

Wiring Diagrams

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CONTENTS

I.	MOVFR	3	
II.	MODL	4	
III.	MOD-PM	5	
IV.	MOD	8	
V.	MODHA	10	
VI.	MODG	12	
VII.	MODP	13	
VIII.	MODCT	17	
IX.	MOCT2	20	
X.	MOCTA	21	
XI.	MOCTA-PM	22	
XII.	MOCTP	23	
XIII.	MOA	24	
XIV.	MOPM & MOPM-PL	25	
XV.	MO2LSA	30	
XVI.	MOM-MOH	34	
XVII.	MOMCT-MOHCT	52	
XVIII.	MOMSVL-MOHSV L	54	
XIX.	MOMVC-MOHVC	56	
XX.	MOH-OS	57	
XXI.	MOR	58	
XXII.	RETIRING CAM	59	
XXIII.	COLLAPSIBLE GATE	61	
XXIV.	FAULT MONITOR	62	
XXV.	SINGLE LOCK	64	
XXVI.	DOOR PANEL	68	
XXVII.	ROPE GRIPPER PUMP STATION	72	
XXVIII.	Index	76	



INSTRUCTIONS FOR THE G.A.L. PARAMETER UNIT

CAUTION: To Transfer data from one Drive to another, user must READ (COPY) from the first Drive.

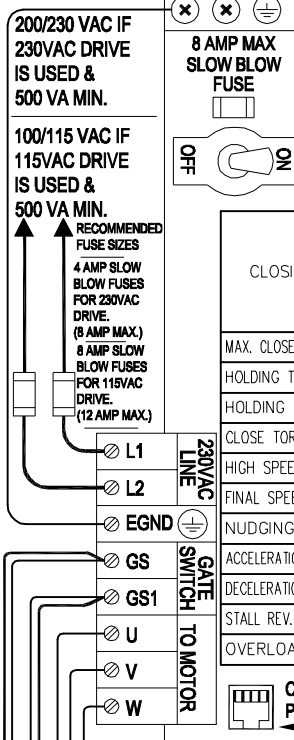
HOW TO READ (COPY) FROM THE DRIVE: Press SET, Press Up Arrow, Press READ, Wait for the Completed Signal from the Display.
 HOW TO WRITE (DOWNLOAD) TO THE DRIVE: Press SET, Press Up Arrow, Press WRITE, Wait for the Completed Signal from the Display.
 HOW TO CHANGE PARAMETERS: Press SET, Enter Par. number, Press READ, Enter a new Value, Press WRITE, Wait for the Completed Signal from the Display.

CLOSING	PARAMETER#		RANGE	DEFAULT VALUE											
	REG.	HVY.		STANDARD				WATERPROOF							
				C/P		S/O		C/P		S/O					
				REG.	HVY.	REG.	HVY.	REG.	HVY.	REG.	HVY.				
MAX. CLOSE SPEED	0	0	0-30	30	30	30	30	30	30	30	30	30	30	30	30
HOLDING TORQUE	1	11	0-30	3	3	3	3	3	3	3	3	3	3	3	3
HOLDING SPEED	2	12	0-400	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
CLOSE TORQUE ■	3	13	0-400	225	225	173	173	173	173	135	135	135	135	135	135
HIGH SPEED HSC	4	14	0-400	23	12	19	10	14	7	12	6	6	6	6	6
FINAL SPEED FSC	5	15	0-400	4	4	5	5	3	3	4	4	4	4	4	4
NUDGING SPD	6	16	0-400	8	8	9	9	5	5	6	6	6	6	6	6
ACCELERATION TIME	7	17	0-320	9	9	6	6	7	7	10	10	10	10	10	10
DECELERATION TIME	8	18	0-320	6	6	10	10	17	17	25	25	25	25	25	25
STALL REV. FORCE	9	19	0-2	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
OVERLOAD	99	99	0-5	3	3	3	3	3	3	3	3	3	3	3	3

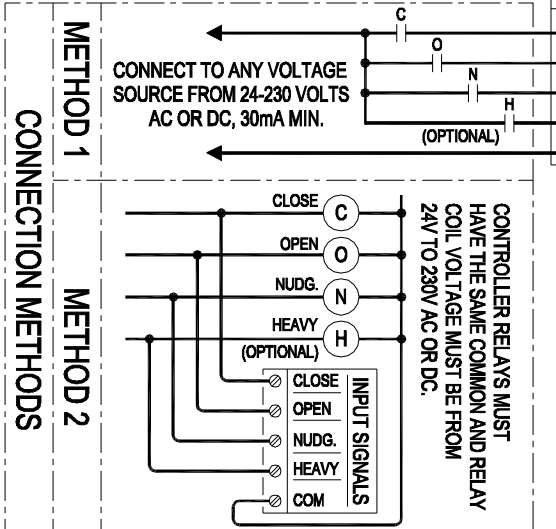
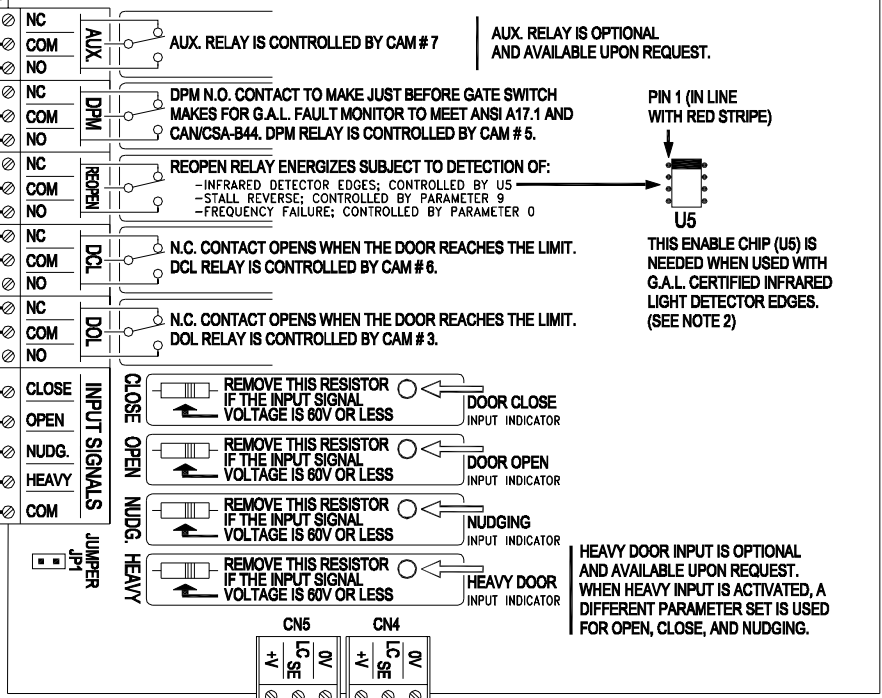
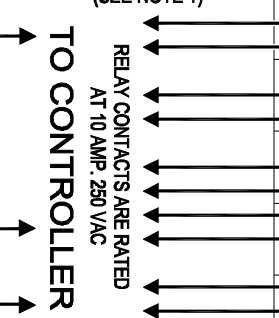
OPENING	PARAMETER#		RANGE	DEFAULT VALUE											
	REG.	HVY.		STANDARD				WATERPROOF							
				C/P		S/O		C/P		S/O					
				REG.	HVY.	REG.	HVY.	REG.	HVY.	REG.	HVY.				
QUICK STOP ON REV.	21	31	0-6	0.8	1.0	1.4	1.6	0.8	1.0	1.4	1.6	0.8	1.0	1.4	1.6
SLOW START SSO	22	32	0-400	5	5	5	5	5	5	5	5	5	5	5	5
HIGH SPEED HSO	23	33	0-400	31	16	45	23	24	12	35	18	12	35	18	12
MEDIUM SPEED MSO	24	34	0-400	14	14	20	20	10	10	10	10	10	10	10	10
FINAL SPEED FSO	25	35	0-400	3	3	5	5	2	2	3	3	3	3	3	3
ACCELERATION TIME	26	36	0-320	6	6	4	4	6	6	6	6	6	6	6	6
DECELERATION TIME	27	37	0-320	6	6	10	10	9	9	10	10	10	10	10	10
SLOW SPD TORQUE	28	38	0-30	4	4	4	4	4	4	4	4	4	4	4	4
OPEN TORQUE ■	29	39	0-400	120	100	120	100	100	100	80	100	80	100	80	100

OPENING AND CLOSING	PARAMETER#	RANGE	DEFAULT VALUE			
			STANDARD		WATERPROOF	
			C/P	S/O	C/P	S/O
CARRIER FREQUENCY	51	2-15	10	10	10	10

C/P = CENTER PARTING DOOR | REG. = REGULAR DOOR
 S/O = SIDE OPENING DOOR | HVY. = HEAVY DOOR
 ■ TO LOWER TORQUE, INCREASE TORQUE PARAMETER VALUE



ALL TERMINALS ARE PLUGGABLE (SEE NOTE 1)



SUITABLE FOR USE ON A CIRCUIT CAPABLE OF DELIVERING NOT MORE THAN 5000 RMS SYMMETRICAL AMPERES 230 VOLTS MAXIMUM

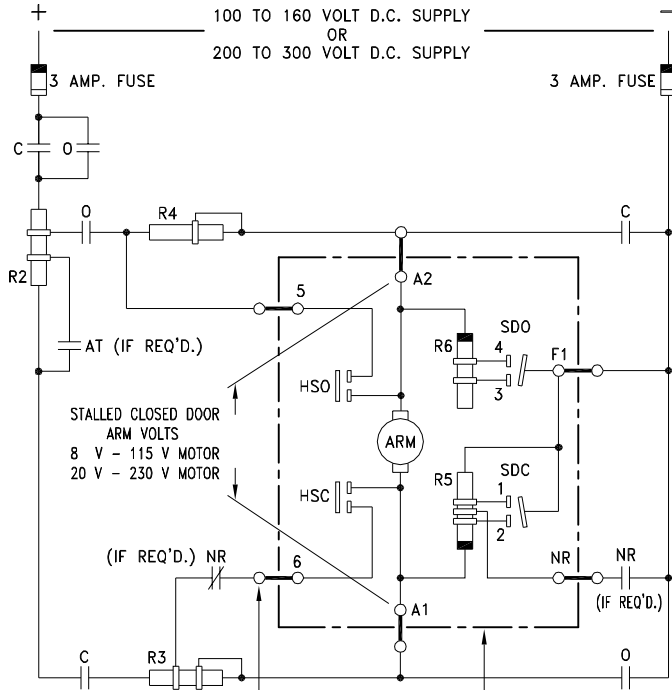
DRIVE OVERLOAD FACTORY SET AT 2.5 A

		INFRARED LIGHT CURTAIN CONNECTIONS						
TYPE	MFG.	TX (CN5)			RX (CN4)			CONNECTION BETWEEN TX & R:
		+V	LC SE	0V	+V	LC SE	0V	
DPFS	FORMULA SYSTEMS	BLU 1	BRN 2	GRN & YEL	BLU 1	BRN 2	GRN & YEL	NONE
		VERSION II						
		BRN	GRN & YEL	BLU	BRN	GRN & YEL	BLU	
DPJE	JANUS	RED	BLU	ORG			ORG	TX: WHT TO RX: WHT
DPTT	TRI TRONICS	RED	WHT	BLK				NONE

NOTES:
 1-HEAVY LINES REPRESENT CONNECTIONS FROM ELEVATOR CONTROLLER TO DOOR OPERATOR PC BOARD.
 2-MAKE SURE THAT THE ENABLE CHIP U5 IS INSERTED INTO THE SOCKET AS SHOWN.

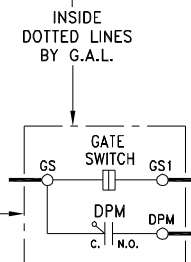
WARNING:
 ALL EQUIPMENT MUST BE INSTALLED AND ADJUSTED TO MEET FEDERAL, STATE, AND LOCAL CODES. TO PREVENT AN ELECTRICAL SHOCK, THE FLEXIBLE METALLIC CONDUIT MUST BE FASTENED FIRMLY TO THE MOTOR AND THE CONTROL BOX. THE CONTROL BOX MUST BE GROUNDING.

ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL CODES.

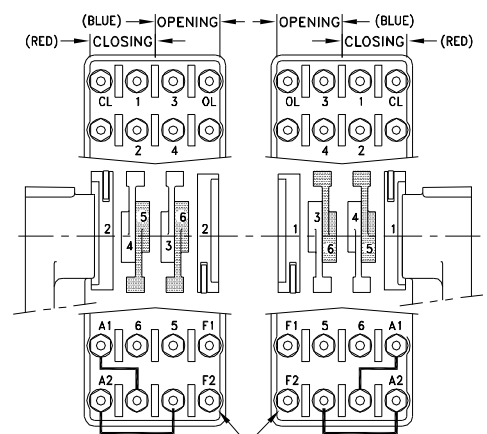


STALLED CLOSED DOOR ARM VOLTS
8 V - 115 V MOTOR
20 V - 230 V MOTOR

USE ONLY ON LARGE DOORS IF NECESSARY



DPM MICROSWITCH IS PROVIDED WITH:
(1) FAULT MONITOR AS PER DRAWING S7475
(2) JOBS COMPLYING WITH ASME A17.1-2000 CODE
(3) JOBS WITH A GALAXY CONTROLLER
THE MICROSWITCH IS WIRED TO TERMINAS GS - DPM. THE N.O. CONTACT MAKES JUST BEFORE THE GATE SWITCH MAKES.



- RIGHT HAND** **LEFT HAND**
- CAM No. # 1 LIMIT CAMS FOR LEFT HAND OPERATORS
2 LIMIT CAMS FOR RIGHT HAND OPERATORS
4 CLOSE SLOW START
5 CLOSE 1st AND 2nd SLOWDOWNS
3 OPEN SLOW START
6 OPEN 1st AND 2nd SLOWDOWNS

- L E G E N D -**
- CL DOOR CLOSE LIMIT
 - OL DOOR OPEN LIMIT
 - HSC HIGH SPEED CLOSE LIMIT
 - HSO HIGH SPEED OPEN LIMIT
 - SDC SLOWDOWN CLOSE LIMIT
 - SDO SLOWDOWN OPEN LIMIT
- ON OPERATOR BY G.A.L.
- NR NUDGING RELAY
 - C CLOSE RELAY
 - O OPEN RELAY
 - AT ATTENDANT RELAY
- ON CONT'R BY OTHERS

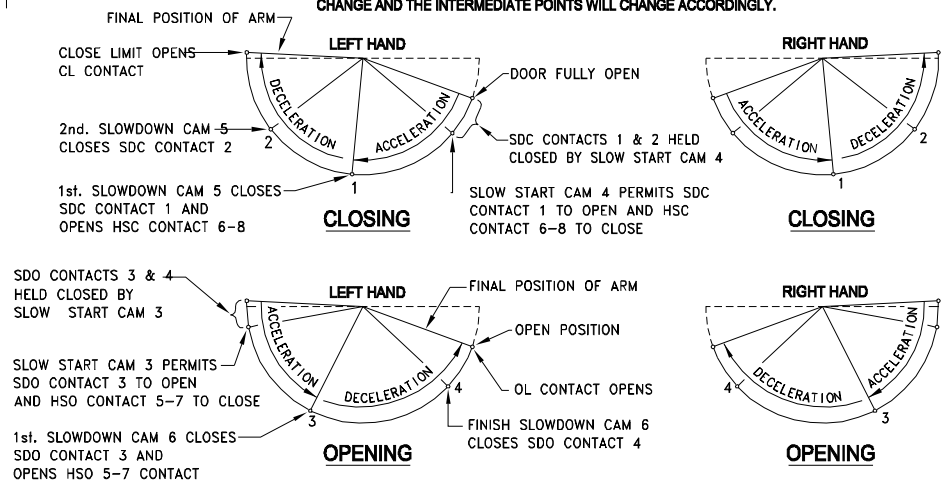
RESISTOR TUBES

SHADED AREA INDICATES TOP. MOVE BAND TOWARDS TOP TO REDUCE SPEED.

115 VOLT MOTOR	230 VOLT MOTOR	RESISTOR WATTS
R2 50 OHM	250 OHM	200
R3 50 OHM	250 OHM	200
R4 50 OHM	250 OHM	200
R5 100 OHM	300 OHM	100
R6 100 OHM	300 OHM	100

BY OTHERS
BY G.A.L.

POSITIONS (OF OPERATOR CRANK ARM (FOR L ARRANGEMENTS))
FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.



- NOTES:**
- 1-CONNECTIONS TO TERMINALS 5,6 AND NR ARE NOT REQUIRED WITH PANEL OPERATOR.
 - 2-DOOR CLOSE RELAY (C) MUST BE KEPT ENERGIZED WHEN THE ELEVATOR IS IN THE RUN MODE OR IS STOPPED OUTSIDE THE LANDING ZONE.

⊕ - CONNECTION TO F2 NOT REQUIRED.

No.	REVISION	DATE	No.	REVISION	DATE
			H	ECN LAYER	4-95
			G	REVISED NR CONTACT, ADDED "FM" WIRING	11-94
			F	ADDED REFERENCE TO PM MOTOR	6-94
			E	ADDED NUDGING	4-94
			D	REVISED NOTE	5-86
L	UPDATED DPM WIRING DIAGRAM	7-05	C	ADDED JUMPER FROM R5 TO F1	11-80
K	REVISED NOTES	3-01	B	CHANGED CAM POSITION, ADDED SLOW START AND 2nd. SLOWDOWN CAM	5-74
J	NEW VOLTAGES ACROSS A1-A2	11-96			
I	INCLUDES HIGH AND LOW VOLTAGE	4-96	A	ADDED "HSC" AND "AT" FEATURE	7-61

G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

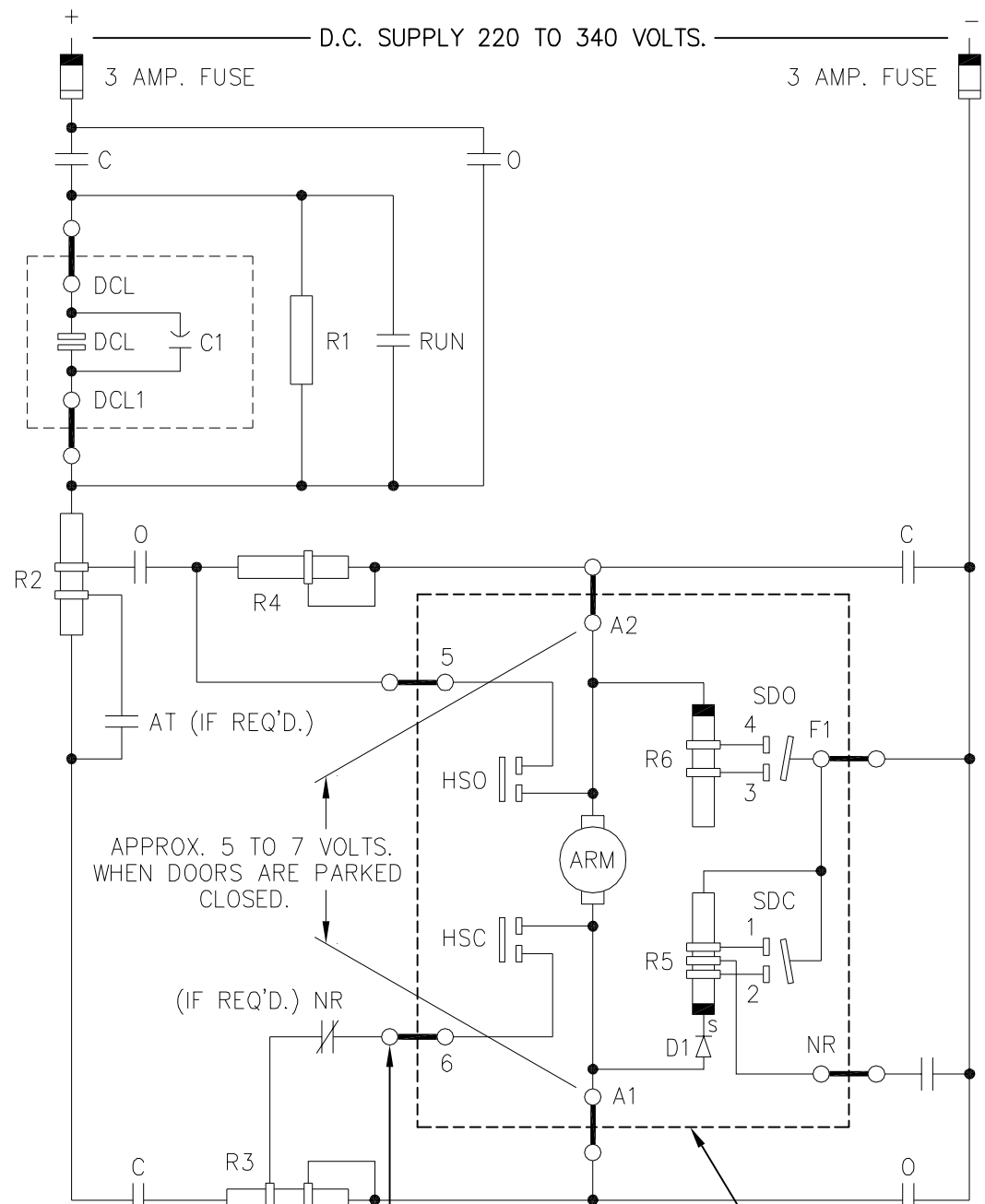
G.A.L. MOD PM MOTOR DOOR OPERATOR WIRING DIAGRAM AND CAM ADJUSTMENTS

DRAWN BY	DATE	1/27/98
ENGINEER	A. ALVAREZ	SHEET OF
SCALE	5/8	SIZE
PART No.		REV
DOCUMENT No.	L5836	L

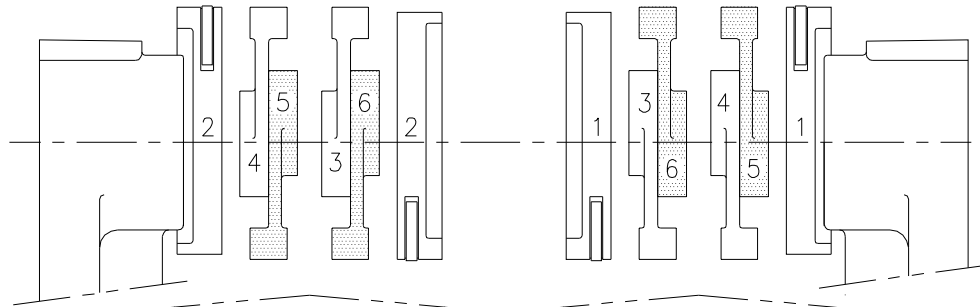
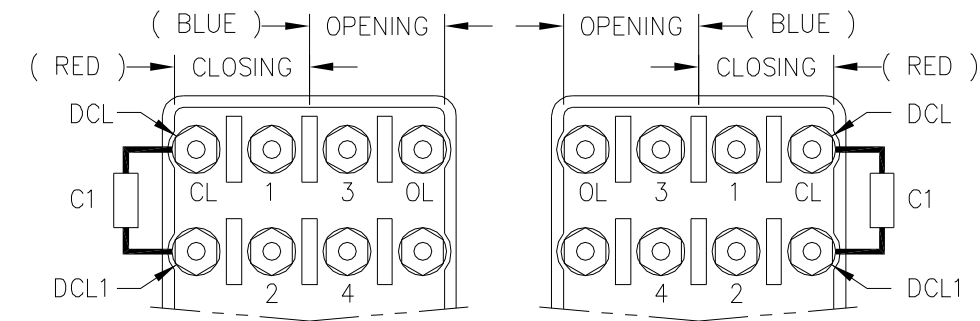
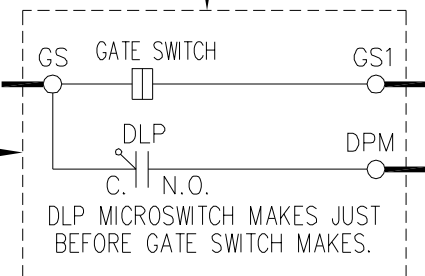
G.A.L. MOD DOOR OPERATOR WIRING DIAGRAM AND CAM ADJUSTMENTS

— OPERATOR WITH SPRING LOADED DEVICE FOR UNLOCKING HATCH DOOR IN CASE OF POWER FAILURE —

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS. ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL CODES.



OPTIONAL WIRING SUPPLIED WITH "FM" MONITOR AS PER DWG. S7475.



RIGHT HAND

LEFT HAND

- CAM No.
- # 1 LIMIT CAMS FOR LEFT HAND OPERATORS
 - # 2 LIMIT CAMS FOR RIGHT HAND OPERATORS
 - # 4 CLOSE SLOW START
 - # 5 CLOSE 1st AND 2nd SLOWDOWNS
 - # 3 OPEN SLOW START
 - # 6 OPEN 1st AND 2nd SLOWDOWNS

— LEGEND —

- CL DOOR CLOSE LIMIT
- OL DOOR OPEN LIMIT
- HSC HIGH SPEED CLOSE LIMIT
- HSO HIGH SPEED OPEN LIMIT
- SDC SLOWDOWN CLOSE LIMIT
- SDO SLOWDOWN OPEN LIMIT
- R5 } 300 OHM 100 WATT ADJ.
- R6 } (SHADED AREA INDICATES TOP. MOVE BAND TOWARDS TOP TO REDUCE SPEED.)
- D1 DIODE S20100
- RUN } CONTACT TO CLOSE WHEN ELEVATOR GETS SIGNAL TO RUN
- NR } NUDGING RELAY
- C } CLOSE RELAY
- O } OPEN RELAY
- AT ATTENDANT RELAY
- R1 } 1500 OHM 50 WATT ADJ.
- R2 } 250 OHM 200 WATT ADJ.
- R3 } 250 OHM 200 WATT ADJ.
- R4 } 250 OHM 200 WATT ADJ.
- C1 } 0.1 MFD, 1000 VDC

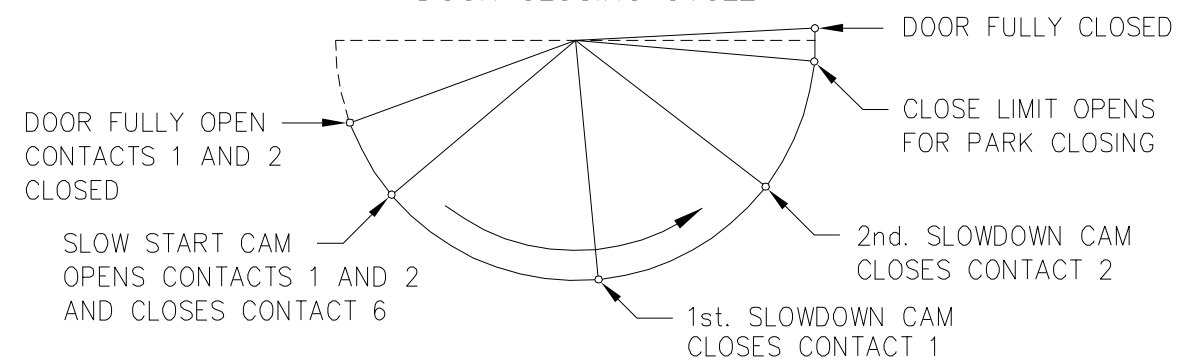
BY G.A.L.

BY CONTROLLER MFG.

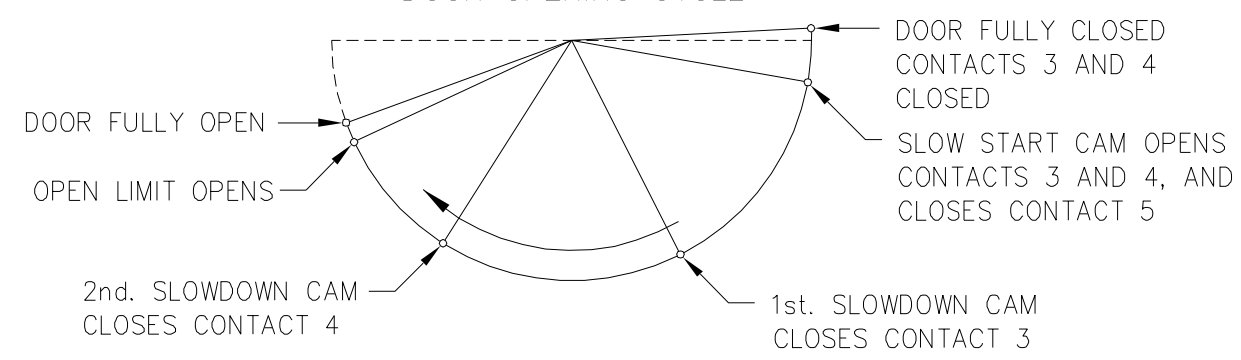
NOTE:
CLOSE LIMIT, USED FOR PARK CLOSED DOORS, MUST BE BY-PASSED TO KEEP MOTOR ENERGIZED WHILE THE ELEVATOR IS RUNNING. RELAY MUST NOT DEPEND ON INTERLOCK CIRCUIT.
THE EMERGENCY STOP SWITCH MUST NOT REMOVE DOOR CLOSING POWER WHILE THE ELEVATOR IS OUTSIDE THE LANDING ZONE.

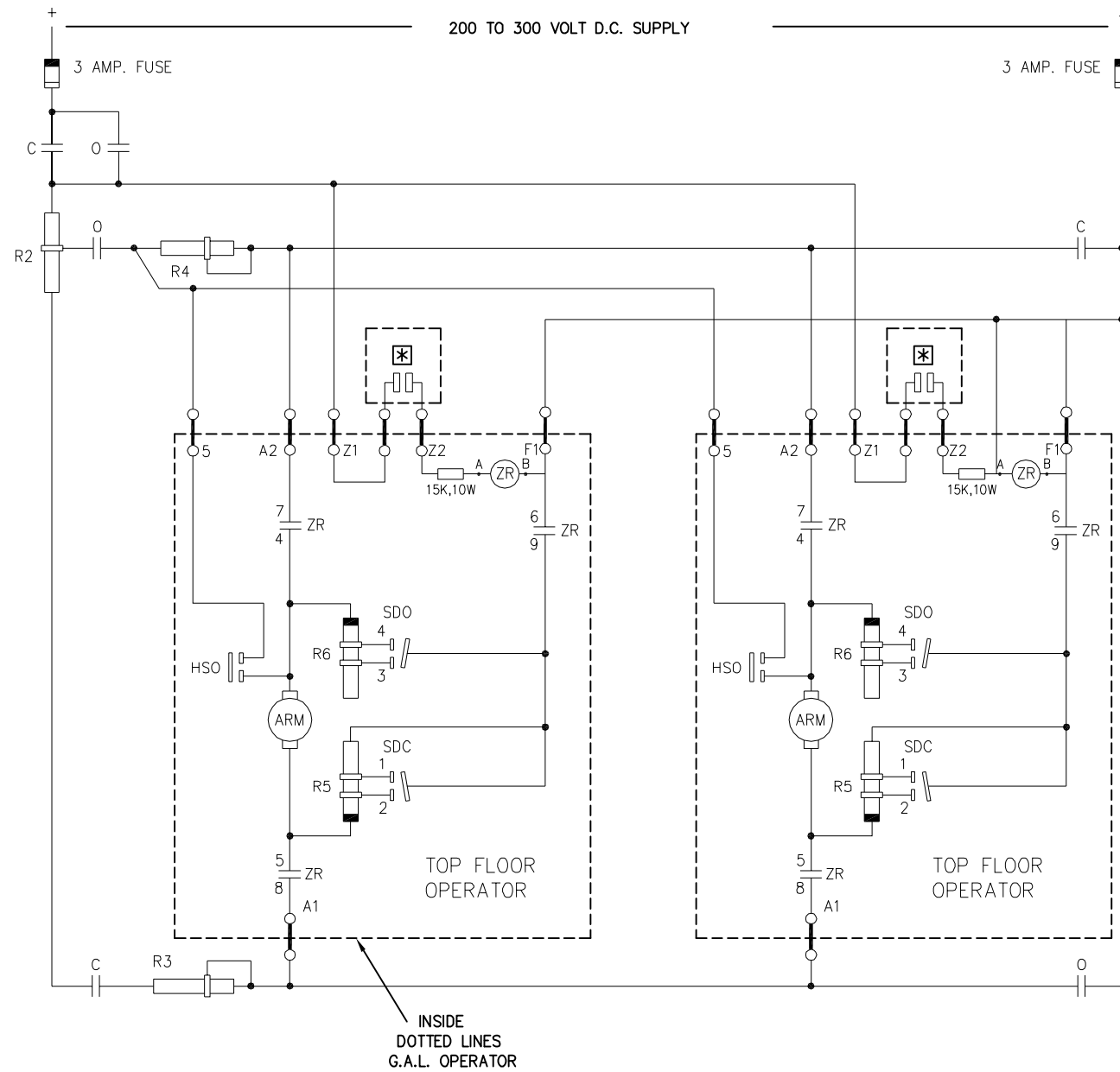
ADJUST UPPER BAND OF RESISTOR R5 DOWN UNTIL THE UNLOCKING DEVICE SPRING IS FULLY COMPRESSED.

DOOR CLOSING CYCLE



DOOR OPENING CYCLE

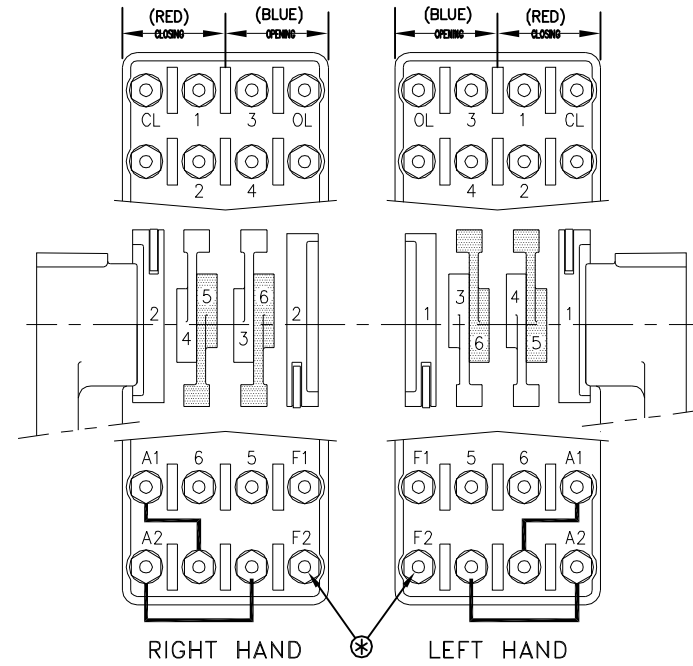




ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS. ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

- CL DOOR CLOSE LIMIT
 - OL DOOR OPEN LIMIT
 - HSO HIGH SPEED OPEN LIMIT
 - SDC SLOWDOWN CLOSE LIMIT
 - SDO SLOWDOWN OPEN LIMIT
- } ON OPERATOR BY G.A.L.
- C CLOSE RELAY
 - O OPEN RELAY
- } CONTR BY OTHERS



RESISTOR TUBES

SHADED AREA INDICATES TOP. MOVE BAND TOWARDS TOP TO REDUCE SPEED.

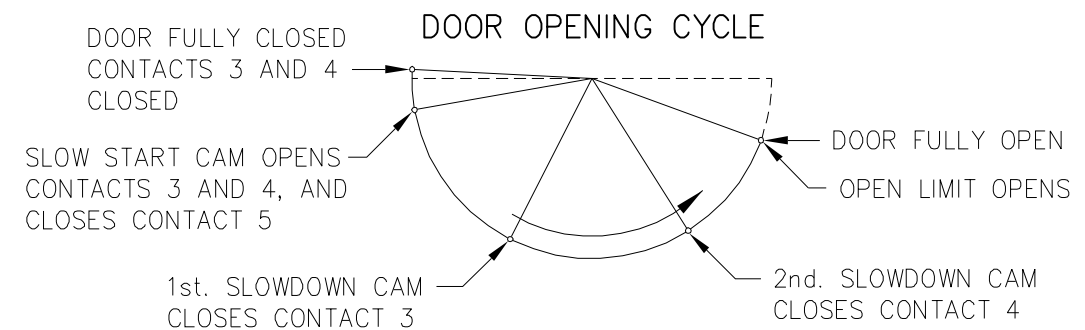
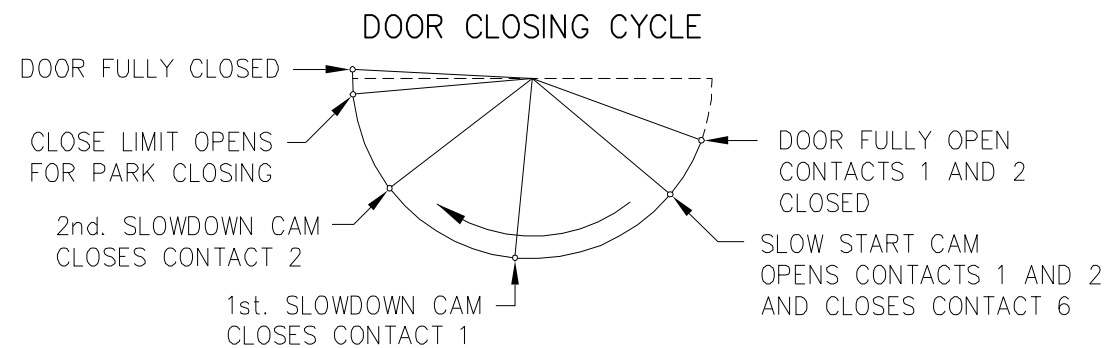
	115 VOLTS MOTOR	230 VOLTS MOTOR	RESISTOR WATTS
R2	50 OHM	250 OHM	200 } BY OTHERS
R3	50 OHM	250 OHM	200 } BY OTHERS
R4	50 OHM	250 OHM	200 } BY OTHERS
R5	100 OHM	300 OHM	100 } BY G.A.L.
R6	100 OHM	300 OHM	100 } BY G.A.L.

NOTE:

⊕ - CONNECTION TO F2 NOT REQUIRED.

⊛ - TYPE LU MAGNETIC LEVELING SWITCH MOUNTED NEXT TO HATCH DOOR INTERLOCK.

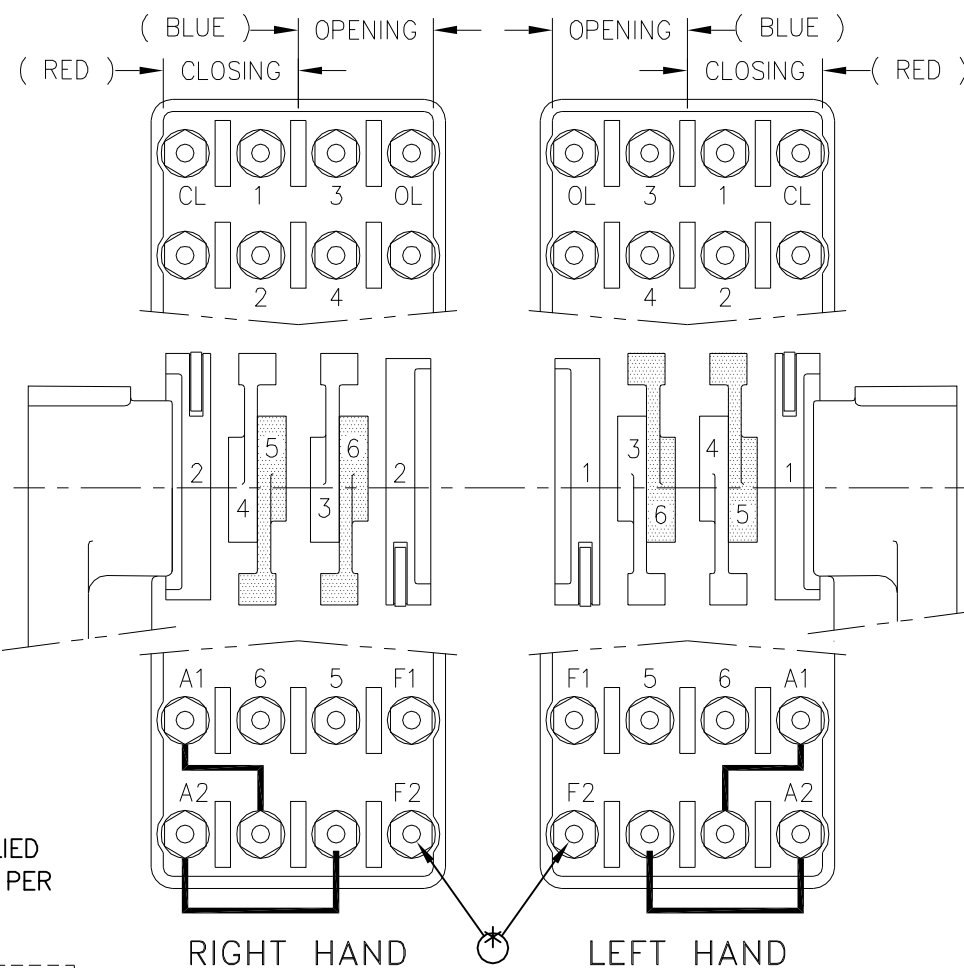
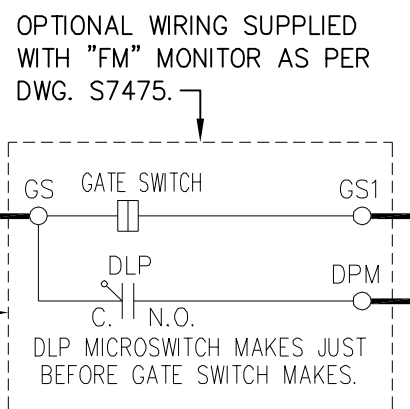
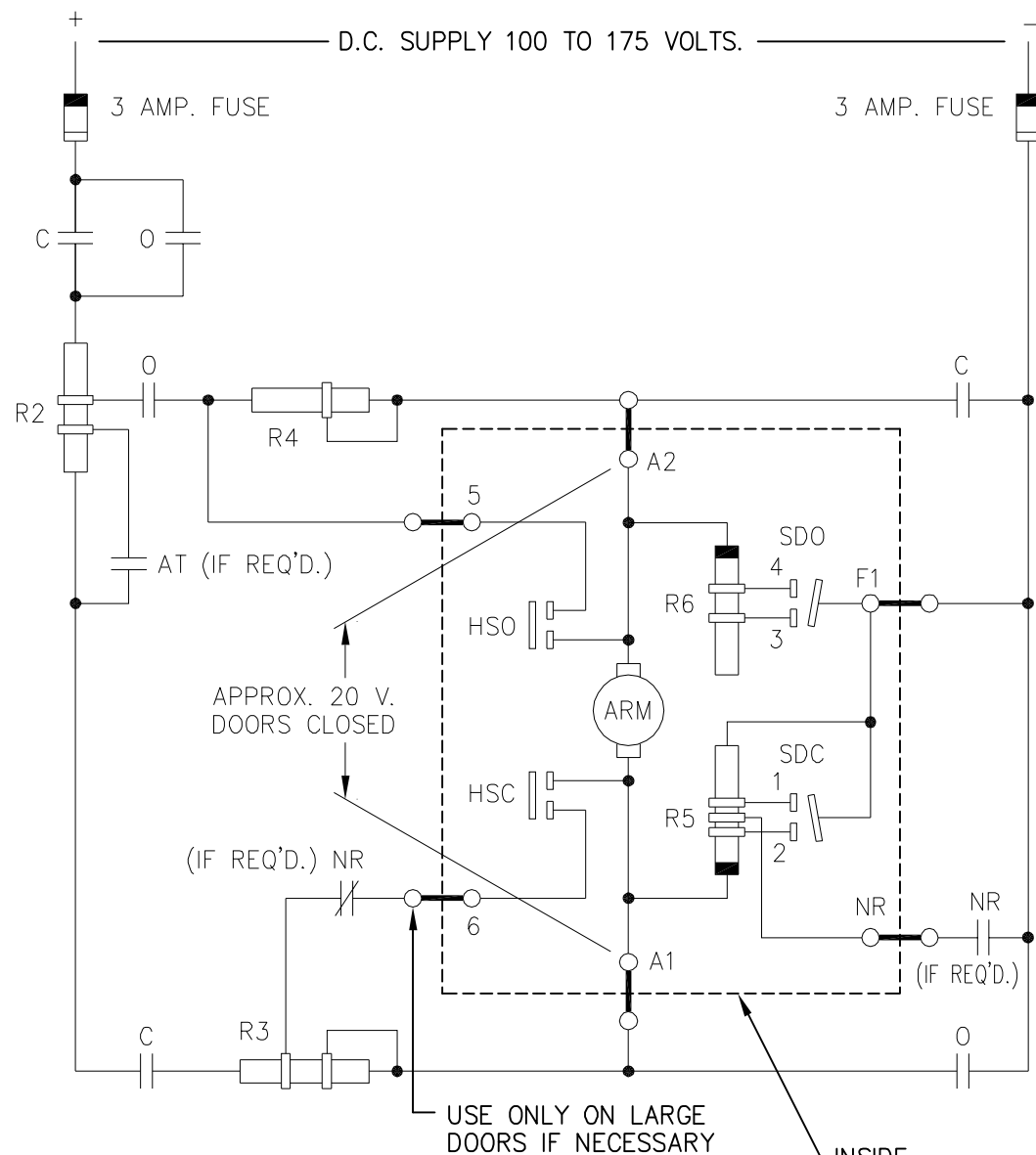
- CAM No.
- # 1 LIMIT CAMS FOR LEFT HAND OPERATORS
 - # 2 LIMIT CAMS FOR RIGHT HAND OPERATORS
 - # 4 CLOSE SLOW START
 - # 5 CLOSE 1st AND 2nd SLOWDOWNS
 - # 3 OPEN SLOW START
 - # 6 OPEN 1st AND 2nd SLOWDOWNS



G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451				DRAWN BY	DATE	4/6/00
				ENGINEER	A. ALVAREZ	SHEET
G.A.L. MOD PM MOTOR DOOR OPERATOR WIRING DIAGRAM AND CAM ADJUSTMENTS				SCALE	5/8	SIZE
				PART No.		
REV	DESCRIPTION	DATE	ECN	DOCUMENT No.	L5836-4	

G.A.L. MOD PM MOTOR DOOR OPERATOR WIRING DIAGRAM AND CAM ADJUSTMENTS

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS. ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL CODES.



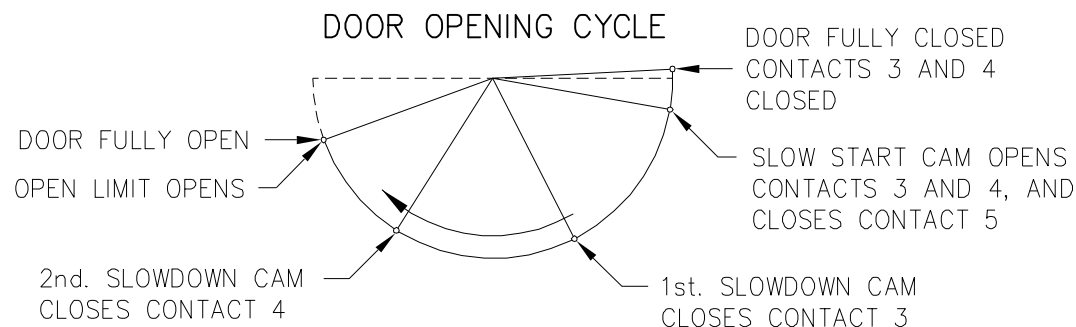
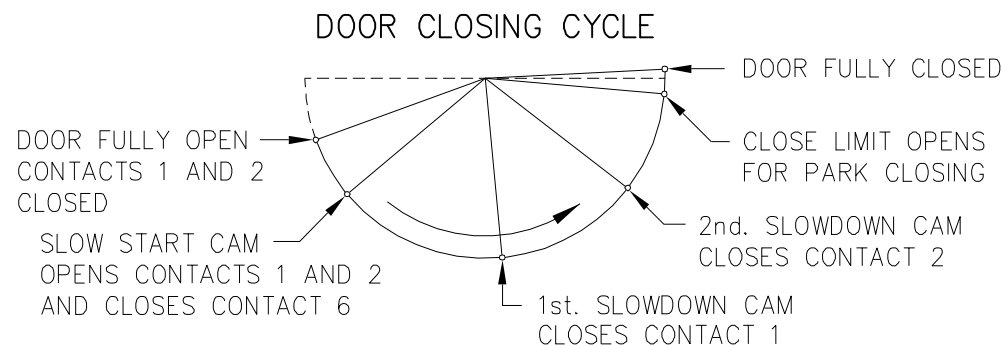
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 - # 4 CLOSE SLOW START
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 - # 3 OPEN SLOW START
 - # 6 OPEN 1st AND 2nd SLOWDOWNS

- LEGEND -

- CL DOOR CLOSE LIMIT
- OL DOOR OPEN LIMIT
- HSC HIGH SPEED CLOSE LIMIT
- HSO HIGH SPEED OPEN LIMIT
- SDC SLOWDOWN CLOSE LIMIT
- SDO SLOWDOWN OPEN LIMIT
- R5 } 100 OHM 100 WATT ADJ.
- R6 } (SHADED AREA INDICATES TOP. MOVE BAND TOWARDS TOP TO REDUCE SPEED.)
- NR NUDGING RELAY
- C CLOSE RELAY
- O OPEN RELAY
- AT ATTENDANT RELAY
- R2 } 50 OHM 200 WATT ADJ.
- R3 }
- R4 }

BY G.A.L.
BY CONTROLLER MFG.

NOTE:
CLOSE LIMIT, USED FOR PARK CLOSED DOORS, MUST BE BY-PASSED TO KEEP MOTOR ENERGIZED WHILE THE ELEVATOR IS RUNNING.
THE EMERGENCY STOP SWITCH MUST NOT REMOVE DOOR CLOSING POWER WHILE THE ELEVATOR IS OUTSIDE THE LANDING ZONE.
* - CONNECTION TO F2 NOT REQUIRED.

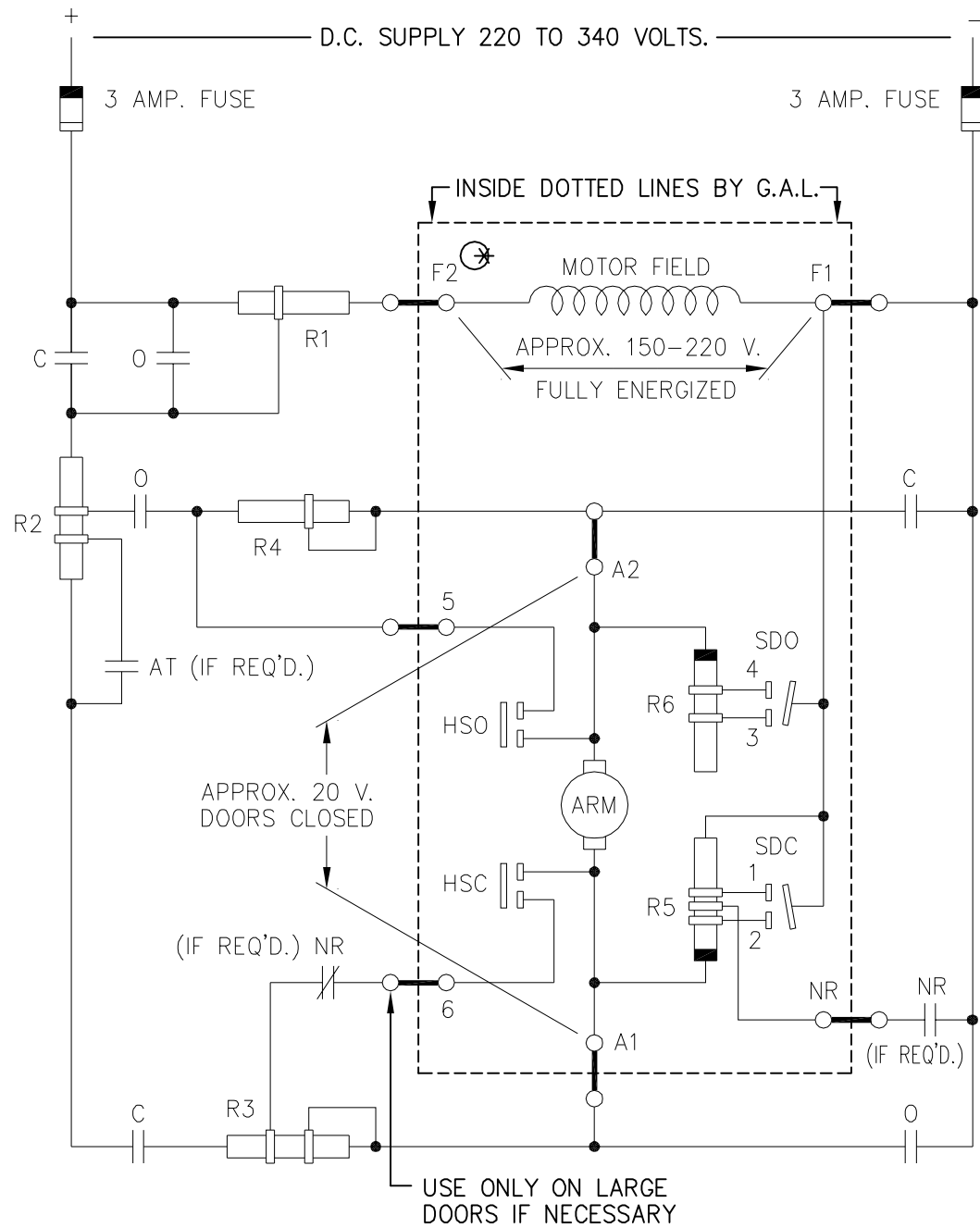


No.	REVISION	DATE
	L5777	

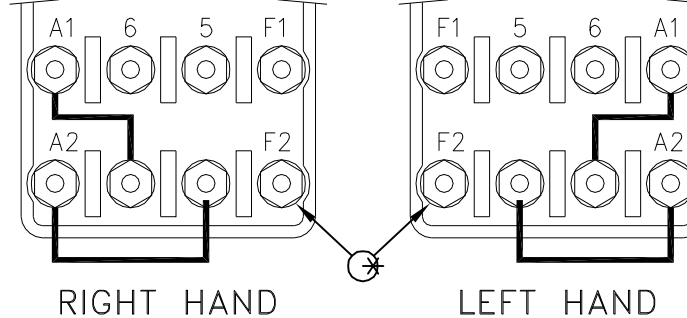
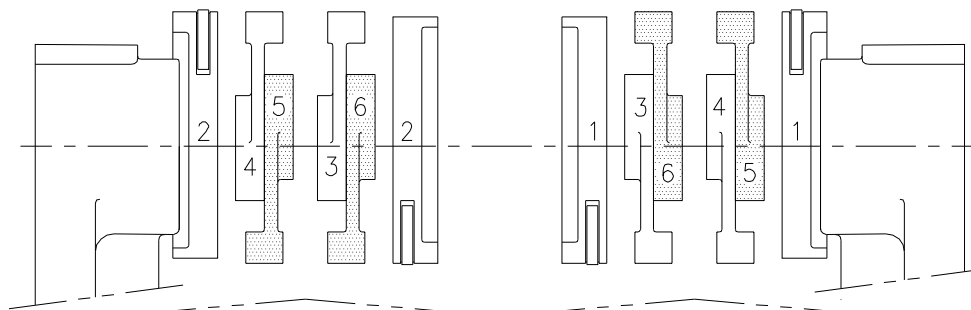
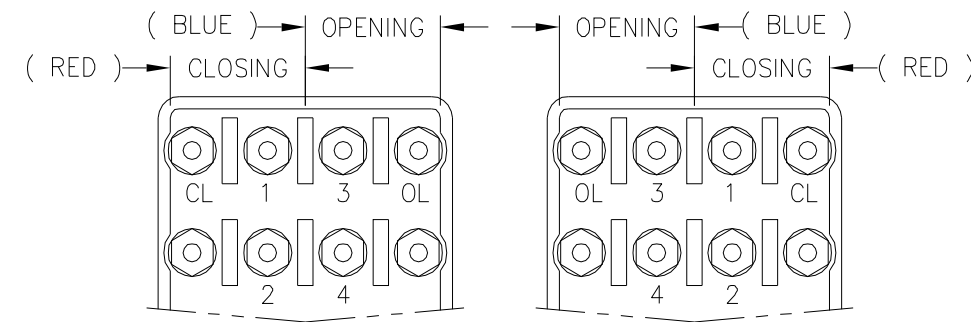


G.A.L. MOD DOOR OPERATOR WIRING DIAGRAM AND CAM ADJUSTMENTS

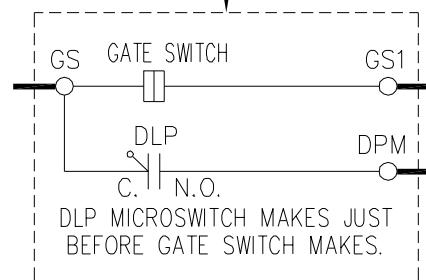
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⊗ CONNECTIONS TO TERMINAL F2 ARE NOT REQUIRED WHEN PERMANENT MAGNET PM MOTOR IS SUPPLIED.



