

COFFING® HOISTS

OPERATING & MAINTENANCE INSTRUCTIONS WITH PARTS LIST

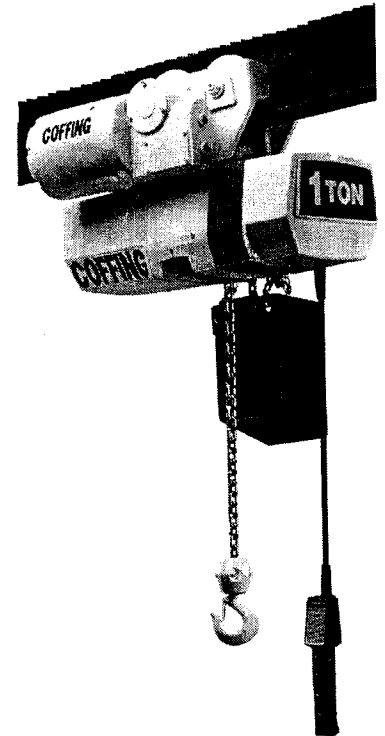
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ECMT - MT Series Trolleys used with Electric Chain Hoist

For Capacities:

EC-1 Models - 1/4-3 Ton — Up to 1HP

EC-3 Models - 1-5 Ton — 2 & 3 HP



BEATON INDUSTRIAL, INC.
6083 Trenton Rd.
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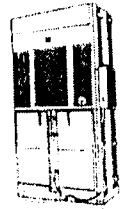
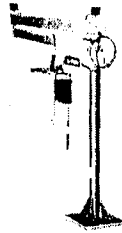
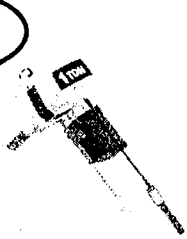
IMPORTANT—CAUTION

To safeguard against the possibility of personal injury or property damage, follow the recommendations and instructions of this manual. This manual contains important information for the correct installation, operation, and maintenance of this equipment. All persons involved in the installation, operation, and maintenance of this equipment should be thoroughly familiar with the contents of this manual. Keep this manual for reference and further use.

⚠ WARNING

To prevent personal injury, do not use the equipment shown in this manual to lift, support, or otherwise transport people, or to suspend unattended loads over people.

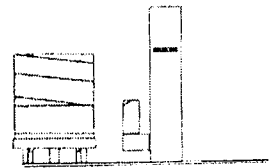
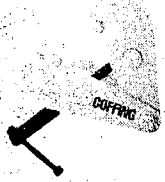
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OVERHEAD EQUIPMENT
HOISTS

ERGONOMICS

HYDRAULIC
BALERS



CONVEYOR

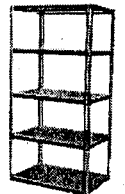
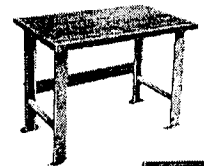
BRIDGE CRANES

WRAPPERS

- AIR CURTAINS
- BALERS/COMPACTORS
- BELOW HOOK
- BENCHES/CARTS/TOOLS
- BRIDGE CRANES
- CABINETS
- CASTERS/WHEELS
- CONTAINERS/WHEELS
- CONVEYORS
- DOCK EQUIPMENT
- ENGINEERED SYSTEMS
- FLOOR MATTING
- OVERHEAD DOORS
- DRUM HANDLING
- FLAMMABLE CABINETS
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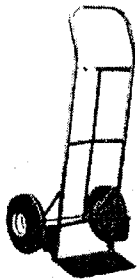
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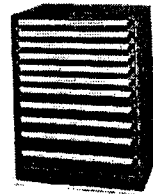
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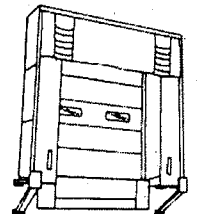
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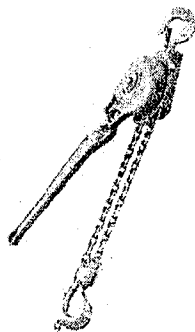
HAND TRUCKS



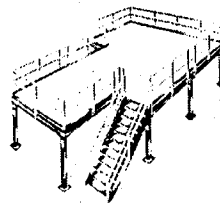
SHOP EQUIPMENT



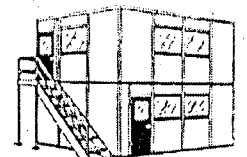
DOCKS, DOORS, SEALS



PULLERS



MEZZANINES



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SECTION I

INTRODUCTION

1-1. General Information

This manual provides information for the installation and maintenance of Coffing® MT Series Motorized Trolleys furnished with EC Series Electric Chain Hoists. The Illustrated Parts List shows all trolley parts. For unillustrated hoist parts, refer to the Operating and Maintenance Instructions for the hoist.

1-2. Safety Standards

Refer to the EC Hoist Operating and Maintenance Instructions for guidelines and applicable standards for safe hoist and trolley operation, as well as information on the proper application of this product.

1-3. Warranty

Every hoist is thoroughly inspected and tested prior to shipment from the factory. Should any problems develop, return the complete hoist prepaid to your nearest Duff-Norton Authorized Warranty Repair Station. If inspection reveals that the problem is caused by defective workman-

ship or materials, repairs will be made without charge and the hoist will be returned, transportation prepaid.

This warranty does not apply where: (1) deterioration is caused by normal wear, abuse, improper or inadequate power supply, eccentric or side loading, overloading, chemical or abrasive actions, improper maintenance or excessive heat; (2) problems resulted from repairs, modifications or alterations made by persons other than factory or Duff-Norton Authorized Warranty Repair Station personnel; (3) the hoist has been abused or damaged as a result of an accident; (4) repair parts or accessories other than those supplied by Duff-Norton are used on the hoist. Equipment and accessories not of the seller's manufacture are warranted only to the extent that they are warranted by the manufacturer. EXCEPT AS STATED HEREIN, DUFF-NORTON MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

SECTION II

INSTALLATION

2-1. Safety Notes

- Inspect the hoist and trolley for any evidence of shipping damage or loose parts.
- The beam and supporting structure should have a load rating at least equal to that of the hoist.
- All beams or tracks must have positive stops to prevent the trolley from running off the end.

2-2. Trolley Mounting

- For the best possible wheel and beam life, Coffing® Motorized Trolleys use different wheels for American Standard I-beams, Wide (flat) Flange beams and patented monorail track. Check that the trolley wheels match the contour of the beam flange.
- Standard Motorized Trolleys are adjustable for the flange widths of 3.33 to 6.00 inches (4.0 inch minimum on 4 or 5 ton models). Adjustment for I-beam sizes and tolerances is accomplished by locating the spacer washers as shown in Figure 2-1. Normal placement of washers is given in Table 2-1.
- The load pin nuts for trolleys require a tightening torque of 100 ft.-lbs. Refer to Figure 2-1 for nut identification.

- Trolleys can be mounted on beam radii as small as 4 feet. Slightly increased spacing may be required when the trolley is mounted on curved beams to maintain freedom of movement.

BEAM MANUFACTURING TOLERANCES ALLOW WIDE VARIATIONS FROM HANDBOOK FLANGE WIDTHS. SLIGHT CHANGES TO RECOMMENDED WASHER DISTRIBUTION MAY BE NECESSARY TO SUIT SPECIFIC INSTALLATIONS.

The particular beam on which your hoist is to be installed should be measured and trolley spacer washers adjusted as required to achieve a wheel to beam flange clearance of $\frac{3}{32}$ " to $\frac{1}{8}$ ".

2-3. Power Supply Connection

- Disconnect and lock out power before making connections.
- Follow procedures under "Power Supply Connection" in the hoist Operating and Maintenance Instructions.
- When used, current collectors should be installed per the recommendations of the collector manufacturer. A collector mounting arm is available from Duff-Norton.

which accepts most brands of collectors. This arm is vertically adjustable to accommodate most collectors and beam sizes.

2-4. Initial Lubrication

Lubricate trolley wheel gears with NLGI-2 or heavier grease.

TABLE 2-1. TROLLEY I-BEAM ADJUSTMENT DATA

		"I" Beam Size					
		6"	8"	10"	12"	15"	18"
¼ to 3 Ton, Lug Mount (EC-1 Models)							
Washers Between Hoist & Trolley	Thick	1	3	6	5	9	8
	Thin	0	1	0	4	0	5
Washers Outside Trolley	Thick	8	6	3	4	0	1
	Thin	5	4	5	1	5	0
1, 2 and 3 Ton, Box Mount (EC-3 Models)							
Washers Between Hoist & Trolley	Thick	0	3	1	4	7	6
	Thin	1	0	8	5	3	8
Washers Outside Trolley	Thick	7	4	6	3	0	1
	Thin	8	9	1	4	6	1
4 and 5 Ton (EC-3 Models)							
Washers Between Hoist & Trolley	Thick		1	1	3	6	6
	Thin		0	4	3	1	4
Washers Outside Trolley	Thick		6	6	4	1	1
	Thin		5	1	2	4	1

Maintain approx. $\frac{3}{32}$ " clearance at point "C"

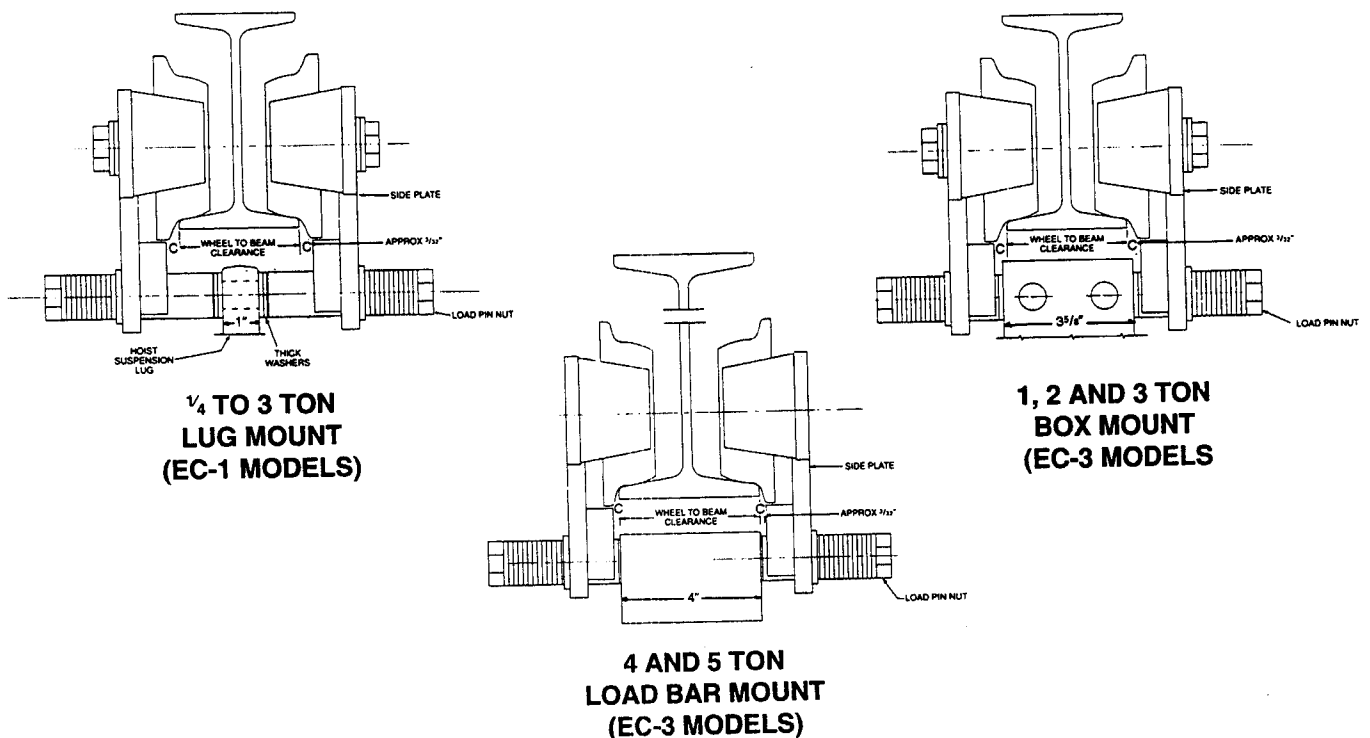


FIGURE 2-1. SPACER WASHER LOCATION: LUG MOUNTED HOISTS

SECTION III

OPERATION

3-1. This section offers guidelines for the proper operation of Coffing Motorized Trolleys used with electric hoists. It is not intended to serve as a handbook on rigging. For information on the safe use of slings and similar gear, users are urged to consult a textbook on rigging.

3-2. Safety Notes

- a. Inspect the trolley for any sign of loose, broken or malfunctioning parts. Any malfunctioning trolley should be tagged as "out of order" and removed from service until the defect is corrected.
- b. Be sure that beam end stops are in place.
- c. Before starting the trolley, the operator should be certain that all personnel are clear.
- d. Do not carry more than the rated load of the trolley.
- e. Avoid jogging controls or quick reversals of trolley.
- f. Do not carry people or loads over people.
- g. Do not leave a suspended load unattended.
- h. The operator should have a clear view of the load anytime it is moving and should be sure that the load

does not contact any obstructions.

- i. Read ANSI B30.16 Safety Standard for Overhead Hoists.

3-3. Handling the Load

- a. Align hoist and trolley directly over the load. Avoid side pull or any action which causes trolley wheels to lift on one side of beam.
- b. Bring the hoist hook into engagement with the load and make sure it is well seated before proceeding to move the load.
- c. Lift the load just clear of its supports to check for proper brake operation, then proceed to lift the load to the height necessary to clear any objects over which the load must pass.
- d. Avoid letting load swing excessively while moving the trolley. Let the trolley coast to a stop instead of reversing the trolley motor.
- e. Do not run the motorized trolley into beam end stops or other trolleys on the beam.

SECTION IV

INSPECTION

The trolley should be inspected for damage, loose parts, and excessive wheel wear at the same time as hoist inspection.

See the hoist Operating and Maintenance Instructions for inspection schedule guidelines.

SECTION V

MAINTENANCE AND REPAIR

5-1. No routine maintenance of the trolley is required other than wheel gear lubrication.

5-2. Lubrication

- a. **Trolley Wheel Gears**—Lubricate at periodic inspection with an NLGI #2 or heavier grease.

- b. **Trolley Gearbox**—Periodic lubrication should not be necessary. If the gearbox is opened for repair, repair with an NLGI #1 grease.
- c. **Trolley Wheel Bearings**—Trolley wheel bearings are pre-lubricated and sealed. Bearings must be replaced if problems are indicated.

SECTION VI

WIRING

SAFETY NOTE

Disconnect power from unit before removing electrical covers.

6-1. Voltage Conversion

Standard single speed units use dual voltage motors (230/460 volt, 3 phase; 115/230 volt, single phase). Motorized trolley units are factory wired for a specified voltage. Reconnection to the alternate voltage requires resplicing

of leads in both the trolley and the hoist. See the appropriate wiring diagram for splice connections.

6-2. Wiring Diagrams

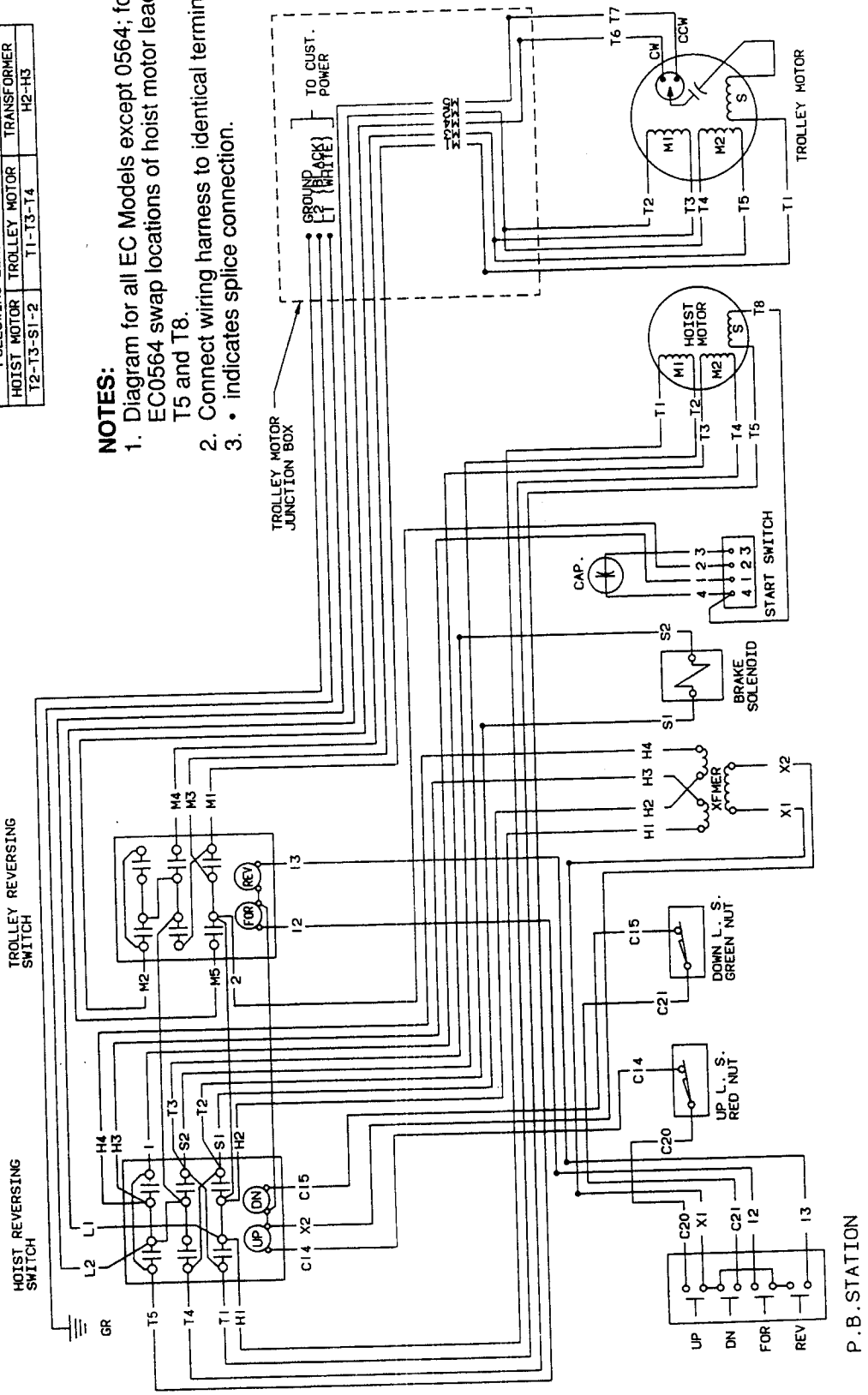
The wiring diagram for standard models are reproduced on the following pages. In addition, every hoist should have a wiring diagram located in either the trolley control box or the hoist long end cover.

