



WRIGHT-WAY®

electric
tractor
drive unit

installation
operation
and
maintenance
manual

WARNING

This unit should not be installed, operated, or maintained by any person who has not read all the contents of these General Instructions. Failure to read these instructions can result in serious physical injury and/or property damage.

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WARNING

Equipment described herein is not designed for, and should not be used for, lifting, supporting, or transporting humans.

NOTE

These General Instructions deal with the normal installation, operation, and maintenance situations encountered with this unit. The Instructions should not be taken to anticipate every possible contingency. If additional information is required, contact the Hoist & Crane Division of Acco, Box 792, York, Pennsylvania 17405.

WARNING

User should not use this unit in a system in conjunction with other equipment unless necessary and/or required safety devices applicable to the system are installed by the user.

User should use only Acco authorized replacement parts in the service and maintenance of this unit.

GENERAL INSTRUCTIONS

Tractor has been factory tested and inspected for customer satisfaction. The following installation, operation, and maintenance instructions are recommended for continued satisfactory service.

INSTALLATION

Figure 1 deleted.

A. BEFORE INSTALLING

1. Check for any damage during shipment.
Place claim with carrier if any is discovered. DO NOT install a damaged tractor
2. Check lubricant in gear housing.
Remove bushing with vent plug from top of gear housing (Items 28 & 19, Page 6). Insert a dip stick in hole until it touches bottom of housing. Withdraw dip stick. There should be oil on the stick to a depth of 2 inches. Replenish if necessary. See LUBRICATION, Page 2.

NOTE

After making sure that oil is at proper level, replace bushing with vent plug in housing.

3. Rearrange washers to suit beam flange width. Refer to Fig. 2 and chart, Fig. 3. (Tow clevis is equal to 16 washers.) NOT APPLICABLE for Monorail Suspension
4. Be sure track is level and runway surfaces are clean.
5. Check power supply.
It must be the same as that shown on serial plate.

B. Install tractor on beam.

Adjust spring tension.

Refer to Fig. 4, and chart, Fig. 5. (Page 2)

1. Turn nut A until rubber tire touches beam, as shown at point C.
2. Measure spring length X.
3. Turn nut A to compress spring.
4. Measure spring length Y. Continue tightening nut A until Y equals X minus compression shown in chart.
5. Lock nut A with nut B.

C. BEFORE OPERATING

1. Move tractor slowly over beam to make sure there is no interference. Allow 1/8" max. clearance between rollers and beam (each side).

(Standard Trolley Suspension only)

2. Check beam joints. Too much space between beams, or a difference in height will be noted as wheel passes over. Either condition can chip or break the hard tread surfaces of the wheels.
3. Make sure all electrical connections are made in accordance with wiring diagram (inside control box).

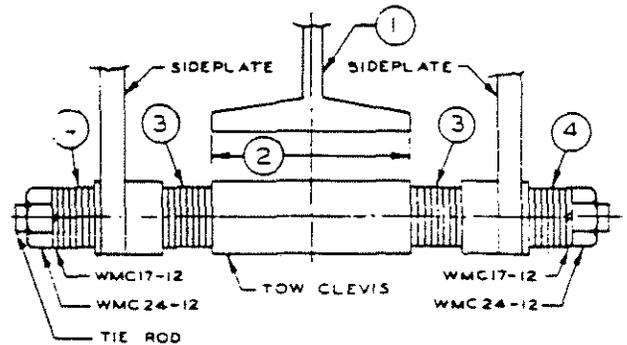


FIGURE 2

ITEM 1*	ITEM 2*	ITEM 3*	ITEM 4*
** BEAM SIZE	FLANGE WIDTH	WASHER PA734 NO. REQ'D (EACH SIDE)	WASHER PA734 NO. REQ'D (EACH SIDE)
5	3	0	16
**3/4	3 1/4	1	15
6	3 3/8	2	14
7	3 1/2	3	13
8	4	4	12
9	4 3/8	6	10
10	4 5/8	7	9
12	5	8	8
15	5 1/2	10	6
18	6	12	4
20	6 1/4	13	3
24	7	16	0

Dimensions in inches.

* Items indicated on Figure 2.

** All standard I-beams except 3/4 Monorail.

FIGURE 3

Figures 2 and 3 not applicable for Monorail Suspension

INSTALLATION

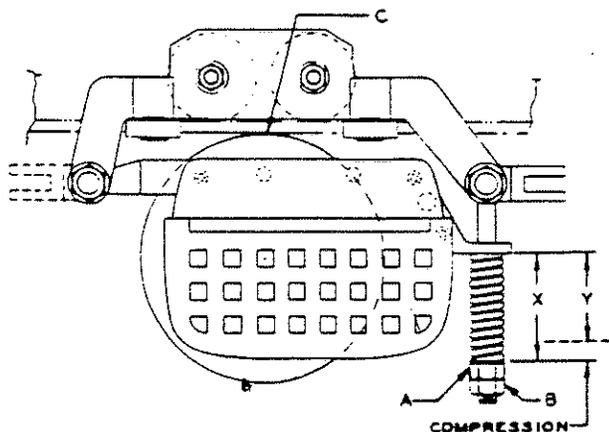


FIGURE 4 - STANDARD TROLLEY SUSPENSION
TYPICAL ASSEMBLY

For actual Suspension Assemblies, see Dwg. 64058 (Monorail Trolley Suspension) or Page 8 (Standard Trolley Suspension). Dwg. 64058 is included in manual in lieu of Suspension Parts Pages.

TRACTOR CAPACITY (TONS)	SPRING COMPRESSION (Inches)
1	3/16
2	5/16
3	7/16
4	9/16
5	11/16

FIGURE 5

OPERATION

If the direction of travel of the tractor does not agree with the push button markings for the particular application, direction of travel may be reversed by interchanging any two line leads at the tractor controller.

Never Change Wiring Leads of the Push Button Station

LUBRICATION

The fully enclosed aluminum gear housing provides a liberal oil reservoir from which all gears and gear shaft bearings are splash-lubricated. Check oil level in gear housing approximately every 6 months as instructed on page 1 (INSTALLATION—Paragraph 1).

TO ADD OIL—Use A.G.M.A. No. 4, or its equivalent, SAE 40 Machine Oil or SAE 90 Gear Oil. Add through vent hole in gear housing.

TO REPLACE OIL—Oil should be replaced only when tractor is undergoing a general overhaul. Refer to GEAR MODULE REPAIR (Section 1, Page 8), steps 5 and 6.

Bearings outside gear housing (including bearings in monorail trolley wheels, but not standard trolley wheels) are lifetime prelubricated and sealed. They need no additional lubrication.

Bearings in standard trolley wheels are lubricated by means of the lubrication fittings supplied in each axle. Use Bearing Grease No. 1 or any lubricant having the highest grade sodium soap base; ASTM penetration 265-295; and operating range of 0° to 225°F.

MAINTENANCE

MOTOR BRAKE

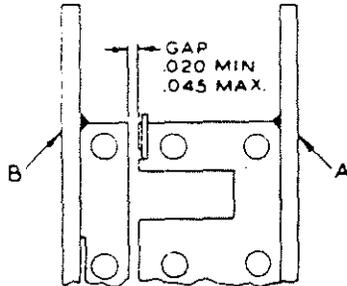


FIGURE 6

The motor brake requires an occasional check (approximately every six (6) months) on the gap between the magnet unit (A) and the pressure unit (B). (See figure 6). When installed in the hoist, this gap is set at .020". Tighten nuts on the ends of the studs only if gap has increased to .045". Never tighten to less than .020".

Check thickness of brake lining (Item 5, Page 5). Replace if less than 3/32 inch.

CONTROLLER

Be sure contact points close properly. This insures a proper current path and eliminates the dangers of contactors arcing and chattering. If contact points do not close properly, see

WIRING

Check for loose connections, and to ascertain that insulation has not deteriorated. If wiring must be replaced, follow wiring diagram on inside of motor cover.

A three phase motor with a 220/440V name plate can be reconnected in the field for either 220 or 440 volt power supply. Follow wiring diagram in cover of unit and make indicated changes in connections at motor, brake, and control circuit transformer secondary.

A single phase motor with a 115/230V name plate can be reconnected in the field for either 115 or 230 volt power supply, provided the following conditions are met:

1. 24V Control Circuit—115V to 230V or 230V to 115V power supply.