OPTIONAL WIRING SUPPLIED WITH "FM" MONITOR AS PER DWG. S7475.



- CAM No.
- # 1 LIMIT CAMS FOR LEFT HAND OPERATORS
 - # 2 LIMIT CAMS FOR RIGHT HAND OPERATORS
 - # 4 CLOSE SLOW START
 - # 5 CLOSE 1st AND 2nd SLOWDOWNS
 - # 3 OPEN SLOW START
 - # 6 OPEN 1st AND 2nd SLOWDOWNS

- LEGEND -

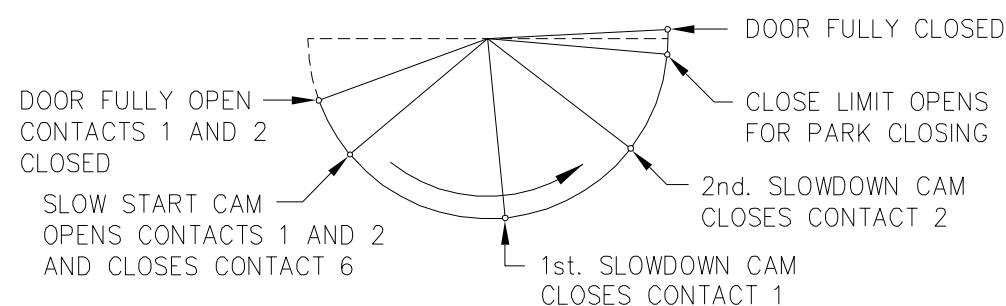
- CL DOOR CLOSE LIMIT
- OL DOOR OPEN LIMIT
- HSC HIGH SPEED CLOSE LIMIT
- HSO HIGH SPEED OPEN LIMIT
- SDC SLOWDOWN CLOSE LIMIT
- SDO SLOWDOWN OPEN LIMIT
- R5 } 300 OHM 100 WATT ADJ.
- R6 } (SHADED AREA INDICATES TOP. MOVE BAND TOWARDS TOP TO REDUCE SPEED.)
- NR NUDGING RELAY
- C CLOSE RELAY
- O OPEN RELAY
- AT ATTENDANT RELAY
- R1 } 1000 OHM 200 WATT ADJ.
- R2 } 250 OHM 200 WATT ADJ.
- R3 } 250 OHM 200 WATT ADJ.
- R4 }

BY G.A.L.

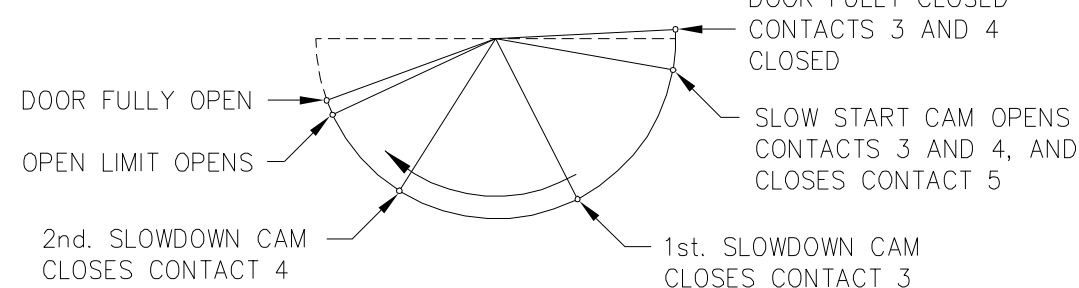
BY CONTROLLER MFG.

NOTE:
CLOSE LIMIT, USED FOR PARK CLOSED DOORS, MUST BE BY-PASSED TO KEEP MOTOR ENERGIZED WHILE THE ELEVATOR IS RUNNING.
THE EMERGENCY STOP SWITCH MUST NOT REMOVE DOOR CLOSING POWER WHILE THE ELEVATOR IS OUTSIDE THE LANDING ZONE.

DOOR CLOSING CYCLE



DOOR OPENING CYCLE

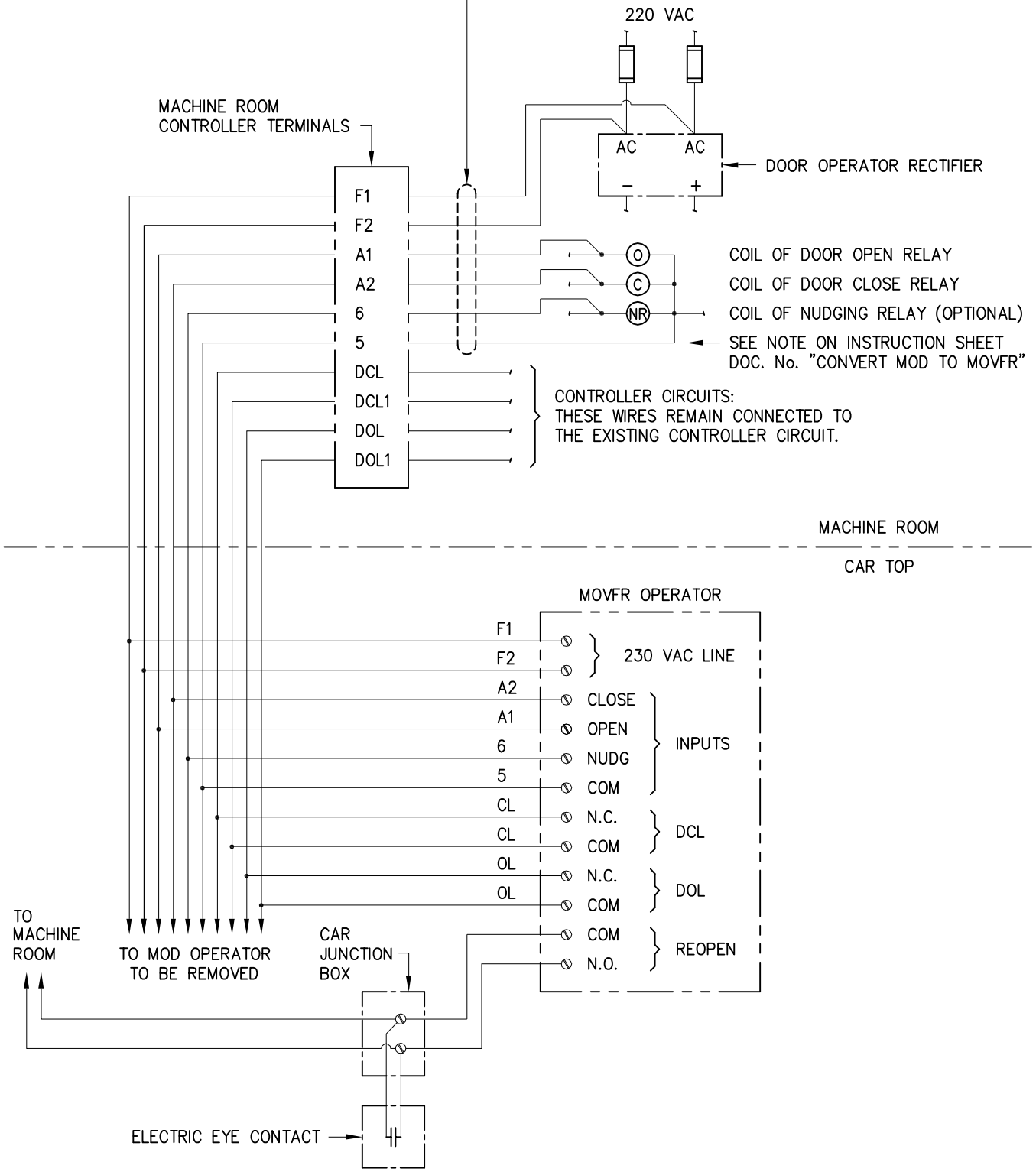


No.	REVISION	DATE
G	REVISED NR CONTACT, ADDED "FM" WIRING	11-94
F	ADDED REFERENCE TO PM MOTOR	6-94
E	ADDED NUDGING	4-94
D	REVISED NOTE	5-86
C	ADDED JUMPER FROM R5 TO F1	11-80
B	CHANGED CAM POSITION. ADDED SLOW START AND 2nd. SLOWDOWN CAM	5-74
A	ADDED "HSC" AND "AT" FEATURE	7-61



L5836-G

REMOVE ALL EXISTING WIRES FROM CONTROLLER TERMINALS F1 - F2 - A1 - A2 - 5 - 6 AND RUN SIX NEW WIRES TO THE CONTROLLER CIRCUITS AS INDICATED.



CONTROLLER CIRCUITS:
THESE WIRES REMAIN CONNECTED TO THE EXISTING CONTROLLER CIRCUIT.

MACHINE ROOM
CAR TOP

MOVFR OPERATOR

F1	⊖	} 230 VAC LINE	} INPUTS	
F2	⊖			
A2	⊖	CLOSE		
A1	⊖	OPEN		
6	⊖	NUDG		
5	⊖	COM		
CL	⊖	N.C.		} DCL
CL	⊖	COM		
OL	⊖	N.C.		} DOL
OL	⊖	COM		
COM	⊖	COM	} REOPEN	
N.O.	⊖	N.O.		

TO MACHINE ROOM

TO MOD OPERATOR TO BE REMOVED

CAR JUNCTION BOX

ELECTRIC EYE CONTACT



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451


DRAWN BY GAVIRIA A.	DATE 9-27-00
ENGINEER GDC	SHEET OF
SCALE NONE	SIZE

WIRING DIAGRAM FOR ADAPTING MOD OPERATOR CIRCUITS TO THE MOVFR OPERATOR

PART No.	REV
DOCUMENT No. 8070	

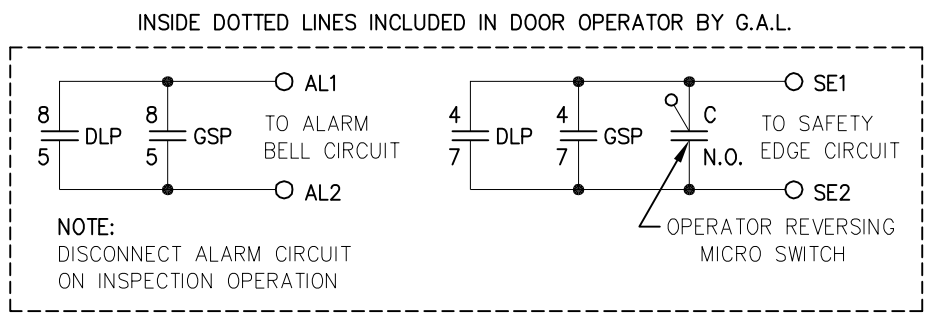
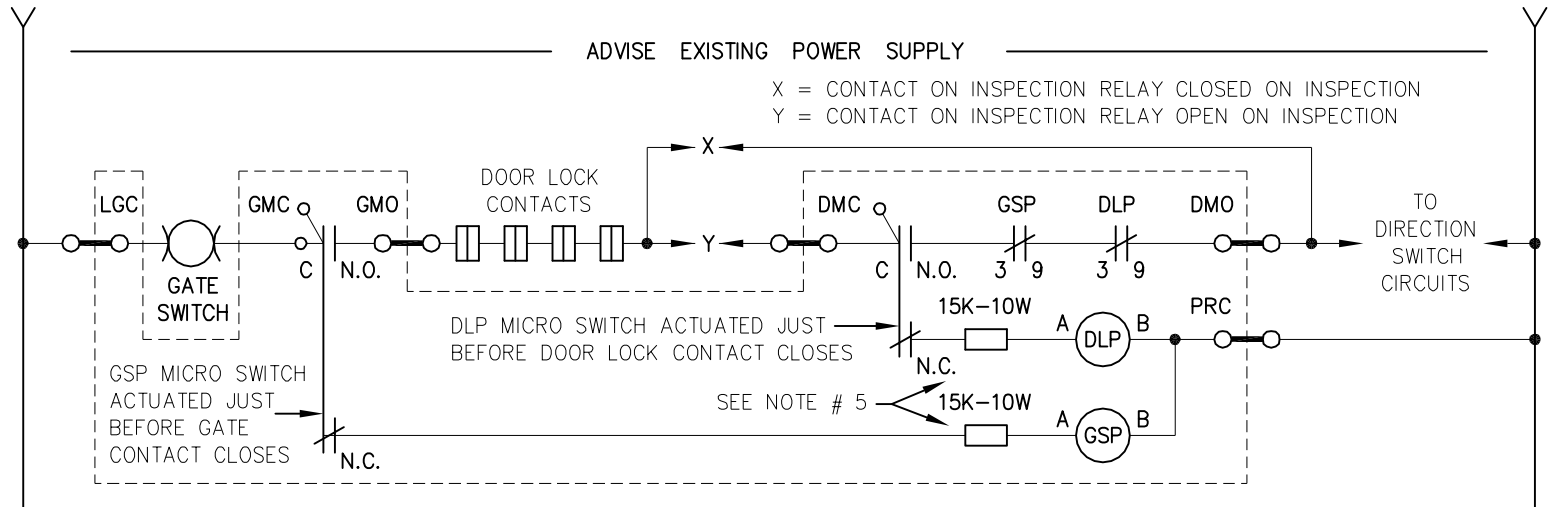
REV	DESCRIPTION	DATE	ECN

No.	REVISION	DATE	CHK.


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

MODHA VANDAL RESISTANT DOOR OPERATOR CONTROL CIRCUIT
 ELEVATOR DOOR TAMPERING SYSTEM (PATENTED)

SCALE	NONE
DWG. BY	
CHK. BY	
DATE	5-25-93
S6489	




VANDAL RESISTANT OPERATOR MARKINGS	
LGC	— LINE GATE COMMON
GMC	— GATE MICRO SWITCH COMMON
GMO	— GATE MICRO SWITCH OPEN
DMC	— DOOR MICRO SWITCH COMMON
DMO	— DOOR MICRO SWITCH OPEN
PRC	— PLUG RELAY COMMON
AL1	} TO ALARM BELL CIRCUIT
AL2	
SE1	} TO DOOR REOPENING CIRCUIT
SE2	

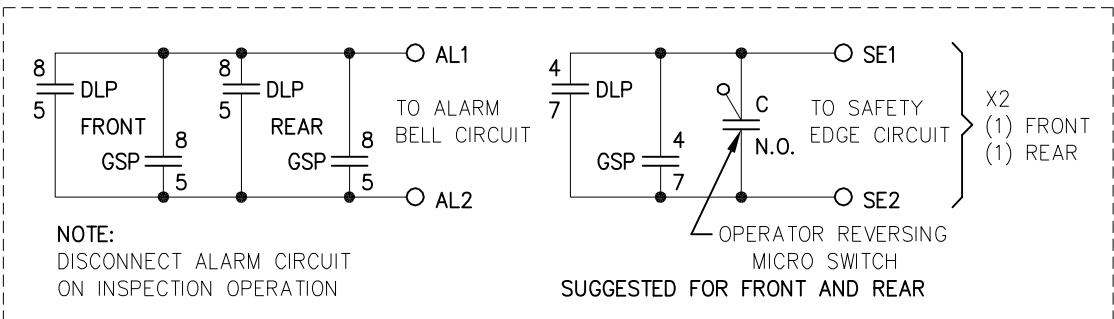
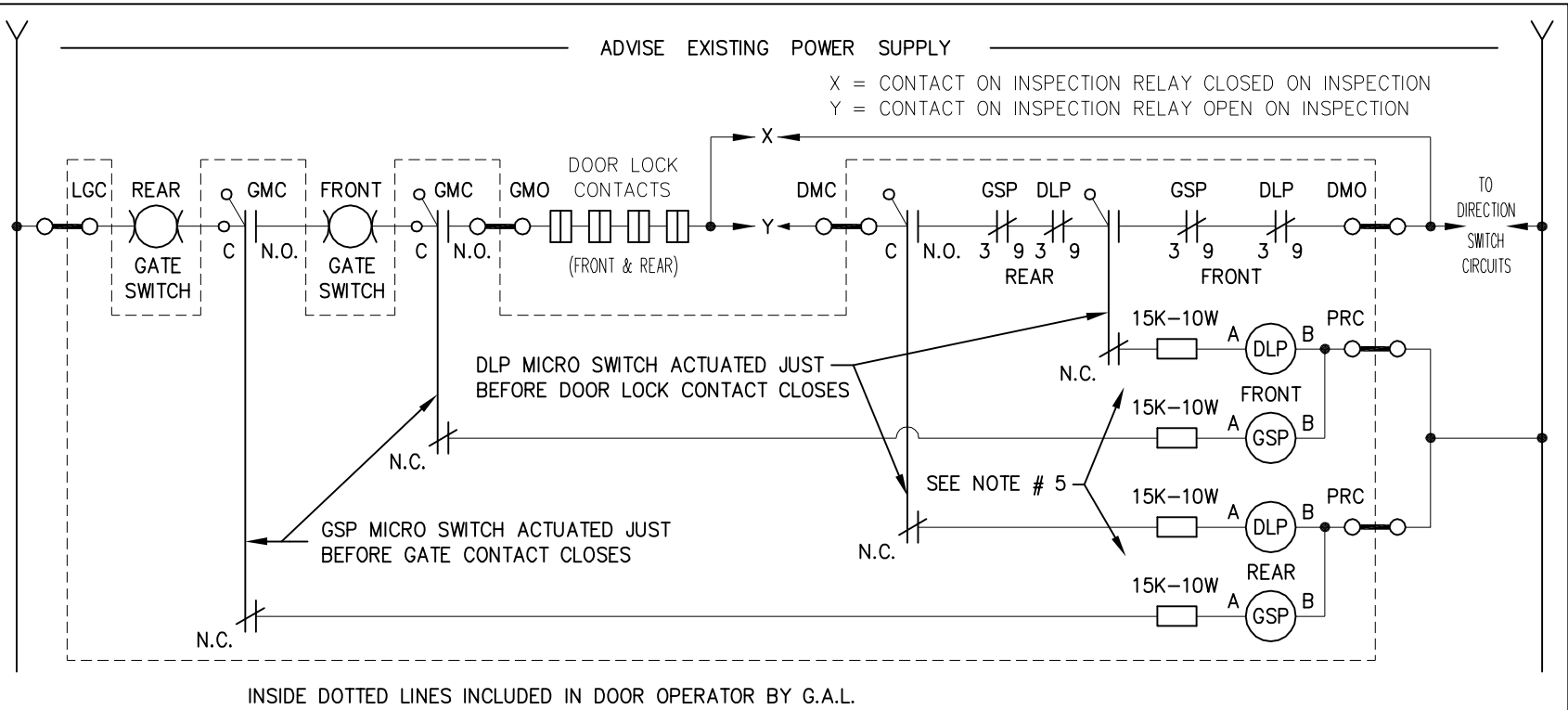
- NOTES:**
- ARRANGE DOOR CLOSING CIRCUITS SO THAT POWER IS HELD ON THE OPERATOR AT ALL TIMES EXCEPT WHEN CAR IS STOPPED AT FLOOR LEVEL. ACTUATING THE EMERGENCY STOP SWITCH BETWEEN FLOORS MUST NOT REMOVE DOOR CLOSING POWER.
 - CIRCUIT SHOULD BE PROVIDED TO REOPEN THE DOORS IF THE INTERLOCK FAILS TO CLOSE WITHIN A PREDETERMINED TIME AFTER A DOOR CLOSE SIGNAL IS GIVEN TO THE OPERATOR. THIS WOULD ALLOW RECYCLING OF DOORS IN EVENT AN OBSTRUCTION WERE PLACE IN THE ENTRANCE OR IF THE INTERLOCK CIRCUIT FAILED TO MAKE UP WHEN A SIGNAL WAS RECEIVED FOR THE CAR TO RUN.
 - CIRCUIT SHOULD BE PROVIDED TO REMOVE POWER FROM THE DOOR OPEN RELAY IN THE EVENT THE DOORS STALL DURING THE OPENING CYCLE. THIS SHOULD ALLOW THE NORMAL DOOR CLOSE TIMER TO FUNCTION AND CLOSE THE DOORS.
 - CONTROL CIRCUIT VOLTAGE VALUE AND TYPE REQUIRED IN ORDER TO INSTALL CORRECT GSP AND DLP RELAYS.
THE FOLLOWING RELAY COIL VOLTAGES ARE AVAILABLE:
6/12/24/110/220 VOLTS DC OR AC – 48 VOLTS DC ONLY.
 - IF VOLTAGE IS 220 VDC, A 15K OHM, 10 WATT RESISTOR IS SUPPLIED.

No.							
REVISION							
DATE							
CHK.							

VANDAL RESISTANT DOOR OPER. W/O ANY CHANGES IN OPER. WIRING
 - FRONT & REAR OPENINGS -

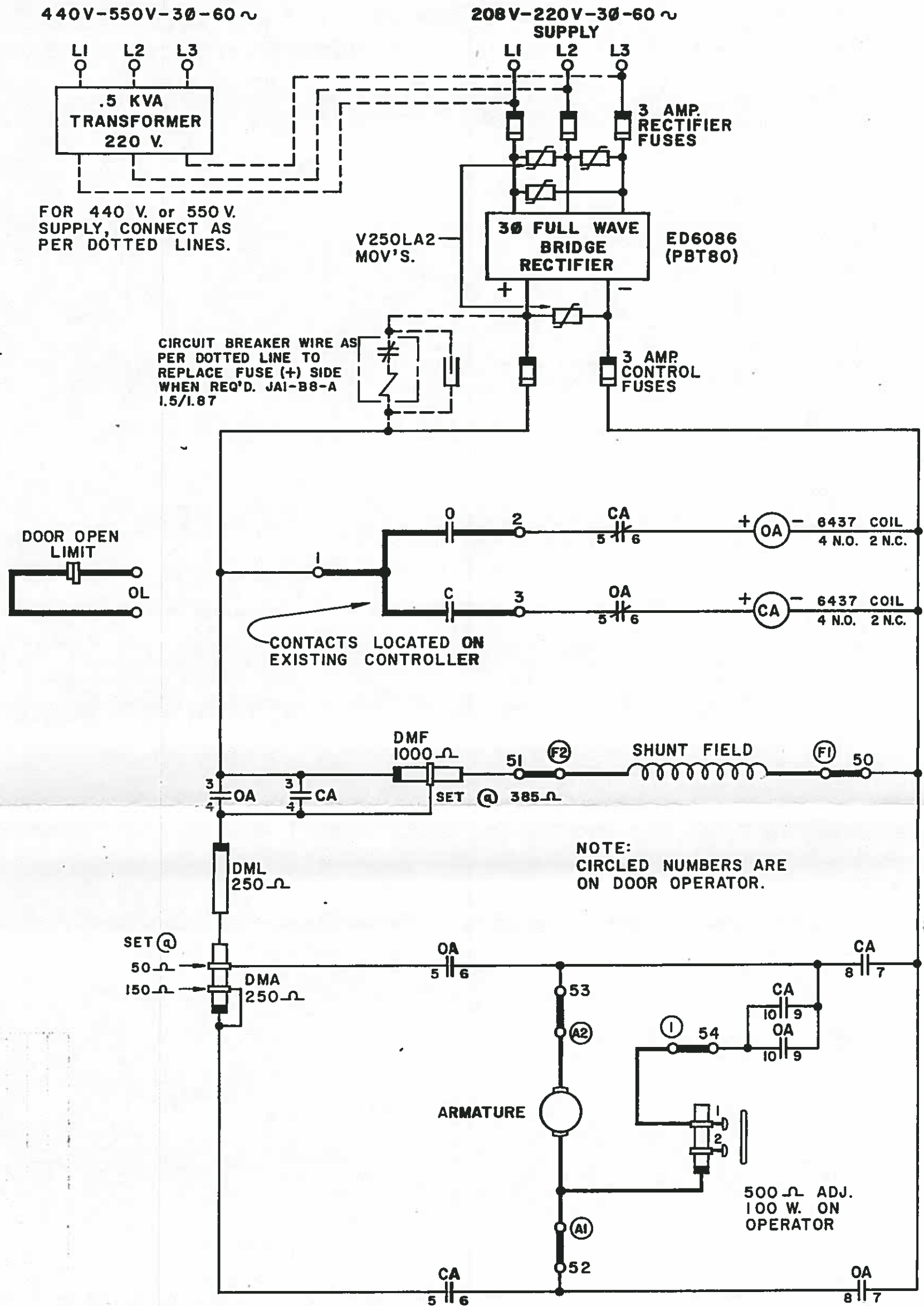

G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

SCALE	NONE
DWG. BY	
CHK. BY	
DATE	5-12-93
S6489-A	



VANDAL RESISTANT OPERATOR MARKINGS	
LGC	— LINE GATE COMMON
GMC	— GATE MICRO SWITCH COMMON
GMO	— GATE MICRO SWITCH OPEN
DMC	— DOOR MICRO SWITCH COMMON
DMO	— DOOR MICRO SWITCH OPEN
PRC	— PLUG RELAY COMMON
AL1	} TO ALARM BELL CIRCUIT
AL2	
SE1	} TO DOOR REOPENING CIRCUIT
SE2	

- NOTES:**
- ARRANGE DOOR CLOSING CIRCUITS SO THAT POWER IS HELD ON THE OPERATOR AT ALL TIMES EXCEPT WHEN CAR IS STOPPED AT FLOOR LEVEL. ACTUATING THE EMERGENCY STOP SWITCH BETWEEN FLOORS MUST NOT REMOVE DOOR CLOSING POWER.
 - CIRCUIT SHOULD BE PROVIDED TO REOPEN THE DOORS IF THE INTERLOCK FAILS TO CLOSE WITHIN A PREDETERMINED TIME AFTER A DOOR CLOSE SIGNAL IS GIVEN TO THE OPERATOR. THIS WOULD ALLOW RECYCLING OF DOORS IN EVENT AN OBSTRUCTION WERE PLACE IN THE ENTRANCE OR IF THE INTERLOCK CIRCUIT FAILED TO MAKE UP WHEN A SIGNAL WAS RECEIVED FOR THE CAR TO RUN.
 - CIRCUIT SHOULD BE PROVIDED TO REMOVE POWER FROM THE DOOR OPEN RELAY IN THE EVENT THE DOORS STALL DURING THE OPENING CYCLE. THIS SHOULD ALLOW THE NORMAL DOOR CLOSE TIMER TO FUNCTION AND CLOSE THE DOORS.
 - CONTROL CIRCUIT VOLTAGE VALUE AND TYPE REQUIRED IN ORDER TO INSTALL CORRECT GSP AND DLP RELAYS.
THE FOLLOWING RELAY COIL VOLTAGES ARE AVAILABLE:
6/12/24/110/220 VOLTS DC OR AC - 48 VOLTS DC ONLY .
 - IF VOLTAGE IS 220 VDC, A 15K OHM, 10 WATT RESISTOR IS SUPPLIED.



NOTE:
CIRCLED NUMBERS ARE
ON DOOR OPERATOR.

NOTE TO FIELD:

FOR GATE OPERATOR CONNECT TERMINAL 1 ON OPERATOR TO TERMINAL 54 ON CONTROLLER.

FOR PANEL OPERATOR CONNECT TERMINAL 1 ON OPERATOR TO TERMINAL A2 ON OPERATOR. TERMINAL 54 ON CONTROLLER WILL NOT BE USED.

1 CHANGED RELAY MARKINGS 3/2/88
FROM C.B.O TO CA & OA

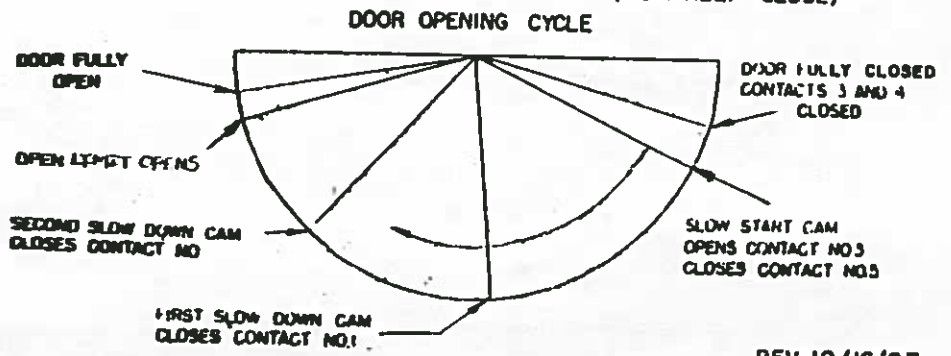
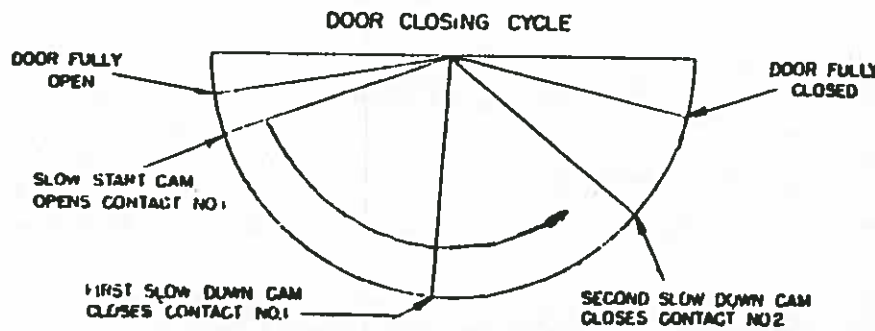
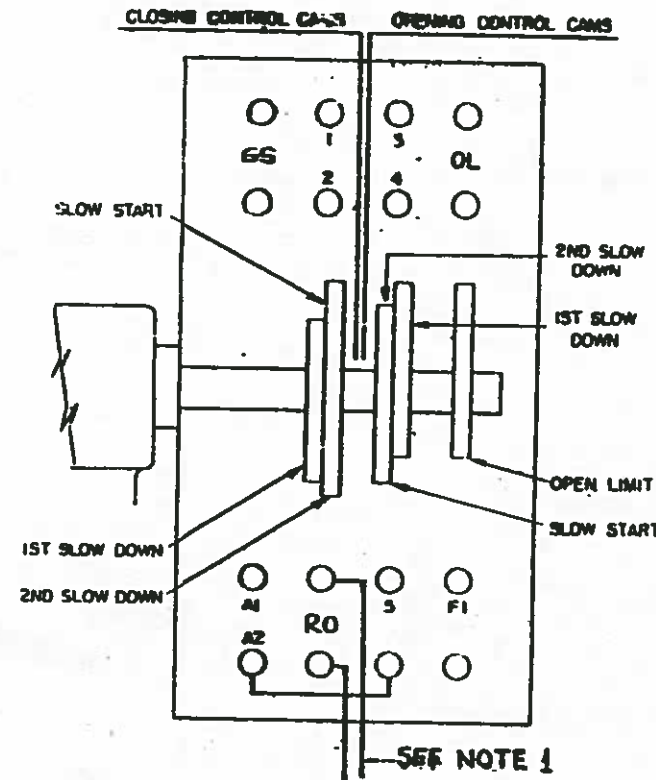
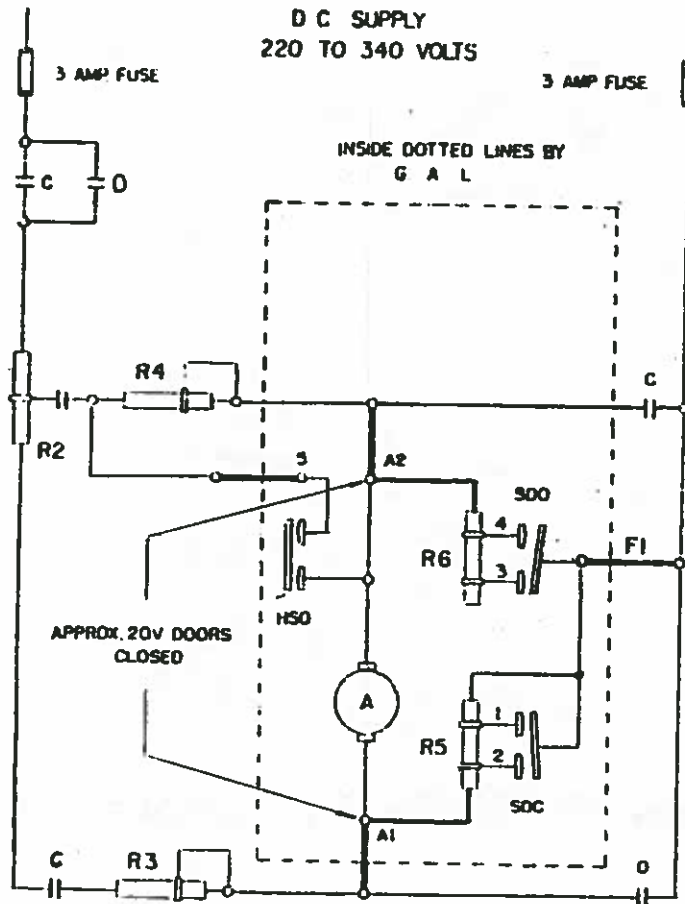
T.P.

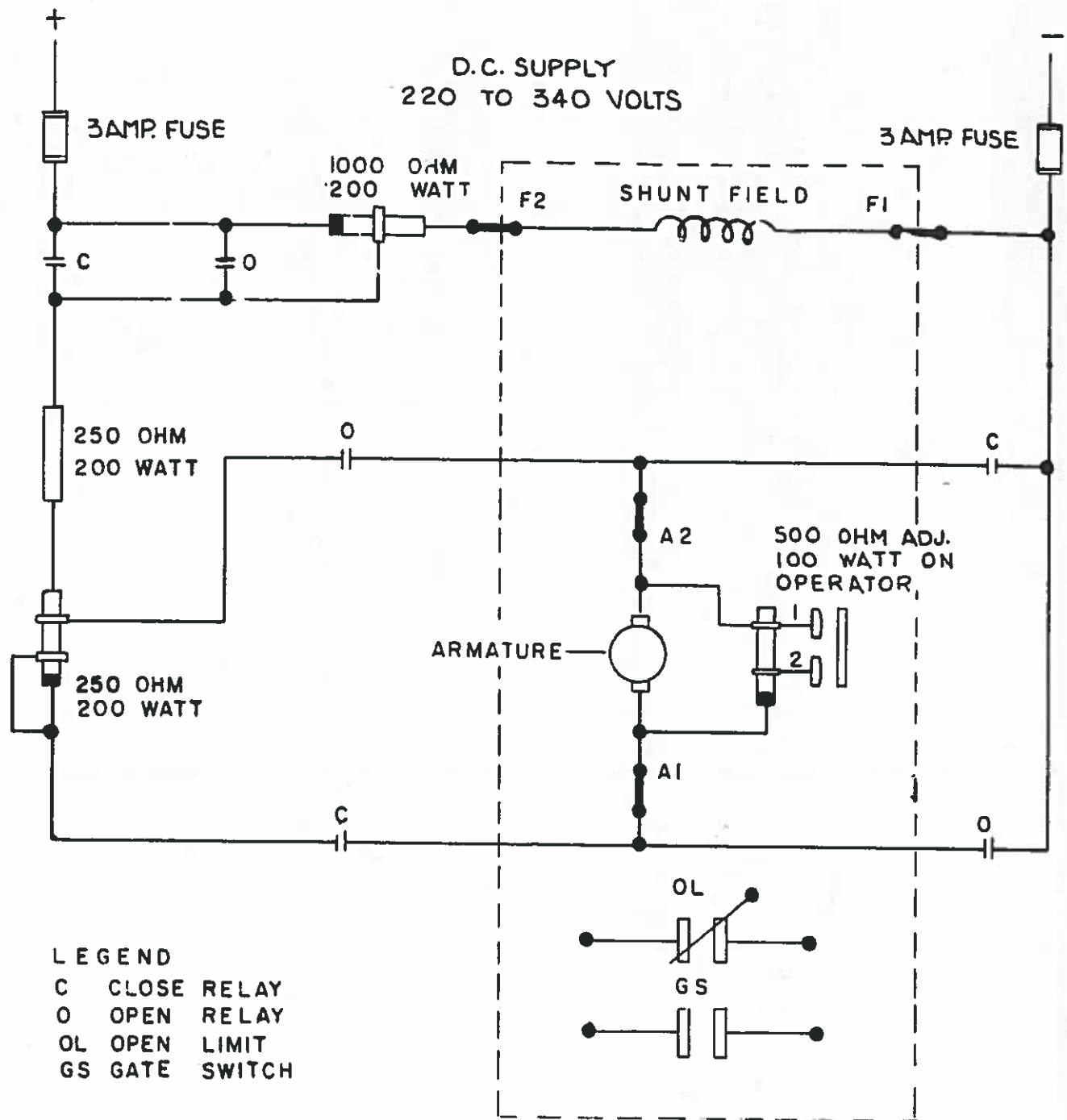
MODG CAR GATE PANEL
MODP CAR DOOR PANEL
A.C. POWER SUPPLY

4-25-86

-10,017-8

G.A.L. MODP DOOR OPERATOR WIRING DIAGRAM WITH REVERSING AND CAM ADJUSTMENTS (CAR DOOR PANEL)





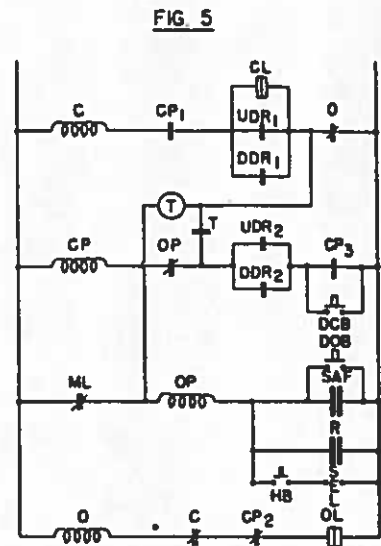
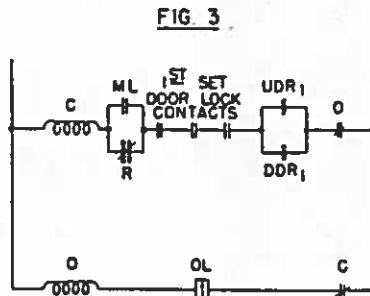
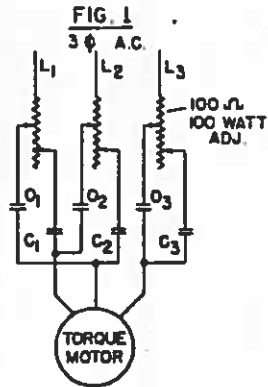
LEGEND
 C CLOSE RELAY
 O OPEN RELAY
 OL OPEN LIMIT
 GS GATE SWITCH

NOTE
 INSIDE DOTTED LINES BY G.A.L.
 ALL OTHERS BY CONTROLLER MFR.

G. S. CO., NO. 3.

C	E.C.N. NO. 35	12-5-63	BF	G. A. L. Electro Mechanical Service New York, N. Y.	SCALE
D	ECN NO. 170	6-24-68	TCO		DWG. BY
					CH'K. BY
					DATE
NO.	REVISION	DATE	CH'K.	WIRING DIAGRAM D.C. PANEL DOOR OPERATOR (MODP) ONE FOOT PER SECOND	
TOLERANCE ±				S-5683-D	

WIRING DIAGRAMS FOR GAL. MASTER CAR PANEL & DOOR OPERATOR

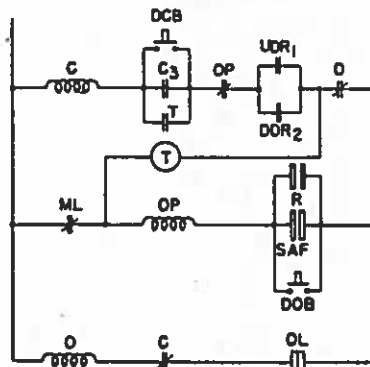


ORDER NO. _____

CONTRACTOR: _____

JOB: _____

FIG. 4



LEGEND

- C — CLOSING RELAY
- O — OPENING RELAY
- OP — SAFETY EDGE RELAY
- CP — AUXILIARY CLOSING RELAY
- UDR — UP DIRECTION RELAY
- DDR — DOWN DIRECTION RELAY
- T — TIME DELAY RELAY
- CL — CLOSING LIMIT NORMALLY CLOSED
- OL — OPENING LIMIT NORMALLY CLOSED
- ML — MAIN LINE RELAY
- SAF — SAFETY EDGE NORMALLY OPEN
- SEL — FLOOR SELECTOR
- DOB — DOOR OPENING BUTTON
- DCB — DOOR CLOSING BUTTON
- HB — HALL BUTTON
- R — OPERATOR REVERSE CONTACT

FIG. 1. WIRING DIAGRAM OF OUR THREE PHASE AC OPERATOR MOTOR

The closing relay contacts C1 and C2 and the opening relay contacts O1 and O2 reverse two phases of the torque motor which changes the direction of rotation.

Three 100 ohm 100 watt adjustable slide resistor tubes should be furnished on the control board for adjusting the strength of the motor to the proper degree required in opening and closing the door.

WIRING DIAGRAM FOR OUR D.C. OPERATOR MOTOR

SEE DRAWING NO. L-5836

FIG. 3. WIRING DIAGRAM OF OUR CAR PANEL OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS

With this circuit the car panel remains in the open position while the elevator stops at a landing. In order to close the car panel the opening relay must be de-energized, the first set of contacts on the door interlocks and a direction relay must be closed. The closing relay circuit is then energized and the operator will close the car panel and lift the retiring car. It will remain under power until the direction relay drops out.

The dropping out of the direction relay de-energizes the closing relay and closes contact C in the opening relay circuit. The operator then opens the car panel and as same arrives in the full open position breaks the opening limit contact on the operator de-energizing the opening relay. This allows the car panel to stay in the open position with the power off the operator motor.

WIRING DIAGRAM OF OUR CAR PANEL OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS (NO SAFETY EDGE)

If doors are not equipped with safety edge and are to remain in the open position at landings use diagram Fig. 3 with the door contacts omitted in the closing relay circuit. A timing relay may be located in any convenient place on the control board.

FIG. 4. WIRING DIAGRAM OF OUR MASTER DOOR OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS (SAFETY EDGE - PARKED OPEN)

With this circuit the safety edge equipped car panel and hoistway door will remain in the open position while the elevator stops at a landing. In order to close the car panel and hoistway door the time relay T must be energized, the opening relay O and the safety edge relay O de-energized and a direction relay closed. The closing relay circuit is then made and our operator will close the doors and lift the retiring car. The main line relay becomes energized breaking contact ML, opening the time relay and safety edge relay circuit and in turn contact T in the closing relay circuit. As closing relay C becomes operative it closed contact C) shunting contact T. The closing relay now remains energized until the direction relay drops out.

The dropping out of the direction relay de-energizes the closing relay and closes contact C in the opening relay circuit. The operator then opens the car panel and as they arrive in the full open position breaks the opening limit contact on the operator de-energizing the opening relay. This allows the doors to stay in the open position with the power off the operator motor.

Should the safety edge contact or opening button be closed during the closing cycle the safety edge relay OP will momentarily break the closing relay circuit. The closing relay in dropping out, closes contact C in the opening relay circuit and the doors will open fully before they can close again.

Contact ML operated by the main line relay will render the safety edge and the opening button inoperative to prevent the opening of the car panel while the elevator is running.

If a direction relay is set, the door closing button will permit the closing of the doors before the timing relay closes contact T.

FIG. 5. WIRING DIAGRAM OF OUR MASTER DOOR OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS (SAFETY EDGE - PARKED CLOSED)

With this circuit the safety edge equipped car panel and hoistway door will remain in the closed position while the elevator stops at a landing. The time relay T and the auxiliary closing relay CP are energized and the closing of a direction relay will shunt the closing limit contact on the operator energizing the latter and lifting the retiring car. The main line relay becomes energized breaking contact ML, opening the time relay circuit and rendering the safety edge relay circuit OP inoperative. Time relay T opens contact T which was shunted by direction contact 2 to keep the auxiliary closing relay CP energized holding in contact CP1. The closing relay circuit will remain energized until the direction relay drops out.

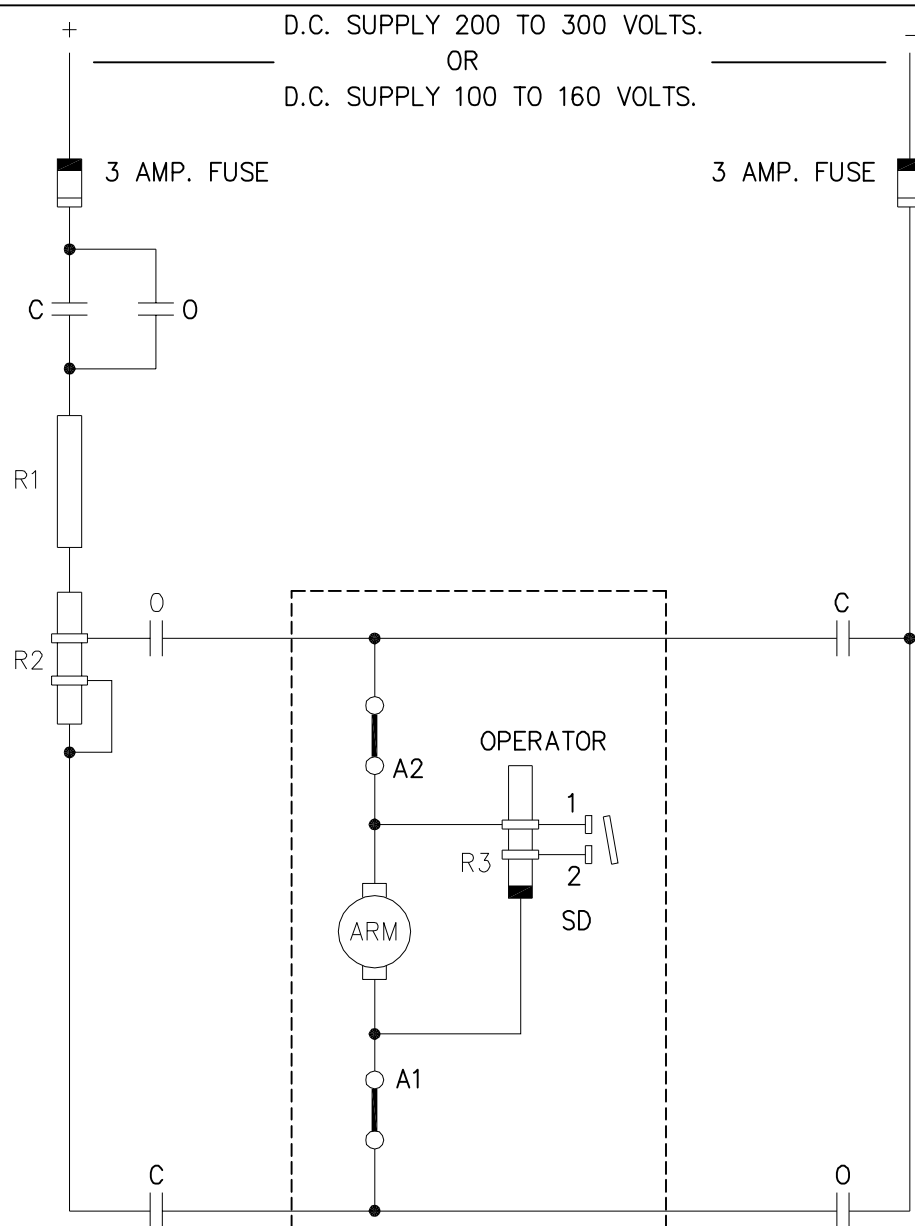
Opening the direction relay de-energizes the closing relay and the auxiliary closing relay circuits by direction contacts 1 and 2. Opening of these relays close contact C and CP2 in the opening relay circuit energizing same and opening the doors. As the doors arrive in the full open position, the opening limit contact on the operator breaks, de-energizing the opening relay circuit.

Contact O is being closed by this action energizing the time relay T which in turn energizes the auxiliary closing relay CP, making contact CP1 in the closing relay circuit. The doors now close and as they arrive in the closed position, open the contact on the operator closing limit.

Actuating the safety edge or pressing the opening button during the closing cycle energizes safety edge relay OP, breaking contact O in the auxiliary closing relay circuit and contact CP1 in the closing relay circuit. Contact C and CP2 are now made and the opening relay energized. The doors now open fully before they can close again.

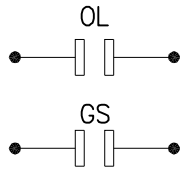
Pushing the hall button on the floor where the elevator is at rest will have the same effect as operating the safety edge or pressing the door opening button.

Pushing the door closing button, while a direction switch is set, energizes the auxiliary closing relay CP closing hold-in contact CP1 before the time relay starts operating.