SHOWN WIRED FOR 115 VOLTS.

FOR 230 VOLT OPERATION, DISCONNECT FOLLOWING LEADS AND SPLICE TOGETHER.		
HOIST MOTOR	TROLLEY MOTOR	TRANSFORMER
T2-T3-S1-2	T1-T3-T4	H2-H3

NOTES:

1. Diagram for all EC Models except 0564; for EC0564 swap locations of hoist motor leads T5 and T8.
2. Connect wiring harness to identical terminals
3. • indicates splice connection.



WIRING DIAGRAM (115/230V)
 1 SPD HOIST 1 SPD TROLLEY

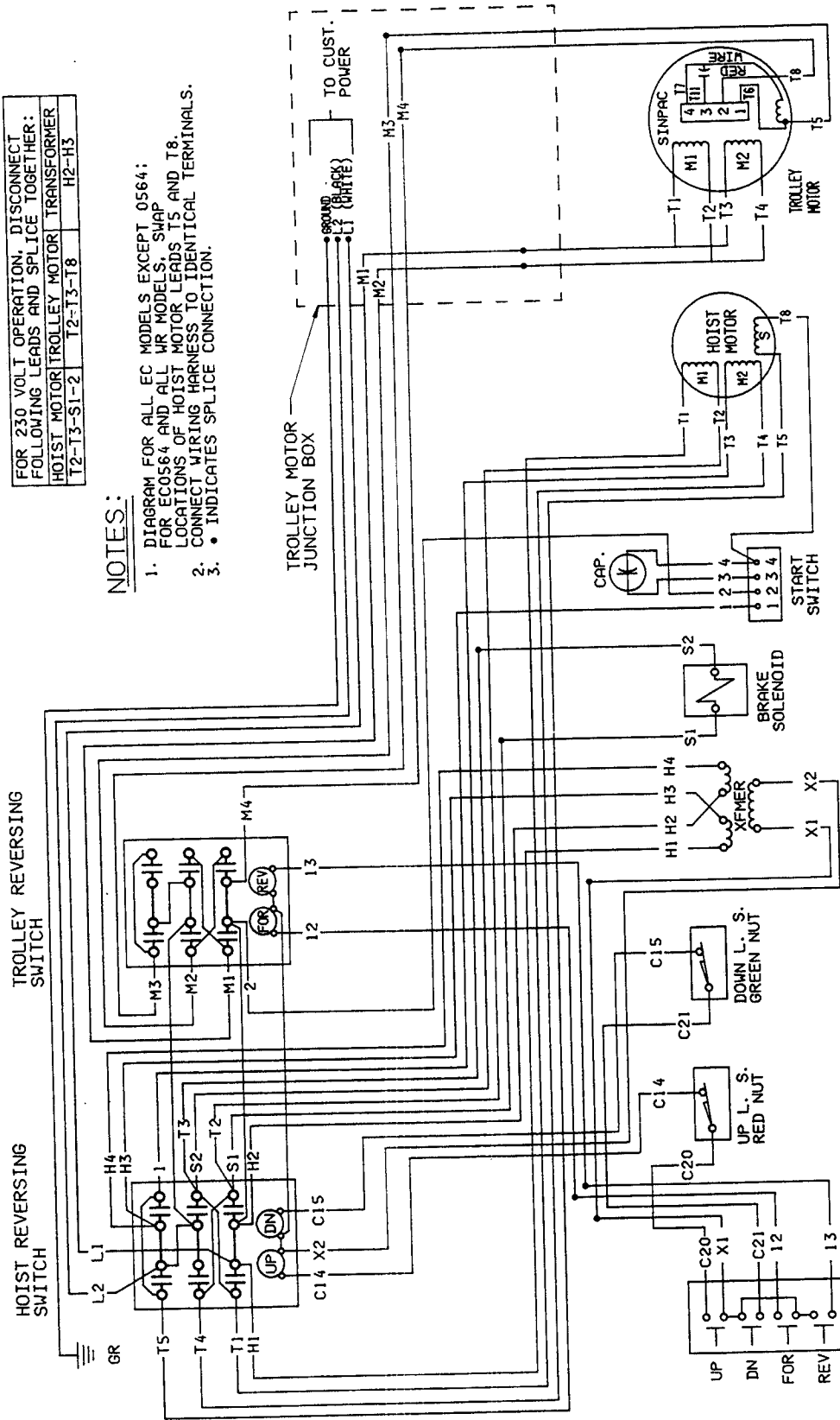
FIGURE 6-1. 981ECMT30
 (SINGLE PHASE UNITS)

SHOWN WIRED FOR 115 VOLTS.

FOR 230 VOLT OPERATION, DISCONNECT
FOLLOWING LEADS AND SPLICE TOGETHER:
HOIST MOTOR TROLLEY MOTOR TRANSFORMER
T2-T3-S1-2 T2-T3-T8 H2-H3

NOTES:

1. DIAGRAM FOR ALL EC MODELS EXCEPT 0564;
FOR EC0564 AND ALL UR MODELS, SWAP
LOCATIONS OF HOIST MOTOR LEADS T5 AND T8.
2. CONNECT WIRING HARNESS TO IDENTICAL TERMINALS.
3. • INDICATES SPLICE CONNECTION.



(SINGLE PHASE UNITS)

P. B. STATION

FIGURE 6-1A. 981 ECMT50
(SINGLE PHASE UNITS)

SPLICE CONNECTIONS		TROLLEY	
HOIST	230V	230V	460V
L1-H1-H2	L1-H1	M1-T1-T7	M1-T1
L3-H3-H4	L3-H4	M2-T2-T8	M2-T2
T1-T7-S1	H2-H3	M3-T3-T9	M3-T3
T2-T8-S2	T1	T4-T5-T6	T4-T7
T3-T9	T2		T5-T8
T4-T5-T6	T3		T6-T9
	T4-T7		
	T5-T8-S1		
	T6-T9-S2		

NOTE: CONNECT WIRING HARNESS TO IDENTICAL TERMINALS. • INDICATES SPLICE CONNECTIONS

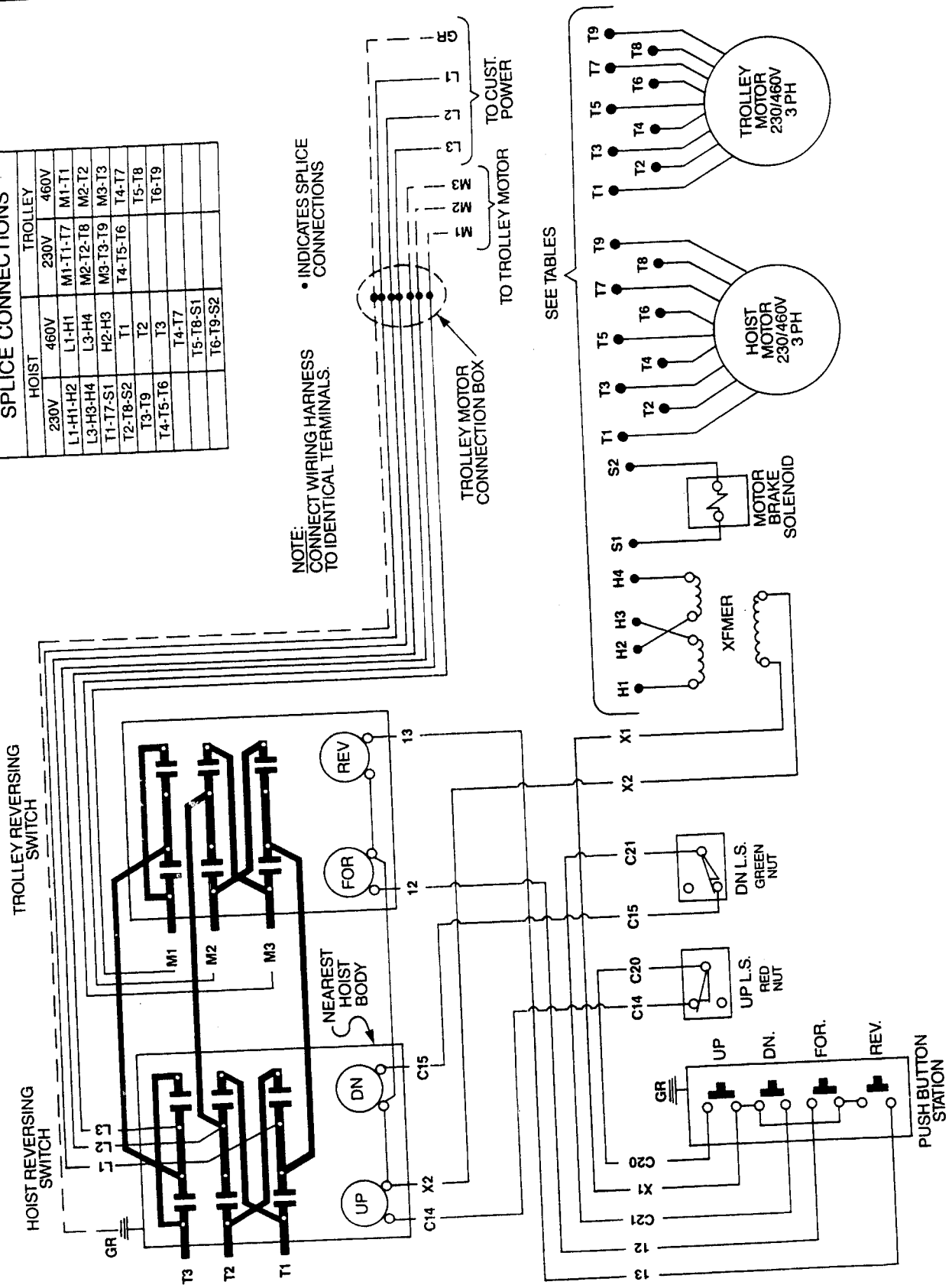
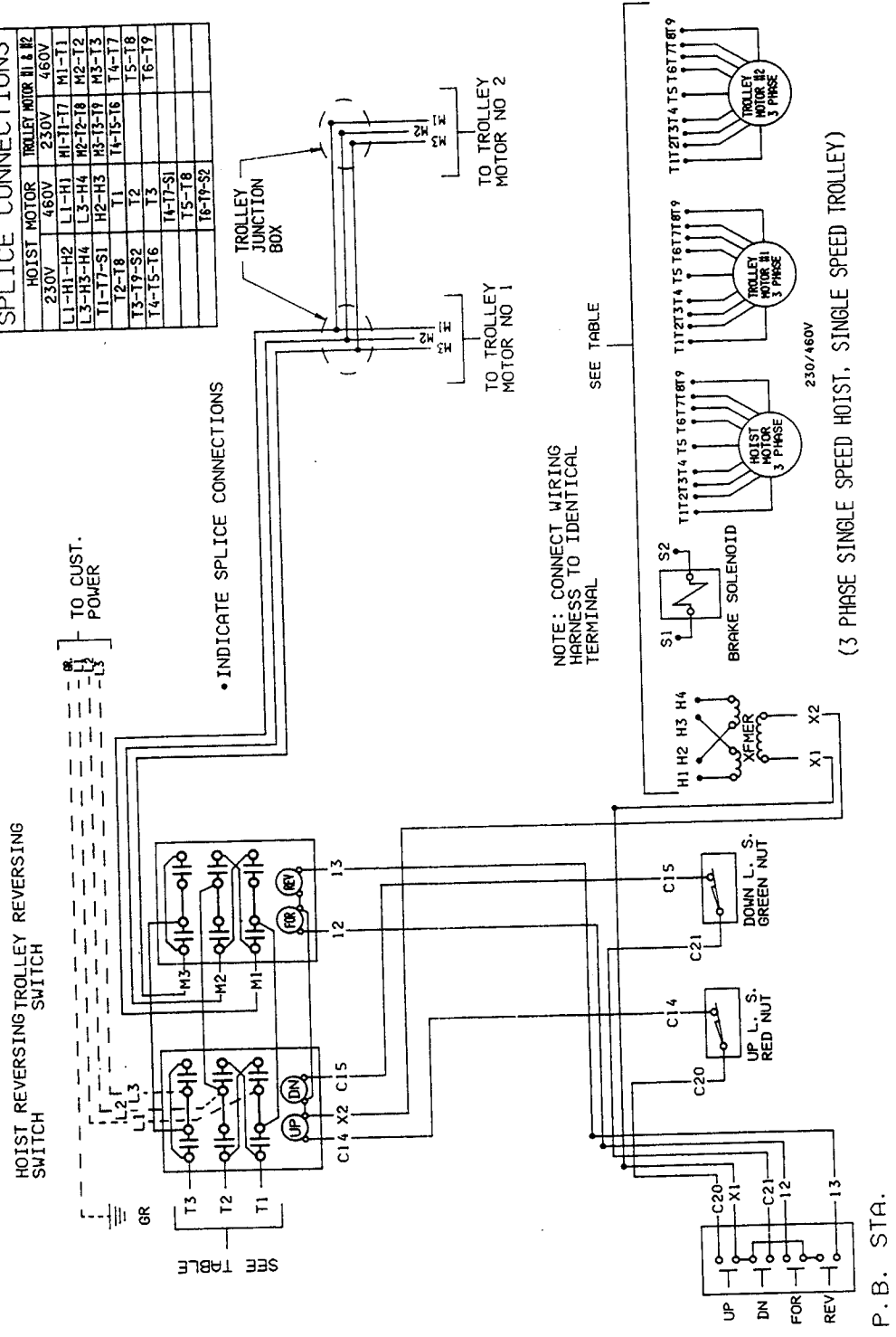


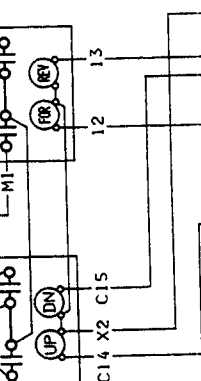
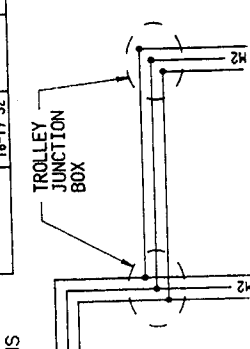
FIGURE 6-2. 983ECMT1
(3 PHASE SINGLE SPEED HOIST, SINGLE SPEED TROLLEY)

SPLICE CONNECTIONS	
HOIST MOTOR	TROLLEY MOTOR #1 & #2
230V	460V
L1-H1-H2	L1-H1
L3-H3-H4	L3-H4
T1-T7-S1	H2-H3
T2-T8	T1
T3-T9-S2	T2
T4-T15-16	T3
	T4-T15-16
	T5-T8
	T5-T8
	T6-T9
	T6-T9
	T7-T8
	T7-T8
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	T97-T98
	T98-T99
	T98-T99
	T99-T100
	T99-T100



TO CUST. POWER

INDICATE SPLICE CONNECTIONS



SEE TABLE

NOTE: CONNECT WIRING HARNESS TO IDENTICAL TERMINAL

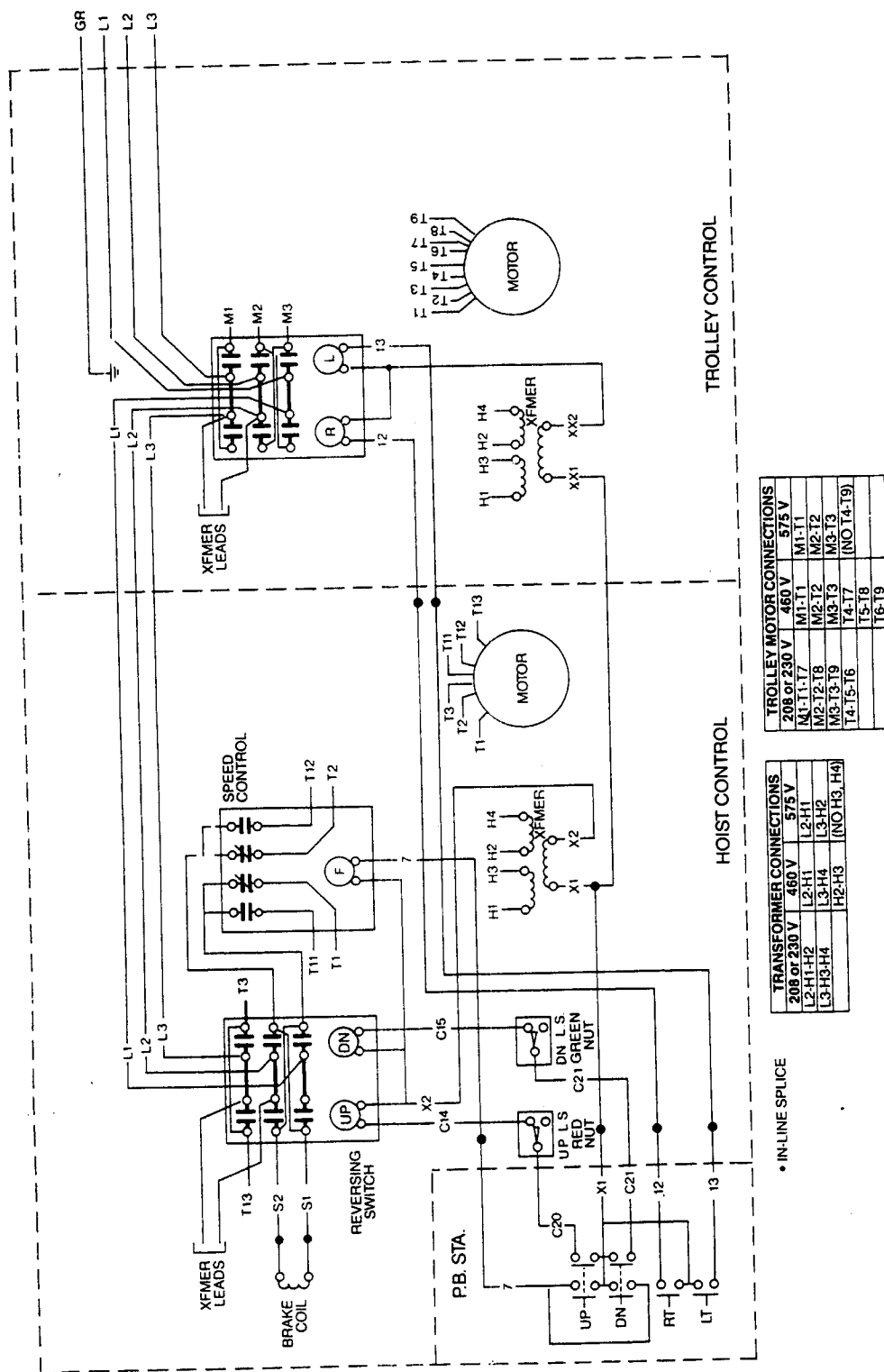
SEE TABLE

230/460V

(3 PHASE SINGLE SPEED HOIST, SINGLE SPEED TROLLEY)

