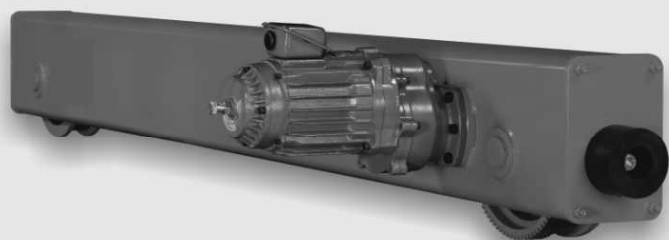




TOP RUNNING END TRUCK

OPERATION MANUAL & PARTS LIST



SERIES:

- ☐ TRT-12
- ☐ TRT-15
- ☐ TRT-20
- ☐ TRT-22
- ☐ TRT-25
- ☐ TRT-30
- ☐ TRT-40



CHENG DAY MACHINERY WORKS CO., LTD.

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OPERATING INSTRUCTIONS :

Since improper installation, operation and maintenance would result not only with insufficient performance and low efficiency, but also with danger or damage to the End Truck, read this manual carefully before installation and operation to insure safety and high performance.

(Warranty does not cover any trouble or damage cause by negligence of proper handling and care.)

1. Inspection after delivery :

End Truck has been completely adjusted and tested before shipping. Check the following items to make sure good meets your requirements or not : Also refer to parts breakdown list as page-04.

- a. Check the nameplate if it is the correct End Truck you have ordered.
- b. Check for damage.
- c. Check the accessories for shortage.
- d. Check motor voltage, frequency, and insulation grade.
- e. Wheelbase of Top Running End Truck.
- f. Wheel tread width of Top Running End Truck.
- g. Put on End Truck the top to ceiling, light or obstacle clearance enough or not.
- h. Check all the screws and end trucks for abnormal appearance.

2. Installation :

1. The runway rail shall be straight, parallel, level and at the same elevation, the distance, center to center and elevation shall be within the tolerances given as page-05.
2. Rail separation at joint should not exceed 1.5mm.
3. The top running end truck gear drive motors, suggest installed at the same side of walkway for easy maintain.

3. Correct & adequate handling of End Truck :

To extend the service life of machine and to keep safety as end trucks deal with heavy goods, pay attention to handling and operating the End Truck. The followings are general matter to be attended to. Possibly you should specify the notices in conformity with a place of use or should distribute pamphlets to call operators attention.

3-1 Safe handling and operation :

- a. Assign a man to maintenance.

Although the End Truck may be operated easily by any unskilled operator, a man should be

assigned to maintenance of the End Truck to keep its original performance as long as possible.

b. Inspection before start

Monthly and yearly inspections should be made to check each part of crane for whether or not it is in good order. The results of these inspections should be recorded and kept for three years. And daily inspection should be also made before start according to the table of daily inspections.

c. Do not exceed the rated load

Frequent experiences of overloading not only shorten End Truck life by wearing out some parts or damaging the motor, but also may cause a trouble could lead to accident or even injury. So, never be used for handling a load exceeding its rated capacity.

4. Maintenance and inspection :

Because heavy loads are handled by the End Truck, trouble may lead to a grave accident and that would interrupt operation and spoil efficiency. Regular checking and maintenance as described in the following should be carried out in order to keep the good condition of the End Truck for a long service life.

4-1. Daily inspection :

Dry-run once by push buttons daily before operation and check the following.

- a. Check such operation as horizontal movement for whether or not they are in good and smooth orders.
- b. Function of brake.
- c. Excessive noise.

4-2. Monthly inspection :

In the monthly inspection, it is recommended that the inspection period is decided with paying attention to safety, maintenance, and service frequency, wear and tear.

Inspection item		1	2	3	4	5	6
Traveling rail	a. Check the traveling scope for whether or not there is an obstacle in it.						
	b. Check rails for being bent or any abnormality.						
	c. Check stoppers for being deformed or coming off and also check mounting bolts for being loosened.						
	d. Check rail-mounting bolts for being loosened.						

Inspection item		1	2	3	4	5	6
Traveling rail	e. Check pads and plates laid under rails for being loosened.						
	f. Check rails for abnormal wearing.						
	g. Check rail joints for loosening, damage, and crack.						
Girder and saddle	h. Check mounting bolts of girder and saddle for loosening.						
	i. Check the mounting conditions of crossing rails on the main girder for whether or not they are in good conditions.						
	j. Check the mounting conditions of stoppers for crossing for whether or not they are in good order.						
	k. Check the lubrication conditions of engagement part of traveling wheel and gear and of wheel shaft.						
	l. Check the contact surface and flange of traveling wheels for abnormal wearing and cracks.						
	m. Check wheel shafts and key plates for deforming and loosening.						
	n. Check the mounting conditions of bumper and saddle.						
	o. Check the mounting bolts of traveling motor and reduction gears for loosening.						

4-3. Yearly inspection :

Yearly inspection and test should be performed on a fixed period according to the yearly inspection.

- Check the main parts of End Truck for abnormality.
- Check the insulations of conditions of electric parts.
- Check the saddle and traveling wheels for abnormality.
- When using a compact lift, check the guide rail for whether or not it is in good conditions.