Follow wiring diagram in cover of unit and make indicated changes in connections at motor, brake, and control circuit transformer secondary.

2. 115V Control Circuit—115V to 230V power supply.

Follow wiring diagram in cover of unit and make indicated changes in connections at motor and brake. Add control circuit transformer.

3. 115V Control Circuit—230V to 115V power supply.

Follow wiring diagram in cover of unit and make indicated changes in connections at motor and brake. Remove control circuit transformer.

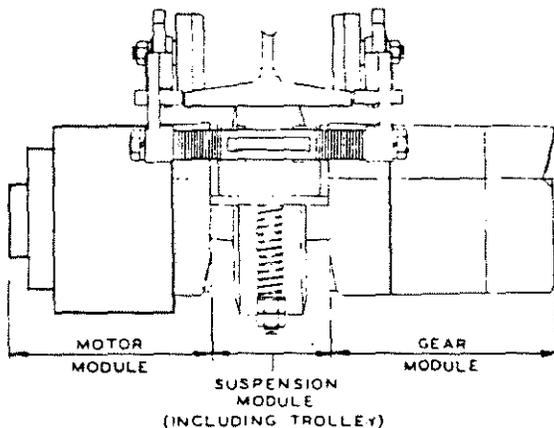


FIGURE 7

REPAIRS

The Wright Tractor is composed of three modules, as illustrated in Figure 7. Many repairs can be made by just removing the end cover. The motor can be removed to gain access to the suspension module without removing tractor from beam. However, to drain oil from gear housing (for replacement; or to inspect gears, bearings and seals) or to replace trolley wheels or rollers, tractor must be removed to a service area.

PREPARATION FOR REPAIR

Before starting to do any on-the-spot repairs; or removing tractor to service area; or dismantling for a general overhaul, disconnect tractor from electric power supply.

REPAIRS

MOTOR MODULE

It is not necessary to disassemble Motor Module unless:

1. Operation indicates that motor bearings are worn or faulty and need to be replaced.
2. Operation indicates motor problems, such as burning out or shorting out.
3. Inspection of drive wheel indicates a need for replacement, in which case the Motor Module must be removed to gain access.

TO REMOVE MOTOR MODULE

1. Refer to Page 8 or Dwg. 64058. Release tension on spring by loosening nuts.
2. Provide support for wheel before eliminating support afforded by adapter.
3. Remove control box cover.
4. Disconnect motor brake wires, using wiring diagram inside cover as a guide.
5. Remove attaching screws at Suspension Assembly.
6. Detach motor, with motor adapter and control box.
7. Check motor bearing and bearings in motor adapter.
8. Replace any parts not fit for further service, including the motor, if necessary.

SUSPENSION ASSEMBLY

Use Page 8 (Standard Trolley Suspension) or Dwg. 64058 (Monorail Trolley Suspension) as a visual aid to disassemble and assemble the Suspension Module. Numbers in parentheses throughout these instructions refer to item numbers from the parts lists of these assemblies. Suffix M indicates Monorail Trolley Suspension (Dwg. 64058). Suffix S indicates Standard Trolley Suspension (Parts Page 8).

TO REPLACE SPRING (Both types of suspension).

Tractor may remain on beam.

1. Remove nuts (21S; 12M), washer (17S; 11M), and damaged spring (7).
2. Replace with new spring.
3. Return washer and nuts to original positions.
4. Reset tension per instructions on Page 1.

TO REPLACE ROLLERS OR TROLLEY WHEELS (Std. Trolley)

Tractor may remain on beam. Refer to Page 8

1. Provide temporary support for tractor.
2. Release tension on spring (7) by loosening nuts (21).
3. Remove nuts (23) and washers (20) on outside of one sideplate.
4. Remove sideplate. Leave remaining washers undisturbed.
5. Replace rollers and/or wheels as required.
6. Return sideplate to original position, with washers distributed exactly as before disassembly.
7. Repeat for other sideplate if necessary.
8. Reset tension in spring per instructions on Page 1.

TO REPLACE DRIVE WHEEL (Standard Trolley)

Release tension on spring. Move tractor to work area.

1. Remove motor and motor adapter per instructions under Motor Module Maintenance, steps 3 thru 6.
2. Slide wheel off drive shaft (Item 6-Page 7).
3. Replace with new wheel.

NOTE

Be sure couplings and shaft (Items 1 and 5, Page 8, and Item 7, Page 7) are in place when reassembling.

4. Reassemble motor and adapter to Suspension Module.
5. Connect wires per wiring diagram.
6. Replace control cover.

TO REPLACE DRIVE WHEEL (Monorail Trolley)

Release tension on spring. Move tractor to work area.

1. Remove motor and motor adapter per instructions under Motor Module Maintenance, steps 3 thru 6.
2. Detach Gear Module from Suspension Module.
3. Allow trolley to remain attached to Suspension Module, eliminating the need for determining the proper distribution of washers when reassembling.
4. Remove wheel.

NOTE

Refer to Dwg. 64058. Be sure couplings and shaft (Items 25, 26, and 27) are in place when reassembling.

5. While disassembled, check Gear Module as instructed under GEAR MODULE below.
6. Reassemble Suspension Module (with new wheel) with Gear and Motor Modules.
7. Connect wires per wiring diagram.
8. Replace control cover.

GEAR MODULE

Release tension on spring. Move tractor to work area. As a visual aid to disassemble and assemble, refer to the following illustrated parts lists:

MOTOR BRAKE - Page 5

GEAR HOUSING AND GEARING - Pages 6 and 7.

Numbers in parentheses in the instructions are item numbers from these pages.

1. Refer to page 8. Remove brake cover (7) by first removing two screws (25).

NOTE

On Nema 3, 4, and 5 Hoists, take care not to damage gasket (10)

2. Refer to Page 5.
 - a. Check gap between magnet unit (10) and pressure unit (6). For instructions see Page 3.
 - b. Check thickness of brake lining. Replace if less than 3/32 inch thick.
3. Refer to Pages 6 and 7.
 - a. Remove drain plug (29) from gear housing (9)
 - b. Drain oil from housing
 - c. Replace plug.
 - d. Remove attaching screws (25 and 26) and lift gear cover (8) from gear housing, taking care not to damage gasket (1).
 - e. Remove gears and pinions. Check teeth for wear.
 - f. All bearings (15 and 18) in gear module are visible for inspection. Replace as required.
 - g. Check oil seals (21, 22, and 24) for signs of wear or deterioration. Replace if necessary.

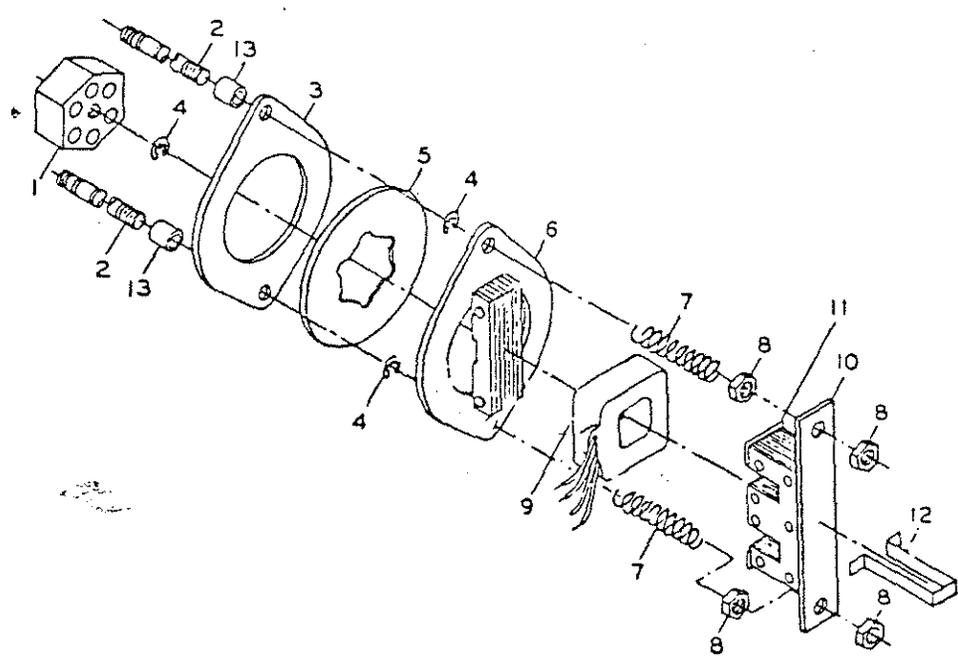
NOTE

Replace all oil seals during a general overhaul of tractor.

