100, Gear ring	GR100	4	0.2	2	2	8
23.	Washer pressure Disc	2E.34.211	48	1	24	12	12
24.	Spline shaft in work drive reduction gear box	UD76.205	1	2	0	0	1

## TAMPING EXPRESS

## ELECTRICAL &amp; ELECTRONICS

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>A. SENSOR, TRANSDUCER. POTENTIOMETER AND LIGHT</b>							
1.	Proximity switch	EL-T1422K	24	2	2	0	4
2.	Proximity switch	EL-T1151a	12	2	1	0	2
3.	Potentiometer lining	EL-T595A	7	5	1	0	2
4.	Potentiometer leveling & satellite lateral	EL-T500HQA	3	5	0	0	1
5.	Bracket for lining Transducer	EL-T609.31LI	2	1	0	0	1
6.	Bracket for lining Transducer	EL-T609.31IRE	2	1	1	0	1
7.	Spring for depth Transducer	EL-T1041.12	6	2	0	0	3
8.	Spring for lining Transducer	EL-T609.29	2	2	0	0	1
9.	Teflon block for depth Transducer	EL-T750.06	4	2	0	0	12
10.	Limit switch	LL1/JSLS	18	2	2	0	8
11.	Limit switch	LLA	12	2	2	0	8
12.	Limit switch	LJW	12	2	2	0	8
13.	Proportional transducer	EL-T6089.00/4S/UG	2	6	0	0	1
14.	Transducer for depth control	EL-T1041.00A	4	6	1	0	1
15.	Transducer for satellite movement	EL-T1041.00UG	1	6	0	0	1
16.	Speed encoder on lining trolley	EL-T2078.00	1	6	0	0	1
17.	Speed encoder on front trolley	EL-T2105.00	1	6	0	0	1
18.	RPM meter	EL-T2313.00	2	2	0	0	1
19.	Head light	-	8	2	0	0	2
20.	working light	-	24	2	0	0	4
21.	Tail light	-	4	2	0	0	2
<b>B. RELAY AND IC</b>							
1.	Relay	EL-T7045/24	50	2	2	4	6
2.	Relay	EL-T1218 S	20	2	4	4	10
3.	Relay	EL-T7064/24	15	2	1	0	4
4.	Relay	EL-T7125NA	3	2	0	0	1
5.	Relay	03320022250	6	2	0	0	1
6.	IC	Op 04	-	6	0	0	2
7.	IC	Op11	-	6	0	0	2
8.	IC	Ref 02	-	6	0	0	1

**TAMPING EXPRESS**

**ELECTRICAL & ELECTRONICS**

S.No	Brief description	Part no.	Nos per M/C	Estt. Life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>C. PRINTED CIRCUIT BOARD</b>							
1.	PCB for Relay	EK.602E.00	1	6	0	0	0.2*
2.	Lining control	EK.2361.00	1	6	0	0	0.2*
3.	Output of lining control	EK.2140LV.00	1	6	0	0	0.2*
4.	Program control	EK.651P.00A	5	6	0	0	0.2*
5.	Program timer control	EK.657P.00	6	6	0	0	0.2*
6.	Watch dog	EK.658P.00	1	6	0	0	0.2*
7.	Program control	EK.653P.00	28	6	0	0	1
8.	Satellite control	EK.202V.00	1	6	0	0	0.2*
9.	Proportional squeezing	EK.140V.00	1	6	0	0	0.2*
10.	Speed control	EK.193V.00	1	6	0	0	0.2*
11.	Satellite follow up	EK.2324V.00	1	6	0	0	0.2*
12.	input/output data	EL-T5534	4	6	0	0	0.2*
13.	Front Input	EK-2343LV.00	1	6	0	0	0.2*
14.	Digital display in multiplex	EL-T1585-20V	1	6	0	0	0.2*
15.	Digital display	EL-T1473.10V	6	6	0	0	0.2*
16.	Lasser mixed control digital display	EL-T6472.05	1	6	0	0	0.2*
17.	ALC Computer	EL-T6431	1	6	0	0	0.2*
18.	Monitor for computer	EL-T6442.0A	1	6	0	0	0.2*
19.	Lasser control PCB	EK.4518.00.A	1	6	0	0	0.2*
20.	Programme PCB	EK.650P.00	1	6	0	0	0.2*
21.	Satellite compensation	EK526 MC-02a	2	6	0	0	0.2*
22.	Power supply	EK816SV.00	4	2	0	0	1
23.	Power supply	EK.813SV.00	1	2	0	0	0.2*
24.	Power supply	EK.812SV.00	1	5	0	0	0.2*
25.	Power supply	EK.805.SV.00A	1	5	0	0	0.2*
26.	Tamping unit Up/D control	EK.1AP7.00A	4	5	0	0	0.2*

