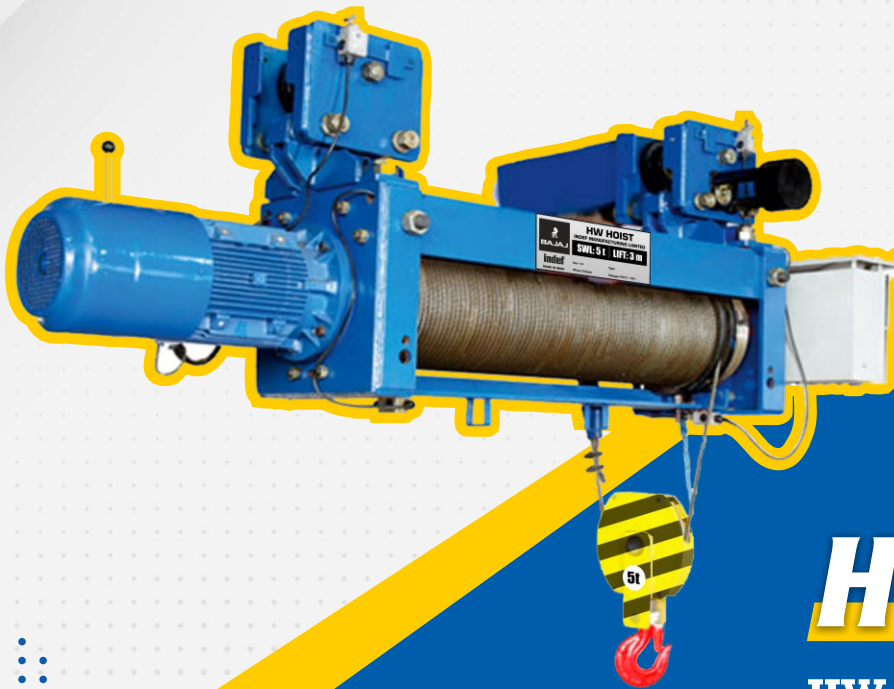


OPERATING & MAINTENANCE INSTRUCTION MANUAL WITH SPARE PART LIST

(Guarantee Will be Void if not used as Instructed in this Manual)



HW-2

HW 2 - 3t 2 Fall, 6t 4 Fall

HW 2L - 1.5t 2 Fall, 3t 4 Fall

HW 2 - 3t 4/2 Fall

WIRE ROPE HOIST

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Important Information and Warnings

Terms and Summary

This manual provides important information for personnel involved with the installation, operation and maintenance of this product. Although you may be familiar with this or similar equipment, it is strongly recommended that you read this manual before installing, operating or maintaining the product.

Danger, Warning, Caution and Notice - Throughout this manual there are steps and procedures that can present hazardous situations. The following signal words are used to identify the degree or level of hazard seriousness.

DANGER :- Danger indicates an imminently hazardous situation which, if not avoided, **will** result in **death or serious injury**, and property damage

WARNING :- Warning indicates an imminently hazardous situation which, if not avoided, **could** result in **death or serious injury**, and property damage.

CAUTION :- Caution indicates a potentially hazardous situation which, if not avoided, **may** result in **minor or moderate injury** or property damage.

NOTICE :- Notice is used to notify people of installation, operation, or maintenance information which is important but not directly hazard-related.

CAUTION

These general instructions deal with the normal installation, operation, and maintenance situations encountered with the equipment described herein. The instructions should not be interpreted to anticipate every possible contingency or to anticipate the final system, crane, or configuration that uses this equipment. For systems using the equipment covered by this manual, the supplier and owner of the system are responsible for the system's compliance with all applicable industry standards, and with all applicable federal, state and local regulations/codes.

This manual includes instructions and parts information for a variety of trolley and hoist types. Therefore, all instructions and parts information may not apply to any one type or size of specific trolley or hoist. Disregard those portions of the instructions that do not apply.

Record your hoist and trolley's Product Code and Serial Number on the front cover of this manual for identification and future reference to avoid referring to the wrong manual for information or instructions on installation, operation, inspection, maintenance, or parts.

Use only Indef authorized replacement parts in the service and maintenance of this trolley.

WARNING

Equipment described herein is not designed for and **MUST NOT** be used for lifting, supporting, or transporting people, or for lifting or supporting loads over people.

Equipment described herein should not be used in conjunction with other equipment unless necessary and/or required safety devices applicable to the system, crane, or application are installed by the system designer, system manufacturer, crane manufacturer, installer, or user.

Modifications to upgrade, rerate, or otherwise alter this equipment shall be authorized only by the original equipment manufacturer.

Failure to read and comply with any one of the limitations noted herein can result in serious bodily injury or death, and/or property damage.

The angle between rope and plane perpendicular to the axis of the drum shall not exceed 5° (As per IS 3938 6.1.1.2).

Hoists shall not be operated unless the hoist unit is centered over the load, *except when authorized by a qualified person who has determined that the components of the hoist and its mounting will not be overstressed. Should it be necessary to pick a load that is not centered under the hoist unit, precautions should be taken to control the swing of the load when it is picked clear of its support.*

DANGER

HAZARDOUS VOLTAGES ARE PRESENT IN THE CONTROL BOX, OTHER ELECTRICAL COMPONENTS, AND CONNECTIONS BETWEEN THESE COMPONENTS.

Before performing ANY mechanical or electrical maintenance on the equipment, de-energize (disconnect) the main switch supplying power to the equipment; and lock and tag the main switch in the de-energized position.

Only trained and competent personnel should inspect and repair this equipment.



Information

This symbol indicates tips and useful information.

Warning Tag and Labels

The warning tag illustrated below in Figure is supplied with each hoist and trolley shipped from the factory. If the tag is not attached to the pendant cord for your hoist/trolley, order a tag from your dealer and fix it. Read and obey all warnings attached to this Hoist/Trolley. Tag is not shown in actual size.

WARNING

IMPROPER use of powered Hoist could result in death Or serious injury.

To avoid these hazards:

- ▶ ALWAYS read owner's manual and safety instructions.
- ▶ Do NOT lift more than rated load.
- ▶ Do NOT lift or transport loads over or near people.
- ▶ Do NOT use a hoist for lifting supporting or transporting people.
- ▶ Do NOT operate unless load is centered under hoist.
- ▶ Do NOT support a load on the tip of the hook
- ▶ Do NOT use a hoist if the hook latch is missing or broken.
- ▶ Do NOT remove or obscure the warning labels.
- ▶ Do NOT run the load chain or wire rope over a sharp edge.
- ▶ Do NOT use the load chain or wire rope as a sling.
- ▶ Do NOT operate beyond the travel limits of the hook or load block.
- ▶ Do NOT use a twisted, kinked, damaged, or stretched load chain or wire rope.
- ▶ Do NOT operate a wire rope hoist with a wire rope that is not properly seated in its groove.

CONDITIONS WHERE WARRANTY WILL BE VOID / NOT APPLICABLE

HHL does not provide reimbursement for maintenance and visit charges for items such as: brake adjustments, lubrication oil changes, or any other item or activity deemed solely by HHL to be maintenance related.

HHL will not be liable for damage or malfunction and consequently warranty resulting from:

- a. Lack of maintenance.
- b. Use of improper or insufficient lubricants
- c. Supply voltage high/low or insufficient.
- d. Environmental conditions (including but not limited to extreme temperatures, humidity and corrosive environments).
- e. Outdoor applications where HHL is not intimated and recommendations for protection from the elements are not followed.
- f. Misuse or abuse (including but not limited to overloading, shock loading, or side / angular lifting / pulling).
- g. Use of parts other than genuine HHL replacement parts.
- h. Improper repairs or maintenance.
- i. Modifications not approved by HHL.
- j. Improper handling of product after it leaves HHL factory.
- k. Fire, accidents, or acts of God or nature, including but not limited to floods, hurricanes and lightning.
- l. Any piece of equipment not supplied by Hercules Hoists Limited, is installed on products.
- m. Malfunction or damage caused by items added to Hercules Hoists Limited products, including but not limited to controls and control components.
- n. Relocation of hoist / equipment without proper installation and commissioning by HHL / ABP.
- o. Misalignment in existing / installed Crane rail and hoist monorail, improper existing power feed track.

Operational cause Note

Overhead crane & hoists are typically designed to lift objects vertically. The specific guide lines are mentioned in respective IS standard.

Sometimes, however, operators attempt to make a side pull or cross pull or use the hoist horizontally to lift an object that is not directly underneath it.

This can cause damage to hoist.

Probable failures/Risks:

- ▶ Side pulling can cause damage to various hoist parts – Load Chain Wheel, Chain Guide Roller, Chain Stripper, Hook and hook latch assembly, in electric Chain Hoists the load chain guide and chain stripper and in Wire Rope Hoists the rope drum, rope guide and the rope itself.
 - ▶ Additionally, it may place the operator and personnel working near the crane at risk for injury.
 - ▶ One of the main risks for an operator is load swing, which can damage the load or cause injury to the operator. In extreme cases, there might be a load drop.
 - ▶ A rope that has been worn by side pulls may also snap and lead to a loss in control of the load.
 - ▶ Cross pull or side pull may affect on monorail beam flanges, the beam web may deflect / distort, and beam flanges may wear causing uneven sides of beam.
- Preventing side pulls could lead to increases in both the safety and the lifetime of the components, customer should be educated at every interaction opportunity.
 - The unfortunate prevalence of cross pulling-related accidents and maintenance needs repeated replacement of parts like chain guider roller, chain stripper, hook latch assembly, rope guide related parts i.e set of rope guide ring, spring and rope guide joining bracket.

Operational Note:

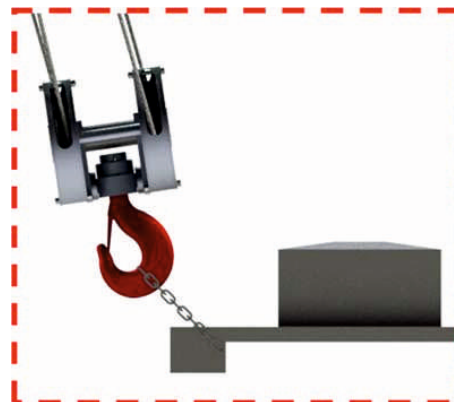
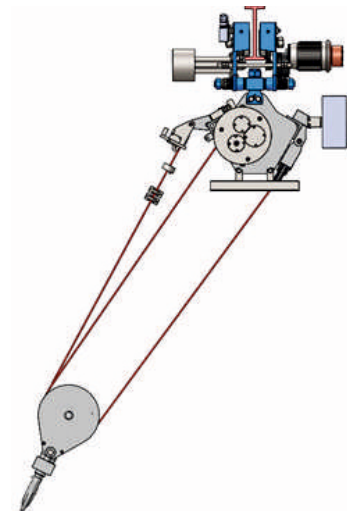
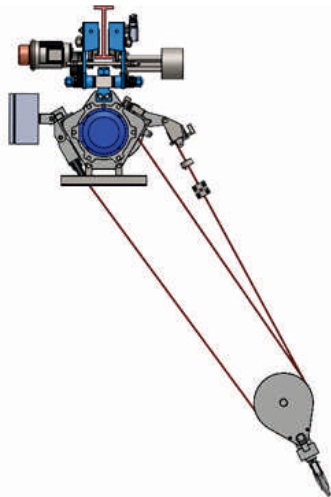
- Please be aware that as a safety feature, this rope guide ring is designed to snap in the event of the wrong usage of the rope hoist. As per IS 3938-2005 the angular lifting / pulling of dead weight is not allowed in wire rope hoist. If any user puts the rope hoist to such an application, the rope guide ring will not allow to perform the lifting. The rope guide ring will break if the fleet angle is more than 5 Deg. including angle between point of lift and dead weight kept on floor.
- The specific instruction in Do's and Don'ts is given hoist operating and maintenance manual. Those guidelines are based on past experience and safety standards of operation.
- The hoist in tandem application cannot be used because the load lifting speed and effort are not balanced in manual hoisting operation. Most important is load required to be centered under hoist and load line of trolley centre and hook seating diameter centre should match. The hoists are designed for lifting load vertically. This phenomenon is applicable for all hoisting equipment's.

If hoist not used in proper way as mentioned above the warranty claims will not be accepted.
Indicative list of parts not covered under warranty.

Indicative list of parts not covered under warranty:

1	Hoist Motor Winding
2	Wire Rope
3	Safety Latch assembly
4	Brake Disc – Hoist and Trolley
5	Brake Coil – Hoist and Trolley
6	Hoist and Cross Travel Limit Switch
7	Trolley Motor Winding
8	Pendent control
9	Relay and Fuse
10	Control Transformer
11	Rope Guide
12	Special Control Switchgears

This can cause damage to hoist



COMMISSIONING CHECK LIST (WRH)

1. **Limit Switch:** Check all limit switches like over hoisting, over lowering, right & left & emergency Check the direction of motions w.r.t. Pendant buttons change phase sequence if required. This is very important safety requirement.
2. **Sufficiency of lift:** Set the bottom Limit switch so that hook touches the floor & no further loosening of wire rope takes place. Set the top limit switch so that safe headroom is maintained between hoist body and lower block. Ensure that rope is not rubbing between L.B.
3. **Angular Loading:** Check that equipment is not subjected to angular loading. Ensure that equipment is installed at proper place proper hook approaches are used to prevent this.
4. **Counter weight assembly:** Ensure that counter weights are correctly assembled for balancing of trolley bolts are properly locked & tightened.
5. **Noise level:** Observed that there is no abnormal noise in Hoist and travel motion.
6. **Greasing:** Apply grease to the rope for full length & rope guide & ensure free movement
7. **Name plate data:** Note hoist, motor nos & record them on Instruction manual for future use.
8. **Abnormal factors:** Excessive dust, temp, humidity, chemical fumes, leakages etc. Report them.
9. **Brake setting:** Ensure that brake operation is not sluggish & load is not slipping.
This is to certify that equipment is commissioned on and found satisfactory for use.

ERECTION & COMMISSIONING

Hoist has been designed for ease of erection. After removing side and top frames of wooden box you will find Hoist is bolted on the wooden bottom frames like pallet which can be lifted by fork lift truck.

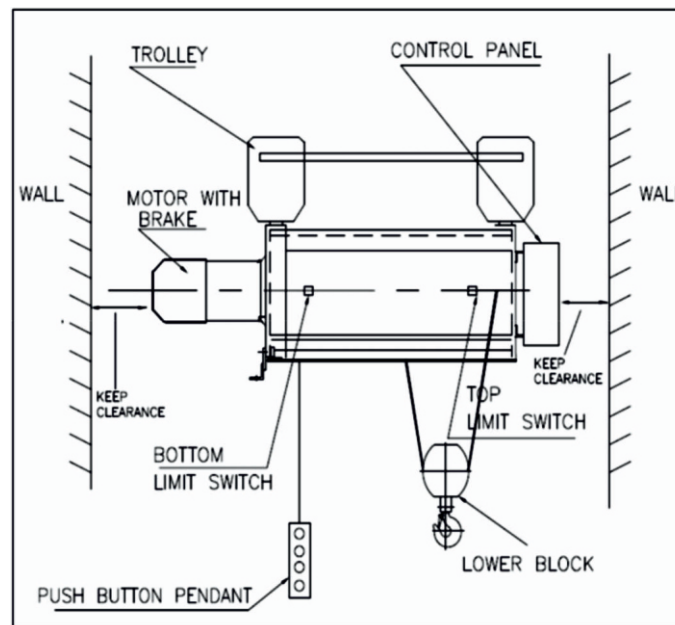
Before erection of hoist adjust flange width of trolley to suit beam size providing equal numbers of washers on both sides between trolley side plate and suspension of hoist.