P. B. STA.

FIGURE 6-2A. 983 ECMT127 (EC-3 4 & 5 TON MODELS)
(3 PHASE SINGLE SPEED HOIST, SINGLE SPEED TROLLEY)

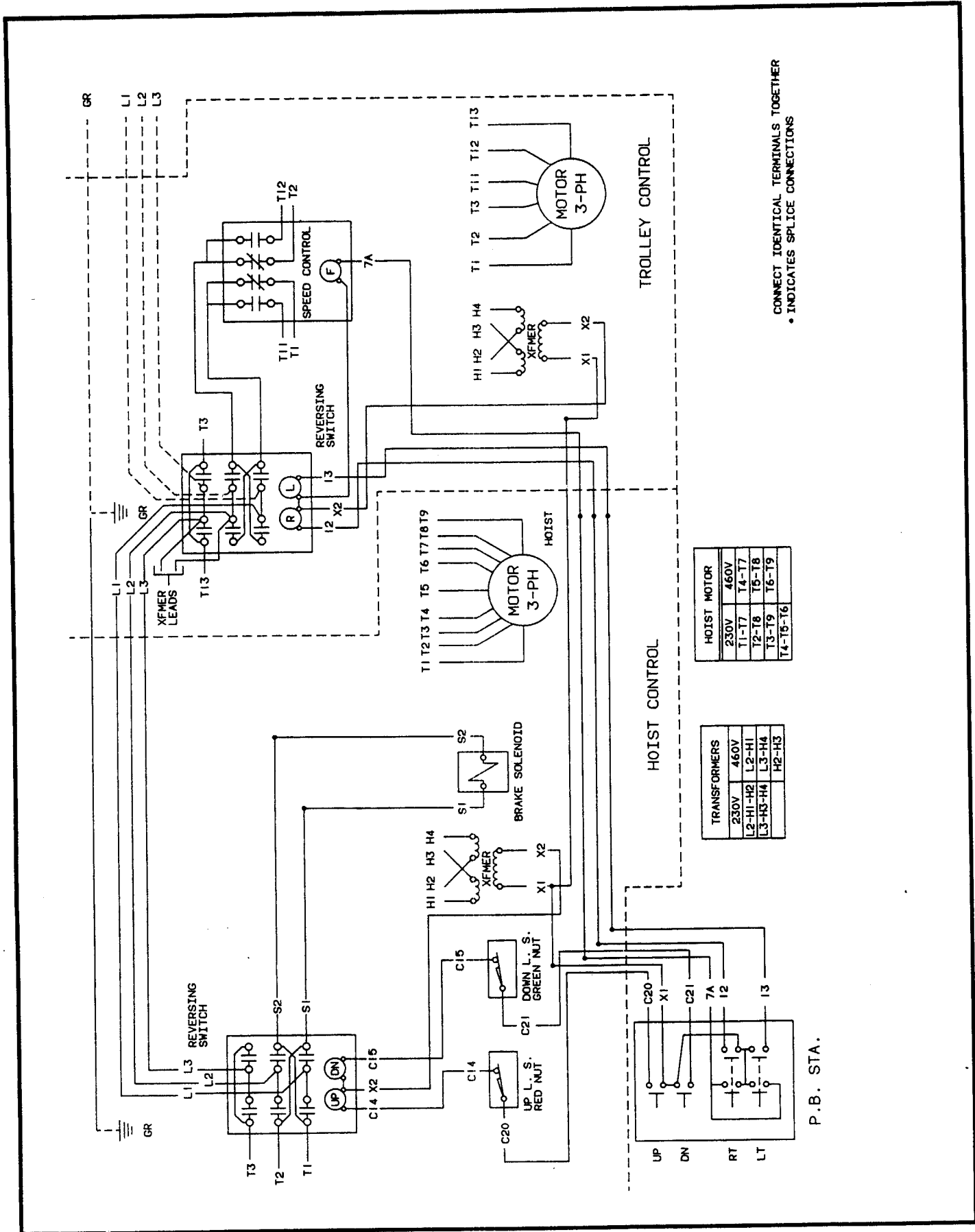


TROLLEY MOTOR CONNECTIONS		
208 or 230 V	460 V	575 V
M1-T1-T7	M1-T1	M1-T1
M2-T2-T8	M2-T2	M2-T2
M3-T3-T9	M3-T3	M3-T3
T4-T5-T6	T4-T7	(NO T4-T9)
	T5-T8	
	T6-T9	

TRANSFORMER CONNECTIONS		
208 or 230 V	460 V	575 V
L2-H1-H2	L2-H1	L2-H1
L3-H3-H4	L3-H4	L3-H2
	H2-H3	(NO H3, H4)

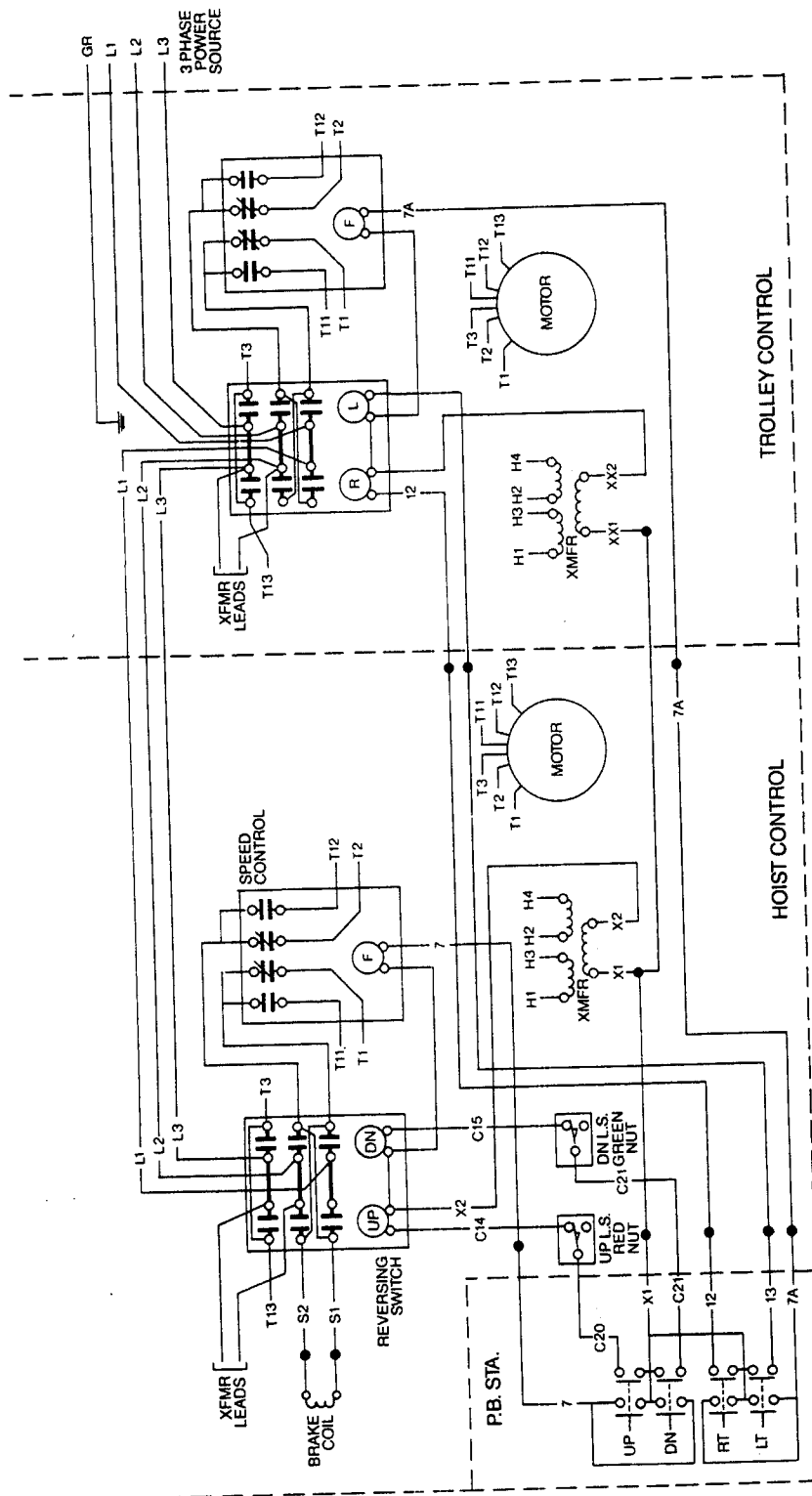
• IN-LINE SPLICE

FIGURE 6-3. 983ECMT268
(2 SPEED HOIST, SINGLE SPEED TROLLEY)



CONNECT IDENTICAL TERMINALS TOGETHER
 • INDICATES SPLICE CONNECTIONS

**FIGURE 6-4. 983ECMT269A
 (SINGLE SPEED HOIST, TWO SPEED TROLLEY)**



TRANSFORMER CONNECTIONS		
208 or 230 V	460 V	575 V
L2-H1-H2	L2-H1	L2-H1
L3-H3-H4	L3-H4	L3-H2
H2-H3	(NO H3, H4)	

• IN-LINE SPLICE

FIGURE 6-5. 983ECMT271
(TWO SPEED HOIST, TWO SPEED TROLLEY)

SECTION VII

ILLUSTRATED PARTS LIST

7-1. General

The following exploded drawings provide a complete list of parts used in standard Motorized Trolleys used with EC hoist models. Since a number of different hoist and trolley models are covered by this manual, differences may be noted between the appearance of your part and the reference illustration. Where more than one part is shown for a reference number, sufficient information to pick the correct part should be included in the part description. For hoist parts not shown in this manual, refer to the hoist's Operating and Maintenance Instructions.

7-2. How to Order Replacement Parts

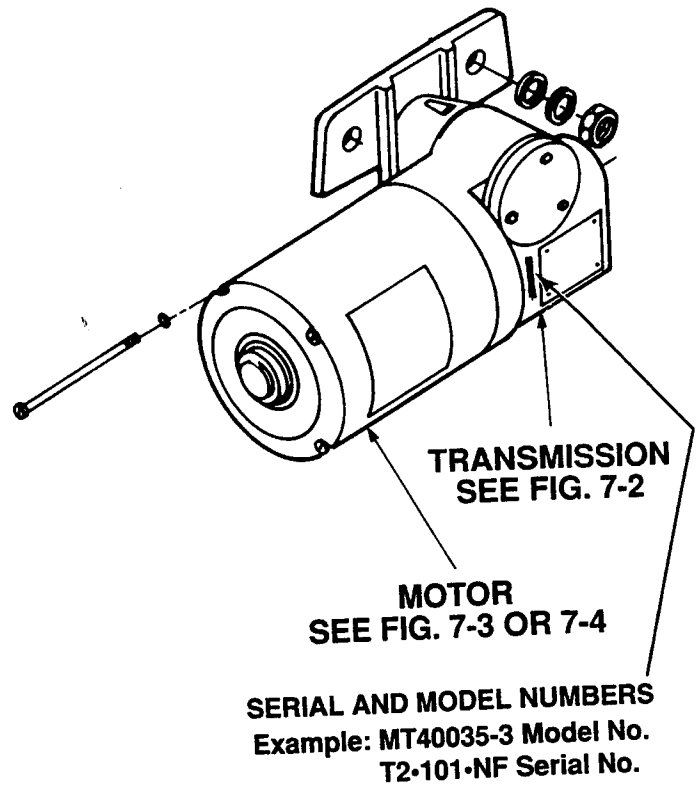
When ordering parts or requesting information concerning

your trolley or hoist, always include the model and serial numbers of hoist and trolley. The hoist and trolley will each have its own numbers stamped into its housing.

When ordering motor parts, please provide complete motor nameplate data, including motor manufacturer name and motor "ref." number or model number.

NOTE

Repair parts are available only from Coffing distributors or authorized repair facilities. It is recommended that repair part orders be directed to the authorized repair facility nearest you.



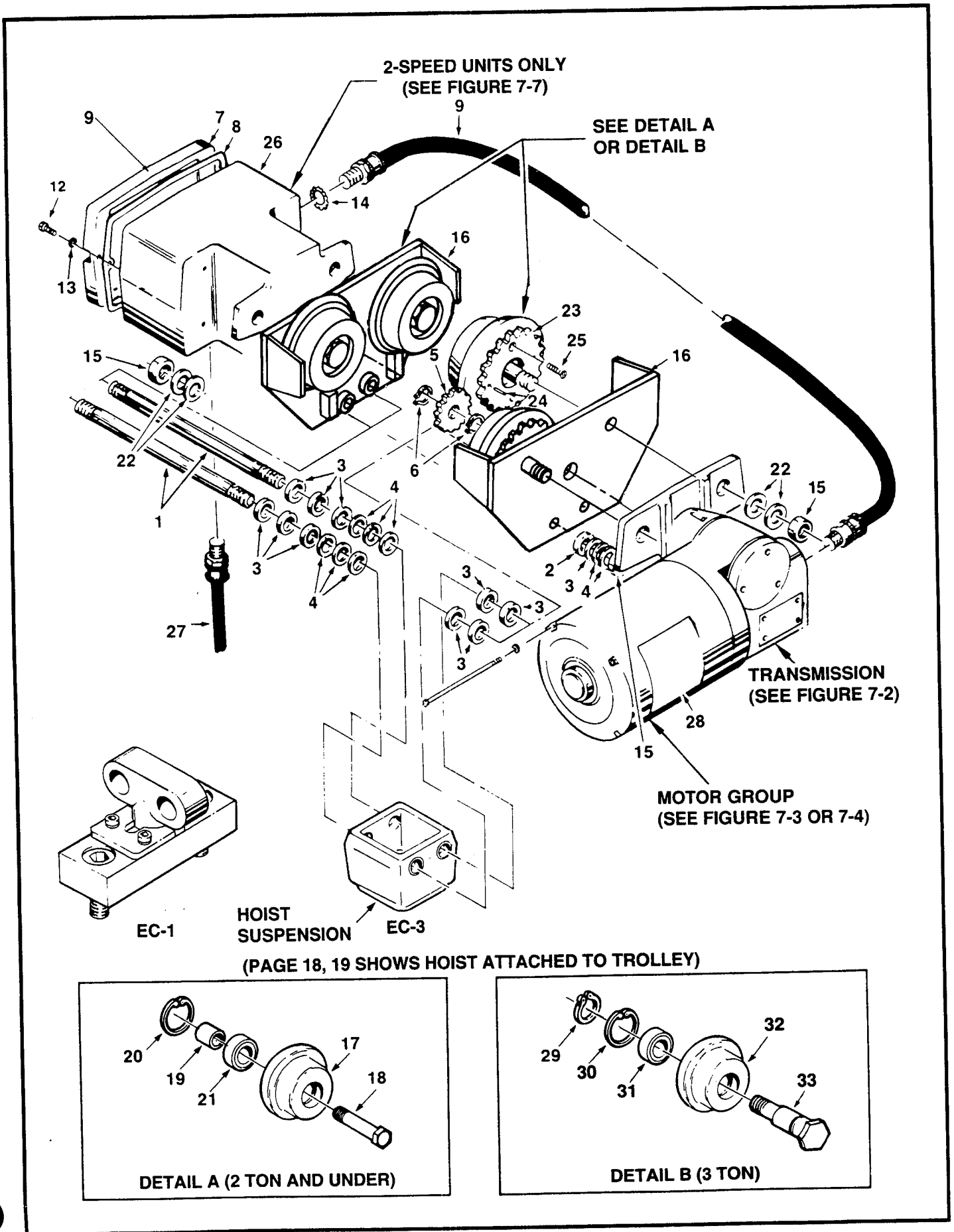


FIGURE 7-1. TROLLEY GENERAL ASSEMBLY (3 TON & UNDER)

Index No.	Part Name	Part No.	Index No.	Part Name	Part No.
1	Load Pin	103K1	17	Wheel:	
2	Washer (1/8" Thick)	H-4211		Plain	45K10
3	Washer (.135 Thick)	H-4209		Drive	45K1
4	Washer (.075 Thick)	H-4210	18	Axle	102K1
5	Pinion	420K1	19	Spacer	200K1
6	Retaining Ring	H-5501	20	Retaining Ring	H-5528
7	Cover, Control Box	36K3	21	Bearing	500K4
8	Gasket	560K4	22	Washer (1/8 Thick)	
9	Capacity Label:			2 Ton & Under	H-4211
	1/4 Ton	675K18		3 Ton	H-4212
	1/2 Ton	675K19	23	Gear	420K2
	1 Ton	675K20	24	Dowel Pin	H-5331
	2 Ton	675K21	25	Screw	H-2165
	3 Ton	675K22	26	Control Box (If Used)	
10*	Splice Cap	H-7519		2 Ton and under	36K1
11*	Insulator, Splice Cap	H-7520		3 Ton	36K2
12	Screw	S-44-4	28	Decal	692K1
13	Lock Washer	H-4084-P	29	Retaining Ring	H-5529
15	Lock Washer		30	Retaining Ring	H-5530
	2 Ton & Under	H-3945	31	Bearing	500K5
	3 Ton	H-3946	32	Wheel:	
16**	Side Plate Weldment:			Plain	45K20
	1 & 2 Ton (EC-3 Models)	5KG4		Drive	45K2
	3 Ton (EC-3 Models)	5KG31	33	Axle	102K2
	2 Ton & Under (EC-1 Models)	5KG1			
	3 Ton (EC-1 Models)	5KG2			