LEGEND

- C CLOSE RELAY
- O OPEN RELAY
- OL OPEN LIMIT (CLOSED DURING OPEN CYCLE)
- GS GATE SWITCH
- SD SLOWDOWN CONTACTS
- DARK AREA TOP OF RES. TUBE

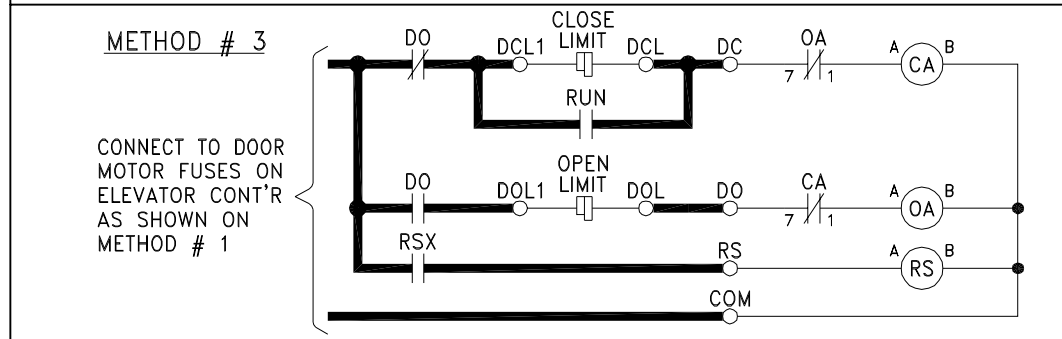
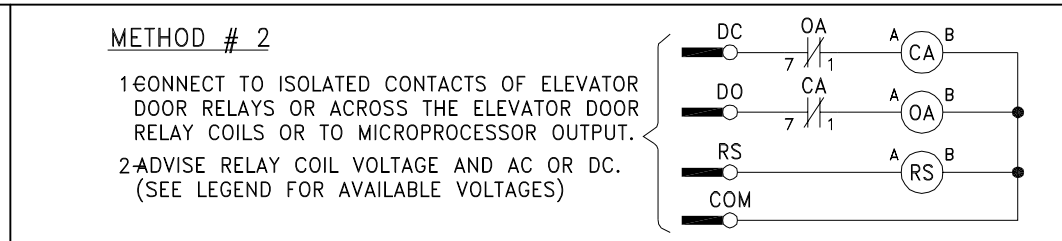
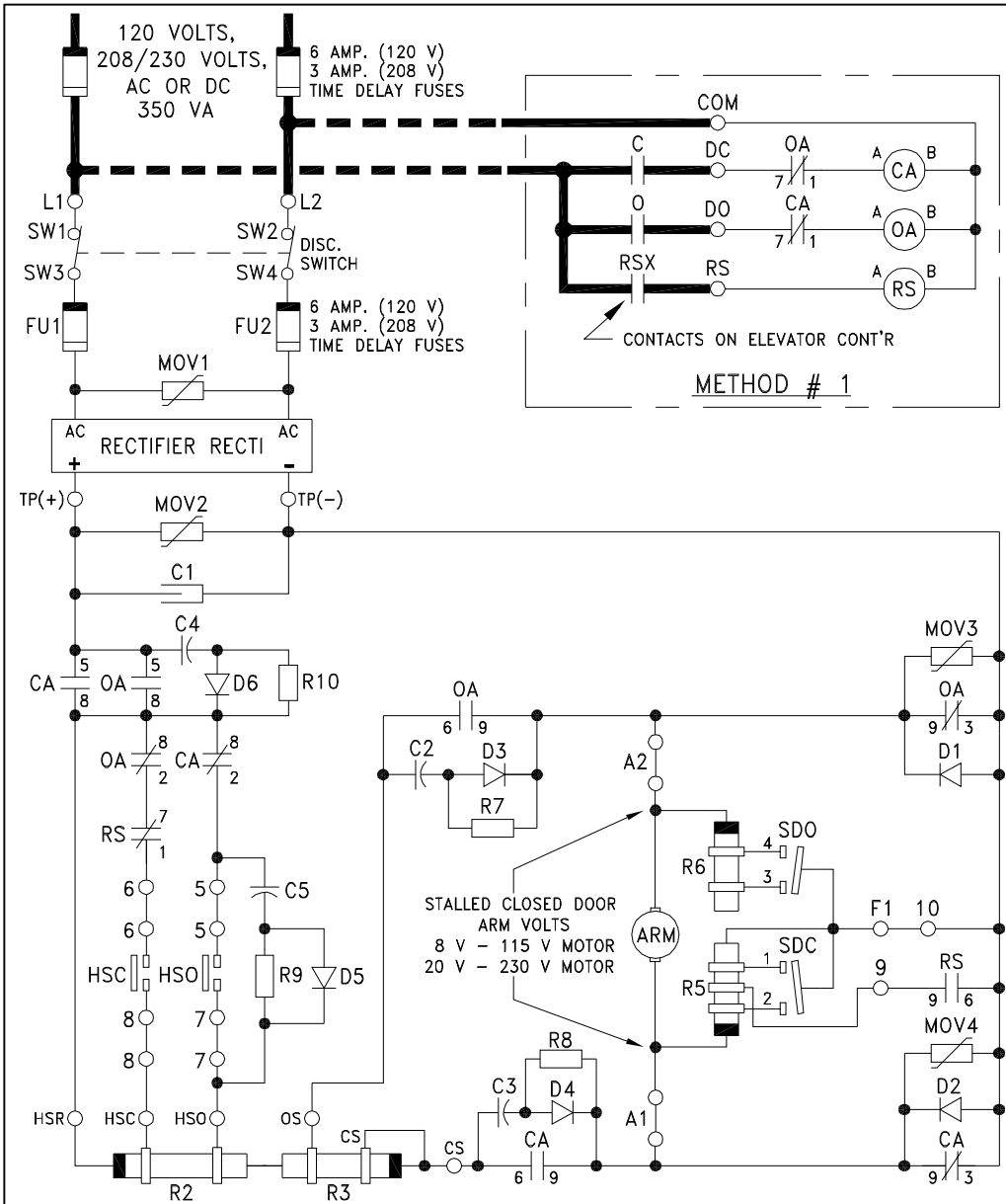


NOTE

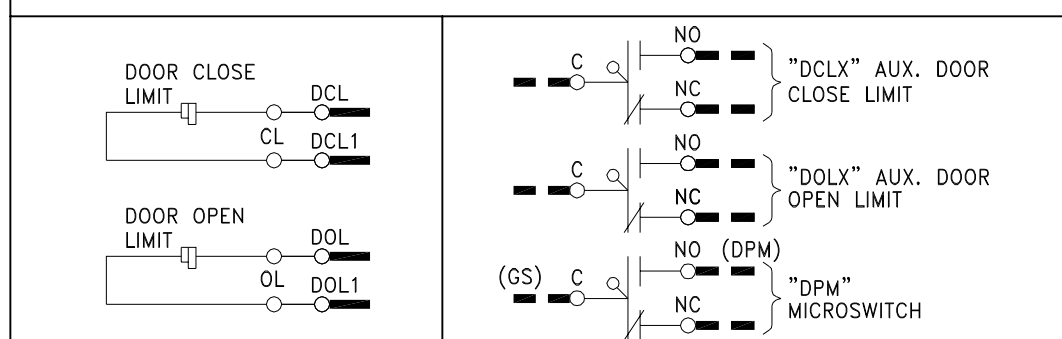
INSIDE DOTTED LINES BY G.A.L.
 ALL OTHERS BY CONTROLLER MFGR.
 DOOR CLOSE RELAY (C) MUST BE KEPT ENERGIZED
 WHEN ELEVATOR IS IN THE RUN MODE

RESISTOR	POWER SUPPLY	
	220 V.D.C.	110 V.D.C.
R1	250 Ω 200 W.	50 Ω 200 W.
R2	250 Ω 200 W.	50 Ω 200 W.
R3	300 Ω 100 W.	100 Ω 100 W.

				 G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451	SCALE NONE
					DWG. BY
					CHK. BY
					DATE 11-6-95
F	ADDED INFO FOR 100 TO 160 V.D.C. SUPPLY	8/8/96		WIRING DIAGRAM D.C. PANEL DOOR OPERATOR (MODP)	S5683-F
E	PM MOTOR, FIELD REMOVED	11/5/95			
No.	REVISION	DATE	CHK.		



SUGGESTED WIRING OF THE DOOR CLOSE AND DOOR OPEN LIMITS WHEN THE EXISTING CONT'R. HAS A SINGLE DOOR CONTROL RELAY. (THE "RUN" CONTACT ACROSS THE DOOR CLOSE LIMIT KEEPS POWER ON THE DOOR CLOSE RELAY WHEN THE ELEVATOR IS IN THE RUN MODE.)



STANDARD SWITCHES

DPM MICROSWITCH IS PROVIDED WITH:
 (1) FAULT MONITOR AS PER DRAWING S7475
 (2) JOBS COMPLYING WITH ASME A17.1-2000 CODE
 (3) JOBS WITH A GALAXY CONTROLLER
 THIS MICROSWITCH IS WIRED TO TERMINALS GS - DPM. THE N.O. CONTACT MAKES JUST BEFORE THE GATE SWITCH MAKES.

IMPORTANT

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS. ALL G.A.L. MFG. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED, AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

NOTES

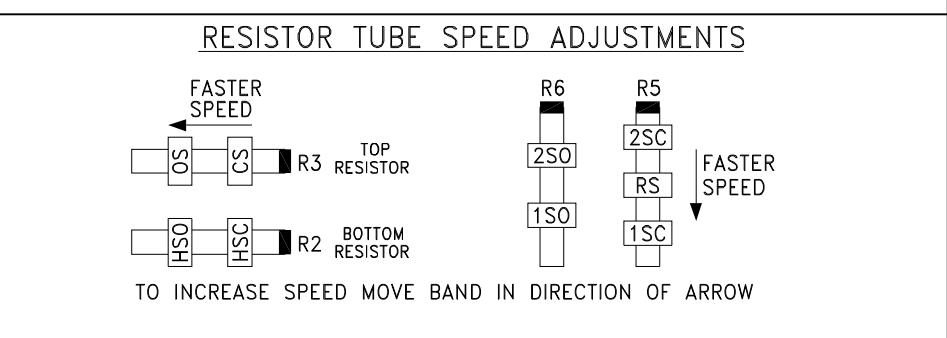
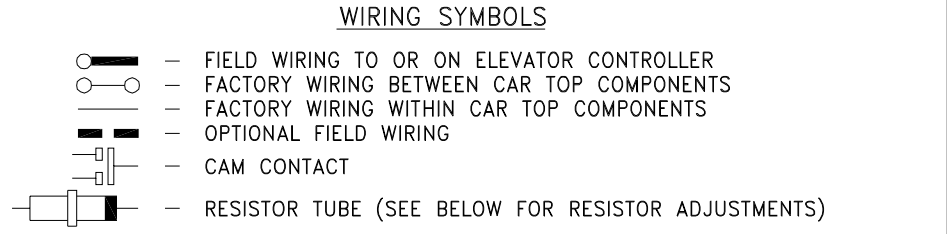
1-DOOR CLOSE RELAY (CA) MUST BE KEPT ENERGIZED WHEN ELEVATOR IS IN THE RUN MODE OR IS STOPPED OUTSIDE THE LANDING ZONE.
 2-CONNECTIONS TO RELAY (RS), ARE NOT REQUIRED WITH PANEL OPERATOR.
 3-TERMINAL F2 ON LIMIT SWITCH ASSEMBLY IS NOT USED.

LEGEND

RELAYS	
CA	DOOR CLOSE
OA	DOOR OPEN
RS	REDUCED SPEED CLOSING(NUDGING)

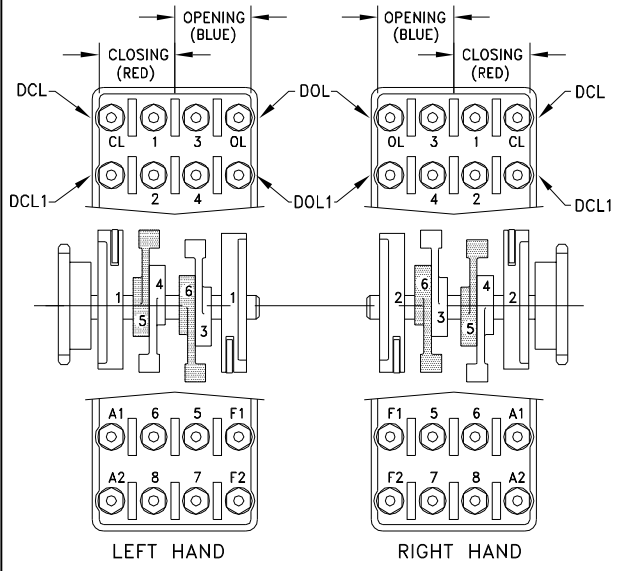
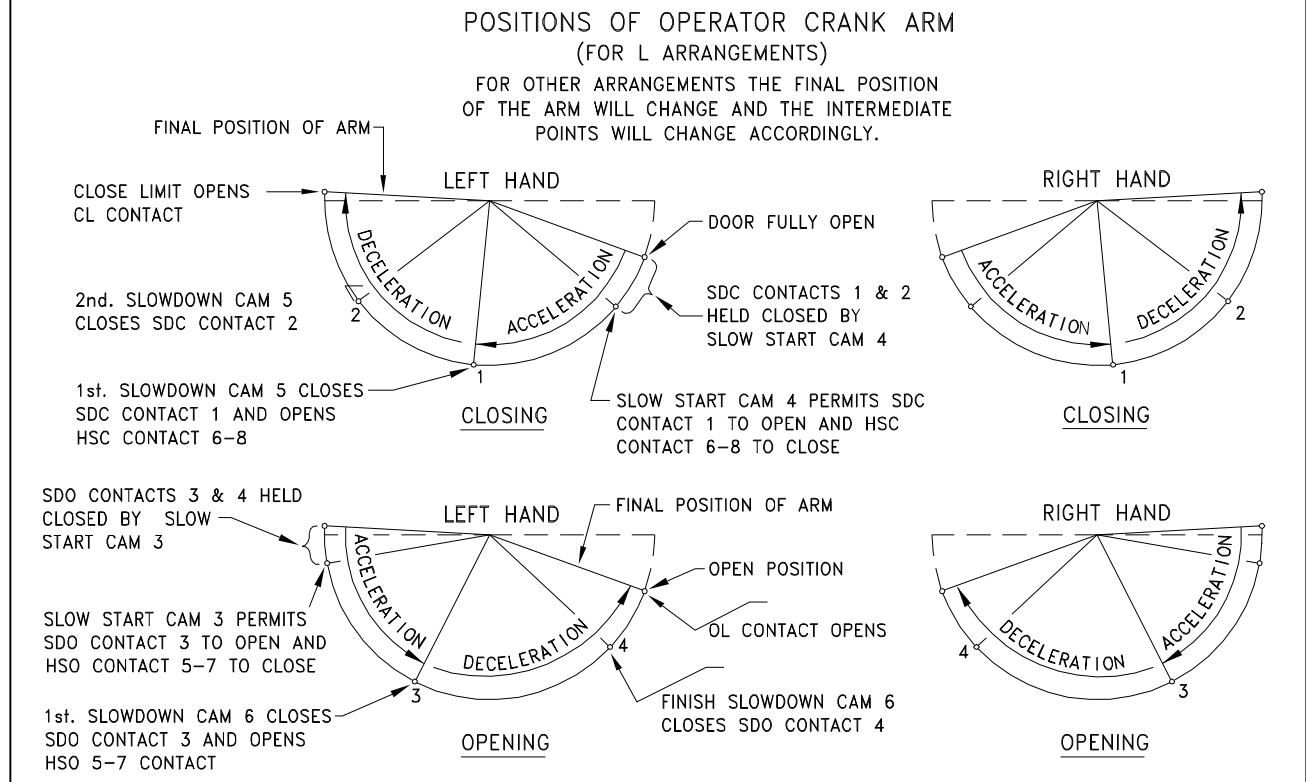
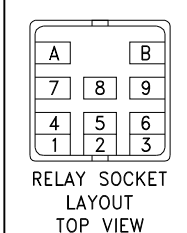
[AVAILABLE RELAY COIL VOLTAGES:
 6, 12, 24, 120, 240 VAC
 6, 12, 24, 48, 110 VDC]

LIMITS		RESISTOR TUBES	
CL	DOOR CLOSE	R2, R3	= 200 WATT
OL	DOOR OPEN	R5, R6	= 100 WATT
SDC	SLOWDOWN CLOSE	120 VOLTS	208/230 VOLTS
SDO	SLOWDOWN OPEN	R2-50 OHM	R2-250 OHM
HSC	HIGH SPEED CLOSE	R3-50 OHM	R3-250 OHM
HSO	HIGH SPEED OPEN	R5-100 OHM	R5-300 OHM
		R6-100 OHM	R6-300 OHM



RESISTOR TUBE LEGEND

R2	- HIGH SPEED	CS	- CLOSING SPEED BAND
R3	- LOW SPEED	OS	- OPENING SPEED BAND
R5	- CLOSE SLOWDOWN SPEED	HSC	- HIGH SPEED CLOSE BAND
R6	- OPEN SLOWDOWN SPEED	HSO	- HIGH SPEED OPEN BAND
		2SO	- 2nd SLOWDOWN OPEN BAND
		1SO	- 1st SLOWDOWN OPEN BAND
		2SC	- 2nd SLOWDOWN CLOSE BAND
		1SC	- 1st SLOWDOWN CLOSE BAND
		RS	- REDUCED SPEED CLOSING BAND (NUDGING)



LIMIT SWITCH ASSEMBLY

(VIEWED FROM TERMINAL SIDE WITH DOORS IN CLOSED POSITION)

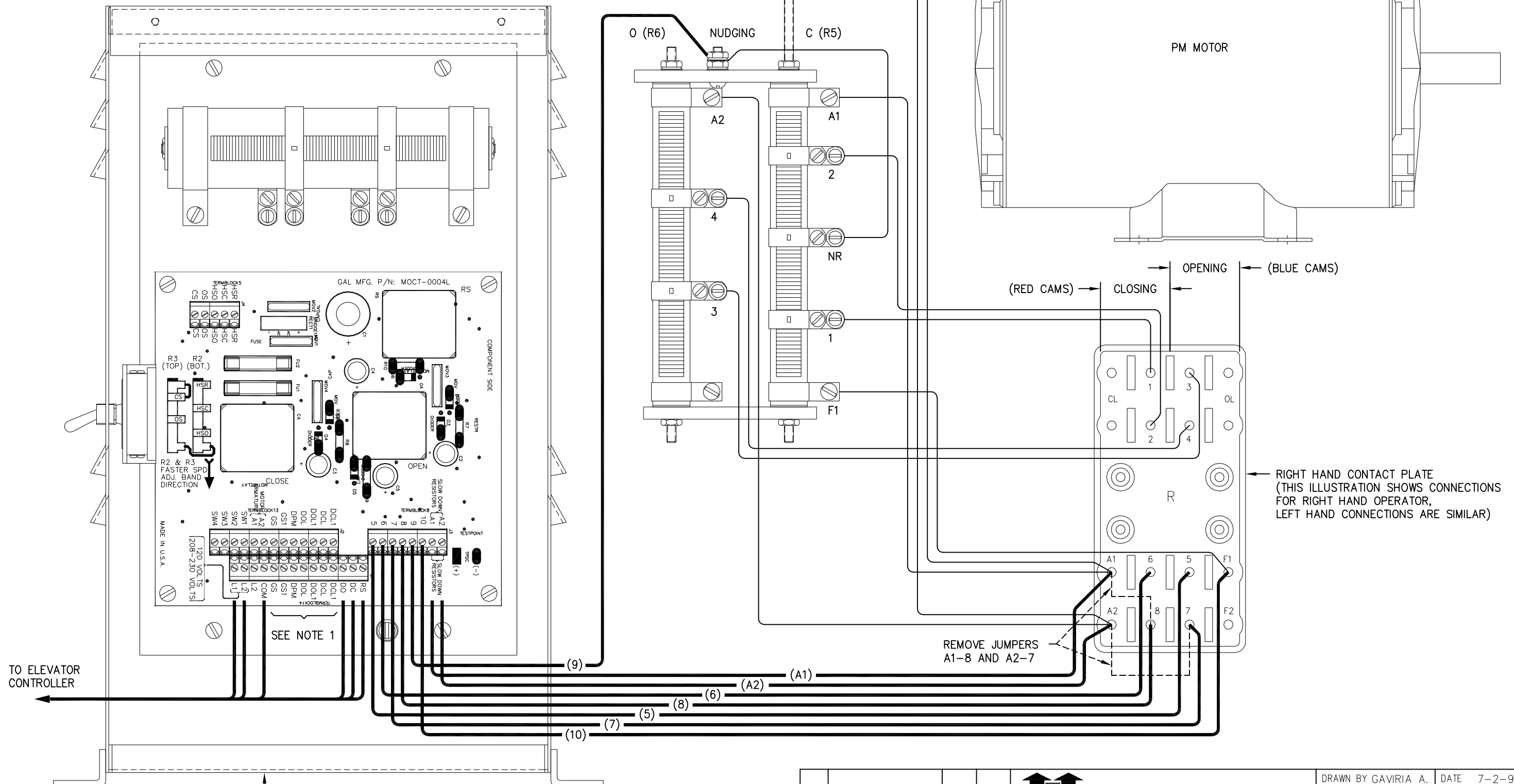
CAM # 1 LIMIT CAMS FOR LEFT HAND OPERATOR
 2 LIMIT CAMS FOR RIGHT HAND OPERATOR
 4 CLOSE SLOW START
 5 CLOSE 1st AND 2nd SLOWDOWNS
 3 OPEN SLOW START
 6 OPEN 1st AND 2nd SLOWDOWNS

4	UPDATED DPM WIRING DIAGRAM	7/05	MDH	G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451
3	REVISED NOTES	3/01	GDC	
2	ADDED R-C-D SUPP. RENAMED MOCT-0004	9/96	GDC	
1	SWAPPED HSO WIRES 5 & 7	12/95	GDC	MODCT DOOR OPERATOR 120 VOLT OR 208/230 VOLT AC OR DC COMPACTED
NO	REVISION	DATE	CH'K	SCALE _____ DATE 7/7/95 DWG. BY T.P. CH'K. BY G.D.C.

L-7632

NOTES:

- 1.- GATE SWITCH, DOOR OPEN LIMIT, DOOR CLOSE LIMIT AND DPM MICROSWITCH MAY BE WIRED TO THE OPERATOR BOARD TERMINALS AND FROM THERE TO THE ELEVATOR CONTROLLER, OR THEY MAY BE WIRED DIRECTLY TO THE ELEVATOR CONTROLLER.
- 2.- FOR INSTALLATION GUIDE REFER TO DOCUMENT No. "CONV TO MODCT"
- 3.- TO REVERSE MOTOR ROTATION, SWAP THE 2 MOTOR WIRES ONLY.
- 4.- HEAVY LINES INDICATE NEW WIRING, LIGHT LINES INDICATE EXISTING WIRING.



TO ELEVATOR CONTROLLER

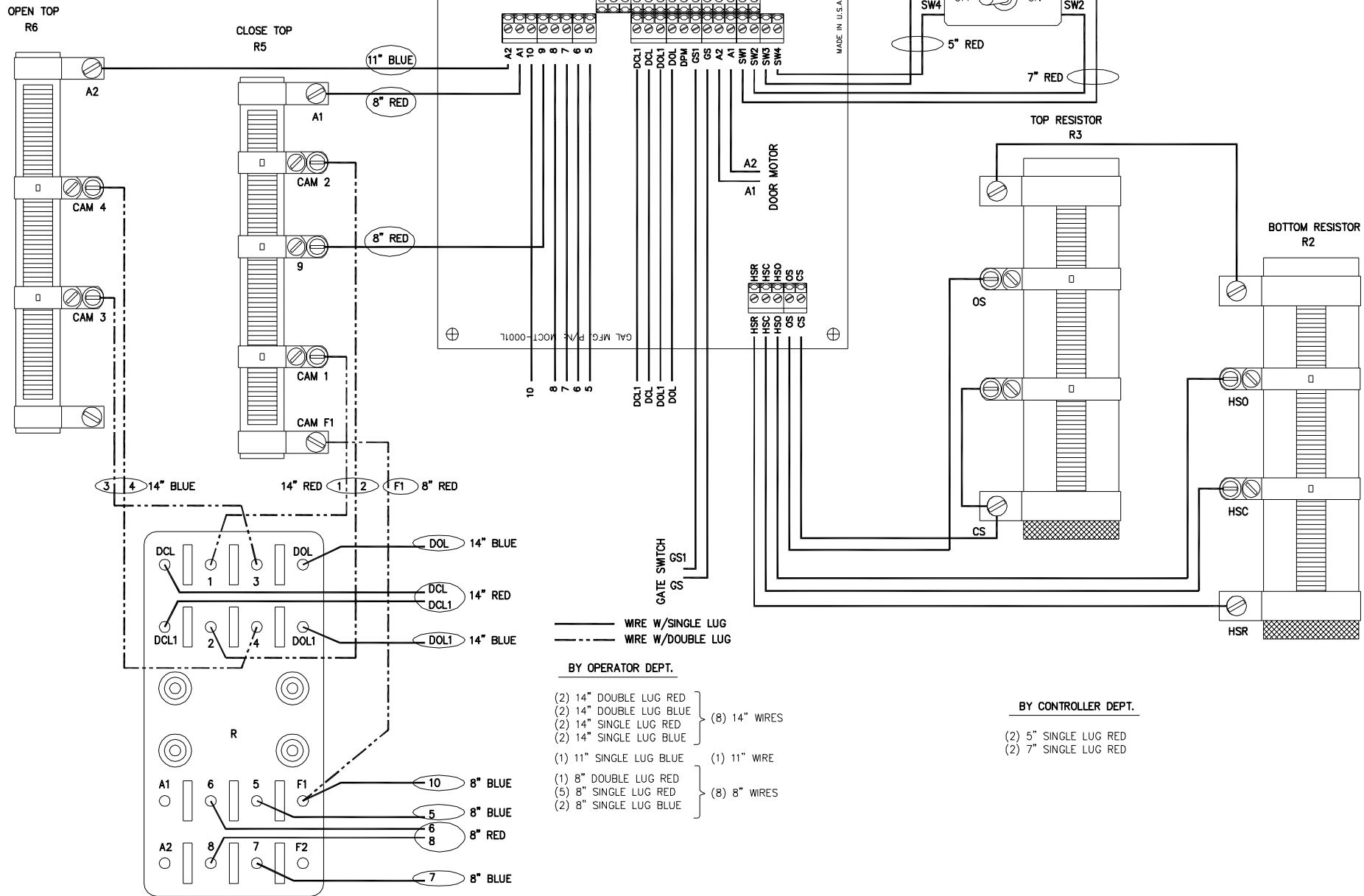
CONVERSION KIT OP16
FOR ACTUAL PART NUMBER
REFER TO DOCUMENT No.
"MODCTL.DOC"

GAL ELEVATOR DEVICES
G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

DRAWN BY GAVIRIA A.	DATE 7-2-99
ENGINEER GDC	SHEET OF
SCALE 1/2	SIZE
PART No. OP16	REV
DOCUMENT No. 8004	

MODCT CONVERSION KIT CONNECTIONS
FOR MOD OPERATORS WITH PM MOTORS ONLY

REV	DESCRIPTION	DATE	ECN



— WIRE W/SINGLE LUG
 - - - WIRE W/DOUBLE LUG

BY OPERATOR DEPT.

- (2) 14" DOUBLE LUG RED
- (2) 14" DOUBLE LUG BLUE
- (2) 14" SINGLE LUG RED
- (2) 14" SINGLE LUG BLUE
- (1) 11" SINGLE LUG BLUE
- (1) 8" DOUBLE LUG RED
- (5) 8" SINGLE LUG RED
- (2) 8" SINGLE LUG BLUE

BY CONTROLLER DEPT.

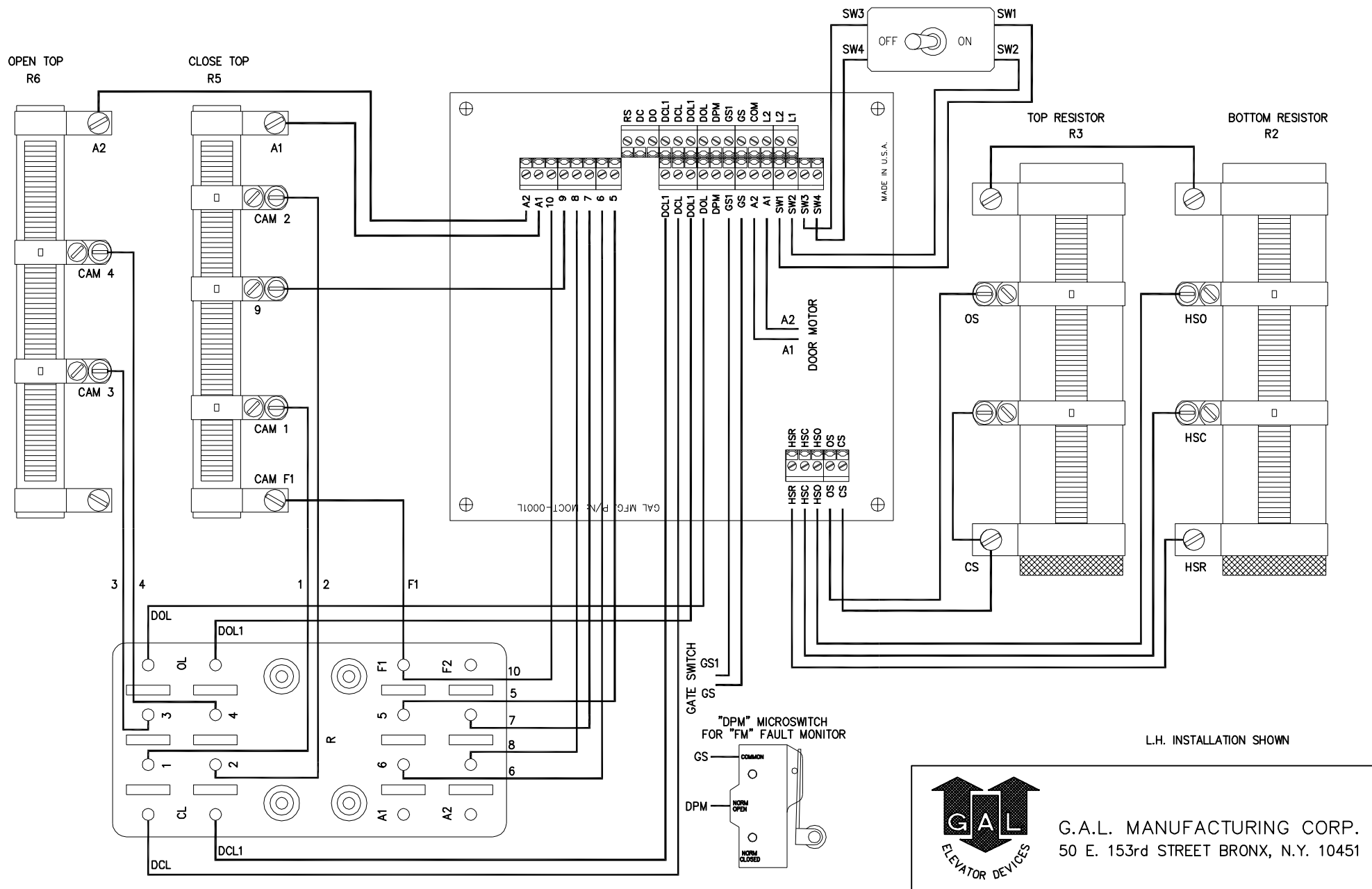
- (8) 14" WIRES
- (1) 11" WIRE
- (8) 8" WIRES
- (2) 5" SINGLE LUG RED
- (2) 7" SINGLE LUG RED

REV	DESCRIPTION	DATE	ECN


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

MODCT OPERATOR SHOP WIRING SCHEMATIC

DRAWN BY VARON J.	DATE
ENGINEER VARON J.	SHEET OF
SCALE	SIZE
PART No.	REV
DOCUMENT No. M7662-2	



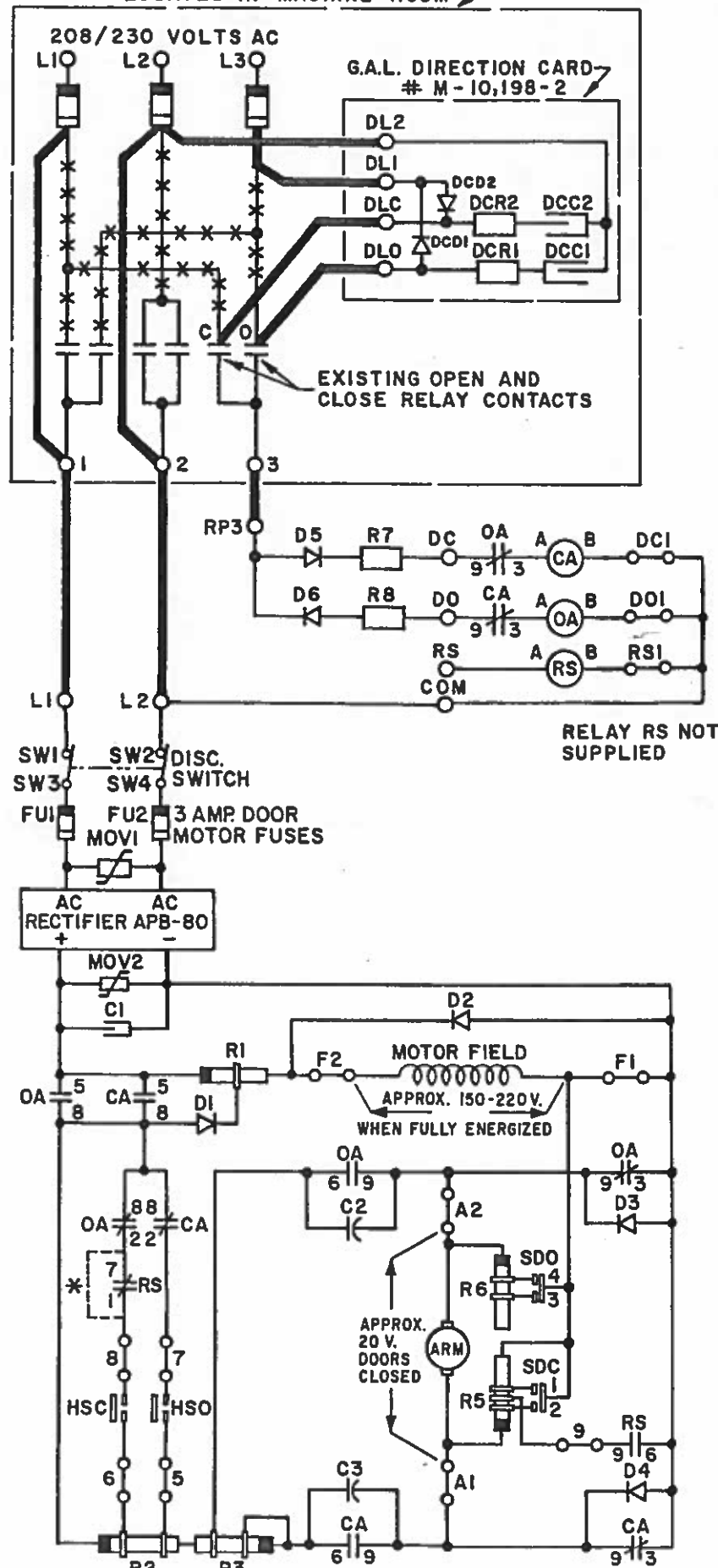
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

MOCT2 OPERATOR SHOP WIRING SCHEMATIC

SCALE	DATE 9/14/95
DWG. BY	M7662
CHK. BY	

No.	REVISION	DATE	CHK.

LOCATED IN MACHINE ROOM



*-JUMPER RS MUST BE CUT WHEN REDUCED SPEED RELAY IS USED.

PROCEDURE FOR INSTALLING NEW MOCTA MOTOR REPLACING

EXISTING G.A.L. AC OPERATOR MOTOR

- 1- TURN POWER OFF AND MOUNT THE GAL DIRECTION CARD IN A CONVENIENT LOCATION ON THE EXISTING CONTROLLER.
- 2- DISCONNECT THE PRESENT A.C. MOTOR FROM TERMINALS ON CONTROL BOARD, (TERMINALS 1, 2, & 3 ON THE DIAGRAM.)
- 3- CONNECT ONE SIDE OF OHM METER TO ONE OF THE LINES. (L1, L2, OR L3.) CLOSE "CLOSE RELAY" BY HAND, AND FIND WHICH TERMINAL (1, 2 OR 3) WILL GIVE YOU A READING. NOW CLOSE "OPEN RELAY" AND SEE IF YOU ALSO GET A READING. IF YOU DO, THIS IS THE COMMON TERMINAL, AS WOULD BE THE CASE WITH L2 AND TERMINAL 2. IF YOU DON'T, REPEAT ABOVE PROCEDURE ON THE NEXT LINE. THE TERMINAL THAT WILL GIVE YOU A READING ON BOTH THE "CLOSE" AND "OPEN" RELAY, IS THE COMMON TERMINAL.

- 4- CONNECT THIS COMMON TERMINAL TO THE FOLLOWING THREE PLACES:
 - A) LOAD SIDE OF THE CORRESPONDING DOOR MOTOR FUSE (L2 TO 2 ON DIAGRAM).
 - B) TERMINAL L2 ON CAR TOP.
 - C) TERMINAL DL2 ON GAL DIRECTION CARD.

THE EXISTING CLOSE AND OPEN RELAY CONTACT WIRES CAN EITHER BE REMOVED OR LEFT IN.

- 5- CONNECT ONE OF THE OTHER TWO MOTOR TERMINALS (TERMINAL 1 ON THE DIAGRAM) TO THE LOAD SIDE OF ANOTHER DOOR MOTOR FUSE (FUSE OF LINE 1 ON THE DIAGRAM) CONNECT THE SAME TERMINAL TO L1 ON CAR TOP. REMOVE THE EXISTING WIRES FROM THE MOTOR TERMINAL AND LINE FUSE.

- 6- THE THIRD MOTOR TERMINAL (TERMINAL 3 ON THE DIAGRAM) WILL HAVE THE CLOSE RELAY "C" CONTACT AND THE OPEN RELAY "O" CONTACT IN COMMON. THESE TWO CONTACTS IN TURN ARE CONNECTED TO THE DOOR MOTOR FUSES PROBABLY THRU RESISTOR TUBES. LOCATE THE "C" AND "O" CONTACTS WHICH ARE CONNECTED TO THE THIRD MOTOR TERMINAL, CONNECT THIS TERMINAL TO RP3 ON CAR TOP. REMOVE THE WIRE FROM THE OTHER SIDE OF EACH CONTACT AND RUN NEW WIRES TO THE GAL DIRECTION CARD, CONNECTING THE WIRE FROM THE "C" CONTACT TO TERMINAL DLC AND THE WIRE FROM THE "O" CONTACT TO TERMINAL DLO. CONNECT THE LOAD SIDE OF THE DOOR MOTOR FUSE FOR THE THIRD LINE TO TERMINAL DL1 ON THE GAL DIRECTION CARD.

- 7- REMOVE THE EXISTING DOOR MOTOR RESISTORS MAKING SURE NOT TO REMOVE THE NEW WIRE CONNECTIONS.

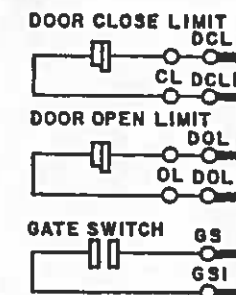
- 8- TURN THE CAR TOP DOOR OPERATOR DISC. SW. OFF. TURN MAIN LINE POWER ON AND MAKE THE FOLLOWING CHECKS ON THE CAR TOP:

- A) TERMINALS L1-L2 MUST MEASURE LINE VOLTS (208 VOLTS) AT ALL TIMES.
- B) TERMINALS L2-RP3 MUST MEASURE DC VOLTS (240 VOLTS) WHEN EITHER THE EXISTING "C" RELAY OR "O" RELAY IS PICKED-UP.
- C) THE CAR TOP "CA" RELAY MUST PICK-UP ONLY WHEN THE EXISTING "C" RELAY IS PICKED-UP.
- D) THE CAR TOP "OA" RELAY MUST PICK-UP ONLY WHEN THE EXISTING "O" RELAY IS PICKED-UP.
- E) THE VOLTAGE ACROSS THE "CA" AND "OA" COILS SHOULD BE APPROXIMATELY 110 VOLTS DC.

- 9- IF THE CAR TOP RELAYS "CA" AND "OA" DO NOT PICK-UP WHEN THE EXISTING "C" AND "O" RELAYS ARE PICKED-UP, AND THERE IS VOLTAGE ACROSS TERMINALS L2-RP3, THEN INTERCHANGE WIRES "DLO" AND "DLC".

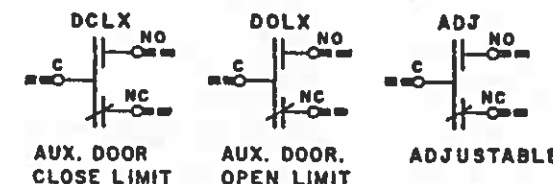
SEE DWG. NO. L-7257 FOR ADJUSTING INSTRUCTIONS.

STANDARD SWITCHES



OPTIONAL

ADDITIONAL MICROSWITCHES SUPPLIED ONLY WHEN SPECIFIED.



LEGEND

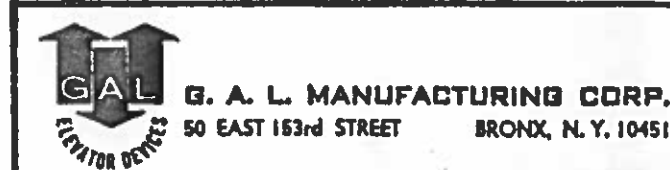
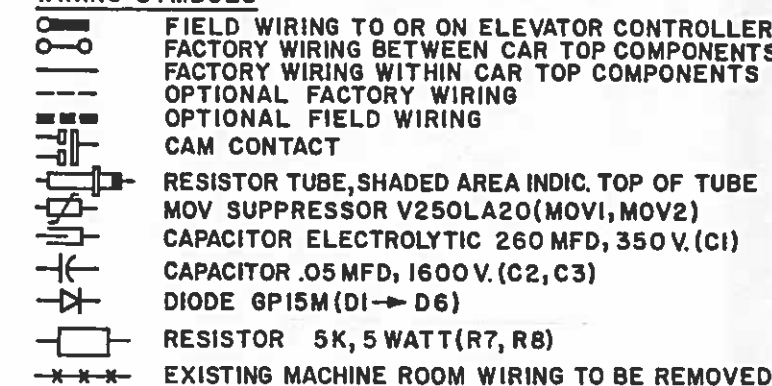
RELAYS

(3 POLE MIDTEX TYPE 157-23 --- 2L0)
 CA DOOR CLOSE (AVAILABLE RELAY COIL VOLTS: 6,12,24,120,240 VAC)
 OA DOOR OPEN (6,12,24,48,110 VDC)
 RS REDUCED SPEED CLOSING

LIMITS

CL DOOR CLOSE	R1 MOTOR FIELD	1000.Ω -200 W
OL DOOR OPEN	R2 HIGH SPEED	250.Ω -200 W
SDC SLOWDOWN CL.	R3 MED. SPEED	250.Ω -200 W
SDO SLOWDOWN OP.	R5 SLOWDOWN CL.	300.Ω -100 W
HSC HIGH SPEED CL.	R6 SLOWDOWN OP.	300.Ω -100 W
HSO HIGH SPEED OP.		

WIRING SYMBOLS



WIRING DIAGRAM FOR MOCTA DOOR OPERATOR 208/230 V. WHEN REPLACING EXISTING GAL AC MOTOR

NO.	REVISION	DATE	CHK.	CHK. BY	G. D. C.
SCALE					DATE 5-29-92
DWG. BY T. P.					M-10,198-1



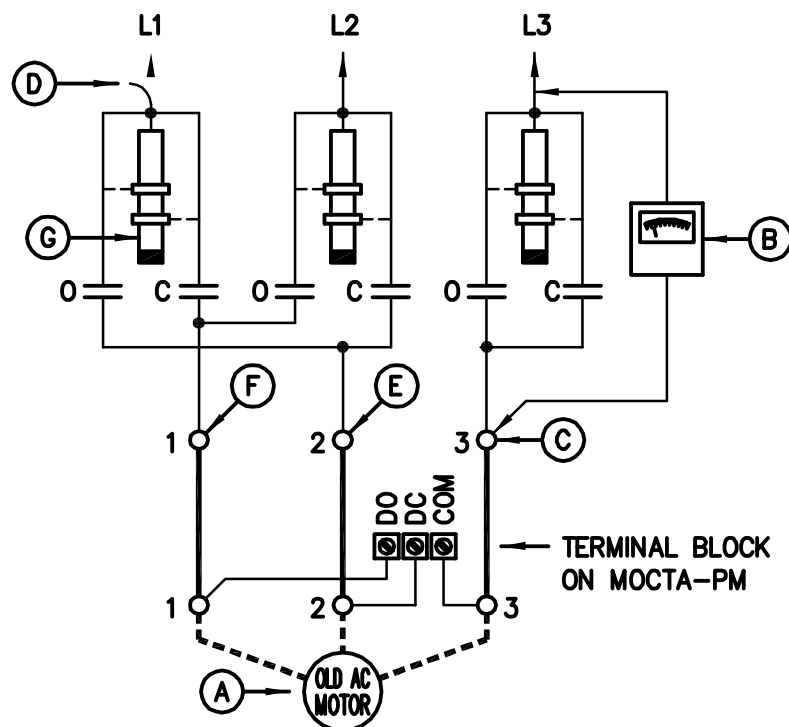
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451
TELEX No 422322 (718) 292-9000

ESTABLISHED 1927

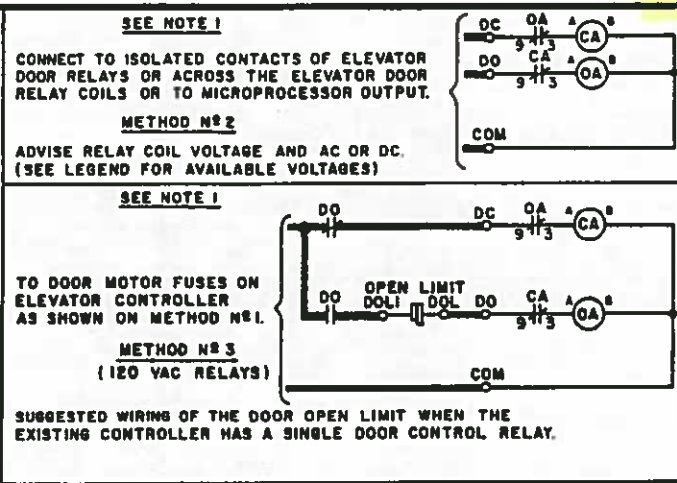
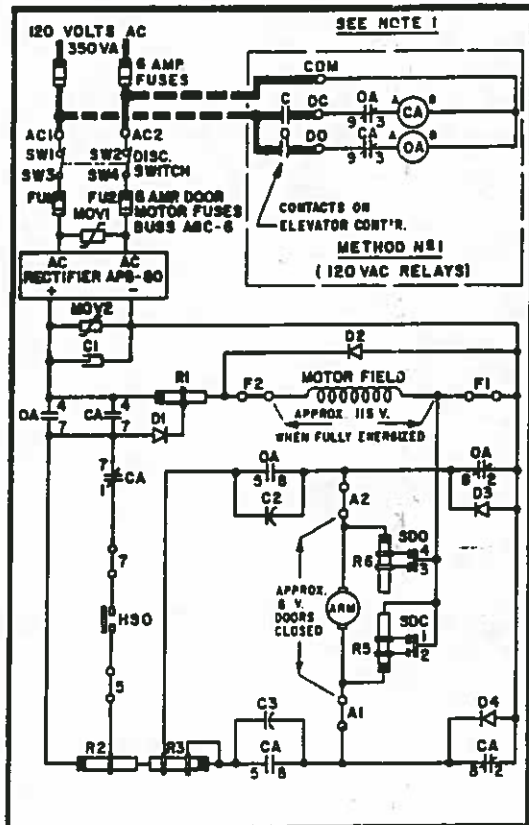
PROCEDURE FOR WIRING NEW MOCTA-PM REPLACING EXISTING G.A.L. A.C. OPERATOR MOTOR

(REFER TO G.A.L. MOCTA-PM WIRING DIAGRAM L7548
OR MOCTAP-PM WIRING DIAGRAM L7551)

- A - With power off, disconnect present A.C. motor from terminals on control board. (terminals 1,2 and 3, on drawing below).
- B - Connect one side of OHMMETER to one of the lines. (L1, L2 or L3). Close "close relay" by hand, and find which terminal will give you a reading. Now close "open relay" and see if you also get a reading. If you do, this is the common terminal, as would be the case with L3 and terminal 3. If you don't, repeat above procedure on the next line. The terminal that will give you a reading on both the "close" and "open" relay, is the common terminal.
- C - Connect this common terminal (#3 on drawing), to COM on door operator.
- D - Disconnect one of the remaining lines. (L1 on drawing).
- E - Connect one side of OHMMETER to the other remaining line. close the "close relay" and find the terminal that will give a reading (L2-2 on drawing). Connect this terminal to DC on door operator.
- F - Connect the remaining terminal (1 on drawing) to DO on door operator.
- G - Make sure all existing resistors are removed from the original circuit.



"MOCTP"



IMPORTANT

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS. ALL CAM EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED & MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

NOTE 1

DOOR CLOSE RELAY (CA) MUST BE KEPT ENERGIZED WHEN ELEVATOR IS IN THE RUN MODE. THE COMMON SIDE OF RELAYS CA, OA, CAN BE SEPARATED BY CUTTING JUMPERS DC1, DC2.

LEGEND

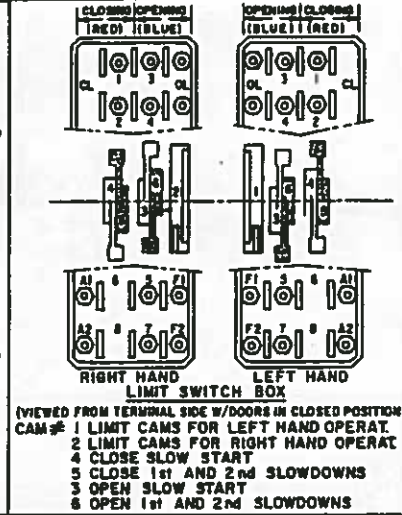
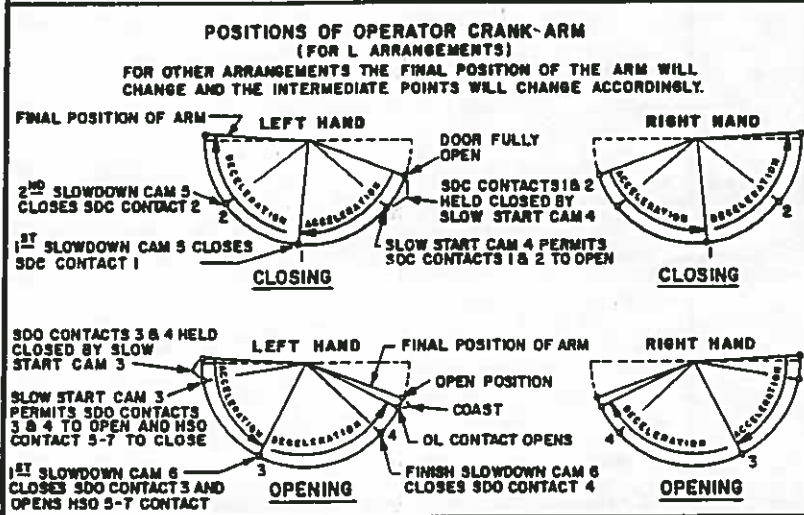
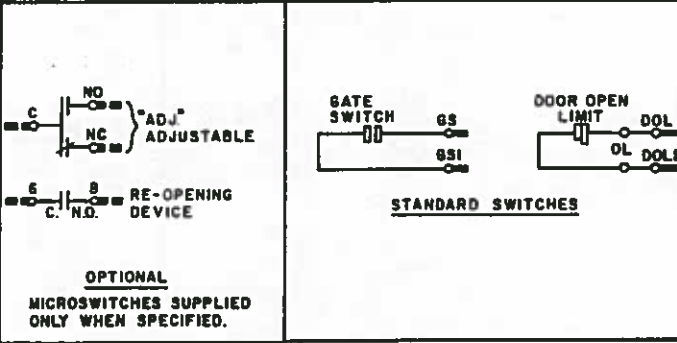
RELAYS
 (3 POLE MIDTEX TYPE 157-23...ZLO)
 CA DOOR CLOSE (AVAILABLE RELAY COIL VOLTS: 6,12,24,120,240 VAC 6,12,24,48,110 VDC)
 OA DOOR OPEN

LIMITS
 OL DOOR OPEN
 SDC SLOWDOWN CL.
 SOC SLOWDOWN OP.
 HSC HIGH SPEED OP.

RESISTOR TUBES
 R1 MOTOR FIELD 250 Ω - 200 W
 R2 HIGH SPEED 100 Ω - 200 W
 R3 MED. SPEED 100 Ω - 200 W
 R5 SLOWDOWN CL. 100 Ω - 100 W
 R6 SLOWDOWN OP. 100 Ω - 100 W

WIRING SYMBOLS

- FIELD WIRING TO OR ON ELEVATOR CONTROLLER
- FACTORY WIRING BETWEEN CAR TOP COMPONENTS
- FACTORY WIRING WITHIN CAR TOP COMPONENTS
- OPTIONAL FACTORY WIRING
- OPTIONAL FIELD WIRING
- CAM CONTACT
- RESISTOR TUBE, SHADED AREA INDIC. TOP OF TUBE MOV SUPPRESSOR V250LA20(MOV1, MOV2)
- CAPACITOR ELECTROLYTIC 260 MFD, 350 V.(C1)
- CAPACITOR .05 MFD, 1600 V.(C2, C3)
- DIODE 6P15M(D1 → D4)



RESISTOR TUBE SPEED ADJUSTMENTS

CS - CLOSING SPEED BAND
OS - OPENING SPEED BAND
FV - FIELD VOLTS - (TORQUE ADJUSTMENT) BAND

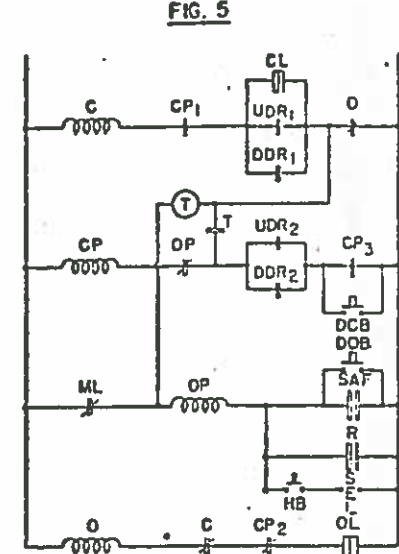
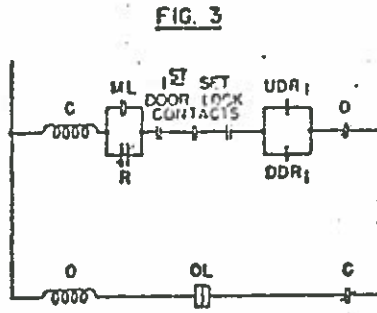
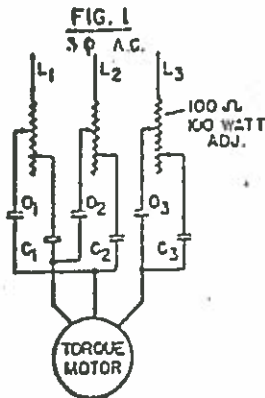
HSC - HIGH SPEED OPEN BAND
R2 - 2nd SLOWDOWN OPEN BAND
OL - 1st SLOWDOWN OPEN BAND
SOC - 2nd SLOWDOWN CLOSE BAND
R6 - 1st SLOWDOWN CLOSE BAND

T REDUCE SPEED ADJUST BANDS UP ↓
 T INCREASE SPEED ADJUST BANDS DOWN ↓
 T INCREASE TORQUE ADJUST [FV] BAND DOWN ↓

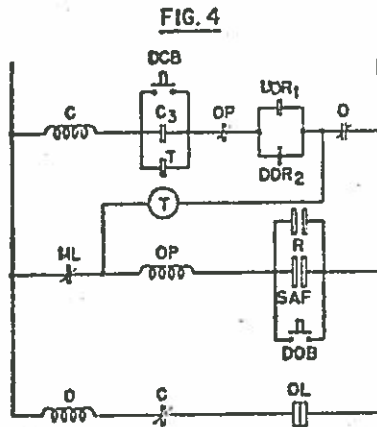
G. A. L. MANUFACTURING CORP. 15 EAST 115th STREET, HOBOKEN, N. J. 07030			
CAM POSITION AND R.D. FOR PANEL OPERATOR WITH CAR TOP RESISTORS & RELAYS.		TYPE MOCTP	
120 VOLTS AC POWER SUPPLY			
SCALE	NOSE	DATE	8-18-91
DRAWN BY	LP	DATE	
APPROVED	DAK	CHKD.	09/11/01 S.B.E.
			L-7378

WIRING DIAGRAM FOR
GAL. MASTER CAR PANEL & DOOR OPERATOR

"MOA"



ORDER NO. _____
CONTRACTOR: _____
JOB: _____



- LEGEND**
- C — CLOSING RELAY
 - O — OPENING RELAY
 - OP — SAFETY EDGE RELAY
 - CP — AUXILIARY CLOSING RELAY
 - UDR — UP DIRECTION RELAY
 - DDR — DOWN DIRECTION RELAY
 - T — TIME DELAY RELAY
 - CL — CLOSING LIMIT NORMALLY CLOSED
 - OL — OPENING LIMIT NORMALLY CLOSED
 - ML — MAIN LINE RELAY
 - SAF — SAFETY EDGE NORMALLY OPEN
 - SEL — FLOOR SELECTOR
 - DOB — DOOR OPENING BUTTON
 - DCB — DOOR CLOSING BUTTON
 - HB — HALL BUTTON
 - R — OPERATOR REVERSE CONTACT

FIG. 1. WIRING DIAGRAM OF OUR THREE PHASE AC OPERATOR MOTOR

The closing relay contacts C1 and C2 and the opening relay contacts O1 and O2 reverse two phases of the torque motor which changes the direction of rotation. Three 100 watt adjustable slide resistor tubes should be furnished on the control board for adjusting the strength of the motor to the proper degree required in opening and closing the door.