5. Cause of trouble & treatment :

End Truck is a traveling machine which everyone can operate without any difficult.

a. If a trouble is occurred :

Immediately repair the trouble part. At this time, carefully look into the cause and eliminate it. Otherwise, the same kind of trouble may be occurred again.

b. When repairing :

As the trouble of End Truck may give bad influences upon your production schedule, every kind of spare parts and exchanging parts should be prepared at your workshop immediately to repair. When repairing, please carefully look into the running conditions before trouble and into the cause.

c. Trouble and remedy :

Trouble	Cause	Remedy
Twisting of end truck	1. Wheel tread or rail surface have paint, grease or oily. 2. Too short the wheelbase distance. 3. Girder's two drive motors brake torque uneven.	1.Clean the surface's paint, grease or oil. 2.Normally wheelbase distance is between $1/6 \sim 1/7$ of span if too short, change longer one's. 3.Adjust the motor brake torque.
Abnormal wearing of rail or wheel	1. Rail assembled not in good tolerance. 2. Twisting End Truck.	1.Double-check and readjust the rail straightness of parallel and level. 2.According to remedy actions in twisting of End Truck.
Gear produce big noise	1. Gear or bearing wear. 2. Register marks were not properly matched when gears were assembled.	1. Replace worn out gear or bearing. 2. Overhaul and rearrange gears correctly.
Travel wheel freewheels	1. Foreign matter on I-beam is decreasing friction. 2. Improper End Truck mounting.	1. Clean I-beam. Apply sand if required in particular case. 2. Check the center of gravity and correct the mount.

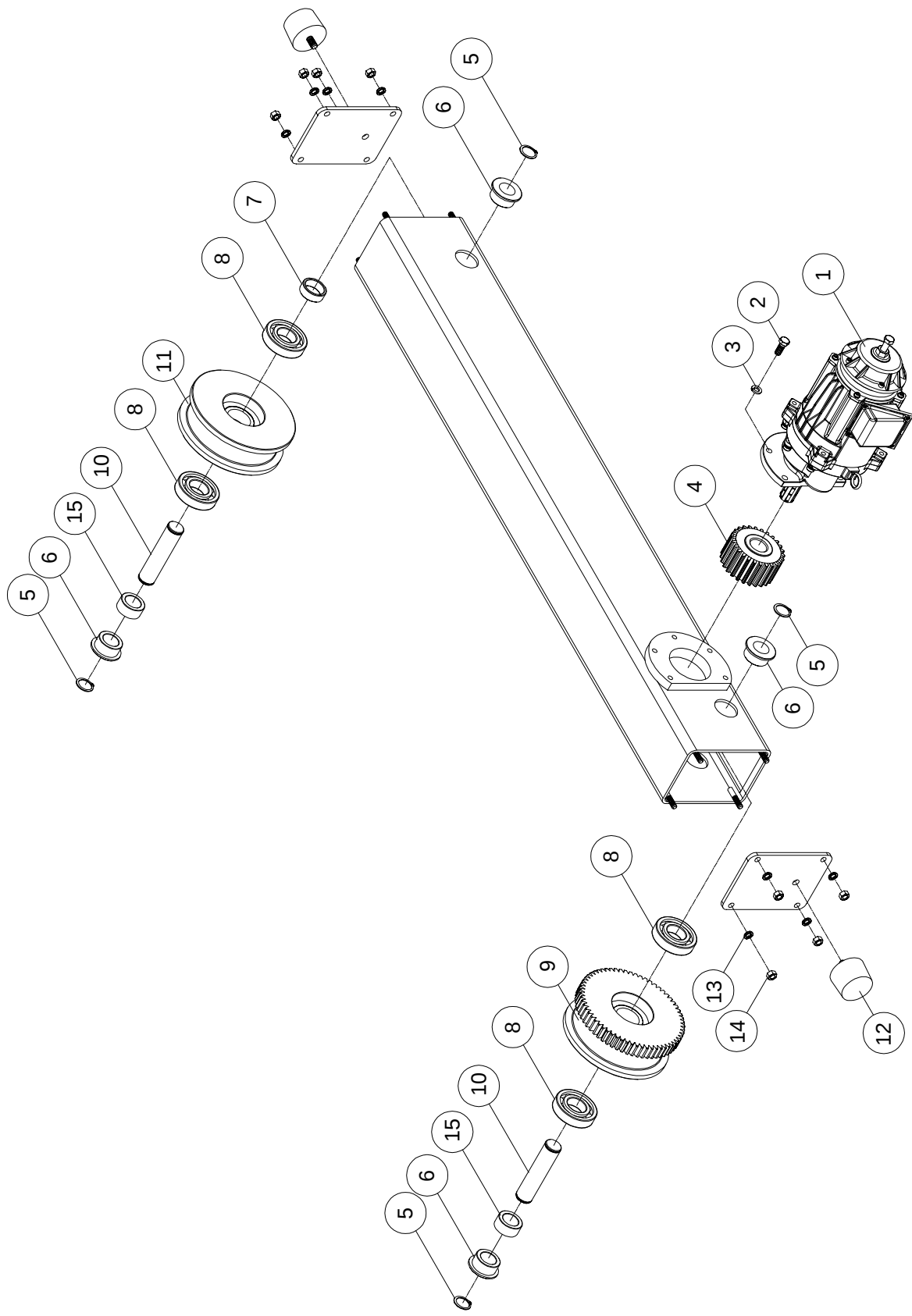
d. Inquiry for trouble :

When inquiring the manufacturer about a particular trouble, include the following information.

1. Purpose of use.
2. Total period used.
3. Frequency or period of time or daily usage.
4. Frequency of inching.
5. Details of trouble.
6. How trouble happened and symptoms noted before trouble happened.