Check the distance between the wheel flanges. It should be 3 to 8mm more than the width of runway beam flange.

After adjusting the flange width check gear box, oil level, greasing of wire rope, trolley gears and pinions and then install the hoist on beam and remove wooden frame and packing girders.

Contact the hoist to 415 v, 3 phase power supply with 2.5mm sq. copper cable.

(CAUTION – DO NOT FORGET TO CONNECT EARTHING)



Now, cautiously operate Hoisting push button (see fig. 1) and observe Lower Block movement. In case. It is coming down then interchange phase sequence.

Recheck the directions cautiously and operation of Top And Bottom Limit Switches. Adjust limit switches If required.

When everything is set observe movement from top to bottom of lower block without load. Then lift the load by few Cms. And observe that Brake is holding the load.

Now operate cross travel motion and fix proper end stoppers / LS actuation / Buffer on beam so that proper clearance is maintained with motor, Gear box and wall.

TROUBLE SHOOTING

TROUBLE

CAUSE

HOW TO SET RIGHT

Hoist does not start No contractor operates.	Phase sequence wrong or one phase failed or limit switch operated.	Change to phases of main supply. Check with lamp. Check movement of limit switch levers.
Hoist does not start Contractors are working.	Brake not opening or motor defect or overloaded.	Remove brake cover and see movement of brake plate. Check without load
Operation interrupted. Chattering of contractors.	Loose connection or wire broken, current collector contact poor.	Tighten all connections. Check wires. Check sitting of shoe & free movement of arm
Push button gets stuck.	Push button sections shifted	Tighten the housing screw.
Braking time too long.	Brake liner is worn.	Adjust brake as per Instructions.
Brake & motor overheats.	Brake not properly opening incorrect air-gap.	Check brake air gap (see the instructions).

Oil for Gear Box		PARTHAN EP 320 (SI-17-C-562)
Oil quantity without creep speed		For hoists with class 'F' insulation; which are exposed to higher temp. or for hoist with 3000 RPM motors use oil PARTHAN EP 320 or equivalent.
HW 2	1.0 litre	

SAFE OPERATING PROCEDURES FOR OVERHEAD CRANES / HOISTS & SLINGS

DO Not • Lift more than rated capacity of Hoist. • Operate Hoist with twisted, kinked or damaged hoist-rope • Operate if rope is not seated in drum or sheave grooves. • Lift unless load slings are centered on hook. • Lift people or travel with people on load. • Make side pulls which misalign rope with hoist. • Operate unless all travel limit devices are functioning. • Lower below point where less than two full wraps of rope remain on hoist drum. • Use upper limit switch to stop hoist limit which is emergency stop only. • Leave operating position with suspended load on hook. • Permit load to contact obstacles. • Exceed recommended duty cycle. • Use Hoist Rope or chain as a sling or as an earthing for welding. • Divert his attention while operating. • Remove or obliterate warning label • Exceed fuse rating.	CAUTIONS WHENEVER LEAVING OR PARKING ANY HOIST OR CRANE • Raise all hook to-but not through-limit switches. • Place all controls in off position • Place main power switch in off position. • Make visual check for any dangerous condition & report any defect immediately. • Report to supervisor when Hoist is not in operation. • Take up slacks, then start load slowly. • Keep chains free from twists, knots & knits. • Lift from Center of hooks. Avoid lifting from points. • Distribute load evenly on all legs. • Inspect chain regularly. Remember elongation of links is a sign of overloading. • A sharp edge can cut the lift of your sling. Use blocking padding or a corners saddle. • Remove knots large enough for the load. • Don't jerk loads- jerking may double the stress in your sling. Lift load gradually NO JERKS  HANG SLINGS UP UNCOIL LOOPS STOP KNIKS PROTECT SLINGS ON SHARP CORNERS	DO • Test hoist & travel limit devices at a start of each shift. • Position the Hoist so that lifting appliance is directly over the load. • Take load gently & avoid shock loads. • Ensure the travel path is clear before traveling. • Sound warning single when approaching personnel. • Balancer the loading sling before lifting more than few inches. • Test hoist brakes whenever lifting load approaching rated load capacity. Lift load a few inches & test hoist brakes before making complete lift. • Make visual checks on equipment at reasonable intervals & report the defects immediately. • Use controller to "stop" hoist not limit switch. • Watch for proper rigging on load before lifting. • Know standard hand signals. • Check Lubricants. • Check for proper phasing. • Always anchor outdoor hoists when not attended. • Keep load block safely overhead when not in use.
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WIRE ROPE AND ROPE GUIDE RING ASSEMBLY

If wire rope shows broken wires on its length more than 10% or considerable plastic wear, severe corrosion, Kinks, loose strands, then it should be replaced with original rope as suggested by supplier.

For removing and assembling rope guide ring nut (halves), distance beam (A) need to be positioned as shown in Fig. 8 before starting the rope unwinding/winding on the drum by removing one bolt (c) from each side and

Loosening other bolts.

ASSEMBLY PROCEDURE:

- Step1: Clamp wire rope end with 2 Nos. clamping washer (B) firmly on drum. Then wind at least 10 turns with grease on the rope and drum, pulling the rope by hand, so that rope is not loose on the drum.
- Step2: Keep the rope in tension by pulling or clamping and at the same time assemble rope guide Ring (part Z) on drum from bottom of the drum so that thread of part Z will come in adjacent groove (i.e. 11th groove).
- Step3: While putting the spring over rope, to ensure rope is not getting loose, lock the part Z by Wedge (E) as shown in Fig. 8.
- Step4: After ensuring above, assemble spring (D) on top of wound rope through groove in rope guide Ring and entangle its end (use 2 Nos. of cord or wires for pulling springs in opposite direction For assembly pf spring ends). Close spring ends properly by using plier so that ends do not Entangle with rope.
- Step5: Remove wedge and push the part (Z) of rope guide at top so that part (Y) of rope guide can also Be assembled from bottom side of the drum.
- Step6: Then assemble rope guide ring joining bolt (F) & (G) as shown in Fig. 8. (Ensure that bolt Length is not more, causing pressing of rope).
- Step7: Assemble distance beam (A) in position as shown in Fig. 9.
- Step8: Now wind the entire rope length such that 2 grooves are empty at the end of drum and Proper Head room is maintained after Top Limit Switch (L) is actuated. (fix the roll spindle & lock roll spindle actuate).
- Step9: Top Limit Switch (L) While hoisting and Bottom Limit Switch (L) is actuated.
- Step10: Now set the limit Switch (L) & (M) by moving them axially to restrict upper and lower limits If required by application.

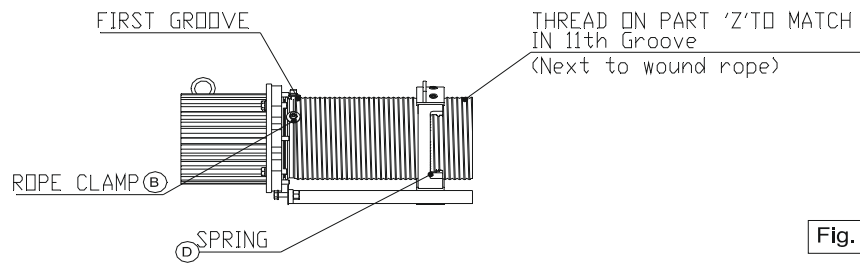


Fig. 7

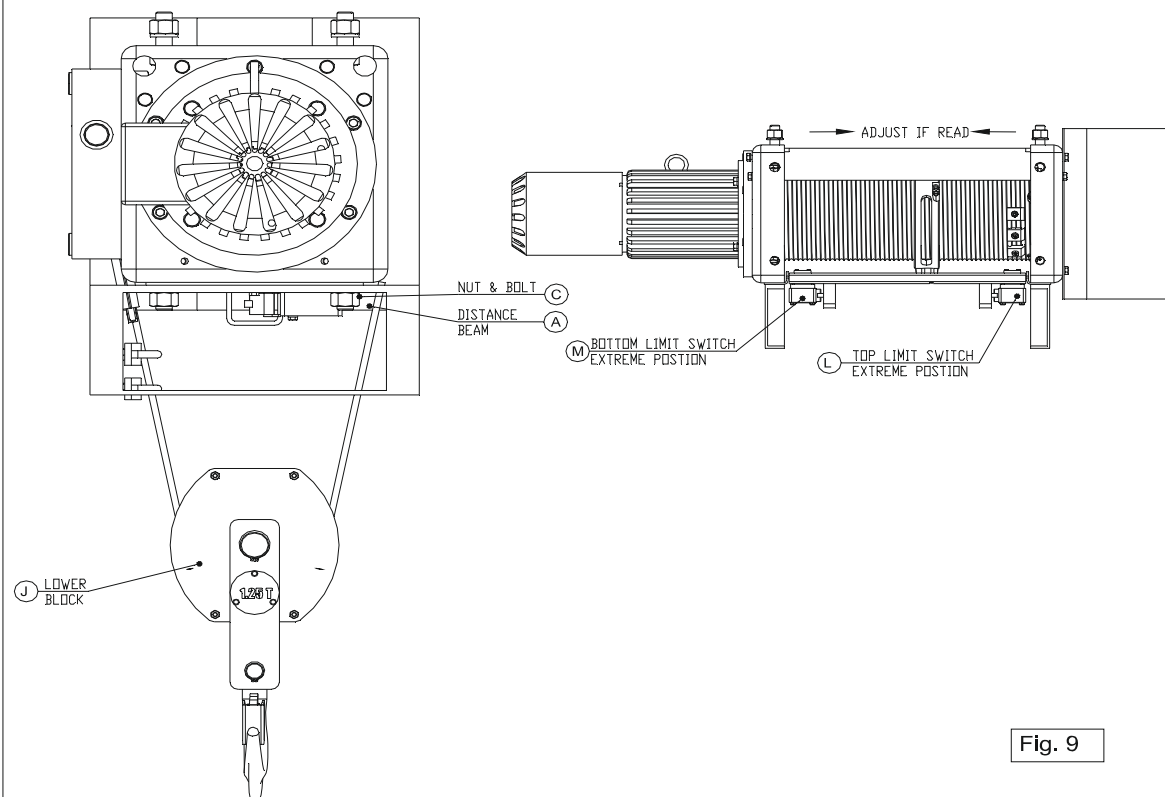
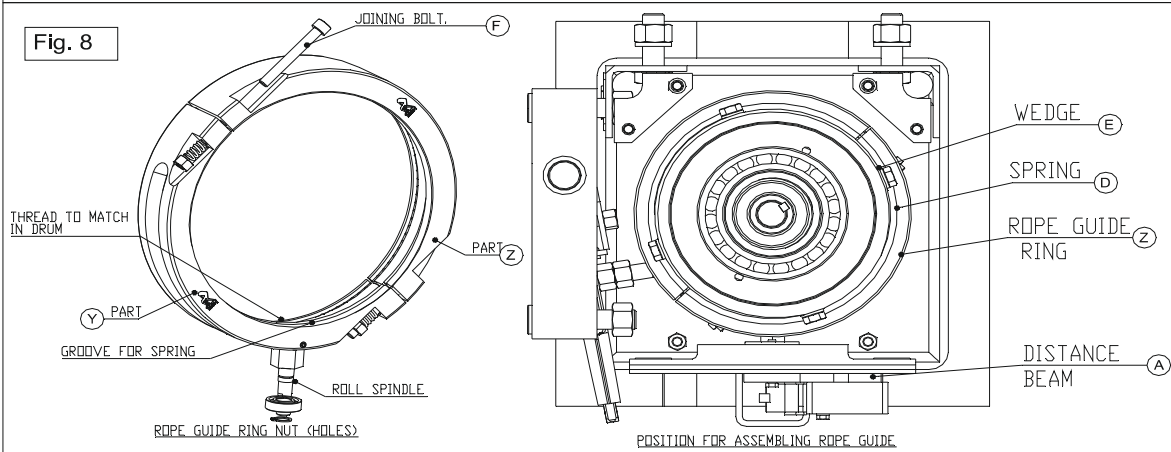


Fig. 9

RECOMMENDED INSPECTION AND MAINTENANCE SCHEDULE

TIME INTERVAL	INSPECTION OR MAINTENANCE
Daily or start of each shift (visual)	■ Check operation of all functional mechanisms including limit switch operation, brakes and control. Report any defect found to properly authorized supervisor & notify the next operator of the defects at the change of the shift. ■ Visually inspect each component of the crane normally used in lifting the load, travelling or lowering the load. This inspection should include, but not be limited to, the items as follow: a. Wire Rope: Inspect for kinks or broken wire or evidence of improper spooling on drum & replace seriously damaged ropes immediately. b. A functional operating mechanisms such as sheaves, drums & brakes. c. Visually inspect entire crane for the sings of damage which might cause unsafe immediately. d. All limit switches of hoisting, Lowering, Cross Travel or swivelling. e. Inspect hooks, lower blocks, and all load bearing components for damage.
1 - 3 Months	■ The result of monthly inspection should be carefully recorded in the suitable log book, in full details, & should be dated signed by the inspector. ■ The purpose of the monthly inspection is to find & correct any wear, damage, or defect, which should affect the safe operation of the machine. This should include the items listed under the daily inspection as well as the following: Inspect the Electrical Controls. a. Check hoist gearbox oil level. b. Inspect the entire crane or hoist for structural damages. c. Inspect for cracked or worn sheave, drums, wheels, rails. d. Inspect for worn, cracked or distorted components such as pins, bearing, shaft & gears. e. The current collector system should be thoroughly checked & maintained. The contact tips & case of DSL systems should be checked & cleaned regularly.

RECOMMENDED INSPECTION AND MAINTENANCE SCHEDULE

TIME INTERVAL	INSPECTION OR MAINTENANCE
	f. Inspect for excessive wear on brake system parts, linings, pawls, & ratchets. Be sure pawls & ratchets operate correctly, are in good condition & are properly lubricated. Check the conditions of the fire extinguisher, if furnished. g. Inspect all motors, controls, & conductor systems which might in any way affect the safety of the machine. h. Entire crane or hoist structure, especially surrounding the drive should be thoroughly cleaned.
6 Months	■ Lower Block ■ Rope Guide ■ Lubricate hoist wire rope, Lower block, outboard bearing cartridge at grease fitting.
ANNUALLY	At least annually, the crane hook should be inspected for check by magnetic particle or other suitable crack testing inspection method, to determine that no cracks are discernible. A 15% increase in the throat measurement of hook or a 10% bend in the hook shall be considered cause for replacement.