WIRING DIAGRAM FOR OUR D.C. OPERATOR MOTOR
EES DRAWING NO. 2-5836

FIG. 3. WIRING DIAGRAM OF OUR CAR PANEL OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS

With this circuit the car panel remains in the open position while the elevator stops at a landing. In order to close the car panel the opening relay must be de-energized, the first set of contacts on the door interlocks and a direction relay must be closed. The closing relay circuit is then energized and the operator will close the car panel and lift the retiring car. It will remain under power until the direction relay drops out.

The dropping out of the direction relay de-energizes the closing relay and closes contact O in the opening relay circuit. The operator then opens the car panel and as same arrives in the full open position breaks the opening limit contact on the operator de-energizing the opening relay. This allows the car panel to stay in the open position with the power off the operator motor.

WIRING DIAGRAM OF OUR CAR PANEL OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS (NO SAFETY EDGE)

If doors are not equipped with safety edge and are to remain in the open position at landings use diagram (Fig. 3) with the door contacts omitted in the closing relay circuit. A timing relay may be located in any convenient place on the control board.

FIG. 4. WIRING DIAGRAM OF OUR MASTER DOOR OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS (SAFETY EDGE-PARKED OPEN)

With this circuit the safety edge equipped car panel and hoistway door will remain in the open position while the elevator stops at a landing. In order to close the car panel and hoistway door the time relay T must be energized, the opening relay O and the safety edge relay (if de-energized) and a direction relay closed. The closing relay circuit is then energized and our operator will close the doors and lift the retiring car. The main line relay becomes energized breaking contact ML, opening the time relay and safety edge relay circuit and in turn contact T in the closing relay circuit. As closing relay is de-energized it closes contact C3 shutting contact C. The closing relay now remains energized until the direction relay drops out.

The dropping out of the direction relay de-energizes the closing relay and closes contact O in the opening relay circuit. The operator then opens the doors and as they arrive in the full open position breaks the opening limit contact on the operator de-energizing the opening relay. This allows the doors to stay in the open position with the power off the operator motor.

Should the safety edge contact or opening button be closed during the closing cycle the safety edge relay (if) will momentarily break the closing relay circuit. The closing relay in dropping out, closes contact C in the opening relay circuit and the doors will open fully before they can close again.

Contact ML operated by the main line relay will render the safety edge and the opening button inoperative to prevent the opening of the car panel while the elevator is running.

If a direction relay is set the door closing button will permit the closing of the doors before the timing relay closes contact T.

FIG. 5. WIRING DIAGRAM OF OUR MASTER DOOR OPERATOR IN CONNECTION WITH SLIDING HOISTWAY DOORS (SAFETY EDGE - PARKED CLOSED)

With this circuit the safety edge equipped car panel and hoistway door will remain in the closed position while the elevator stops at a landing. The time relay T and the auxiliary closing relay CP are energized and the closing of a direction relay will shut the closing limit contact on the operator energizing the latter and lifting the retiring car. The main line relay becomes energized breaking contact ML, opening the time relay circuit and rendering the safety edge relay circuit OP inoperative. Time relay T opens contact T which is shunted by direction contact 2 to keep the auxiliary closing relay CP energized holding in contact CP1. The closing relay circuit will remain energized until the direction relay drops out.

Opening the direction relay de-energizes the closing relay and the auxiliary closing relay circuits by direction contacts 1 and 2. Opening of these relays close contact C and CP2 in the opening relay circuit energizing same and opening the doors. As the doors arrive in the full open position, the opening limit contact on the operator breaks, de-energizing the opening relay circuit.

Contact O is being closed by this action energizing the time relay T which in turn energizes the auxiliary closing relay CP. Contact CP1 in the closing relay circuit. The doors now close and as they arrive in the closed position, open the contact on the operator closing limit.

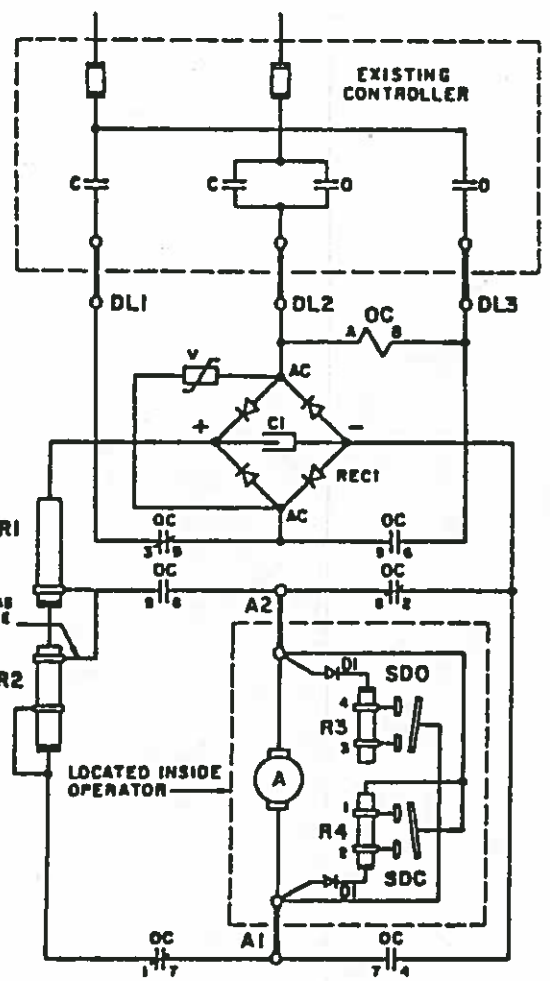
Actuating the safety edge or pressing the opening button during the closing cycle energizes safety edge relay (if) breaking contact ML in the auxiliary closing relay circuit and contact ML in the closing relay circuit. Contact C and C2 are now made and the opening relay energized. The doors now open fully before they can close again.

Pushing the Hall button on the floor where the elevator is at rest will have the same effect as operating the safety edge or pressing the door opening button.

Pushing the door closing button, while a direction switch is set, energizes the auxiliary closing relay CP, closing hold-in contact CP1 before the time relay starts operating.

G.A.L. MOPM-P & MOPM-PL PANEL OPERATOR WIRING DIAGRAM AND CAM ADJUSTMENTS

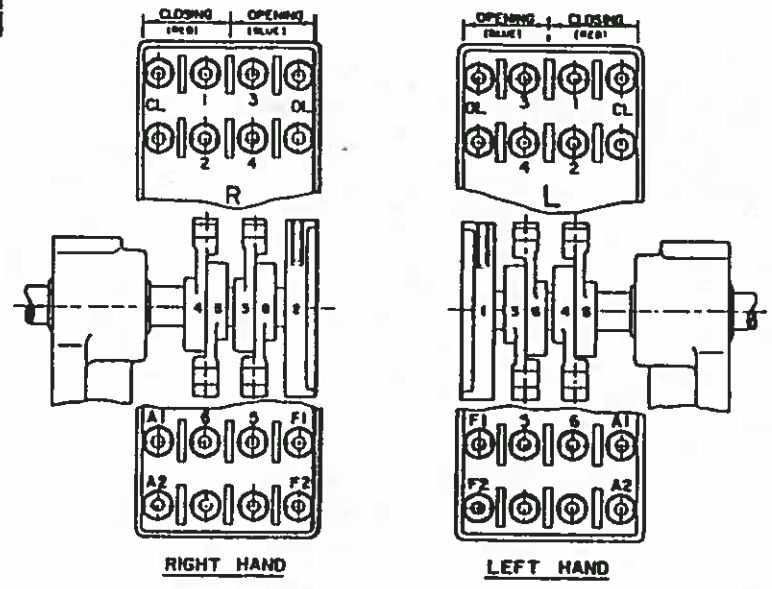
208/250 VOLTS A.C.



LEGEND

- OC DOOR RELAY
- C CLOSE RELAY
- O OPEN RELAY
- R1 } 250 OHM 200 WATT ADJ.
- R2 }
- REC1 RECTIFIER KBPC 25-08
- C1 CAPACITOR 40 MFD 350 WVDC
- V VARISTOR

NOTE
CLOSE LIMIT USED FOR PARK CLOSING DOORS MUST BE BY-PASSED BY DIRECTION RELAY CONTACT TO KEEP MOTOR ENERGIZED WHILE ELEVATOR IS RUNNING. RELAY MUST NOT DEPEND ON INTERLOCK CIRCUIT.

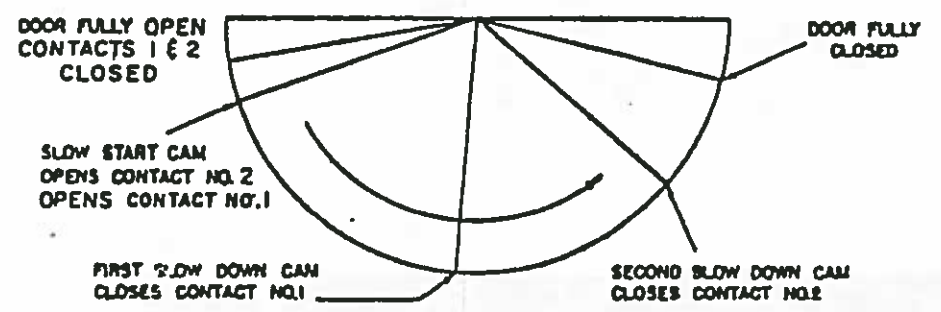


- CAM NO.
- #1 LIMIT CAM FOR LEFT HAND OPERATORS
 - #2 LIMIT CAM FOR RIGHT HAND OPERATORS
 - #4 CLOSE SLOW START
 - #5 CLOSE 1ST AND 2ND SLOW DOWNS
 - #3 OPEN SLOW START
 - #6 OPEN 1ST AND 2ND SLOW DOWNS

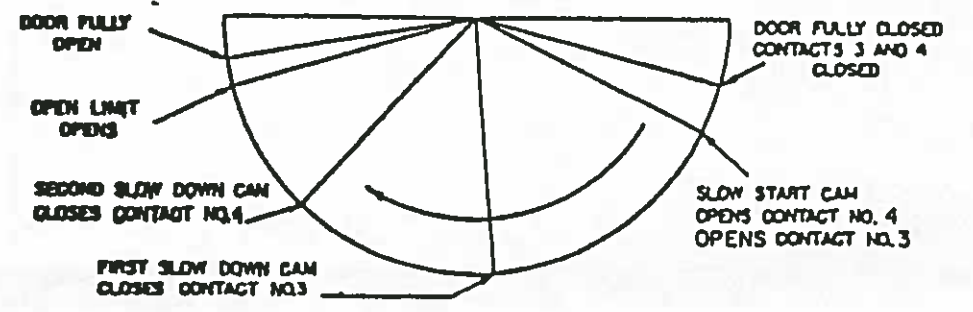
- DOL DOOR OPEN LIMIT
- GS GATE SWITCH
- A PM MOTOR
- SDC SLOW DOWN CLOSE LIMIT
- SDO SLOW DOWN OPEN LIMIT
- R3 } 300 OHM 100 WATT ADJ.
- R4 }
- D1 DIODES R-20100

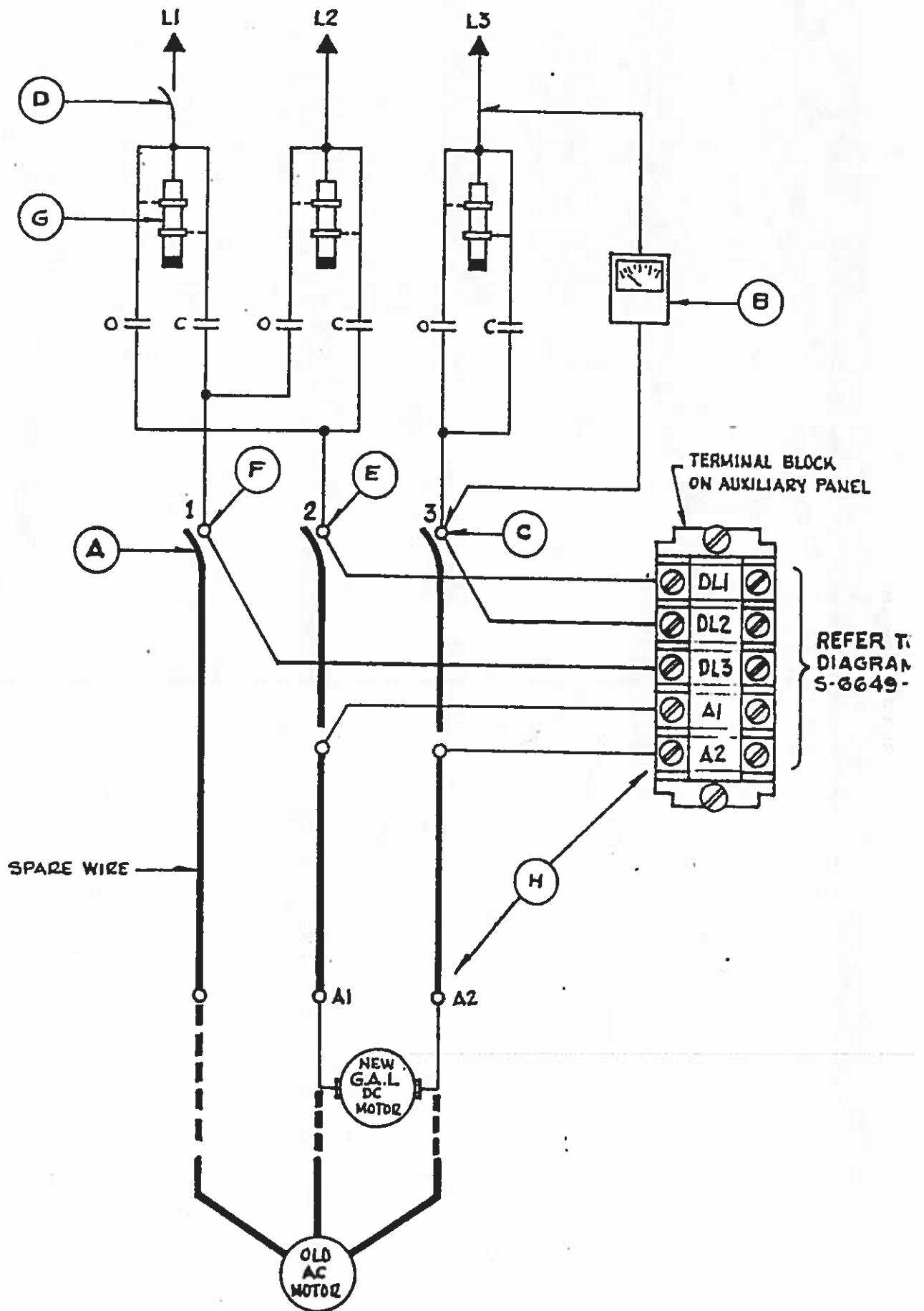
INSIDE OPERATOR

DOOR CLOSING CYCLE

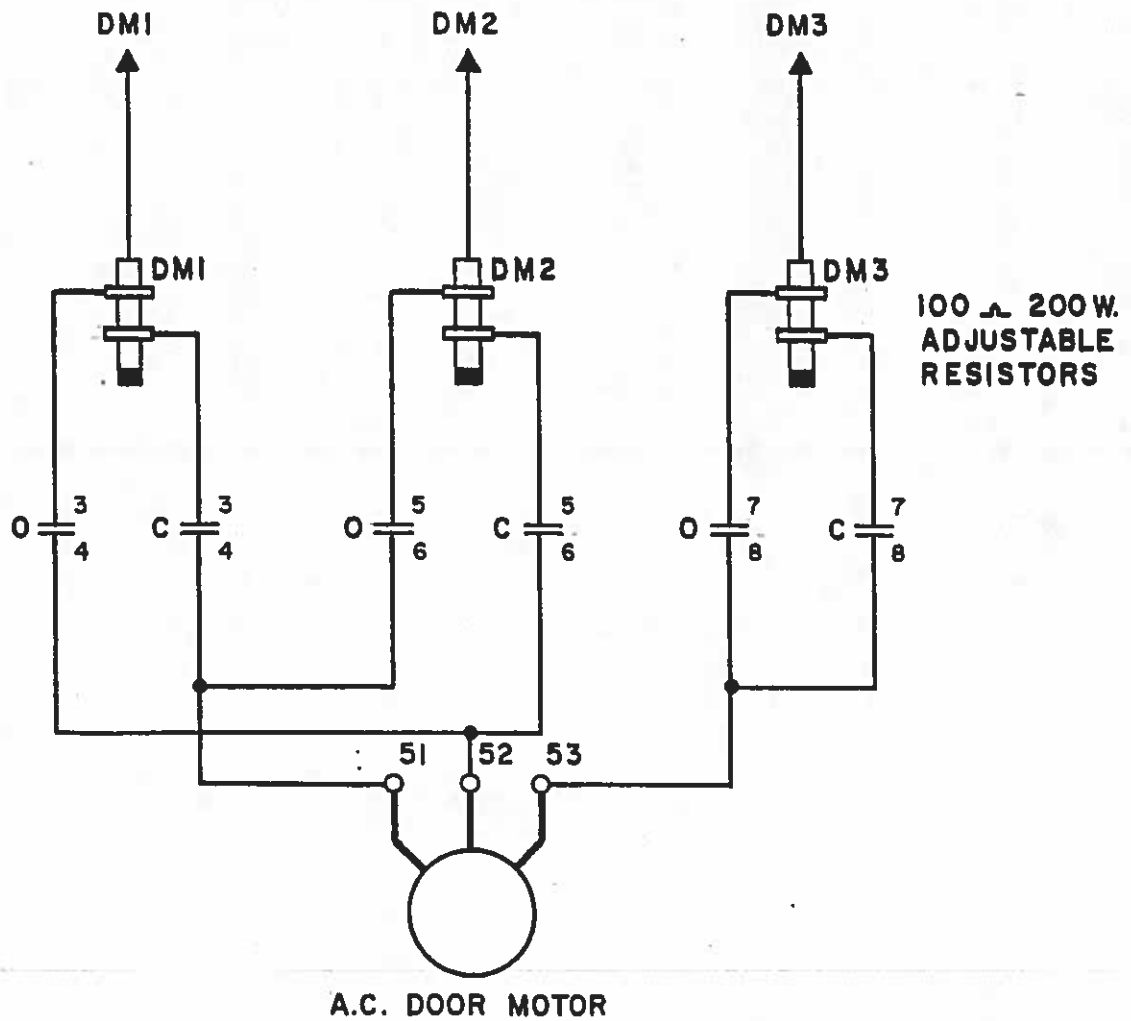


DOOR OPENING CYCLE





TO DOOR MOTOR FUSES, SHEET # 3





G.A.L. MANUFACTURING CORP.
50 EAST 153RD STREET, BRONX, N. Y. 10451
TELEX NO. 422322 (212) 292-9000

ESTABLISHED 1927

PROCEDURE FOR INSTALLING NEW PM MOTOR REPLACING
EXISTING G.A.L. AC OPERATOR MOTOR

- A - With power off, disconnect present A.C. Motor from terminals on control board. (Terminals 1, 2, & 3, Drawing S-10033-1)
- B - Connect one side of OHM Meter to one of the lines. (L1, L2, or L3). Close "close relay" by hand, and find which terminal will give you a reading. Now close "open relay" and see if you also get a reading. If you do, this is the common terminal, as would be the case with L3 and terminal 3. If you don't, repeat above procedure on the next line. The terminal that will give you a reading on both the "close" and "open" relay, is the common terminal.
- C - Connect this common terminal (#3 on Drawing), to DL2 on the Auxiliary Panel. (Diagram #S-6649-A).
- D - Disconnect one of the remaining lines. (L1 on Drawing).
- E - Close the "close relay" and find the terminal that will give a reading on the remaining line (L2 on Drawing). Connect this terminal to DL1 on the auxiliary panel.
- F - Connect the remaining terminal to DL3.
- G - Make sure all existing resistors are removed from the original circuit.
- H - Connect Operator Motor to A1 and A2.

Detail

◀ [Prev](#) [Next](#) ▶

Part Number:

Description: PANEL,MOPM CONVERTER, 240Vac-10A

Catalog Description: MOPM CONVERTER PANEL 240 VAC - 10A

List Price: \$616.00 Net Price at 50.0%: \$308.00

(All Prices shown are LIST prices and subject to G.A.L's standard DISCOUNTS.)

Category: NA

Product Type: Boards & Drives

Operator Model: MOPMP, MOPMPL

Door Style:

Single Speed : All Sizes

Three Speed : All Sizes

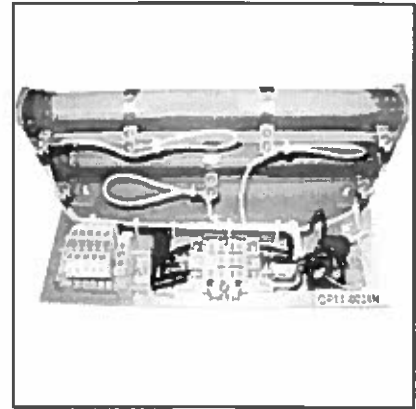
Two Speed : All Sizes

Door Hand: Non-Handed

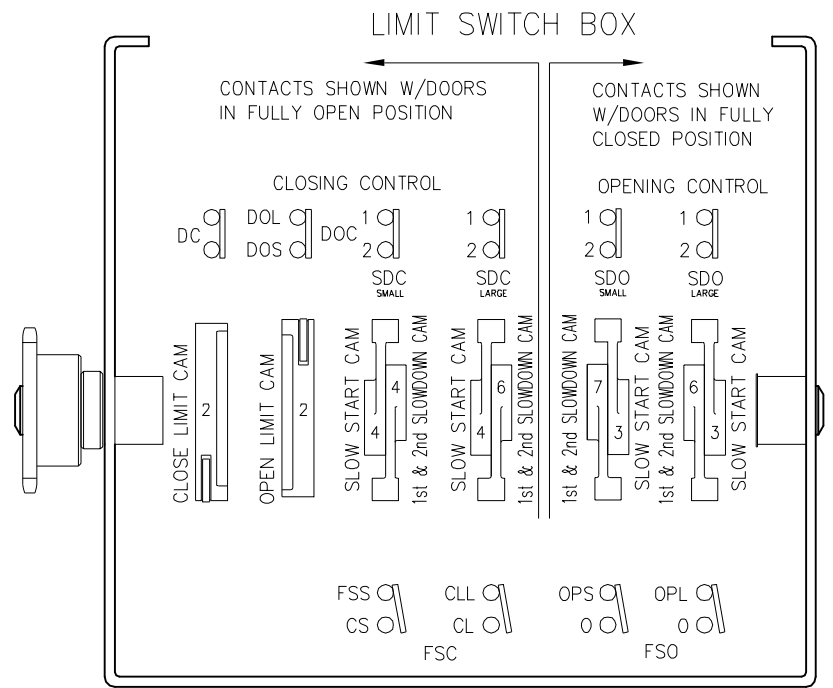
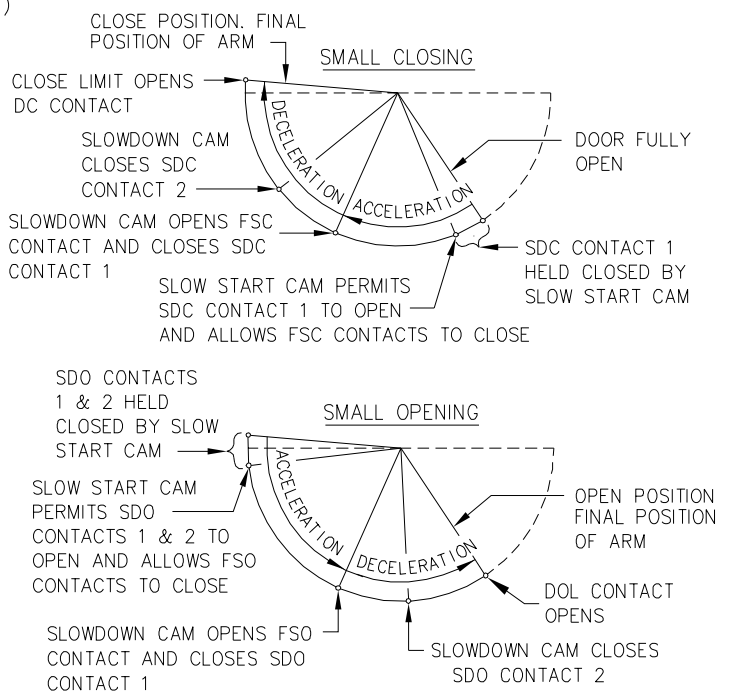
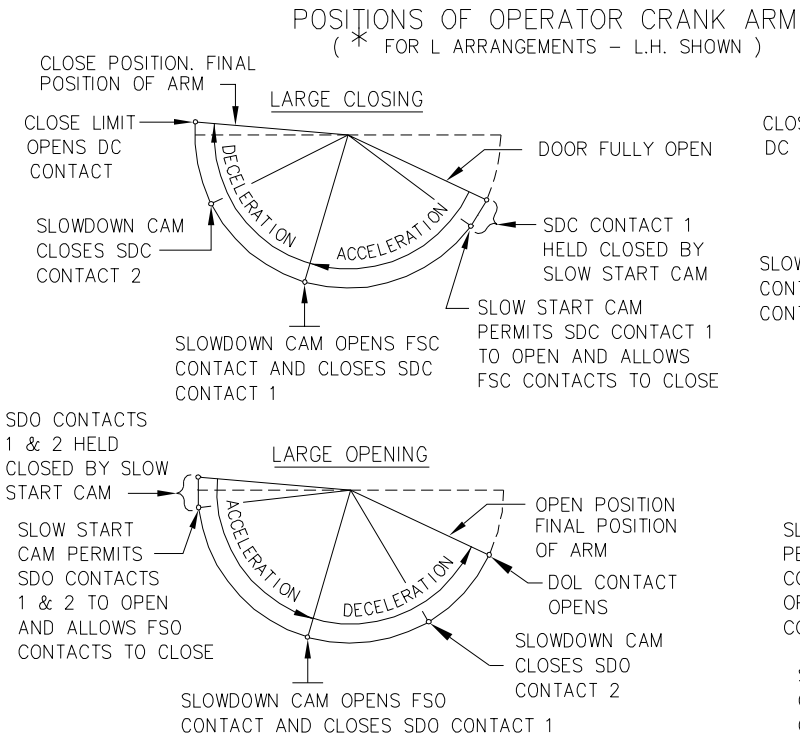
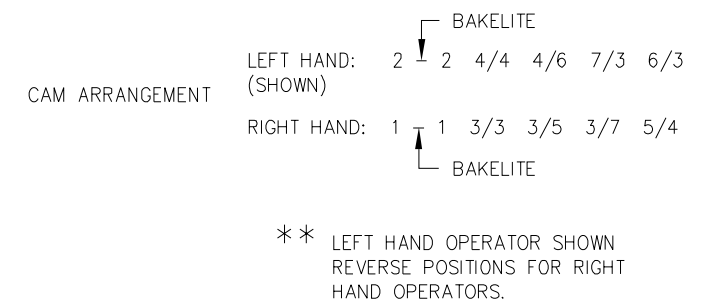
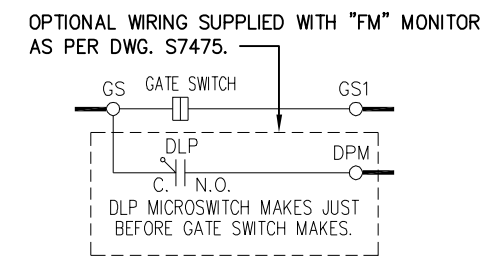
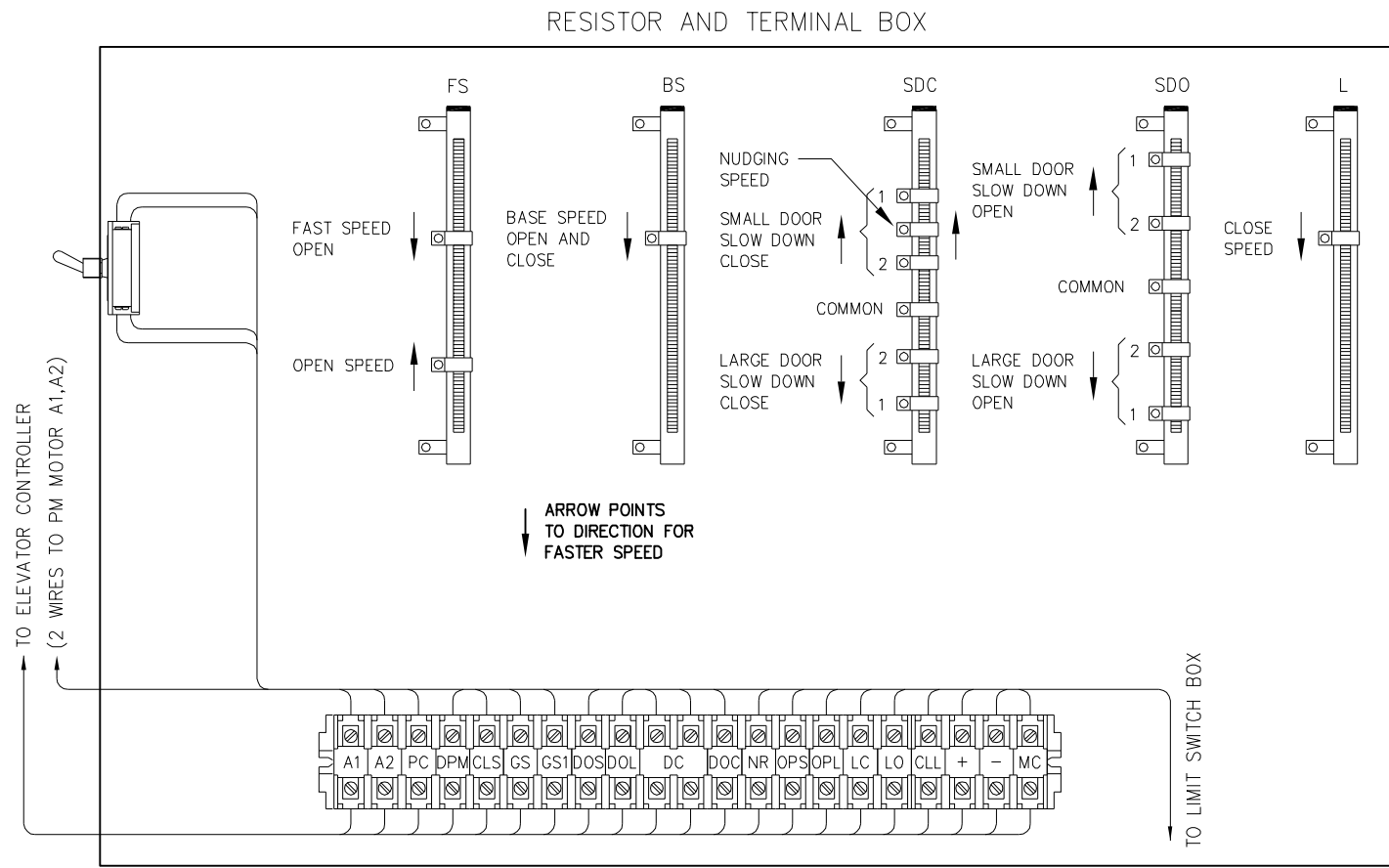
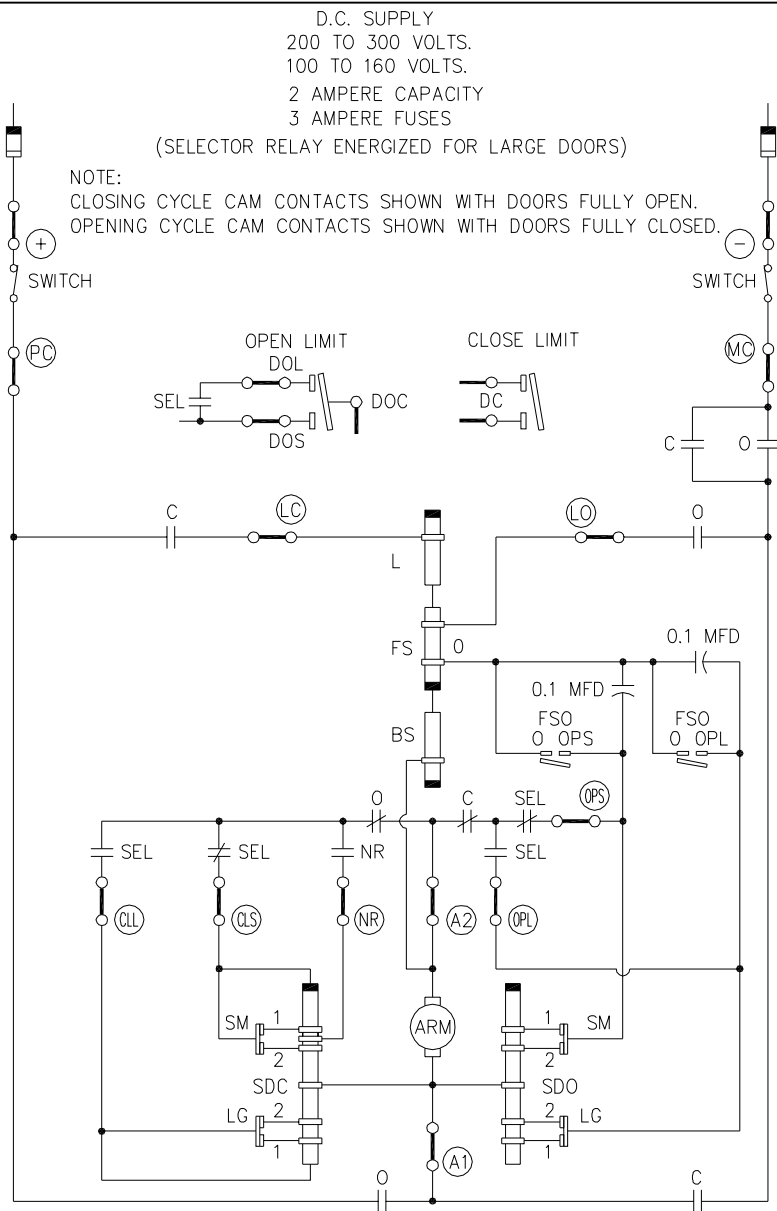
Relay Voltages: N/A

Product Type Attribute: Converter Panel MOPM

Motor Voltage: N/A



Enter Quantity:



- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS. ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS

- C DOOR CLOSE RELAY
- O DOOR OPEN RELAY
- SEL SMALL/LARGE SELECTOR RELAY-ENERGIZED FOR LARGE DOORS
- NR NUDGING RELAY (ENERGIZED FOR SLOW SPEED)

CONTACTS

- DOL DOOR OPEN LIMIT LARGE
- DOS DOOR OPEN LIMIT SMALL
- DC DOOR CLOSE LIMIT
- FSC FAST SPEED CLOSE (ATT. ONLY)
- FSO FAST SPEED OPEN
- SDC SLOWDOWN CLOSE
- SDO SLOWDOWN OPEN

RESISTOR TUBES- ALL 200 WATTS

	DC. POWER SUPPLY	
	200 TO 300 V.	100 TO 160 V.
L LINE	200 Ω	50 Ω
FS FAST SPEED	200 Ω	50 Ω
BS BASIC SPEED	200 Ω	50 Ω
SDC SLOWDOWN CLOSE	750 Ω	250 Ω
SDO SLOWDOWN OPEN	750 Ω	250 Ω

BY G.A.L.

TERMINAL MARKINGS

- MC MINUS SIDE COMMON
- PC PLUS SIDE COMMON
- LC LINE FOR CLOSING
- LO LINE FOR OPENING
- CLL CLOSE CONTROL LARGE
- CLS CLOSE CONTROL SMALL
- OPS OPEN CONTROL SMALL
- OPL OPEN CONTROL LARGE
- +.- INCOMING LINE
- A1,A2 ARMATURE
- GS GATE SWITCH
- GS1 DPM
- DOC OPEN LIMIT COMMON
- DPM DLP MICRO (OPTIONAL)
- DC DOOR CLOSE LIMIT
- DOL DOOR OPEN LIMIT LARGE
- DOS DOOR OPEN LIMIT SMALL
- NR NUDGING SPEED

WIRING SYMBOLS

- Field wiring between hatchway devices and elevator controller.
- Resistor tube-shaded area indicates top of tube.
- Circle markings indicate terminals located on operator.
- Cam contact.
- * FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.



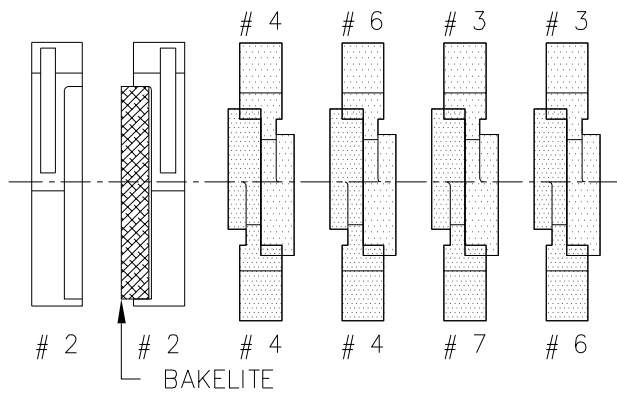
TYPE "MO2LSA" OPERATOR DIAGRAM
-(TWO DIFFERENT OPENING WIDTHS)-

SCALE	1/4	DATE	1-26-96
DWG. BY		7698	
CHK. BY			

FOR TESTING
DOL₁ — DOC

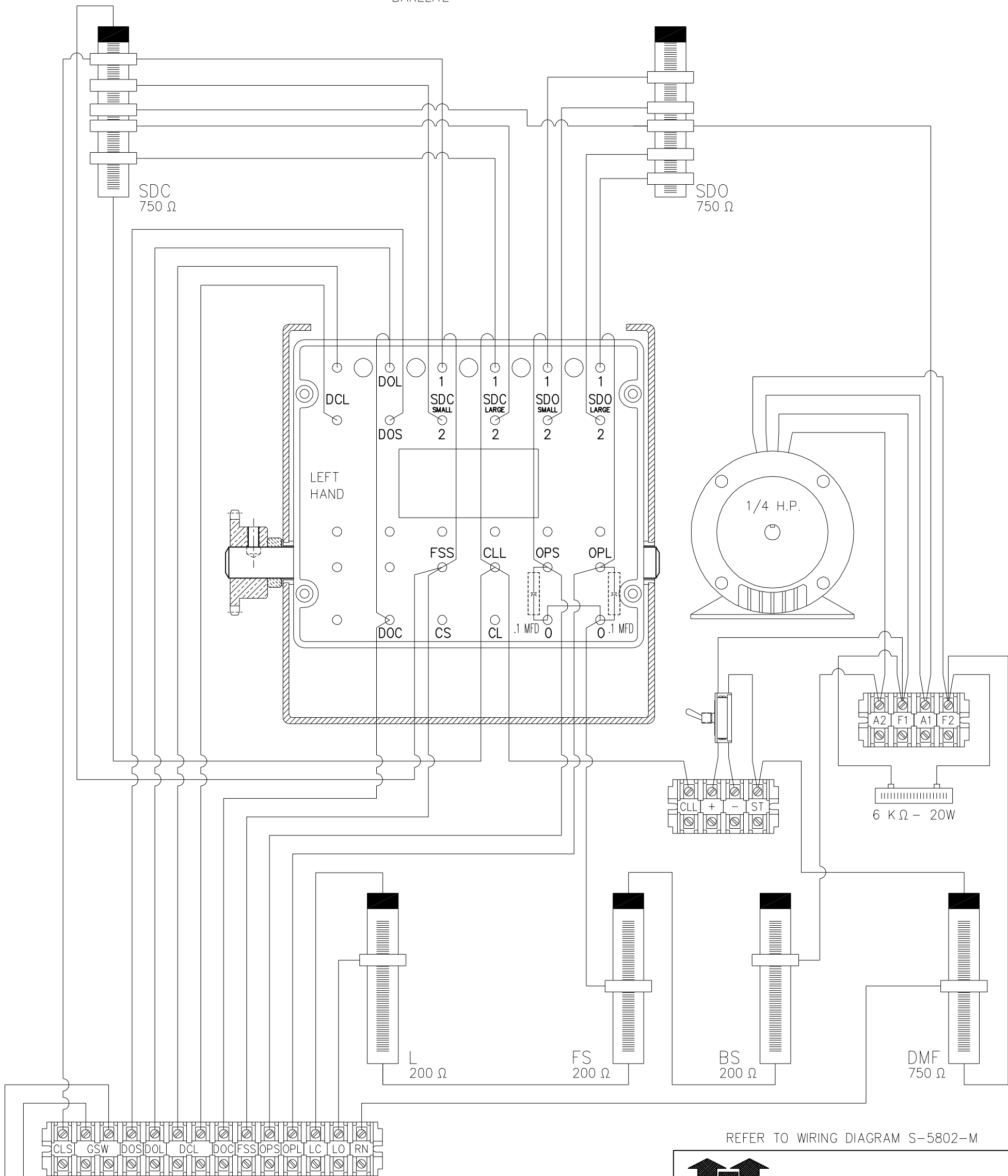
CL — FSS
OP — OPS } SMALL OPENINGS
DOL₂ — DOS

CL — CLL
OP — OPL } LARGE OPENINGS
DOL₂ — DOL



CAM ARRANGEMENT

LEFT HAND: 2 — 2 4/4 4/6 7/3 6/3
(SHOWN)
RIGHT HAND: 1 — 1 3/3 3/5 3/7 5/4
BAKELITE



REFER TO WIRING DIAGRAM S-5802-M



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

LEFT HAND OPERATOR SHOWN
RIGHT HAND OPERATOR OPPOSITE

				"MO2LSA" DOOR OPERATOR (TWO DIFFERENT OPENING WIDTHS) WITH NUDGING	
B	E.C.N. 272	3-24-94	JERRY DC.	SCALE 1/2	DATE 1 - 29 - 92
A	E.C.N. 271	1-22-93		DWG. BY	M7281-B
No.	REVISION	DATE	CHK.	CHK. BY	

FOR TESTING
DOL 1 — DOC

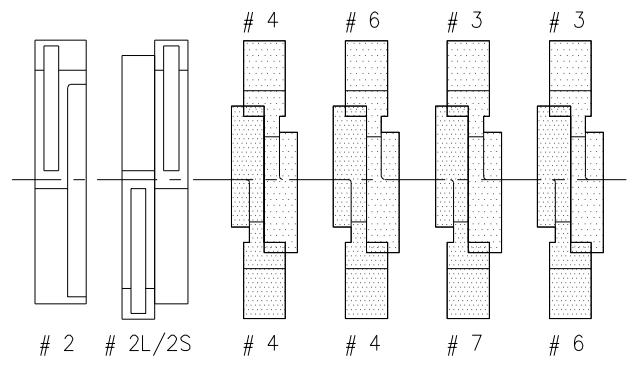
CL — CLS }
OP — OPS } SMALL OPENINGS
DOL 2 — DOS }

CL — CLL }
OP — OPL } LARGE OPENINGS
DOL 2 — DOL }

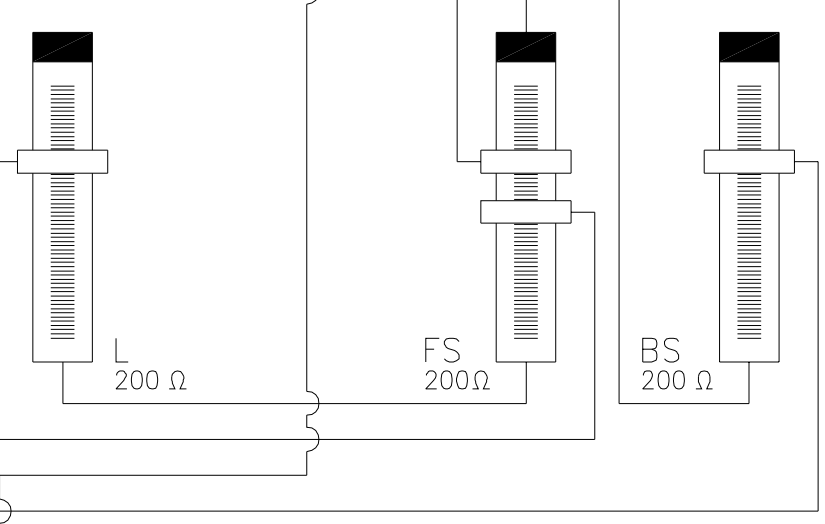
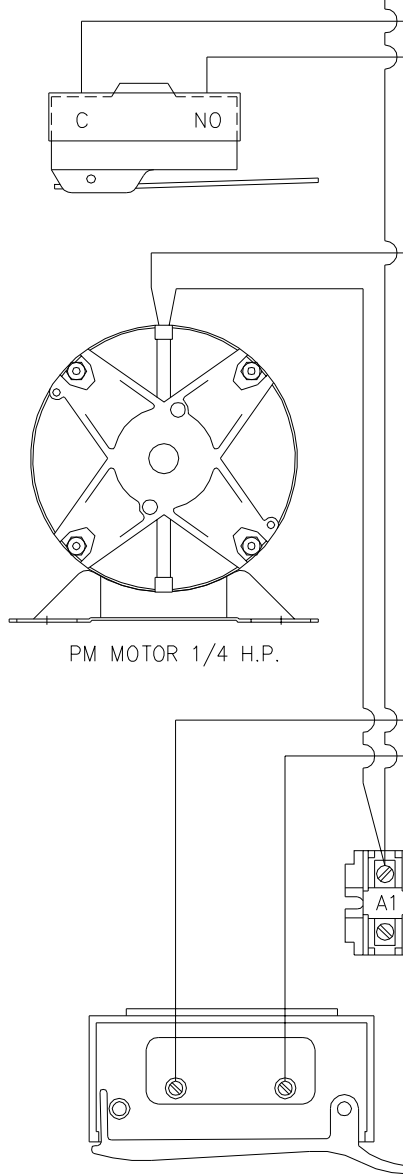
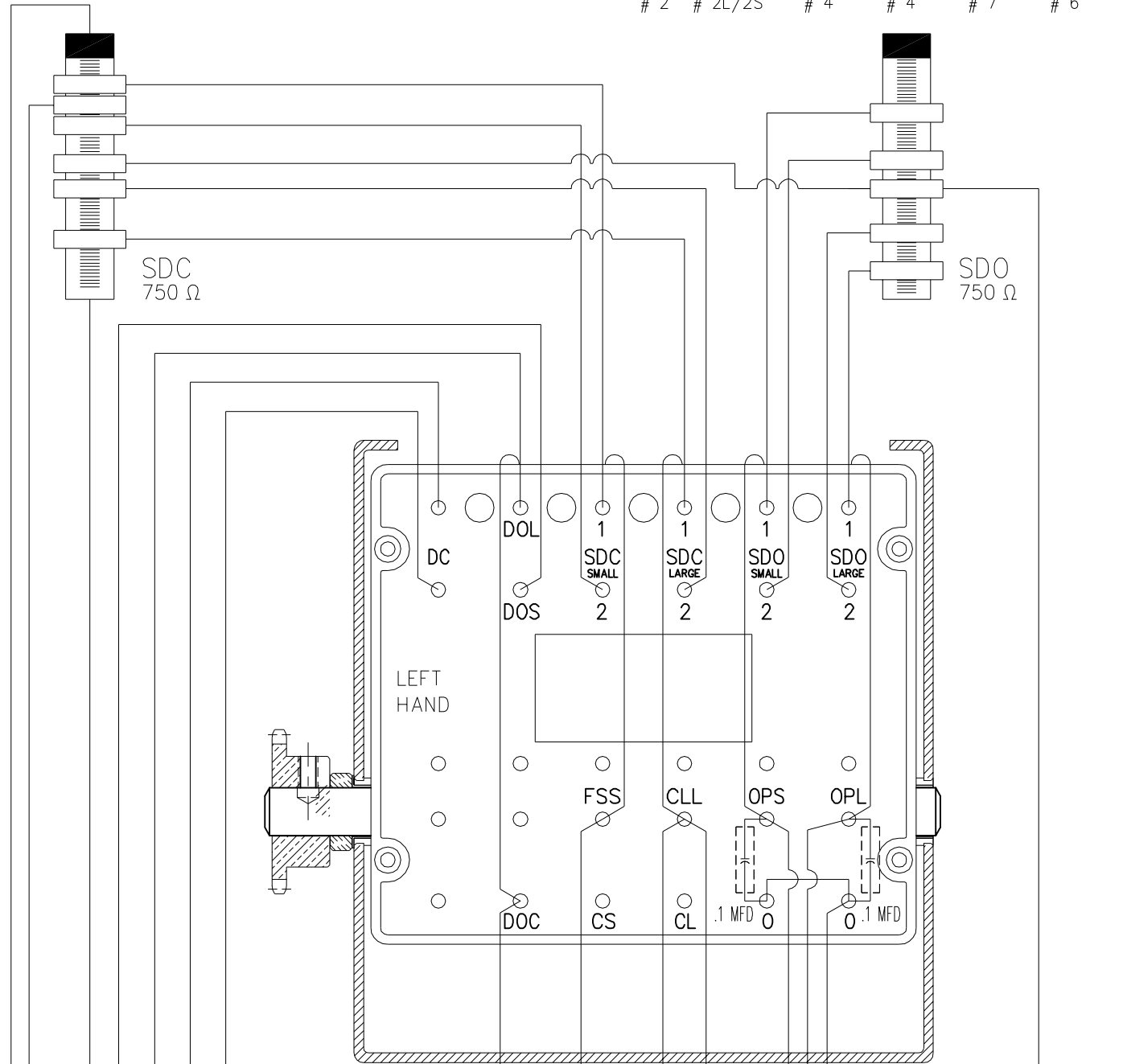
CAM ARRANGEMENT

LEFT HAND: 2 - 2L/2S 4/4 4/6 7/3 6/3
(SHOWN)

RIGHT HAND: 1 - 2L/2S 3/3 3/5 3/7 5/4



LEFT HAND OPERATOR SHOWN
RIGHT HAND OPERATOR OPPOSITE



REFER TO WIRING DIAGRAM 7698

D		5-23-02	XXX
C		1-2-96	XXX
B	BY JERRY D.C.	3-24-94	272
A		1-22-93	271
REV	DESCRIPTION	DATE	ECN


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

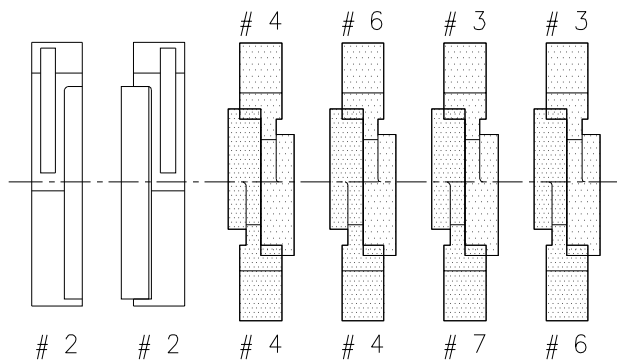
"M02LSA" DOOR OPERATOR
 (TWO DIFFERENT OPENING WIDTHS) WITH NUDGING