6. Top Running End Trucks-Series Parts Breakdown List

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Top Running End Trucks Explosion (TRT Series)

Top Running End Trucks Part List

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Top Running End Trucks Part List

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D				
			TRT-15				
			9KG	12KG	15KG	22KG	30KG
1		Soft Start/Stop Reduction Motor <0.4kW~1.1kW>	2				
2	400046	Hex. Bolt <M10×1.5×25L>0.4~0.75kW	8				
	406815	Hex. Bolt <M12×1.75×30L>1.1kW	12				
3	400096	Spring Washer <M10>0.4~0.75kW	8				
	400097	Spring Washer <M12>1.1kW	12				
4	201755	Drive Pinion <M3.5×16T×49L>	2				
	201678	Drive Pinion <M3.5×20T×49L>					
	201650	Drive Pinion <M3.5×24T×49L>					
	201679	Drive Pinion <M3.5×23T×63L>					
5	400194	Retaining Ring <S-35>	8				
6	269587	Bushing <Ø60×Ø50×24.5L>	8				
7	269653	Spacer Sleeve B <Ø57×Ø36×15L>	2				
8	407817	Bearing <6307 Z>	8				
9	201043	Drive Wheel Ø150 <M3.5×49T Ø176×77L>	2				
	201002	Drive Wheel Ø150 <M3.5×49T Ø176×85L>		2			
	201015	Drive Wheel Ø150 <M3.5×49T Ø176×91L>			2		
	201044	Drive Wheel Ø150 <M3.5×49T Ø176×101L>				2	
	201045	Drive Wheel Ø150 <M3.5×49T Ø176×111L>					2
10	269557	Axle <Ø35×171L>	4				
11	201073	Idler Wheel Ø150 <Ø176×62L>	2				
	201022	Idler Wheel Ø150 <Ø176×70L>		2			
	201035	Idler Wheel Ø150 <Ø176×76L>			2		
	201074	Idler Wheel Ø150 <Ø176×86L>				2	
	201075	Idler Wheel Ø150 <Ø176×96L>					2
12	400313	Bumper	4				
13	400096	Spring Washer <M10>	16				
14	400082	Nut <M10×1.5>	16				
15	269570	Spacer Sleeve A <Ø54×Ø36×34L>	4				
	269571	Spacer Sleeve A <Ø54×Ø36×26L>		4			
	269572	Spacer Sleeve A <Ø54×Ø36×20L>			4		
	269573	Spacer Sleeve A <Ø54×Ø36×10L>				4	-

Top Running End Trucks Part List

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D				
			TRT-20				
			9KG	12KG	15KG	22KG	30KG
1		Soft Start/Stop Reduction Motor <0.4kW~1.1kW>	2				
2	400046	Hex. Bolt <M10 × 1.5 × 25L>0.4~0.75kW	8				
	406815	Hex. Bolt <M12 × 1.75 × 30L>1.1kW	12				
3	400096	Spring Washer <M10>0.4~0.75kW	8				
	400097	Spring Washer <M12>1.1kW	12				
4	201755	Drive Pinion <M3.5 × 16T × 49L>	2				
	201678	Drive Pinion <M3.5 × 20T × 49L>					
	201650	Drive Pinion <M3.5 × 24T × 49L>					
	201679	Drive Pinion <M3.5 × 23T × 63L>					
	201663	Drive Pinion <M3.5 × 20T × 63L>					
	201680	Drive Pinion <M3.5 × 26T × 63L>					
5	400195	Retaining Ring <S-40>	8				
6	269588	Bushing <Ø75 × Ø60 × 23.5L>	8				
7	269653	Spacer Sleeve B <Ø51 × Ø41 × 15L>	2				
8	407825	Bearing <6308 Z>	8				
9.	201042	Drive Wheel Ø195 <M3.5 × 63T Ø225 × 83L>	2				
	201003	Drive Wheel Ø195 <M3.5 × 63T Ø225 × 88L>		2			
	201004	Drive Wheel Ø195 <M3.5 × 63T Ø225 × 93L>			2		
	201016	Drive Wheel Ø195 <M3.5 × 63T Ø225 × 103L>				2	
	201020	Drive Wheel Ø195 <M3.5 × 63T Ø225 × 113L>					2
10	269558	Axle <Ø40 × 173L>	4				
11	201072	Idler Wheel Ø195 <Ø225 × 68L>	2				
	201023	Idler Wheel Ø195 <Ø225 × 73L>		2			
	201024	Idler Wheel Ø195 <Ø225 × 78L>			2		
	201036	Idler Wheel Ø195 <Ø225 × 88L>				2	
	201040	Idler Wheel Ø195 <Ø225 × 98L>					2
12	400313	Bumper	4				
13	400096	Spring Washer <M10>	16				
14	400082	Nut <M10 × 1.5>	16				
15	269653	Spacer Sleeve A <Ø51 × Ø41 × 30L>	4				
	269575	Spacer Sleeve A <Ø51 × Ø41 × 25L>		4			
	269648	Spacer Sleeve A <Ø51 × Ø41 × 20L>			4		
	269577	Spacer Sleeve A <Ø51 × Ø41 × 10L>				4	-