- h. If gaskets (1 and 10) have been damaged, replace them when reassembling.
- i. Reassemble gearing.
- j. Support hoist in a vertical position (motor end down, gear end up). Pour two pints of oil into open end of gear housing. For type of oil see LUBRICATION, Page 2.
- k. Replace gasket (1), gear cover (8), gasket (10) if any, and brake cover (7).

TO ORDER: Give Part No., Description and Quantity required, plus Serial No. of Hoist.

MOTOR BRAKE

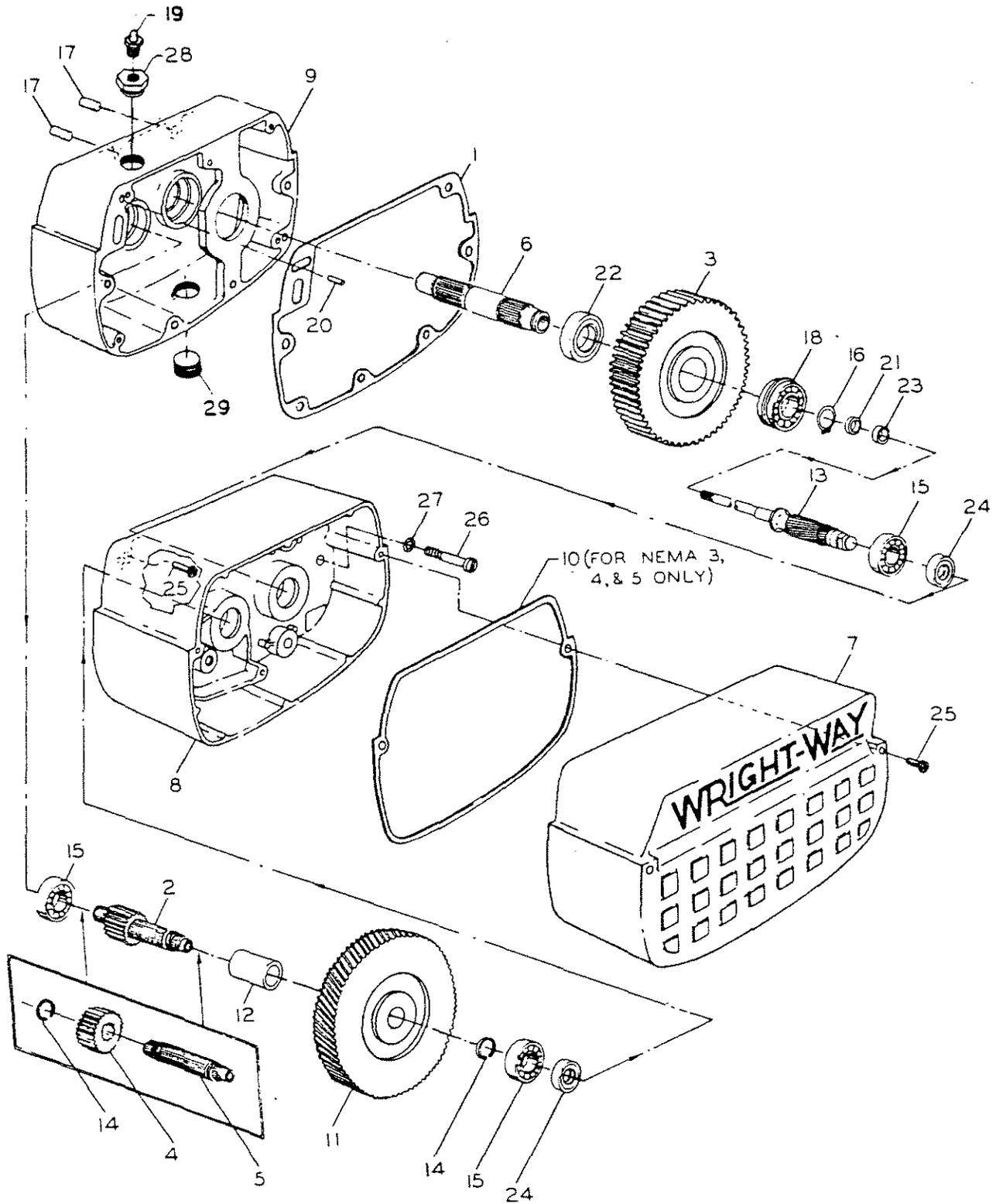


ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY	ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY	
1	61753	Brake Nut	1	9	39783-1	Coil	▲ 1	
2	59221	Stud	2			115/230 VAC		
3	39794	Brake Plate	1			39783-2		575 VAC
4	PA5623	Retaining Ring	3			39783-3		460 VAC
5	39649	Brake Lining	▲ 1			39783-6		208 VAC
6	39781	Pressure Unit	1			10		39780
7	39778	Spring	2	11	39784	Shading Coil	2	
8	24-6	Nut	4	12	39877	Coil Strap	1	

▲ Recommended Spare Parts

a. Shading Coil furnished with Magnet Unit, but also available as a spare.

GEAR HOUSING AND GEARING



GEAR HOUSING AND GEARING

Order by Part Number				Order by Part Number			
PART NO.	QTY.	DESCRIPTION	ITEM	PART NO.	QTY.	DESCRIPTION	ITEM
39770	▲1	Gasket	1	42516	1	Spacer	12
GEARING SET No. 1 (a) (30 FPM)							
42644	1	Intermediate Shaft & Pinion-7T	2(a)	62554	1	Motor Pinion 10T. (Gear Set 3)	13(a)
42908	1	Drum Gear-69T	3(a)	63424		7T. (Gear Sets 1, 2, & 4)	
GEARING SET No.2(40FPM) or No.3(60FPM)							
39831	1	Intermediate Shaft & Pinion-9T	2(a)	PA1446	(c)	Retaining Ring	14
39832	1	Drum Gear-67T	3(a)	PA2464	3	Bearing	15
GEARING SET No. 4 (a) (80 FPM)							
39835	1	Intermediate Pinion-16T	4(a)	PA2534	1	Retaining Ring	16
39836	1	Drum Gear-60T	3(a)	PA4846	2	Dowel Pin, G.H.	17
39839	1	Intermediate Shaft	5(a)	PA4847	1	Bearing	18
63315	1	Drive Shaft	6	PA4850	1	Plug (Pressure Relief)	19
60134-01	1	Cover	7	PA4851	2	Dowel Pin	20
39852	1	Gear Cover	8	PA4852	▲1	Oil Seal	21
	1	Gear Housing	9	PA4853	▲1	Oil Seal	22
39853		Gear Sets 2, 3, & 4		PA4854	1	Bushing	23
43342		Gear Set 1		PA4861	▲2	Oil Seal	24
41589	▲1	Gasket (b)	10	PA4862	6	Screw (Thread Forming)	25
	1	Intermediate Gear	11(a)	PA6027	4	Screw	26
42512		91T. (Gear Set 3)		PA6021	4	Lockwasher	27
42907		94T. (Gear Sets 1, 2, & 4)		PA401	1	Pipe Bushing	28

▲ Recommended Spare Parts.