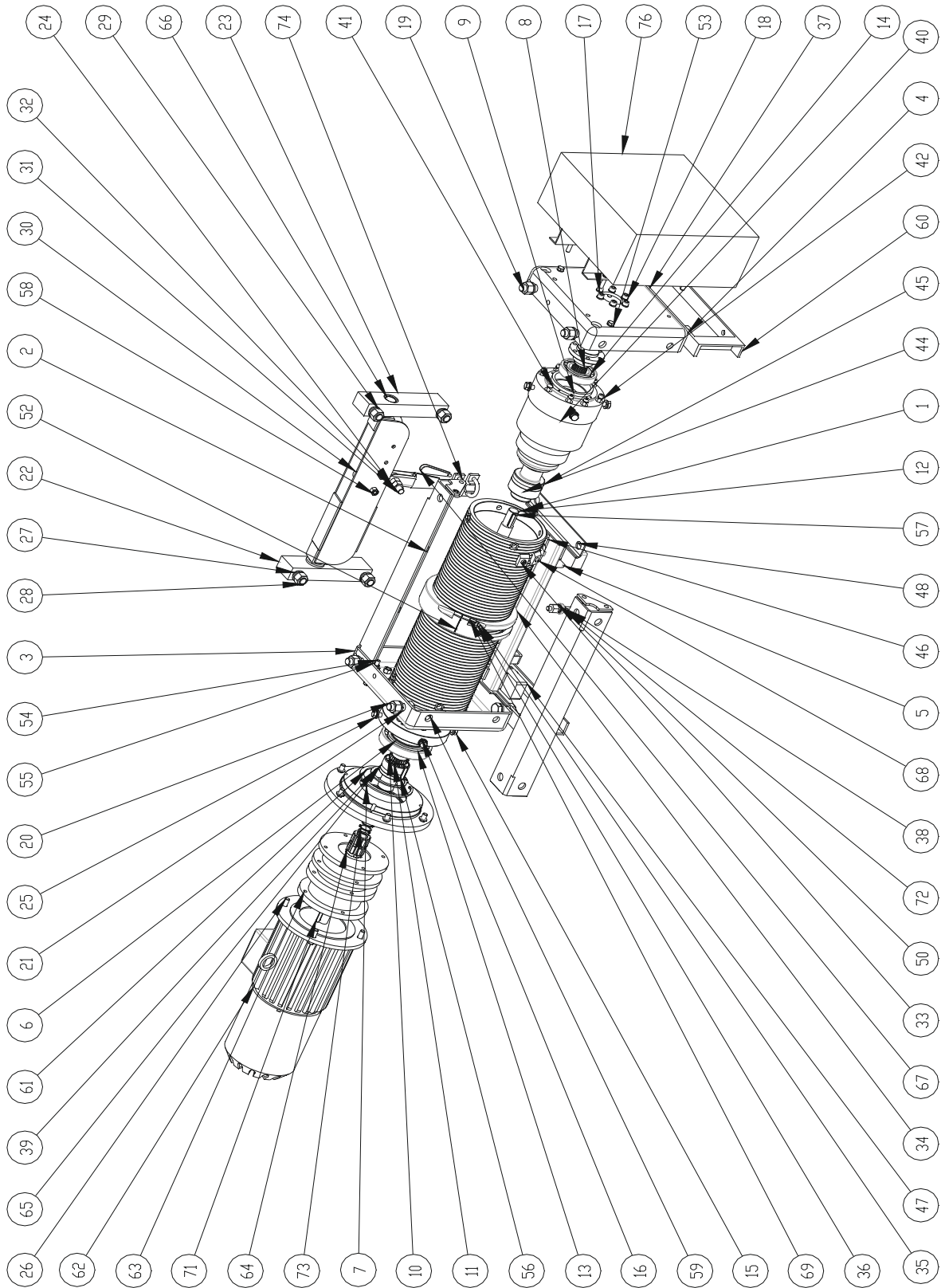
The above visual & operational checks will take only a few minutes at the beginning of each shift, & are absolutely necessary to ensure safe operation.

*** Complete inspection, disassembly and maintenance required. It is recommended that your HERCULES HOISTS LIMITED repair Station be contacted for this service.**

INSPECTION WHEN REQUIRED:

The third type of inspection concerns individual incidents which apply sudden & unusual stress, or possible damage due to any cause. All such incidents which might affect the safe operation of crane should be followed by an immediate & thorough inspection of the crane, using all necessary non-destructive test methods. All repairs found necessary should be made before the machine is returned to service.

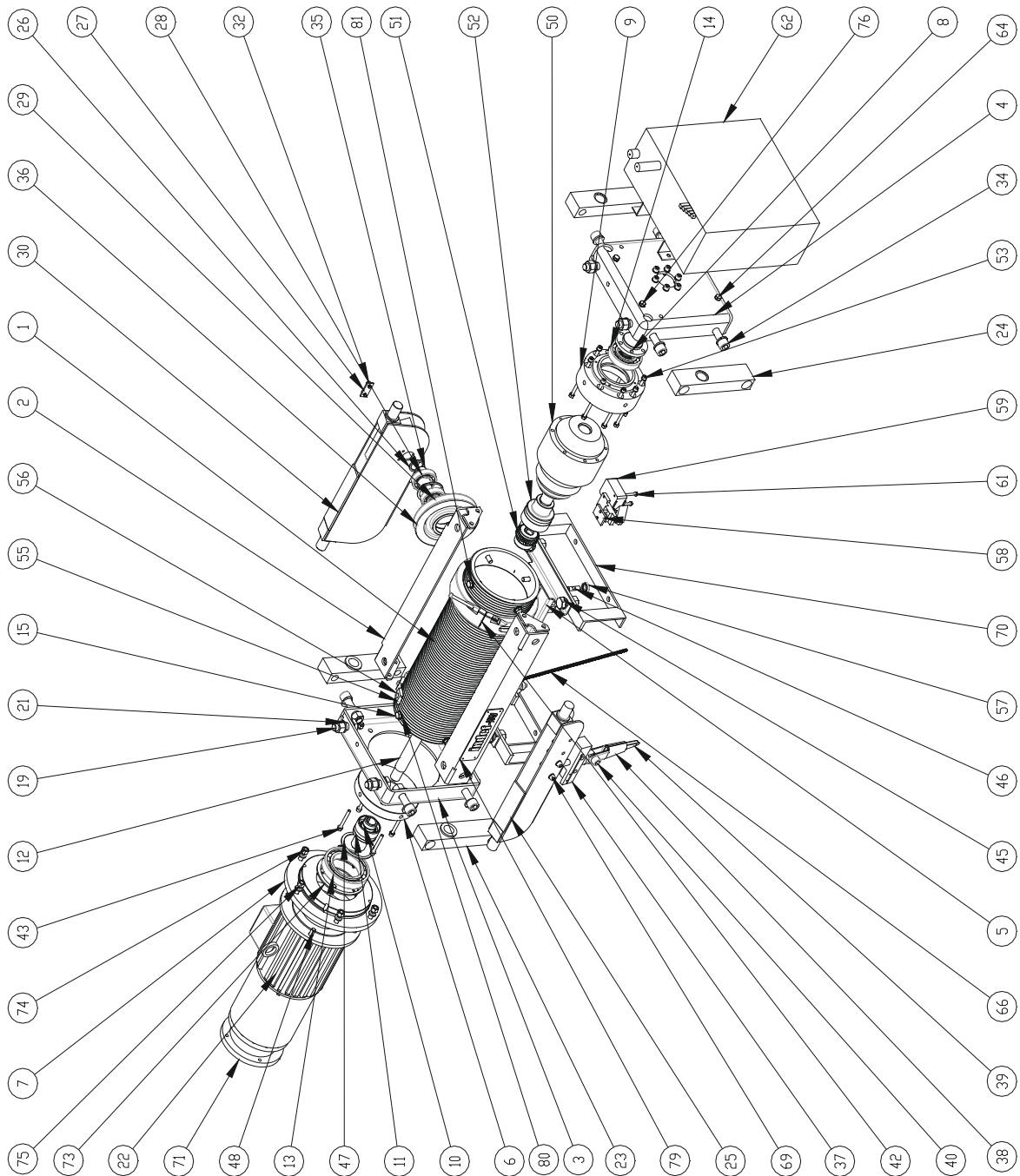
MAINS SPARE PART LIST – 2 FALL



PART NO.	PART CODE (HW 2)	PART CODE (HW 2L)	DESCRIPTION	QTY.
1	UBAC873100B	UBLC873100AB	ROPE DRUM (LIFT 12 MTRS)	1
	UBDC873100B	UBBC873100AB	ROPE DRUM (LIFT 20 MTRS)	
	UBFC873100B	UBEC873100AB	ROPE DRUM (LIFT 35 MTRS)	
	UBIC873100B	UBGC873100AB	ROPE DRUM (LIFT 50 MTRS)	
2	UBAA133700A	UBLA133700A	CONNECTING BEAM (LIFT 12 MTRS)	2
	UBDA133700A	UBBA133700A	CONNECTING BEAM (LIFT 20 MTRS)	
	UBFA133700A	UBEA133700A	CONNECTING BEAM (LIFT 35 MTRS)	
	UBIA133700A	UBGA133700A	CONNECTING BEAM (LIFT 50 MTRS)	
3	UBCC133500A	UBCC133500A	SHOULDER MOTOR SIDE ROPE ANCHORING	1
4	UBCC133600A	UBCC133600A	SHOULDER, MOTOR SIDE ROPE ANCHORING	1
5	UBAA133800A	UBLA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 12 MTRS)	1
	UBDA133800A	UBBA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 20 MTRS)	
	UBFA133800A	UBEA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 35 MTRS)	
	UBIA133800A	UBGA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 50 MTRS)	
6	UBCA013110B	UBCA013110B	DRUM HUB	1
7	UBCA013900B	UBCA053900AA	MOTOR FLANGE	1
8	UACA813130C	UACA813130C	DRUM SUPPORTING FLANGE	1
9	UBCA013120B	UBCA013120B	DRUM HUB (GEAR BOX MOUNTING)	1
10	UACA823392C	UACA823392C	HALF GEAR COUPLING HUB	1
11	UBCA823391B	UACA823391A	HALF GEAR COUPLING HUB (MOTOR SIDE)	1
12	UBAA823155B	UBLA823150AB	INTERMEDIATE AXLE (LIFT 12 MTRS)	1
	UBDA823155B	UBBA823150AB	INTERMEDIATE AXLE (LIFT 20 MTRS)	
	UBFA133155B	UBEA823150AB	INTERMEDIATE AXLE (LIFT 35 MTRS)	
	UBIA133150AB	UBGA823150AB	INTERMEDIATE AXLE (LIFT 50 MTRS)	
13	BBR06018RS00	BBR06018RS00	BALL BEARING 6018 -2RS/ZZ	1
14	BBR06211RS00	BBR06211RS00	BALL BEARING 6211 -2RS/ZZ	1
15	HBHM12035088	HBHM12035088	HT HEX BOLT M 12*35	8
16	RBCT833912A	RBCT833912A	WASHER	8
17	ASFM10020000	ASFM10020000	ALLEN SCREW M10*20	6
18	FLSPWB100000	FLSPWB100000	FLAT SPRING WASHER B10	6
19	HBHM20060088	HBHM20060088	HT HEX BOLT M20 * 60	4
20	HNMM020000YZ	HNMM020000YZ	HEX NUT M20	4
21	FLSPWB200000	FLSPWB200000	FLAT SPRING WASHER B 20	4
22	UBCA003240A	UBCA003240A	BRACKET ASSLY LH	1
23	UBCA003024A	UBCA003024A	BRACKET ASSLY RH	1
24	UBCA133761A	UACA133761A	ROPE SUSPENSION	1
25	FLSPWB120000	FLSPWB120000	FLAT SPRING WASHER B12	19
26	HBHM12030088	HBHM12030088	HT HEX BOLT M.12 * 30	4
27	FLSPWB200000	FLSPWB200000	FLAT SPRING WASHER B 20	8
28	ASHM20080000	ASHM20080000	ALLEN SCREW M20*80	4
29	HNMM020000YZ	HNMM020000YZ	HEX NUT M20	8
30	UBCA003780A	UACA003780A	OVER LOAD LIMITING DEVICE	1
31	ASHM16075000	ASHM16075000	ALLEN SCREW (SHCS)M16*75	1
32	HNMM016000YZ	HNMM016000YZ	HEX NUT M16	2
33	UBCA863170A	UACA863170A	ROPE CLAMP	3
34	UBCA683020A	U4CA013200A	RH ROPE GUIDE RING NUT	1
35	ASHM08070000	ASHM08080000	ALLEN SCREW (SHCS) M 8*80	2
36	NNMM080000SZ	NNMM080000SZ	NYLOCK NUT M8	2