Top Running End Trucks Part List

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D				
			TRT-22				
			9KG	12KG	15KG	22KG	30KG
1		Soft Start/Stop Reduction Motor <0.4kW ~1.5kW>	2				
2	400046	Hex. Bolt <M10×1.5×25L>0.4~0.75kW	8				
	406815	Hex. Bolt <M12×1.75×30L>1.1~1.5kW	12				
3	400096	Spring Washer <M10>0.4~0.75kW	8				
	400097	Spring Washer <M12>1.1~1.5kW	12				
4	201755	Drive Pinion <M3.5×16T×49L>	2				
	201678	Drive Pinion <M3.5×20T×49L>					
	201650	Drive Pinion <M3.5×24T×49L>					
	201663	Drive Pinion <M3.5×20T×63L>					
	201679	Drive Pinion <M3.5×23T×63L>					
	201680	Drive Pinion <M3.5×26T×63L>					
5	400196	Retaining Ring <S-45>	8				
6	269589	Bushing <Ø85×Ø70×24L>	8				
7	269655	Spacer Sleeve B <Ø60×Ø46×15L>	2				
8	407826	Bearing <6309 Z>	8				
9	201017	Drive Wheel Ø215 <M3.5×69T Ø246×83L>	2				
	201018	Drive Wheel Ø215 <M3.5×69T Ø246×88L>		2			
	201005	Drive Wheel Ø215 <M3.5×69T Ø246×93L>			2		
	201010	Drive Wheel Ø215 <M3.5×69T Ø246×103L>				2	
	201011	Drive Wheel Ø215 <M3.5×69T Ø246×113L>					2
10	269559	Axle<Ø45×174L>	4				
11	201037	Idler Wheel Ø215 <Ø246×68L>	2				
	201038	Idler Wheel Ø215 <Ø246×73L>		2			
	201025	Idler Wheel Ø215 <Ø246×78L>			2		
	201030	Idler Wheel Ø215 <Ø246×88L>				2	
	201031	Idler Wheel Ø215 <Ø246×98L>					2
12	202582	Bumper	4				
13	400097	Spring Washer <M12>	16				
14	400084	Nut < M12×1.75>	16				
15	269578	Spacer Sleeve A <Ø60×Ø46×30L>	4				
	269579	Spacer Sleeve A <Ø60×Ø46×25L>		4			
	269580	Spacer Sleeve A <Ø60×Ø46×20L>			4		
	269581	Spacer Sleeve A <Ø60×Ø46×10L>				4	-

Top Running End Trucks Part List

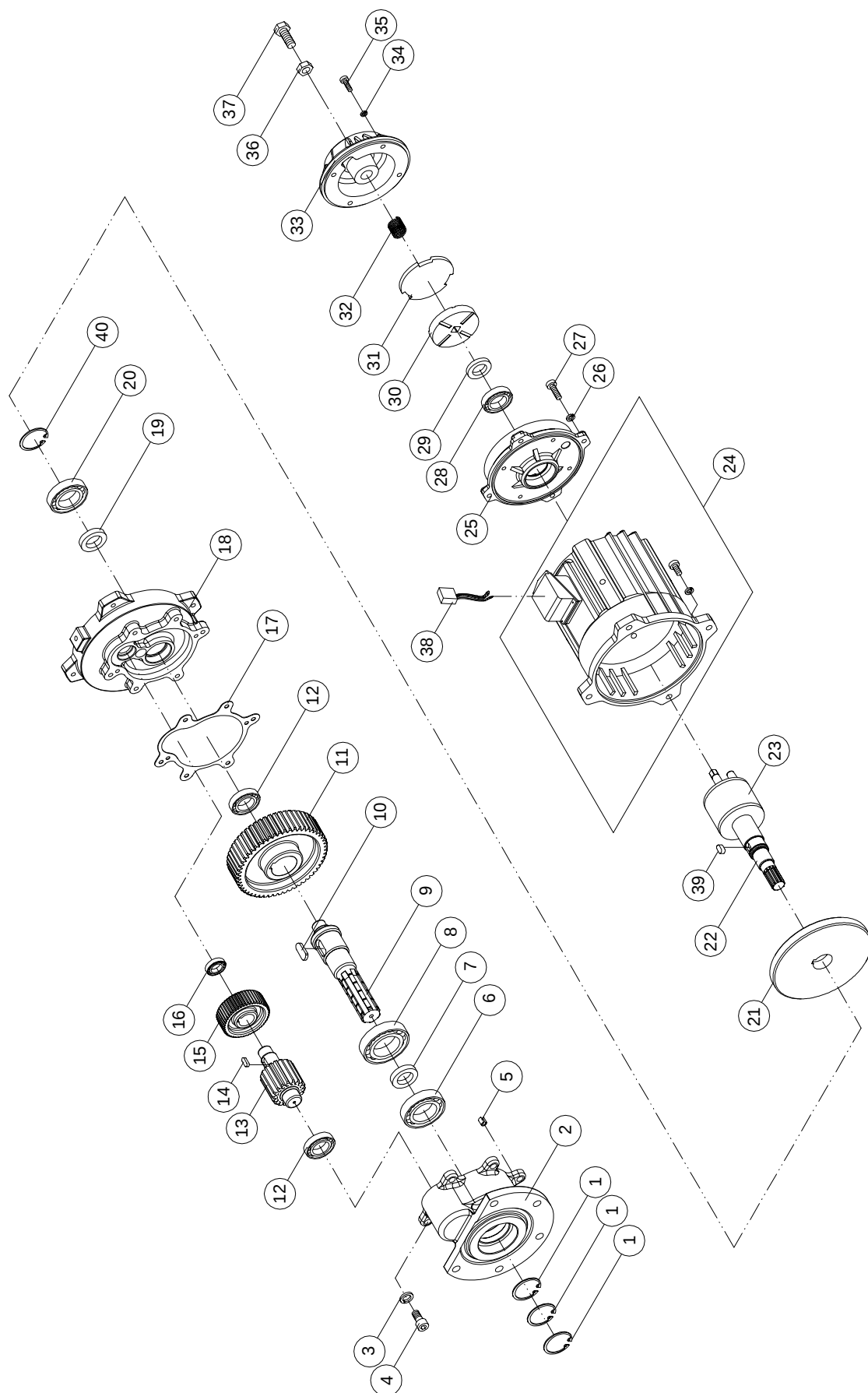
NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D			
			TRT-25			
			9KG	15KG	22KG	30KG
1		Soft Start/Stop Reduction Motor <0.75kW~2.2kW >	2			
2	400046	Hex. Bolt <M10×1.5×25L>0.75kW	8			
	406815	Hex. Bolt <M12×1.75×30L>1.1~1.5kW	12			
	406856	Hex. Bolt <M14×2.0×35L>2.2kW	12			
3	400096	Spring Washer <M10>0.75kW	8			
	400097	Spring Washer <M10>1.1~1.5kW	12			
	400651	Spring Washer <M14>2.2kW	12			
4	201673	Drive Pinion <M4.0×14T×49>	2			
	201750	Drive Pinion <M4.0×17T×49>				
	201652	Drive Pinion <M4.0×20T×49L>				
	201681	Drive Pinion <M4.0×18T×63L>				
	201659	Drive Pinion <M4.0×20T×63L>				
	201682	Drive Pinion <M4.0×22T×63L>				
	201683	Drive Pinion <M4.0×26T×63L>				
5	400197	Retaining Ring <S-50>	8			
6	269590	Bushing <Ø90×Ø80×27L>	8			
7	269567	Spacer Sleeve B <Ø60×Ø51×20L>	2	2	2	2
8	407827	Bearing <6310 Z>	8			
9	201199	Drive Wheel Ø250 <M4.0×69T Ø284×90L>	2			
	201221	Drive Wheel Ø250 <M4.0×69T Ø284×100L>		2		
	214751	Drive Wheel Ø250 <M4.0×69T Ø284×120L>			2	
	214753	Drive Wheel Ø250 <M4.0×69T Ø284×120L>				2
10	269560	Axle <Ø50×227L>	4			
11	201259	Idler Wheel Ø250 <Ø284×70L>	2			
	201246	Idler Wheel Ø250 <Ø284×80L>		2		
	214752	Idler Wheel Ø250 <Ø284×100L>			2	
	214754	Idler Wheel Ø250 <Ø284×100L>				2
12	202582	Bumper	4			
13	400097	Spring Washer <M12>	16			
14	400084	Nut < M12×1.75>	16			
15	269582	Spacer Sleeve A <Ø60×Ø51×68L>	4			
	269583	Spacer Sleeve A <Ø60×Ø51×58L>		4		
	269584	Spacer Sleeve A <Ø60×Ø51×38L>			4	4

