

---

**MODEL AGHO  
WORMGEAR AND JACKSHAFT TYPE  
COMMERCIAL-INDUSTRIAL OPERATOR**

---



Sold By:

# MODEL AGHO WORMGEAR AND JACKSHAFT TYPE COMMERCIAL-INDUSTRIAL OPERATOR



## STANDARD FEATURES AND SPECIFICATIONS

### MOTOR

3/4 H.P., 120 or 240 volt, single phase.  
1/2, 3/4 and 1 H.P., 208-230-416-460-575 volts, three phase.  
All with overload and underload protection.

### BUTTON CONTROL

3 button control may stop door at any position and open or close door from any stopped position.

### LIMIT SWITCHES

Oil impregnated screw type cams activate precision type micro switches for up or down positions. Easily adjusted to door travel.

### REDUCTION SYSTEM

40:1 ratio heavy duty speed reducer. Gears are enclosed in alloy cast iron housing and run in oil bath. No. 50 chain and sprockets provide final drive from operator to door.

### DISCONNECT DEVICE

Wall mounted locking lever allows hand chain hoist to be engaged. Door may then be worked manually in the event of a power failure. A safety switch cuts power to operator when chain hoist is operated.

### CHAIN HOIST

Heavy duty chain guides give hoist precise support. A 3/4" shaft provides additional strength. Chain hoist may be interchanged from the left or right side of operator without a tool.

### SOLENOID DISC BRAKE

Prevents door from coasting after stop button is activated and will lock door in open or closed position. This new and unique automatic adjusting disc brake is constructed entirely of galvanized steel which will prevent rust and disc pad contamination. Long lasting pads are made of 3/16" thick brake block material and can be easily changed by removing one bolt.

### DRIVE SHAFTS

1" dia. shafts extending 3" on either side of the operator allow for numerous drive sprocket (50 B 12) positions. Shafts are supported in speed reducer by precision high speed bearings running in oil bath and reinforced by flange ball bearings fixed to operator chassis. These removable bearings can be changed easily.

### CONTROL BOX

Constructed of .050" (1.27 mm) thick steel features a removable cover for speed reducer and disc brake system exposure. Easy access to reducer is provided for oil change or repair.

### OIL LEVEL GAUGES

2 oil level windows are provided for reducer whereby visibility is assured regardless of mounting position (shelf or side). Oil plug is located for easy access.

### RELAY

Heavy duty 3 pole reversing contactor.

### OPERATOR CHASSIS

Constructed of 1/8" (3.2 mm) thick steel with 2 mounting angles made of 2" x 2" x 3/16" thick x 16" length angle iron. Mounting angles are removable from operator and may be turned in or out depending on mounting specifications.

### CONTROL CIRCUIT

24 volt A.C. for users' safety and protection.

### MAXIMUM DOOR HEIGHT

30'0" (9.1 m)

### SIDEROOM REQUIREMENT AND MOUNTING

14-1/2" minimum. Operator designed for all mounting positions and specifically for 6" I beams.

### OPTIONAL

#### SLIP CLUTCH

Built into heavy duty speed reducer provides safe operation of door throughout opening and closing cycles. This torque limiting clutch runs in an oil bath and can easily be adjusted in the field from 0 to 800 lbs/foot. Order model AGHO-C.

### MOUNTING ANGLES

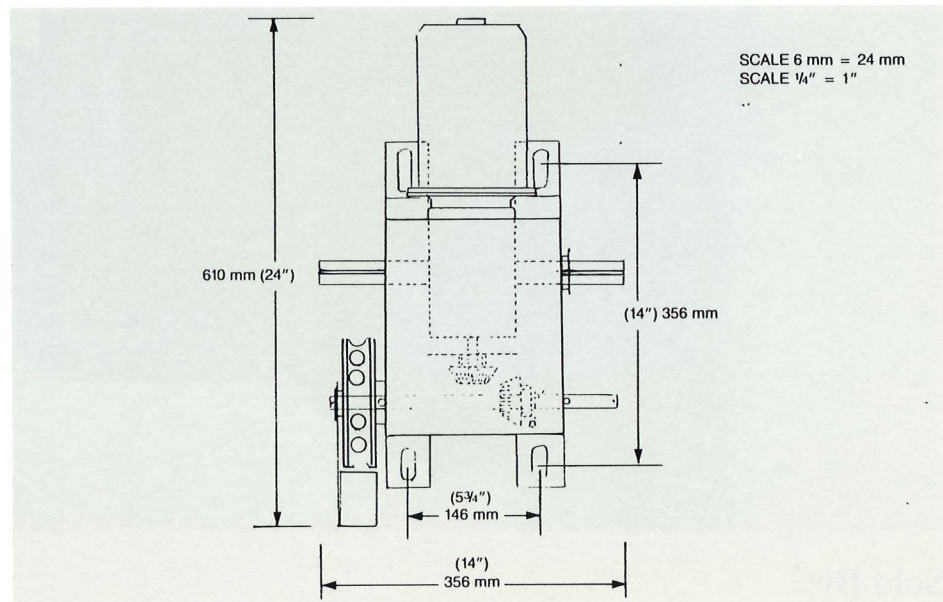
Other sizes available on request.

### WATERPROOF OR DUSTPROOF

Available on request.

### WIRING

Available for radio control, safety stop, safety reverse, photo cell, Miller edge or timer, upon request.