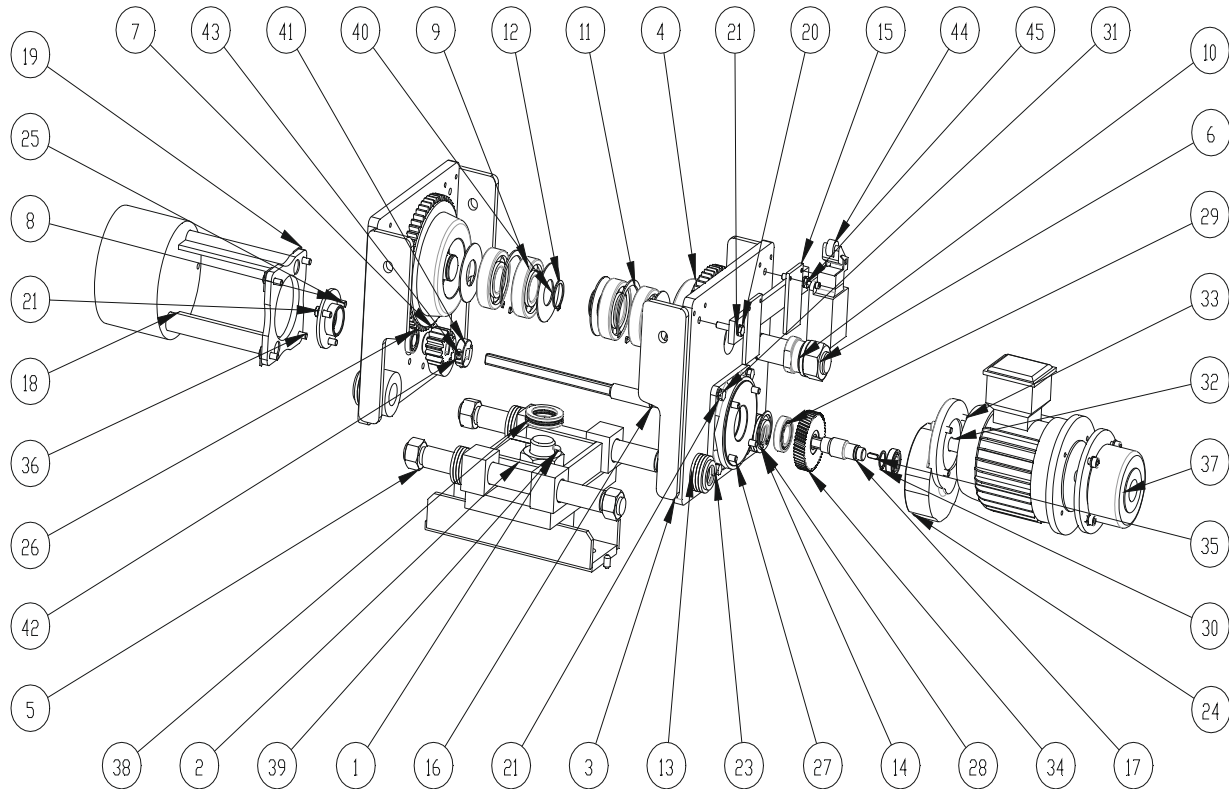
PART NO.	PART CODE (HW 2)	PART CODE (HW 2L)	DESCRIPTION	QTY.
37	HBHM20050088	HBHM20050088	HT HEX BOLT M20*50	4
38	UACA943190A	UACA943190A	ROLL SPINDLE	1
39	EXCRA0900000	EXCRA0900000	EXTERNAL CIRCLIP *A90	1
40	RR210TFS6018T	RR110TFS8454T	PLANETARY GEAR BOX	1
41	ASHM08160000	ASHM08150000	ALLEN SCREW M8 * 150	8
42	FLSPWB080000	FLSPWB080000	FLAT SPRING WASHER B -8	11
43	HNMM008000YZ	HNMM008000YZ	HEX NUT M8	8
44	UACA823162B	UACA823162B	HALF GEAR COUPLING HUB	1
45	UCCA823161B	UCCA823161B	HALF GEAR COUPLING HUB	1
46	UACA003085A	UACA003085A	LIMIT SWITCH MOUNTING KIT	2
47	XLSP0070SLZ	XLSP0070SLZ	LIMIT SWITCH	2
48	HBHM06045088	HBHM06045088	HT HEX BOLT 6*45	4
49	FLSPWB060000	FLSPWB060000	FLAT SPRING WASHER B6	4
50	BBR06001ZZ00	BBR06001ZZ00	BALL BEARING 6001 -ZZ	1
52	UACA243034A	UACA243034A	TENSION SPRING	1
53	FLSPWB100000	FLSPWB100000	FLAT SPRING WASHER B10	10
54	HBHM10040088	HBHM10040088	HT HEX BOLT 10*40	10
55	HNMM010000YZ	HNMM010000YZ	HEX NUT M10	10
56	KB0800700370	KB0800700370	KEY - BER 8 * 7 * 37	1
57	KB0800700440	KB0800700440	KEY - BER 8 * 7 * 44	1
58	UBCA203036B	UACA203036A	ALLEN SCREW FOR OVER LOAD LIMITER	2
59	HNMM012000YZ	HNMM012000YZ	HEX NUT M12	7
60	UACA133077A	UACA133077A	ASSY. CUM PACKING STAND RH	2
61	INCRB1400000	INCRB1400000	INTERNAL CIR CLIP B140	1
62	XMRP003000BBL	XMRP001000BBL	HOIST MOTOR	1
63	XBAP0030PTA	XBAP0010PTA	HOIST BRAKE	1
64	PACA823612B	PACA823612B	BUSH *P100 -N6110	1
65	ASHM12030000	ASFM12030000	ALLEN SCREW (SHCS) M 12*30	5
66	UBAA133350A	UBLA133350A	ROPE SUSPENSION BRACKE T (LIFT 12 MTRS)	1
	UBDA133350A	UBBA133350A	ROPE SUSPENSION BRACKET (LIFT 20 MTRS)	
	UBFA133350A	UBEA133350A	ROPE SUSPENSION BRACKET (LIFT 35 MTRS)	
	UBIA133350A	UBGA133350A	ROPE SUSPENSION BRACKET (LIFT 50 MTRS)	
67	UBCA013762A	UACA863762B	SUSPENSIO N KEY	1
68	--	ASHM08020000	ALLEN SCREW M8*20	3
69	--	UACA243033A	HELICAL SPRING	2
70	UAAA173750A	UAAA173750A	NAME PLATE	1
71	KB1000800700	KB0800700500	KEY 8*7*50	1
72		EXCRA0120000	EXTERNAL CIRCLIP A 12	1
73	EXCRA0280000	EXCRA0280000	EXTERNAL CIRC LIP A28	3
74	BDG100000000	BDG080000000	BULL DOG GRIB	2
75	--	GSFM06016000	GRUB SCREW M6*16	1
76	1473608B	1553608B	CONTROL PANEL	1
77	--	WRS008060360	WIRE ROPE (LIFT 12 MTRS)	30.5 M
	--	WRS008060360	WIRE ROPE (LIFT 20 MTRS)	48..7 M
	--	WRS0080603 60	WIRE ROPE (LIFT 35 MTRS)	90.9 M
	--	WRS008060360	WIRE ROPE (LIFT 50 MTRS)	106.9 M
77	WRS01006K36P	--	WIRE ROPE (LIFT 12 MTRS)	32.5 M
	WRS01006K36P	--	WIRE ROPE (LIFT 20 MTRS)	52.5 M
	WRS01006K36P	--	WIRE ROPE (LIFT 35 MTRS)	76.5 M
	WRS01006K36P	--	WIRE ROPE (LIFT 50 MTRS)	104.6 M

MAINS SPARE PART LIST – 4 FALL



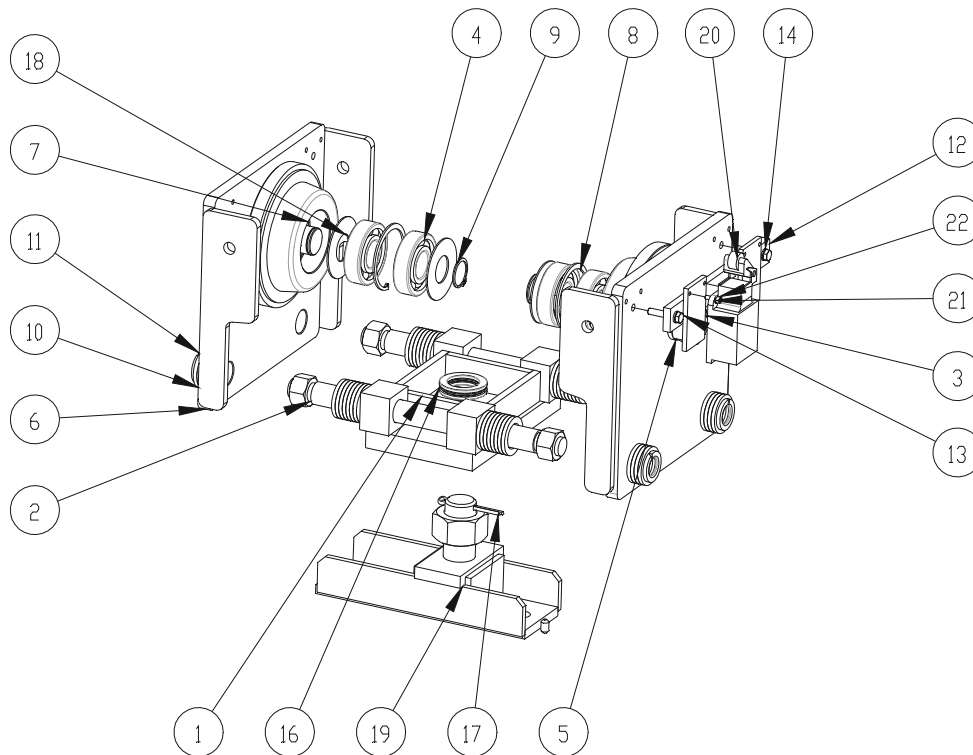
PART NO.	PART CODE (HW 2)	PART CODE (HW 2L)	DESCRIPTION	QTY.
1	UBAC873100B	UBLC873100AB	ROPE DRUM (LIFT 6 MTRS)	1
	UBDC873100B	UBBC873100AB	ROPE DRUM (LIFT 10 MTRS)	
	UBFC873100B	UBEC873100AB	ROPE DRUM (LIFT 18 MTRS)	
	UBIC873100B	UBGC873100AB	ROPE DRUM (LIFT 25 MTRS)	
2	UBAA133700A	UBLA133700A	CONNECTING BEAM (LIFT 6 MTRS)	2
	UBDA133700 A	UBBA133700A	CONNECTING BEAM (LIFT 10 MTRS)	
	UBFA133700 A	UBEA133700A	CONNECTING BEAM (LIFT 18 MTRS)	
	UBIA133700 A	UBGA133700A	CONNECTING BEAM (LIFT 25 MTRS)	
3	UBCC133500A	UBCC133500A	SHOULDER MOTOR SIDE ROPE ANCHORING	1
4	UBCC133600A	UBCC133600A	SHOULDER, MOTOR SIDE ROPE ANCHORING	1
5	UBAA133800A	UBLA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 6 MTRS)	1
	UBDA133800A	UBBA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 10 MTRS)	
	UBFA133800A	UBEA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 18 MTRS)	
	UBIA133800A	UBGA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 25 MTRS)	
6	UBCA013110B	UBCA013110B	DRUM HUB	1
7	UBCA013900B	UBCA053900AA	MOTOR FLANGE	1
8	UACA813130C	UACA813130C	DRUM SUPPORTING FLANGE	1
9	UBCA013120B	UBCA013120B	DRUM HUB (GEAR BOX MOUNTING)	1
10	UACA823392C	UACA823392C	HALF GEAR COUPLING HUB	1
11	UBCA823391B	UACA823391B	HALF GEAR COUPLING HUB (MOTOR SIDE)	1
12	UBAA823155B	UBLA823150AB	INTERMEDIATE AXLE (LIFT 6 MTRS)	1
	UBDA823155B	UBBA823150AB	INTERMEDIATE AXLE (LIFT 10 MTRS)	
	UBFA8213355B	UBEA823150AB	INTERMEDIATE AXLE (LIFT 18 MTRS)	
	UBIA8213355A	UBGA823150AB	INTERMEDIATE AXLE (LIFT 25 MTRS)	
13	BBR06018RS00	BBR06018RS00	BALL BEARING 6018 -2RS/ZZ	1
14	BBR06211RS00	BBR06211RS00	BALL BEARING 6211 -2RS/ZZ	1
15	HBHM12035088	HBHM12035088	HT HEX BOLT M 12*35	8
16	RBCT833912A	RBCT833912A	WASHER	8
17	ASFM10020000	ASFM10020000	ALLEN SCREW M10*20	6
18	FLSPWB100000	FLSPWB100000	FLAT SPRING WASHER B10	23
19	HBHM20060088	HBHM20060088	HT HEX BOLT M20 * 60	8
20	HNMM020000YZ	HNMM020000YZ	HEX NUT M20	16
21	FLSPWB200000	FLSPWB200000	FLAT SPRING WASHER B 20	8
22	XMRP003000BBL	XMRP001000BBL	HOIST MOTOR	1
23	UBCA003024A	UBCA003024A	BRACKET ASSLY RH	2
24	UBCA003240A	UBCA003240A	BRACKET ASSLY LH	2
25	UBAA133350A	UBLA133350AA	ROPE SUSPENSION BRACKET (LIFT 6 MTRS)	1
	UBDA133350A	UBBA133350AA	ROPE SUSPENSION BRACKET (LIFT 10 MTRS)	
	UBFA133350A	UBEA133350AA	ROPE SUSPENSION BRACKET (LIFT 18 MTRS)	
	UBIA133350A	UBGA133350AA	ROPE SUSPENSION BRACKET (LIFT 25 MTRS)	
26	UBAA133250A	UBLA133250AA	GUIDE PULLEY SUSPENSION BRACKET (LIFT 6 MTRS)	1
	UBDA133250A	UBBA133250AA	GUIDE PULLEY SUSPENSION BRACKET (LIFT 10 MTRS)	
	UBFA133250A	UBEA133250AA	GUIDE PULLEY SUSPENSION BRACKET (LIFT 18 MTRS)	
	UBIA133250A	UBGA133250AA	GUIDE PULLEY SUSPENSION BRACKET (LIFT 25 MTRS)	
27	UBCK653029A	UACK653029A	LOCKING PLATE * BW1 -29 REV 0	1
28	BBR06209ZZ00	BBR06207ZZ00	BALL BEARING 6207 -ZZ/2RS	2
29	INCRB0850000	INCRB0720000	INTERNAL CIRCLIP B 72	1
30	UBCA833028A	UACK833028A	SPACER	2
31	FLSPWB100000	FLSPWB080000	FLAT SPRING WASHER B -8	17
32	HBHM10016088	HBHM08012088	HT HEX BOLT M8*12	2
33	FLSPWB200000	FLSPWB200000	FLAT SPRING WASHER B 20	8
34	ASHM20080000	ASHM20080000	ALLEN SCREW M20*80	8

PART NO.	PART CODE (HW 2)	PART CODE (HW 2L)	DESCRIPTION	QTY.
35	UBCK823027B	UACK823027B	GUIDE PULLEY AXLE	1
36	UBCK013260A	UACK013026B	GUIDE PULLEY	1
37	UBCA003780A	UACA003780A	OVER LOAD LIMITING DEVICE	1
38	UBCA133761A	UACA133761A	WIRE ROPE SUSPENSION	1
39	UBCA013762A	UACA863762B	SUSPENSION KEY	1
40	ASHM16075000	ASHM16075000	ALLEN SCREW (SHCS)M16*75	1
41	HNMM016000YZ	HNMM016000YZ	HEX NUT M16	2
42	UBCA683020A	U4CA013200A	R.H.ROPE GUIDE RING NUT	1
43	ASHM08070000	ASHM08070000	ALLEN SCREW M8*70	6
44	NNMM080000SZ	NNMM080000SZ	NYLOCK NUT M8	2
45	—	HBHM20050088	HT HEX BOLT M20*50	4
46	UACA943190A	UACA943190A	ROLL SPINDLE	1
47	EXCRA0900000	EXCRA0900000	EXTERNAL CIRCLIP *A90	1
48	HBHM12030088	HBHM12035088	HT HEX BOLT M 12*35	4
49	FLSPWB120000	FLSPWB120000	FLAT SPRING WASHER B12	17
50	RR210TFS6018T	RR110TFS8454T	PLANETARY GEAR BOX	1
51	UACA823162B	UACA823162B	HALF GEAR COUPLING HUB	1
52	UCCA823161B	UCCA823161B	HALF GEAR COUPLING HUB (GEAR BOX SIDE)	1
53	ASHM08160000	ASHM08150000	ALLEN SCREW M8 * 150	8
54	HNMM008000YZ	HNMM008000YZ	HEX NUT M8	8
55	UBCA863170A	UACA863170A	ROPE CLAMP	3
56	ASFM10030000	ASFM08020000	ALLEN SCREW (SHCS) M 8*20	3
57	BBR06001ZZ00	BBR06001ZZ00	BALL BEARING 6001 -ZZ	1
58	UACA003085A	UACA003085A	LIMIT SWITCH MOUNTING KIT	2
59	XLSP0070SLZ	XLSP0070SLZ	LIMIT SWITCH	2
60	FLSPWB060000	FLSPWB060000	FLAT SPRING WASHER B6	4
61	HBHM06045088	HBHM06045088	HT HEX BOLT 6*45	4
62	1473610B	1553609B	CONTROL PANEL	1
63	UACA243034A	UACA243034A	TENSION SPRING	1
64	HBHM08035088	HBHM10040088	HT HEX BOLT 10*40	2
65	HNMM012000YZ	HNMM01000 0YZ	HEX NUT M10	10
67	KB0800700370	KB0800700370	KEY - BER 8 * 7 * 37	1
68	KB0800700440	KB0800700440	KEY - BER 8 * 7 * 44	1
69	UBCA203036B	UACA203036A	LIMITER SUSPENSION BOLT	2
70	UACA133077A	UACA133077A	PACKING STAND	2
71	XBAP0030PTA	XBAP0010PTA	HOIST BRAKE	1
72	PACA823612B	PACA823612B	BUSH	1
73	INCRB1400000	INCRB1400000	INTERNAL CIRCLIP B140	1
74	HNMM012000YZ	HNMM012000YZ	HEX NUT M12	5
75	ASFM12030000	ASHM12030000	ALLEN SCREW M12 *30	5
76	HBHM10040088	HBHM10030088	HT HEX BOLT M10X30	6
77	EXCRA02 80000	EXCRA0280000	EXTERNAL CIRCLIP A28	3
78	—	UACA243033A	HELICAL SPRING	2
79	UAAA173750A	UAAA173750A	NAME PLATE	1
80	UBCA113111A	—	LOCKING PLATE (SOR MOTOR SIDE)	4
81	UBCA113121A	—	LOCKING PLATE (FOR GEAR BOX SIDE)	4
82	—	WRS01006K36P	WIRE ROPE (LIFT 6 MTRS)	32 M
	—	WRS01006K36P	WIRE ROPE (LIFT 10 MTRS)	50.1 M
	—	WRS01006K36P	WIRE ROPE (LIFT 18 MTRS)	79.2 M
	—	WRS01006K36P	WIRE ROPE (LIFT 25 MTRS)	108.3 M
82	WRS01006K36P	—	WIRE ROPE (LIFT 6 MTRS)	33.9 M
	WRS01006K36P	—	WIRE ROPE (LIFT 10 MTRS)	53.9 M
	WRS01006K36P	—	WIRE ROPE (LIFT 18 MTRS)	77.9 M
	WRS01006K36P	—	WIRE ROPE (LIFT 25 MTRS)	106 M