Top Running End Trucks Part List

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Top Running End Trucks Part List

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Soft Start/Stop Reduction Motor Explosion

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D			
			0.4kW		0.75kW	
			1/8.5	1/15	1/8.5	1/15
1	400193	Retaining Ring <S-30>	3	3	3	3
2	268091	Gear Case Cover A	1	1D	1	1
	219992			1		
3	400095	Spring Washer <M8>	6	6	6	6
4	400013	Hex. Recess Bolt <M8 × 1.25 × 25L>	6	6	6	6
5	400224	Spring Pin <Ø8 × 10L>	2	2D	2	2
	407477	Spring Pin <Ø6 × 10L>		2		
6	400817	Bearing <6206 Z>	1	1	1	1
7	400177	Oil Seal <Ø35 × Ø55 × 11t>	1	1D	1	1
	400934	Oil Seal <Ø30 × Ø50 × 8t>		1		
8	407758	Bearing <6207>	1	1D	1	1
	407757	Bearing <6206>		1		
9	216777	Drum Shaft	1	1D	1	1
	201990			1		
10	405908	Key <12 × 8 × 30L>	1	1D	1	1
	400379	Key <10 × 10 × 24L>		1		
11	216780	Drum Gear (4th Gear) <M2 × 53T>	1		1	
	201991	Drum Gear (4th Gear) <M1.5 × 60T>		1		
	216776	Drum Gear (4th Gear) <M2 × 60T>		1D		1
12	407734	Bearing < 6204>	2	2D	2	2
	407732	Bearing < 6203>		2		
13	216779	Load Brake Gear Shaft (3rd Gear) <M2 × 19T>	1		1	
	201988	Load Brake Gear Shaft (3rd Gear) <M1.5 × 12T>		1		
	216775	Load Brake Gear Shaft (3rd Gear) <M2 × 12T>		1D		1
14	400963	Key <6 × 6 × 15L>	1	1D	1	1
	400958	Key <5 × 5 × 10L>		1		
15	216774	Load Brake Gear (2nd Gear) <M1.25 × 36T>	1	1D	1	1
	201987	Load Brake Gear (2nd Gear) <M1 × 36T>		1		
16	400125	Bearing <6003>	1	1D	1	1
	405630	Bearing <6001>		1		
17	402654	Gasket	1	1D	1	1
	402647			1		