**NEW JERSEY:**  
166 Gould Ave.  
Paterson, New Jersey  
07533  
Tel.: 201-278-5588  
Toll free: 800-234-5969  
Fax: 201-742-9832

**PHOENIX:**  
101 North 57th Ave.  
Phoenix, Arizona  
85043  
Tel.: 602-352-1010  
Toll free: 800-233-3599  
Fax: 602-352-1341

**OHIO:**  
P.O. Box 160  
Route 66 South  
Archbold, Ohio 43502  
Tel.: 419-445-1010  
Toll free: 800-338-5399  
Fax: 419-446-2616

**LOS ANGELES:**  
15801 Stagg Street  
Van Nuys, California  
91406  
Tel.: 818-908-9935  
Toll free: 800-369-6351  
Fax: 818-908-1151

**MONTREAL:**  
175 ave. Upper Edison  
St-Lambert, Quebec  
J4R 2R3  
Tel.: 514-866-1068  
Fax: 514-466-8852

**TORONTO:**  
1040 Meyerside Drive  
Mississauga, Ontario  
L5T 1J4  
Tel.: 416-674-4606  
Fax: 416-670-0806



**WORMGEAR HOIST TYPE COMMERCIAL INDUSTRIAL OPERATOR**

Wormgear hoist type opener with 40:1 ratio heavy duty drive speed reducer. Designed for commercial and industrial rolling steel doors and grills, and sectional overhead doors with existing cross header shaft as in high lift or vertical lift. Shipping weight Approx. 160 lbs

**CONTROL WIRING**

B-2 WIRING - 8 POLE TERMINAL STRIP - pre-wired for 3 button 24 volt momentary contact control; single button station; key switch; all auxiliary safety devices to reverse door when closing.

RADIO CONTROL - pre-wired for 3 terminal radio control - 24 volt

**FEATURES**

*Shaft output speed 43 R. P. M.*

*Full support frame with outboard support bearings*

*Floor level disconnect*

*Chain hoist - Heavy duty for manual operation of the door*

*Brake - Automatically adjusting solenoid disc brake*

*1" drive shaft for multiple sprocket positions*

*1" Drive shaft with sprocket for left hand or right hand mount*

*Relay - Heavy duty 3 pole reversing contactor*

MODEL	H.P.	VOLTAGE PHASE	MAXIMUM HEIGHT	MAXIMUM WEIGHT	LIST PRICE
AGHO-211	1/2	115/1	30'	1400	
AGHO-221	1/2	230/1	30'	1400	
AGHO-223	1/2	220/3	30'	1000	
AGHO-243	1/2	460/3	30'	1000	
AGHO-411	3/4	115/1	30'	1400	
AGHO-421	3/4	230/1	30'	1400	
AGHO-423	3/4	230/3	30'	1400	
AGHO-443	3/4	460/3	30'	1400	
AGHO-111	1	115/1	30'	1400	
AGHO-121	1	230/1	30'	1400	
AGHO-123	1	230/3	30'	1600	
AGHO-143	1	430/3	30'	1600	
AGHO-1.511	1.5	115/1	30'	1400	
AGHO-1.511	1.5	230/1	30'	1400	
AGHO-1.523	1.5	230/3	30'	1600	
AGHO-1.543	1.5	430/3	30'	1600	
AGHO-2.023	2	230/3	30'	1600	
AGHO-2.043	2	430/3	30'	1600	