DRAWN BY GAVIRIA A.	DATE 1-26-96
ENGINEER VARON J.	SHEET OF
SCALE 1/2	SIZE
PART No.	REV
DOCUMENT No. M7281-3	D

FOR TESTING
DOL₁ — DOC

CL — CLS
OP — OPS } SMALL OPENINGS
DOL₂ — DOS

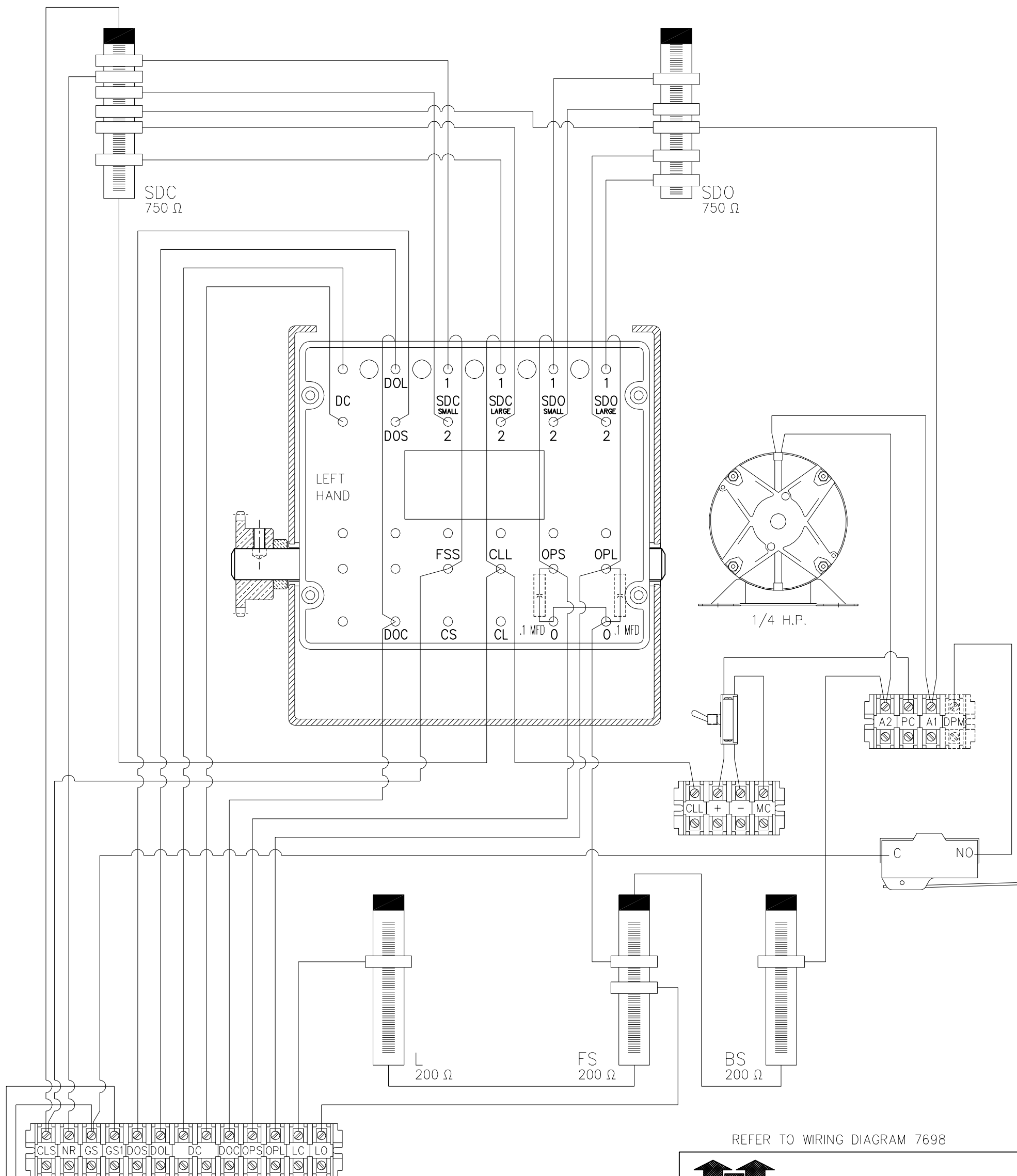
CL — CLL
OP — OPL } LARGE OPENINGS
DOL₂ — DOL



CAM ARRANGEMENT

LEFT HAND: 2 - 2 4/4 4/6 7/3 6/3
(SHOWN)

RIGHT HAND: 1 - 1 3/3 3/5 3/7 5/4



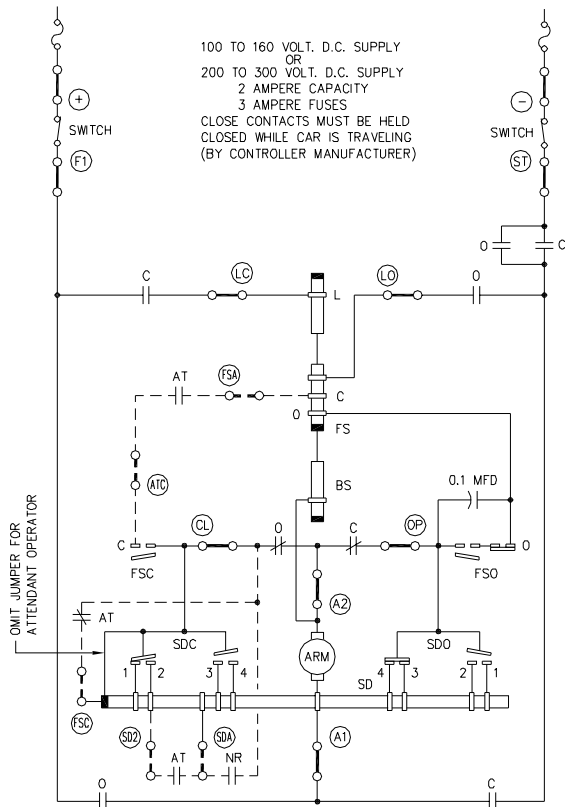
REFER TO WIRING DIAGRAM 7698



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

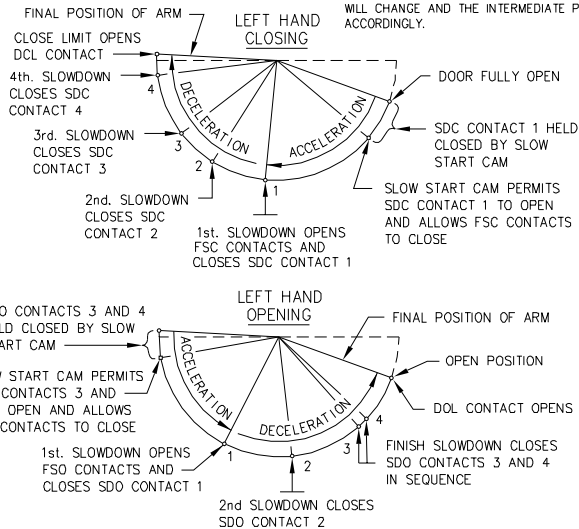
LEFT HAND OPERATOR SHOWN
RIGHT HAND OPERATOR OPPOSITE

				"M02LSA" DOOR OPERATOR (TWO DIFFERENT OPENING WIDTHS) WITH NUDGING	
SCALE		1/2	DATE		11/14/01
DWG. BY				M7281-3A	
No.		REVISION	DATE		

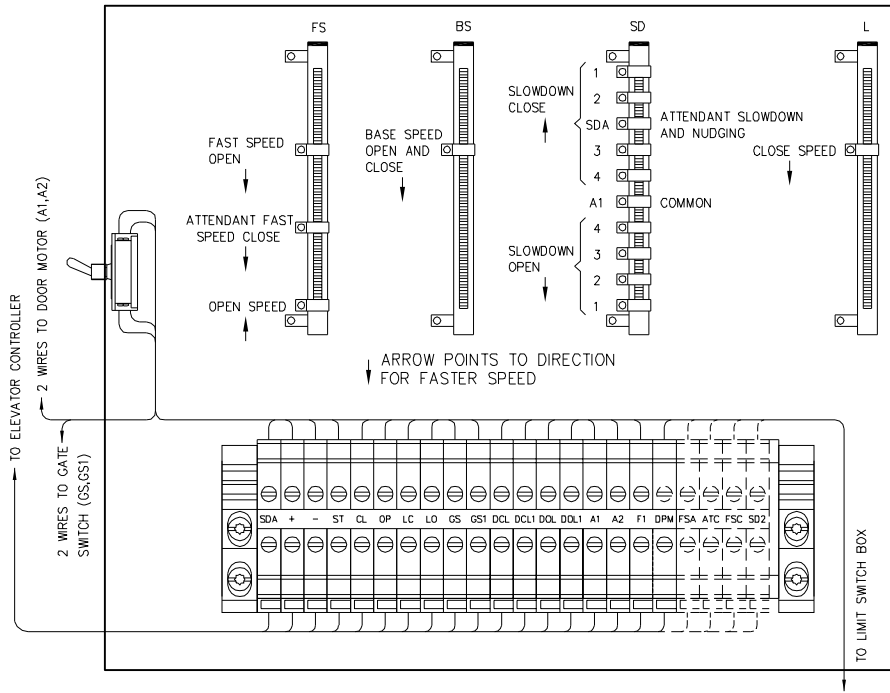


POSITIONS OF OPERATOR CRANK ARM

"L" TYPE OPERATOR ARRANGEMENT SHOWN FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.

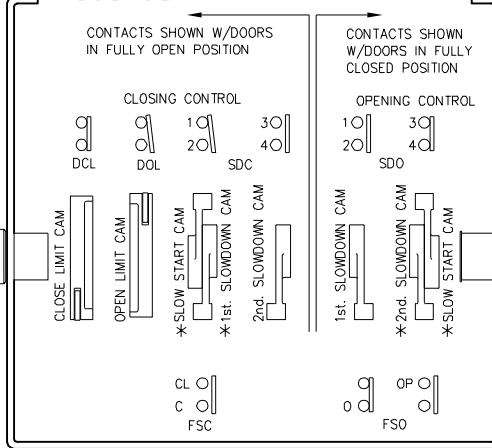


RESISTOR AND TERMINAL BOX



* LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.

LIMIT SWITCH BOX



DPM MICROSWITCH IS PROVIDED WITH:
 (1) FAULT MONITOR AS PER DRAWING S7475
 (2) JOBS COMPLYING WITH ASME A17.1-2000 CODE
 (3) JOBS WITH A GALAXY CONTROLLER
 THIS MICROSWITCH IS WIRED TO TERMINALS GS - DPM. THE N.O. CONTACT MAKES JUST BEFORE THE GATE SWITCH MAKES.

- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
 ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS
 C DOOR CLOSE RELAY
 O DOOR OPEN RELAY
 AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
 NR NUDGING RELAY (ENERGIZED FOR SLOW SPEED)

CONTACTS
 DOL DOOR OPEN LIMIT
 DCL DOOR CLOSE LIMIT
 FSC FAST SPEED CLOSE (ATT. ONLY)
 FSO FAST SPEED OPEN
 SDC SLOWDOWN CLOSE
 SDO SLOWDOWN OPEN

RESISTOR TUBES-ALL 200 WATTS
 D.C. POWER SUPPLY
 100 TO 160 V. 200 TO 300 V.
 L LINE 50 Ω 200 Ω
 FS FAST SPEED 50 Ω 200 Ω
 BS BASIC SPEED 50 Ω 200 Ω
 SD SLOWDOWN 250 Ω 750 Ω

TERMINAL MARKINGS
 ST NEGATIVE COMMON
 LC LINE FOR CLOSING
 LO LINE FOR OPENING
 CL CLOSE CONTROL
 OP OPEN CONTROL
 +, - INCOMING LINE
 A1, A2 ARMATURE
 F1 POSITIVE COMMON
 GS, GS1 GATE SWITCH
 DPM FM MONITOR (OPTIONAL)
 DCL, DCL1 DOOR CLOSE LIMIT (2 WIRES)
 DOL, DOL1 DOOR OPEN LIMIT (2 WIRES)
 SDA NUDGING SPEED

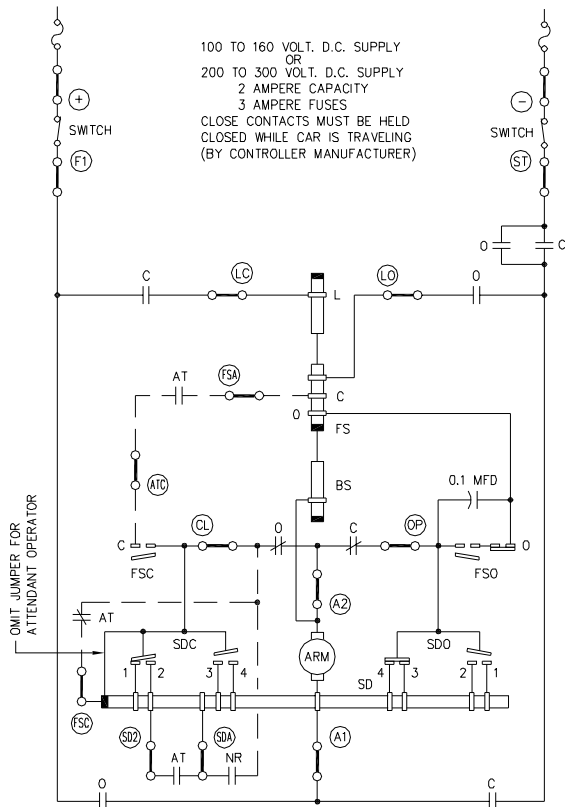
WIRING SYMBOLS
 FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
 RESISTOR TUBE--SHADED AREA INDICATES TOP OF TUBE.
 DOTTED WIRING DENOTES OPTIONAL FEATURES SUPPLIED ONLY WHEN REQUIRED.
 CAM CONTACT.
 CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.

No.	REVISION	DATE	CHK.
B	UPDATED DPM WIRING DIAGRAM	8-05	MDH
A	REVISED TO SHOW NEW TERMINAL BLOCK	5-05	J.V.
5	ADDED INFO FOR 100 TO 160 V.D.C. SUPPLY	4-96	G.D.C.
4	ADDED FAULT MONITOR MICROSWITCH	4-95	A.A.
3	SEE E.C.N. #	12-94	G.D.C.
2	SEE E.C.N. # 273	4-94	G.D.C.
1	SEE E.C.N. # 252	5-81	A.A.

G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

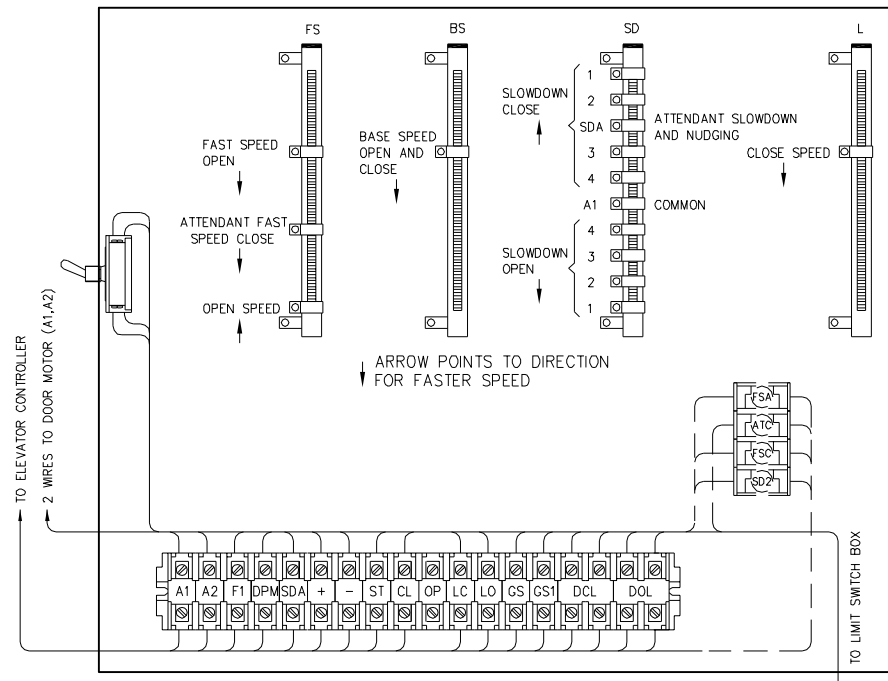
TYPE "MOM" AND "MOH" PM OPERATOR DIAGRAM (MEDIUM AND HIGH SPEED W/OPTIONAL ATTENDANT AND/OR NUDGING)

SCALE	NONE	DATE	2-9-95
DWG. BY			
CHK. BY		S7587-2	REV. B



100 TO 160 VOLT. D.C. SUPPLY
OR
200 TO 300 VOLT. D.C. SUPPLY
2 AMPERE CAPACITY
3 AMPERE FUSES
CLOSE CONTACTS MUST BE HELD
CLOSED WHILE CAR IS TRAVELING
(BY CONTROLLER MANUFACTURER)

RESISTOR AND TERMINAL BOX



- IMPORTANT -
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ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -
RELAYS
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
NR NUDGING RELAY (ENERGIZED FOR SLOW SPEED)

CONTACTS
DOL DOOR OPEN LIMIT
DCL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSO FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN

RESISTOR TUBES--ALL 200 WATTS
D.C. POWER SUPPLY
100 TO 160 V. 200 TO 300 V.
L LINE 50 Ω 200 Ω
FS FAST SPEED 50 Ω 200 Ω
BS BASIC SPEED 50 Ω 200 Ω
SD SLOWDOWN 250 Ω 750 Ω

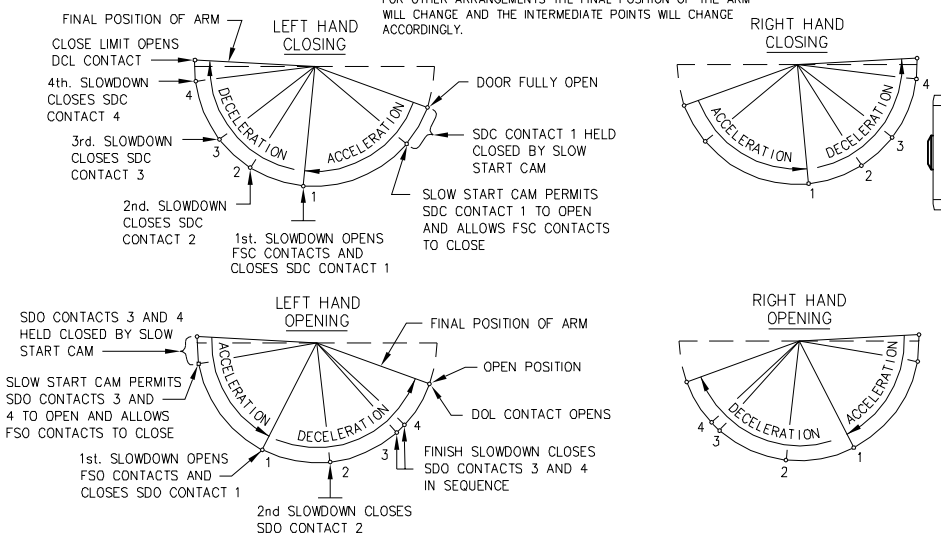
TERMINAL MARKINGS
ST NEGATIVE COMMON
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSE CONTROL
OP OPEN CONTROL
+,- INCOMING LINE
ARMATURE
A1,A2
F1 POSITIVE COMMON
GS,GS1 GATE SWITCH
DPM FM MONITOR (OPTIONAL)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT (2 WIRES)
SDA NUDGING SPEED

ATC ATTENDANT CLOSE
FSA FAST SPEED CLOSE
FSC CLOSE BY-PASS
SD2 2nd. SLOWDOWN

WIRING SYMBOLS
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
RESISTOR TUBE--SHADED AREA INDICATES TOP OF TUBE.
DOTTED WIRING DENOTES OPTIONAL FEATURES SUPPLIED ONLY WHEN REQUIRED.
CAM CONTACT.
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.

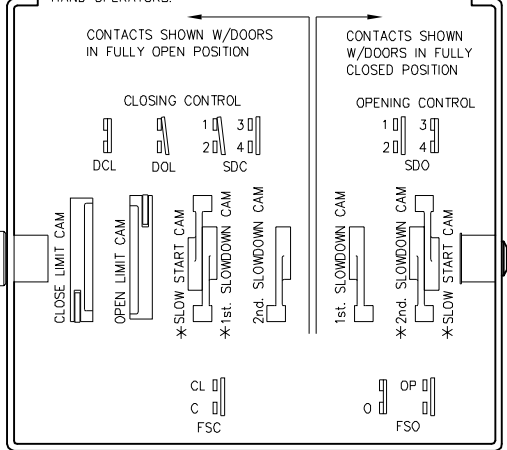
POSITIONS OF OPERATOR CRANK ARM

"L" TYPE OPERATOR ARRANGEMENT SHOWN
FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.

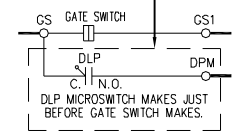


* LEFT HAND OPERATOR SHOWN
REVERSE POSITIONS FOR RIGHT
HAND OPERATORS.

LIMIT SWITCH BOX



OPTIONAL WIRING SUPPLIED WITH "FM" MONITOR
AS PER DWG. S7475.

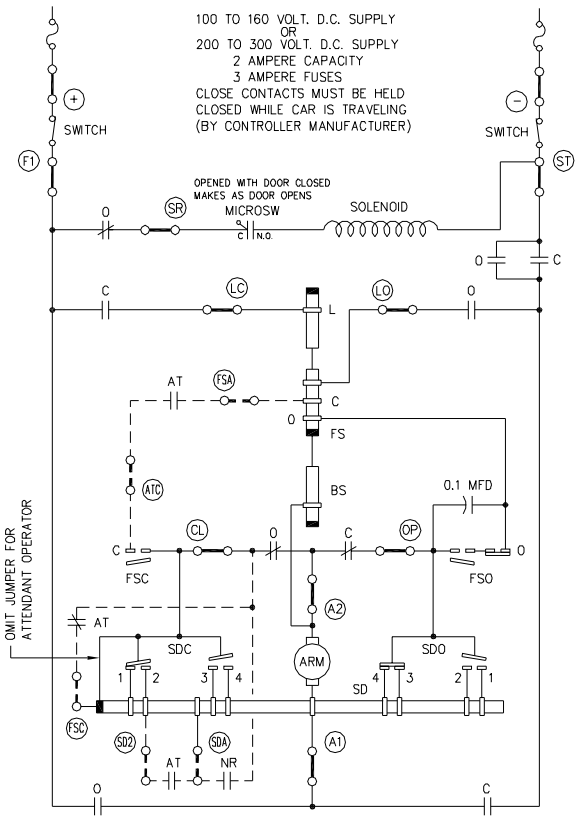


5	ADDED INFO FOR 100 TO 160 V.D.C. SUPPLY	4-96	G.D.C.
4	ADDED FAULT MONITOR MICROSWITCH	4-95	A.A.
3	SEE E.C.N. #	12-94	G.D.C.
2	SEE E.C.N. # 273	4-94	G.D.C.
1	SEE E.C.N. # 252	5-81	A.A.

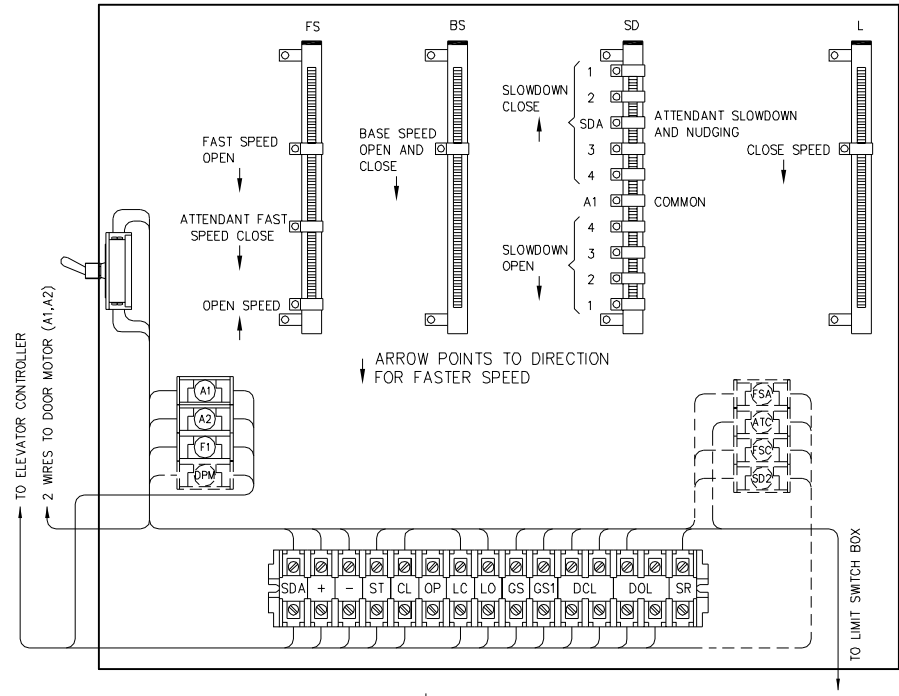
No. REVISION DATE CHK.
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" PM OPERATOR DIAGRAM
(MEDIUM AND HIGH SPEED W/OPTIONAL ATTENDANT AND/OR NUDGING)

SCALE NONE DATE 2-9-95
DWG. BY S7587-2A
CHK. BY



RESISTOR AND TERMINAL BOX



- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
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- LEGEND -

RELAYS
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
NR NIDDING RELAY (ENERGIZED FOR SLOW SPEED)

CONTACTS
DOL DOOR OPEN LIMIT
DCL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSO FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN

RESISTOR TUBES-ALL 200 WATTS
D.C. POWER SUPPLY
100 TO 160 V. 200 TO 300 V.

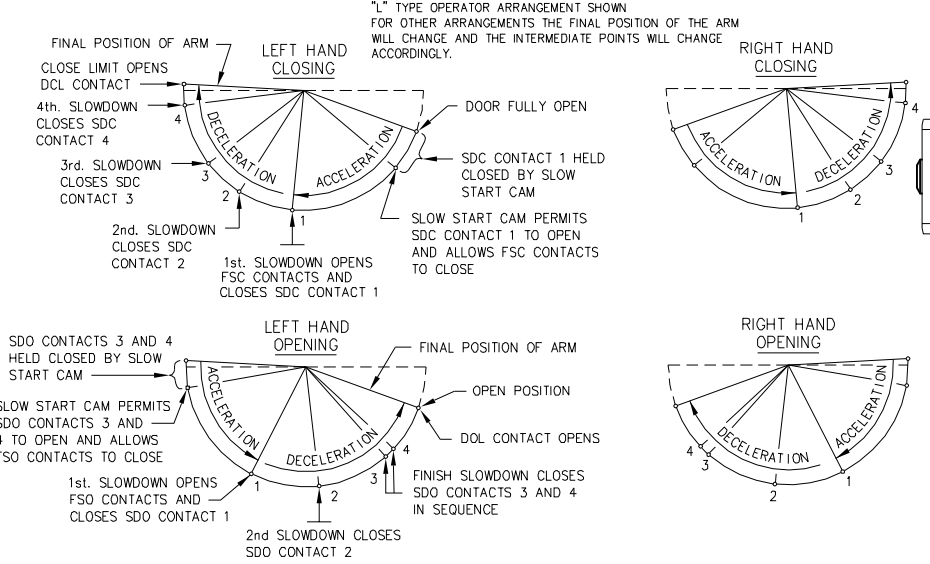
L LINE	50 Ω	200 Ω
FS FAST SPEED	50 Ω	200 Ω
BS BASIC SPEED	50 Ω	200 Ω
SD SLOWDOWN	250 Ω	750 Ω

TERMINAL MARKINGS

ST NEGATIVE COMMON
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSURE CONTROL
OP OPEN CONTROL
+,- INCOMING LINE
A1,A2 ARMATURE
FI POSITIVE COMMON
GS,GS1 GATE SWITCH
DPM FM MONITOR (OPTIONAL)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT (2 WIRES)
SDA NIDDING SPEED

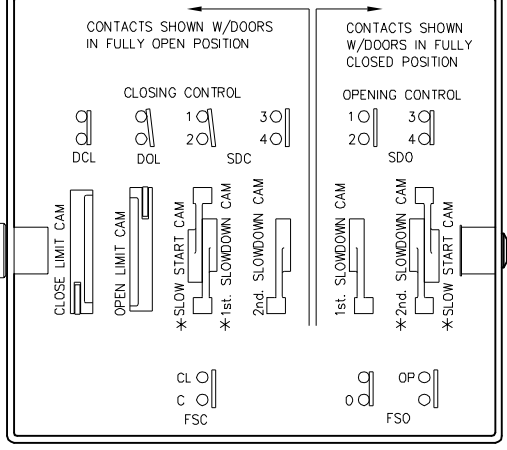
ATC ATTENDANT CLOSE
FSA FAST SPEED CLOSE
FSC CLOSE BY-PASS
SD2 2nd. SLOWDOWN
SR SOLENOID RELEASE

POSITIONS OF OPERATOR CRANK ARM

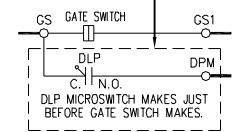


* LEFT HAND OPERATOR SHOWN
REVERSE POSITIONS FOR RIGHT
HAND OPERATORS.

LIMIT SWITCH BOX



OPTIONAL WIRING SUPPLIED WITH "FM" MONITOR AS PER DWG. S7475.

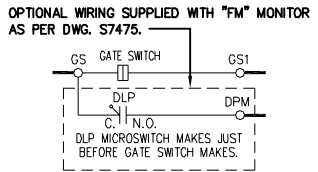
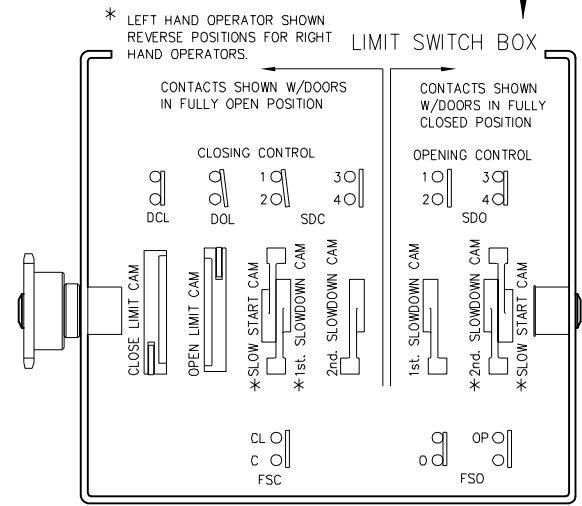
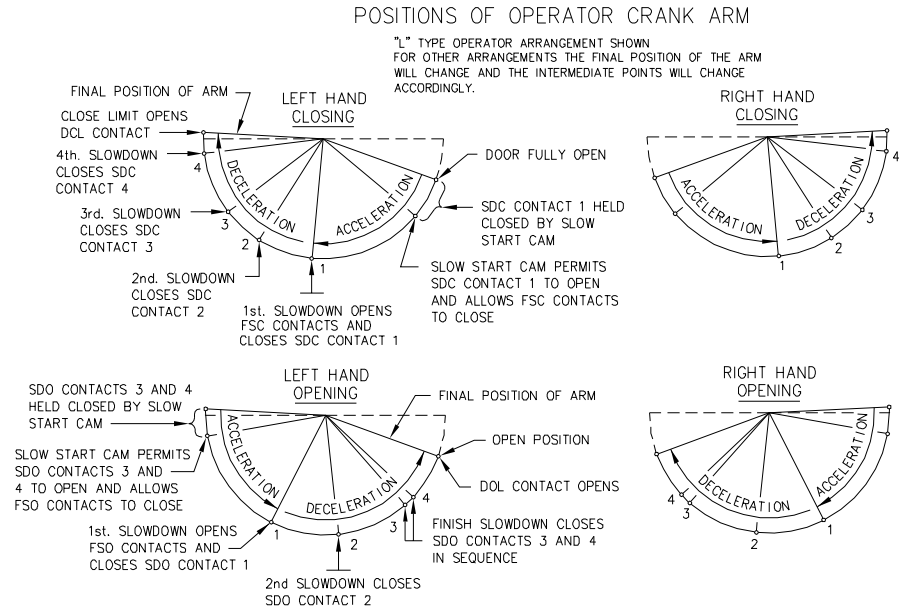
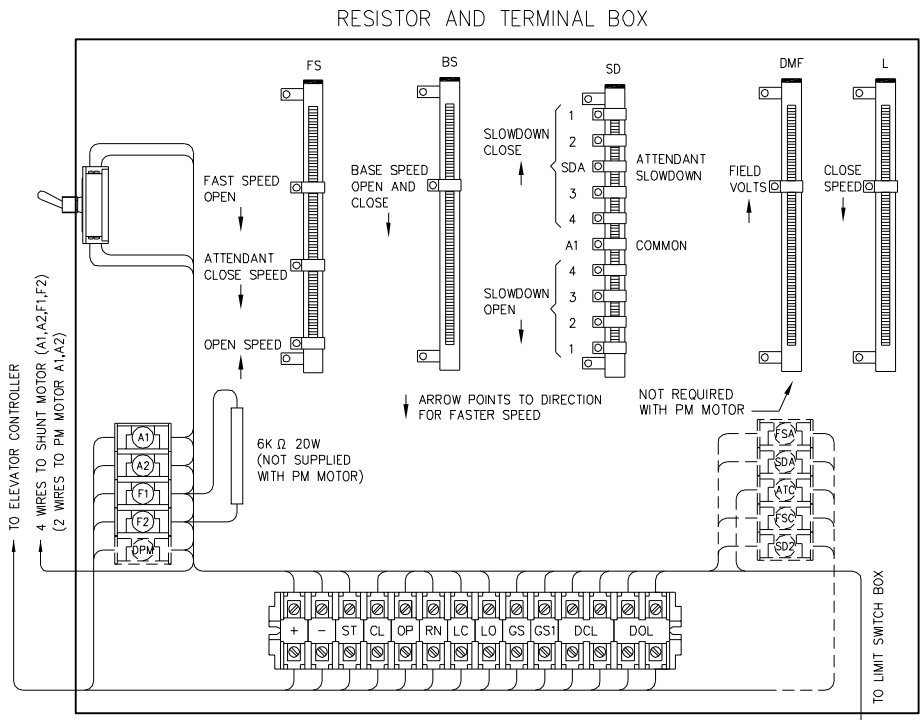
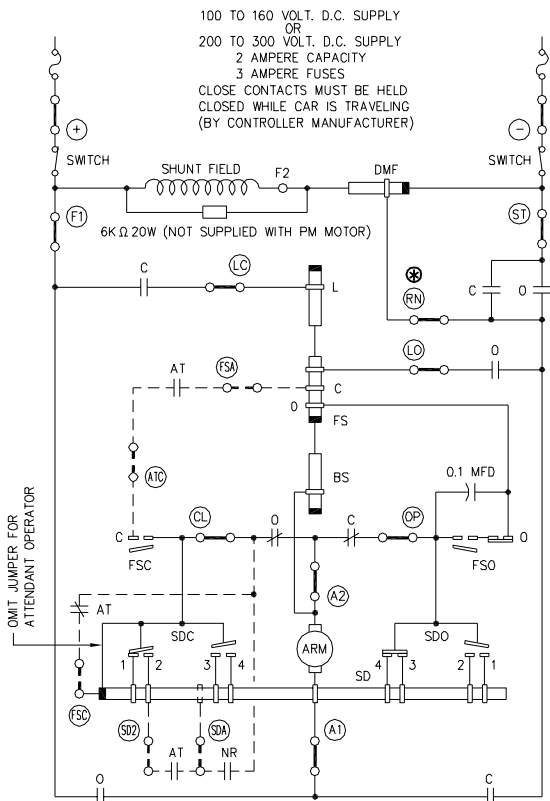


No.	REVISION	DATE	CHK.
5	ADDED INFO FOR 100 TO 160 V.D.C. SUPPLY	4-96	G.D.C.
4	ADDED FAULT MONITOR MICROSWITCH	4-95	A.A.
3	SEE E.C.N. #	12-94	G.D.C.
2	SEE E.C.N. # 273	4-94	G.D.C.
1	SEE E.C.N. # 252	5-81	A.A.

G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" PM OPERATOR. DIAGRAM
(MEDIUM AND HIGH SPEED W/OPTIONAL ATTENDANT AND/OR NIDDING)
WITH SOLENOID RELEASE MOUNTED ON CAR DOOR HANGER

SCALE NONE DATE 5/4/2000
DWG. BY S7587-2SR
CHK. BY



- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
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- LEGEND -

RELAYS
 C DOOR CLOSE RELAY
 O DOOR OPEN RELAY
 AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
 NR NUDDING RELAY (ENERGIZED FOR SLOW SPEED)

CONTACTS
 DOL DOOR OPEN LIMIT
 DCL DOOR CLOSE LIMIT
 FSC FAST SPEED CLOSE (ATT. ONLY)
 FSO FAST SPEED OPEN
 SDC SLOWDOWN CLOSE
 SDO SLOWDOWN OPEN

RESISTOR TUBES-ALL 200 WATTS

	D.C. POWER SUPPLY	
	100 TO 160 V.	200 TO 300 V.
L LINE	50 Ω	200 Ω
FS FAST SPEED	50 Ω	200 Ω
BS BASIC SPEED	50 Ω	200 Ω
SD SLOWDOWN	250 Ω	750 Ω
DMF DOOR MOTOR FIELD	250 Ω	750 Ω

TERMINAL MARKINGS

ST NEGATIVE COMMON
 RN RUNNING FIELD
 LC LINE FOR CLOSING
 LO LINE FOR OPENING
 CL CLOSE CONTROL
 OP OPEN CONTROL
 +, - INCOMING LINE
 A1, A2 ARMATURE
 F1 POSITIVE COMMON
 GS, GS1 GATE SWITCH
 DPM FM MONITOR (OPTIONAL)
 DCL DOOR CLOSE LIMIT (2 WIRES)
 DOL DOOR OPEN LIMIT (2 WIRES)
 SDA NUDDING SPEED

ATC ATTENDANT CLOSE
 FSA FAST SPEED CLOSE
 FSC CLOSE BY-PASS
 SD2 2nd. SLOWDOWN

WIRING SYMBOLS

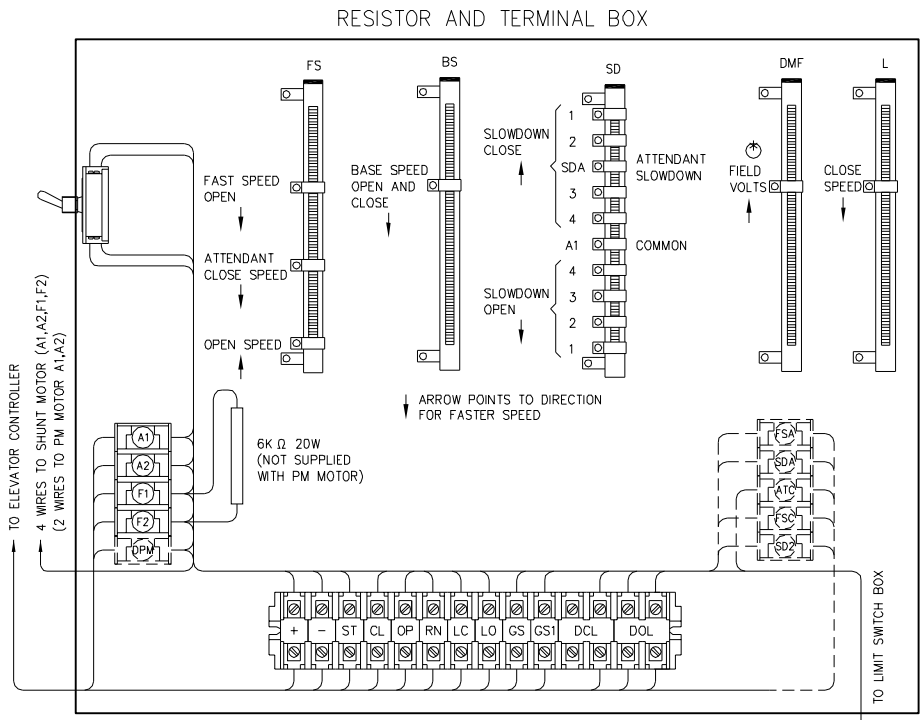
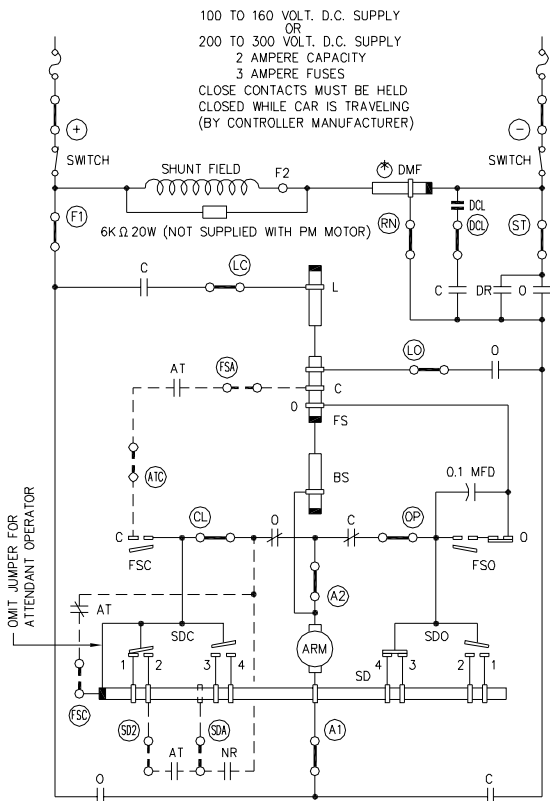
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
 RESISTOR TUBE-SHADED AREA INDICATES TOP OF TUBE.
 DOTTED WIRING DENOTES OPTIONAL FEATURES SUPPLIED ONLY WHEN REQUIRED.
 CAM CONTACT.
 CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.
 CONNECTIONS TO TERMINAL (RN) ARE NOT REQUIRED WHEN PERMANENT MAGNET PM MOTOR IS SUPPLIED.

No.	REVISION	DATE	CHK.
5	ADDED INFO FOR 100 TO 160 V.D.C. SUPPLY	8-96	A.A.
4	ADDED FAULT MONITOR MICROSWITCH	4-95	A.A.
3	SEE E.C.N. #	12-94	G.D.C.
2	SEE E.C.N. # 273	4-94	G.D.C.
1	SEE E.C.N. # 252	5-81	A.A.

G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" OPERATOR WIRING DIAGRAM
 (MEDIUM AND HIGH SPEED W/OPTIONAL ATTENDANT AND/OR NUDDING)

SCALE	NONE	DATE	2-9-95
DWG. BY			
CHK. BY			S7587-1



- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
NR NUDDING RELAY (ENERGIZED FOR SLOW SPEED)
DR CONTACT TO BE CLOSED WHEN ELEVATOR GETS SIGNAL TO RUN

CONTACTS
DOL DOOR OPEN LIMIT
DCL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSD FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN

RESISTOR TUBES--ALL 200 WATTS

D.C. POWER SUPPLY	
100 TO 160 v.	200 TO 300 v.
L LINE	50 Ω 200 Ω
FS FAST SPEED	50 Ω 200 Ω
BS BASIC SPEED	50 Ω 200 Ω
SD SLOWDOWN	250 Ω 750 Ω
DMF DOOR MOTOR FIELD	250 Ω 750 Ω

BY G.A.L.

TERMINAL MARKINGS

ST NEGATIVE COMMON
RN RUNNING FIELD
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSE CONTROL
OP OPEN CONTROL
+,- INCOMING LINE
A1, A2 ARMATURE
F1 POSITIVE COMMON
GS, GS1 GATE SWITCH
DPM FM MONITOR (OPTIONAL)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT (2 WIRES)
SDA NUDDING SPEED

STANDARD OPERATION
WITH ATTENDANT OPERATION

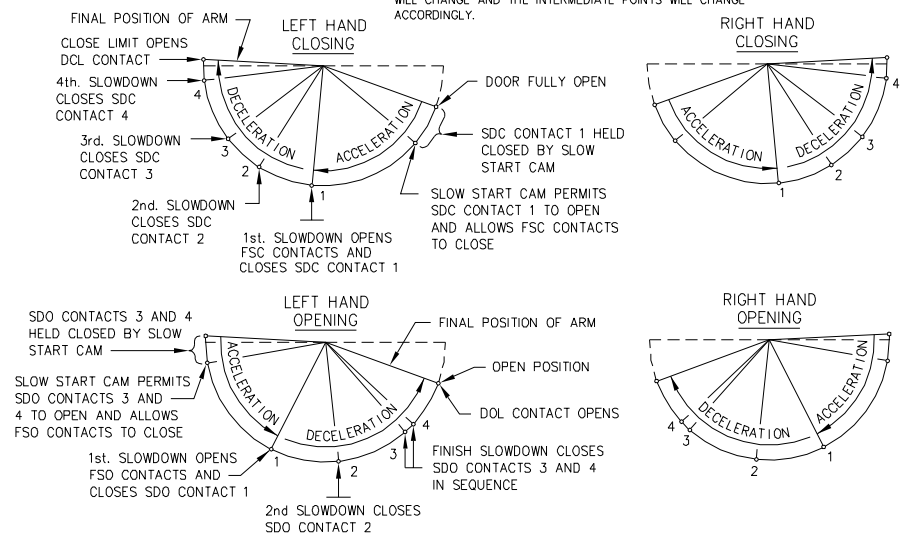
ATC ATTENDANT CLOSE
FSA FAST SPEED CLOSE
FSC CLOSE BY-PASS
SD2 2nd. SLOWDOWN

WIRING SYMBOLS

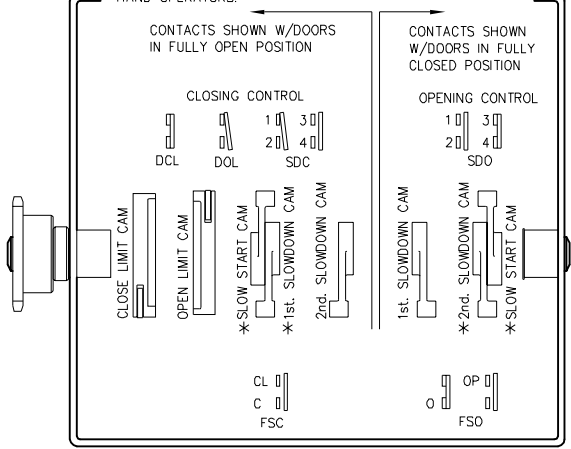
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
RESISTOR TUBE--SHADED AREA INDICATES TOP OF TUBE.
DOTTED WIRING DENOTES OPTIONAL FEATURES SUPPLIED ONLY WHEN REQUIRED.
CAM CONTACT.
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.
WHEN PM MOTOR IS SUPPLIED, RESISTOR DMF SERVES TO LIMIT THE ARMATURE CURRENT WHEN CAR IS PARKED WITH THE DOORS CLOSED.

POSITIONS OF OPERATOR CRANK ARM

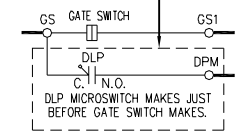
"L" TYPE OPERATOR ARRANGEMENT SHOWN FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.



LIMIT SWITCH BOX



OPTIONAL WIRING SUPPLIED WITH "FM" MONITOR AS PER DWG. S7475.



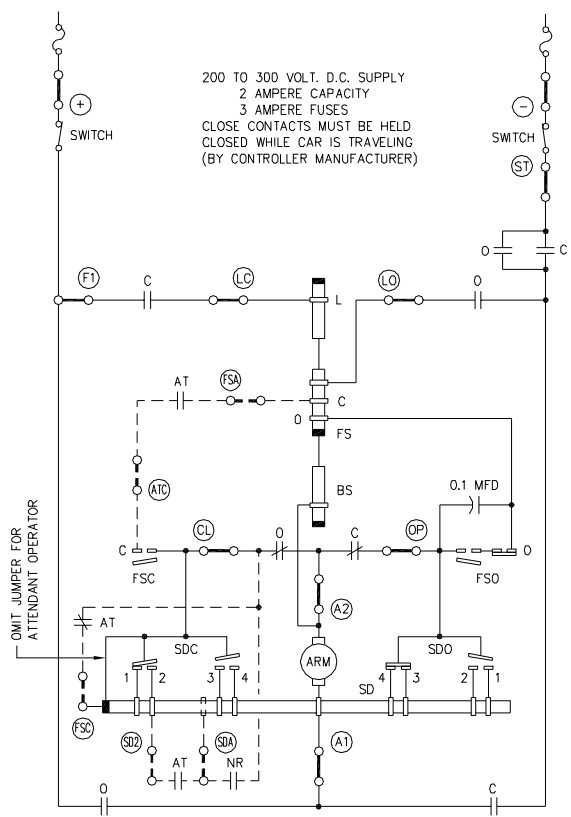
No.	REVISION	DATE	CHK.


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

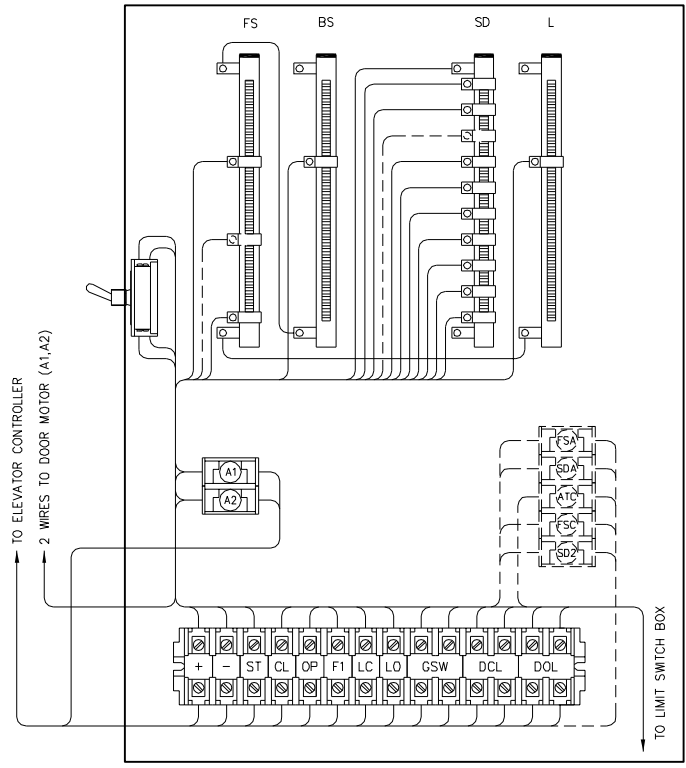
TYPE "MOM" AND "MOH" OPERATOR WIRING DIAGRAM (MEDIUM AND HIGH SPEED W/SPRING UNLOCKING DEVICE WITH OPTIONAL ATTENDANT AND/OR NUDDING

SCALE	NONE	DATE	9 - 9 - 96
DWG. BY			
CHK. BY			

S7587-10



RESISTOR AND TERMINAL BOX



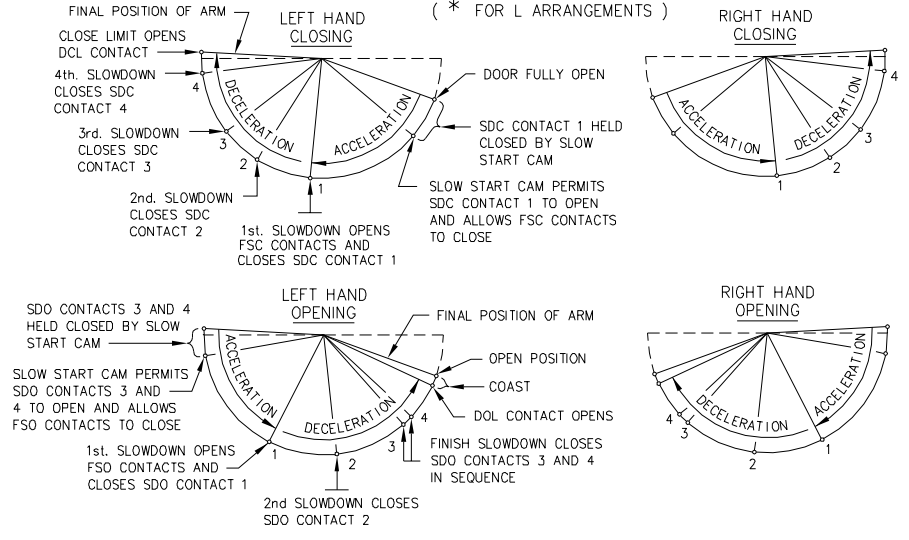
- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

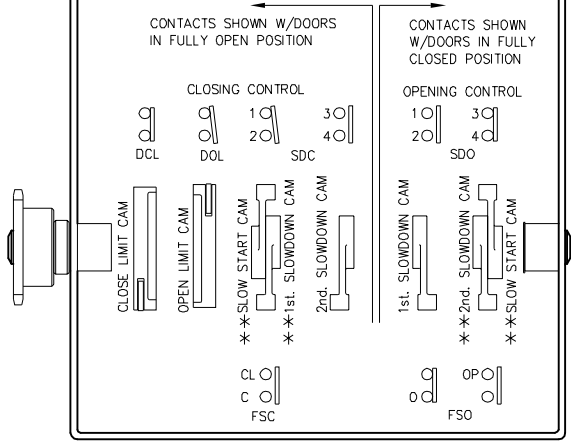
- LEGEND -

- RELAYS
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
NR NUDGING RELAY (ENERGIZED FOR SLOW SPEED)
- CONTACTS
DOL DOOR OPEN LIMIT
DCL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSO FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN
BY G.A.L.
- RESISTOR TUBES
L LINE 200 Ω 200 W
FS FAST SPEED 200 Ω 200 W
BS BASIC SPEED 200 Ω 200 W
SD SLOWDOWN 750 Ω 200 W
- TERMINAL MARKINGS
ST NEGATIVE COMMON
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSE CONTROL
OP OPEN CONTROL
+,- INCOMING LINE
A1, A2 ARMATURE
F1 POSITIVE COMMON
GSW GATE SWITCH (2 WIRES)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT
STANDARD OPERATION
- WITH AND WITHOUT ATTENDANT OPERATION
ATC ATTENDANT CLOSE
FSA FAST SPEED CLOSE
FSC CLOSE BY-PASS
SD2 2nd. SLOWDOWN
SDA SLOWDOWN ATTENDANT
- WIRING SYMBOLS
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
RESISTOR TUBE-SHADED AREA INDICATES TOP OF TUBE.
DOTTED WIRING INDICATES ADDITIONS REQUIRED IF ATTENDANT AND/OR NUDGING FEATURE IS SPECIFIED.
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.
CAM CONTACT.
FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.