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D			
			0.4kW		0.75kW	
			1/8.5	1/15	1/8.5	1/15
18	268178	Gear Case Cover B	1	1D	1	1
	219993			1		
19	400183	Oil Seal <Ø25×Ø40×8t>	1	1D	1	1
	400186	Oil Seal <Ø20×Ø35×8t>		1		
20	400815	Bearing <6205 2RS>	1	1D	1	1
	405577	Bearing <6204 2RS>		1		
21	107004	Flywheel	1	1D		
	107336			1		
	107012				1	1
22	106364	Motor Shaft	1			
	107335			1		
	106379		1D	1D		
	100528				1	1
	100544		1		1D	1D
23	106367	Motor Rotor	1			
	107334			1		
	100527		1D	1D		
	100529				1	1
	100543				1D	1D
24	A	Motor Stator Ass'y	1	1		
	B		1D	1D		
	C				1	1
	D				1D	1D
25	100587	Motor End Cover	1	1		
	100589		1D	1D	1	1
26	400094	Spring Washer <M6>	4	4	4	4
27	400008	Hex. Recess Bolt <M6×1.0×25L>	4D	4D	4	4
	400007	Hex. Recess Bolt <M6×1.0×20L>	4	4		
28	407702	Bearing <6303 2RS>		1D	1	1
	407701	Bearing <6202 2RS>	1	1		

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D			
			0.4kW		0.75kW	
			1/8.5	1/15	1/8.5	1/15
29	400181	Oil Seal <Ø17 × Ø28 × 6t>		1D	1	1
	400932	Oil Seal <Ø15 × Ø30 × 7t>	1	1		
30	100806	Brake Lining	1D	1D	1	1
	100805		1	1		
31	100808	Brake Plate	1D	1D	1	1
	100807		1	1		
32	400239	Brake Spring	1	1		
	400314		1D	1D	1	1
33	100509	Brake Drum Ass'y	1D	1D	1	1
	100508		1	1		
34	400094	Spring Washer <M6>	4	4	4	4
35	400008	Hex. Recess Bolt <M6 × 1.0 × 25L>	4	4	4	4
36	400085	Nut <M16 × 1.5>	1D	1D	1	1
	400084	Nut <M12 × 1.75>	1	1		
37	400468	Hex. Bolt <M16 × 1.5 × 50L>	1D	1D	1	1
	400464	Hex. Bolt <M12 × 1.75 × 35L>	1	1		
38	300152	Rectifier	1	1	1	1
39	405922	Key < 8 × 8 × 15L>	1	1		
	400974	Key < 8 × 8 × 20L>			1	1
40	400193	Retaining Ring <S-30>	1	1D	1	1
	400905	Retaining Ring <S-22>		1		

Soft Start/Stop Reduction Motor Parts List

NO.	PARTS CODE		DESCRIPTION	Ø - Hz- V	
24	A	133061	Motor Stator Ass'y <0.4kW>	3Ø 60Hz	220 / 380V
		133062			220 / 440V
		133064			230 / 460V
		133066		3Ø 50Hz	220 / 380V
		133067			415V
	B	132101		3Ø 60Hz	220V
		132111			380V
		132115			440V
		132112			230V
		132113			460V
		132114		3Ø 50Hz	220V
		132117			380V
		132116			415V
	C	133071	Motor Stator Ass'y <0.75kW>	3Ø 60Hz	220 / 380V
		133072			220 / 440V
		133078			230 / 460V
		133076		3Ø 50Hz	220 / 380V
		133077			415V
	D	106908		3Ø 60Hz	220V
		132118			380V
		132119			230V
		132120			460V
		132121		3Ø 50Hz	220V
		106915			380V
		132122			415V

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D			
			1.1kW		1.5kW	
			1/12	1/20	1/12	1/20
1	400195	Retaining Ring <S-40>	3	3	3	3
2	219994	Gear Case Cover A	1	1	1	1
3	400095	Spring Washer <M8>	6	6	6	6
4	400017	Hex. Recess Bolt <M8 × 1.25 × 35L>	6	6	6	6
5	400224	Spring Pin < Ø8 × 10L>	2	2	2	2
6	407857	Bearing < 6208 ZZ>	1	1	1	1
7	400938	Oil Seal < Ø40 × Ø62 × 12t>	1	1	1	1
8	407759	Bearing < 6208 >	1	1	1	1
9	216778	Drum Shaft (4th Gear)	1	1	1	1
10	405942	Key <12 × 8 × 35L>	1	1	1	1
11	216785	Drum Gear (4th Gear)<M2.5 × 54T>	1		1	
	216783	Drum Gear (4th Gear)<M2.5 × 60T>		1		1
12	407807	Bearing < 6205 ZZ>	2	2	2	2
13	216784	Load Brake Gear Shaft (3rd Gear) <M2.5 × 18T>	1		1	
	216782	Load Brake Gear Shaft (3rd Gear) <M2.5 × 12T>		1		1
14	405939	Key <8 × 7 × 25L>	1	1	1	1
15	216781	Load Brake Gear (2nd Gear) <M1.5 × 48T>	1	1	1	1
16	407843	Bearing < 6204 ZZ>	1	1	1	1
17	402656	Gasket	1	1	1	1
18	219995	Gear Case B	1	1	1	1
19	400934	Oil Seal < Ø30 × Ø50 × 8t>	1	1	1	1
20	400151	Bearing < 6306 2RU>	1	1	1	1
21	100812	Flywheel	1	1	1	1
22	100827	Motor Shaft	1	1		
	100823		1D	1D	1D	1D
	100825				1	1
23	100826	Motor Rotor	1	1		
	100819		1D	1D		
	100824				1	1
	100818				1D	1D