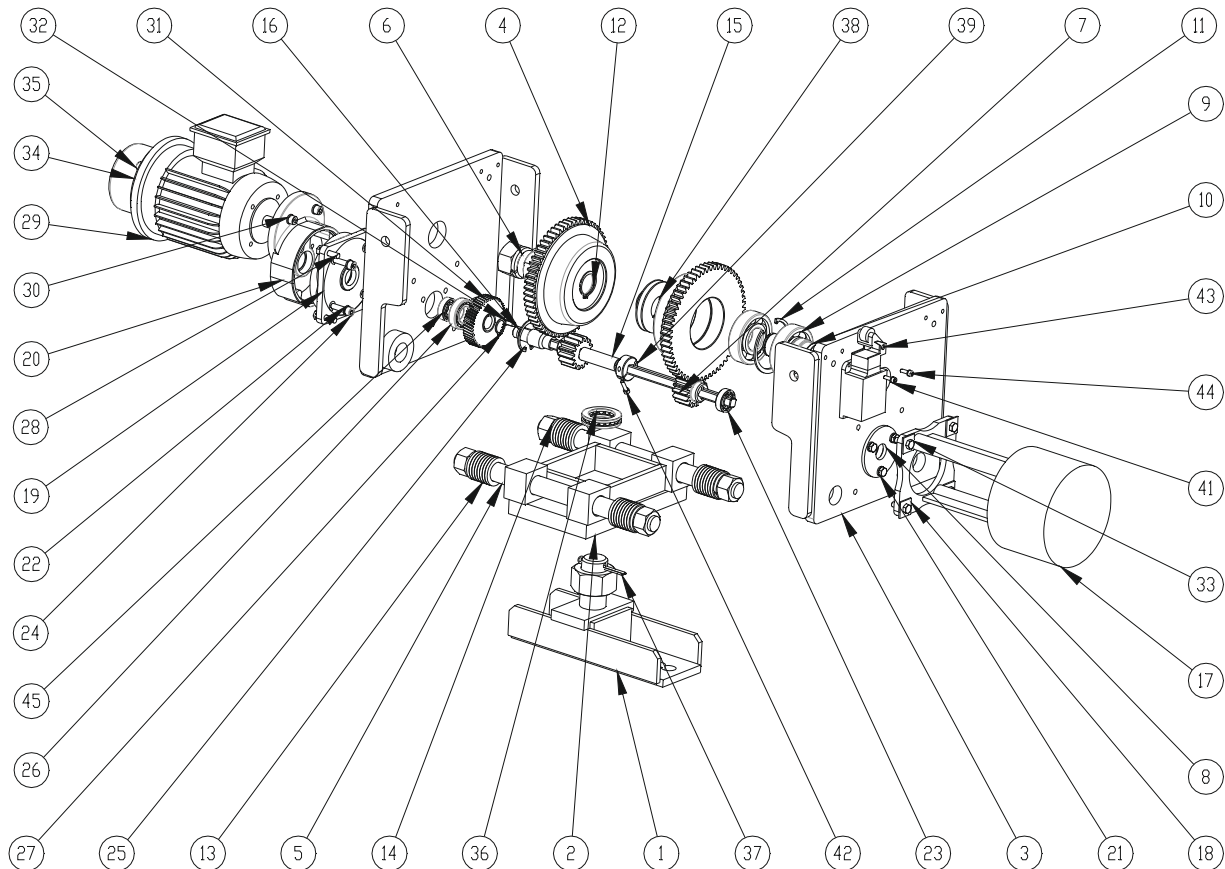
ELECTRIC TROLLEY – HW 2L

PART NO.	PART CODE 4 FALL	PART CODE 2 FALL	DESCRIPTION	QTY.
1	UBC6133060A	UBC5133060A	TROLLEY SUSPENSION	1
2	UBC6133064A	UBC5133064A	CROSS PIECE	1
3	PCCF013013A	UBC3133011A	GEAR TROLLEY SIDE PLATE	2
4	PACR823025B	PBCG013013A	GEARED WHEEL	2
5	PACR823025B	PACR823025B	LOAD AXLE	2
6	PCCF82301 5B	PBCF823015B	WHEEL AXLE	2
7	PACF823017C	PACF823017C	WHEEL PINION	2
8	PACF833021B	PACF833021B	BEARING HOUSING	1
9	BBR063090000	BBR063070000	BALL BEARING 6307	4
10	FLSPWB300000	FLSPWB300000	FLAT SPRING WASHER B 30	2
11	INCRB1000000	INCRB0800000	INTERNAL CIRCLIP B 80	2
12	EXCRA0450000	EXCRA0350000	EXTERNAL CIRCLIP A 35	2
13	PACF113023A	PACF113023A	SPACER 33*50*5	42
14	FLSPWB240000	FLSPWB240000	FLAT SPRING WASHER B 24	4
15	UAC3133065A	UAC3133065A	LIMIT SWITCH MOUNTING BRACKET	1
16	PBCF823018C	PBCF 823018C	PINION SHAFT	1
17	PACF813022C	PACF813022C	DRIVE SHAFT	1
18	PNC4133069A	PNC4133069A	COUNTER WEIGHT	1
19	SQSPW0080000	SQSPW0080000	SQUARE SPRING WASHER M8	4
20	HBHM08035088	HBHM08040088	HT HEX BOLT 8*40	2

PART NO.	PART CODE 4 FALL	PART CODE 2 FALL	DESCRIPTION	QTY.
21	FLSPWB080000	FLSPWB080000	FLAT SPRING WASHER B -8	21
22	HNMM008000YZ	HNMM008000YZ	HEX NUT M8	2
23	PACF013028B	PACF013028B	GEAR BOX COVER	1
24	PACF023029B	PACF023029B	GEAR BOX HOUSING	1
25	HBHM08016088	HBHM08016088	HT HEX BOLT M8*16	3
26	BBR06003ZZ00	BBR06003ZZ00	BALL BEARING 6003 -ZZ/2RS	1
27	ASFM08030000	ASFM08030000	ALLEN SCREW M 8*30	4
28	INCRB0470000	INCRB0470000	INTERNAL CIRCLIP B 47	1
29	BBR060050000	BBR060050000	BALL BEARING 6005	1
30	EXCRA0 200000	EXCRA0200000	(A) EXTERNAL CIRCLIP A 20	1
31	PACF193112A	PACF193112A	MODIFIED HT HEX BOLT 8*30	4
32	XMRP028000REM	XMRP026000REM	TROLLEY MOTOR	1
33	ASFM08025000	ASFM08025000	ALLEN SCREW M8*25	4
34	PACF813031B	PACF813031B	GEAR WHEEL	1
35	KB060060 0180	KB0600600180	KEY - BER 6*6*18	1
36	HBHM08030088	HBHM08025088	HT HEX BOLT 8*25 GR 8.8	4
37	XBAP0050SYT	XBAP0050SYT	TROLLEY BRAKE	1
38	BTB511080000	BTB511080000	THRUST BEARING 51108	1
39	SCP060075000	SCP060075000	SPLIT COTTER PIN 6*75	1
40	PCCF1130 16A	PBCF113016A	BALL BEARING COVER	4
41	PACF833020B	PACF833020B	CLAMPING WASHER	1
42	FLSPWB050000	FLSPWB050000	FLAT SPRING WASHER B5	3
43	ASHM05020000	ASHM05020000	ALLEN SCREW M5*20	1
44	XLSP0090SLZ	XLSP0090SLZ	LIMIT SWITCH	1
45	ASFM05016000	ASFM050 16000	ALLEN SCREW (SHCS) M 5*16	2
46	BBR060030000	BBR060030000	BALL BEARING 6003	1
47	ASFM08030000	ASFM08020000	ALLEN SCREW (SHCS) M 8*20	4

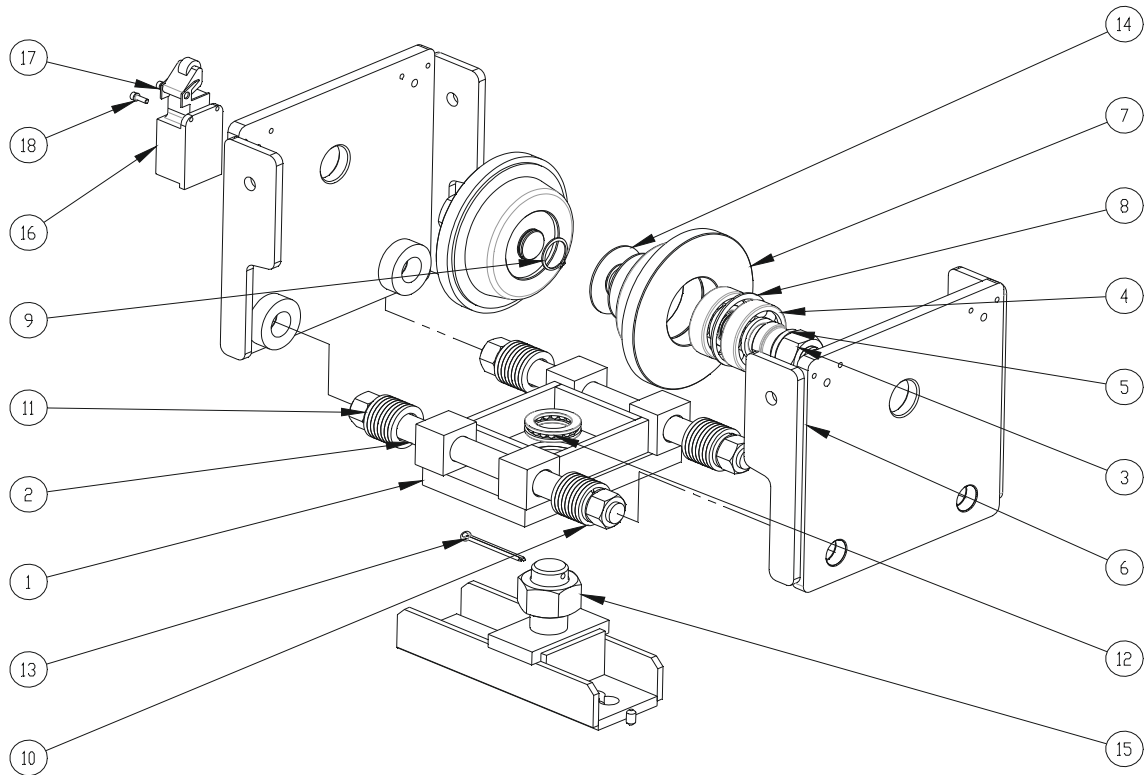
PLAIN TROLLEY - HW 2L

PART NO.	PART CODE 4 FALL	PART CODE 2 FALL	DESCRIPTION	QTY.
1	UBC5133064A	UBC5133064A	CROSS PIECE	1
2	PACR823025B	PACR823025B	LOAD AXLE	2
3	PBCF823015B	PBCF823015B	WHEEL AXLE	2
4	BBR063070000	BBR063070000	BALL BEARING 6307	4
5	FLSPWB300000	FLSPWB300000	FLAT SPRING WASHER B 30	2
6	UBC3133012A	UBC3133012A	PLAIN TROLLEY SIDE PLATE	2
7	PBCG013014A	PBCG013014A	PLAIN WHEEL	2
8	INCRB0800000	INCRB0800000	INTERNAL CIRCLIP B 80	2
9	EXCRA0350000	EXCRA0350000	EXTERNAL CIRCLIP A35	2
10	PACF113023A	PACF113023A	SPACER 33 I.D. *50*5	48
11	FLSPWB240000	FLSPWB240000	FLAT SPRING WASHER B 24	4
12	UAC3133065A	UAC3133065A	LIMIT SWITCH MOUNTING BRACKET	1
13	HBHM08035088	HBHM08040088	HT HEX BOLT M8*40	2
14	FLSPWB080000	FLSPWB080000	FLAT SPRING WASHER B -8	2
15	HNMM008000YZ	HNMM0080 00YZ	HEX NUT M8	2
16	BTB511080000	BTB511080000	THRUST BEARING 51108	1
17	SCP060075000	SCP060075000	SPLIT COTTER PIN 6*75	1
18	PBCF113016A	PBCF113016A	BALL BEARING COVER	4
19	UBC5133060A	UBC5133060A	TROLLEY SUSPENSION	1
20	XLSP0090SLZ	XLSP0090SLZ	LIMIT SWITCH	1
21	FLSPWB050000	FLSPWB050000	FLAT SPRING WASHER B5	2
22	ASFM05016000	ASFM05016000	ALLEN SCREW 5*16	2

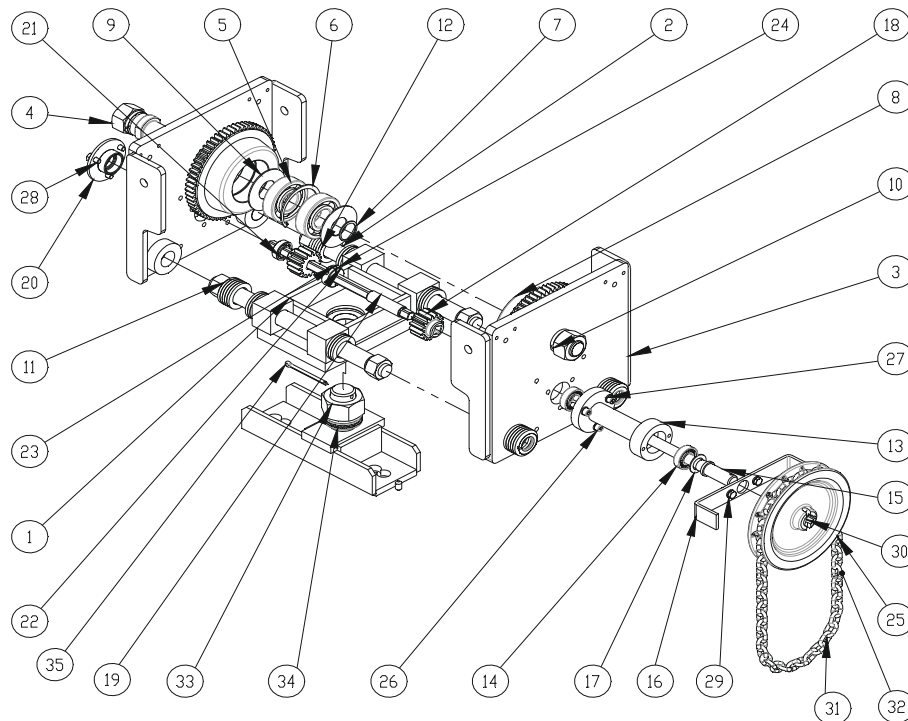
ELECTRIC TROLLEY – HW 2

PART NO.	PART CODE 4 FALL	PART CODE 2 FALL	DESCRIPTION	QTY.
1	UBC6133060A	UBC5133060A	TROLLEY SUSPENSION	1
2	UBC6133064A	UBC5133064A	CROSS PIECE	1
3	UBC3133011A	UBC3133011A	GEAR TROLLEY SIDE PLATE	2
4	PCCF013013A	PBCG013013A	GEARED WHEEL	2
5	PACR823025B	PACR823025B	LOAD AXLE	2
6	PCCF823015B	PBCF823015B	WHEEL AXLE	2
7	PACF823017C	PACF823017C	WHEEL PINION	2
8	PACF833021B	PACF833021B	BEARING HOUSING	1
9	BBR063090000	BBR063070000	BALL BEARING 6307	4
10	FLSPWB300000	FLSPWB300000	FLAT SPRING WASHER B 30	2
11	INCRB1000000	INCRB0800000	INTERNAL CIRCLIP B 80	2
12	EXCRA0450000	EXCRA0350000	EXTERNAL CIRCLIP A 35	2
13	PACF113023A	PACF113023A	SPACER 33 I.D * 50 *5	32
14	FLSPWB240000	FLSPWB240000	FLAT SPRING WASHER B 24	4
15	PBCF823018C	PBCF823018C	PINION SHAFT	1