\*Minimum quantity 1

**TAMPING EXPRESS**

**ELECTRICAL & ELECTRONICS**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
27.	Leveling control	EK.3069LV.00	2	6	0	0	0.2*
28.	Pendulum control	EK.2351LV.00	1	6	0	0	0.2*
29.	Sat auto position	EK.150V00B	1	6	0	0	0.2*
30.	Work drive	EK.2360LV.00	1	6	0	0	0.2*
31.	Multiplex PCB	EK.207V.00	2	6	0	0	0.2*
32.	Data transmission inputs	EK.429.LV.00D	12	6	0	0	0.2*
33.	Data transfer outputs	EK.430.LV.00	2	6	0	0	0.2*
34.	Driving control	EK.2349LV.00D	1	6	0	0	0.2*
35.	Lining & Leveling chord wire	2mm dia	80m	0.25	40m	40m	80m
36.	Transducer chord wire	1.35 mm	20 mts	0.25	20	20	40
37.	Transducer chord wire	0.8 mm	10 mts	0.5	10	10	0
38.	Fork for lining transducer	-	2	0.25	2	0	4
39.	Battery	12V/200AH	2	1	0	0	2
40.	Battery LUG	-	4	1	4	0	4
41.	Power pack	EL-T 7050/400	4	2	1	0	2

\*Minimum quantity 1

## TAMPING EXPRESS

## PNEUMATICS

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
<b>A. SEAL KIT</b>							
1.	Seal set	90204 DS	2	3	1	0	1
2.	Seal set	90356 DS	2	3	1	0	1
3.	Seal set	90235 DS	2	3	1	0	1
4.	Seal set	90233 DS	2	3	1	0	1
5.	Seal set	90187 DS	1	3	1	0	1
6.	Seal set	90247 DS	1	3	1	0	1
7.	Seal set	90419/DS	4	3	1	0	1
8.	Seal set	90344/DS	21	3	1	0	2
9.	Seal set	I 26684 DS	2	3	1	0	1
10.	Seal set	90226 DS	1	3	1	0	1
11.	Seal set	90364 DS	4	3	1	0	1
12.	Seal set	90188 DS	5	3	1	0	1
13.	Seal set	90184 DS	2	3	1	0	1
14.	Seal set	PN 1Z- 35 DS	9	3	1	0	2
15.	Seal set	PN 2Z-35 DS	7	3	1	0	1
16.	Seal set	PN 2Z-100 DS	4	3	1	0	1
17.	Seal set	PN 2Z – G.70/20/350	2	3	1	0	1
18.	Seal set	PN 2Z-70 DS	11	3	1	0	2
19.	Seal set	PN 2Z-50 DS	3	3	1	0	1
20.	Seal set	2E 34.150 BDS	8	3	1	0	2
21.	Seal Set for Brake Cyl.	12 Inch	2	3	1	0	1
<b>B. CYLINDER</b>							
1.	Pne. Cyl. work drive	PN 23KF	1	4	0	0	1
2.	Pne. Cyl. For T/U lock and unlock	PN 2Z.4.35/12/100	4	4	1	0	1
3.	Pne. Cyl. For sat gear lock	GLF 311.1053	2	2	0	0	1
4.	Pne. Cyl. For sat gear engage	PN.2Z.GKF 50/15/70	2	2	0	0	1
5.	Pne. Cyl. For lining bogie & satellite lock	PN 2Z 35/12/50	4	4	0	0	1
6.	Pne Cyl. For satellite lock	PN 2ZG 100/25/100	2	4	0	0	1
7.	Pne . Cyl. For ballast scraper	PN2Z-G35/12/150	2	4	0	0	1

**TAMPING EXPRESS**

**PNEUMATIC**

S.No	Brief description	Part no.	Nos per M/C	Estt. life cycle in year	Requirement per m/c		
					SITE	STMD	ZTMD
8.	Pne. Cyl.. For Rear/M .Bogie lift	PN2Z-G 100/25/300	6	4	0	0	1
9.	Pne Cyl. For rear bogie datum	PN2Z.G.70/20/350	2	4	1	0	1
10.	Pne Cyl. For measuring bogie datum	PN2Z.G.70/20/250	3	4	1	0	1
11.	Pne Cyl. For front bogie lift	PN2Z.G.70/20/400	2	4	0	0	1
12.	Pne Cyl. For lining bogie lift & Datum	PN2Z.G.70/20/300	4	4	1	0	1
<b>C. OTHERS</b>							
1.	Pne 5/2 way valve	90344	23	2	1	0	4
2.	Pne 5/3 way valve	90419	4	2	0	0	1
3.	Pne pressure gauge	90263	5	2	0	0	1
4.	Pne pressure reducing valve	90184	5	2	0	0	1
5.	Pne solenoid valve	90345	2	2	0	0	1
6.	Pne water separator	90181	1	2	0	0	1
7.	Pne Lubricator	90180	1	2	0	0	1
8.	Pne Pr. regulator	275200D2	1	2	0	0	1
9.	Pne safety valve	90204	2	2	0	0	1
10.	Pne pressure 4 bar switch	90450	1	1	0	0	1
11.	Over flow valve	90247	1	1	0	0	1
12.	Pneumatic reducing valve	90188	5	2	0	0	2
13.	Air dryer filter element	90187ES	1	.05	1	0	2