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D			
			1.1kW		1.5kW	
			1/12	1/20	1/12	1/20
24	A	Motor Stator Ass'y	1	1		
	B		1D	1D		
	C				1	1
	D				1D	1D
25	100589	Motor End Cover	1	1		
	100593		1D	1D	1	1
26	400094	Spring Washer <M6>	4	4	4	4
27	400008	Hex. Recess Bolt <M6 × 1.0 × 25L>	4	4	4	4
28	407702	Bearing <6303 2RS>	1	1		
	407703	Bearing <6305 2RS>	1D	1D	1	1
29	400181	Oil Seal <Ø17 × Ø28 × 6t>	1	1		
	400943	Oil Seal <Ø25 × Ø35 × 5t>	1D	1D	1	1
30	100806	Brake Lining	1	1		
	100756		1D	1D	1	1
31	100808	Brake Plate	1	1		
	100459		1D	1D	1	1
32	400314	Spring	1	1	1	1
33	100509	Brake Drum Ass'y	1	1		
	100505		1D	1D	1	1
34	400095	Spring Washer<M8>	4D	4D	4	4
	400096	Spring Washer<M6>	4	4		
35	400014	Hex. Recess Bolt<M8 × 1.25 × 30L>	4D	4D	4	4
	400008	Hex. Recess Bolt<M6 × 1.0 × 25L>	4	4		
36	400085	Nut<M16>	1	1	1	1
37	400468	Hex. Bolt <M16 × 1.5 × 50L>	1	1	1	1
38	300152	Rectifier	1	1	1	1
39	405963	Key <10 × 8 × 20L>	1	1	1	1

Soft Start/Stop Reduction Motor Parts List

NO.	PARTS CODE		DESCRIPTION	Ø - Hz- V	
24	A	132123	Motor Stator Ass'y <1.1kW>	3Ø 60Hz	220 / 380V
		132124			220 / 440V
		132125			230 / 460V
		132126		3Ø 50Hz	220 / 380V
		132127			415V
	B	106909		3Ø 60Hz	220V
		132128			380V
		132134			440V
		132129			230V
		132130			460V
		132131		3Ø 50Hz	220V
		132132			380V
		132133			415V
	C	133121	Motor Stator Ass'y <1.5kW>	3Ø 60Hz	220 / 380V
		133122			220 / 440V
		133134			230 / 460V
		133126		3Ø 50Hz	220 / 380V
		133127			415V
	D	132104		3Ø 60Hz	220V
		133135			380V
		107037			230V
		107038			460V
		132136		3Ø 50Hz	220V
		108628			380V
		132137			415V

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D					
			2.2kW		3.0kW		3.75kW	
			1/12	1/20	1/12	1/20	1/12	1/20
1	400195	Retaining Ring <S-40>	3	3	3	3	3	3
2	230308	Gear Case Cover A	1	1	1	1	1	1
3	400096	Spring Washer <M10>	6	6	6	6	6	6
4	400018	Hex. Recess Bolt <M10 × 1.5 × 40L>	6	6	6	6	6	6
5	400224	Spring Pin <Ø8 × 10L>	2	2	2	2	2	2
6	407819	Bearing <6308 ZZ>	1	1	1	1	1	1
7	400938	Oil Seal <Ø40 × Ø62 × 12t>	1	1	1	1	1	1
8	407750	Bearing <6308>	1	1	1	1	1	1
9	216791	Drum Shaft (4th Gear)	1	1	1	1	1	1
10	400991	Key <16 × 10 × 35L>	1	1	1	1	1	1
11	216790	Drum Gear (4th Gear) <M3 × 54T>	1		1		1	
	216788	Drum Gear (4th Gear) <M3 × 60T>		1		1		1
12	407861	Bearing < 6206 ZZ>	2	2	2	2	2	2
13	216789	Load Brake Gear Shaft (3 rd Gear)<M3 × 18T>	1		1		1	
	216787	Load Brake Gear Shaft (3 rd Gear)<M3 × 12T>		1		1		1
14	405941	Key <10 × 8 × 30L>	1	1	1	1	1	1
15	216786	Load Brake Gear (2 nd Gear)<M1.5 × 56T>	1	1	1	1	1	1
16	407807	Bearing <6205 ZZ>	1	1	1	1	1	1
17	402619	Gasket	1	1	1	1	1	1
18	230309	Gear Case B	1	1	1	1	1	1
19	400187	Oil Seal <Ø35 × Ø50 × 8t>	1	1	1	1	1	1
20	400801	Bearing <6307 2RU>	1	1	1	1	1	1
21	100526	Flywheel	1	1	1	1	1	1
22	100565	Motor Shaft	1	1	1	1		
	100567		1D	1D	1D	1D		
	100575						1	1
	100577						1D	1D
23	100564	Motor Rotor	1	1				
	100566		1D	1D				
	100568				1	1		
	100569				1D	1D		

Soft Start/Stop Reduction Motor Parts List

(D)= DUAL SPEED

NO.	PARTS CODE	DESCRIPTION	Q'TY REQ'D					
			2.2kW		3.0kW		3.75kW	
			1/12	1/20	1/12	1/20	1/12	1/20
23	100573	Motor Rotor					1	1
	100576						1D	1D
24	A	Motor Stator Ass'y	1	1				
	B		1D	1D				
	C				1	1		
	D				1D	1D		
	E						1	1
	F						1D	1D
25	100595	Motor End Cover	1	1	1	1		
	100596						1	1
26	400096	Spring Washer <M10>	4	4	4	4	4	4
27	400431	Hex. Recess Bolt <M10×1.5×30L>	4	4	4	4	4	4
28	407703	Bearing <6305 2RS>	1	1	1	1	1	1
29	400943	Oil Seal <Ø25×Ø35×5t>	1	1	1	1	1	1
30	100794	Brake Lining	1	1	1	1	1	1
31	100461	Brake Plate	1	1	1	1	1	1
32	400328	Brake Spring	1	1	1	1	1	1
33	100510	Brake Drum Ass'y	1	1	1	1	1	1
34	400096	Spring Washer <M10>	4	4	4	4	4	4
35	400450	Hex. Recess Bolt <M10×1.5×35L>	4	4	4	4	4	4
36	400640	Nut <M20×2.5>	1	1	1	1	1	1
37	400469	Hex. Bolt <M20×2.5×60L>	1	1	1	1	1	1
38	300152	Rectifier	1	1	1	1	1	1