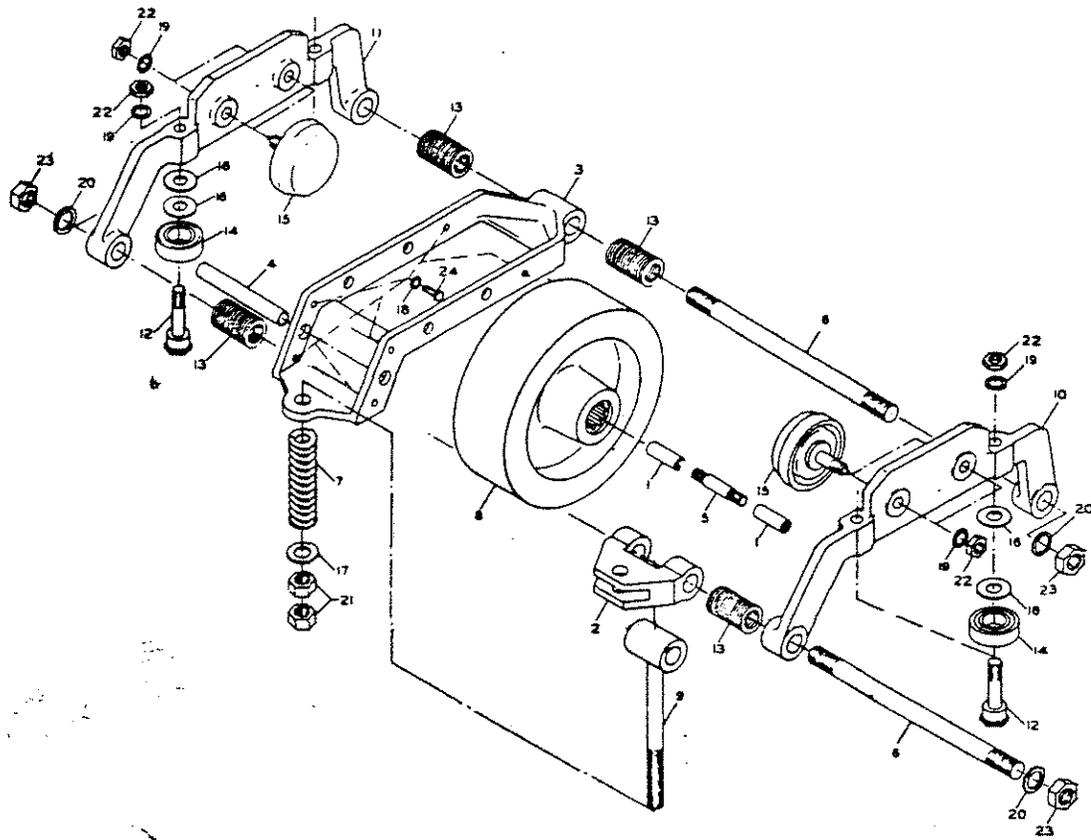
(a) Items 2 thru 5 are gear train parts, divided into four sets. Each set can be identified by the number of teeth in gears and pinions. Items 11 and 13 complete the gear train. Only one set is used in each tractor.

(b) Gasket, Item 10, is used only for Nema 3, 4, and 5 applications.

(c) Quantity of Item 14 depends upon gearing set as follows:—

- Sets Nos. 1, 2, and 3 Quantity is 1
- Set No. 4 Quantity is 2

SUSPENSION ASSEMBLY



Order by Part Number

PART NO.	QTY.	DESCRIPTION	ITEM
39244	1	Coupling	1
42500	1	Tow Clevis	2
42501	1	Hanger	3
42513A	1	Wiring Conduit	4
63314	1	Shaft	5
42515	2	Tie Rod	6
42547	1	Spring	7
63317	1	Wheel Unit	8
43349	1	Spring Bolt Unit	9
43502	1	Side Plate	10
43503	1	Side Plate	11
43504	4	Stud	12
PA734	80	Washer, Plain	13

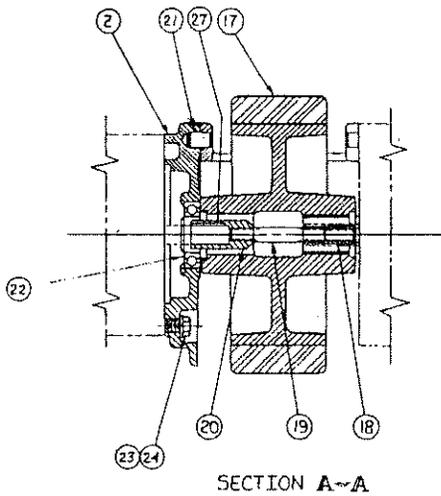
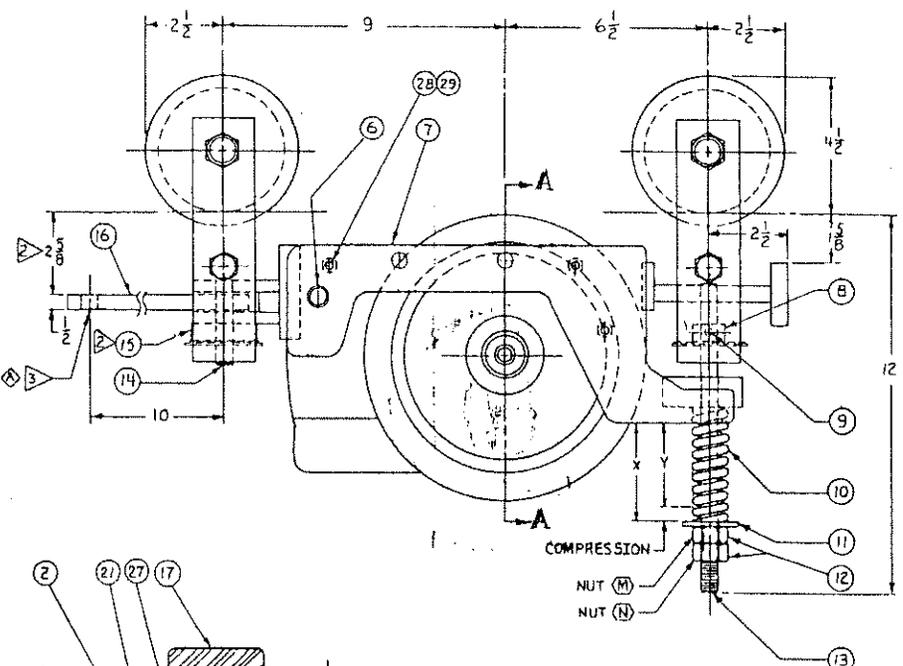
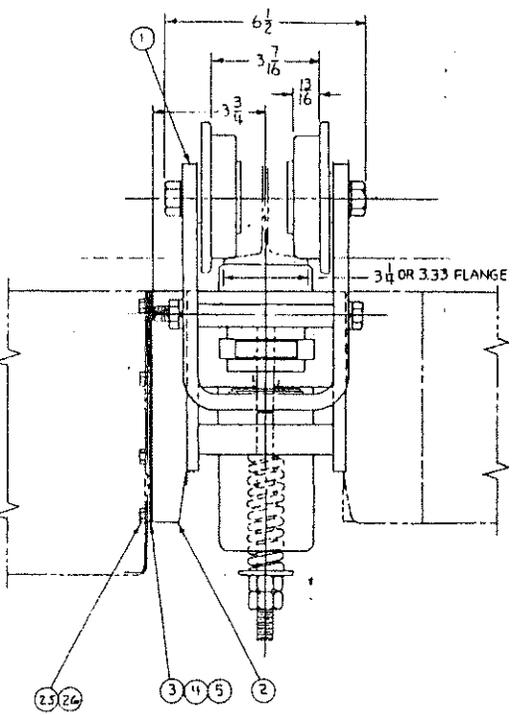
Order by Part Number

PART NO.	QTY.	DESCRIPTION	ITEM
PA4848	4	Bearing	14
PA5350	4	Trolley Wheel	15
PA5351		Std. I Beam WF Beam	
WMC15-8-0	8*	Washer, Plain	16
WMC15-10-0	1	Washer, Plain	17
WMC17-4C	6	Lockwasher	18
WMC17-8	8	Lockwasher	19
WMC17-12X	4	Lockwasher	20
WMC22-10	2	Nut, Hex.	21
WMC24-8	8	Nut, Hex. Jam	21
WMC24-12X	4	Nut, Hex. Jam	23
WMC35-4-12	6	Bolt, Hex. Hd.	24

* Quantity is 0 when used on WF beam.