POSITIONS OF OPERATOR CRANK ARM (* FOR L ARRANGEMENTS)



LIMIT SWITCH BOX



** LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.

G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" OPERATOR WIRING DIAGRAM (MEDIUM AND HIGH SPEED W/OPTIONAL ATTENDANT AND/OR NUDGING)

3	SEE E.C.N. #	12-94	G.D.C.
2	SEE E.C.N. # 273	4-94	G.D.C.
1	SEE E.C.N. # 252	5-81	A.A.
No.	REVISION	DATE	CHK. BY
			CHK. BY

SCALE NONE DATE 1-9-95
DWG. BY S7587

- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS

- C DOOR CLOSE RELAY
- O DOOR OPEN RELAY
- AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)

CONTACTS

- DOL DOOR OPEN LIMIT
- DCL DOOR CLOSE LIMIT
- FSC FAST SPEED CLOSE (ATT. ONLY)
- FSD FAST SPEED OPEN
- SDC SLOWDOWN CLOSE
- SDO SLOWDOWN OPEN

BY G.A.L.

RESISTOR TUBES

- L LINE 200 Ω 200 W
- FS FAST SPEED 200 Ω 200 W
- BS BASIC SPEED 200 Ω 200 W
- SD SLOWDOWN 750 Ω 200 W
- DMF DOOR MOTOR FIELD 750 Ω 200 W

TERMINAL MARKINGS

- ST STANDING FIELD
- RN RUNNING FIELD
- LC LINE FOR CLOSING
- LO LINE FOR OPENING
- CL CLOSE CONTROL
- OP OPEN CONTROL
- + - INCOMING LINE
- A1, A2 ARMATURE
- F1 FIELD
- GSW GATE SWITCH (2 WIRES)
- DCL DOOR CLOSE LIMIT (2 WIRES)
- DOL DOOR OPEN LIMIT
- ATC ATTENDANT CLOSE
- FSA FAST SPEED CLOSE
- FSC CLOSE BY-PASS
- SD2 2nd. SLOWDOWN
- SDA SLOWDOWN ATTENDANT

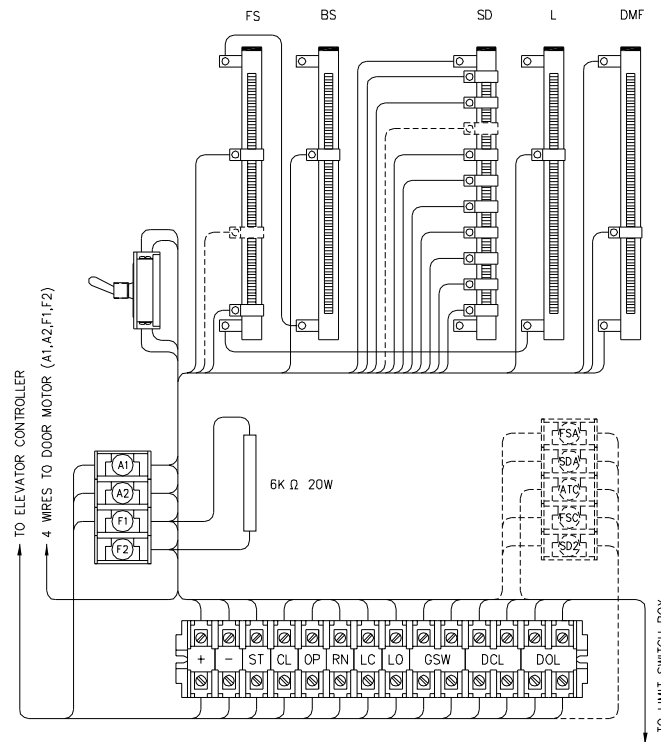
STANDARD OPERATION

WITH AND WITHOUT ATTENDANT OPERATION

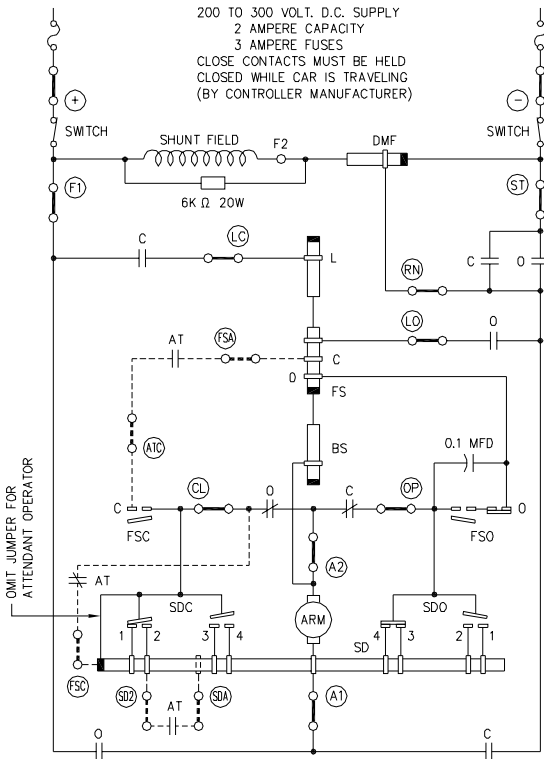
WIRING SYMBOLS

- FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
- ▭ RESISTOR TUBE - SHADED AREA INDICATES TOP OF TUBE.
- ⋯ DOTTED WIRING INDICATES ADDITIONS REQUIRED IF ATTENDANT FEATURE IS SPECIFIED.
- CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.
- ⊕ CAM CONTACT.
- * FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.

RESISTOR AND TERMINAL BOX

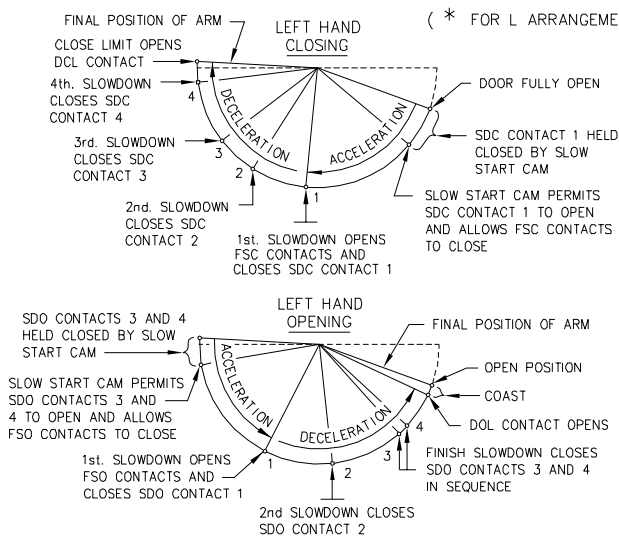


200 TO 300 VOLT, D.C. SUPPLY
2 AMPERE CAPACITY
3 AMPERE FUSES
CLOSE CONTACTS MUST BE HELD CLOSED WHILE CAR IS TRAVELING (BY CONTROLLER MANUFACTURER)

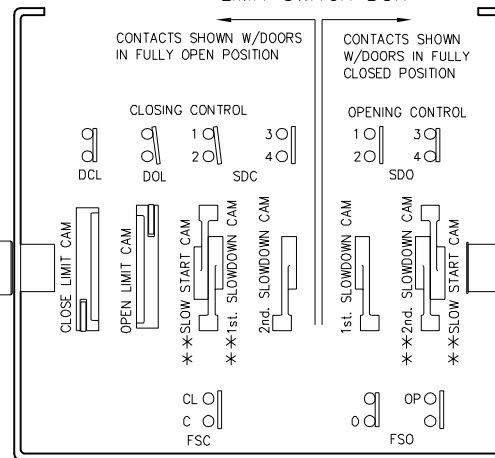


POSITIONS OF OPERATOR CRANK ARM

(* FOR L ARRANGEMENTS)



LIMIT SWITCH BOX



** LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" OPERATOR WIRING DIAGRAM
(MEDIUM AND HIGH SPEED)

SCALE NONE DATE 5 - 6 - 94

SEE E.C.N. # 252	5-81	A.A.	DWG. BY	L6587
No.	REVISION	DATE/CHK.	CHK. BY	

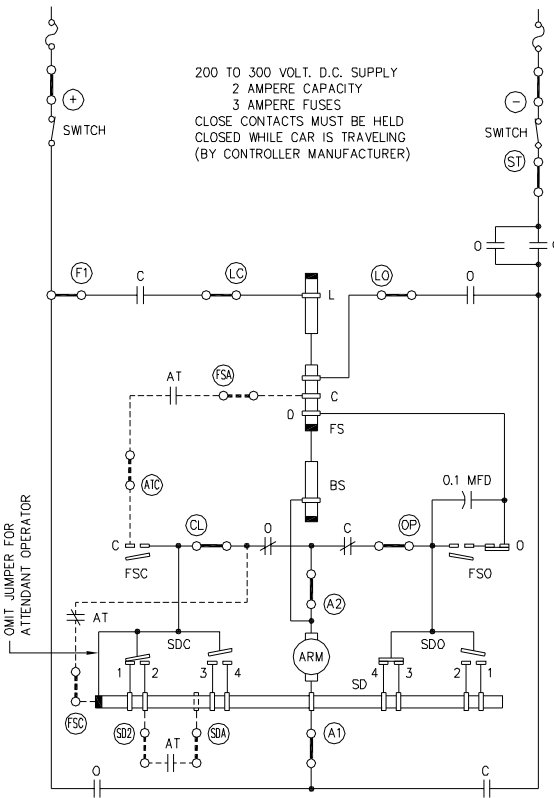
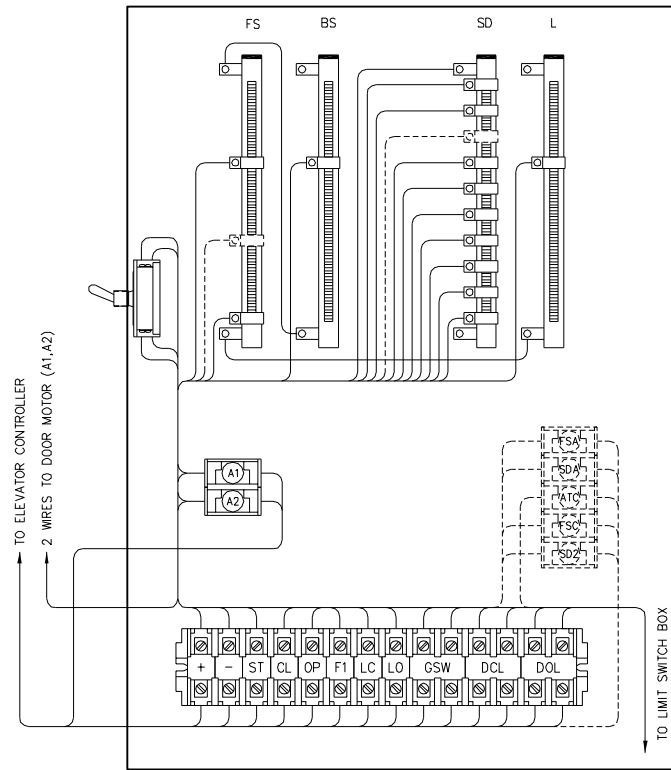
- IMPORTANT -

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ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

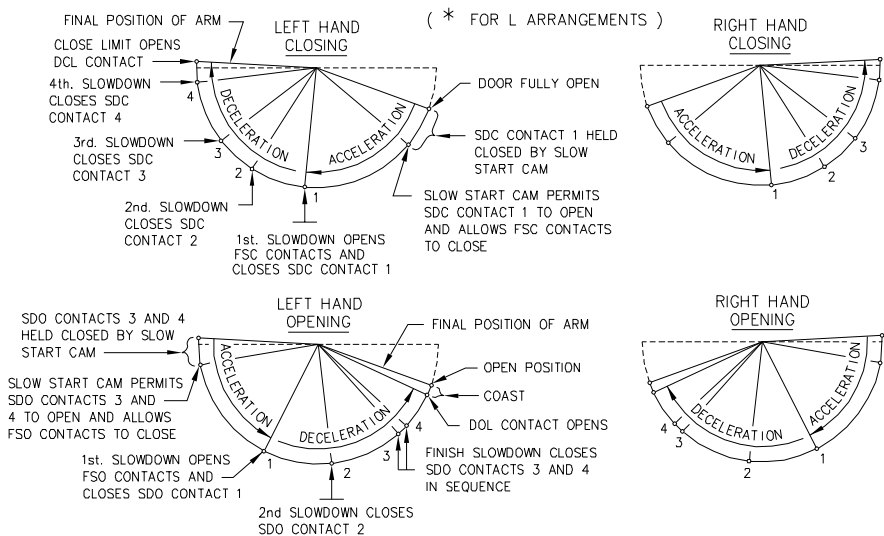
- RELAYS**
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
- CONTACTS**
DCL DOOR OPEN LIMIT
DOL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSD FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN
- RESISTOR TUBES**
L LINE 200 Ω 200 W
FS FAST SPEED 200 Ω 200 W
BS BASIC SPEED 200 Ω 200 W
SD SLOWDOWN 750 Ω 200 W
- TERMINAL MARKINGS**
ST NEGATIVE COMMON
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSE CONTROL
OP OPEN CONTROL
+,- ARMATURE
A1,A2 INCOMING LINE
GSW GATE SWITCH (2 WIRES)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT
- WIRING SYMBOLS**
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
RESISTOR TUBE—SHADED AREA INDICATES TOP OF TUBE.
DOTTED WIRING INDICATES ADDITIONS REQUIRED IF ATTENDANT FEATURE IS SPECIFIED.
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.
CAM CONTACT.
FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.

RESISTOR AND TERMINAL BOX

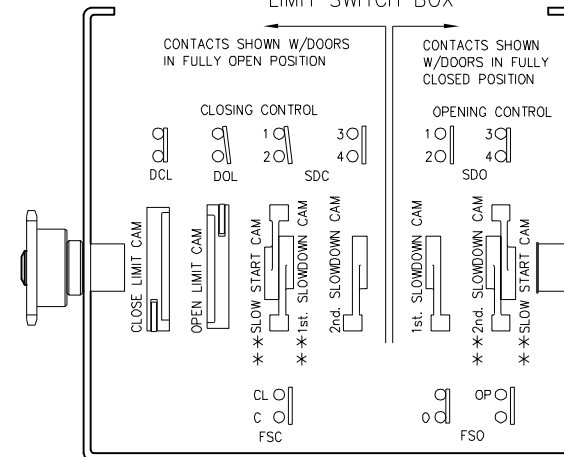


POSITIONS OF OPERATOR CRANK ARM

(* FOR L ARRANGEMENTS)



LIMIT SWITCH BOX



** LEFT HAND OPERATOR SHOWN
REVERSE POSITIONS FOR RIGHT
HAND OPERATORS.



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" OPERATOR WIRING DIAGRAM
(MEDIUM AND HIGH SPEED)

SCALE NONE DATE 5 - 6 - 94

SEE E.C.N. # 252	5-81	A.A.	DWG. BY	L6587-1
No.	REVISION	DATE/CHK.	CHK. BY	

- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS

- C DOOR CLOSE RELAY
- O DOOR OPEN RELAY
- AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
- NR NUDGING RELAY (ENERGIZED FOR SLOW SPEED)
- DR CONTACT TO BE CLOSE WHEN ELEVATOR GETS SIGNAL TO RUN NUDGING RELAY

CONTACTS

- DOL DOOR OPEN LIMIT
- DCL DOOR CLOSE LIMIT
- FSC FAST SPEED CLOSE (ATT. ONLY)
- FSD FAST SPEED OPEN
- SDC SLOWDOWN CLOSE
- SDO SLOWDOWN OPEN

BY G.A.L.

RESISTOR TUBES

- L LINE 200 Ω 200 W
- FS FAST SPEED 200 Ω 200 W
- BS BASIC SPEED 200 Ω 200 W
- SD SLOWDOWN 750 Ω 200 W
- DMF DOOR MOTOR FIELD 750 Ω 200 W

TERMINAL MARKINGS

- ST STANDING FIELD
- RN RUNNING FIELD
- LC LINE FOR CLOSING
- LO LINE FOR OPENING
- CL CLOSE CONTROL
- OP OPEN CONTROL
- OP INCOMING LINE
- +, - ARMATURE FIELD
- A1, A2 GATE SWITCH (2 WIRES)
- F1 DOOR CLOSE LIMIT (2 WIRES)
- DCL DOOR OPEN LIMIT
- DOL DOOR OPEN LIMIT
- ATC ATTENDANT CLOSE
- FSA FAST SPEED CLOSE
- FSC CLOSE BY-PASS
- SD2 2nd. SLOWDOWN
- SDA SLOWDOWN ATTENDANT

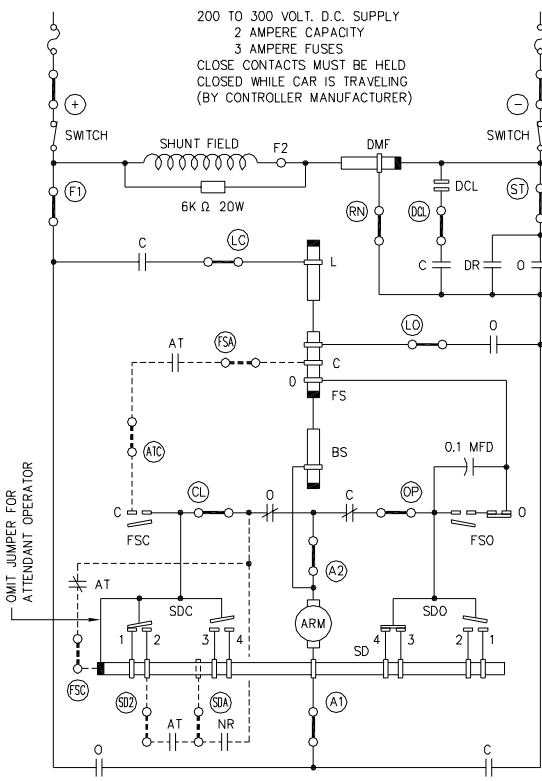
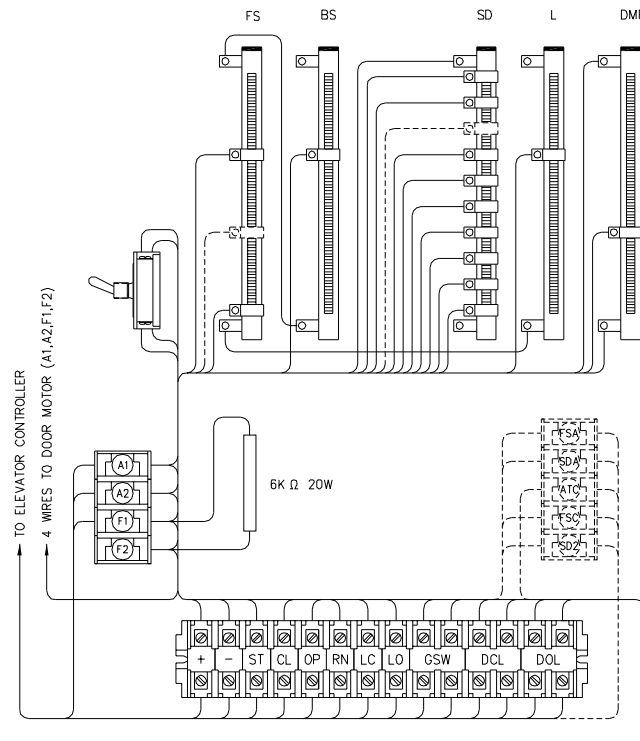
STANDARD OPERATION

WITH AND WITHOUT ATTENDANT OPERATION

WIRING SYMBOLS

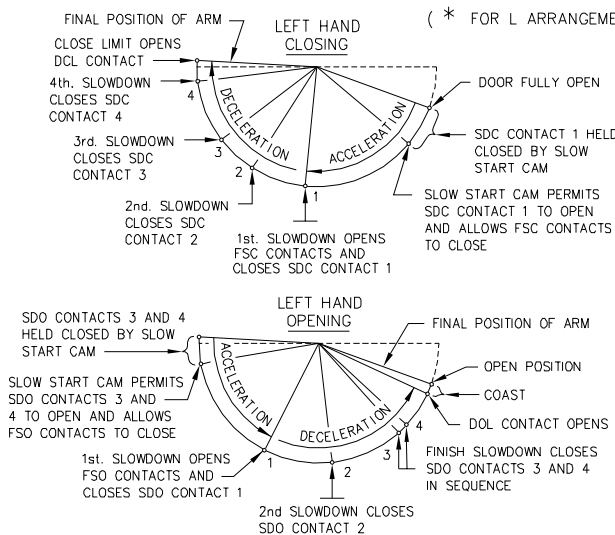
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
RESISTOR TUBE—SHADED AREA INDICATES TOP OF TUBE.
DOTTED WIRING INDICATES ADDITIONS REQUIRED IF ATTENDANT FEATURE IS SPECIFIED.
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.
CAM CONTACT.
FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.

RESISTOR AND TERMINAL BOX

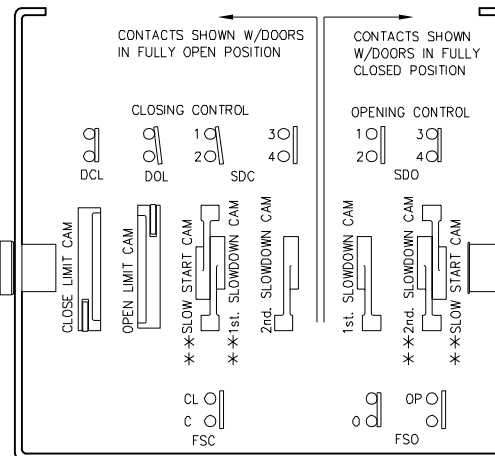


POSITIONS OF OPERATOR CRANK ARM

(* FOR L ARRANGEMENTS)



LIMIT SWITCH BOX



** LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.



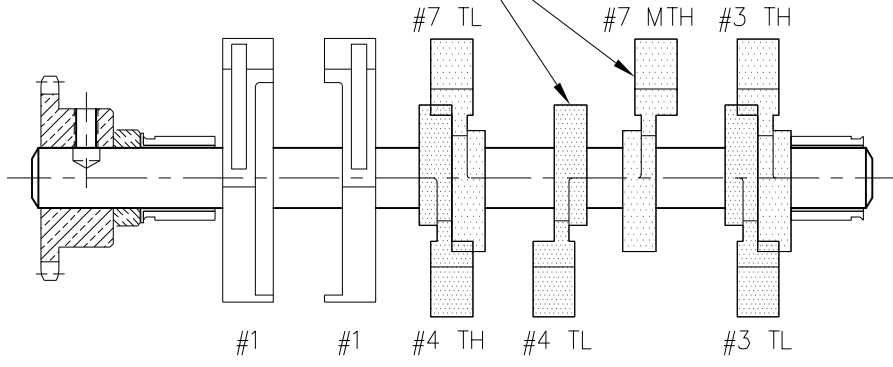
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" OPERATOR WIRING DIAGRAM
MEDIUM AND HIGH SPEED W/OPTIONAL ATTENDANT AND/OR NUDGING
OPER. W/SPRING LOADED DEVICE FOR UNLOCK'S HATCH DOOR IN CASE OF POWER FAILURE.

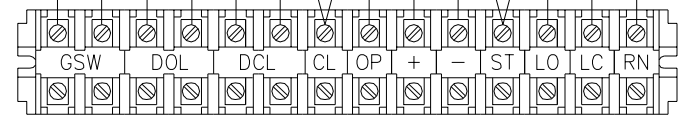
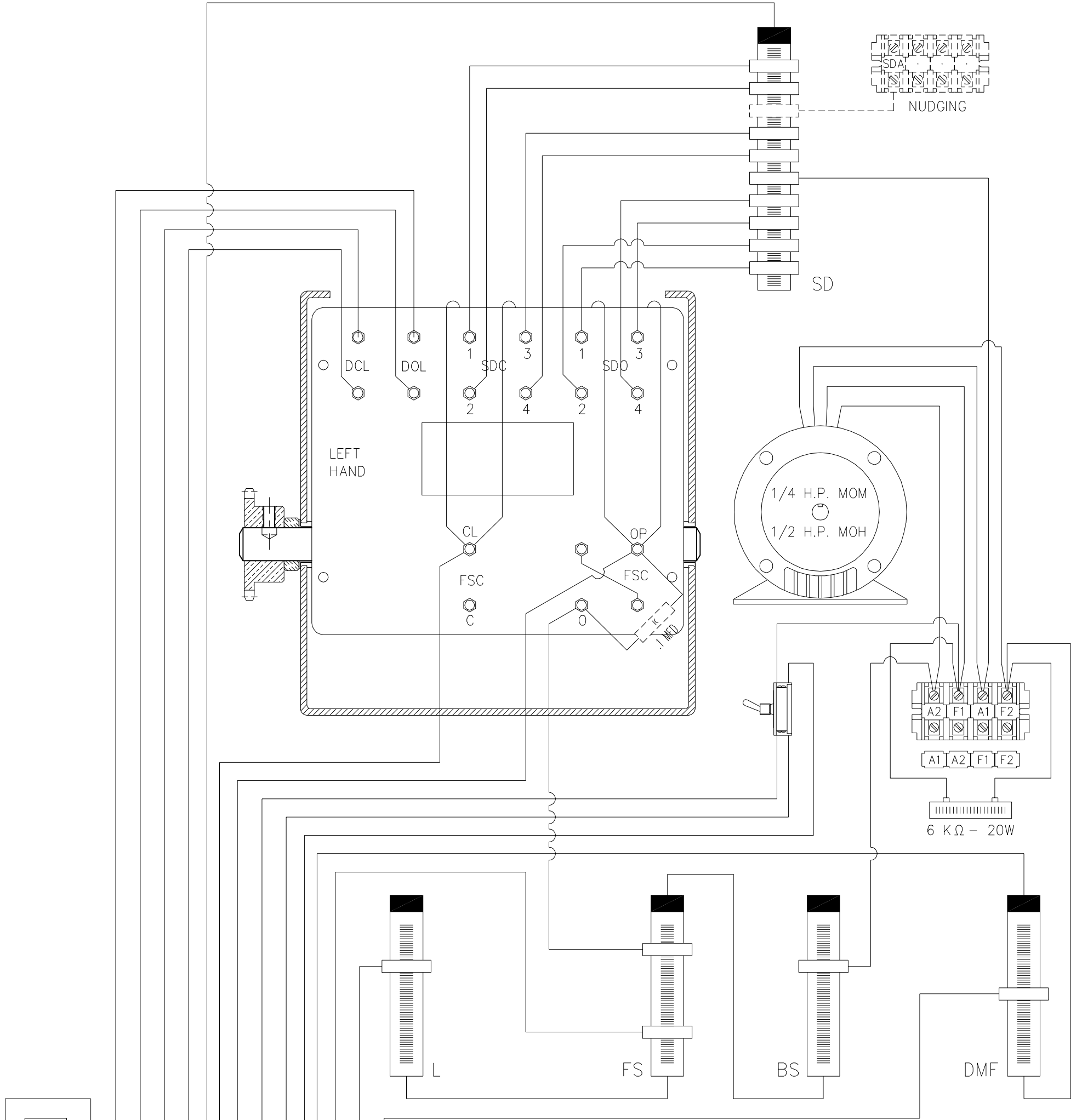
2	SEE E.C.N. # 273	4-94	G.D.C.	SCALE	NONE	DATE	9-15-94
1	SEE E.C.N. # 252	5-81	A.A.	DWG. BY			
No.	REVISION	DATE/CHK.	CHK. BY				L6587-10

LEFT HAND SHOWN
 1 1 4TH/7TL 4TL 7MTH 3TL/3TH
 RIGHT HAND
 2 2 7TL/4TH 4TL 7MTH 3TH/3TL

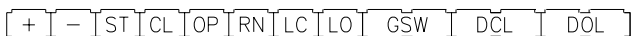
REVERSE CAM POSITION
 FOR R.H. ARRANGEMENT



RESISTORS	115 V.	220 V.
L	50 Ω	200 Ω
FS	50 Ω	200 Ω
BS	50 Ω	200 Ω
DMF	250 Ω	750 Ω
SD	250 Ω	750 Ω
NO/NUDGING	W.D. L-6590 COVER S-6590-1	W.D. L-6587 COVER S-6587-1
W/NUDGING	W.D. L-6590-3 COVER S-6590-3	W.D. L-6587-3 COVER S-6587-3



ARRANGE ABOVE TERMINALS IN THE FOLLOWING ORDER:



LEFT HAND OPERATOR SHOWN
 RIGHT HAND OPERATOR OPPOSITE

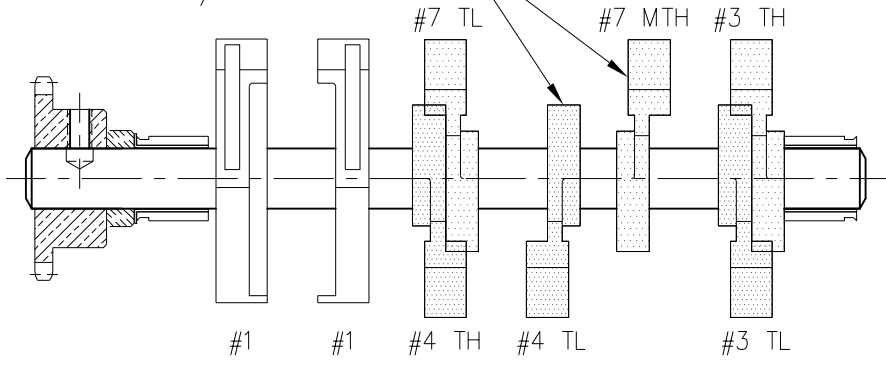


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

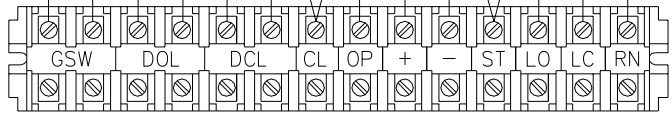
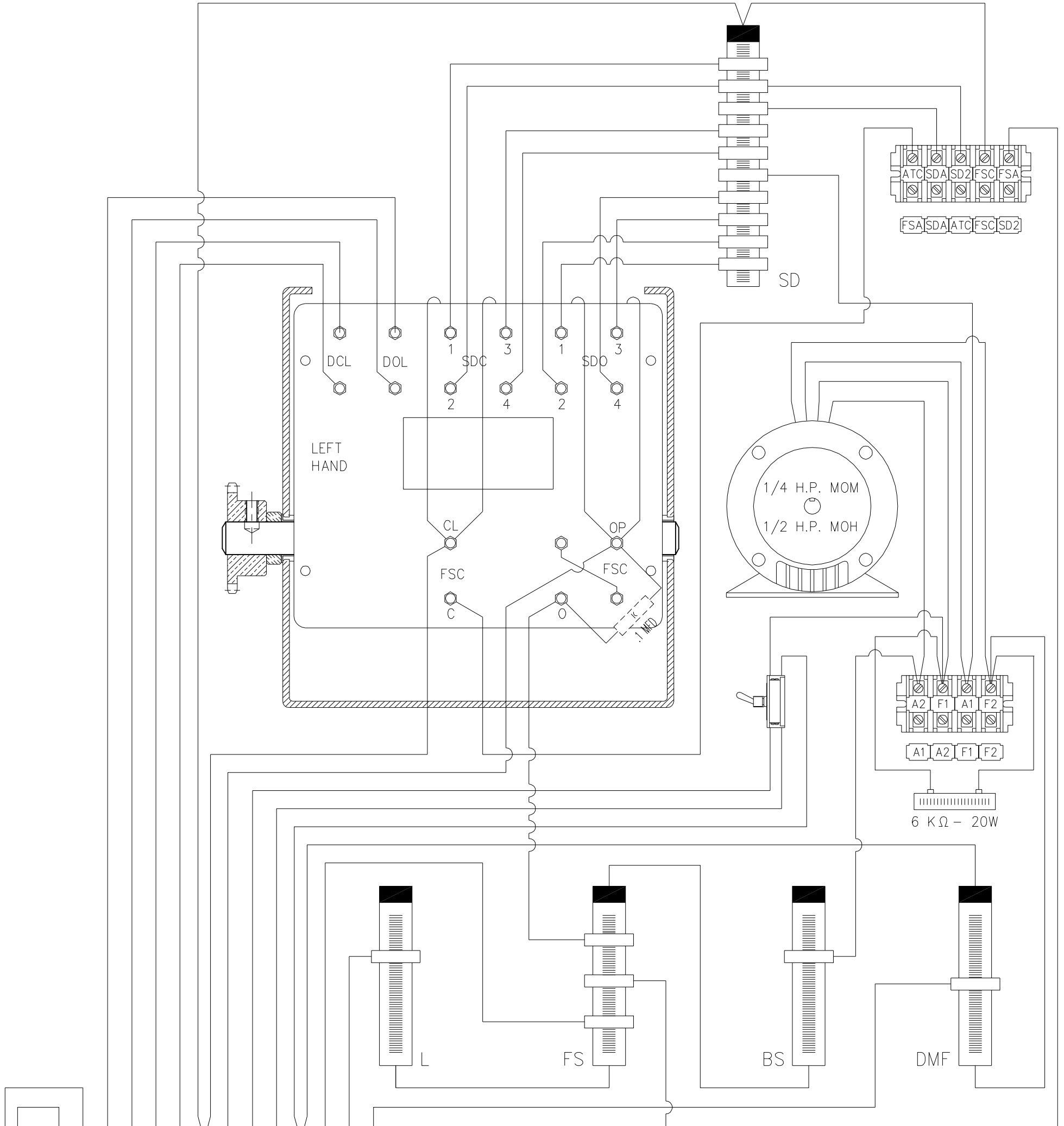
				"MOM-MOH" DOOR OPERATOR	
				WITHOUT ATTENDANT 115V. AND 220V. (W/WO NUDGING)	
				SCALE 1/2	DATE 4 - 24 - 92
				DWG. BY	M7292
No.	REVISION	DATE	CHK.	CHK. BY	

LEFT HAND SHOWN
 1 1 4TH/7TL 4TL 7MTH 3TL/3TH
 RIGHT HAND
 2 2 7TL/4TH 4TL 7MTH 3TH/3TL

REVERSE CAM POSITION
 FOR R.H. ARRANGEMENT



RESISTORS	115 V.	220 V.
L	50 Ω	200 Ω
FS	50 Ω	200 Ω
BS	50 Ω	200 Ω
DMF	250 Ω	750 Ω
SD	250 Ω	750 Ω
NO/NUDGING	W.D. L-6590 COVER S-6590-2	W.D. L-6587 COVER S-6587-2
W/NUDGING	W.D. L-6590-4 COVER S-6590-4	W.D. L-6587-4 COVER S-6587-4



ARRANGE ABOVE TERMINALS IN THE FOLLOWING ORDER



LEFT HAND OPERATOR SHOWN
 RIGHT HAND OPERATOR OPPOSITE



G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

"MOM-MOH" DOOR OPERATOR
 WITH ATTENDANT 115V. AND 220V. (W/WO NUDGING)

SCALE 1/2 DATE 4 - 3 - 92

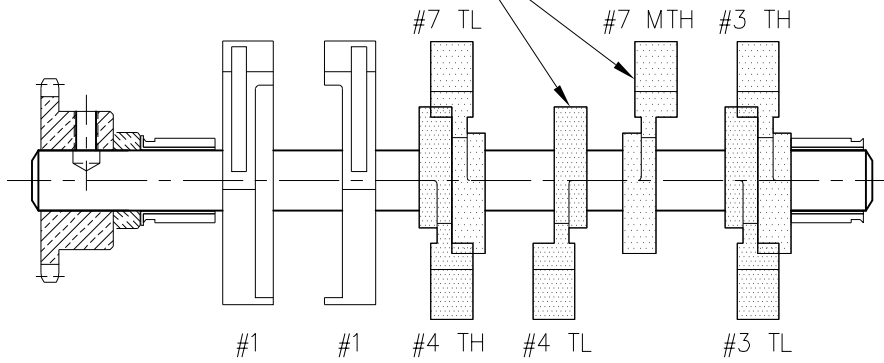
DWG. BY

M7294

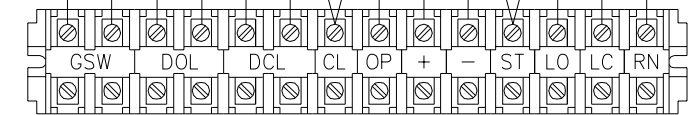
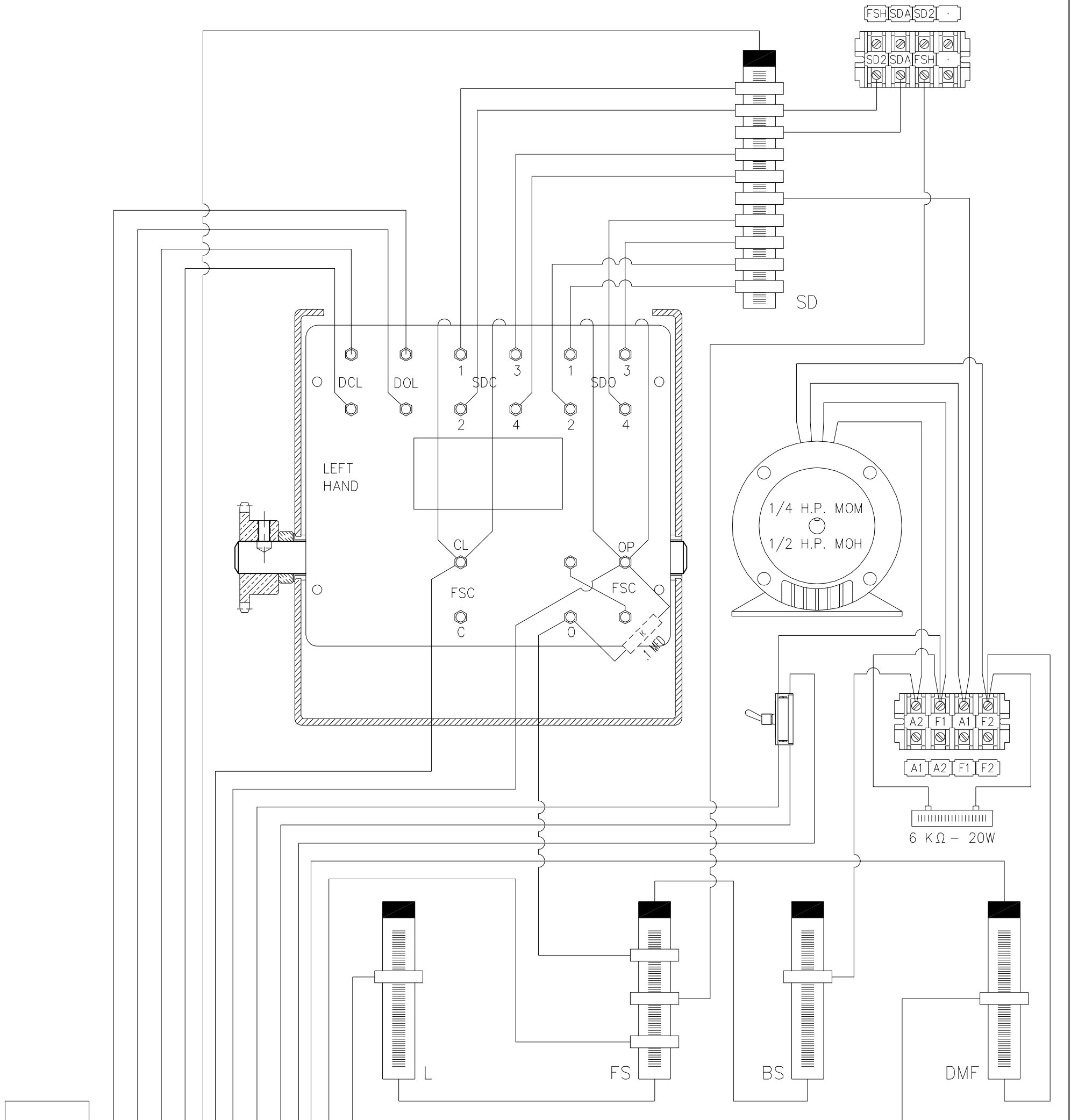
No.	REVISION	DATE	CHK.	CHK. BY

LEFT HAND SHOWN
 1 1 4TH/7TL 4TL 7MTH 3TL/3TH
 RIGHT HAND
 2 2 7TL/4TH 4TL 7MTH 3TH/3TL

REVERSE CAM POSITION
 FOR R.H. ARRANGEMENT



RESISTORS	115 V.	220 V.
L	50 Ω	200 Ω
FS	50 Ω	200 Ω
BS	50 Ω	200 Ω
DMF	250 Ω	750 Ω
SD	250 Ω	750 Ω
NO/NUDGING	W.D. L-6590-5 COVER S-6590-5	W.D. L-6587-5 COVER S-6587-5
W/NUDGING		W.D. L-6587-7



ARRANGE ABOVE TERMINALS IN THE FOLLOWING ORDER:



LEFT HAND OPERATOR SHOWN
 RIGHT HAND OPERATOR OPPOSITE

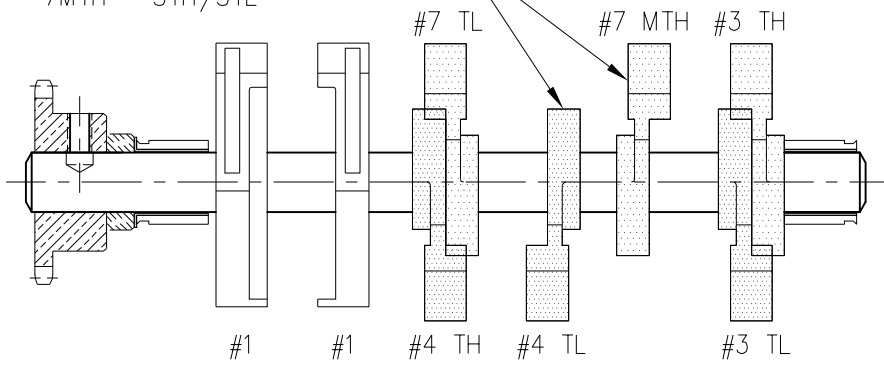


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

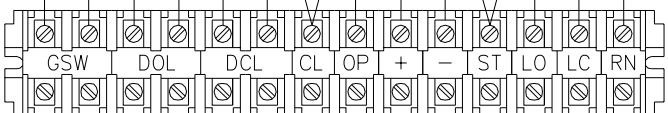
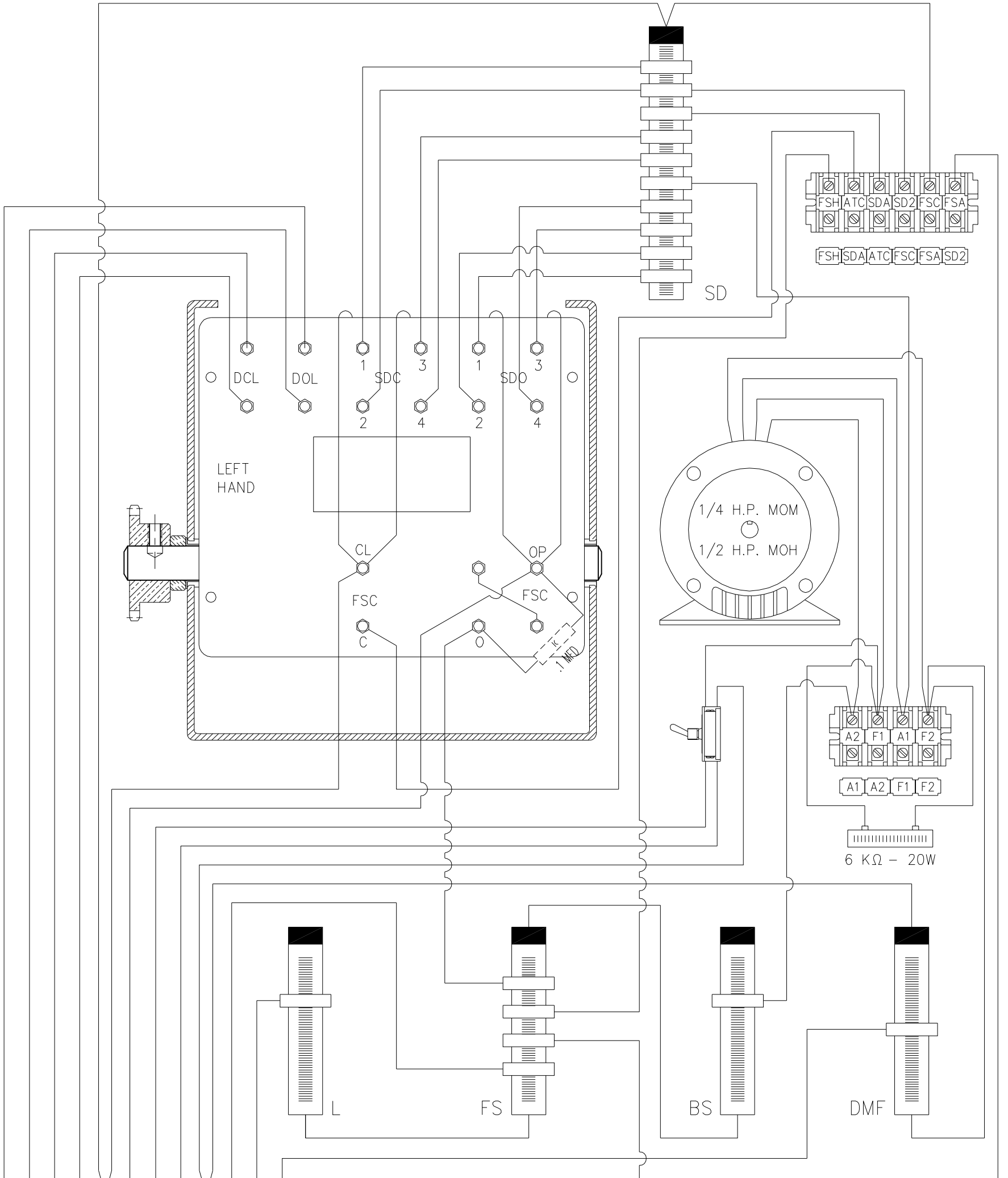
				HEAVY AND LIGHT WEIGHT DOORS	
				"MOM-MOH" DOOR OPERATOR	
				WITHOUT ATTENDANT 115V. AND 220V. (W/WO NUDGING)	
		SCALE	1/2	DATE	
				4 - 24 - 92	
		DWG. BY		M7295	
		CHK. BY			
No.	REVISION	DATE	CHK.		

LEFT HAND SHOWN
 1 1 4TH/7TL 4TL 7MTH 3TL/3TH
 RIGHT HAND
 2 2 7TL/4TH 4TL 7MTH 3TH/3TL

REVERSE CAM POSITION
 FOR R.H. ARRANGEMENT



RESISTORS	115 V.	220 V.
L	50 Ω	200 Ω
FS	50 Ω	200 Ω
BS	50 Ω	200 Ω
DMF	250 Ω	750 Ω
SD	250 Ω	750 Ω
NO/NUDGING	W.D. L-6590-6 COVER S-6590-6	W.D. L-6587-6 COVER S-6587-6
W/NUDGING		W.D. L-6587-8



ARRANGE ABOVE TERMINALS IN THE FOLLOWING ORDER
 + - ST CL OP RN LC LO GSW DCL DOL

LEFT HAND OPERATOR SHOWN
 RIGHT HAND OPERATOR OPPOSITE

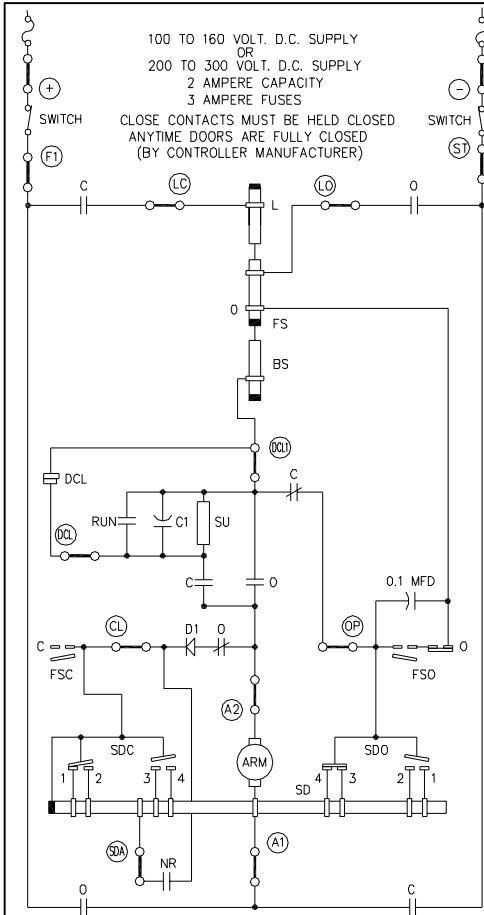


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

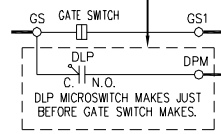
HEAVY AND LIGHT WEIGHT DOORS
 "MOM-MOH" DOOR OPERATOR
 WITH ATTENDANT 115V. AND 220V. (W/WO NUDGING)

SCALE	1/2	DATE	4 - 24 - 92
DWG. BY		M7296	
CHK. BY			

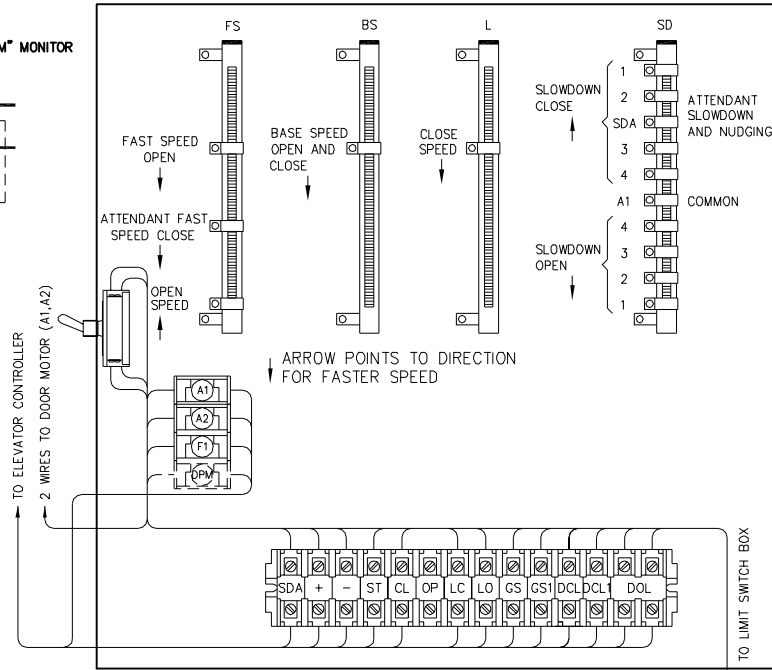
No.	REVISION	DATE	CHK.



OPTIONAL WIRING SUPPLIED WITH "FM" MONITOR AS PER DWG. S7475.



RESISTOR AND TERMINAL BOX



- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
NR NUDDING RELAY (ENERGIZED FOR SLOW SPEED)
DR DIRECTION RELAY (ENERGIZED WHEN RUNNING)

CONTACTS
DOL DOOR OPEN LIMIT
DCL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSO FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN

RESISTOR TUBES--ALL 200 WATTS

	D.C. POWER SUPPLY	
	100 TO 160 V.	200 TO 300 V.
L LINE	50 Ω	200 Ω
FS FAST SPEED	50 Ω	200 Ω
BS BASIC SPEED	50 Ω	200 Ω
SD SLOWDOWN	250 Ω	750 Ω

BY G.A.L.

SU SPRING UNLOCKING 750 Ω 1500 Ω } BY CONTROLLER MFR.
C1 CONDENSER 0.1 MFD, 1000 VDC }
D1 DIODE S20100 }

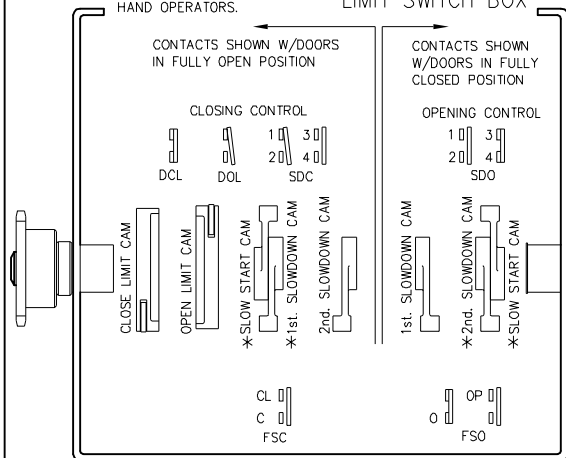
TERMINAL MARKINGS
ST NEGATIVE COMMON
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSE CONTROL
OP OPEN CONTROL
+,- INCOMING LINE
A1,A2 ARMATURE
F1 POSITIVE COMMON
GS,GS1 GATE SWITCH
DPM FM MONITOR (OPTIONAL)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT (2 WIRES)
SDA NUDDING SPEED
FSC CLOSE BY-PASS

STANDARD OPERATION

WIRING SYMBOLS
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
RESISTOR TUBE--SHADED AREA INDICATES TOP OF TUBE.
DOTTED WIRING DENOTES OPTIONAL FEATURES SUPPLIED ONLY WHEN REQUIRED.
CAM CONTACT.
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.