**OPTIONS**

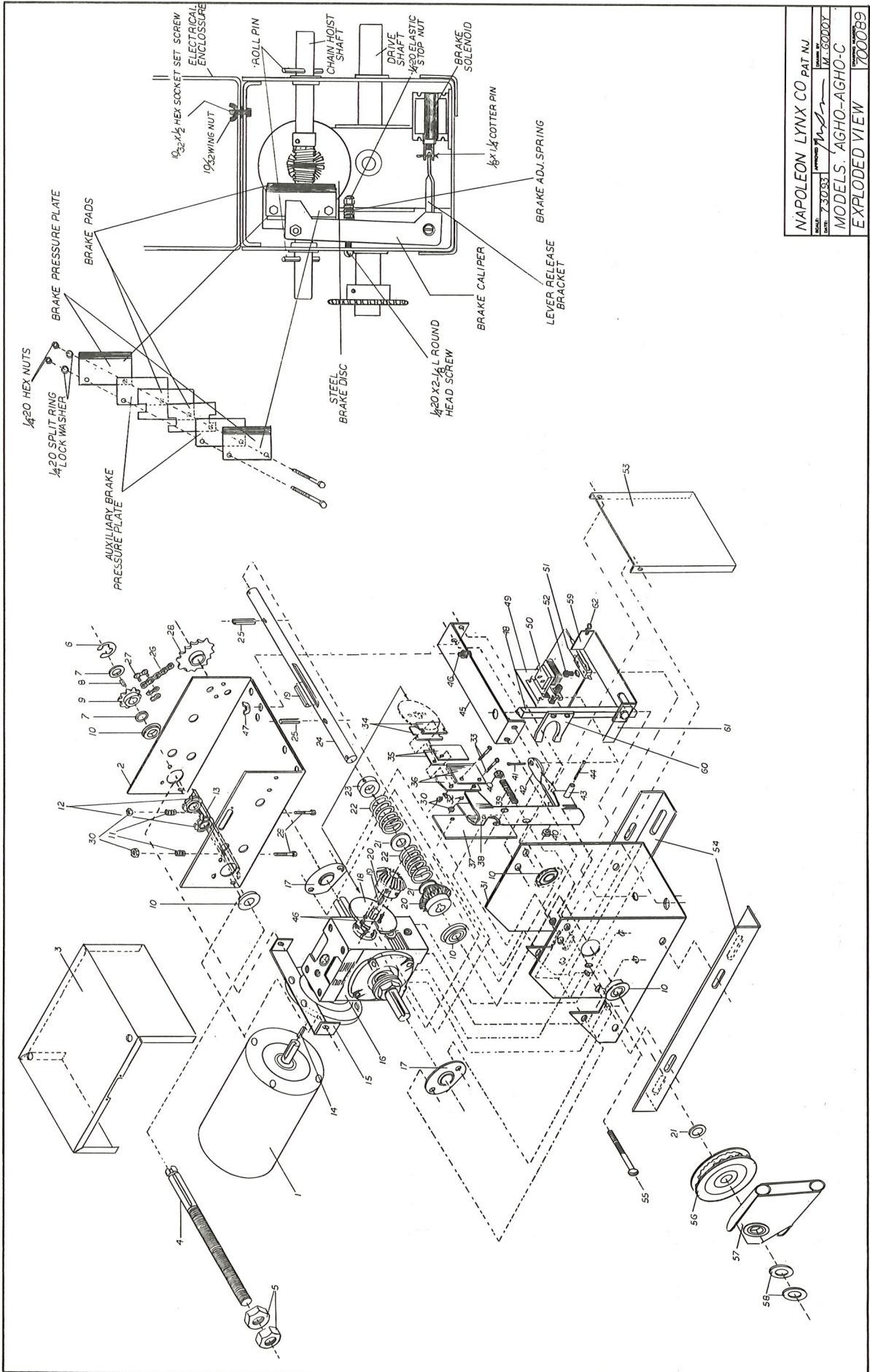
Optional clutch ..... \$170.00

See accessories page for applicable modifications









NAPOLEON LYNX CO PAT. N.J.  
 MODEL 'AGHO-AGHO-C  
 EXPLODED VIEW 700089



NAPOLEON / LYNX

99 PARTS LIST DWG. #700089 AGHO-C FRAME ASSY.

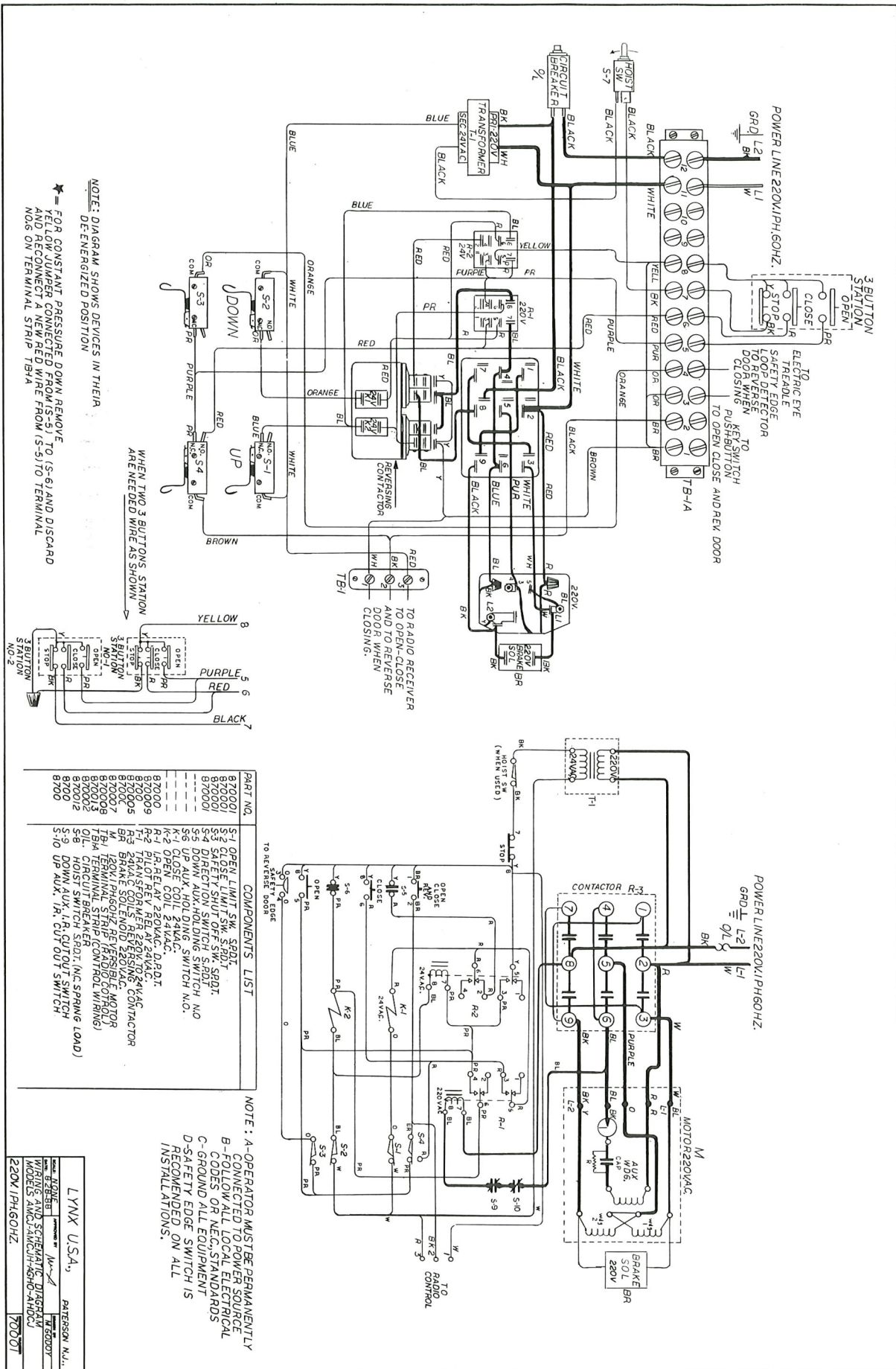
7/1/99

REF #	DESCRIPTION	QTY	LIST PRICE
100	MTR #317P481 1/2 HP 115/220V 1PH CAP START, A-O SMITH	1	
1A0	MTR #VL1304, 1/2 HP 115/220V 1 PH, C-FLANGE (BALDOR)	1	
1B0	MTR #100025 1/2 HP 115V 1PH (C FACE) LEESON	1	
1C0	MTR #327P687 3/4 HP 115/230V 1PH (C FACE) CAP START, A-O	1	
1D0	MTR #P56A40A72P 1/2 HP 208/220/440V 3PH, (OLD#327P676)	1	
1E0	MTR #P56A42A72 3/4 HP 208/220/440V 3PH, (OLD #327P678)	1	
200	ELECTRICAL BOX COVER	1	
300	ELECTRICAL BOX (ENCLOSURE)	1	
400	SHAFT, LIMIT 5/8"OD X 10 3/8" LG.	1	
500	NUT, HEX JAMB 5/8-24	2	
600	RETAINING RING	1	
700	SPACER, WASHER 5/8"ID X 1"OD X 1/8"THK	2	
800	KEY STOCK, 3/16" SQ X 1/2"LG	1	
900	SPROCKET, LIMIT 48B9 X 5/8"B, 3/16"KW	1	
1000	BEARING,FLANGE BALL 1 3/8"OD X 5/8"ID	4	
1100	SPRING, RETASINING (TRAVELING NUT)	2	
1200	TRAVELING NUT, 5/8-24 THREAD	2	
1300	RETAINING PLATE, TRAVELING NUT	1	
1400	KEY STOCK, 3/16" SQ X 1 3/8"LG	2	
1500	BRACKET, ELECTRICAL BOX PIVOT	1	