GIVE SERIAL NUMBER OF TRACTOR WHEN ORDERING PARTS

PARTS LIST			
← DASH NO.			
QTY.	MTY.	ITEM OR PART NAME	ITEM OR PART NAME
2	2	1 B	58766-1 MONORAIL TROL. ASSY
1	1	2 D	61748 ADAPTER, MOTOR
1	1	3 C	61707 COVER, SWITCH
1	1	4 C	61708 GASKET, SW., COVER
2	2	5 N	5-010-6 SCREW, FLAT, HD.
1	1	6 A	42513 CONDUIT, WIRING
1	1	7 D	47417 HANGER, TRACTOR
1	1	8 A	47423 SLEEVE
1	1	9 N	PA5391 PIN, ROLL
1	1	10 A	42547 SPRING
1	1	11 N	15-10-0 WASHER, PLAIN
2	2	12 N	22-10 NUT, FIN., HEX.
1	1	13 A	47424 ROD
1	1	14 A	47468-1 PIN UNIT, TOW BAR
1	1	15 A	47469-2 SPACER
1	1	16 A	47916 BAR, TOW
1	1	17 B	63317 WHEEL UNIT
1	1	18 A	39244 COUPLING, W-W
1	1	19 B	63314 SHAFT
1	1	20 B	61721 COUPLING, MOTOR
1	1	16 A	47916-01 BAR, TOW, 3/8" PIN
2	2	21 N	PA1846 DOWEL PIN
1	1	22 N	PA6944 BEARING, BALL
4	4	23	35-6-16 BOLT
4	4	24	17-6C LOCKWASHER
3	3	25	PA7008 SCREW, HEX HD
3	3	26	19-010C LOCKWASHER
1	1	27	67327 KEY
4	4	28	17-6C LOCKWASHER
6	6	29	35-4-12 BOLT, FIN. HEX



TRACTOR CAPACITY (TONS)	SPRING COMPRESSION (INCHES)
1	1/4
2	3/8
3	9/16
4	11/16
5	7/8

⊠ FOR 5/8" PIN, USE ASSY 64054.
 FOR 3/4" PIN, USE ASSY 64058-01.

▽ SPACER REQ'D FOR FLANGE THICKNESS UNDER 7/16" ONLY. ADD 1/2" WHEN SPACER IS NOT USED.

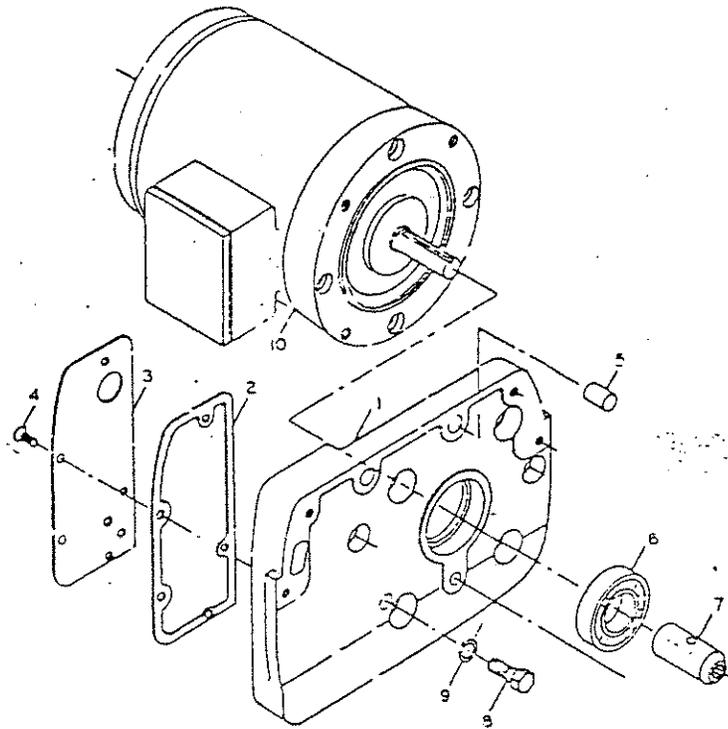
- I. SPRING COMPRESSION
 A. TURN NUT (M) UNTIL RUBBER TIRE TOUCHES BEAM
 B. MEASURE SPRING LENGTH X
 C. TURN NUT (N) TO COMPRESS SPRING
 D. MEASURE SPRING LENGTH Y. CONTINUE TIGHTENING NUT (N) UNTIL Y EQUALS X MINUS COMPRESSION SHOWN IN CHART.
 E. LOCK NUT (N) WITH NUT (M)

NOTES:

DATE	7/5/61	ACCO	Hotel & Crane Division
DESIGNED			
CHECKED			
SUSPENSION ASSY			
TRACTOR DRIVE			
PART NO.	79809	REV.	B
SCALE	1/2	TOTAL SHEETS	1

ADDED ITEMS 21-29	6063	1/1/61	APW	FLM
ADDED DASH NO.	5172	1/1/61	31P	
BY	DATE	REV. BY	APP'D	APP'D

MOTOR ADAPTER ASSEMBLY



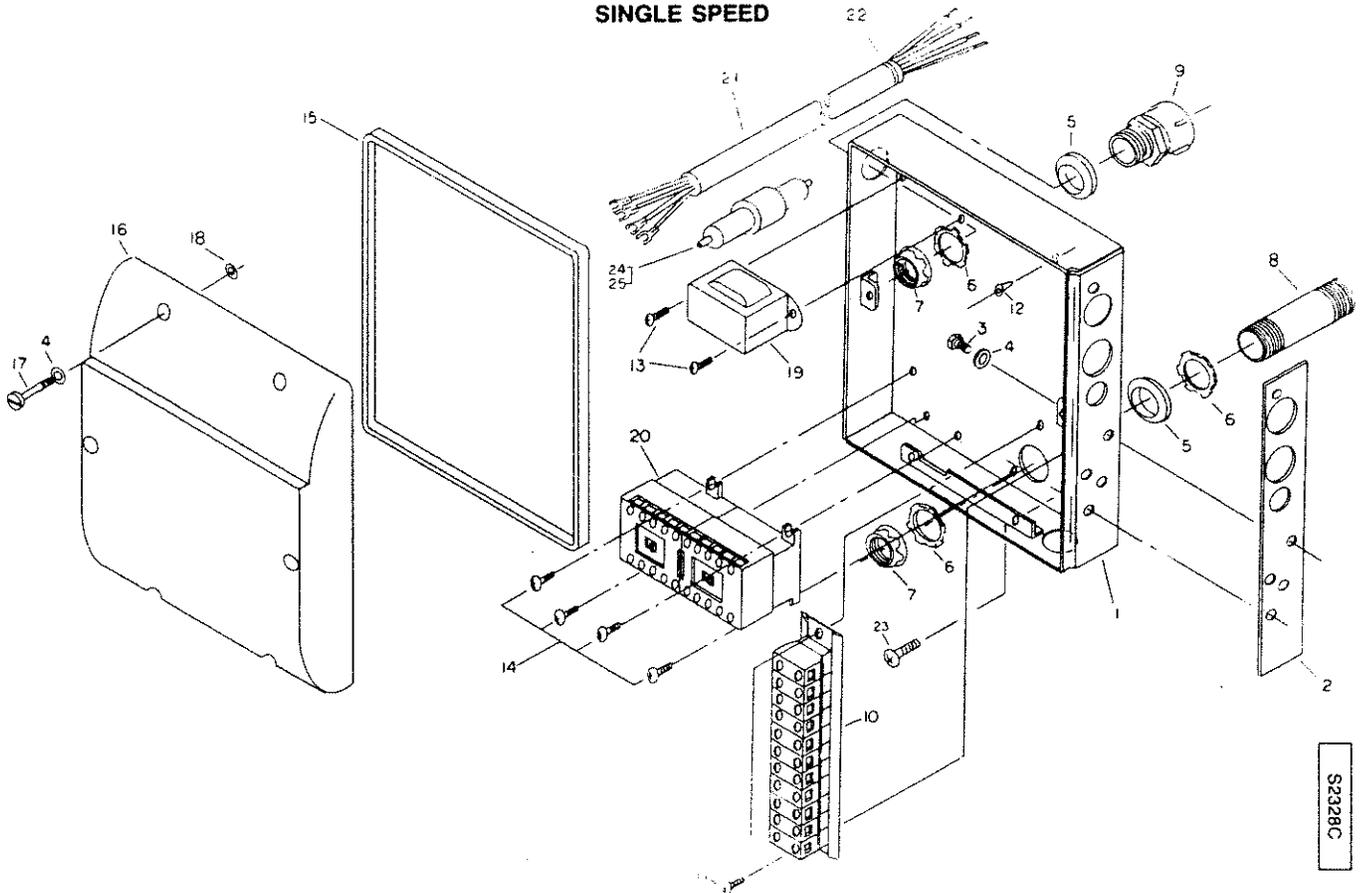
ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY	ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY
1	61748	Motor Adapter	1	6	PA6944	Bearing	1
2	61708	Gasket	1	7	61721	Motor Coupling	1
3	61707	Switch Cover	1	8	35-6-16	Bolt	4
4	5-010-6	Screw, Flat Hd	2	9	17-6C	Lockwasher	4
5	PA4846	Dowel Pin	2	10	(a)	Motor	1

No Recommended Spare Parts

a. To order replacement Motor, furnish Hoist Serial No. and Motor Nameplate Data.