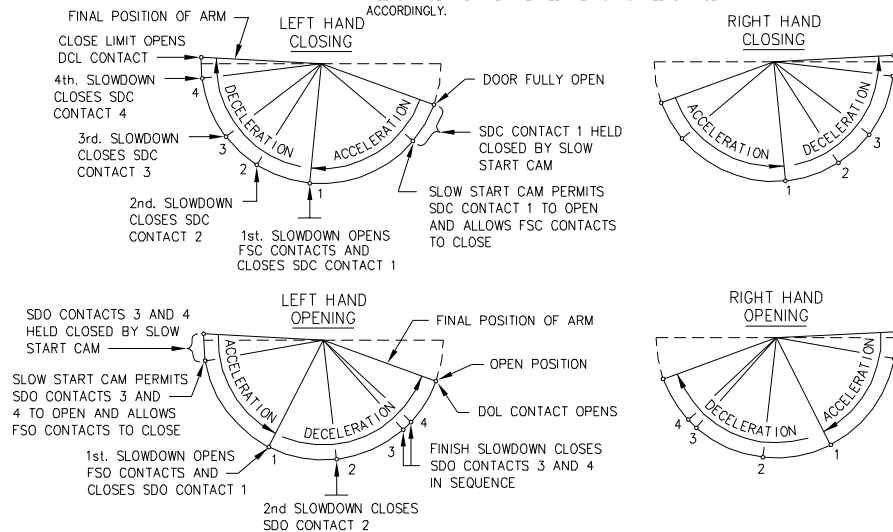
* LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.

LIMIT SWITCH BOX



POSITIONS OF OPERATOR CRANK ARM

"L" TYPE OPERATOR ARRANGEMENT SHOWN FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.

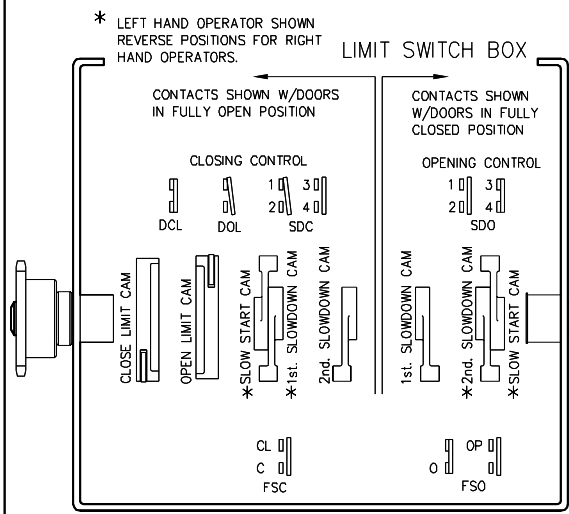
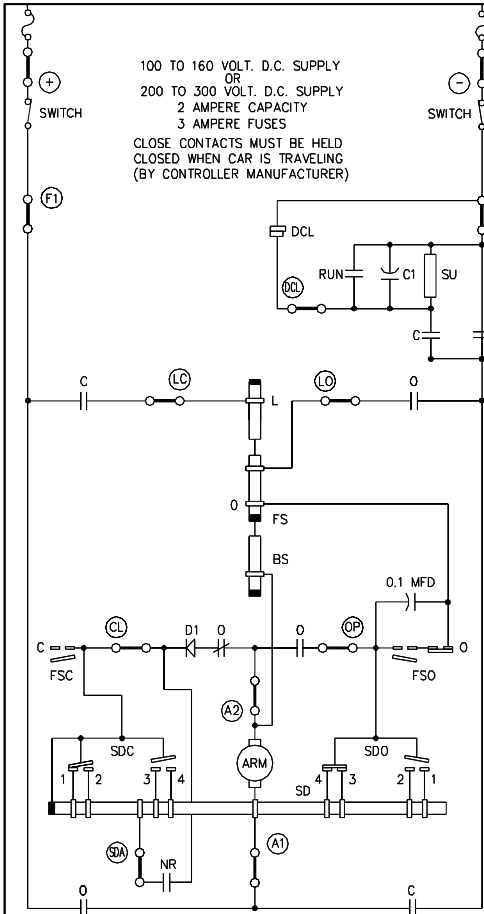


No.	REVISION	DATE	CHK.

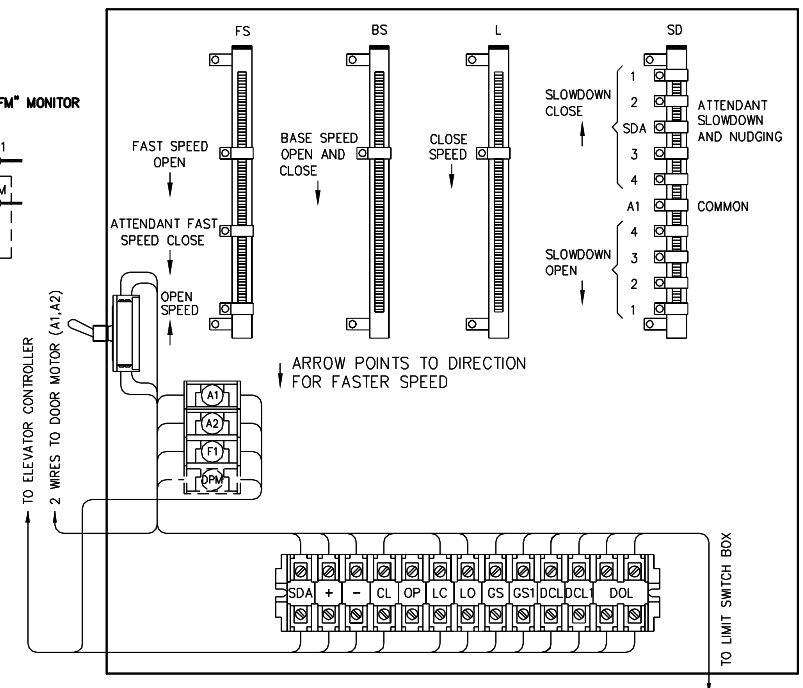
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" PM OPERATOR DIAGRAM (MEDIUM AND HIGH SPEED W/ SPRING UNLOCKING DEVICE)

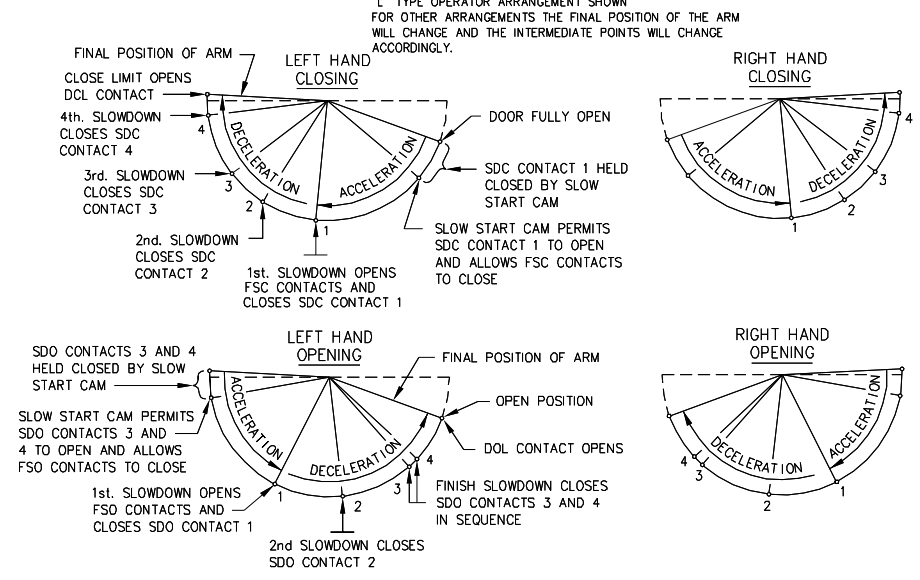
SCALE	1/2	DATE	7/26/00
DWG. BY			
CHK. BY			7587-10A



RESISTOR AND TERMINAL BOX



POSITIONS OF OPERATOR CRANK ARM



- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
NR NUDGING RELAY (ENERGIZED FOR SLOW SPEED)
DR DIRECTION RELAY (ENERGIZED WHEN RUNNING)

CONTACTS
DOL DOOR OPEN LIMIT
DCL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSD FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN

RESISTOR TUBES--ALL 200 WATTS

	D.C. POWER SUPPLY	
	100 TO 160 V.	200 TO 300 V.
L LINE	50 Ω	200 Ω
FS FAST SPEED	50 Ω	200 Ω
BS BASIC SPEED	50 Ω	200 Ω
SD SLOWDOWN	250 Ω	750 Ω

BY G.A.L.

TERMINAL MARKINGS

ST NEGATIVE COMMON
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSE CONTROL
OP OPEN CONTROL
+,- INCOMING LINE
A1,A2 ARMATURE
F1 POSITIVE COMMON
GS,GS1 GATE SWITCH
DPM FM MONITOR (OPTIONAL)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT (2 WIRES)
SDA NUDGING SPEED

STANDARD OPERATION

FSC CLOSE BY-PASS

WIRING SYMBOLS

FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.

RESISTOR TUBE--SHADED AREA INDICATES TOP OF TUBE.

DOTTED WIRING DENOTES OPTIONAL FEATURES SUPPLIED ONLY WHEN REQUIRED.

CAM CONTACT.

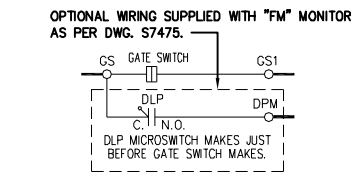
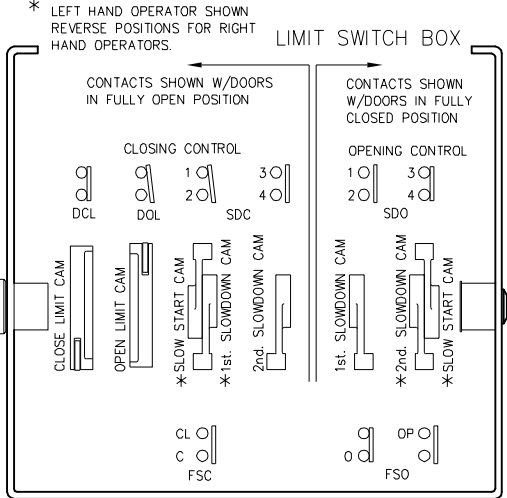
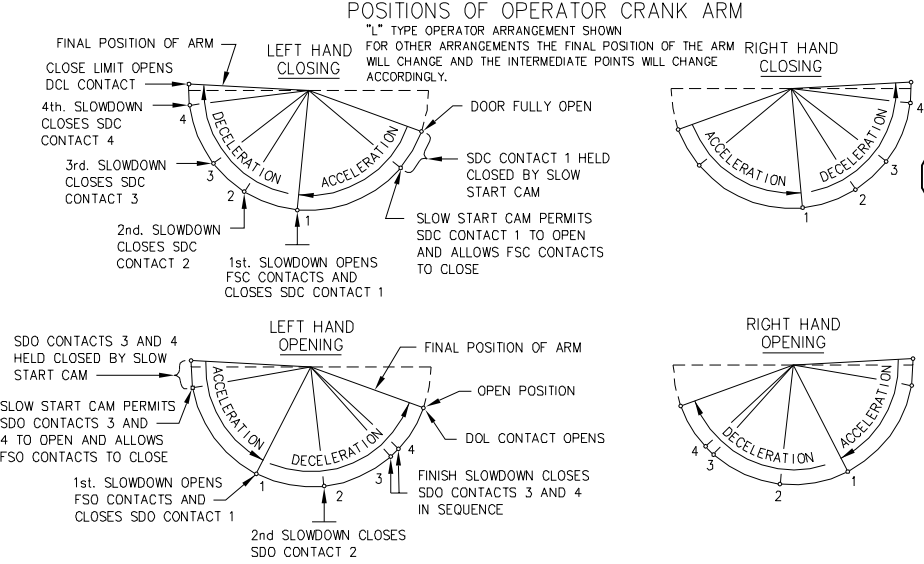
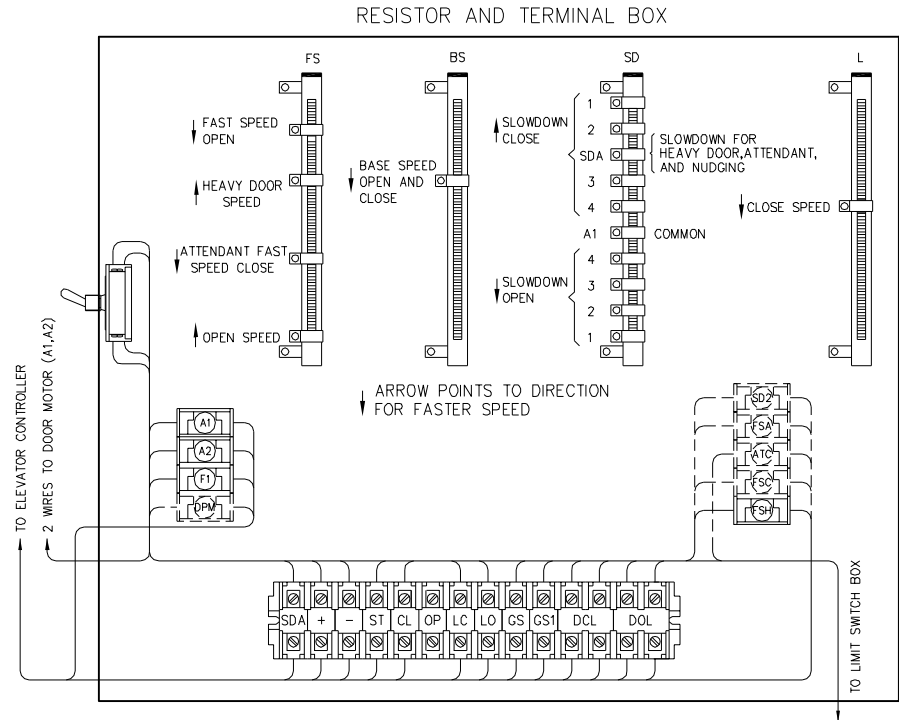
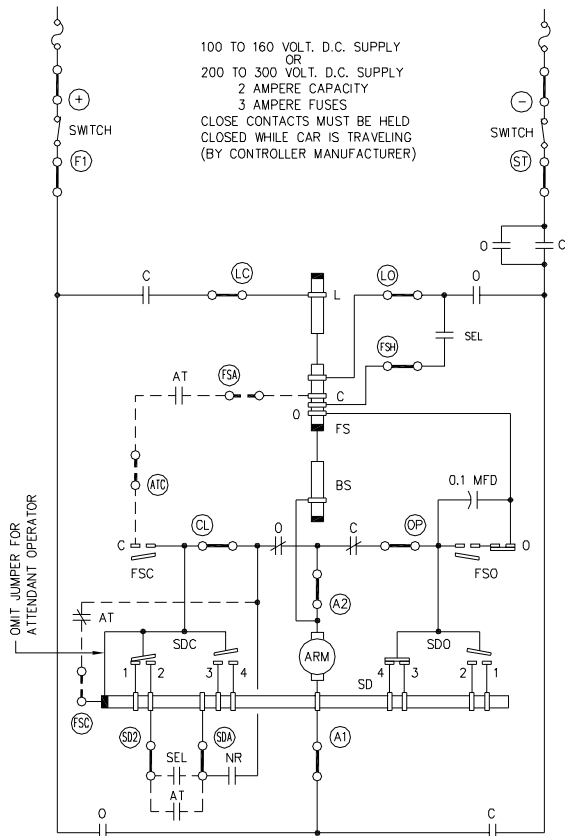
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.

No.	REVISION	DATE	CHK.

G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" PM OPERATOR DIAGRAM (MEDIUM AND HIGH SPEED W/ SPRING UNLOCKING DEVICE)

SCALE	1/2	DATE	7/26/00
DWG. BY			
CHK. BY			7587-10B



- IMPORTANT -

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

RELAYS
C DOOR CLOSE RELAY
O DOOR OPEN RELAY
AT ATTENDANT RELAY (ENERGIZED ON ATT. ONLY)
NR NUDGING RELAY (ENERGIZED FOR SLOW SPEED)
SEL SELECTOR RELAY (ENERGIZED FOR HEAVY DOOR)

CONTACTS
DOL DOOR OPEN LIMIT
DCL DOOR CLOSE LIMIT
FSC FAST SPEED CLOSE (ATT. ONLY)
FSO FAST SPEED OPEN
SDC SLOWDOWN CLOSE
SDO SLOWDOWN OPEN

RESISTOR TUBES-ALL 200 WATTS
D.C. POWER SUPPLY
100 TO 160 V. 200 TO 300 V.

L	LINE	50 Ω	200 Ω
FS	FAST SPEED	50 Ω	200 Ω
BS	BASIC SPEED	50 Ω	200 Ω
SD	SLOWDOWN	250 Ω	750 Ω

BY G.A.L.

TERMINAL MARKINGS

ST NEGATIVE COMMON
LC LINE FOR CLOSING
LO LINE FOR OPENING
CL CLOSE CONTROL
OP OPEN CONTROL
+,- INCOMING LINE
A1,A2 ARMATURE
F1 POSITIVE COMMON
GS,GS1 GATE SWITCH
DPM FM MONITOR (OPTIONAL)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT (2 WIRES)
SDA NUDGING SPEED & HEAVY DOOR SLOW DOWN
FSH FAST SPEED HEAVY

STANDARD OPERATION
WITH ATTENDANT OPERATION

WIRING SYMBOLS

FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER.
RESISTOR TUBE--SHADED AREA INDICATES TOP OF TUBE.
DOTTED WIRING DENOTES OPTIONAL FEATURES SUPPLIED ONLY WHEN REQUIRED.
CAM CONTACT.

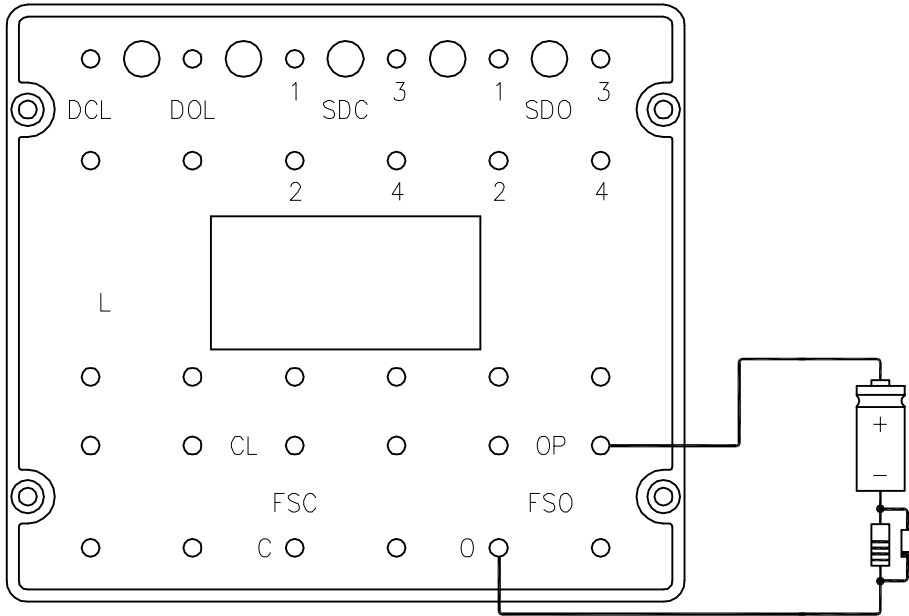
CIRCLE MARKINGS INDICATE TERMINALS LOCATED ON OPERATOR.

No.	REVISION	DATE	CHK.

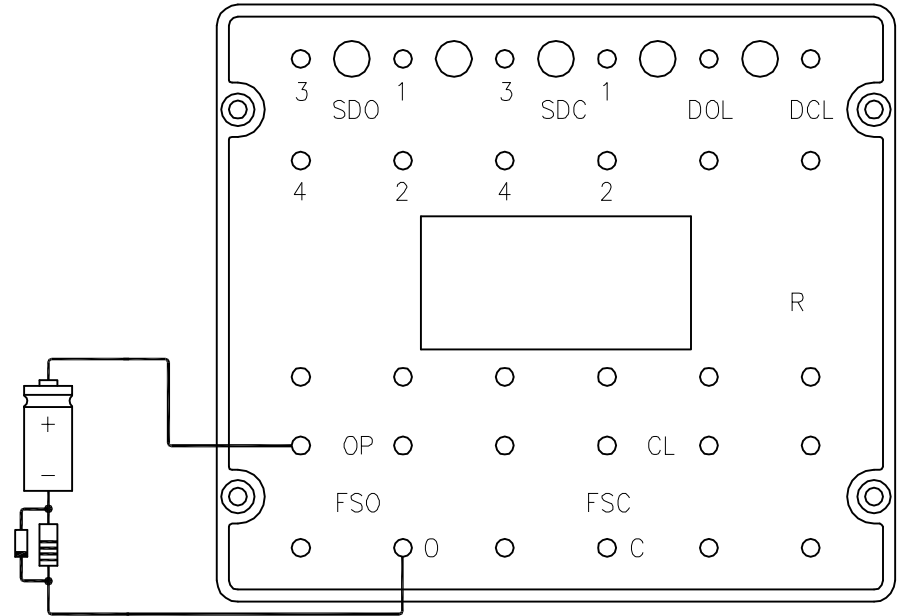
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM" AND "MOH" PM OPERATOR DIAGRAM
(MEDIUM AND HIGH SPEED W/HEAVY & LIGHT DOOR IN SAME SHAFT)
WITH OPTIONAL ATTENDANT

SCALE NONE DATE 4/23/96
DWG. BY 7649
CHK. BY



LEFT HAND



RIGHT HAND

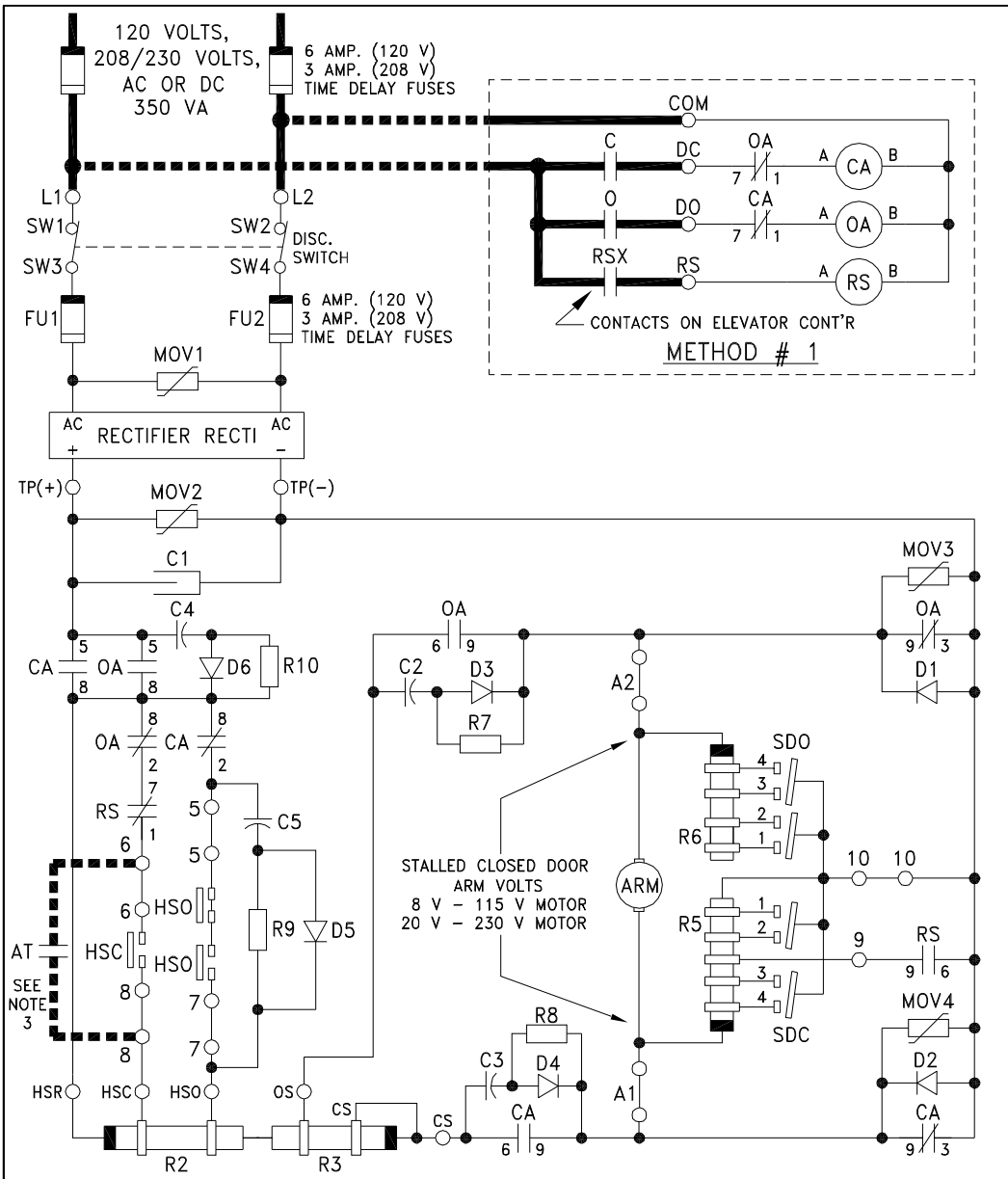
INSTRUCTIONS:

1. - REMOVE EXISTING YELLOW CAPACITOR FROM "FSO" TERMINALS ON OPERATOR CONTACT PLATE
2. - CONNECT NEW CAPACITOR - RESISTOR - DIODE NETWORK AS SHOWN, BE SURE TO OBSERVE POLARITY



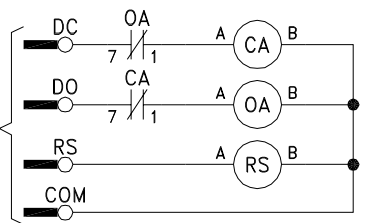
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

				MOM/MOH HS CONTACT SUPPRESSOR INSTALLATION INSTRUCTIONS			
				SCALE	3/4	DATE	6 - 18 -97
				DWG. BY H. DEL CORRAL		7845	
No.	REVISION	DATE	CHK.	CHK. BY			



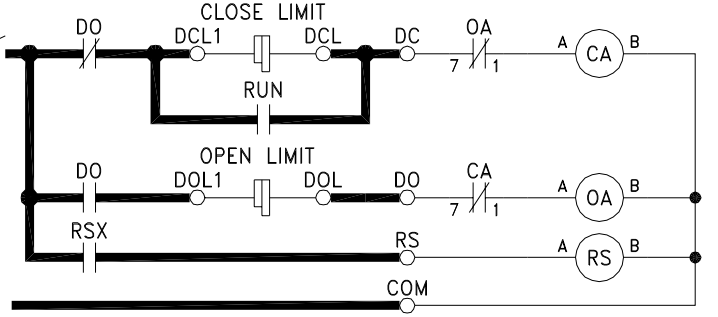
METHOD # 2

- 1- CONNECT TO ISOLATED CONTACTS OF ELEVATOR DOOR RELAYS OR ACROSS THE ELEVATOR DOOR RELAY COILS OR TO MICROPROCESSOR OUTPUT.
- 2- ADVISE RELAY COIL VOLTAGE AND AC OR DC. (SEE LEGEND FOR AVAILABLE VOLTAGES)

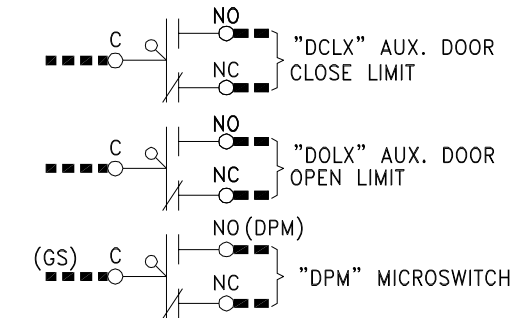
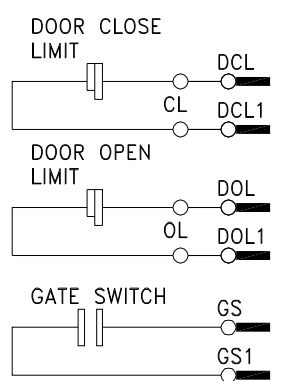


METHOD # 3

CONNECT TO DOOR MOTOR FUSES ON ELEVATOR CONT'R AS SHOWN ON METHOD # 1



SUGGESTED WIRING OF THE DOOR CLOSE AND DOOR OPEN LIMITS WHEN THE EXISTING CONT'R. HAS A SINGLE DOOR CONTROL RELAY. (THE "RUN" CONTACT ACROSS THE DOOR CLOSE LIMIT KEEPS POWER ON THE DOOR CLOSE RELAY WHEN THE ELEVATOR IS IN THE RUN MODE.)



DPM MICROSWITCH IS PROVIDED WITH:
 (1) FAULT MONITOR AS PER DRAWING S7475
 (2) JOBS COMPLYING WITH ASME A17.1-2000 CODE
 (3) JOBS WITH A GALAXY CONTROLLER
 THIS MICROSWITCH IS WIRED TO TERMINALS GS - DPM. THE N.O. CONTACT MAKES JUST BEFORE THE GATE SWITCH MAKES.

IMPORTANT

ALL CAMS AND RESISTORS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE RESISTORS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS. ALL G.A.L. MFG. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED, AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

NOTES

- 1-DOOR CLOSE RELAY (CA) MUST BE KEPT ENERGIZED WHEN ELEVATORS IS IN THE RUN MODE.
- 2-RELAY (RS), HIGH SPEED CLOSE CONTACT (HSC), RESISTOR BAND (HSC) AND DOOR CLOSE LIMIT (CL) ARE NOT PROVIDED WITH PANEL OPERATOR.
- 3-FOR ATTENDANT OPERATION CONNECT N.O. AT CONTACT ACROSS TERMINALS 6 AND 8.

LEGEND

RELAYS

- CA DOOR CLOSE
- OA DOOR OPEN
- RS REDUCED SPEED CLOSING(NUDGING)

AVAILABLE RELAY COIL VOLTAGES:
 6, 12, 24, 120, 240 VAC
 6, 12, 24, 48, 110 VDC

LIMITS

- CL DOOR CLOSE
- OL DOOR OPEN
- SDC SLOWDOWN CLOSE
- SDO SLOWDOWN OPEN
- HSC HIGH SPEED CLOSE
- HSO HIGH SPEED OPEN

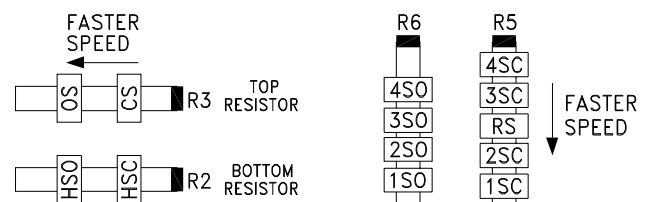
RESISTOR TUBES

- R2, R3 = 200 WATT; R5, R6 = 100 WATT
- 120 VOLTS: R2-50 OHM, R3-50 OHM, R5-100 OHM, R6-100 OHM
- 208/230 VOLTS: R2-250 OHM, R3-250 OHM, R5-300 OHM, R6-300 OHM

WIRING SYMBOLS

- FIELD WIRING TO OR ON ELEVATOR CONTROLLER
- FACTORY WIRING BETWEEN CAR TOP COMPONENTS
- FACTORY WIRING WITHIN CAR TOP COMPONENTS
- OPTIONAL FIELD WIRING
- CAM CONTACT
- RESISTOR TUBE (SEE BELOW FOR RESISTOR ADJUSTMENTS)

RESISTOR TUBE SPEED ADJUSTMENTS



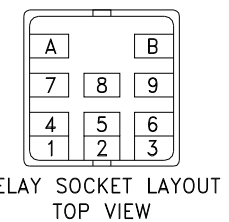
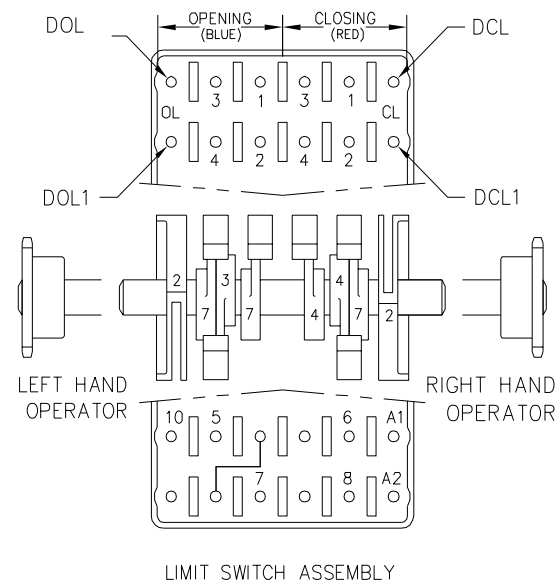
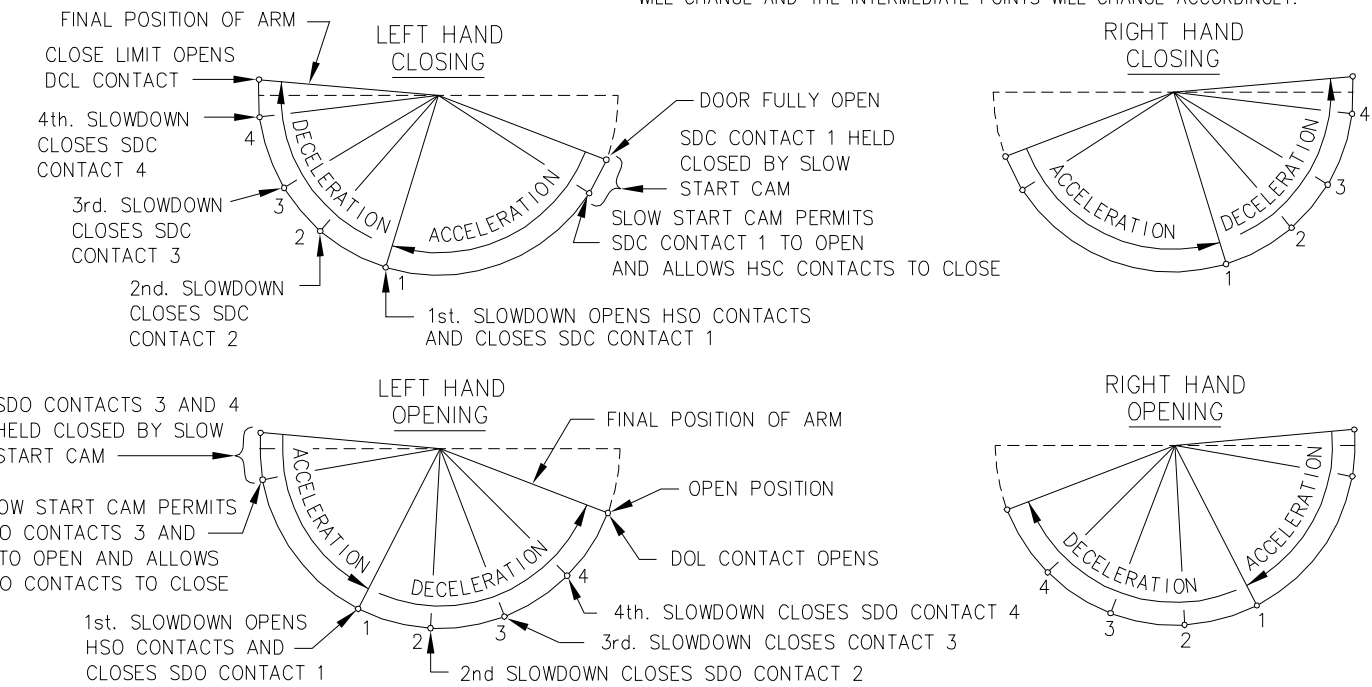
TO INCREASE SPEED MOVE BAND IN DIRECTION OF ARROW

RESISTOR TUBE LEGEND

- R2 — HIGH SPEED
- R3 — LOW SPEED
- R5 — CLOSE SLOWDOWN SPEED
- R6 — OPEN SLOWDOWN SPEED
- CS — CLOSING SPEED BAND
- OS — OPENING SPEED BAND
- HSC — HIGH SPEED CLOSE BAND
- HSO — HIGH SPEED OPEN BAND
- SO — SLOWDOWN OPEN BANDS
- SC — SLOWDOWN CLOSE BANDS
- RS — REDUCED SPEED CLOSING BAND(NUDGING)

POSITIONS OF OPERATOR CRANK ARM

"L" TYPE OPERATOR ARRANGEMENT SHOWN FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY.



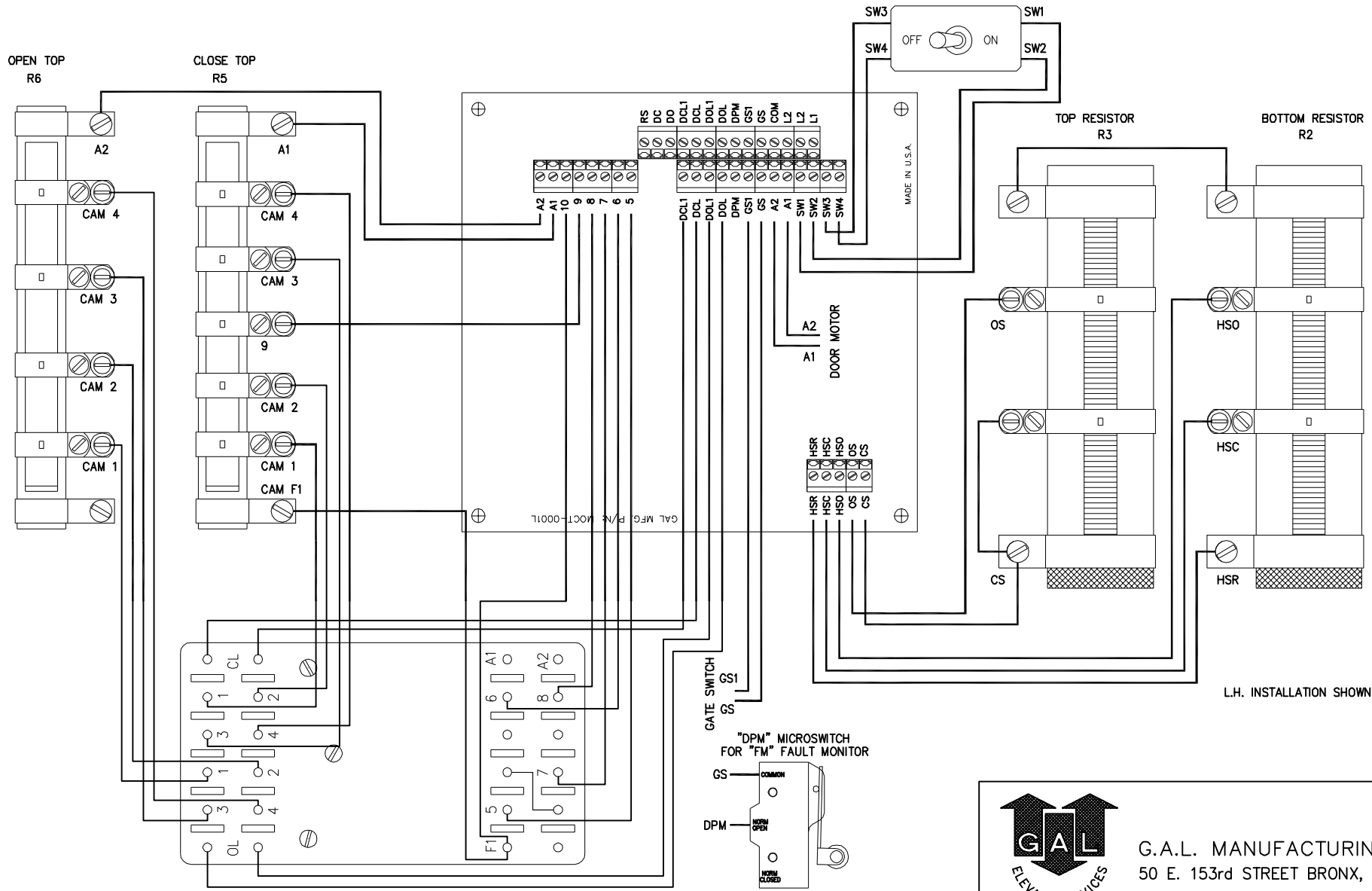

G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

MOMCT AND MOHCT DOOR OPERATOR
 120 VOLT OR 208/230 VOLT AC OR DC

SCALE _____ DATE 11-22-96

B	ECN #	7/05	MDH	DWG. BY	A.G.
No.	REVISION	DATE	CH'K.	CH'K. BY	A.A.

7774

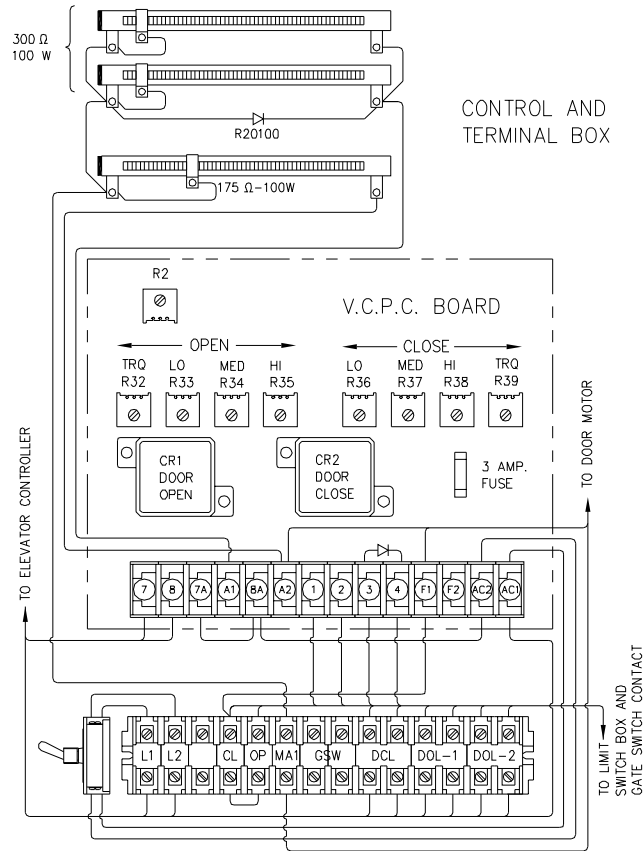
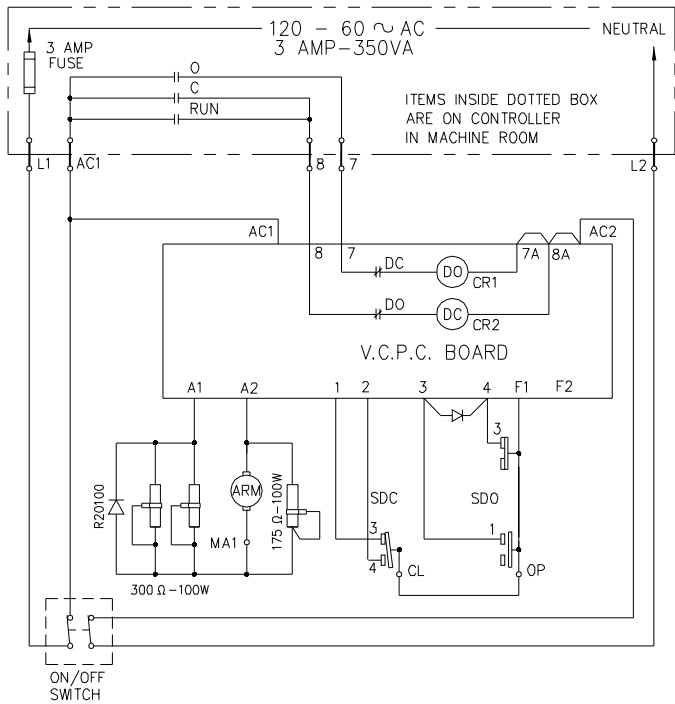



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

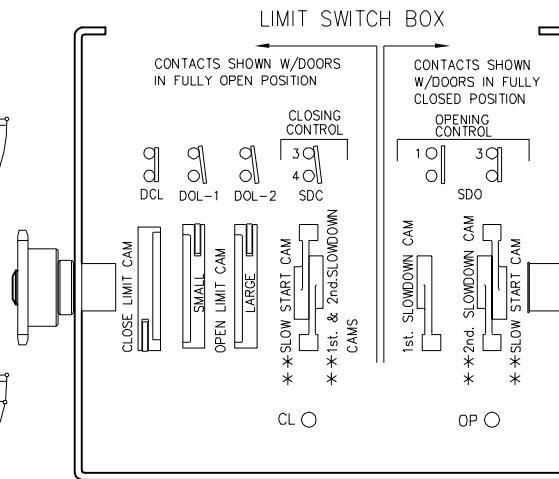
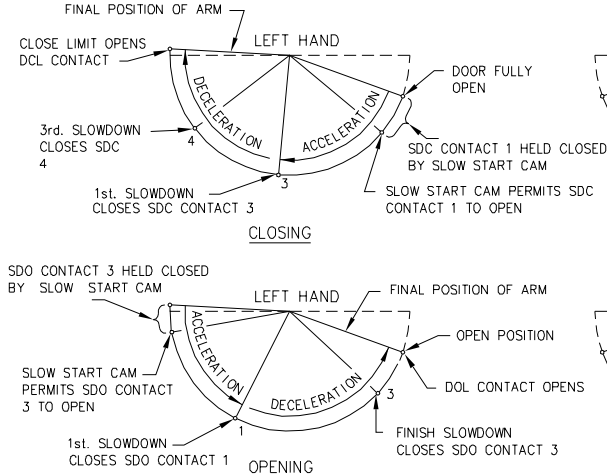
MOMCT/MOHCT OPERATOR
SHOP WIRING SCHEMATIC

SCALE	3/4	DATE	9/14/95
DWG. BY		M7662-1	
CHK. BY			

No.	REVISION	DATE	CHK.



POSITIONS OF OPERATOR CRANK ARM
(* FOR L ARRANGEMENTS)



** LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.

- IMPORTANT -

ALL CAMS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE V.C. POTS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

TERMINAL MARKINGS		ADJUSTABLE POTS	
L1, L2	INCOMING LINE TO OPERATOR	R32	OPEN TORQUE LIMIT
CL	CLOSE CONTROL COMMON	R33	LOW SPEED OPEN
OP	OPEN CONTROL COMMON	R34	MEDIUM SPEED OPEN
AC1, AC2	INCOMING LINE TO V.C.P.C. BOARD	R35	HIGH SPEED OPEN
A1, A2	ARMATURE	R36	LOW SPEED CLOSE
CSW	GATE SWITCH (2 WIRES)	R37	MEDIUM SPEED CLOSE
DCL	DOOR CLOSE LIMIT (2 WIRES)	R38	HIGH SPEED CLOSE
DOL-1	DOOR OPEN LIMIT (2 WIRES) SMALL	R39	CLOSE TORQUE LIMIT
DOL-2	DOOR OPEN LIMIT (2 WIRES) LARGE	R2	ACCELERATION RATE
1,2,3,4	SLOWDOWN LIMIT INPUTS TO V.C.P.C. BOARD		
7, 7A	OPEN RELAY CIRCUIT ON V.C.P.C. BOARD		
8, 8A	CLOSE RELAY CIRCUIT ON V.C.P.C. BOARD		
WIRING SYMBOLS		RELAYS	
	FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER	C	CLOSE PILOT RELAY
	CAM CONTACT	O	OPEN PILOT RELAY
	FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY	RUN	ELEVATOR RUNNING RELAY
CONTACTS			
DOL	DOOR OPEN LIMIT		
DCL	DOOR CLOSE LIMIT		
SDC	SLOWDOWN CLOSE		
SDO	SLOWDOWN OPEN		

- ADJUSTMENT NOTES -

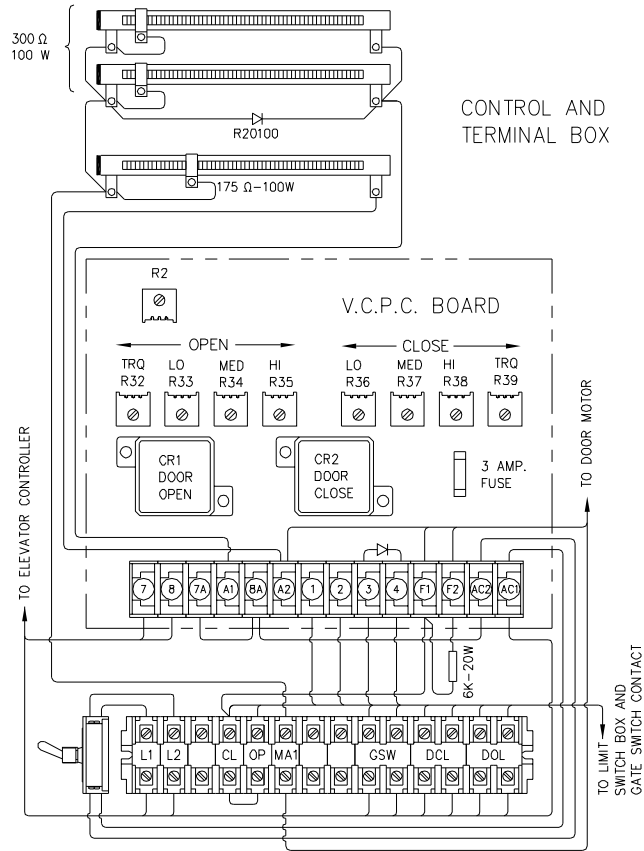
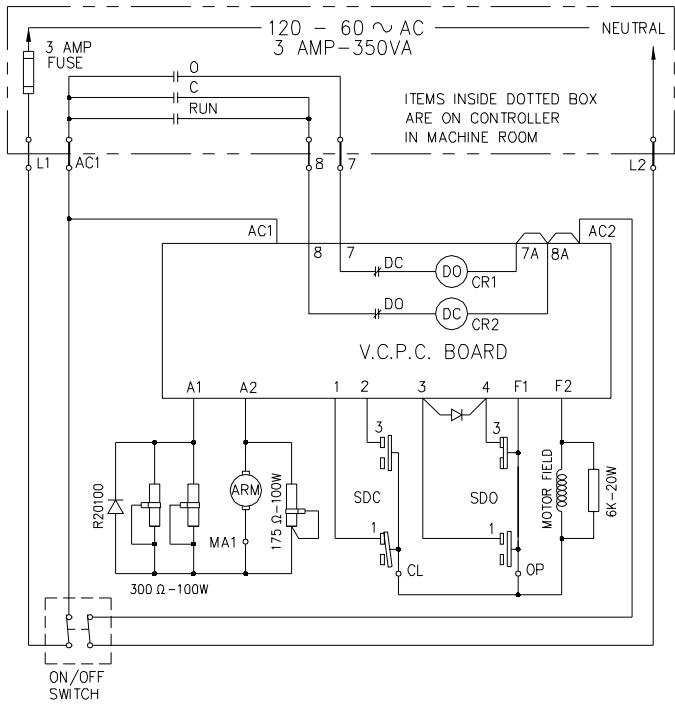
- VOLTAGE (SEE NOTE 3)**
INPUT VOLTAGE (AC1-AC2) 100-125VAC (WARNING; DO NOT EXCEED 125VAC)
- POT ADJUSTMENTS**
(TURN CLOCKWISE TO INCREASE TORQUE OR SPEED) REVISION "0" INITIAL SETTING ADJUST FULLY

R32	DOOR OPEN CURRENT LIMIT	R9	CW
R35	HIGH SPEED OPEN (CONTACTS 1 & 3 OPEN)	R7	CW
R34	MEDIUM SPEED OPEN (CONTACT 1 CLOSED)	R8	CCW
R33	LOW SPEED OPEN (CONTACTS 1&3 CLOSED)	R11	CW
R38	HIGH SPEED CLOSE (CONTACTS 3&4 OPEN)	R5	CCW
R37	MEDIUM SPEED CLOSE (CONTACT 3 CLOSED)	R6	CCW
R36	LOW SPEED CLOSE (CONTACTS 3&4 CLOSED)	R23	CW
R39	DOOR CLOSING CURRENT LIMIT		CCW
R2	ACCELERATION RATE (CLOCKWISE = DECREASE RATE)		
- BEFORE APPLYING POWER, CHECK THE MOTOR ARMATURE RESISTANCE, AND THE SLOWDOWN SWITCH WIRING. BE SURE DOORS OPERATE FREELY (NO BINDING). ADJUST SPRING OF SPRING CLOSER TO CLOSE HOISTWAY DOOR. DO NOT USE EXCESSIVE SPRING PRESSURE. WITH POWER APPLIED, BUT BEFORE OPERATING THE DOORS, CHECK THE INPUT VOLTAGE (AC1-AC2). DURING INITIAL OPERATION, CHECK THAT THE P.C. BOARD HEAT SINK IS NOT TOO HOT.
- CLOSING SPEED ADJUSTMENTS:**
 - FOR FASTEST OPERATION SET R2 (ACCELERATION) POT MINIMUM (COUNTER CLOCKWISE).
 - SET LOW AND MEDIUM SPEED POTS MINIMUM (COUNTER CLOCKWISE).
 - SET TORQUE AND HIGH SPEED POTS MAXIMUM (CLOCKWISE).
 - ALLOW CLOSING OPERATION. DOOR WILL BE STALLED AT START. MOVE DOOR INTO HIGHSPEED ZONE AND MEASURE STALLED TORQUE AT 1/3 CLOSED DISTANCE. BY CODE, CLOSING TORQUE MUST NOT EXCEED 30 POUNDS. ADJUST SERIES RESISTANCE (FIRST TWO RESISTORS) MIDWAY (ADJUST EACH BAND EQUALLY). ADJUST CLOSING TORQUE POT TO YIELD MAX. 30 POUNDS. LESS TORQUE RESULTS IN FASTER CLOSING SPEED. AFTER SETTING, OPERATE DOOR AND START CLOSING CYCLE.
 - ADJUST MEDIUM SPEED UNTIL DOORS START TO CLOSE.
 - WHEN DOOR APPROACHES THE FULL CLOSE POSITION ADJUST LOW SPEED FOR THE FINAL CLOSING SPEED.
 - ADJUST THE SLOW START CAM FOR A MINIMUM SLOW START ZONE.
 - ADJUST HIGH SPEED FOR PROPER OPERATION AND KINETIC ENERGY CODE REQUIREMENT. ADJUST THE FIRST SLOWDOWN CAM AND OR THE MEDIUM SPEED POT TO PREVENT A LONG FINAL CLOSE SPEED ZONE. THIRD SLOWDOWN CAM MAY BE ADJUSTED IF THE FINAL SPEED ZONE IS TOO SHORT.
- OPENING SPEED ADJUSTMENTS:**
 - ADJUST MEDIUM AND LOW SPEED POTS MINIMUM (COUNTER CLOCKWISE).
 - ADJUST HIGH SPEED AND TORQUE POTS MAXIMUM (CLOCKWISE).
 - ALLOW OPENING OPERATION AND ADJUST THE LOW SPEED POT FOR THE STARTING AND FINAL OPENING SPEED. IF SLOWER OPENING IS DESIRED ADJUST THE HIGH SPEED POT TO SUIT. TURN R2 SLOTTLY CLOCKWISE IF SMOOTHING AND SLOWER OPERATION IS DESIRED. CLOSING OPERATION MAY THEN NEED SOME READJUSTMENT.
 - WHEN DOOR CLOSES 1/3 OF THE DISTANCE, RE-OPEN DOOR AND ADJUST MEDIUM SPEED POT FOR RAPID REVERSAL. ADJUST SECOND SLOWDOWN CAM TO REACH FINAL OPEN SPEED JUST BEFORE OPEN LIMIT.
 - SLOW START CAM CAN BE ADJUSTED TO ALLOW HIGH SPEED AS SOON AS HOISTWAY DOOR IS UNLOCKED.
 - FIRST SLOWDOWN AND SECOND SLOWDOWN CAMS SHOULD BE ADJUSTED TO PREVENT SLAMMING OR LONG FINAL OPENING ZONES.
- REDUCED SPEED CLOSING:**
REDUCED SPEED CLOSING (NUDDING) CAN BE ACHIEVED BY CLOSING A CONTACT BETWEEN "F1" AND "1" ON THE P.C. BOARD (IN PARALLEL WITH THE MEDIUM SPEED CLOSE SLOWDOWN CONTACT). THIS WILL INITIATE "MEDIUM SPEED" CLOSING.