16A	GEAR REDUCER, #55	1	
16B	GEAR REDUCER, #70	1	
1700	BEARING, DRIVE SHAFT SUPPORT	2	
1800	STEEL BRAKE DISC	1	
1900	KEY STOCK, 3/16" SQ X 7/8"LG	2	
2000	GEAR, BEVEL 20 TEETH	2	
2100	SPACER, WASHER 1"OD X 3/4"ID X 1/16"THK	3	
2200	SPRING,HOIST FLIPPER 3/4"ID X 1 1/4"LG	2	
2300	COLLAR, 3/4"ID	1	
2400	SHAFT, HOIST 3/4"OD X 14"LG	1	
2500	PIN, ROLL 5/16" X 1 1/2"LG	2	
2600	CHAIN, #65	1	
2700	LINK, CONNECTING #65	1	
2800	SPROCKET, 65B21 X 1" BORE ONLY	1	
2900	SCREW, 1/4-20 X 1 1/2" HEX CAP	2	
3000	NUT, 1/4-20 HEX	4	
3100	CHASSIS, 11GA. X 11" X 22"	1	
3200	WASHER, 1/4" SPLIT RING LOCK	2	
3300	SCREW, 1/4-20 X 1 3/4"LG HEX CAP	2	
3400	BRAKE PADS	2	
3500	PLATE, AUXILIARY BRAKE PRESSURE	2	
3600	PLATE, BRAKE PRESSURE	2	
3700	BRACKET SUPPORT BRAKE ASSEMBLY	1	
3800	BRAKE CALIPHER	1	
3900	SPRING, BRAKE ADJUSTMENT	1	
4000	NUT, 1/4-20 ELASTIC STOP	2	
4100	PIN, COTTER 1/8" X 1 1/4"LG	1	
4200	BRAKE RELEASE LEVER P.N.700119	1	
4300	SPACER, 1/4" X 1/2"LG	1	



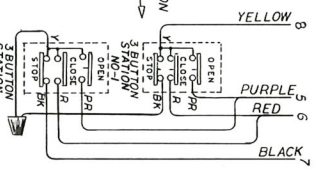






NOTE: DIAGRAM SHOWS DEVICES IN THEIR DE-ENERGIZED POSITION

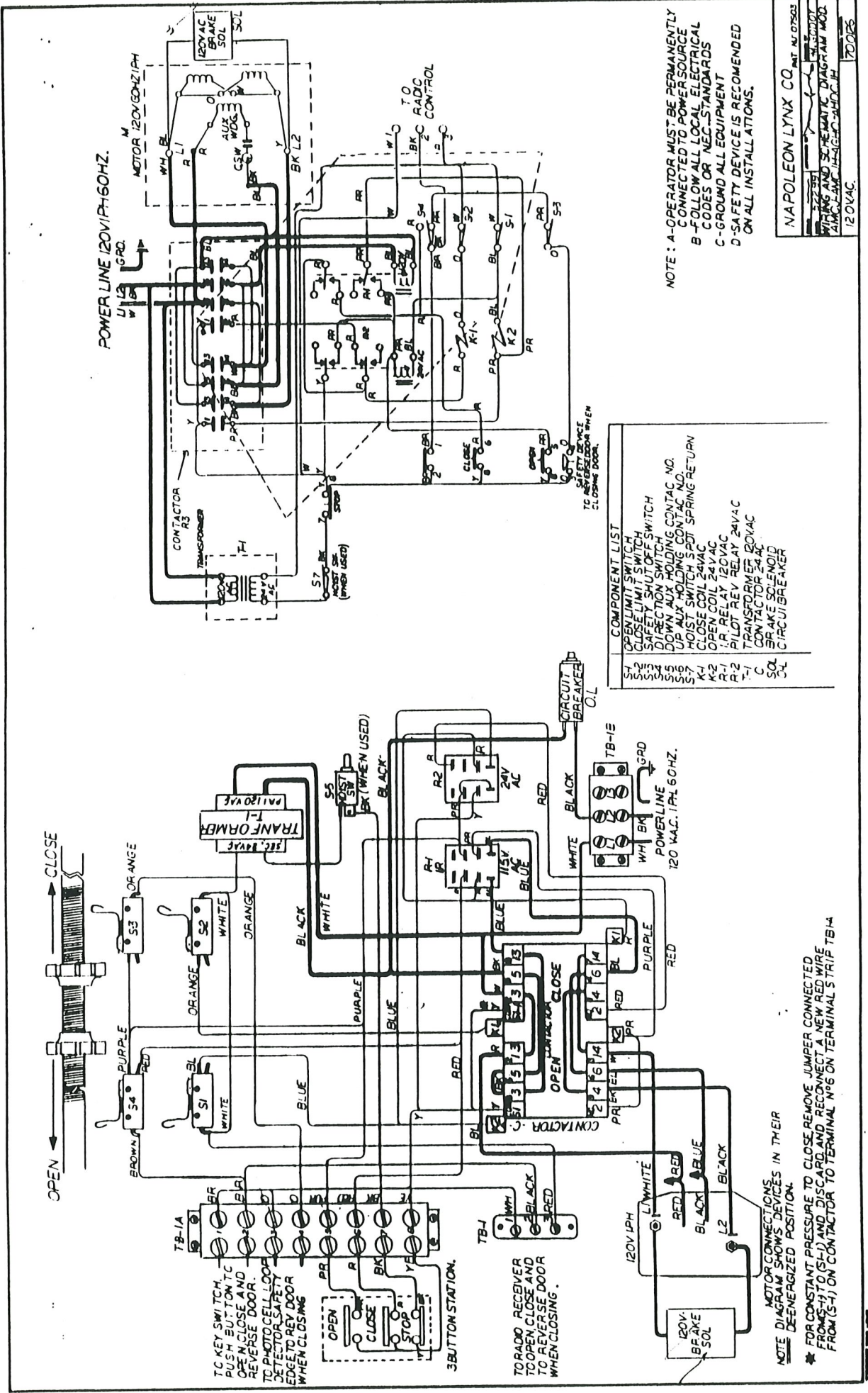
\* FOR CONSTANT PASSENGER DOWN REMOVE FEED WIRE FROM (S-5) AND DISCARD AND RECONNECT A NEW RED WIRE FROM (S-5) TO TERMINAL NO. ON TERMINAL STRIP TB1A