TO ORDER: Give Part No., Description, and Quantity required, plus Product No. of Tractor.

**CONTROLS ASSEMBLY
SINGLE SPEED**



S2328C

ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY
1	76800-017	Control Enclosure	1
2	61776	Gasket	1
3	PA7008	Screw	3
4	19-010C	Lockwasher	9
5	PA4332	Sealing Washer	2
6	PA1827	Locknut	3
7	PA1830	Bushing	2
8	PA7024	Nipple	1
9	PA2145	Cable Grip	1
10	68239-01	Terminals	10
11	PA3594	Screw	3

ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY
12	PA6964	Hole Plug	6
13	PA5865	Screw	2
14	PA5846	Screw	4
15	PA6949	Gasket	(a)
16	61650	Cover	1
17	63779	Screw	6
18	PA7025	Retaining Ring	6
23	PA7185	Screw, Ground	1
24	PA7335	Fuse Holder	1
25▲	PA7336	Fuse (115 V. Control)	1
25▲	PA7328	Fuse (24 V. Control)	1

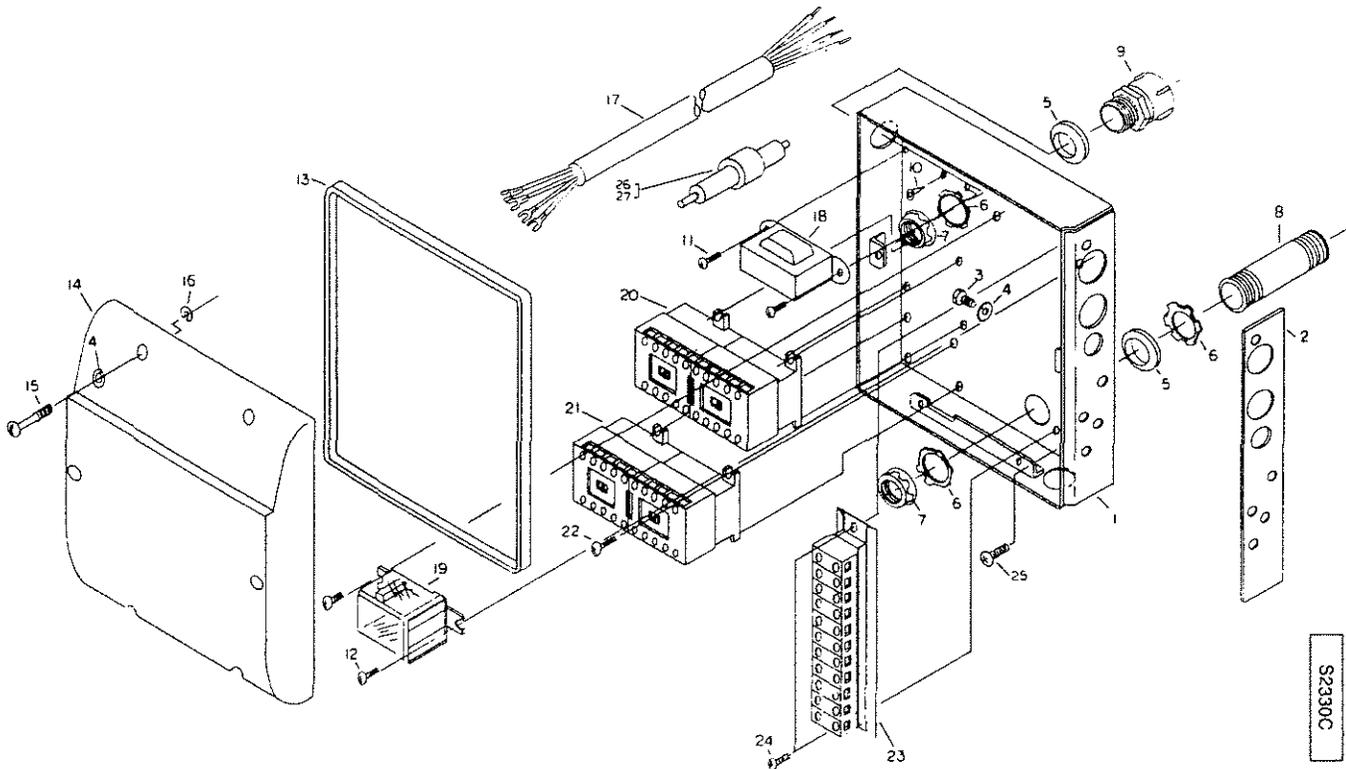
PHASE	CONTROL VOLTAGE	SUPPLY VOLTAGE	ITEM 19 TRANSFORMER	▲ ITEM 20 CONTACTOR	ITEM 21 SUPPLY CABLE	ITEM 22 CABLE LABEL
1	115	115/230	61039-08	62495-06	63589	64011-02
	24		61039-05	62495-07		
3	115	230/460	61039-01	76701-01	63597	64011-01
		200	61039-03			
		575	61039-06			
3	24	230/460	61039-02	76701-02	63597	64011-01
		200	61039-04			
		575	61039-07			

▲ Recommended Spare Parts

a. Part No. shown is for gasket material. A 3 foot length is required per assembly.

TO ORDER: Give Part No., Description, and Quantity required, plus Product No. of Tractor.

**CONTROLS ASSEMBLY
TWO SPEED**



ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY
1	76800-017	Control Enclosure	1
2	61776	Gasket	1
3	PA7008	Screw	3
4	19-010C	Lockwasher	9
5	PA4332	Sealing Washer	2
6	PA1827	Locknut	3
7	PA1830	Bushing	2
8	PA7024	Nipple	1
9	PA2145	Cable Grip	1
10	PA6964	Hole Plug	1
11	PA5865	Screw	2
12	PA3698	Screw	2

ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY
13	PA6949	Gasket	1
14	61650	Cover	1
15	63779	Screw	6
16	PA7025	Retaining Ring	6
17	63597	Power Supply Cable	1
22	PA5846	Screw	8
23	68239-01	Terminals	10
24	PA3594	Screw	3
25	PA7185	Screw, Ground	1
26	PA7335	Fuse Holder	1
27▲	PA7337	Fuse (115 V. Control)	1
27▲	PA7329	Fuse (24 V. Control)	1

CONTROL VOLTAGE	SUPPLY VOLTAGE	ITEM 18 TRANSFORMER	ITEM 19 CONTROL RELAY	▲ ITEM 20 CONTACTOR	▲ ITEM 21 CONTACTOR
115	200	61040-03	PA6787	76701-01	76701-03
	230	61040-01			
	460	61040-01			
	575	61040-06			
24	200	61040-04	PA6788	76701-02	76701-04
	230	61040-02			
	460	61040-02			
	575	61040-07			

▲ Recommended Spare Parts

TO ORDER: Give Part No., Description, and Quantity required, plus Product No. of Tractor.