* Not Illustrated

** Identify hoist and trolley model as an EC-1 or EC-3.

FIGURE 7-1. TROLLEY GENERAL ASSEMBLY (3 TON & UNDER)

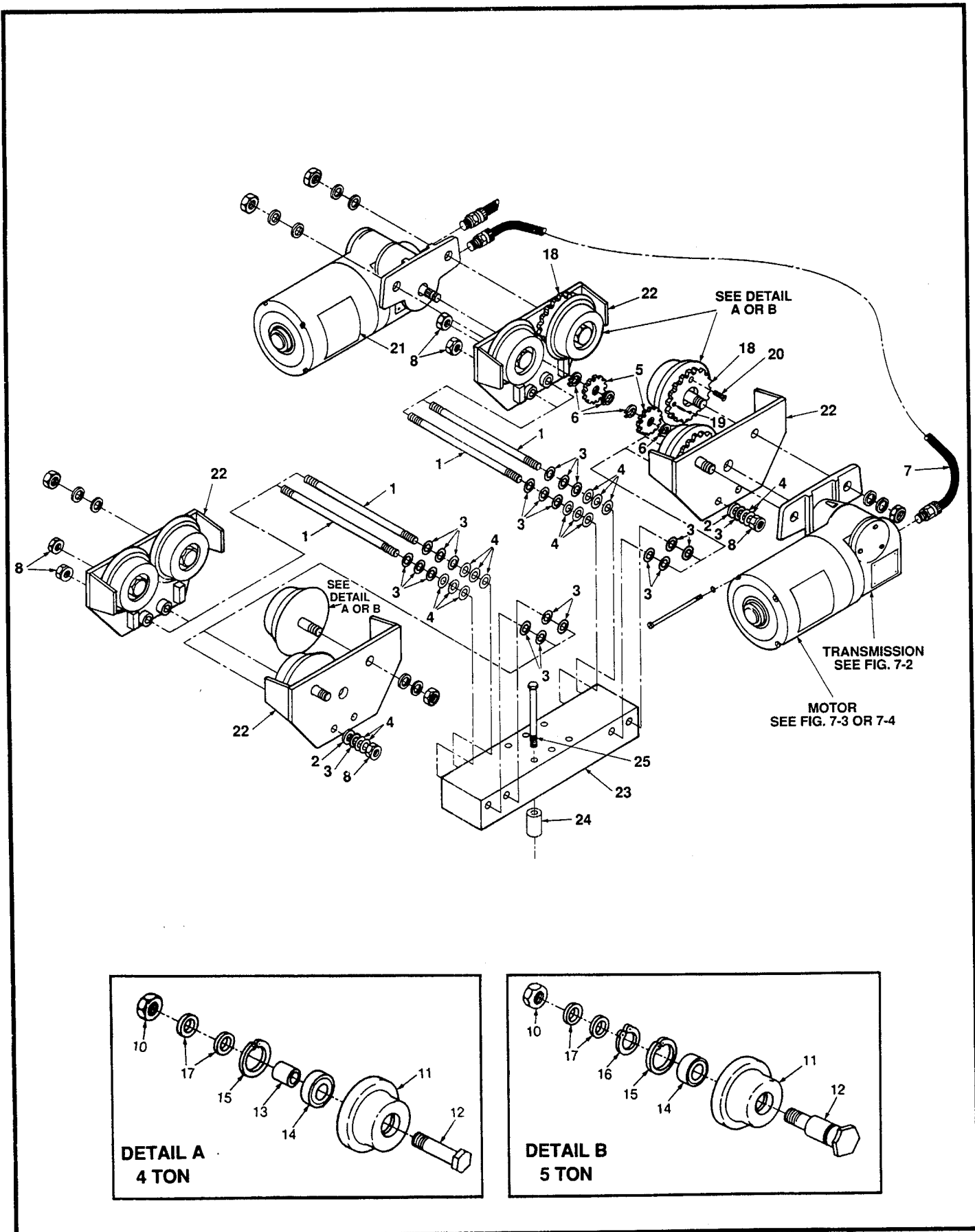


FIGURE 7-1A. TROLLEY GENERAL ASSEMBLY (EC-3 4 & 5 TON ONLY)

Index No.	Part Name	Part No.
1	Load Pin (up to 6" Flange Width)	103K1
2	Washer (1/8" Thick)	H4211
3	Washer (.135 Thick)	H4209
4	Washer (.025 Thick)	H4210
5	Pinion	420K1
6	Retainer Ring	H-5501
7	Tie Cable Assembly	
	Single Speed	955KG-6
	Two Speed	955KG9
8	Nut (Load Pin)	H-3945
9	Wheel Assembly (For S-shaped I-Beam Only): (Consist of Index No. 10 Thru 17)	
	4 Ton:	
	Geared Wheel Assembly	45KG2
	Plain Wheel Assembly	45KG1
	5 Ton:	
	Geared Wheel Assembly	45KG4
	Plain Wheel Assembly	45KG3
10	Nut Axle:	
	4 Ton	H-3945
	5 Ton	H-3946
11	Wheel (For S-Shape I Beam Only):	
	4 Ton:	
	Geared Wheel (Gear Not Included)	45K1
	Plain Wheel	45K10
	5 Ton:	
	Geared Wheel (Gear Not included)	45K2
	Plain Wheel	45K20
12	Axle:	
	4 Ton	102K1
	5 Ton	102K2

Index No.	Part Name	Part No.
13	Spacer (4 Ton Only)	200K1
14	Bearing:	
	4 Ton	500K4
	5 Ton	500K5
15	Retainer Ring:	
	4 Ton	H-5528
	5 Ton	H-5530
16	Retaining Ring (5 Ton Only)	H-5529
17	Washer:	
	4 Ton	H-4211
	5 Ton	H-4212
18	Gear	420K2
19	Pin	H-5331
20	Screw	H-2165
21	Decal:	677J7
22	Side Plate	
	4 Ton	5KG4
	5 Ton	5KG31
23	Load Bar:	
	4 Ton	50K52
	5 Ton	50K51
24	Spacer	*127J9 **127J7
25	Bolt	*H-2451 ** H-2438

* Motorized Trolley Models (4 & 5 Ton)

** Plain and Geared Trolley Models (4 & 5 tons)

FIGURE 7-1A. TROLLEY GENERAL ASSEMBLY (4 & 5 TON ONLY)

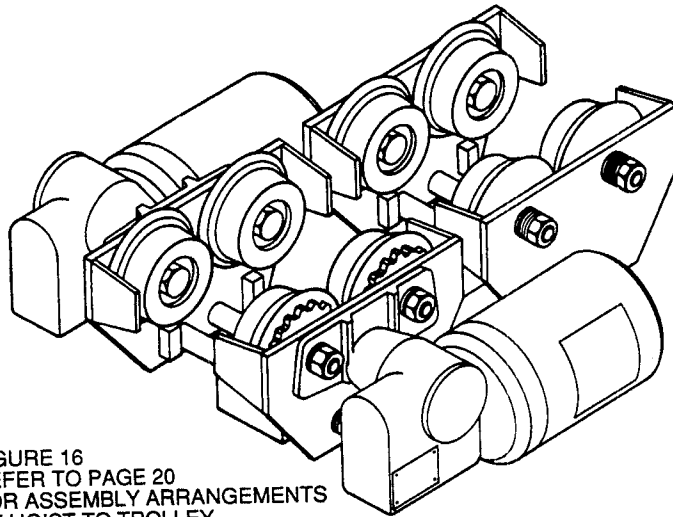
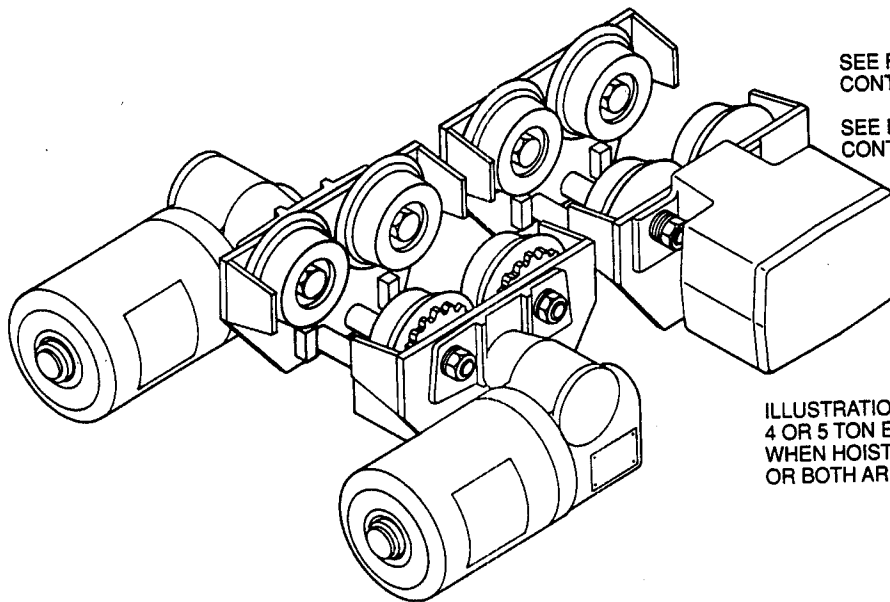


ILLUSTRATION FOR
4 OR 5 TON ECMT
WHEN BOTH HOIST AND
TROLLEY ARE SINGLE SPEED
SEE FIG. 7-5 FOR TROLLEY CONTROLS

NOTE POSITION OF TROLLEY
MOTORS AND TROLLEY CONTROL BOX
IN EACH VIEW.

FIGURE 16
REFER TO PAGE 20
FOR ASSEMBLY ARRANGEMENTS
OF HOIST TO TROLLEY

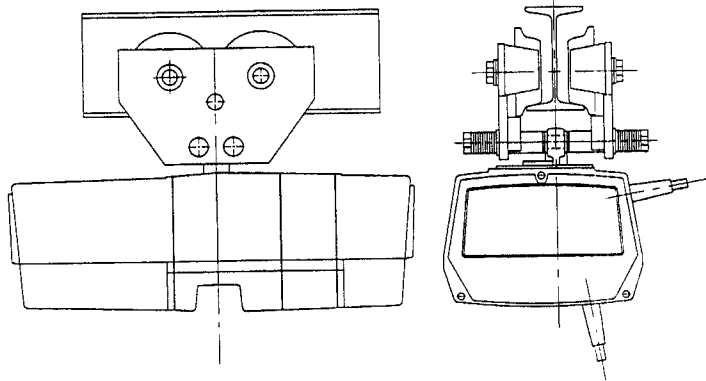


SEE FIG. 7-6 SINGLE SPEED TROLLEY
CONTROL BOX ASSY.

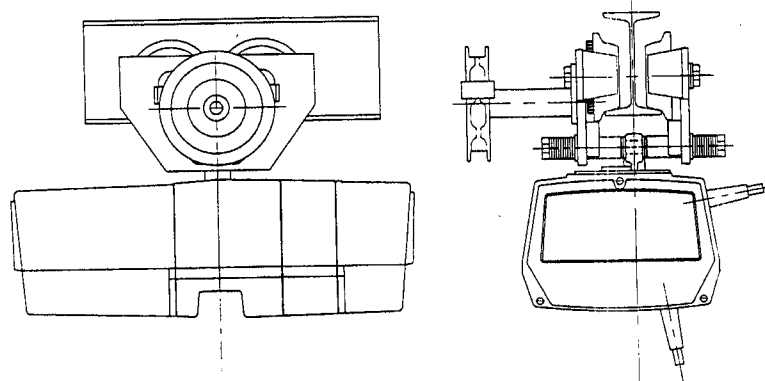
SEE FIG. 7-7 TWO SPEED TROLLEY
CONTROL BOX ASSY.

ILLUSTRATION FOR
4 OR 5 TON ECMT
WHEN HOIST OR TROLLEY
OR BOTH ARE TWO SPEED

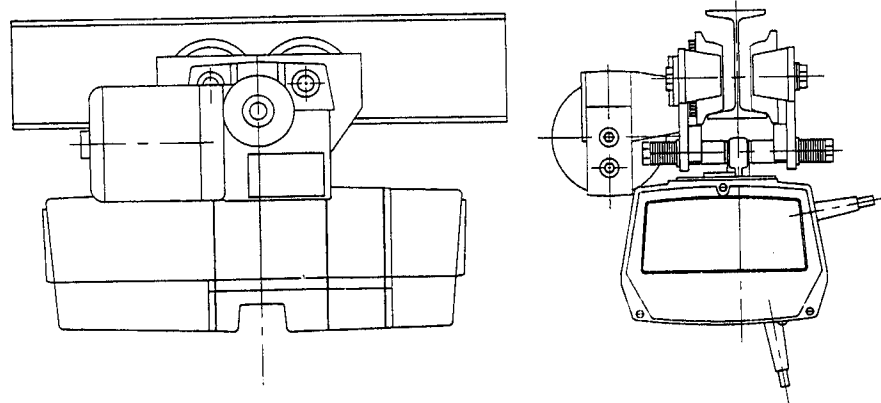
FIGURE 16



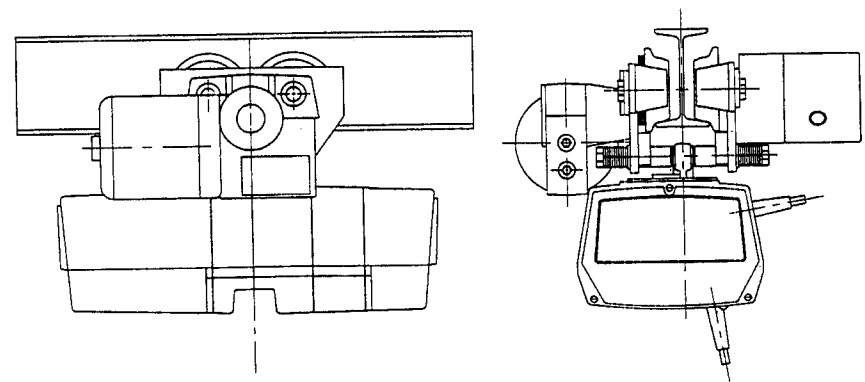
**EC-1
PLAIN TROLLEY
MOUNTED HOIST
(PARALLEL MOUNTED)**



**EC-1
GEARED TROLLEY
MOUNTED HOIST
(PARALLEL MOUNTED)**

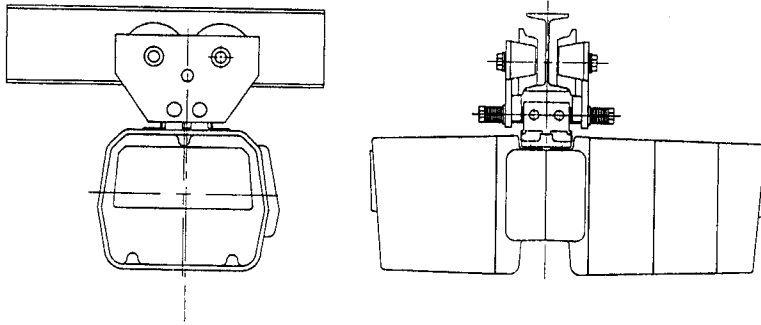


**EC-1
MOTORIZED TROLLEY
MOUNTED HOIST
SINGLE SPEED
HOIST AND TROLLEY
(PARALLEL MOUNTED)**



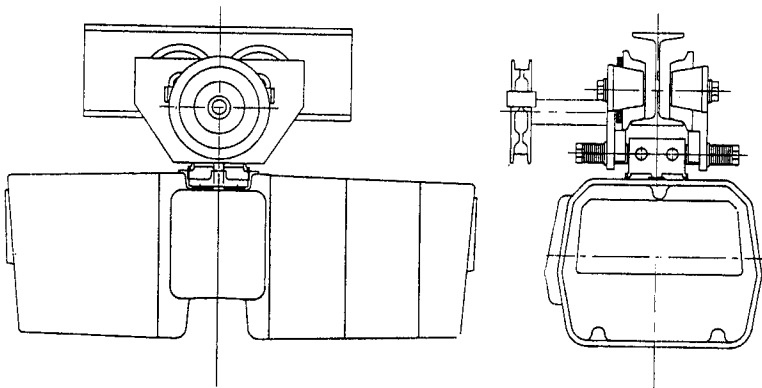
**EC-1
MOTORIZED TROLLEY
MOUNTED HOIST
ANY 2 SPEED
COMBINATIONS
(PARALLEL MOUNTED)**

ARRANGEMENT DRAWING — REFERENCE FOR EC-1 HOIST FIG. 1C



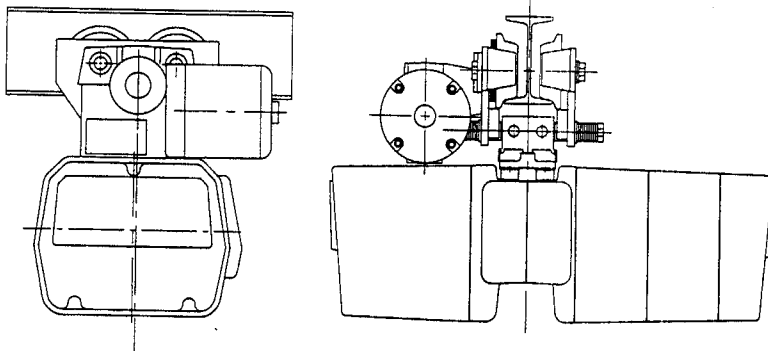
**EC-3
PLAIN TROLLEY
MOUNTED HOIST
(CROSS MOUNTED)**