PART NO.	PART CODE 4 FALL	PART CODE 2 FALL	DESCRIPTION	QTY.
16	PACF813022C	PACF813022C	DRIVE SHAFT	1
17	PNC4133069A	PNC4133069A	COUNTER WEIGHT	1
18	SQSPW0080000	SQSPW0080000	SQUARE SPRING WASHER M8	4
19	PACF013028B	PACF013028B	GEAR BOX COVER	1
20	PACF023029 B	PACF023029B	GEAR BOX HOUSING	1
21	HBHM08016088	HBHM08016088	HT HEX BOLT M8*16	3
22	FLSPWB080000	FLSPWB080000	FLAT SPRING WASHER B -8	40
23	BBR06003ZZ00	BBR06003ZZ00	BALL BEARING 6003 -ZZ/2RS	1
24	ASFM08030000	ASFM08030000	ALLEN SCREW M8*30	4
25	INCRB 0470000	INCRB0470000	INTERNAL CIRCLIP B 47	1
26	BBR060050000	BBR060050000	BALL BEARING 6005	1
27	EXCRA0200000	EXCRA0200000	(A) EXTERNAL CIRCLIP A 20	1
28	PACF193112A	PACF193112A	MODIFIED HT HEX BOLT 8*30	4
29	XMRP030000REM	XMRP028000REM	TROLLEY MOTOR	1
30	ASFM08030000	ASFM08025000	ALLEN SCREW M 8*25	2
31	PACF813031B	PACF813031B	GEAR WHEEL	1
32	KO0600600180	KB0600600180	KEY - BER 6*6*18	1
33	ASFM08025000	HBHM08025088	HT HEX BOLT 8*25	4
34	XBAP0050SYT	XBAP0050SYT	TROLLEY BRAKE	1
35	ASFM08020000	ASFM08020000	ALLEN SCREW (SHCS) M 8*20	4
36	BTB511080000	BTB511080000	THRUST BEARING 51108	1
37	SCP060075000	SCP060075000	SPLIT COTTER PIN 6*75	1
38	PCCF113016A	PBCF113016A	BALL BEARING COVER	4
39	PACF833020B	PACF833020B	CLAMPING WASHER	1
40	--	KB0500 500180	KEY - BER 5*5*18	1
41	FLSPWB050000	FLSPWB050000	FLAT SPRING WASHER B -5	3
42	ASFM05016000	ASHM05020000	ALLEN SCREW M5*20	1
43	XLSP0090SLZ	XLSP0090SLZ	LIMIT SWITCH	1
44	ASFM05016000	ASFM05016000	ALLEN SCREW (SHCS) M 5*16	2
45	BBR060030000	BBR060 030000	BALL BEARING 6003	1

PLAIN TROLLEY - HW 2

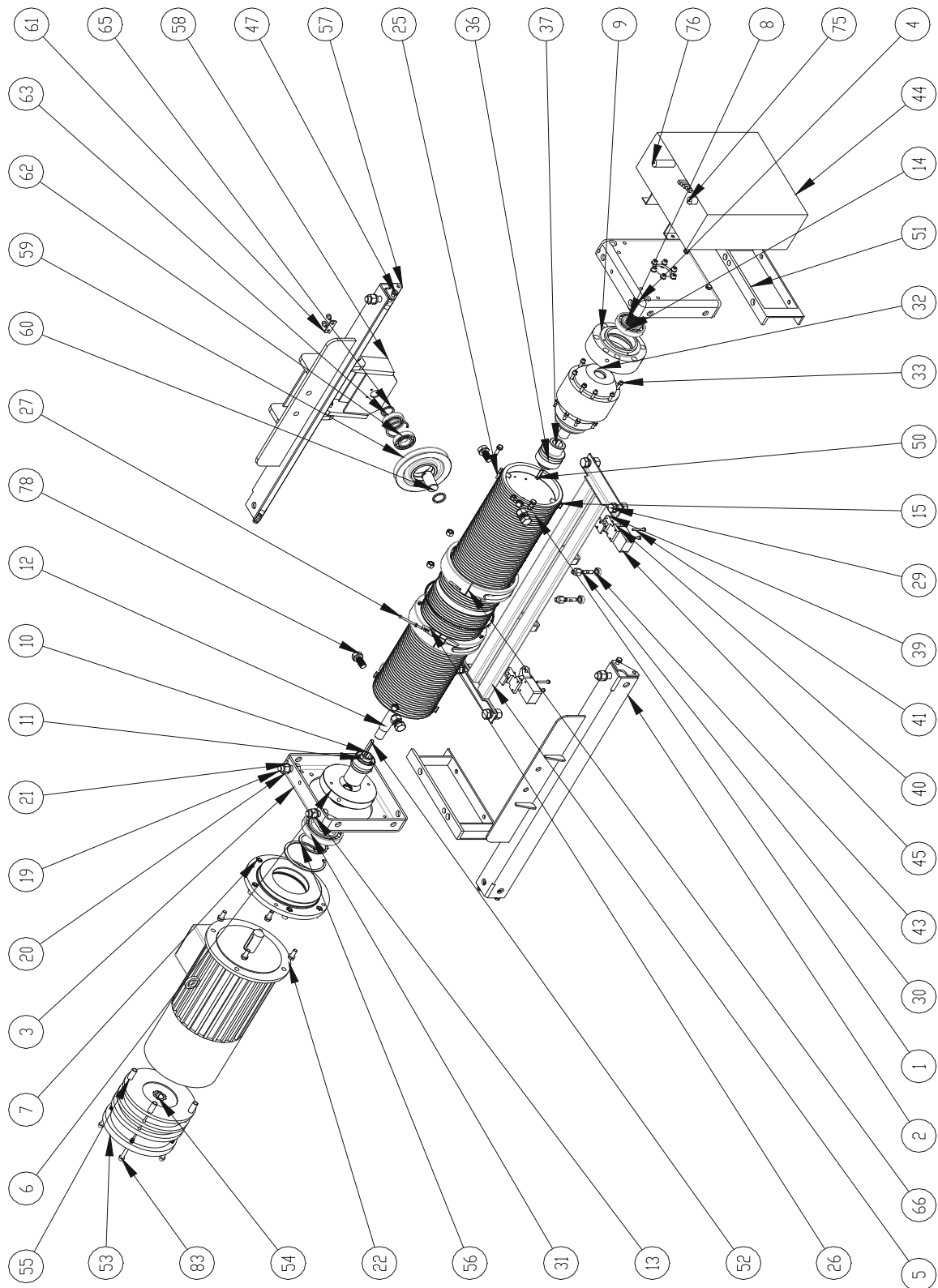
PART NO.	PART CODE 4 FALL	PART CODE 2 FALL	DESCRIPTION	QTY.
1	UBC6133064A	UBC5133064A	CROSS PIECE	1
2	PACR823025B	PACR82302 5B	LOAD AXLE	2
3	PCCF823015B	PBCF823015B	WHEEL AXLE	2
4	BBR063090000	BBR063070000	BALL BEARING 6307	4
5	FLSPWB300000	FLSPWB300000	FLAT SPRING WASHER B 30	2
6	UBC3133012A	UBC3133012A	PLAIN TROLLEY SIDE PLATE	2
7	PCCF013014A	PBCG013014A	PLAIN WHEEL	2
8	INCRB1000000	INCRB0800000	INTERNAL CIRCLIP B 80	2
9	EXCRA0450000	EXCRA0350000	EXTERNAL CIRCLIP A 35	2
10	PACF113023A	PACF113023A	SPACER 33 I.D * 50 * 5	32
11	FLSPWB240000	FLSPWB240000	FLAT SPRING WASHER B 24	4
12	BTB511080000	BTB511080000	THRUST BE ARING 51108	1
13	SCP060075000	SCP060075000	SPLIT COTTER PIN 6*75	1
14	PCCF113016A	PBCF113016A	BALL BEARING COVER	4
15	UBC6133060A	UBC5133060A	TROLLEY SUSPENSION	1
16	XLSP0090SLZ	XLSP0090SLZ	LIMIT SWITCH	1
17	ASFM05016000	ASFM05016000	ALLEN SCREW (SHCS) M 5*16	2
18	FLSPWB050000	FLSPWB050000	FLAT SPRING WASHER B -5	2

GEARED TROLLEY

PART NO.	PART CODE 4 FALL	PART CODE 2 FALL	DESCRIPTION	QTY.
1	UBC6133064A	UBC5133064A	CROSS PIECE	1
2	PACR823 025B	PACR823025B	LOAD AXLE	2
3	UBC3133011A	UBC3133011A	GEAR TROLLEY SIDE PLATE	2
4	PCCF823015B	PBCF823015B	WHEEL AXLE	2
5	BBR063090000	BBR063070000	BALL BEARING 6307	4
6	INCRB1000000	INCRB0800000	INTERNAL CIRCLIP B80	2
7	EXCRA0450000	EXCRA0350000	EXT ERNAL CIRCLIP A35	2
8	PCCF013013A	PBCG013013A	GEARED WHEEL	2
9	PCCF113016A	PBCF113016A	BALL BEARING COVER	4
10	FLSPWB300000	FLSPWB300000	FLAT SPRING WASHER B30	2
11	FLSPWB240000	FLSPWB240000	FLAT SPRING WASHER B24	4
12	PACF113023A	PACF113023A	SPACER 33I.D * 50 * 5*	32
13	PACG133028A	PACG133028A	DRIVE SHAFT HOUSING	1
14	BBR06004ZZ00	BBR06004ZZ00	BALL BEARING 6004	2
15	PACG823022D	PACG823022D	DRIVE SHAFT	1
16	PACG852024A	PACG852024A	HAND CHAIR GUIDE	1
17	EACR113085A	EACR113085A	WASHER 22.5 * 35 * 1.5	1
18	PACF823017C	PACF823017C	WHEEL PINION	2
19	PBCF823018C	PBCF823018C	PINION SHAFT	1
20	PACF833021B	PACF833021B	BEARING HOUSING	1

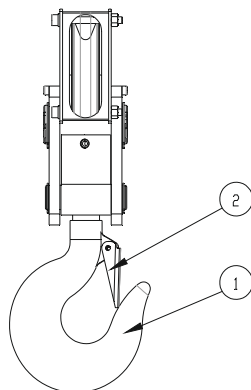
21	BBR06003ZZ00	BBR06003ZZ00	BALL BEARING 6003 -ZZ/2RS	1
22	PACF833020B	PACF833020B	CLAMPING WASHER	1
23	FLSPWB0 50000	FLSPWB050000	FLAT SPRING WASHER B -5	1
24	ASFM05016000	ASFM05016000	ALLEN SCREW (SHCS) M5*16	1
25	MECM023022A	MECM023022A	HAND CHAIN WHEEL	1
26	ASFM08030000	ASFM08030000	ALLEN SCREW M8*30	3
27	FLSPWB080000	FLSPWB080000	FLAT SPRING WASHER B8	8
28	HBHM08016088	HBHM08016088	HT HEX BOLT M8*16	3
29	HBHM08020088	HBHM08020088	HT HEX BOLT M8 * 20	2
30	DSP060040000	DSP060040000	DOWEL SPRING PIN 6*40	1
31	CHHYN0601804	CHHYN0601804	HAND CHAIN 6 * 19	AS PER REQU.
32	CHJL060180YZ	CHJL060180YZ	JOINING LI NK	1
33	UBC6133060A	UBC5133060A	TROLLEY SUSPENSION	1
34	BTB511080000	BTB511080000	THRUST BEARING 51108	1
35	SCP060075000	SCP060075000	SPLIT COTTER PIN 6*75	1

MAINS SPARE PART LIST - 4/2 FALL

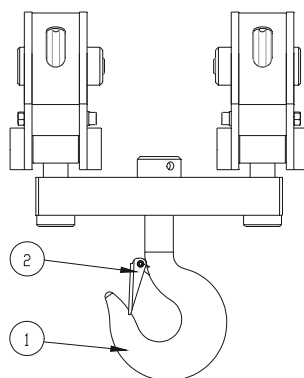


PART NO.	PART CODE	DESCRIPTION	QTY.
1	U4DC873100B	ROPE DRUM (LIFT 10 MTRS)	1
	U4FC873100B	ROPE DRUM (LIFT 18 MTRS)	
	U4HC873100B	ROPE DRUM (LIFT 25 MTRS)	
2	U4DA133701A	CONNECTING BEAM (LIFT 10 MTRS)	1
	U4FA133701A	CONNECTING BEAM (LIFT 18 MTRS)	
	U4HA133701A	CONNECTING BEAM (LIFT 25 MTRS)	
3	UBCC133500A	SHOULDER MOTOR SIDE ROPE ANCHORING	1
4	UBCC133600A	SHOULDER, MOTOR SIDE ROPE ANCHORING	1
5	UBDA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 10 MTRS)	1
	UBFA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 18 MTRS)	
	UBHA133800A	LIMIT SWITCH MOUNTING BRACKET (LIFT 25 MTRS)	
6	UBCA013110B	DRUM HUB	1
7	UBCA013900B	MOTOR FLANGE	1
8	UACA813130C	DRUM SUPPORTING FLANGE	1
9	UBCA013120B	DRUM HUB (GEAR BOX MOUNTING)	1
10	UACA823392C	HALF GEAR COUPLING HUB	1
11	UBCA823391B	HALF GEAR COUPLING HUB (MOTOR SIDE)	1
12	UBDA823155B	INTERMEDIATE AXLE (LIFT 10 MTRS)	1
	UBFA133155B	INTERMEDIATE AXLE (LIFT 18 MTRS)	
	UBHA133155A	INTERMEDIATE AXLE (LIFT 25 MTRS)	
13	BBR06018RS00	BALL BEARING 6018 -2RS/ZZ	1
14	BBR06211 RS00	BALL BEARING 6211 -2RS/ZZ	1
15	HBHM12035088	HT HEX BOLT M 12*35	8
16	RBCT833912A	WASHER	8
17	ASFM10020000	ALLEN SCREW M10*20	6
18	FLSPWB100000	FLAT SPRING WASHER B10	20
19	HBHM20060088	HT HEX BOLT M20 * 60	4
20	HNMM020000YZ	HEX NUT M20	10
21	FLSPWB200000	FLAT SPRING WASHER B 20	12
22	XMRP003000BBL	HOIST MOTOR	1
23	FLSPWB120000	FLAT SPRING WASHER B12	17
24	HBHM12030088	HT HEX BOLT M 12*30	4
25	UACA863170A	ROPE CLAMP	6
26	U4CA013200A	R.H.ROPE GUIDE RING NUT	1
27	ASHM06080000	ALLEN SCREW (SHC S) M6*80	4
28	NNMM060000SZ	NYLOCK NUT M6	4
29	HBHM20050088	HT HEX BOLT M20*50	4
30	UACA943190A	ROLL SPINDLE (NORMAL LIMIT SWITCH)	2
31	EXCRA0900000	EXTERNAL CIRCLIP *A90	1
32	RR210TFS6018T	PLANETARY G.BOX	1
33	ASHM08160000	ALLEN SCREW HALF TREAD M8 * 160	8
34	FLSPWB080000	FLAT SPRING WASHER B -8	16
35	HNMM008000YZ	HEX NUT M8	8