**PUSH-BUTTON STATION
TWO BUTTON - SINGLE OR TWO SPEED**

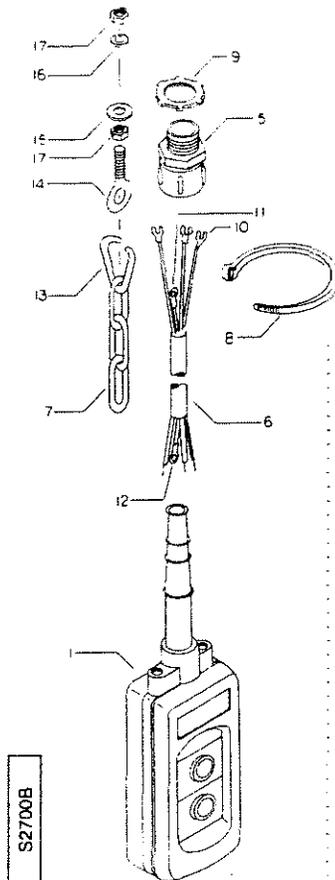
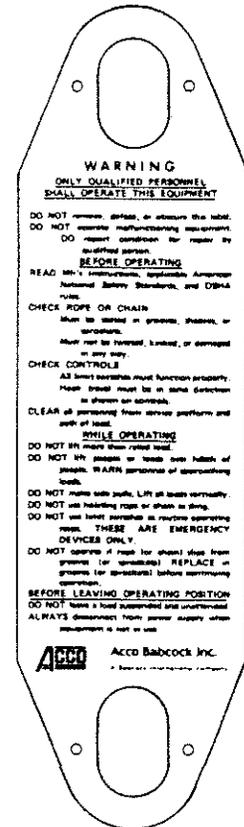


FIGURE 1
Push-Button Station

ITEM NO.	PART NUMBER	DESCRIPTION	QTY/ ASSY
1	68898-01	S.S. Pushbutton Sta.	1
	68898-02	2 Spd. Pushbutton Sta.	
5	PA2427	Cable Grip	2
6	62046	Cable, #16 AWG, 4 Cond.	(a)
7	PA2034	Strain Chain	(a)
8	PA6750	Self-Locking Tie	(b)
9	PA1827	Locknut	1
10	PA3770	Spade Terminal	3
11	PA3217	Ring Terminal	1
12	PA6761	Ring Terminal	1
13	PA2035	Chain Repair Link	1
14	PA5037	Eyebolt	1
15	15-4-2C	Washer	1
16	17-4C	Lockwasher	1
17	22-4C	Nut	1
18	63178-01	Warning Label (c)	1



**WARNING LABEL
63178-01**
Replace label if lost or illegible.

Push-Button Station Complete and Items 1 and 2 vary as shown below.

LIFT AND DROP ARE SHOWN IN FEET (FT) AND METERS (M)				SINGLE SPEED PUSH-BUTTON STATION COMPLETE	ITEM 1 (1 per unit) CABLE ASSEMBLY	ITEM 2 (1 per unit) STAIN CHAIN
LIFT		DROP				
FT	M	FT	M			
10	3	6	1.8	68901-01	60764-02	60762-02
15	4.6	11	3.4	68901-02	60764-03	60762-03
20	6	16	4.8	68901-03	60764-04	60762-04
30	9	26	7.8	68901-04	60764-05	60762-05
40	12	36	10.8	68901-05	60764-06	60762-06
LIFT AND DROP ARE SHOWN IN FEET (FT) AND METERS (M)				TWO SPEED PUSH-BUTTON STATION COMPLETE	ITEM 1 (1 per unit) CABLE	ITEM 2 STRAIN CHAIN
LIFT		DROP				
FT	M	FT	M			
10	3	6	1.8	68901-06	8 FT. PA2513	60762-02
15	4.6	11	3.4	68901-07	13 FT. PA2513	60762-03
20	6	16	4.8	68901-08	18 FT. PA2513	60762-04
30	9	26	7.8	68901-09	28 FT. PA2513	60762-05
40	12	36	10.8	68901-10	38 FT. PA2513	60762-06

* When ordering Push-Button Station Complete, Cable Assembly or Strain Chain for special drop, specify drop, or specify length of cable and/or chain required.

Drop is Lift minus 4 ft (1.2 m)

Cable length is Drop plus 1.8 ft (0.56 m)

Chain length is Drop plus .58 ft (0.17 m)

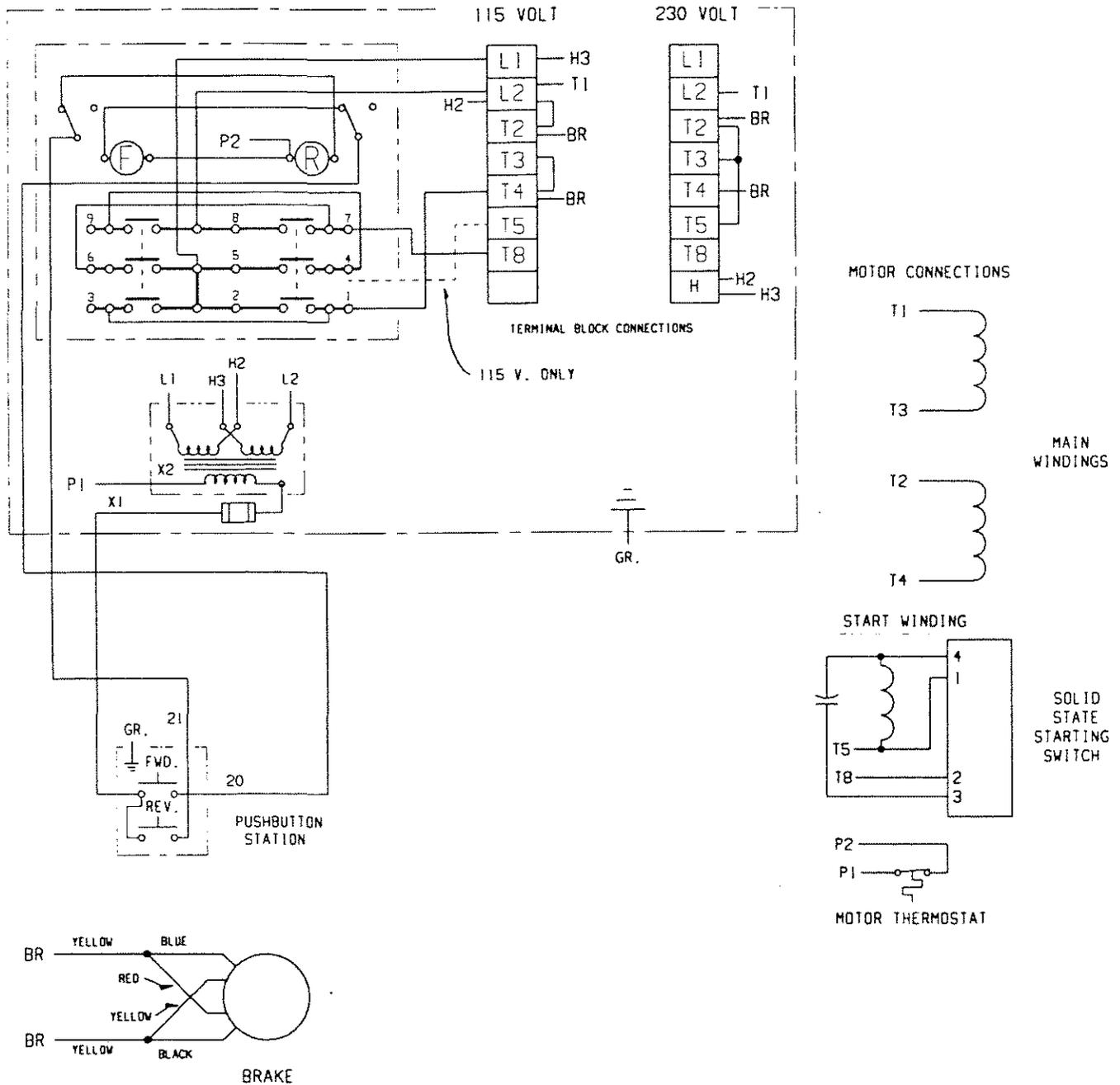
TYPICAL WIRING DIAGRAM SINGLE PHASE, 115/230 V

WARNING

Do not alter or add any circuits or devices that affect the proper operation of the safety devices installed as part of this equipment. Do not substitute devices of other ratings or specifications for the safety devices. Failure to heed this warning could result in serious bodily injury and/or property damage.

NOTE

Refer to wiring diagram inside enclosure of specific control.