Soft Start/Stop Reduction Motor Parts List

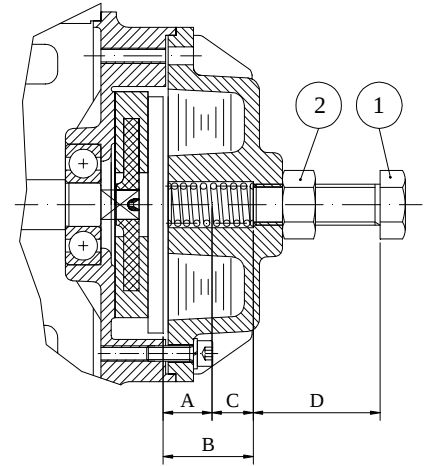
NO.	PARTS CODE		DESCRIPTION	Ø - Hz- V	
24	A	133101	Motor Stator Ass'y <2.2kW>	3Ø 60Hz	220 / 380V
		133102			220 / 440V
		133105			230 / 460V
		133106		3Ø 50Hz	220 / 380V
		133107			415V
	B	132105		3Ø 60Hz	220V
		132138			380V
		132141			440V
		132139			230V
		132140			460V
		132142		3Ø 50Hz	220V
		132143			380V
		132144			415V
	C	133111	Motor Stator Ass'y <3.0kW>	3Ø 60Hz	220 / 380V
		133112			220 / 440V
		133114			230 / 460V
		133116		3Ø 50Hz	220 / 380V
		133117			415V
	D	132106		3Ø 60Hz	220V
		107023			380V
		132146			440V
		107020			230V
		107021			460V
		107022		3Ø 50Hz	220V
		105144			380V
		132145			415V
	E	133141	Motor Stator Ass'y <3.75kW>	3Ø 60Hz	220 / 380V
		133142			220 / 440V
		133143			230 / 460V
		133146		3Ø 50Hz	220 / 380V
		133147			415V
	F	132107		3Ø 60Hz	220V
		107026			380V
		132149			440V
		107027			230V
		107028			460V
		107029		3Ø 50Hz	220V
		132147			380V
		132148			415V

7. Brake Adjustment

1. Loosen a nut ② , then tighten a bolt ① until spring Is Fully compressed.

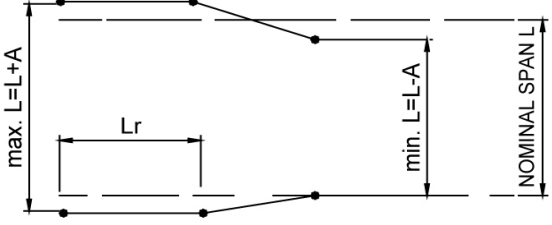
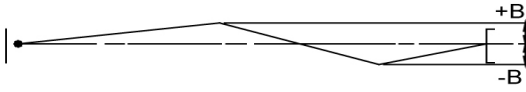
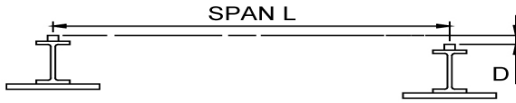
1. Turn bolt counterclockwise. The number of turning Shown in the table below based on motor.

2. Tighten a nut ②.



Spring Motor	Free Length (mm)	Fully Press (A) (mm)	Working High(B) (mm)	Adjust(C) (mm)	Bolt Length (D) (mm)	Number of turns (N)	Adjustment Bolt
0.4kW	25	11.2	13.8	2.6	35	1.5	M12×1.75
0.4DkW	35	18.2	25.7	7.5	50	5	M16×1.5
0.75kW	35	18.2	25.7	7.5	50	5	M16×1.5
1.1kW	35	18.2	21.2	3	50	2	M16×1.5
1.5kW	35	18.2	21.2	3	50	2	M16×1.5
2.2kW	30	17.5	26.3	8.8	60	3.5	M20×2.5
3.0kW	30	17.5	23.8	6.3	60	2.5	M20×2.5
3.75kW	30	17.5	23.8	6.3	60	2.5	M20×2.5

8. Tolerance table:

ITEM	FIGURE	OVERALL TOLERANCE	MAXIMUM RATE OF CHANGE
CRANE SPAN (L) MEASURED AT CRANE WHEEL CONTACT SURFACE		$L \leq 15M$ $A=4.5mm$ $L > 15M \leq 30M$ $A=6.0mm$ $L > 30M$ $A=9.0mm$	6M IN 6mm
STRAIGHTNESS (B)		$B=9.0mm$	6M IN 6mm
ELEVATION (C)		$C=9.0mm$	6M IN 6mm
TOP RUNNING TRANSVERSE RAIL TO RAIL ELEVATION (D)		$L \leq 15M$ $D=4.5mm$ $L > 15M \leq 30M$ $D=6.0mm$ $L > 30M$ $D=9.0mm$	6M IN 6mm
TRANSVERSE GIRDER TO GIRDER ELEVATION UNDER RUNNING (D)			

In closing this manual, may we remind you that a person should be assigned to be in charge of the End Truck and regular inspections should be observed without fail so as to prevent troubles which could lead to grave hazard.