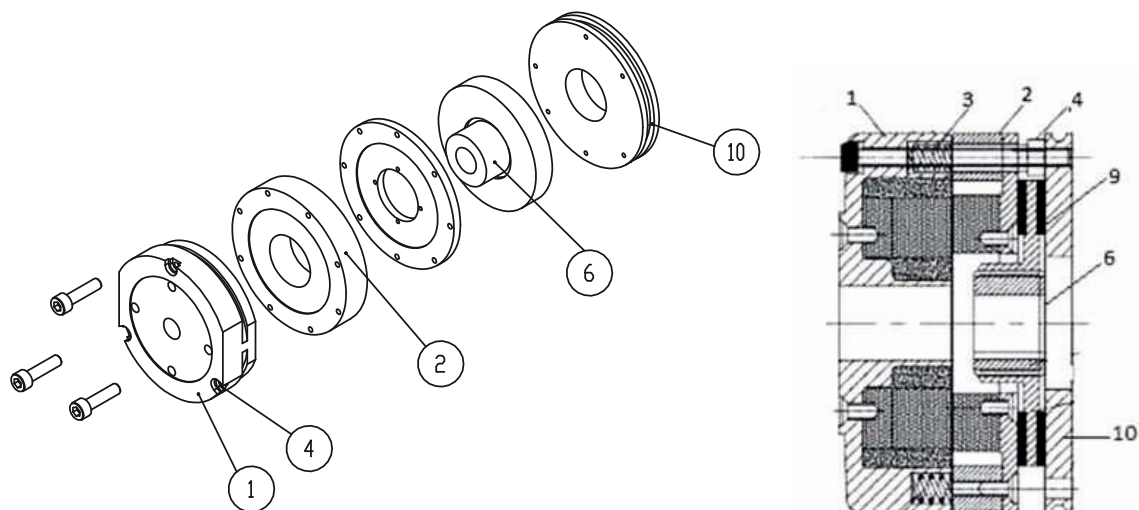
PART NO.	PART CODE	DESCRIPTION	QTY.
36	UACA823162B	HALF GEAR COUPLING HUB	1
37	UCCA823161B	HALF GEAR COUPLING HUB (GEAR BOX SIDE)	1
38	ASFM0802000 0	ALLEN SCREW (SHCS) M 8*20	6
39	UACA003085A	LIMIT SWITCH MOUNTING KIT	2
40	XLSP0070SLZ	LIMIT SWITCH	2
41	HBHM06045088	HT HEX BOLT 6*45	4
42	FLSPWB060000	FLAT SPRING WASHER B6	4
43	BBR06001ZZ00	BALL BEARING 6001 -ZZ	2
44	1473608B	CONTROL PANEL	1
46	U4CA243034A	TENSION SPRING	2
47	HBHM10040088	HT HEX BOLT 10*40	4
48	HNMM010000YZ	HEX NUT M10	6
49	KB0800700370	KEY - BER 8 * 7 * 37	1
50	KB0800700440	KEY - BER 8 * 7 * 44	1
51	UACA133077A	PACKING STAND	2
52	KB1000800700	KEY BER 10*8*70	1
53	XBAP0030 PTA	HOIST BRAKE	1
54	PACA823612B	BUSH	1
55	PCCA883613A	SPACER TUBE	4
56	INCRB1400000	INTERNAL CIRCLIP B140	1
57	U4DA133700A	CONNECTING BEAM (LIFT 10 MTRS)	1
	U4FA133700A	CONNECTING BEAM (LIFT 18 MTRS)	
	U4HA133700A	CONNECTING BEAM (LIFT 25 MTRS)	
58	U4CA133250A	PULLEY HOUSING	1
59	UACK013026B	GUIDE PULLEY	1
60	UACK823027B	GUIDE PULLEY AXLE	1
61	UACK653029A	LOCKING PLATE	1
62	INCRB0720000	INTERNAL CIRCLIP B 72	1
63	BBR06207ZZ00	BALL BEARING 6207 -ZZ/2RS	2
64	ASHM08012000	ALLEN SCREW M8*12	2
65	UACK833028A	SPACER	2
66	U4CA013210A	L.H.ROPE GUIDE RING NUT	1
67	FLSPWB140000	FLAT SPRING WASHER B14	2
68	HNMM014000YZ	HEX NUT M14	4
69	ASHM14060000	ALLEN SCREW (SHCS) M14*60,	2
77	UACA243033A	HELICAL SPRING	4
78	HBHM20045088	HEX BOLT 20*45	4
79	HBHM10030088	HT HEX BOLT M10X30	6
80	ASHM12030000	ALLEN SCREW M12 *30	5
81	HNMM012000YZ	HEX NUT M12	5
82	EXCRA0280000	EXTERNAL CIRCLIP A28	3
83	ASHM10090000	ALLEN SCREW (SHCS) M10*90	4
84	WRS008060360	WIRE ROPE (LIFT 10 MTRS)	61.8 M
	WRS008060360	WIRE ROPE (LIFT 18 MTRS)	90.9 M
	WRS008060360	WIRE ROPE (LIFT 25 MTRS)	119.9 M

LOWER BLOCK – 2 FALL

PART NO	PART CODE 2.5T	PART CODE 3T	PART CODE 1.25T/1.5T	DESCRIPTION	QTY
	1470606P	1470601P	1460602P	LOWER BLOCK ASSLY	
1	CABT003343A	CABT003343A	PNCJ003020B	HOOK WITH SAFETY LACTH ASSLY	1
2	CABS003353A	CABS003353A	CABS003353A	HOOK LATCH ASSLY	1

LOWER BLOCK – 4 FALL

PART NO	PART CODE 5T/6T	PART CODE 2.5T/3T	PART CODE 3T	DESCRIPTION	QTY
	1470604P	1460601P	1470612P	LOWER BLOCK ASSLY	
1	UBCK003117A	CABT003343A	CABT003343A	HOOK WITH SAFETY LACTH ASSLY	1
2	UACK003171A	CABS003353A	CABS003353A	HOOK LATCH A SSLY	1

TROLLEY BRAKE SPARE PART LIST

PART NO.	PART CODE	DESCRIPTION
	XBAP0050SYT	MAIN BRAKE
1	XBAP01610SSYT	STATOR
2		ARMATURE ASSEMBLY
3		TUBULAR SPRING EACH SET
4	XBAP87210SSYT	MOUNTING FLANGE ASSLY
6		BRAKE DISC & BRAKE LINER (ROTOR / GEAR HUB)
10	XBAP00510SYT	MOUNTING FLANGE

**TROLLEY & HOIST BRAKE
MAINTENANCE / REPAIR**

Trouble	Possible cause	Required action
Break does not apply No braking action	No mains voltage. Stator (coil) open.	Check supply voltage.
	Armature plate Jammed (without moment)	Brake coil resistance to be checked as per the technical data. Springs, guide bushes must be checked and overhauled (cleaned properly).
Brake action too slow, insufficient braking effect	Oil or grease on the friction lining	Replace rotor, prevent oil/grease from coming in contact with friction liner.
	Spring are present/broken	Dismantle brake, loosen sleeves insert new springs.
	Brake lining worn-out	Replace rotors (armature plate and flange if very badly worn-out).

To ensure safe & trouble free operation, Spring Loaded Brakes must be checked and maintained at regular intervals. SYTCO Spring Loaded Brakes are wear – resistant and designed for trouble free longer life. The Friction Liners are subject to function -related wear. The Brakes must be checked and readjusted at regular intervals & if necessary, it should be replaced.

PRINCIPLE OF OPERATION : This type of brake consists of stator, Armature, Rotor & Mounting flange. Current is given to stator (coil), the armature plate is attracted to the stator against the spring force thus releasing the rotor. When current is off, strong compression springs push the armature plate back to its position thus clamping the rotor in between armature & mounting flange and providing necessary braking torque.

INSTALLATION : Mounting flange (10) has to be mounted on motor/machine body which should be at right angle to the motor/machine shaft as well as centered internally and externally may be with the help of spigot. The hub (6) has to be fitted on shaft with the help of key and axial retainer (circlip) and Rotor (9) on that. Stator (1) with Armature Assembly (2) has to be fitted on the Mounting flange (10) with the help of provided Allen bolt (8) through adjustment Hollow Bushes (4). The air gap should be adjusted by adjustable Hollow Bushes. To reduce air gap, rotate all bushes equally clockwise. Air gap should be within limits as per following table, initially it should be nominal.

Brake size	05	10	20	40	70	90	160	250
Nominal air gap mm	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.5
Maximum air gap mm	0.5	0.7	0.7	0.7	0.8	1.0	1.0	1.0

MAINTANENCE : SYTCO Fail Safe Brakes are almost maintenance free. For this periodicity depends on application to application, operating frequency, system inertia to be stopped etc. air gap can be adjusted by rotating adjustable Hollow Bushes to reduce air gap. Rotate all bushes anti-clockwise and check from all sides by filler gauge and vice-versa.

Typical cases of wrong fitment

Typical case of uneven air gap in brake disc: This should be noticed and avoided during preventive maintenance.



Typical case of stator resting bolt head, which will restrict the stator lateral movement of brake disc: This should be noticed and avoided during preventive maintenance.

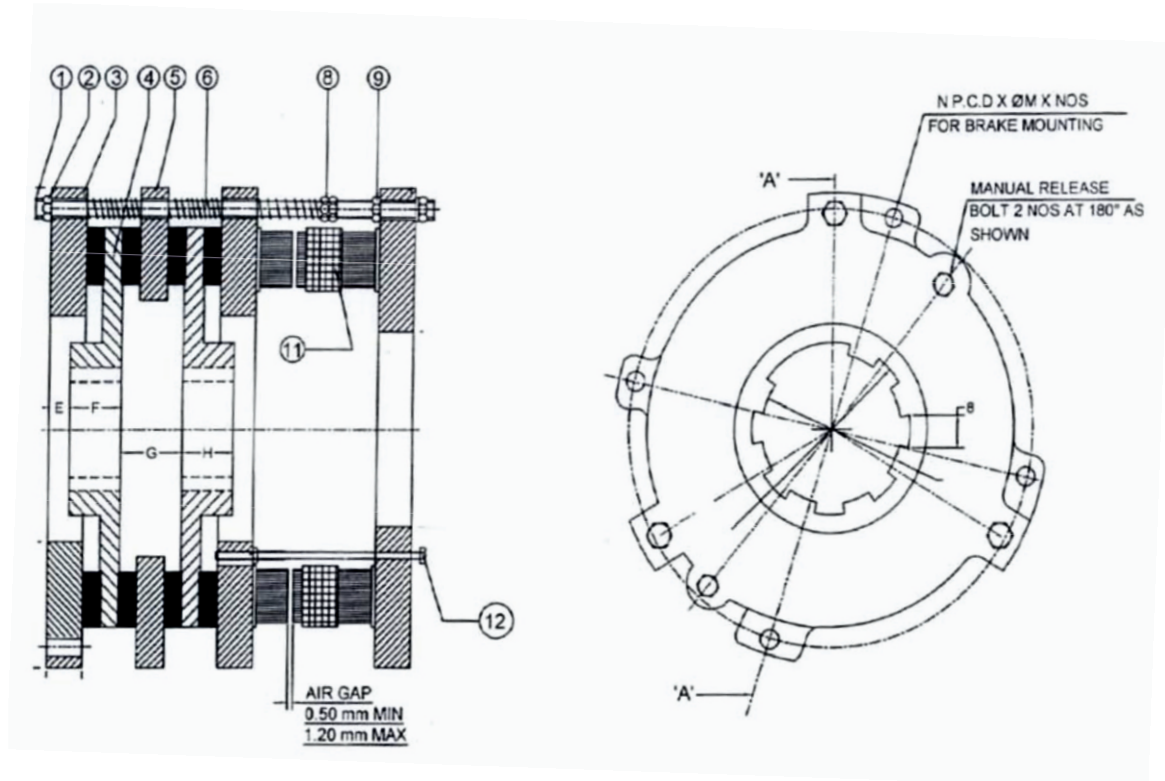


Typical case of stator fitting, the half-moon slot is to clear the bolt head, brake housing fitment wrong, which will obstruct the stator lateral movement of brake disc: This should be noticed and avoided during preventive maintenance.



Typical case of wrong wiring : The RYB colour code of connecting cables to be maintained and wiring connections to be followed accordingly. The supply voltage is $415 \pm 10\%$ for all AC brakes. The power supply fluctuations will have effect on brake coil first than motor as coil are more sensitive than motor windings.