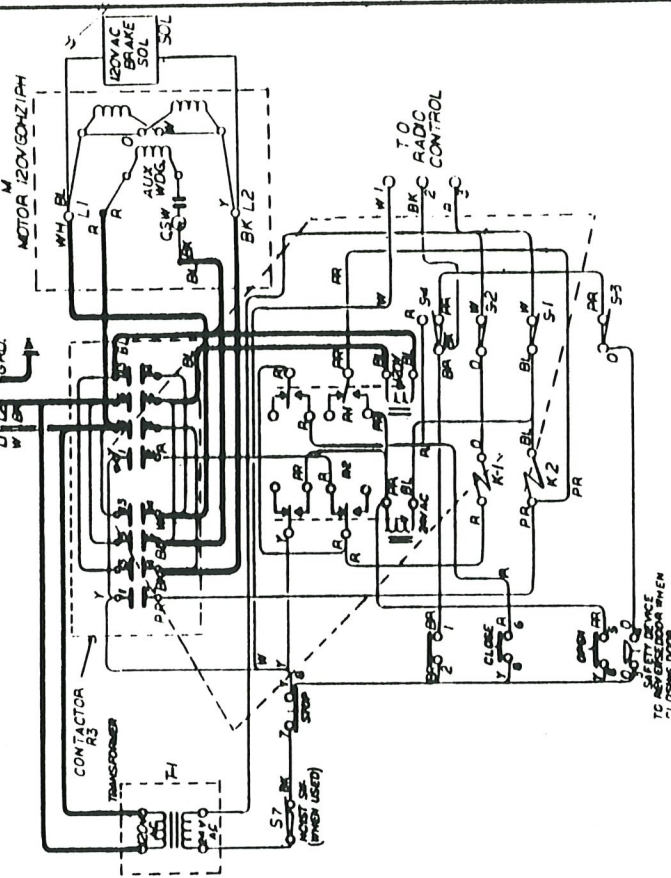
PART NO.	COMPONENTS LIST
870001	S-1 OPEN LIMIT SW. S.D.T.
870002	S-2 CLOSE LIMIT SW. S.D.T.
870003	S-3 STOP SW. S.D.T.
870004	S-4 DIRECTION SWITCH S.D.T.
870005	S-5 DOWN AUX. HOLDING SWITCH N.O.
870006	S-6 UP AUX. HOLDING SWITCH N.O.
870007	S-7 CLOSE COIL 24VAC.
870008	S-8 UP COIL 24VAC.
870009	R-1 PILOT REV RELAY 24VAC. D.P.D.T.
870010	R-2 TRANSFORMER 220V/24VAC.
870011	BR BRAKE SOLENOID 220VAC.
870012	M 120V/1PH/60HZ REVERSIBLE MOTOR
870013	TB1A TERMINAL STRIP (CONTR. WIRING)
870014	S-8 CIRCUIT BREAKER S.D.T. (N.C. SPRING LOAD)
870015	S-9 UP AUX. I.R. CUT OUT SWITCH

NOTE: A- OPERATOR MUST BE PERMANENTLY B- CONNECTED TO DOWN EDGE C- CODES OF NEC STANDARDS D- SAFETY EDGE SWITCH IS RECOMMENDED ON ALL INSTALLATIONS.

LYNX USA, PATERSON N.J.  
 MODEL 4400  
 WIRING AND SCHEMATIC DIAGRAM MODELS AND: 3AMCJH-4500-AHDCU  
 220V 1PH/60HZ 7000T



POWER LINE 120V 1PH 60HZ.



NOTE: A - OPERATOR MUST BE PERMANENTLY CONNECTED TO POWER SOURCE  
 B - FOLLOW ALL LOCAL ELECTRICAL CODES OR NEC STANDARDS  
 C - GROUND ALL EQUIPMENT ON ALL INSTALLATIONS.

COMPONENT LIST

S1	OPERATOR SWITCH
S2	LIMIT SWITCH
S3	CLOSE LIMIT SWITCH
S4	DOWN AUX HOLDING CONTACT NO.
S5	UP AUX HOLDING CONTACT NO.
S6	HOIST SWITCH 5 SPD SPRING RETURN
S7	CLOSE COIL 24VAC
K-1	OPEN COIL 24VAC
R-1	PILOT RELY 120VAC
R-2	PILOT RELY 24VAC
T-1	TRANSFORMER 120VAC
C	CONTACTOR 34 AC
SOL	BRAKE SOLENOID
OL	CIRCUIT BREAKER

NAPOLEON LYNX CO. INT. NO. 7503  
 WIRING AND SCHEMATIC DIAGRAM MOD.  
 24V AC. 120V 1PH 60HZ  
 120VAC.



TC KEY SWITCH  
 PUSH BUTTON TO  
 OPEN CLOSE AND  
 REVERSE DOOR.  
 TC PHOTOCELL LOOP  
 DETECTOR SAFETY  
 EDGE TO REV DOOR  
 WHEN CLOSING

3 BUTTON STATION.  
 OPEN  
 CLOSE  
 STOP

TO RADO RECEIVER  
 TO OPEN CLOSE AND  
 TO REVERSE DOOR  
 WHEN CLOSING.