1, 2, 3 TON



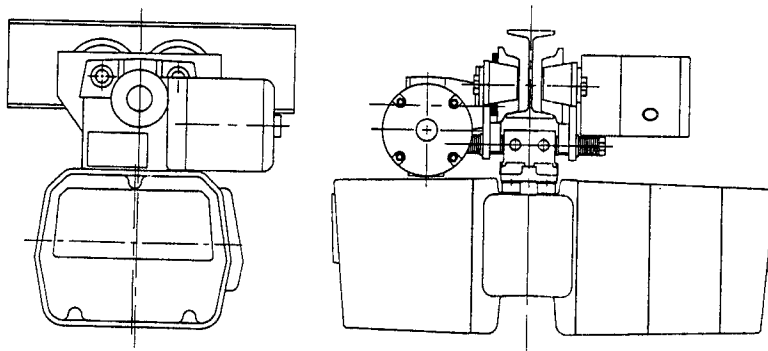
**EC-3
GEARED TROLLEY
MOUNTED HOIST
(PARALLEL MOUNTED)**

1, 2, 3 TON



**EC-3
MOTORIZED TROLLEY
MOUNTED HOIST
SINGLE SPEED
HOIST AND TROLLEY
(CROSS MOUNTED)**

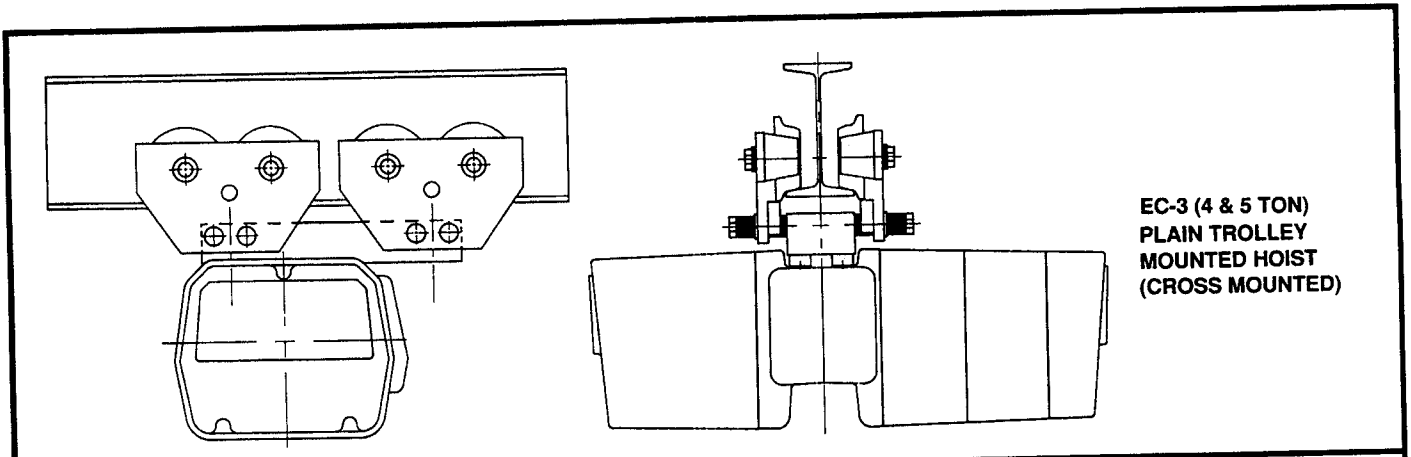
1, 2, 3 TON



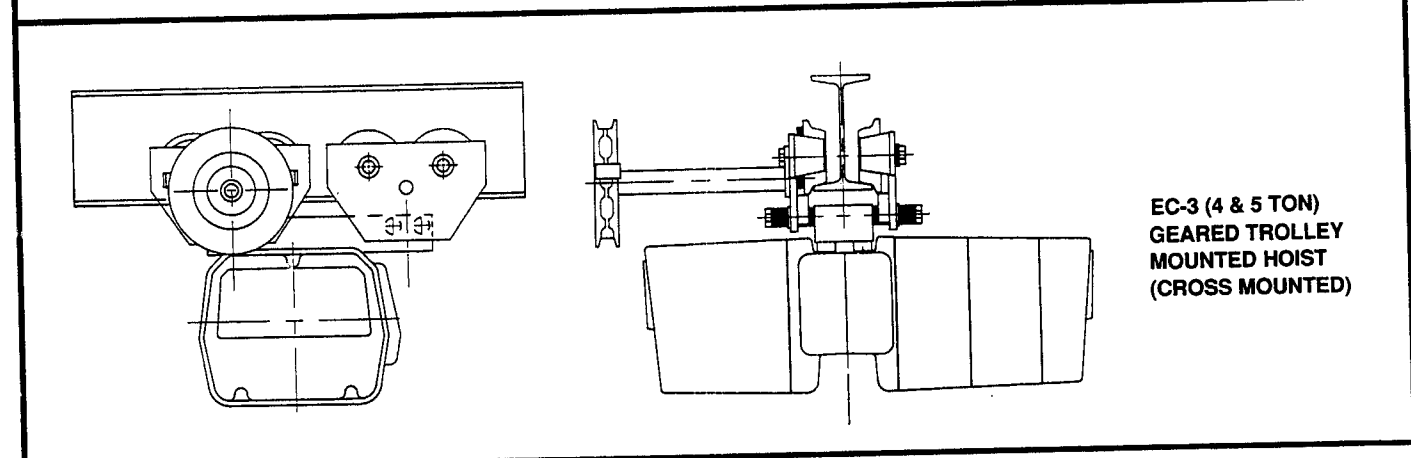
**EC-3
MOTORIZED TROLLEY
MOUNTED HOIST
ANY 2 SPEED
COMBINATIONS
(CROSS MOUNTED)**

1, 2, 3 TON

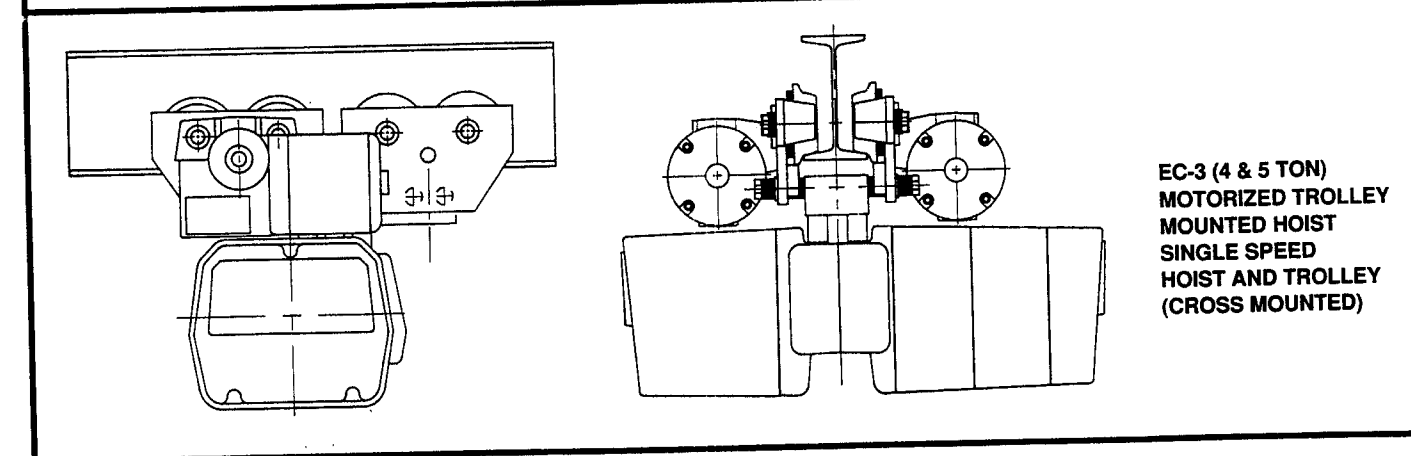
ARRANGEMENT DRAWING — REFERENCE FOR EC-3, 1, 2, 3 TON FIG. 1D



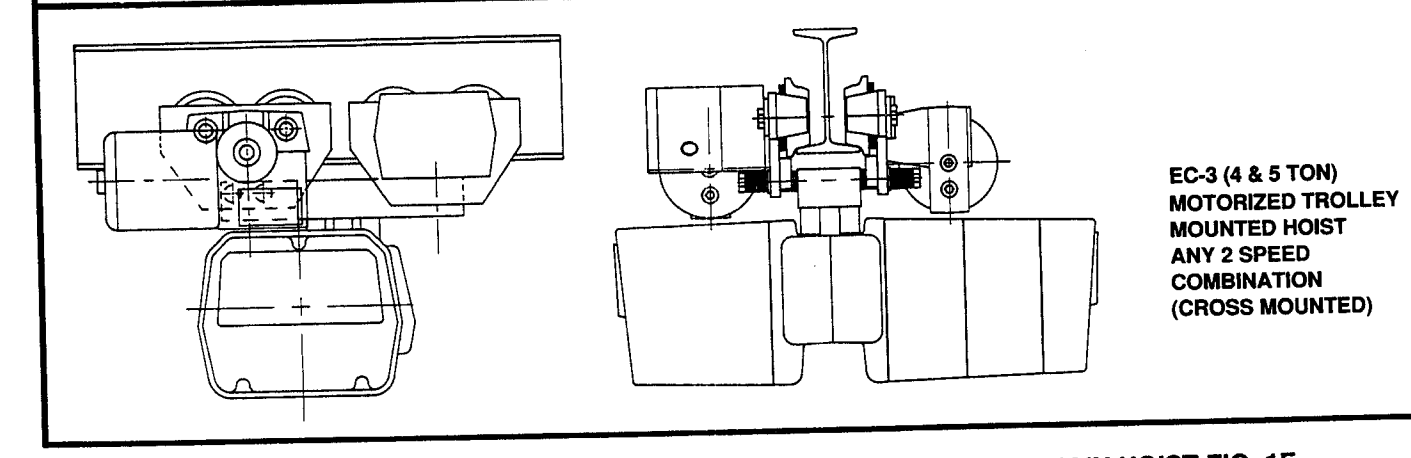
EC-3 (4 & 5 TON)
PLAIN TROLLEY
MOUNTED HOIST
(CROSS MOUNTED)



EC-3 (4 & 5 TON)
GEARED TROLLEY
MOUNTED HOIST
(CROSS MOUNTED)

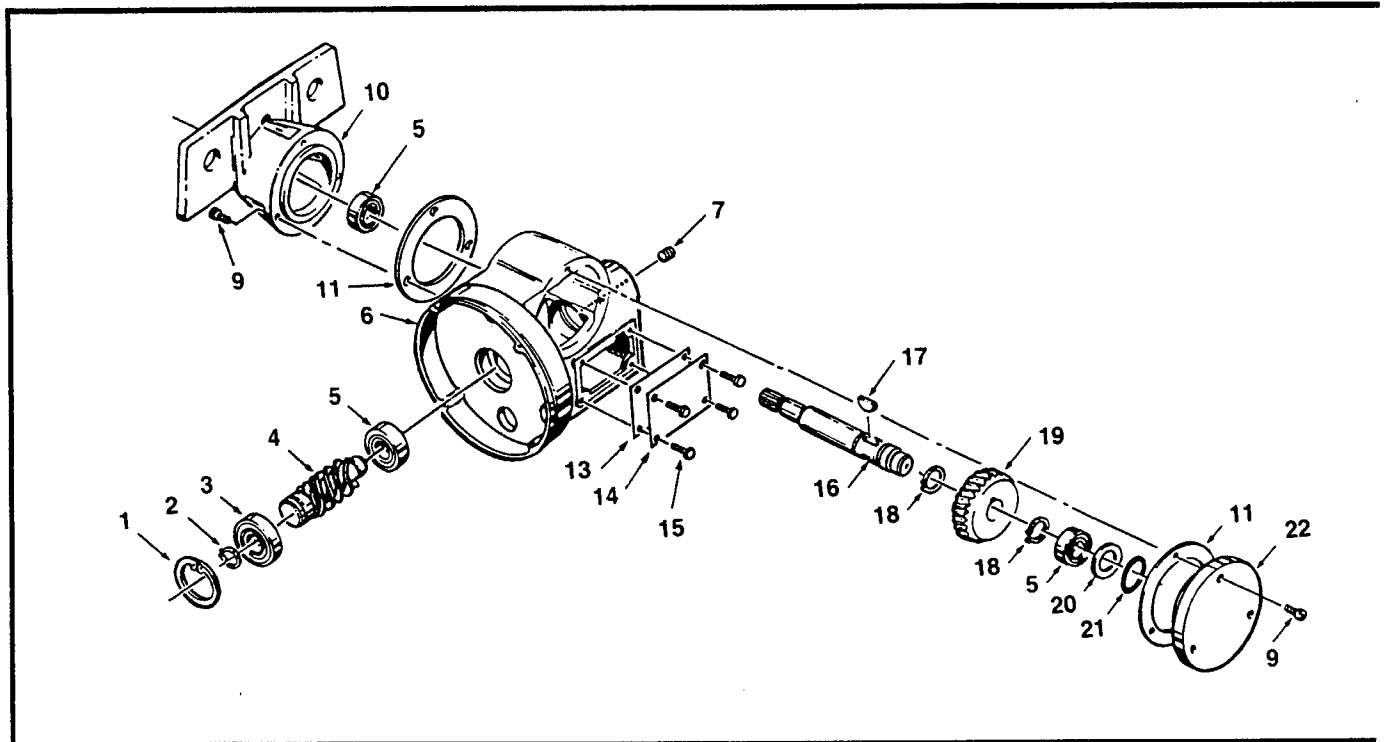


EC-3 (4 & 5 TON)
MOTORIZED TROLLEY
MOUNTED HOIST
SINGLE SPEED
HOIST AND TROLLEY
(CROSS MOUNTED)



EC-3 (4 & 5 TON)
MOTORIZED TROLLEY
MOUNTED HOIST
ANY 2 SPEED
COMBINATION
(CROSS MOUNTED)

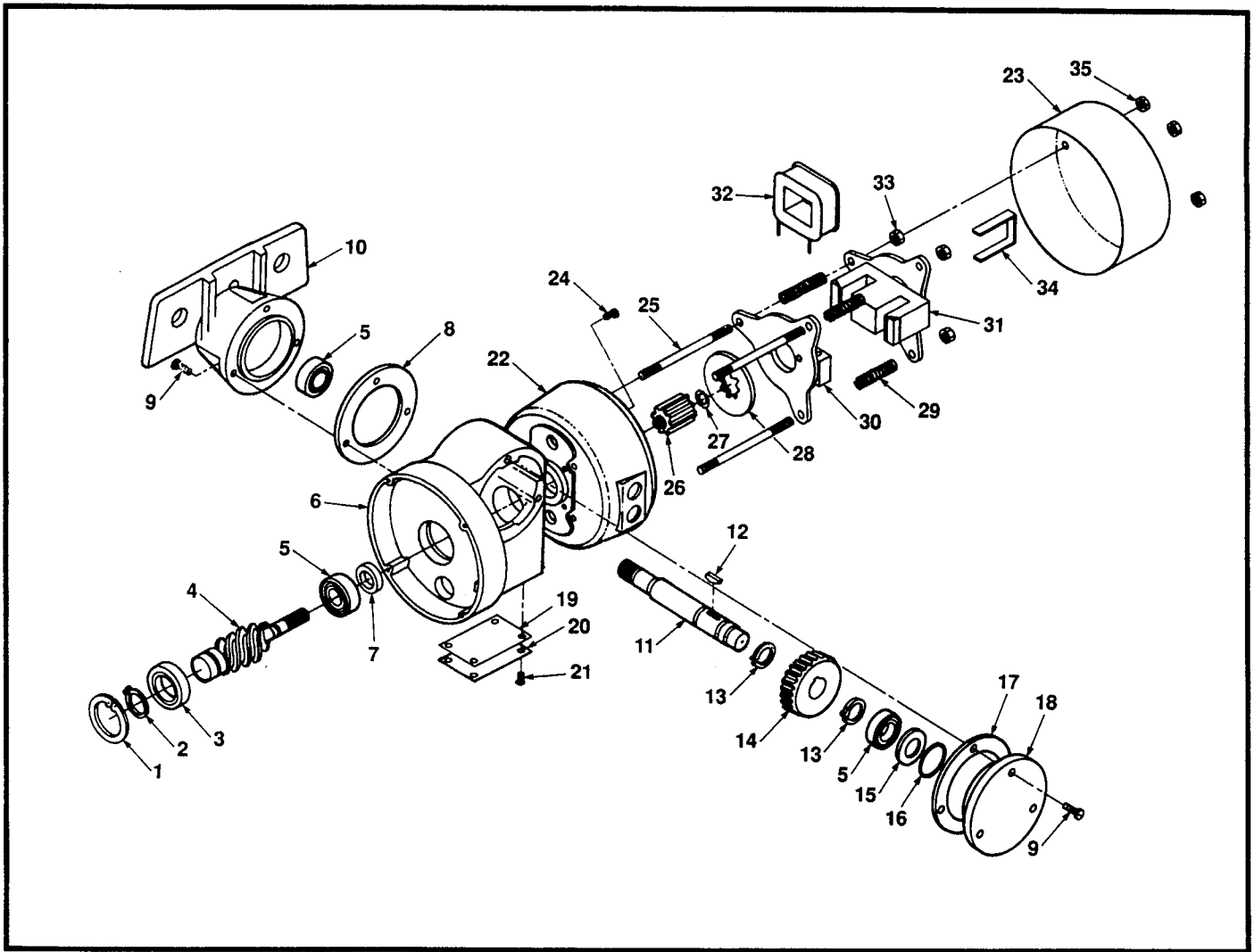
ARRANGEMENT DRAWING — REFERENCE FOR 4 AND 5 TON EC-3 CHAIN HOIST FIG. 1F



Index No.	Part Name	Part No.
1	Retaining Ring	SK2658-6
2	Retaining Ring	H-5549
3	Bearing	JF-504-2
4	Worm:	
	35 FPM	485K21
	75 FPM	485K22
5	Bearing	500K3
6	Gear Housing	39K22
7	Plug	S-25-13
9	Screw	H-2215
10	Adapter Housing:	
	All Except 3, 5 Ton	38K60A
	3 and 5 Ton Only	38K61A