HOIST BRAKE SPARE PART LIST



PART NO.	PART CODE	DESCRIPTION
1	XBAP0033PTA	STUD
2	XBAP0032PTA	LOCK NUT
3	XBAP0038PTA	MOUNTING PLATE
4	XBAP0036PTA	FRICTION DISC
5	XBAP0037PTA	DUMMY PLATE
6	XBAP0034PTA	RELEASE SPRING
8	XBAP003APTA	SPRING COMP, NUT, & LOCK NUT
9	XBAP0830PTA	GAP ADJU. NUT & LOCK NUT
11	XBAP0026PTA	COIL
12	XBAP0730PTA	RELEASE BOLT

HOIST BRAKE

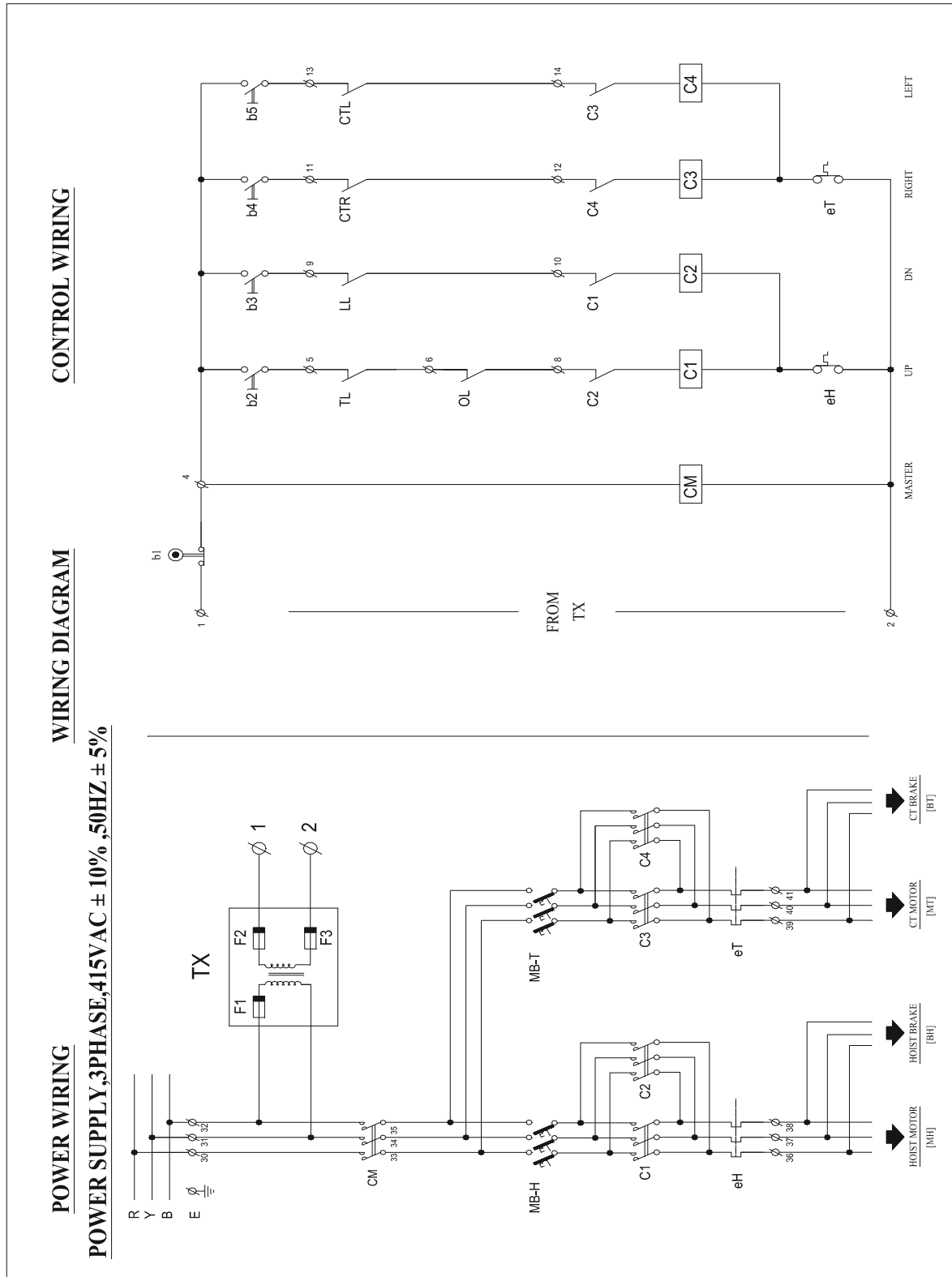
SAFETY PRECAUTIONS

- 1. To prevent electrical mishaps be sure to disconnect the power to the brake from its source before attempting to service or repair.
- 2. Look down or secure any load hold by this brake prior to service or repair
- 3. If this brake has been supplied with a manual hand release, do not override the brake by securing the hand release in an open position
- 4. Do not operate brake in atmospheres with explosive gases and dusts or corrosive substances. This brake can operate in non explosive dust or with optional seal in water splash and Almaden Atmospheres.
- 5. When storing or installing the friction rotor, ensure that oil or grease is kept from the friction material surface.

Air gap Hand Release Value

Brake Size	DAT 50X	DAT 75X	DAT 100X	DAT 125X	DAT 150X
Normal Air Gap mm	0.50	0.50	0.50	0.6	0.3
Max Air Gap mm	1.20	1.20	1.20	1.2	1.00

WIRING DIAGRAM



ELECTRICAL SPARE PARTS – HW 2/HW 2 (LH-RH)

ELECTRICAL SPARE PARTS ET - 3T		
PART CODE	DESCRIPTION	QTY.
XCPP233000A	Enclosure for Baseplate XCPP233001A Size 400X400X170 mm (1.6mm Thickness)	1
XCPP233001A	Baseplate for Enclosure XCPP233000A Size 330X330X2 mm	1
XCTP0030AVA	Avetronics/Prince/Powerex Make Control Transformer Primary 415VAC ± 5%, ± 10% & Secondary 110VAC, 50VA	1
XMCP0080MDA	Schneider Make MCB 3P 32A Cat No A9N3P32D - Hoist Motor	1
XMCP0120MDA	Schneider Make MCB 3P 4A Cat No A9N3P04D - ET Motor	1
XACP0140SMA	Schneider Make Contactor 32A/110VAC Cat No LC1D32 F7 - Master & Hoist Motor	3
XACP0850TMA	Schneider Make Contactor 9A /110VAC Cat No LC1D09 F7 - ET Motor	2
XORE0150SMA	Schneider Make Overload Relay 9 -13A Cat No LRD16 - Hoist Motor	1
XORP0350TMA	Schneider Make Overload Relay 1 -1.6A Cat No LRD06 - ET Motor	1
XLSP0070SL Z	Indef Make Limit Switch in Standard Housing, Angular Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XLSP0090SLZ	Indef Make Limit Switch in Oil Tight Housing, Normal Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XPBP0003HHL	Indef Make 5 Way Pendant (Emergency Stop (Turn to Release),Hoist/Low Single Speed, Right/Left Single Speed)	1

ELECTRICAL SPARE PARTS ET - 6T		
PART CODE	DESCRIPTION	QTY.
XCPP233000A	Enclosure for Baseplate XCPP233001A Size 400X400X170 mm (1.6mm Thickness)	1
XCPP233001A	Baseplate for Enclosure XCPP233000A Size 330X330X2 mm	1
XCTP0030AVA	Avetronics/Prince/Powerex Make Control Transformer Primary 415VAC ± 5%, ± 10% & Secondary 110VAC, 50VA	1
XMCP0080MDA	Schneider Make MCB 3P 32A Cat No A9N3P32D - Hoist Motor	1
XMCP0120MDA	Schneider Make MCB 3P 4A Cat No A9N3P04D - ET Motor	1
XACP0140SMA	Schneider Make Contactor 32A/110VAC Cat No LC1D32 F7 - Master & Hoist Motor	3
XACP0850TMA	Schneider Make Contactor 9A/110VAC Cat No LC1D09 F7 - ET Motor	2
XORE0150SMA	Schneider Make Overload Relay 9 -13A Cat No LRD16 - Hoist Motor	1
XORE0290TMA	Schneider Make Overload Relay 1.6 -2.5A Cat No LRD07 - ET Motor	1
XLSP0070SLZ	Indef Make Limit Switch in Standard Housing, Angular Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XLSP0090SLZ	Indef Make Limit Switch in Oil Tight Housing, Normal Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XPBP0003HHL	Indef Make 5 Way Pendant (Emergency Stop (Turn to Release),Hoist/Low Single Speed, Right/Left Single Speed)	1

ELECTRICAL SPARE PARTS GT/PT		
PART CODE	DESCRIPTION	QTY.
XCPP233000A	Enclosure for Baseplate XCPP233001A Size 400X400X170 mm (1.6mm Thickness)	1
XCPP233001A	Baseplate for Enclosure XCPP233000A Size 330X330X2 mm	1
XCTP0030AVA	Avetronics/Prince/Powerex Make Control Transformer Primary 415VAC ± 5%, ± 10% & Secondary 110VAC, 50VA	1
XMCP0080MDA	Schneider Make MCB 3P 32A Cat No A9N3P32D - Hoist Motor	1
XACP0140SMA	Schneider Make Contactor 32A/110VAC Cat No LC1D32 F7 - Master & Hoist Motor	3
XORE0150SMA	Schneider Make Overload Relay 9 -13A Cat No LRD16 - Hoist Motor	1
XLSP0070SLZ	Indef Make Limit Switch in Standard Housing, Angular Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XPBP0001HHL	Indef Make 3 Way Pendant (Emergency Stop (Turn to Release),Hoist/Low Single Speed)	1

ELECTRICAL SPARE PARTS – HW 2L

ELECTRICAL SPARE PARTS ET - 1.5T		
PART CODE	DESCRIPTION	QTY.
XCPP233000A	Enclosure for Baseplate XCPP233001A Size 400X400X170 mm (1.6mm Thickness)	1
XCP P233001A	Baseplate for Enclosure XCPP233000A Size 330X330X2 mm	1
XCTP0030AVA	Avetronics/Prince/Powerex Make Control Transformer Primary 415VAC $\pm$ 5%, $\pm$ 10% & Secondary 110VAC, 50VA	1
XMCP0050MDA	Schneider Make MCB 3P 16A Cat No A9N3P16D - Hoist Motor	1
XMCP0010MDA	Schneider Make MCB 3P 2A Cat No A9N3P02D - ET Motor	1
XACP0522TMA	Schneider Make Contactor 12A/110VAC Cat No LC1D12 F7 - Master & Hoist Motor	3
XACP0850TMA	Schneider Make Contactor 9A/110VAC Cat No LC1D09 F7 - ET Motor	2
XORE0130SMA	Schneider Make Overload Relay 4 -6 A Cat No LRD10 - Hoist Motor	1
XORE0110SMA	Schneider Make Overload Relay 0.63 -1A Cat No LRD05 - ET Motor	1
XLSP0070SLZ	Indef Make Limit Switch in Standard Housing, Angular Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XLSP0090SLZ	Indef Make Limit Switch in Oil Tight Housing, Normal Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XPBP0003HHL	Indef Make 5 Way Pendant (Emergency Stop (Turn to Release),Hoist/Low Single Speed, Right/Left Single Speed)	1

ELECTRICAL SPARE PARTS ET - 3T		
PART CODE	DESCRIPTION	QTY.
XCPP233000A	Enclosure for Baseplate XCPP233001A Size 400X400X170 mm (1.6mm Thickness)	1
XCPP233001A	Baseplate for Enclosure XCPP233000A Size 330X330X2 mm	1
XCTP0030AVA	Avetronics/Prince/Powerex Make Control Transformer Primary 415VAC $\pm$ 5%, $\pm$ 10% & Secondary 110VAC, 50VA	1
XMCP0050MDA	Schneider Make MCB 3P 16A Cat No A9N3P16D - Hoist Motor	1
XMCP0120MDA	Schneider Make MCB 3P 4A Cat No A9N3P04D - ET Motor	1
XACP0522TMA	Schneider Make Contactor 12A/110VAC Cat No LC1D12 F7 - Master & Hoist Motor	3
XACP0850TMA	Schneider Make Contactor 9A/110VAC Cat No LC1D09 F7 - ET Motor	2
XORE0130SMA	Schneider Make Overload Relay 4 -6 A Cat No LRD10 - Hoist Motor	1
XORP0350TMA	Schneider Make Overload Relay 1 -1.6A Cat No LRD06 - ET Motor	1
XLSP0070SLZ	Indef Make Limit Switch in Standard Housing, Angular Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XLSP0090SLZ	Indef Make Limit Switch in Oil Tight Housing, Normal Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XPBP0003HHL	Indef Make 5 Way Pendant (Emergency Stop (Turn to Release),Hoist/Low Single Speed, Right/Left Single Speed)	1

ELECTRICAL SPARE PARTS GT/PT		
PART CODE	DESCRIPTION	QTY.
XCPP233000A	Enclosure for Baseplate XCPP233001A Size 400X400X170 mm (1.6mm Thickness)	1
XCPP233001A	Baseplate for Enclosure XCPP233000A Size 330X330X2 mm	1
XCTP0030AVA	Avetronics/Prince/Powerex Make Control Transformer Primary 415VAC $\pm$ 5%, $\pm$ 10% & Secondary 110VAC, 50VA	1
XMCP0050MDA	Schneider Make MCB 3P 16A Cat No A9N3P16D - Hoist Motor	1
XACP0522TMA	Schneider Make Contactor 12A/110VAC Cat No LC1D12 F7 - Master & Hoist Motor	3
XORE0130SMA	Schneider Make Overload Relay 4 -6 A Cat No LRD10 - Hoist Motor	1
XLSP0070SLZ	Indef Make Limit Switch in Standard Housing, Angular Roller Lever 1NO+1NC, Normal Action, Rating 10A/500VAC	2
XPBP0001HHL	Indef Make 3 Way Pendant (Emergency Stop (Turn to Release),Hoist/Low Single Speed)	1

MAINTENANCE AND HANDLING

Lubrication

Wire Rope:

- For proper performance the Wire Rope must be maintained in a clean and well lubricated condition.
- The rope should be lubricated every 3 months (more frequently for heavier usage or severe conditions).
- To lubricate the rope, first remove any dirt, grime, moisture or other accumulations of contaminants. Then coat the Wire Rope with PARTHAN EP 320 (SI-17-C-562) oil or equivalent. Ensure that the lubricant is applied to the entire surface of the rope over its entire length.
- For dusty environments, dry lubricants are suggested.
- For conditions not permitting lubricant to fall off the wire rope, consider using non-dripping motorcycle drive chain lubricant.

Wire Rope Drum, Hook Block and Sheaves:

- The drum, hook block and sheaves should be lubricated every 3 months (more frequently for heavier usage or severe conditions).
- Lubricate the Drum, Hook Block and Sheaves with PARTHAN EP 320 (SI-17-C-562) or MP GREASE 3 (SI-18-M-211) grease.
- For dusty environments, dry lubricants are suggested.
- For conditions not permitting lubricant to fall off the drum, hook block and sheaves, consider using non-dripping motorcycle drive chain lubricant.

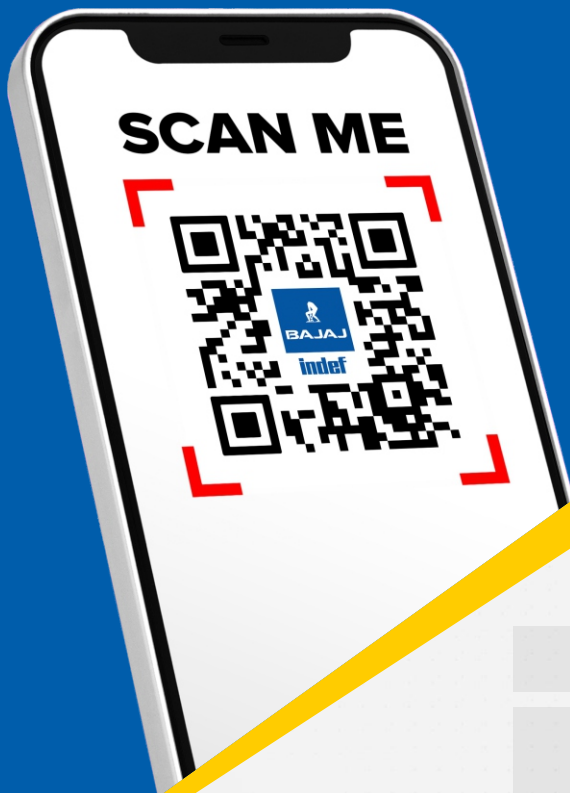
Trolley Wheels and Gears:

- The Trolley Wheels and Gears should be lubricated every 3 months (more frequently for heavier usage or severe conditions).
- Lubricate the Trolley Wheels and Gears with MP GREASE 3 (SI-18-M-211) grease.
- For dusty environments, dry lubricants are suggested.
- For conditions not permitting lubricant to fall off the trolley wheels and gears, consider using non-dripping motorcycle drive chain lubricant.

Hoist and Trolley Gearboxes – The hoist and trolley gearboxes are lubricated for life and should not need any lubricant replacement.

From harbouring a simple dream of becoming a provider of high-quality, truly Indian material handling solutions to becoming the national market leaders, **Bajaj Indef** has journeyed far and long. Right from our incorporation in 1962 till the present day, innovation, excellence, service and customer focus have been some of the key pillars that have carried us thus far and we only aim to take this legacy forward.

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