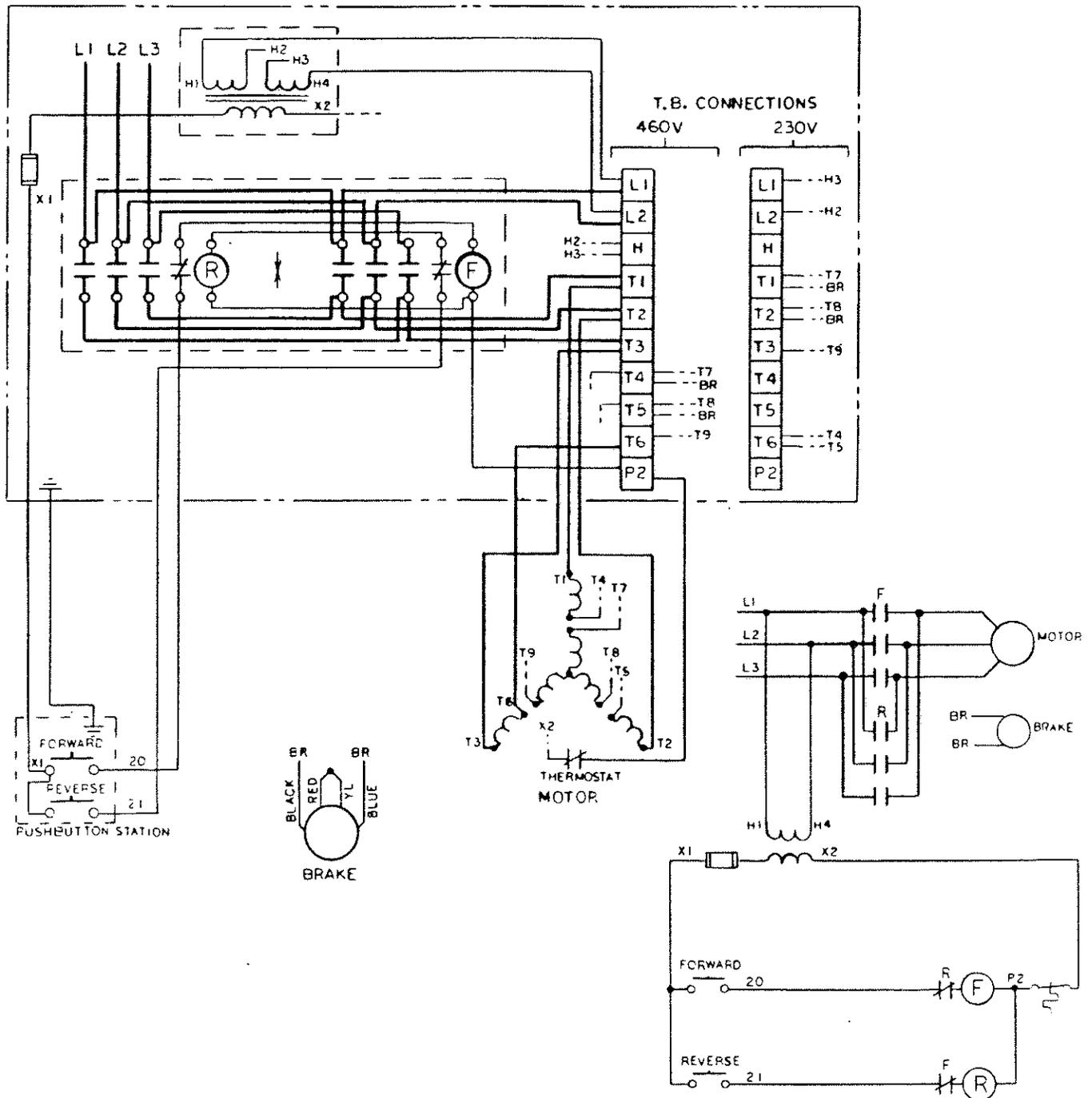
TYPICAL WIRING DIAGRAM THREE PHASE, SINGLE SPEED

WARNING

Do not alter or add any circuits or devices that affect the proper operation of the safety devices installed as part of this equipment. Do not substitute devices of other ratings or specifications for the safety devices. Failure to heed this warning could result in serious bodily injury and/or property damage.

NOTE

Refer to wiring diagram inside enclosure of specific control.



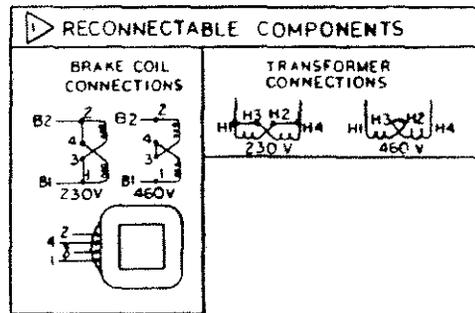
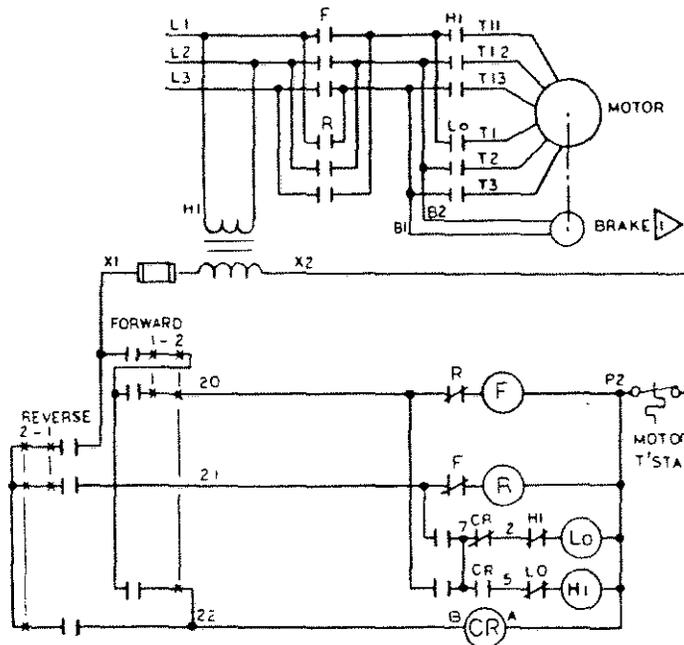
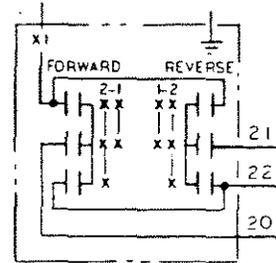
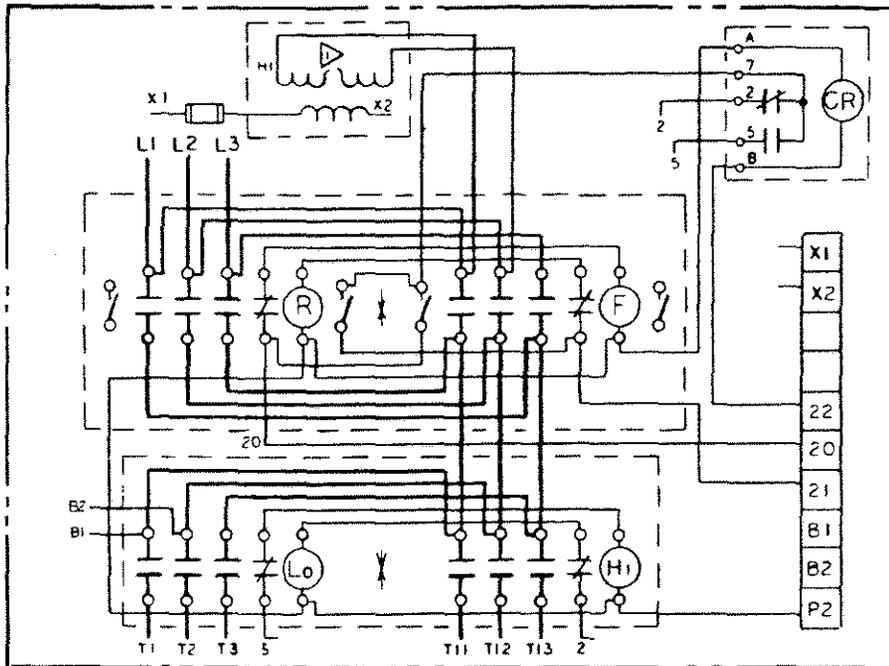
TYPICAL WIRING DIAGRAM THREE PHASE, TWO SPEED

WARNING

Do not alter or add any circuits or devices that affect the proper operation of the safety devices installed as part of this equipment. Do not substitute devices of other ratings or specifications for the safety devices. Failure to heed this warning could result in serious bodily injury and/or property damage.

NOTE

Refer to wiring diagram inside enclosure of specific control.







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