120V 1PH  
 L1 WHITE  
 L2 BLACK  
 L3 BLUE

120V AC  
 BRAKE  
 SOL

CONTACTOR  
 OPEN CONTACTOR CLOSE  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

TO RADO RECEIVER  
 TO OPEN CLOSE AND  
 TO REVERSE DOOR  
 WHEN CLOSING.

120V AC  
 BRAKE  
 SOL

CONTACTOR  
 OPEN CONTACTOR CLOSE  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

120V AC  
 BRAKE  
 SOL

CONTACTOR  
 OPEN CONTACTOR CLOSE  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

120V AC  
 BRAKE  
 SOL

CONTACTOR  
 OPEN CONTACTOR CLOSE  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

120V AC  
 BRAKE  
 SOL

CONTACTOR  
 OPEN CONTACTOR CLOSE  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

120V AC  
 BRAKE  
 SOL

CONTACTOR  
 OPEN CONTACTOR CLOSE  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

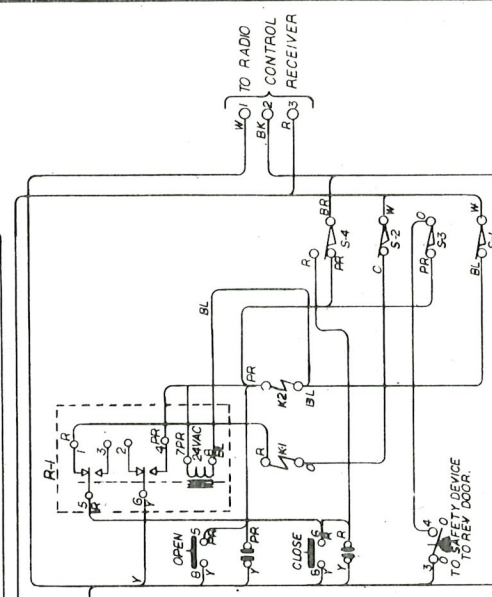
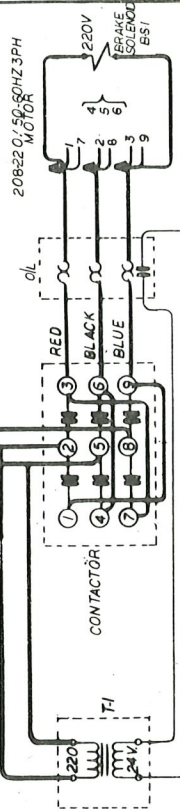
120V AC  
 BRAKE  
 SOL

NOTE: MOTOR CONNECTIONS IN THEIR DEENERGIZED POSITION.

FOR CONSTANT PRESSURE TO CLOSE REMOVE JUMPER CONNECTED FROM S-1 TO (S-1) AND (S-2) AND RECONNECT NEW RED WIRE FROM (S-1) ON CONTACTOR TO TERMINAL N° 6 ON TERMINAL STRIP TB-4

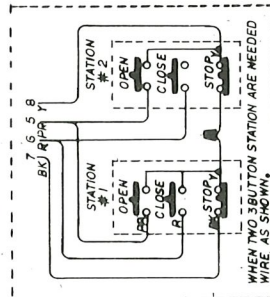


POWER LINE 220V 3PH 60HZ.

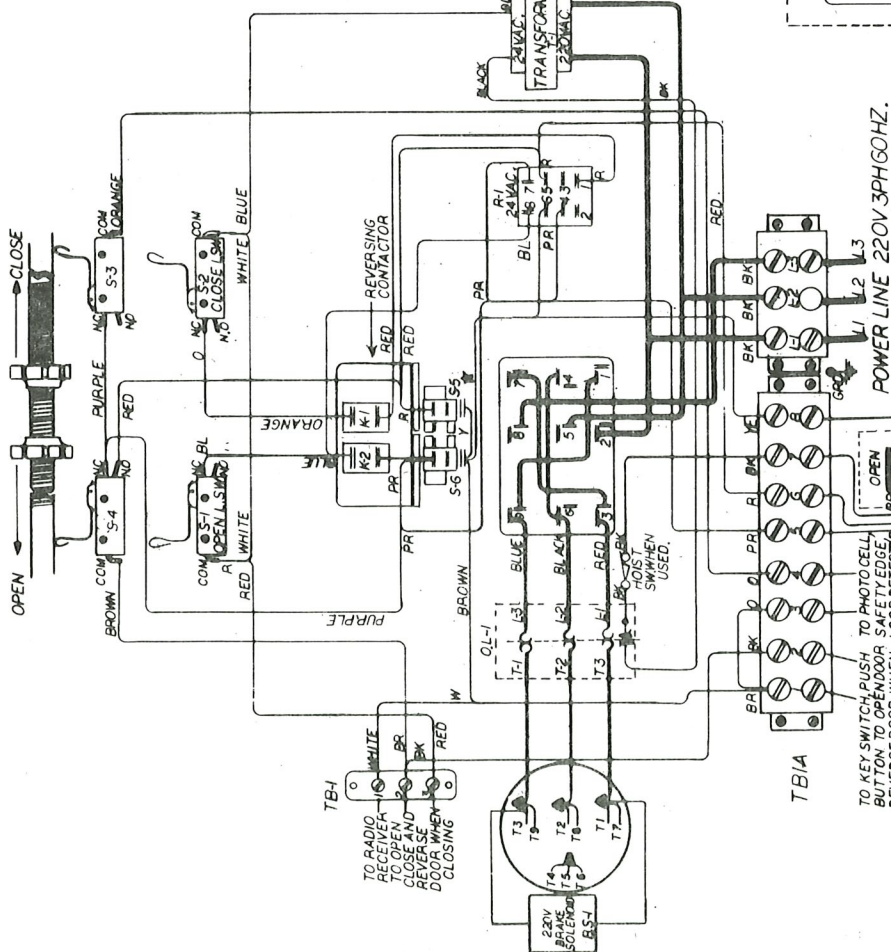


NOTE: A- OPERATOR MUST BE PERMANENTLY CONNECTED TO POWER SOURCE  
 B- FOLLOW ALL LOCAL ELECTRICAL CODES OR NEC STANDARDS  
 C- GROUND ALL EQUIPMENT  
 D- SAFFT DEVICES MUST BE INSTALLED ON ALL INSTALLATIONS