Index No.	Part Name	Part No.
11	Gasket	560K2
13	Gasket	560K3
14	Splice Plate	295K1
15	Screw	H-1009-1
16	Shaft	100K12
17	Woodruff Key	S-23-15
18	Retaining Ring	H-5527
19	Worm Gear:	
	35 FPM	487K4
	75 FPM	487K3
20	Shim Washer	202K1
21	"O" Ring	H-5609
22	End Cap	32K3

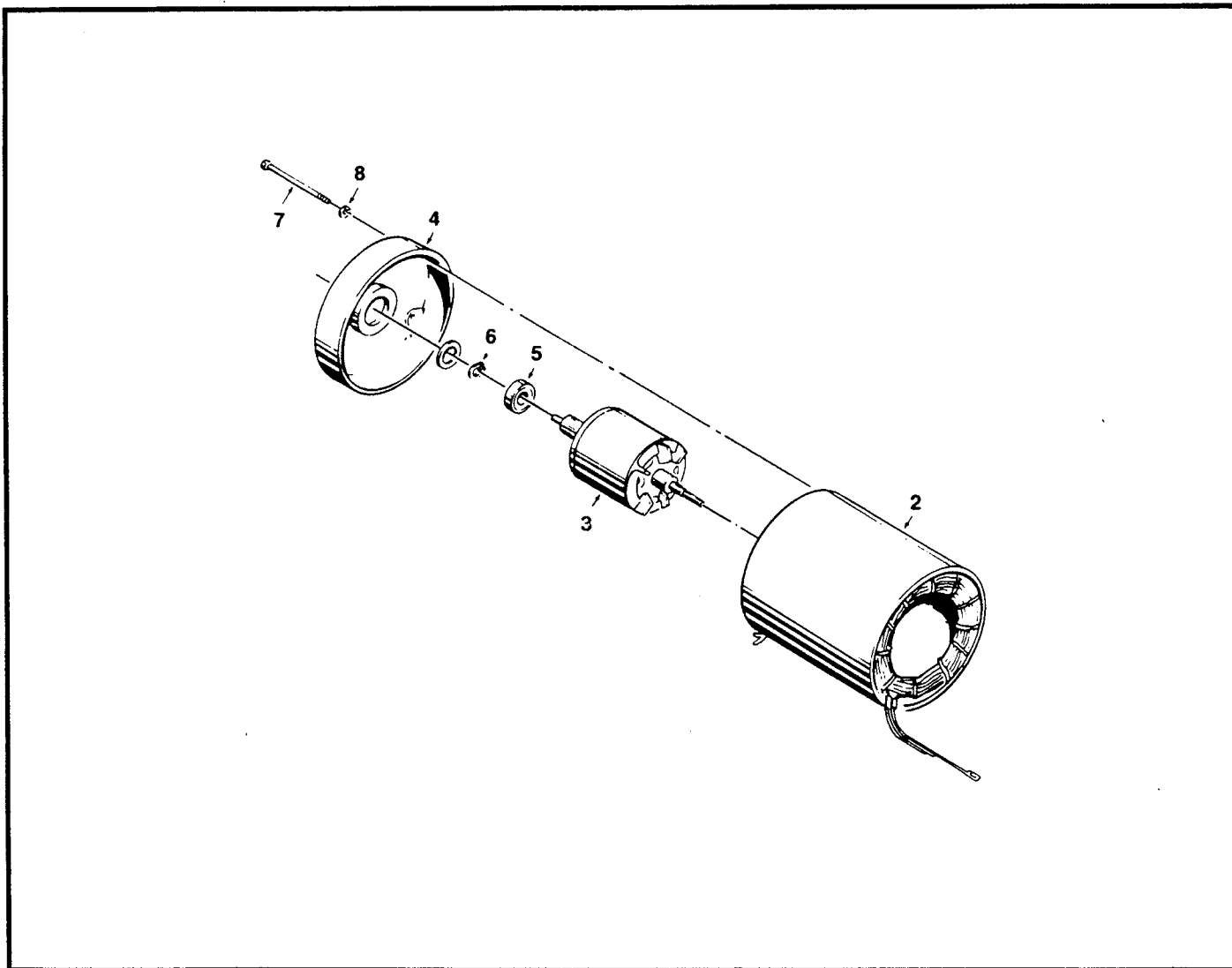
FIGURE 7-2. TROLLEY TRANSMISSION



Index No.	Part Name	Part No.
1	Retaining Ring	SK2658-6
2	Retaining Ring	H5549
3	Bearing	JF504-2
4	Worm	485K25 35FPM 485K26 75 FPM 485K27 100 FPM 485K28 150 FPM
5	Bearing	500K3
6	Gear Housing	39K23
7	Oil Seal	561K2
8	Gasket	560K2
9	Screw	H2215
10	Adapter Housing	38K60A All Except 38K61A 3, 5 Ton Only
11	Shaft	100K12
12	Woodruff Key	S23-15
13	Retaining Ring	H5527
14	Worm Gear	487K4 35 FPM 487K3 75 FPM 487K2 100 FPM 487K1 150 FPM
15	Shim Washer	202K1
16	"O" Ring	H5609

Index No.	Part Name	Part No.
17	Gasket	560K2
18	End Cap	32K3
19	Gasket	560K3
20	Splice Plate	295K1
21	Screw	H1842P
22	Brake Housing	37J11
23	Brake Cover	36J10
24	Screw (Socket Head)	S49-12
25	Stud	141J12
26	Brake Adapter	JL142
27	Retaining Ring	H5501
28	Brake Disc	581J1A
29	Spring	344J6
30	Plate & Armature	JF858
31	Plate & "E" Frame	JF857
32	Brake Coil	JF853-1 115V JF853-2 230V JF853-3 460V JF853-4 575V JF853-5 208V
33	Nut	H3978
34	Retainer	JF710
35	Nut	H3978

FIGURE 7-3. TROLLEY TRANSMISSION WITH BRAKE



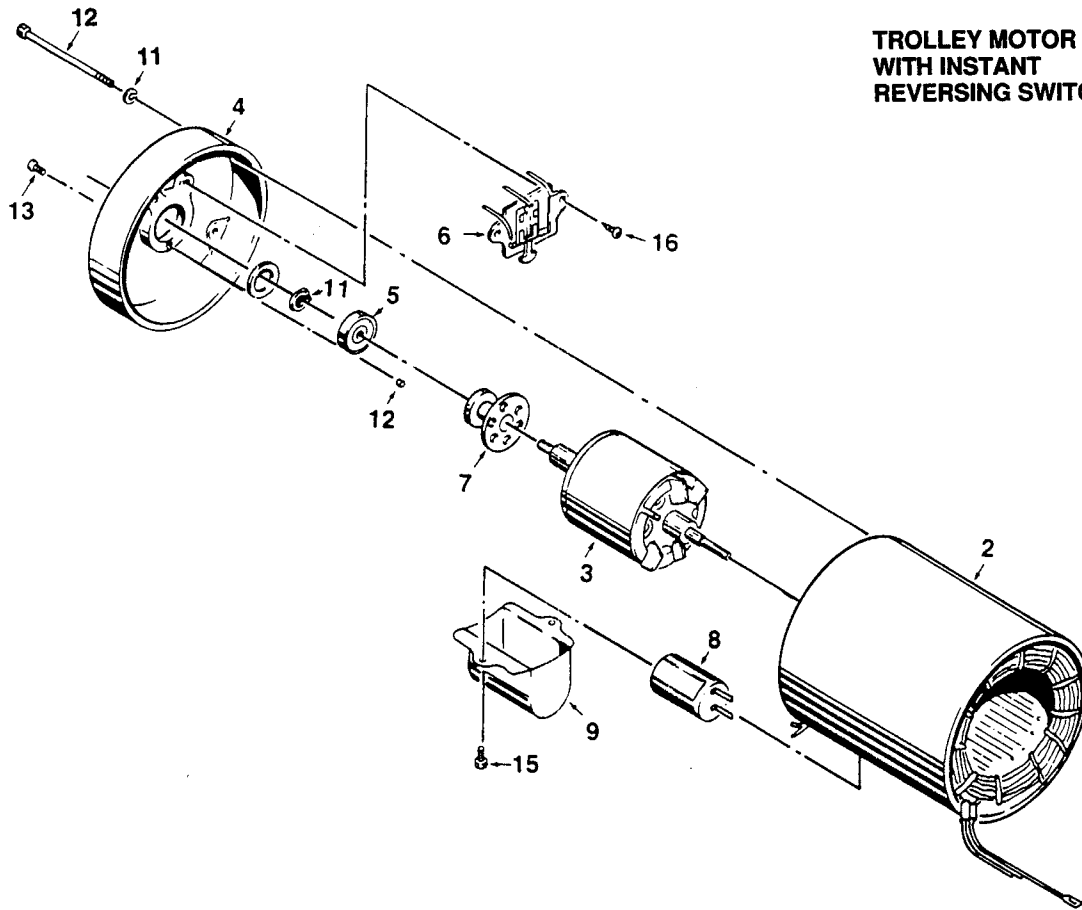
Index No.	Part Name	Part No.
1	Motor Complete, 3 Ph, 60 Hz:	
	Single Speed;	
	208-230/460V.	
	1/4 HP	JL-863-1M
	1/2 HP	JL-863-2
	575V.	
	1/4 HP	JL-863-5M
	1/2 HP	JL-863-6
Two Speed;	208-230V.	
	1/4 HP	JL-873-1M
	1/2 HP	JL-873-2M
	460V.	
	1/4 HP	JL-873-5M
	1/2 HP	JL-873-6M

Index No.	Part Name	Part No.
1 (Cont.)	Two Speed (Cont.);	
	575V.	
	1/4 HP	JL-873-9M
	1/2 HP	JL-873-10M
2	Stator (Not Available Separately)	*
3	Rotor & Shaft	*
4	End Shield	*
5	Bearing, Front	500K3
6	Ring, Retaining	*
7	Screw, Motor Mount	*
8	Lock Washer	*

*For individual motor parts, contact your Duff-Norton Distributor and supply complete motor nameplate data.

**FIGURE 7-4. TROLLEY MOTOR PARTS
(3 PHASE)**

**TROLLEY MOTOR
WITH INSTANT
REVERSING SWITCH.**



Index No.	Part Name	Part No.
1	Motor Complete, 115/230V, 1-PH, 60Hz: 1/4 HP 1/2 HP	JL-861-11M JL-861-12
2	Stator (Not Available Separately)	*
3	Rotor & Shaft	*
4	End Shield	*
5	Bearing	500K3

Index No.	Part Name	Part No.
6	Shim Wheel	*
7	Start Switch	839J2
8	Capacitor	*
9	Cover, Capacitor	*
10	Start Switch cover	*
11	Lockwasher	*
12	Screw, Motor Mount	*
13	Screw	*
14	Screw	*

*For individual motor parts, contact your Duff-Norton Distributor and supply complete motor nameplate data.

**FIGURE 7-4A. TROLLEY MOTOR PARTS
(SINGLE PHASE)**

Index No.	Part Name	Part No.
31	JL-861-12	Motor, Complete: 1/2 HP, 115/230V, 60 Hz
31	JL-861-14	Motor, Complete: 1 HP, 115/230V, 60 Hz
32	—	Stator & Housing Assembly Not Available Separately
33	*	Rotor & Shaft Assembly: 1/2 HP, 115/230V, 60 Hz 1 HP, 115/230V, 60 Hz
34	*	End Shield
35	500K3	Front Bearing
38	*	Capacitor: 1/2 HP
38	*	1 HP

Index No.	Part Name	Part No.
39	*	Capacitor Cover
40	*	Screw
42	732012	Rear Bearing
43	*	Nut Flange
44	*	Screw
45	H-4062-P	Lock Washer
46	*	Screw
48	*	Shim Washer
49	839J2	SINPAC® Switch
50	*	Cover
51	*	Screw

* Contact factory with complete electric motor nameplate data.

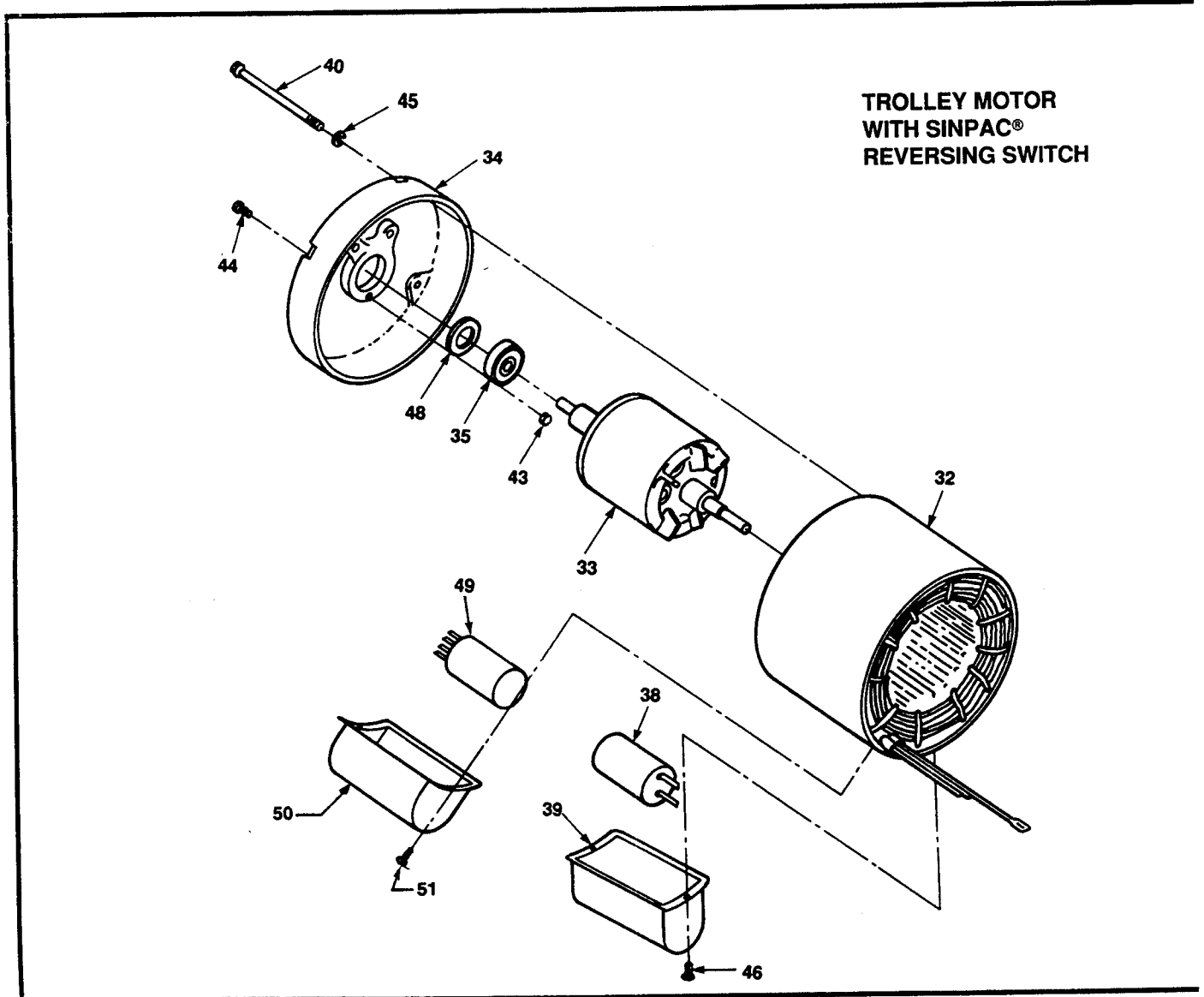
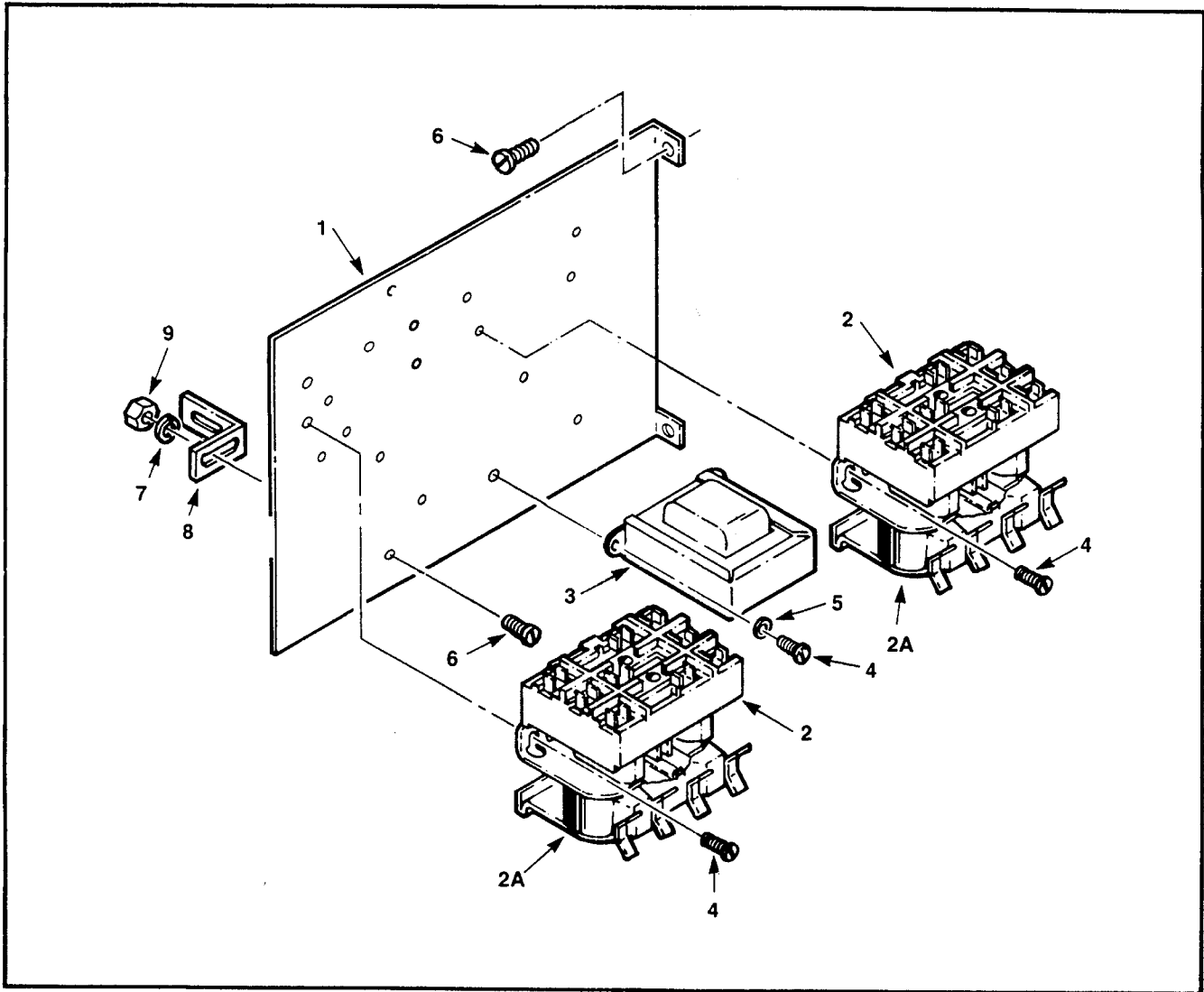