- COMPONENT LIST
- S-1 OPEN LIMIT SWITCH SDDT
  - S-2 CLOSE LIMIT SWITCH SDDT
  - S-3 SAFETY SHUT OFF SWITCH S.P.R.T
  - S-4 DIRECTION SWITCH SDDT
  - S-5 OPEN AUX HOLDING SWITCH NO
  - S-6 CLOSE COIL 24VAC
  - K-1 OPEN COIL 24 VAC
  - K-2 TRANSFORMER 24VAC
  - T-1 TRANSFORMER 240VAC TO 24VAC 30VA
  - R-2 24VAC BRAKE SOLENOID 42 MOTOR
  - BS-1 24VAC REVERSING CONTACTOR
  - T-2 24VAC THERMAL STRIP (RADIO CONTROL)
  - T-3 THERMAL STRIP (CONTROL WIRING)
  - T-7 THERMAL OVERLOAD HEATER
  - DL-1



WHEN THE STATION ARE WREDED WIRE AS SHOWN



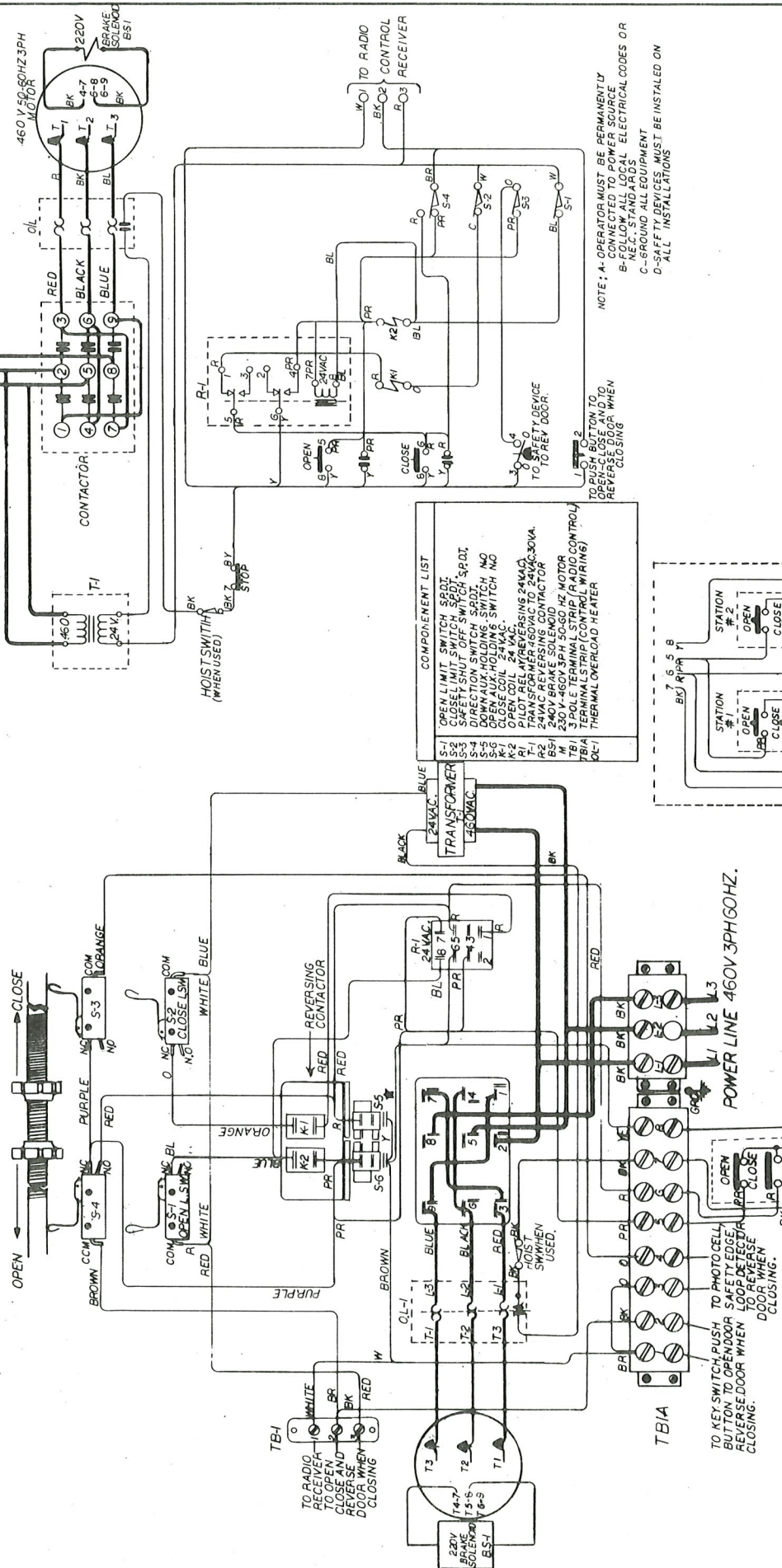
FOR CONSTANT PRESSURE DOWN DISCONNECT YELLOW JUMPER FROM (S-5) TO S6 AND DISCARD AND RECONNECT A NEW RED WIRE FROM (S6) TO TERMINAL #6 TERMINAL STRIP TB1A

POWER LINE 220V 3PH 60HZ.

TO KEY SWITCH PUSH BUTTON TO OPEN DOOR REVERSE DOOR WHEN CLOSING.  
 TO PHOTO CELL OPEN DOOR SAFETY EDGE REVERSE DOOR WHEN CLOSING.  
 TO PHOTO CELL SAFETY EDGE REVERSE DOOR WHEN CLOSING.