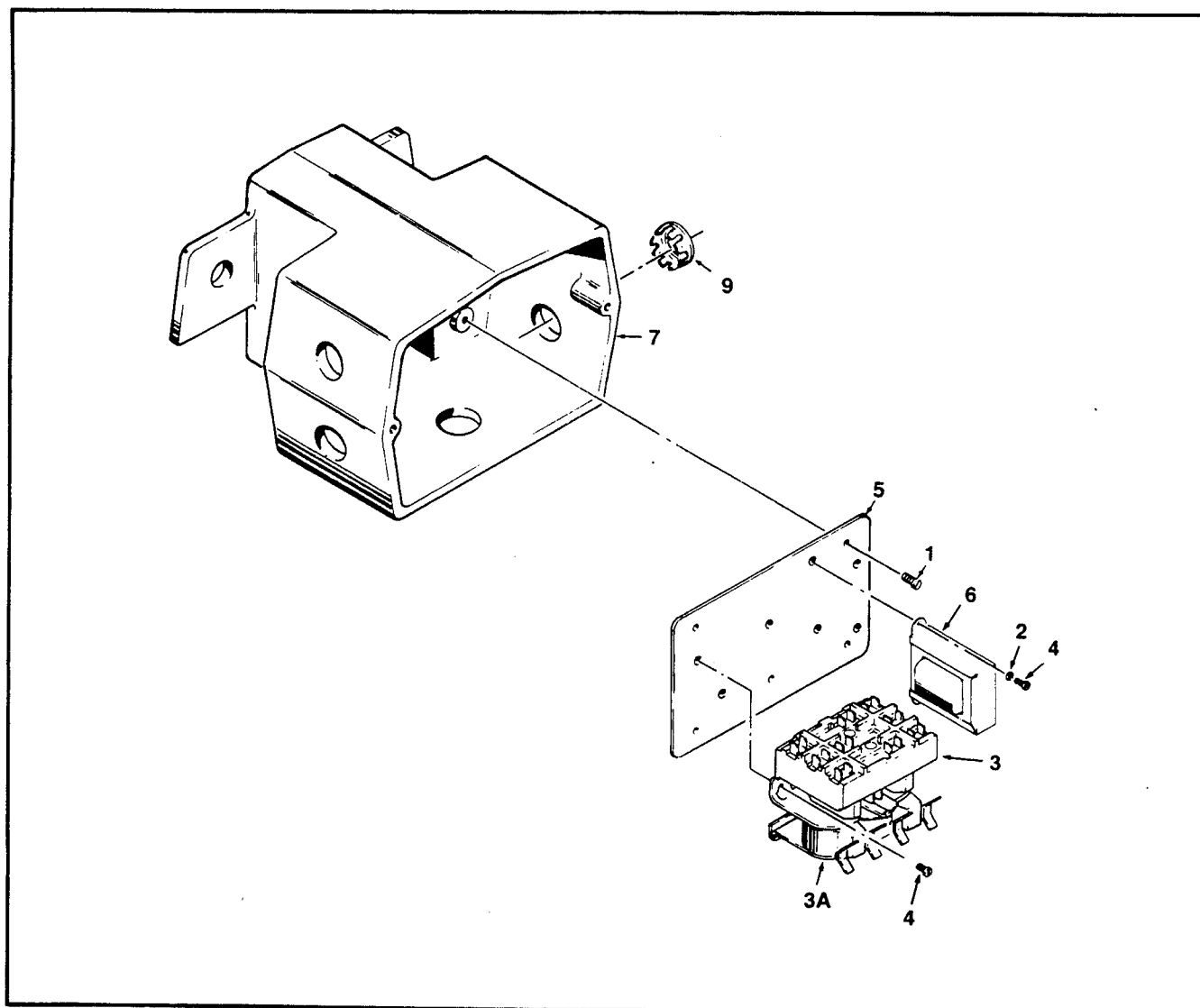
FIGURE 7-4B. TROLLEY MOTOR PARTS
(1 PHASE, SINGLE SPEED)



Index No.	Part Name	Part No.	Index No.	Part Name	Part No.
1	Control Panel	257J1A		Pri. 208, 230/460V, 208V, Sec. 115V, 50/60 Hz.	JF-821-17
2	Magnetic Reversing Switch 24V Control	820K2		Pri. 575V, Sec. 24V, 50/60 Hz	JF-821-16
	115V Control	820K317		Pri. 575V, Sec. 115V, 50/60 Hz	JF-821-20
2A	Coil (24V)	820K301			
	Coil (115V)	820K302			
2B*	Replacement Contact Kit (Includes stationary & movable contacts and spring for one magnetic reversing switch)	820K300	4	Screw	H2751
			5	Lock Washer	H-4158
			6	Screw	H-2981-P
			7	Lock Washer	H-4802-P
			8	Retainer	285J7
			9	Nut (Retainer)	H-3862
3	Transformer: (20 VA.) Pri. 208, 230/460V, 208V, Sec. 24V, 50/60 Hz.	JF-821-15	10*	Splice Connector	H-5757

*Not Illustrated

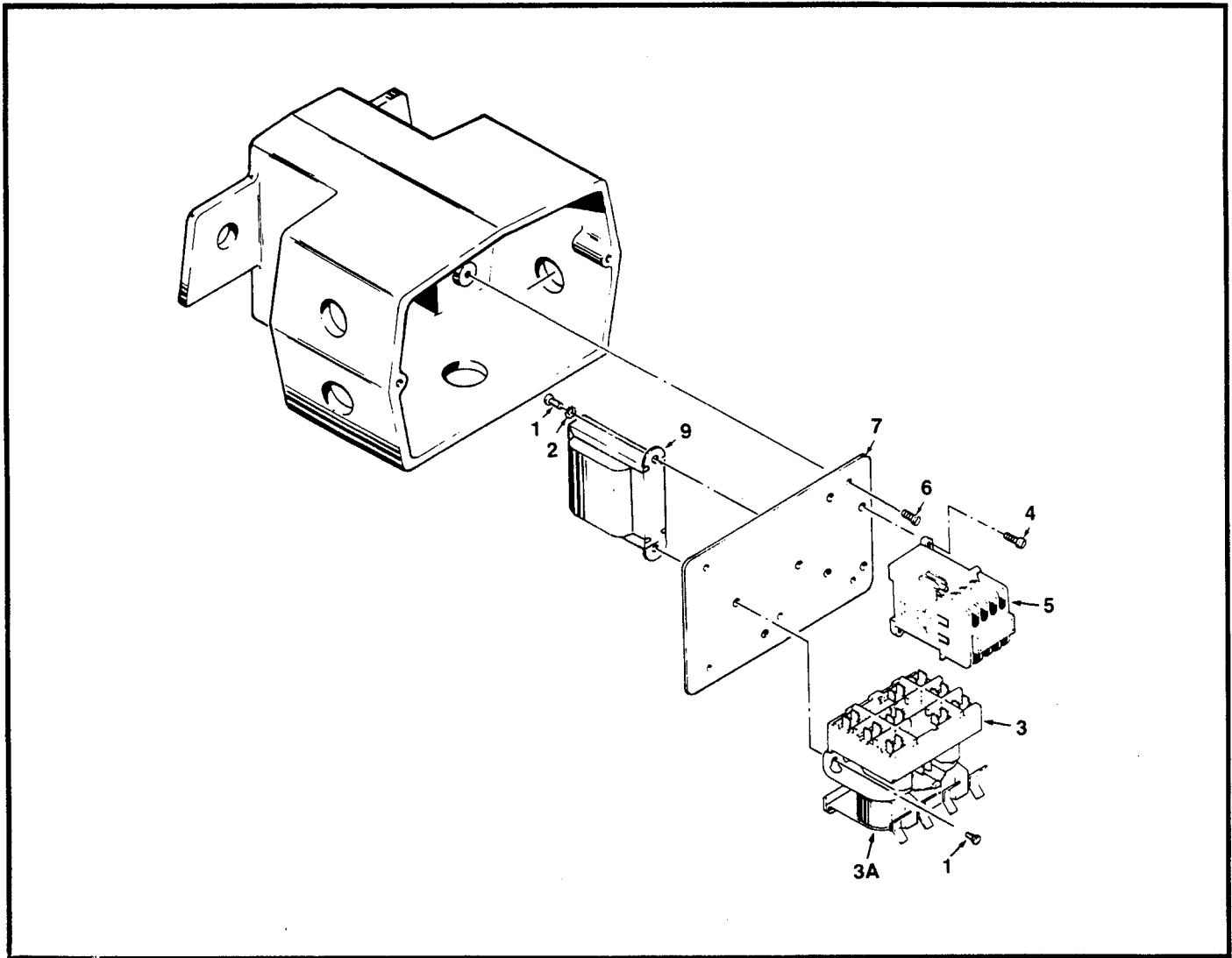
**FIGURE 7-5. CONTROLLER AREA (3 PHASE)
(SINGLE SPEED HOIST, SINGLE SPEED TROLLEY)**



Index No.	Part Name	Part No.	Index No.	Part Name	Part No.
1	Screw	H-1005-P	6	Transformer: (10 VA)	
2	Lock Washer	H-4158		Pri. 208, 230/460V,	JF-821-3
3	Magnetic Reversing Switch:			Sec. 24V, 50/60 Hz	
	24V Control	820K2		Pri. 208, 230/460V,	JF-821
	115V Control	820K317		Sec. 115V, 50/60 Hz	
3A	Coil:			Pri. 575V,	JF-821-9
	24V	820K301		Sec. 24V, 50/60 Hz	
	115V	820K302		Pri. 575V,	JF-821-2
3B*	Replacement Contact Kit			Sec. 115V, 50/60 Hz	
	(Includes stationary and		7	Control Box:	
	movable contacts and			1; 2-Ton	36K1
	springs for one magnetic			3-Ton	36K2
	reversing switch)	820K300	8*	Jumper Wire	JF-940-7
4	Screw	H-2751	9	Hole Plug	H-6286
5	Panel Plate	257K267			

*Not Illustrated

**FIGURE 7-6. TROLLEY CONTROL, SINGLE SPEED
(SINGLE SPEED TROLLEY, TWO SPEED HOIST)**

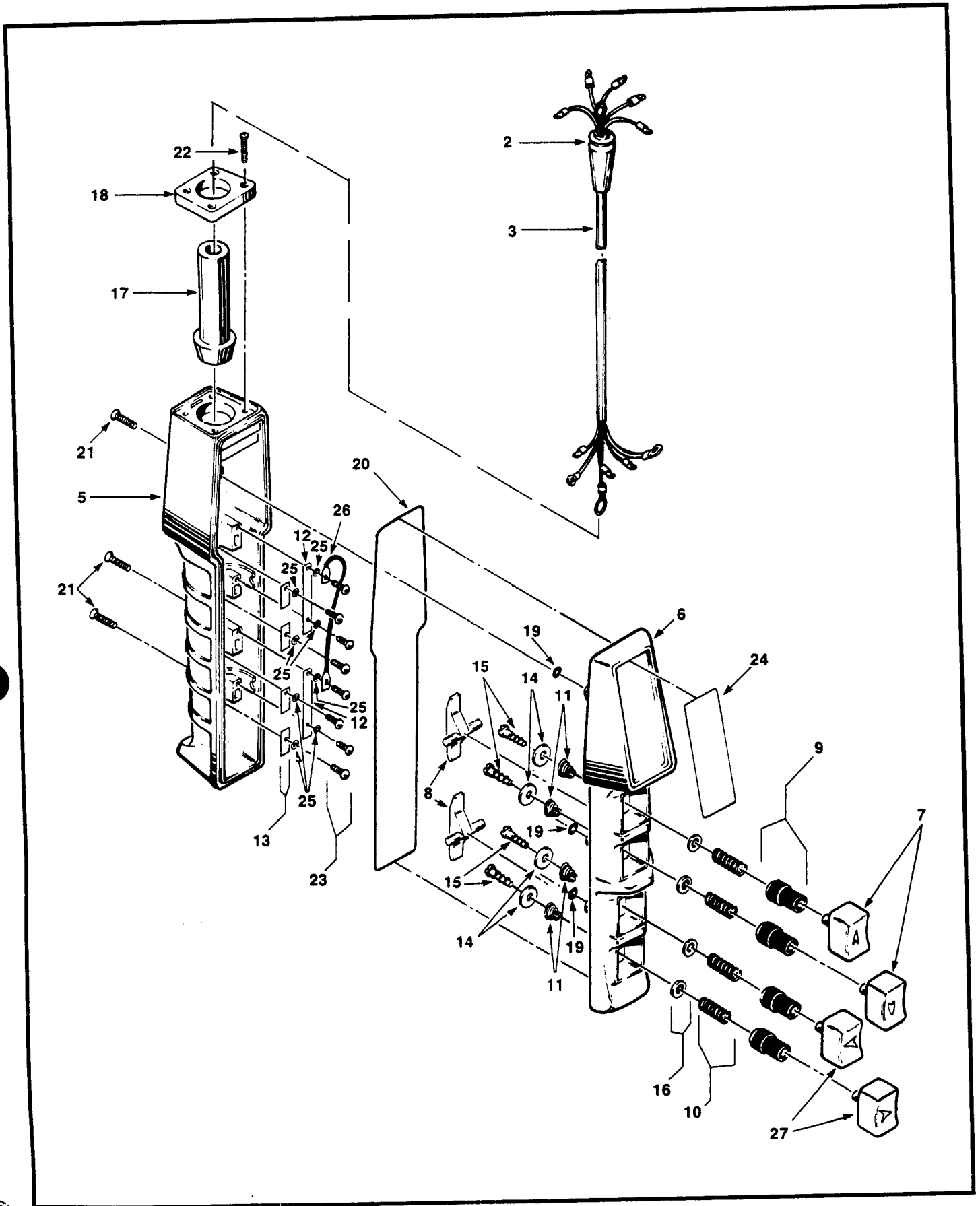


Index No.	Part Name	Part No.
1	Screw	H-2751
2	Lock Washer	H-4158
3	Magnetic Reversing Switch: 24V Control 115V Control	820K2 820K317
3A	Coil: 24V 115V	820K301 820K302
3B	Replacement Contact Kit (Includes stationary and movable contacts and springs for one magnetic reversing switch)	820K300

Index No.	Part Name	Part No.
4	Screw	H-1901
5	Speed Control Relay: 24V Control 115V Control	820J3 820J4
6	Screw	H-1005-P
7	Panel Plate	257K267
8*	Jumper Wire	JF-940-7
9	Transformer: Pri. 208, 230/460V, Sec. 24V Pri. 208, 230/460V, Sec. 115V Pri. 575V, Sec. 24V Pri. 575V, Sec. 115V	JF-821-15 JF-821-17 JF-821-16 JF-821-20

*Not illustrated.