NOTE: DIAGRAM SHOWS DEVICES IN THEIR DE-ENERGIZED POSITION.

POWER LINE 440V 3PH 60HZ.



NAPOLEON LYNX CO. PAT. NO. 4287  
 WIRING AND SCHEMATIC DIAGRAM  
 460V 3PH MODELS AMCU-AMCIH  
 AHDCJ-AHGO-AGHO. 700121

FOR CONSTANT PRESSURE DOWN DISCONNECT YELLOW JUMPER FROM (S-5) TO S6 AND DISCARD AND RECONNECT A NEW RED WIRE FROM (S6) TO TERMINAL #6 TERMINAL STRIP TB1A

NOTE: DIAGRAM SHOWS DEVICES IN THEIR DE-ENERGIZED POSITION.

TO KEY SWITCH PUSH BUTTON TO PHOTO CELL TO OPEN DOOR SAFETY EDGE LOOP DETECTOR TO REVERSE DOOR WHEN CLOSING.

TO PHOTO CELL TO OPEN DOOR SAFETY EDGE LOOP DETECTOR TO REVERSE DOOR WHEN CLOSING.

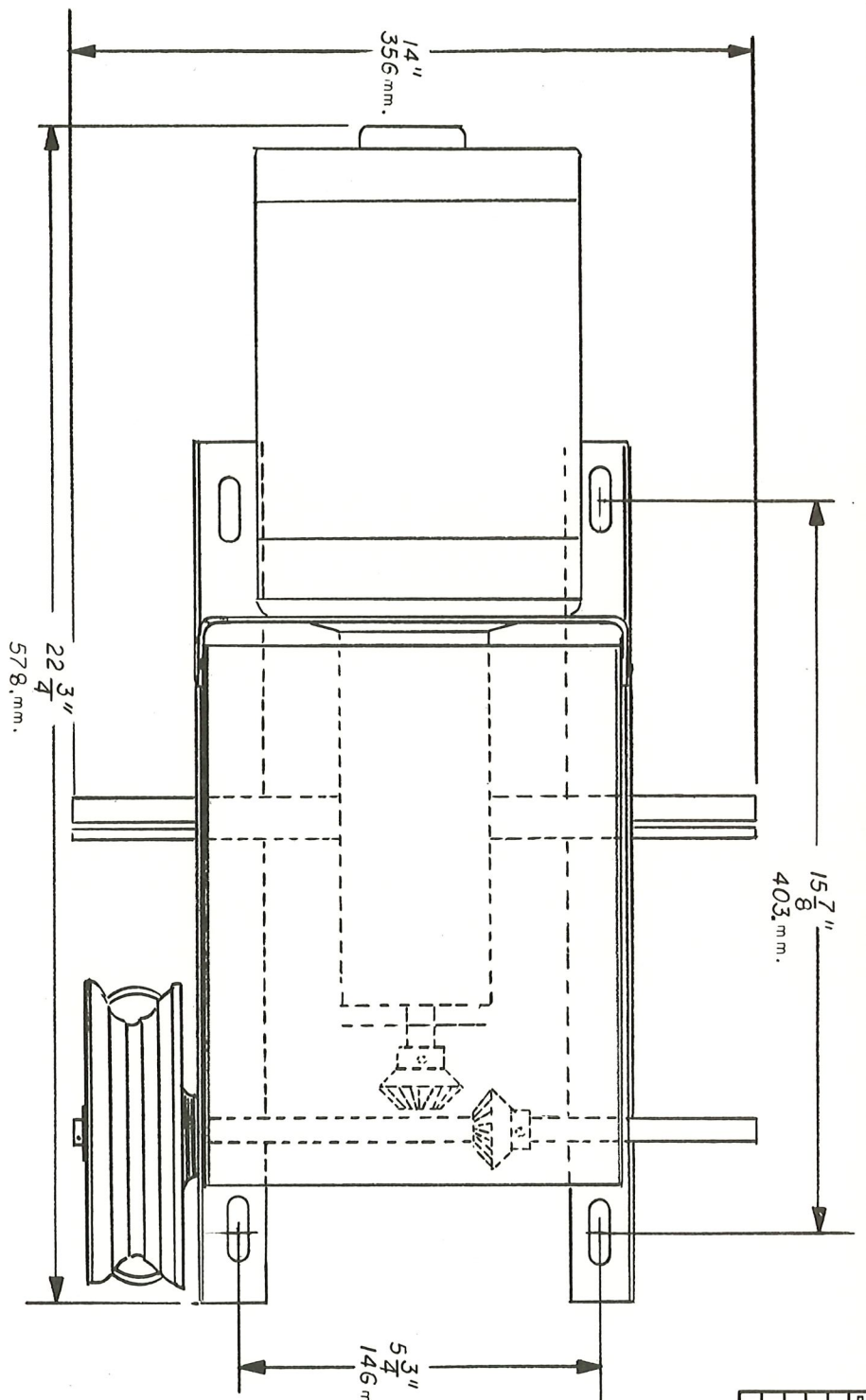
TO KEY SWITCH PUSH BUTTON TO PHOTO CELL TO OPEN DOOR SAFETY EDGE LOOP DETECTOR TO REVERSE DOOR WHEN CLOSING.

TO PUSH BUTTON TO REVERSE DOOR WHEN CLOSING

TO REV. DOOR

TO REV. DOOR





DATE	BY	REVISION RECORD	AUTH.	DR.	CK.

TOLERANCES (EXCEPT AS NOTED)		NAPOLEON LYNX CO. PAT. N.J.	
DECIMAL	±	SCALE	DRAWN BY M. GODOY
FRACTIONAL	±	TITLE	APPROVED BY <i>[Signature]</i>
ANGULAR	±	DATE	DRAWING NUMBER
		5-17-90	700058
		TOP VIEW AGHO OPERATOR	

K-E CRYSTALINE © 11117  
ENGINEERS' STANDARD FORM

MADE IN U.S.A.