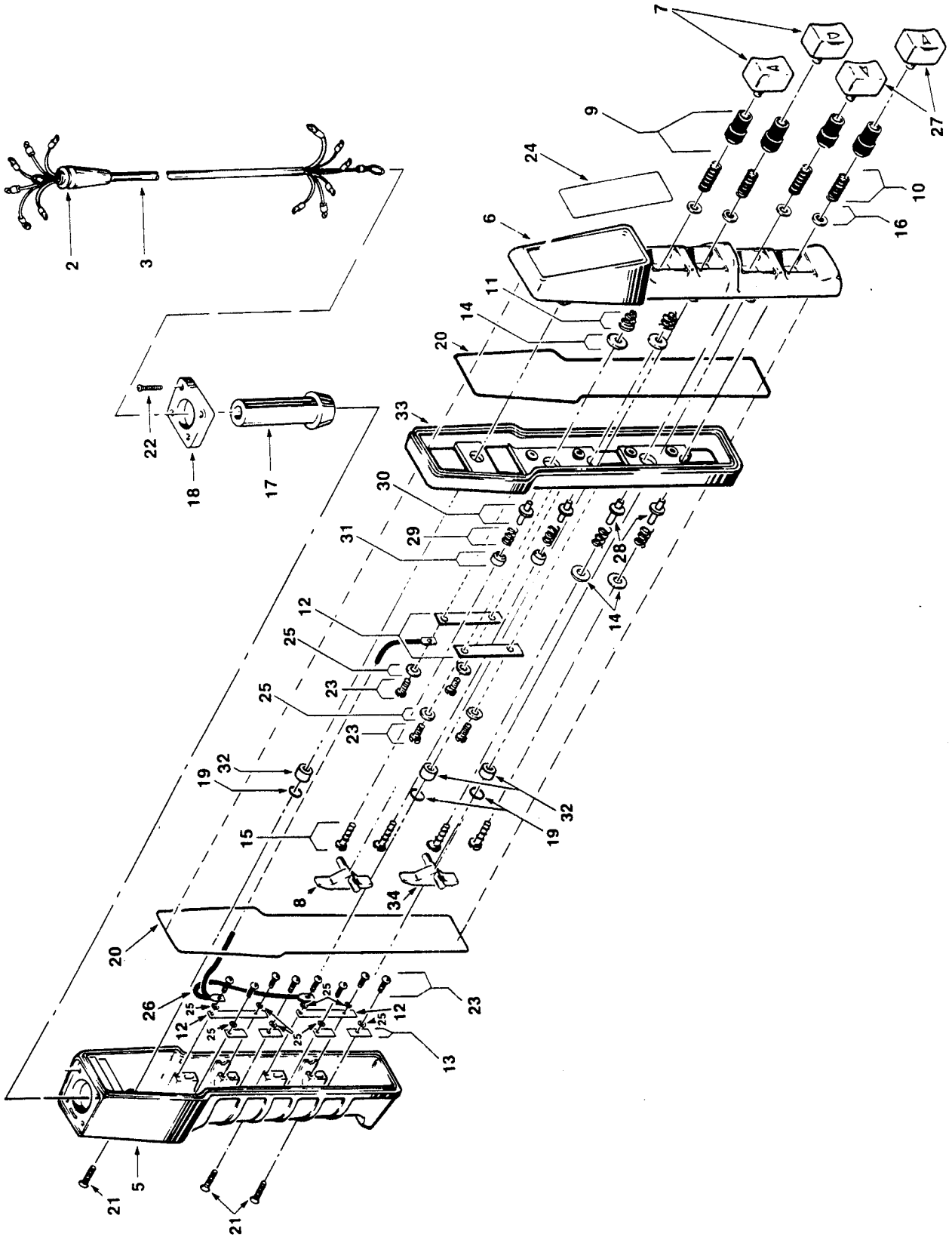
FIGURE 7-7. TROLLEY CONTROL, TWO SPEED



**FIGURE 7-8. PUSHBUTTON
(SINGLE SPEED HOIST, SINGLE SPEED TROLLEY)**

Index No.	Part Name	Part No.
1	Push Button & Cable Assembly (Consists of Index Nos. 2 thru 27): 6' Drop 11' Drop 16' Drop 21' Drop Special Lift (*Equal to P.B. Drop)	PB-300-6A PB-300-11A PB-300-16A PB-300-21A PB-300-*A
2	Rubber Grommet	JF-761
3	Push Button Cable Assembly: 6' Drop 11' Drop 16' Drop 21' Drop Special Lift (*Equal to P.B. Drop)	PB-300-6 PB-300-11 PB-300-16 PB-300-21 PB-300-*
4	Push Button Assembly (Consists of Index Nos. 5 thru 27)	534K98
5	Enclosure	PB-282-4
6	Cover	PB-283
7	Push Button (Hoist)	PB-284-2
8	Interlock (Single-Speed, Red)	PB-285
9	Boot	PB-286
10	Spring, Compression	PB-287
11	Spring, Conical	PB-288
12	Contact Plate, Common	PB-290
13	Contact Plate	PB-289
14	Washer, Contact	PB-291
15	Screw	PB-301
16	Washer, Boot	PB-293
17	Grommet	PB-294-2
18	Cap Enclosure	PB-295
19	"O" Ring	X6477-1
20	Seal	H-7851
21	Screw	H-2991
22	Screw	H-2992
23	Screw	H-2993
24	Warning Tag	PB-296
25	Lock Washer	H-4160
26	Jumper (Common)	JF-940-42
27	Push Button (Trolley)	PB-284-1

**FIGURE 7-8. PUSHBUTTON
(SINGLE SPEED HOIST, SINGLE SPEED TROLLEY)**



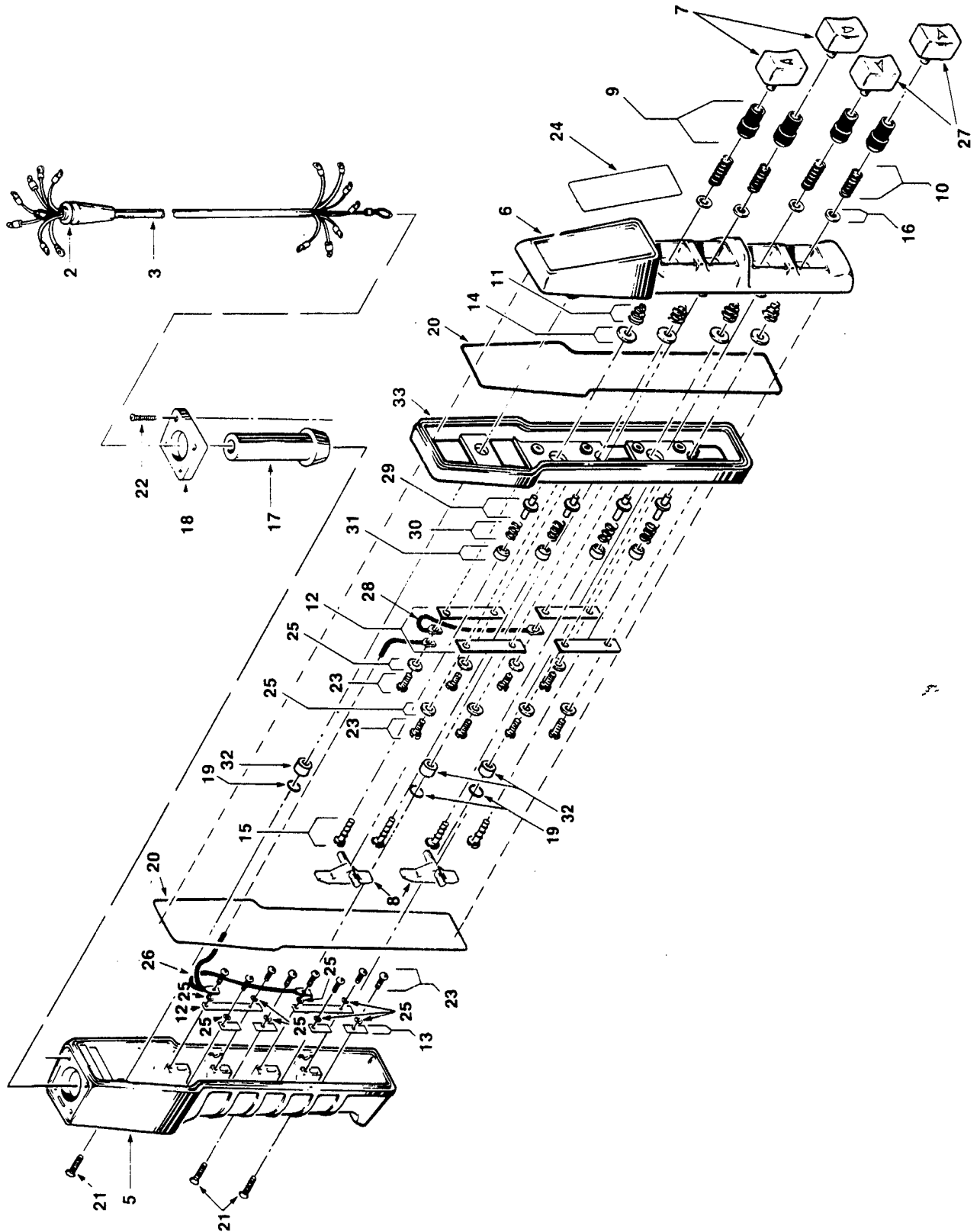
**FIGURE 7-9. PUSHBUTTON
(TWO SPEED HOIST, SINGLE SPEED TROLLEY;
SINGLE SPEED HOIST, TWO SPEED TROLLEY)**

Index No.	Part Name	Part No.
1	Push Button & Cable Assembly (Consists of Index Nos. 2 thru 34): Two Speed Hoist, Single Speed Trolley	534JG5-*
	Single Speed Hoist, Two Speed Trolley	534JG6-*
2	Rubber Grommet	JF-761
3	Push Button Cable Assembly	PBS-309-*
4	Push Button Assembly (Consists of Index Nos. 5 thru 34) Two Speed Hoist, Single Speed Trolley	534JG5
	Single Speed Hoist, Two Speed Trolley	534JG6
5	Enclosure	PB-282-4
6	Cover	PB-283
7	Push Button (Hoist)	PB-284-22
8	Interlock (Two-Speed, Black)	PB-285-1
9	Boot	PB-286
10	Spring, Compression	PB-287
11	Spring, Conical	PB-288

Index No.	Part Name	Part No.
12	Contact Plate, Common	PB-290
13	Contact Plate	PB-289
14	Washer, Contact	PB-291
15	Screw	H-1852-P
16	Washer, Boot	PB-293
17	Grommet	PB-294-2
18	Cap, Enclosure	PB-295
19	"O" Ring	X-6477-1
20	Seal	H-7851
21	Screw	H-2925
22	Screw	H-2992
23	Screw	H-2993
24	Warning Tag	PB-296
25	Lock Washer	H-4160
26	Jumper	JF-940-111
27	Push Button (Trolley)	PB-284-21
28	Spacer	755J2
29	Spring, Lower	344J5
30	Insulating Bushing	755J1
31	Lower Contact	201J1
32	Bushing	200J16
33	2-Speed Adapter	PB-308
34	Interlock (Single Speed, Red)	PB-285

* Denotes pushbutton drop in feet. Standard lengths = 6, 11, 16 and 21 feet.

**FIGURE 7-9. PUSHBUTTON
(TWO SPEED HOIST, SINGLE SPEED TROLLEY;
SINGLE SPEED HOIST, TWO SPEED TROLLEY)**



**FIGURE 7-10. PUSHBUTTON
(TWO SPEED HOIST, TWO SPEED TROLLEY)**

Index No.	Part Name	Part No.
1	Push Button & Cable Assembly (Consists of Index Nos. 2 thru 33)	534JG7-*
2	Rubber Grommet	JF-761
3	Push Button Cable Assembly	PB-309-*
4	Push Button Assembly (Consists of Index Nos. 5 thru 33)	534JG7
5	Enclosure	PB-282-4
6	Cover	PB-283
7	Push Button (Hoist)	PB-284-22
8	Interlock (Two Speed, Black)	PB-285-1
9	Boot	PB-286
10	Spring, Compression	PB-287
11	Spring, Conical	PB-288
12	Contact Plate, Common	PB-290
13	Contact Plate	PB-289
14	Washer, Contact	PB-291
15	Screw	H-1852-P
16	Washer, Boot	PB-293
17	Grommet	PB-294-2
18	Cap, Enclosure	PB-295
19	"O" Ring	X-6477-1
20	Seal	H-7851
21	Screw	H-2925
22	Screw	H-2992
23	Screw	H-2993
24	Warning Tag	PB-296
25	Lock Washer	H-4160
26	Jumper	JF-940-111
27	Push Button (Trolley)	PB-284-21
28	Jumper (2-Speed Common)	JF-940-42
29	Insulating Bushing	755J1
30	Spring, Lower	344J5
31	Lower Contact	201J1
32	Bushing	200J16
33	2-Speed Adapter	PB-308

* Denotes pushbutton drop in feet. Standard lengths = 6, 11, 16 and 21 feet.

**FIGURE 7-10. PUSHBUTTON
(TWO SPEED HOIST, TWO SPEED TROLLEY)**

Index No.	Part Name	Part No.
1	Swivel Collector Assembly: Insul-8 Type	804K1
2	Collector Kit (Includes Items 3-7) All Except 3, 5 Ton 3 and 5 Ton Only	CCK2 CCK3
3	Mounting Plate All Except 3, 5 Ton 3 and 5 Ton Only	802K1 802K2
4	Arm, Mounting	803KG8
5	Shackle, Mounting	806K1
6	Lock Washer	H-4062-P
7	Nut	H-3561

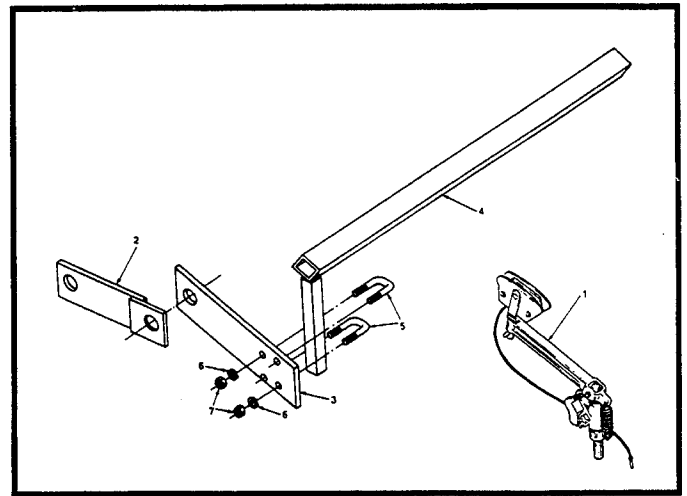
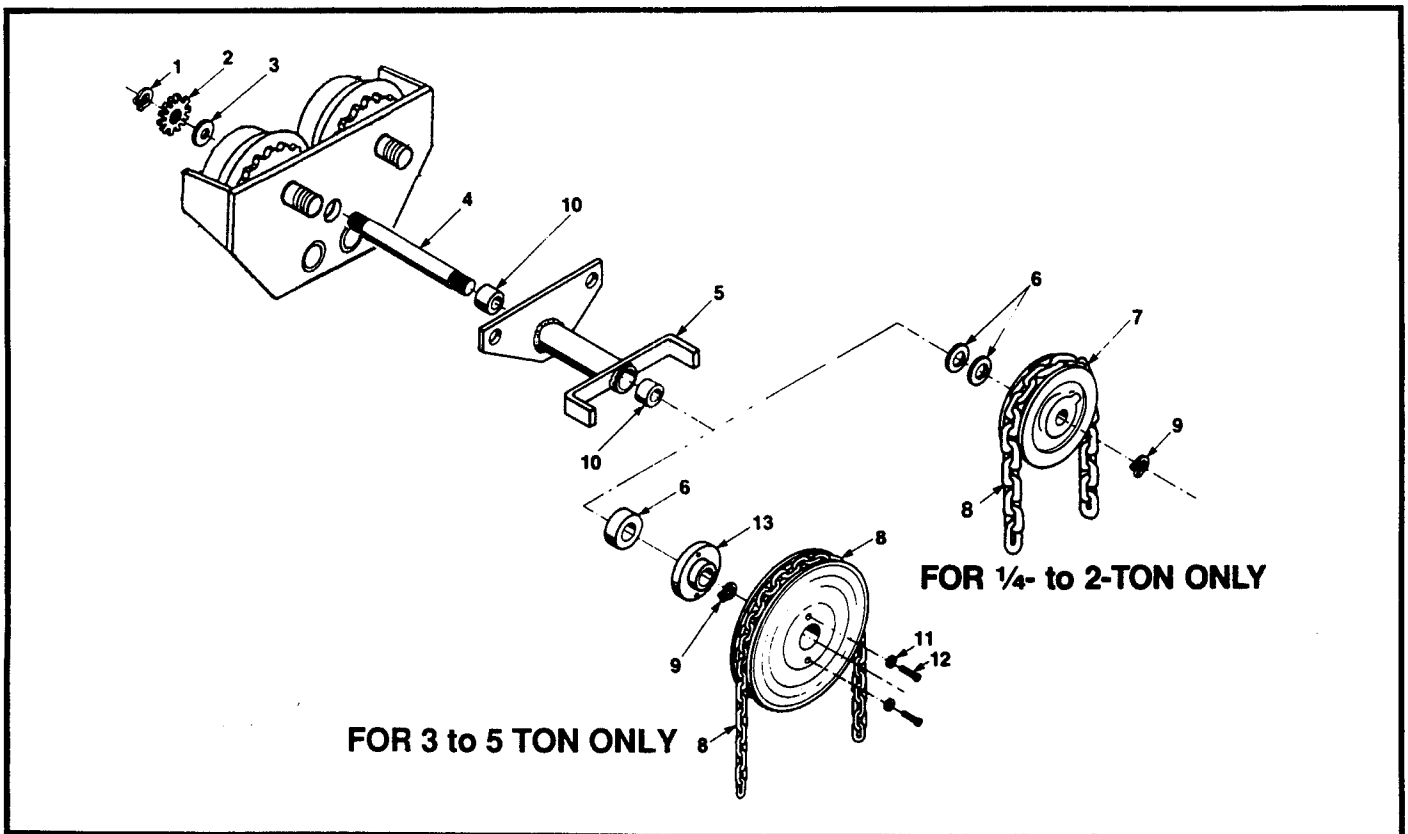


FIGURE 7-11. CURRENT COLLECTOR GROUP



Index No.	Part Name	Part No.
1	Retaining Ring	H-5501
2	Pinion	420K1
3	Spacer Bearing ($1/16$ Thick)	525K2
4	Gear Shaft	100K6
5	Sleeve and Adapter Assembly: All Except 3, 5 Ton 3 and 5 Ton Only	51KG1 51KG2
6	Spacer Bearing ($1/8$ Thick)	525K1

Index No.	Part Name	Part No.
7	Hand Chain Wheel	33K23
8	Hand Chain (Specify Length)	53A
9	Retaining Ring	H-5527
10	Sleeve Bushing	530K6
11	Lockwasher	H-4138
12	Bolt	H-2304
13	Adapter	51K4

FIGURE 7-12. GEARED TROLLEY

COFFING[®] HOISTS

WARRANTY

Every hoist is thoroughly inspected and tested prior to shipment from the factory. Should any problem develop, return the complete hoist prepaid to your nearest Coffing Hoists Authorized Warranty Repair Station. If inspection reveals that the problem is caused by defective workmanship or material, repairs will be made without charge and the hoist will be returned, transportation prepaid. This warranty does not apply where: (1) deterioration is caused by normal wear, abuse, improper or inadequate power supply, eccentric or side loading, overloading, chemical or abrasive actions, improper maintenance, or excessive heat; (2) problems resulted from repairs,

modifications, or alterations made by persons other than factory or Coffing Authorized Warranty Repair Stations personnel; (3) the hoist has been abused or damaged as a result of an accident; (4) repair parts or accessories other than those supplied by Coffing Hoists are used on the hoist. Equipment and accessories not of the seller's manufacture are warranted by the manufacturer.

Except as stated herein, Coffing Hoists makes no other warranties, express or implied, including warranties or merchantability and fitness for a particular purpose.

WARNING

Overloading and Improper Use Can Result In Injury

To Avoid Injury:

- Do not exceed working load limit, load rating, or capacity.
- Do not use to lift people or loads over people.
- Use only alloy chain and attachments for overhead lifting.
- Read and follow all instructions.

Coffing Hoists • Country Club Road • P.O. Box 779 • Wadesboro, NC 28170 USA
Customer Service: Tel. (800) 477-5003 (704) 694-2156 • FAX (800) 374-6853 (704) 694-6829