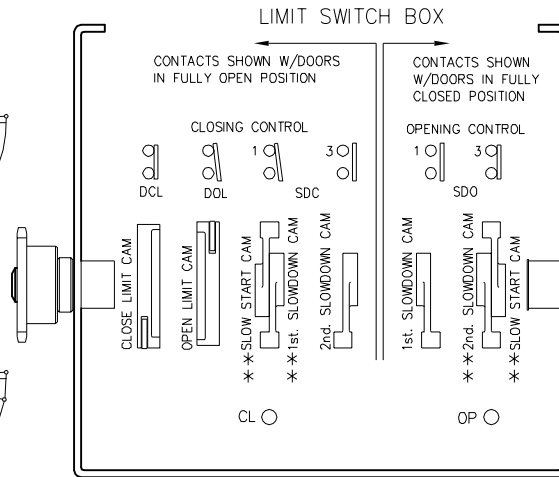
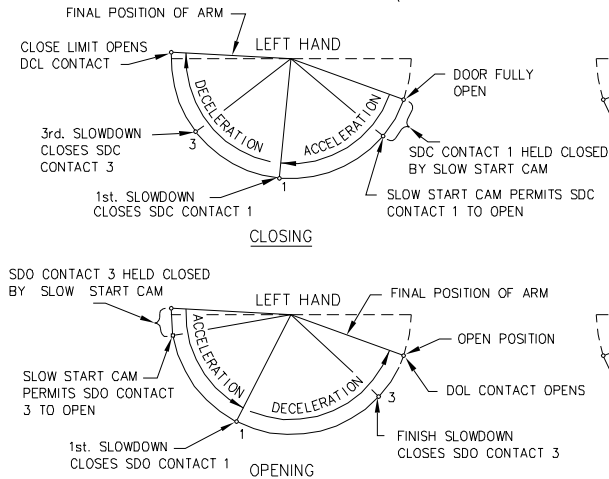


G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE MOMSVL/MOHSV L DOOR OPERATOR	
WITH TWO OPEN LIMITS - WHERE DOOR OPENING DIFFERENCES ARE MINOR	
SCALE NONE	DATE 10/14/99
DWG. BY	8015
No. REVISION	DATE CHK. CHK. BY



POSITIONS OF OPERATOR CRANK ARM
(* FOR L ARRANGEMENTS)



** LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.

- IMPORTANT -

ALL CAMS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE V.C. POTS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

TERMINAL MARKINGS	ADJUSTABLE POTS
L1, L2	R32 OPEN TORQUE LIMIT
CL	R33 LOW SPEED OPEN
OP	R34 MEDIUM SPEED OPEN
AC1, AC2	R35 HIGH SPEED OPEN
A1, A2	R36 LOW SPEED CLOSE
F1, F2	R37 MEDIUM SPEED CLOSE
GSW	R38 HIGH SPEED CLOSE
DCL	R39 CLOSE TORQUE LIMIT
DOL	R23 ACCELERATION RATE
1,2,3,4	
7, 7A	RELAYS
8, 8A	C CLOSE PILOT RELAY
	O OPEN PILOT RELAY
	RUN ELEVATOR RUNNING RELAY
	CONTACTS
	DOL DOOR OPEN LIMIT
	DCL DOOR CLOSE LIMIT
	SDC SLOWDOWN CLOSE
	SDO SLOWDOWN OPEN

- ADJUSTMENT NOTES -

- VOLTAGE (SEE NOTE 3)**
INPUT VOLTAGE (AC1-AC2) 100-125VAC (WARNING; DO NOT EXCEED 125VAC)
- POT ADJUSTMENTS**
(TURN CLOCKWISE TO INCREASE TORQUE OR SPEED) REVISION "0" INITIAL SETTING ADJUST FULLY

R32	DOOR OPEN CURRENT LIMIT	R9	CW
R35	HIGH SPEED OPEN (CONTACT 3 OPEN)	R7	CW
R34	MEDIUM SPEED OPEN (CONTACT 3 CLOSED)	R8	CCW
R33	LOW SPEED OPEN (CONTACT 3 CLOSED)	R11	CW
R38	HIGH SPEED CLOSE (CONTACT 1 OPEN)	R5	CW
R37	MEDIUM SPEED CLOSE (CONTACT 1 CLOSED)	R6	CCW
R36	LOW SPEED CLOSE (CONTACT 1 CLOSED)	R23	CW
R39	DOOR CLOSING CURRENT LIMIT		
R2	ACCELERATION RATE (CLOCKWISE=DECREASE RATE)		
- INITIAL CHECKS:**
BEFORE APPLYING POWER, CHECK THE MOTOR ARMATURE AND FIELD RESISTANCE, AND THE SLOWDOWN SWITCH WIRING. BE SURE DOORS OPERATE FREELY (NO BINDING). ADJUST SPRING OF SPRING CLOSER TO CLOSE HOSTWAY DOOR. DO NOT USE EXCESSIVE SPRING PRESSURE. WITH POWER APPLIED, BUT BEFORE OPERATING THE DOORS, CHECK THE INPUT VOLTAGE (AC1-AC2). DURING INITIAL OPERATION, CHECK THAT THE P.C. BOARD HEAT SINK IS NOT TOO HOT.
- CLOSING SPEED ADJUSTMENTS:**
 - A- FOR FASTEST OPERATION SET R2 (ACCELERATION) POT MINIMUM (COUNTER CLOCKWISE).
 - B- SET LOW AND MEDIUM SPEED POTS MINIMUM (COUNTER CLOCKWISE).
 - C- SET TORQUE AND HIGH SPEED POTS MAXIMUM (CLOCKWISE).
 - D- ALLOW CLOSING OPERATION. DOOR WILL BE STALLED AT START. MOVE DOOR INTO HIGH SPEED ZONE AND MEASURE STALLED TORQUE AT 1/3 CLOSED DISTANCE. BY CODE, CLOSING TORQUE MUST NOT EXCEED 30 POUNDS. ADJUST SERIES RESISTANCE (FIRST TWO RESISTORS) MIDWAY. (ADJUST EACH BAND EQUALLY) ADJUST CLOSING TORQUE POT TO YIELD MAX. 30 POUNDS. LESS TORQUE RESULTS IN A SLOWER CLOSING SPEED. AFTER SETTING, OPERATE DOOR AND START CLOSING CYCLE.
 - E- ADJUST MEDIUM SPEED UNTIL DOOR STARTS TO CLOSE.
 - F- WHEN DOOR APPROACHES THE FULL CLOSE POSITION ADJUST LOW SPEED FOR THE FINAL CLOSING SPEED.
 - G- ADJUST THE SLOW START CAM FOR A MINIMUM SLOW START ZONE.
 - H- ADJUST HIGH SPEED FOR PROPER OPERATION AND KINETIC ENERGY CODE REQUIREMENT.
 - I- ADJUST THE FIRST SLOWDOWN CAM AND OR THE MEDIUM SPEED POT TO PREVENT A LONG FINAL SPEED ZONE. THIRD SLOWDOWN CAM MAY BE ADJUSTED IF THE FINAL SPEED ZONE IS TOO SHORT.
- OPENING SPEED ADJUSTMENTS:**
 - A- ADJUST MEDIUM AND LOW SPEED POTS MINIMUM (COUNTER CLOCKWISE).
 - B- ADJUST HIGH SPEED AND TORQUE POTS MAXIMUM (CLOCKWISE).
 - C- ALLOW OPENING OPERATION AND ADJUST THE LOW SPEED POT FOR THE STARTING AND FINAL OPENING SPEED. IF SLOWER OPENING IS DESIRED ADJUST THE HIGH SPEED POT TO SUIT. TURN R2 SLIGHTLY CLOCKWISE IF SMOOTHING AND SLOWER OPERATION IS DESIRED. CLOSING OPERATION MAY THEN NEED SOME READJUSTMENT.
 - D- WHEN DOOR CLOSES 1/3 OF THE DISTANCE, REOPEN DOOR AND ADJUST MEDIUM SPEED POT FOR RAPID REVERSAL. ADJUST SECOND SLOWDOWN CAM TO REACTUAL INITIAL OPENING SPEED JUST BEFORE OPEN LIMIT.
 - E- SLOW START CAM CAN BE ADJUSTED TO ALLOW HIGH SPEED AS SOON AS HOSTWAY DOOR IS UNLOCKED.
 - F- FIRST SLOWDOWN AND SECOND SLOWDOWN CAMS SHOULD BE ADJUSTED TO PREVENT SLAMMING OR LONG FINAL OPENING ZONES.
- REDUCED SPEED CLOSING:**
REDUCED SPEED CLOSING (NUDGING) CAN BE ACHIEVED BY CLOSING A CONTACT BETWEEN "F1" AND "1" ON THE P.C. BOARD (IN PARALLEL WITH THE MEDIUM SPEED CLOSE SLOWDOWN CONTACT). THIS WILL INITIATE "MEDIUM SPEED" CLOSING.



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE MOMSVL/MOHSV L DOOR OPERATOR
(SHUNT WOUND MOTOR)

No.	REVISION	DATE	CHK.	CHK. BY
3	ADJUSTMENT NOTES	5/95		
2	ADJUSTMENT NOTES	12/83		
1	ADDED REVISION "0"	1/82		

SCALE	NONE	DATE	4-15-91
DWG. BY			
			L7240-1

- IMPORTANT -

ALL CAMS ARE FACTORY ADJUSTED. DO NOT CHANGE THE CAM SETTINGS UNTIL THE V.C. POTS HAVE BEEN ADJUSTED FOR INDIVIDUAL JOB CONDITIONS.
ALL G.A.L. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

- LEGEND -

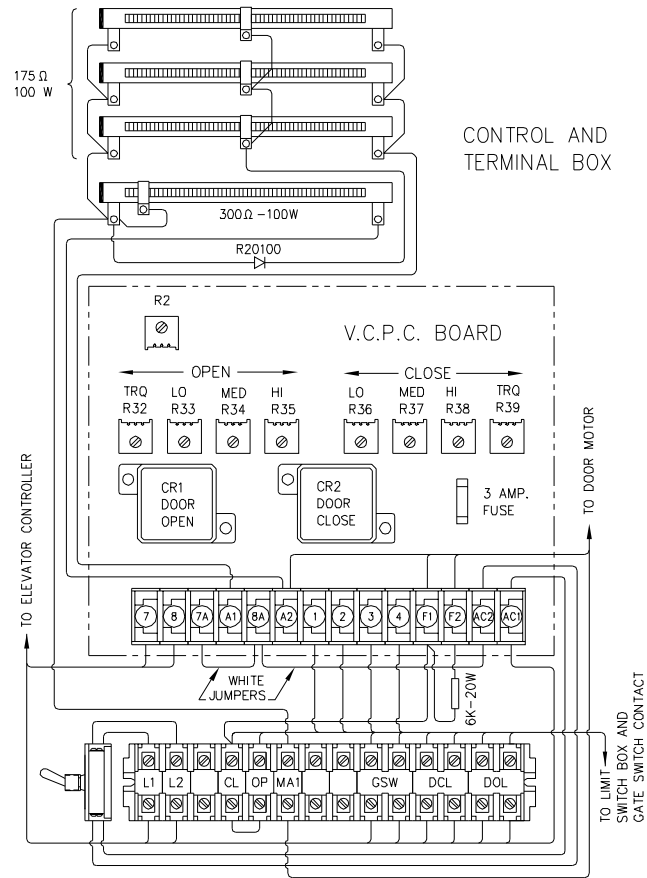
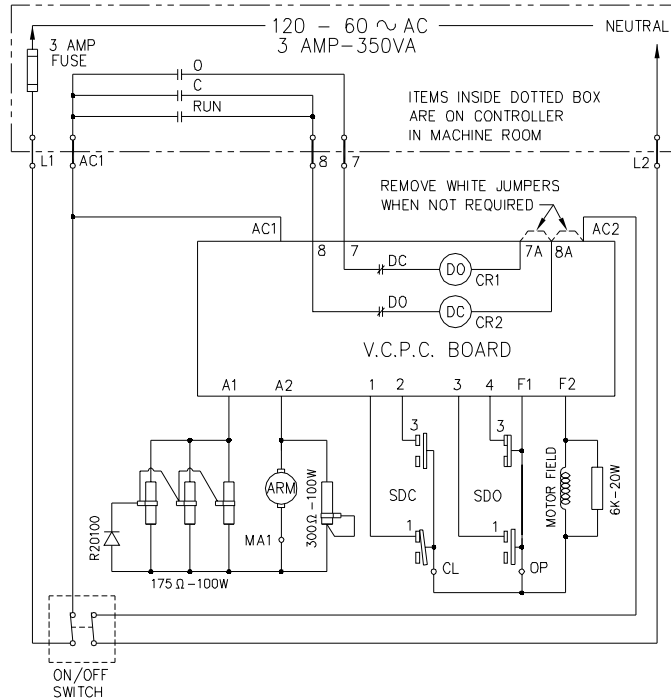
RELAYS	C CLOSE PILOT RELAY	0 OPEN PILOT RELAY	RUN ELEVATOR RUNNING RELAY	ADJUSTABLE POTS	R32 OPEN CURRENT LIMIT
CONTACTS	DOL DOOR OPEN LIMIT	DCL DOOR CLOSE LIMIT	SDC SLOWDOWN CLOSE	R33 LOW SPEED OPEN	R34 MEDIUM SPEED OPEN
	SDO SLOWDOWN OPEN			R35 HIGH SPEED OPEN	R36 LOW SPEED CLOSE
				R37 MEDIUM SPEED CLOSE	R38 HIGH SPEED CLOSE
				R39 CLOSE CURRENT LIMIT	R2 ACCELERATION RATE

TERMINAL MARKINGS
L1, L2 INCOMING LINE TO OPERATOR
CL CLOSE CONTROL COMMON
OP OPEN CONTROL COMMON
AC1, AC2 INCOMING LINE TO V.C.P.C. BOARD
A1, A2 ARMATURE
F1, F2 FIELD
GSW GATE SWITCH (2 WIRES)
DCL DOOR CLOSE LIMIT (2 WIRES)
DOL DOOR OPEN LIMIT (2 WIRES)
1,2,3,4 SLOWDOWN LIMIT INPUTS TO V.C.P.C. BOARD
7, 7A OPEN RELAY CIRCUIT ON V.C.P.C. BOARD
8, 8A CLOSE RELAY CIRCUIT ON V.C.P.C. BOARD

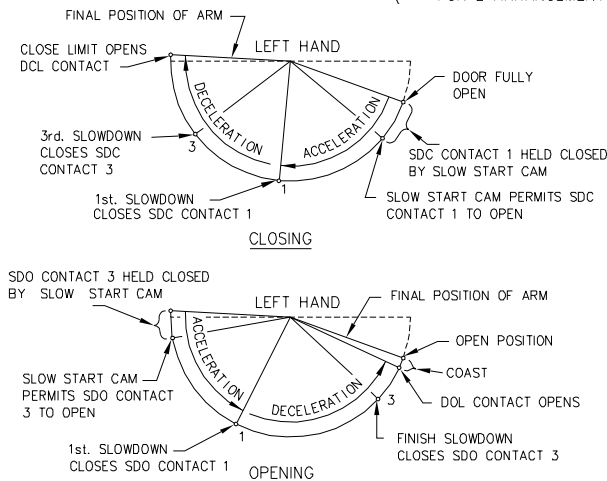
WIRING SYMBOLS
FIELD WIRING BETWEEN HATCHWAY DEVICES AND ELEVATOR CONTROLLER
CAM CONTACT
FOR OTHER ARRANGEMENTS THE FINAL POSITION OF THE ARM WILL CHANGE AND THE INTERMEDIATE POINTS WILL CHANGE ACCORDINGLY

- ADJUSTMENT NOTES -

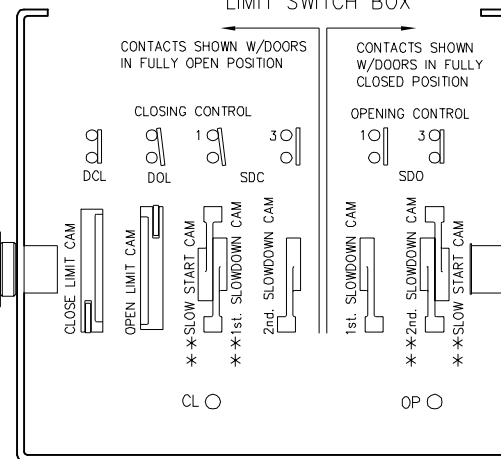
- VOLTAGES (SEE NOTE 3)**
INPUT VOLTAGE (AC1-AC2) 100-125VAC (WARNING; DO NOT EXCEED 125VAC)
COIL VOLTAGE (7-7A, 8-8A) 115VAC (COIL VOLTAGE OF "DO," "DC" RELAYS)
FIELD VOLTAGE (F1-F2) 160VDC (FIELD RESISTANCE = 825 OHMS)
ARMATURE VOLTAGE (A1-A2) 120VDC (HIGH), 60VDC (MEDIUM), 30VDC (LOW)
ARMATURE RESISTANCE (A1-A2) WITH POWER DISCONNECTED = 25 OHMS
- POT ADJUSTMENTS**
(TURN CLOCKWISE TO INCREASE TORQUE OR SPEED)
R32 DOOR OPEN CURRENT LIMIT
R35 HIGH SPEED OPEN (CONTACT 3 OPEN)
R34 MEDIUM SPEED OPEN (CONTACT 3 CLOSED)
R33 LOW SPEED OPEN (CONTACT 3 CLOSED)
R38 HIGH SPEED CLOSE (CONTACT 1 OPEN)
R37 MEDIUM SPEED CLOSE (CONTACT 1 CLOSED)
R36 LOW SPEED CLOSE (CONTACT 1 CLOSED)
R39 DOOR CLOSING CURRENT LIMIT
R2 ACCELERATION RATE (CLOCKWISE = DECREASE RATE)
- BEFORE APPLYING POWER, CHECK THE MOTOR ARMATURE AND FIELD RESISTANCE, AND THE SLOWDOWN SWITCH WIRING. WITH POWER APPLIED, BUT BEFORE OPERATING THE DOORS, CHECK THE INPUT VOLTAGE (AC1-AC2), AND THE FIELD VOLTAGE (F1-F2). DURING INITIAL OPERATION, CHECK THAT THE P.C. BOARD HEAT SINK IS NOT TOO HOT.**
- SET OPEN AND CLOSE HIGH SPEED POTS TO GIVE DESIRED HIGH SPEED.
- JUMP THE APPROPRIATE SLOWDOWN SWS TO SET MEDIUM AND LOW SPEEDS. SET SLOW SPEED FAST ENOUGH TO PREVENT THE DOOR FROM STALLING WHEN THE DOOR STARTS TO OPEN OR CLOSE. SET THE MEDIUM SPEED BETWEEN HIGH AND SLOW SPEED. IF THE DOOR SLAMS, REDUCE MEDIUM SPEED, OR INCREASE THE ACCELERATION (TURN R2 COUNTER-CLOCKWISE), OR ADJUST G.A.L. SLOWDOWN SWS TO START SLOWDOWN EARLIER.
- THE ACCELERATION POT, R2, SHOULD NOT REQUIRE ADJUSTMENT. TO ADJUST, TURN R2 COUNTER-CLOCKWISE FOR QUICKER ACCELERATION AND DECELERATION. TURN R2 CLOCKWISE FOR SOFTER START AND ACCELERATION, AND SLOWER DECELERATION. A MID-RANGE SETTING IS RECOMMENDED. WARNING: IF A FASTER ACCELERATION IS SET, THIS WILL DRAW MORE CURRENT FROM THE OPERATOR WITH GREATER POSSIBILITY OF OVERLOADING IT. SPECIAL CARE SHOULD BE EXERCISED WITH HEAVY DOORS, WHICH USUALLY REQUIRE SLOWER ACCELERATION.
- REDUCED SPEED CLOSING: REDUCED SPEED CLOSING (NUDDING) CAN BE ACHIEVED BY CLOSING A CONTACT BETWEEN "F1" AND "1" ON THE P.C. BOARD (IN PARALLEL WITH THE MEDIUM SPEED CLOSE SLOWDOWN CONTACT). THIS WILL INITIATE "MEDIUM SPEED" CLOSING.



**POSITIONS OF OPERATOR CRANK ARM
(* FOR L ARRANGEMENTS)**



LIMIT SWITCH BOX



** LEFT HAND OPERATOR SHOWN REVERSE POSITIONS FOR RIGHT HAND OPERATORS.



G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

TYPE "MOM V.C." AND "MOH V.C." OPERATOR WITH SOLID STATE CONTROL

B	TAP ON RESISTORS	11-8-90	SCALE	NONE	DATE	4 - 20 - 90
A	ADDED SERIES	4-20-90	DWG. BY		CHK. BY	
No.	REVISION	DATE/CHK.	CHK. BY			L7037-B

AC SUPPLY
3 PHASE 60 CYCLE

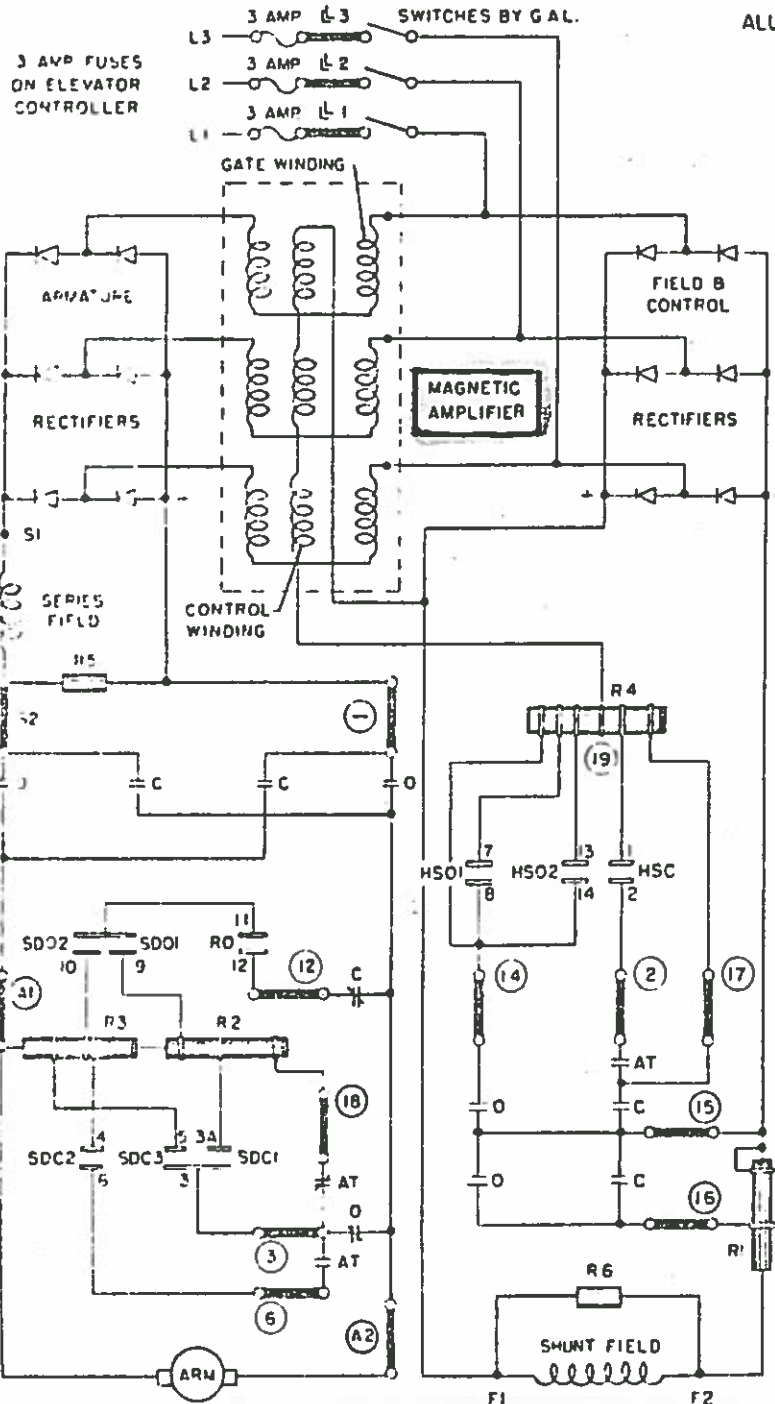
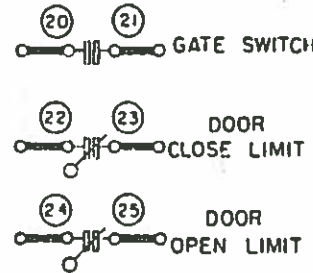


FIG. 1

ATTENDANT

ALL LIMITS & RESISTORS ARE FACTORY ADJUSTED
DO NOT CHANGE LIMIT ADJUSTMENTS
BEFORE ADJUSTING RESISTOR TUBES
TO INDIVIDUAL JOB CONDITIONS

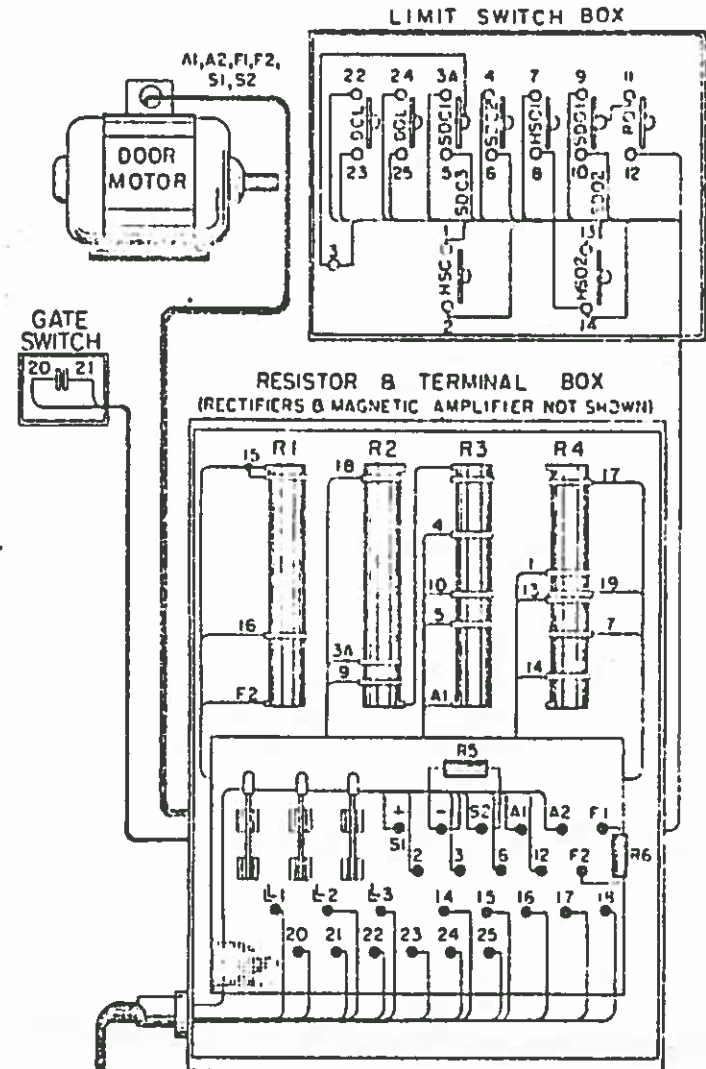


LEGEND

- RELAYS
(BY CONTR. MFG)
- AT ATTENDANT RELAY
(ENERGIZED ON ATTENDANT)
- C CLOSE RELAY
- O OPEN RELAY
- LIMITS
(BY GAL)
- DOL DOOR OPEN LIMIT
- DCL DOOR CLOSE LIMIT
- HSC HIGH SPEED CLOSE
- HSO1 HIGH SPEED OPEN 1
- HSO2 HIGH SPEED OPEN 2
- SDC1 SLOW DOWN CLOSE 1
- SDC2 SLOW DOWN CLOSE 2
- SDC3 SLOW DOWN CLOSE 3
- SDO1 SLOW DOWN OPEN 1
- SDO2 SLOW DOWN OPEN 2
- RO REVERSE OPEN
- RESISTOR TUBES
(BY GAL)
- R1 1000 OHMS } ALL 200 WATT
R2 500 OHMS } ADJUSTABLE
R3 150 OHMS }
R4 25,000 OHMS }
R5 & R6 6,000 OHMS 20 WATT

NOTE

1-WITHOUT ATTENDANT FEATURE OMIT
WIRES 2-6-18 FOR PARTICULARS
SEE GENERAL INFORMATION.



22 WIRES TO ELEVATOR CONTROLLER
-S2, A1, A2, 2, 3, 6, 12, 6, 1, 2, 3, 14, 15, 16,
17, 18, 20, 21, 22, 23, 24, 25.

"MOH" FIG. 2
"OS" MAGNETIC
AMP.

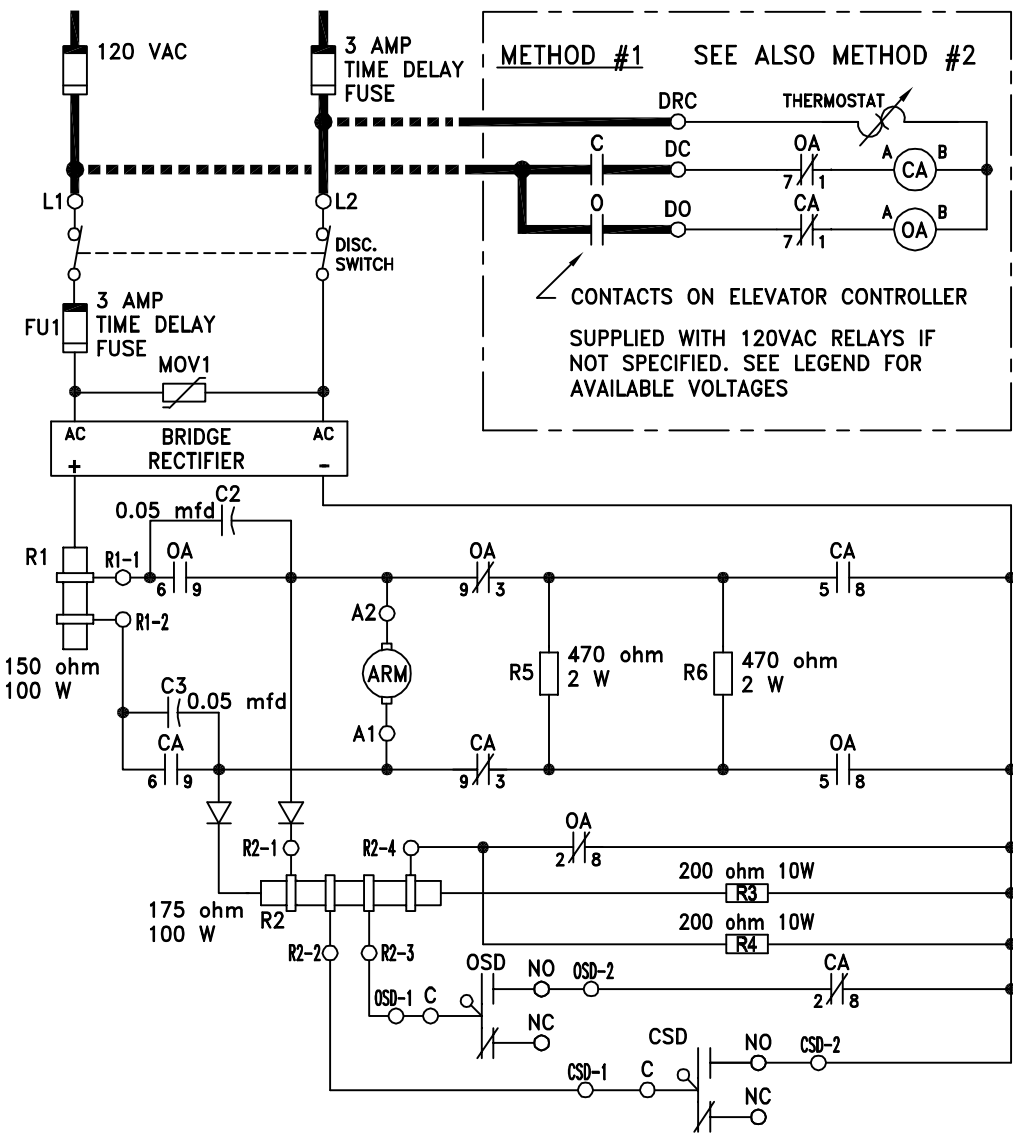
G. A. L.
ELECTRO MECHANICAL SERVICE
NEW YORK, N. Y.

WIRING DIAGRAM
FOR
HIGH SPEED OPERATOR
(TYPE MOH) "MOH"

R	SEE E.C.N. NO. 2	5246	MS	SCALE	
A	RECHAW WAS	1246	MS	DATE	
NO	DIVISION	DATE	CHK'D	CHK'D BY	

L-6143-B

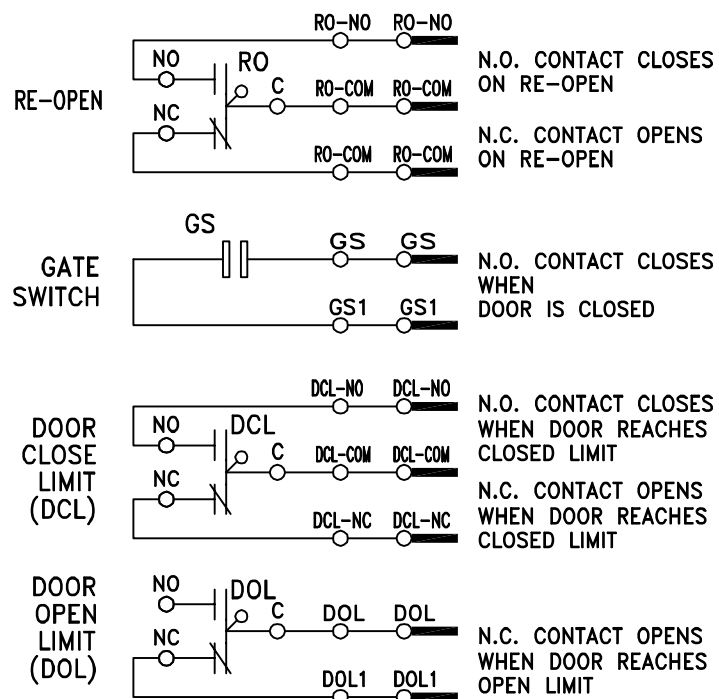
MOR WIRING SCHEMATIC



METHOD #1 SEE ALSO METHOD #2

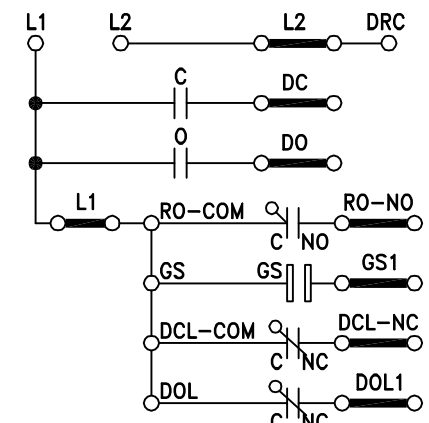
CONTACTS ON ELEVATOR CONTROLLER SUPPLIED WITH 120VAC RELAYS IF NOT SPECIFIED. SEE LEGEND FOR AVAILABLE VOLTAGES

WIRING FROM OPERATOR TO CONTROLLER



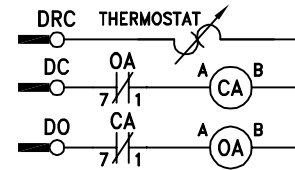
TYPICAL MINIMUM WIRING CONNECTION

WHEN ALL CIRCUITS ARE CONNECTED TO SUPPLY (L1, L2), EIGHT (8) WIRES REQUIRED FROM CONTROL TO OPERATOR



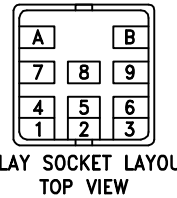
OPTIONAL METHOD #2

- 1- CONNECT ACROSS THE ELEVATOR DOOR RELAY COILS OR TO MICROPROCESSOR OUTPUT.
- 2- SUPPLIED WITH 120VAC RELAYS IF NOT SPECIFIED. SEE LEGEND FOR AVAILABLE VOLTAGES.



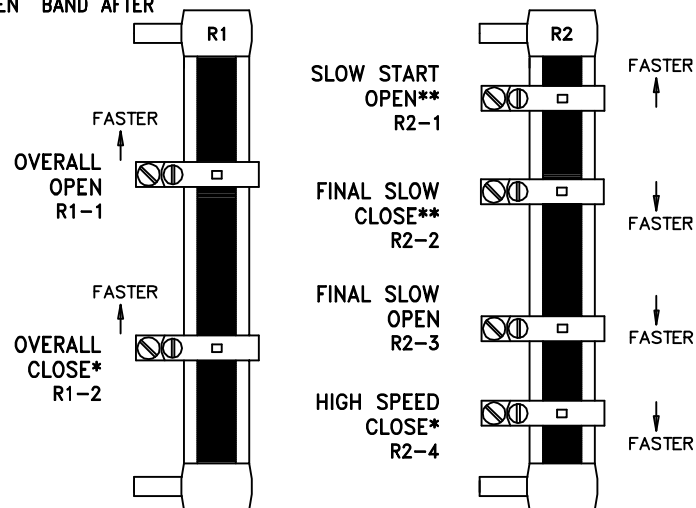
LEGEND

- RELAYS**
 CA DOOR CLOSE
 OA DOOR OPEN
- LIMITS**
 RO RE-OPEN
 GS GATE SWITCH
 CL DOOR CLOSE
 OL DOOR OPEN
 CSD SLOWDOWN CLOSE
 OSD SLOWDOWN OPEN
- RESISTOR TUBES**
 R1 - HIGH SPEED OPEN AND CLOSE
 R2 - SLOWDOWN SPEED OPEN AND CLOSE
- WIRING SYMBOLS**
 - FIELD WIRING TO OR ON ELEVATOR CONTROLLER
 - FACTORY WIRING BETWEEN CAR TOP COMPONENTS
 - OPTIONAL FIELD WIRING
 - RESISTOR TUBE (SEE BELOW FOR RESISTOR ADJUSTMENTS)



TO ADJUST SPEED

- TURN OFF POWER SWITCH ON OPERATOR CONTROLLER (NOTE: SOME CIRCUITS MAY STILL HAVE POWER)
- LOOSEN RESISTOR BAND VERY LOOSE, SLIDE TO NEW POSITION, AND RE-TIGHTEN
- TO INCREASE SPEED MOVE BAND IN DIRECTION OF ARROW
- * IF ADJUSTMENT OF "HIGH SPEED CLOSE" BAND ALL THE WAY TO THE BOTTOM OF R2 DOES NOT PRODUCE ENOUGH SPEED, THEN ADJUST "OVERALL CLOSE"
- ** "FINAL SLOW CLOSE" BAND ALSO AFFECTS SLOW START OPEN SPEED. ADJUST "FINAL SLOW CLOSE" BAND FIRST, THEN ADJUST "SLOW START OPEN" BAND AFTER



REV	DESCRIPTION	DATE	ECN
A	UPDATED SCHEM. AND DESC.	1-8-08	--

IMPORTANT

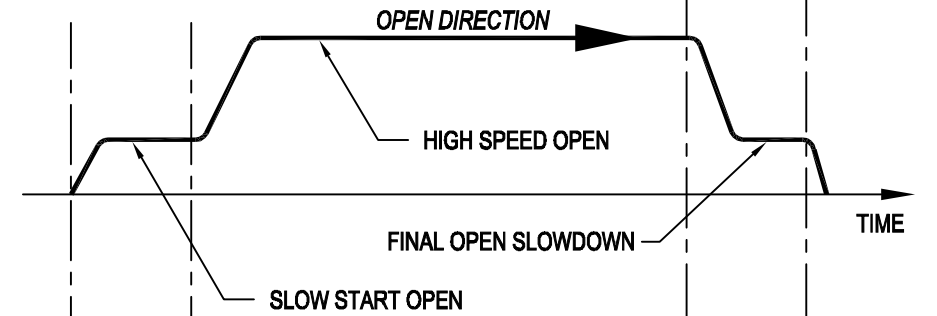
ALL RESISTORS ARE FACTORY ADJUSTED. THE RESISTORS MAY BE RE-ADJUSTED BASED ON INDIVIDUAL JOB REQUIREMENTS ALL G.A.L. MFG. EQUIPMENT MUST BE INSTALLED, ADJUSTED, TESTED, AND MAINTAINED TO COMPLY WITH ALL FEDERAL, STATE AND LOCAL CODES.

NOTES

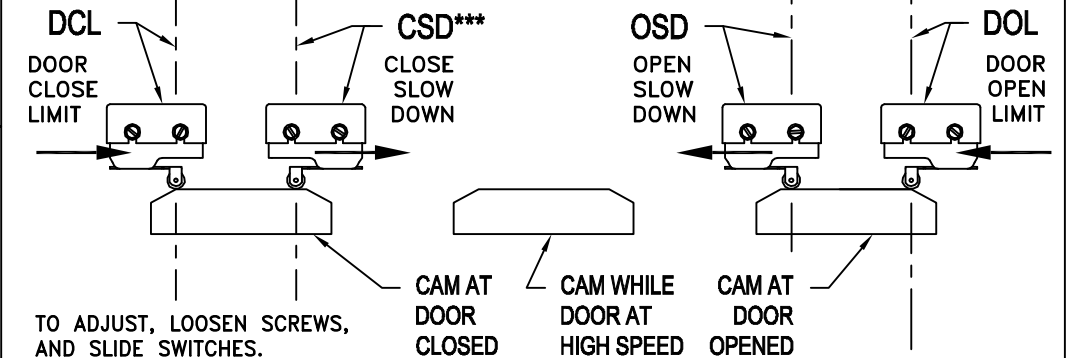
- 1-DOOR CLOSE RELAY (CA) MUST BE KEPT ENERGIZED WHEN ELEVATOR IS IN THE RUN MODE OR IS STOPPED OUTSIDE THE LANDING ZONE.

LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.

OPEN CYCLE



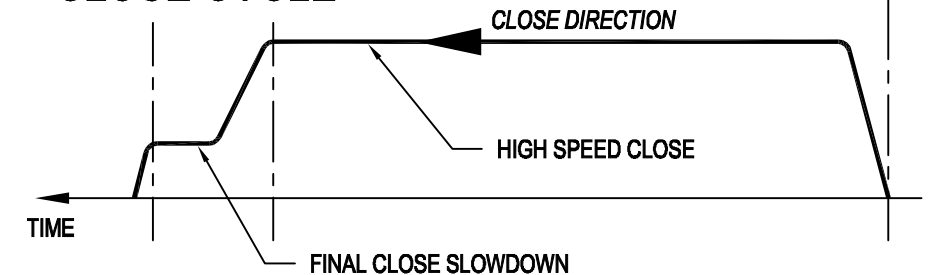
LIMIT SWITCHES



TO ADJUST, LOOSEN SCREWS, AND SLIDE SWITCHES.
 - MOVING DCL OR DOL IN DIRECTION OF ARROW SHORTENS TRAVEL.
 - MOVING CSD OR OSD IN DIRECTION OF ARROW INCREASES SLOW DOWN DISTANCE.
 - BE SURE CSD OR OSD IS ON CAM WHEN LIMIT DCL OR DOL MAKES.

*** CLOSE SLOW DOWN SWITCH ALSO AFFECTS THE POSITION OF THE TRANSITION FROM SLOW START OPEN TO HIGH SPEED OPEN

CLOSE CYCLE

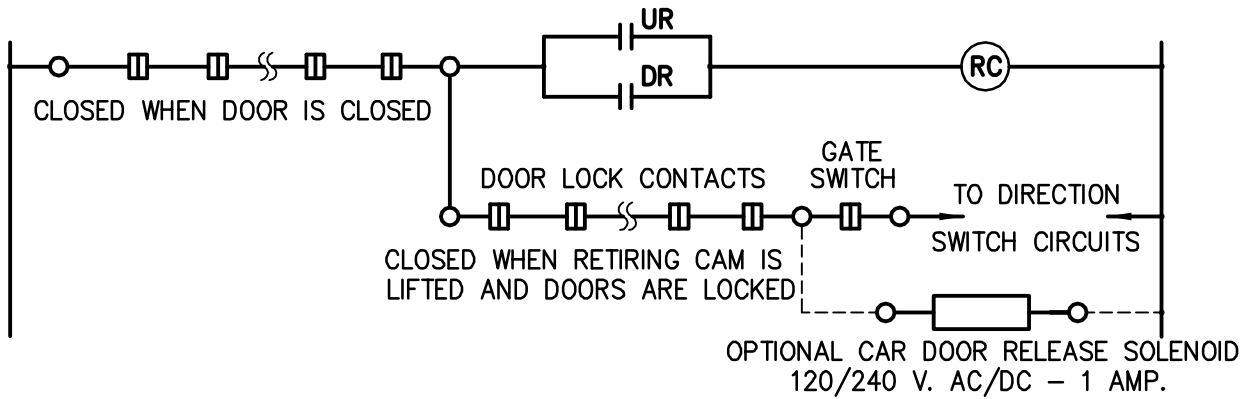


G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

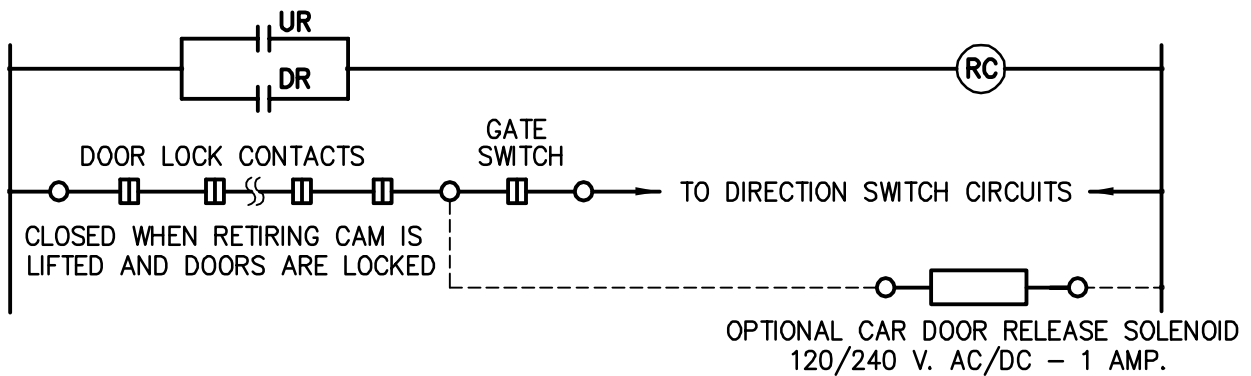
MOR RESIDENTIAL DOOR OPERATOR WIRING

DRAWN BY	HDC	DATE	9/14/05
ENGINEER	HDC	SHEET	1 OF 1
SCALE		SIZE	
PART No.		REV	A
DOCUMENT No.	8702		

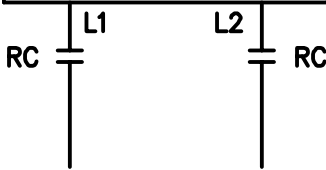
CONTROL CIRCUIT FOR DOUBLE CONTACT INTERLOCK



CONTROL CIRCUIT FOR SINGLE CONTACT INTERLOCK

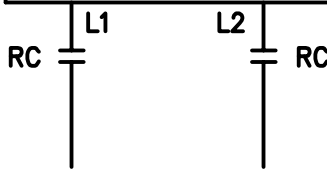


G.A.L.
RETIRING CAM MOTOR
SEE DWG M-6418



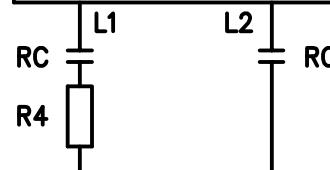
220 V.A.C. - 1 AMP.

G.A.L.
RETIRING CAM MOTOR
SEE DWG M-6418-115



120 V.A.C. - 1 AMP.
115 V.D.C. - 1 AMP.

G.A.L.
RETIRING CAM MOTOR
SEE DWG M-6418



265 V.D.C. - 1 AMP

- LEGEND**
- RC : RETIRING CAM RELAY
 - DR : DOWN DIRECTION RELAY CONTACT
 - UR : UP DIRECTION RELAY CONTACT
 - R4 : RESISTOR (BY CONTROLLER MFR. DWG. M-6418)

No.	REVISION	DATE	CHK.		



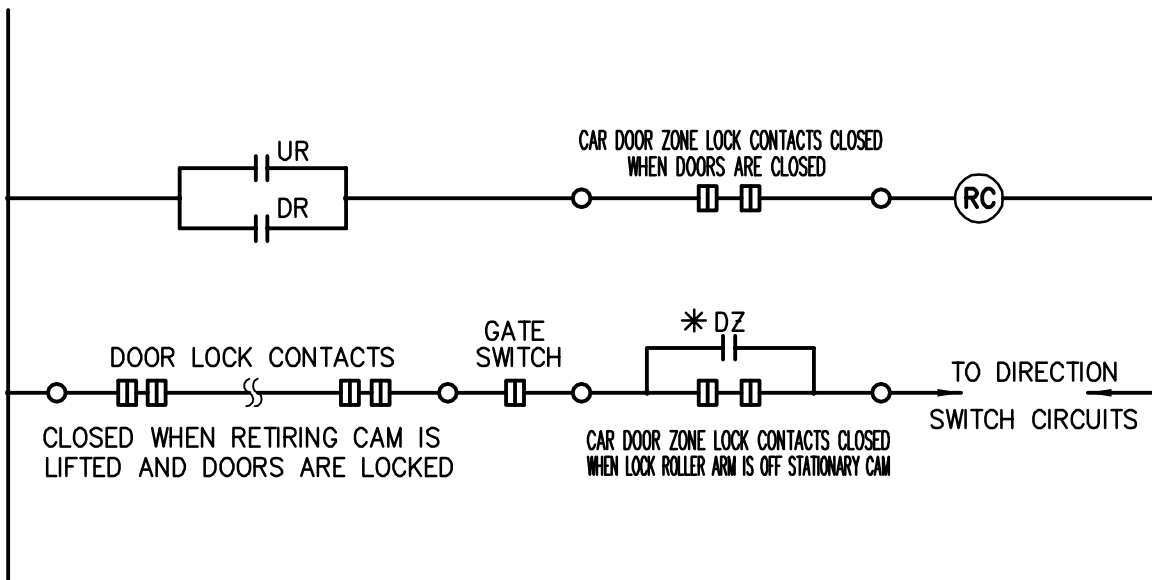
G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

SCALE 1 = 1
DWG. BY
CHK. BY
DATE 1-18-93

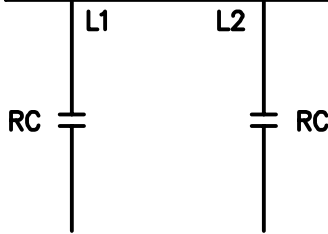
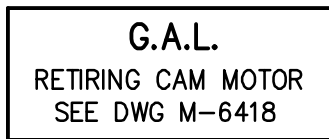
MOTORIZED RETIRING CAM WIRING DIAGRAM
W/CAR DOOR RELEASE SOLENOID W/ P.M. MOTOR

S7369

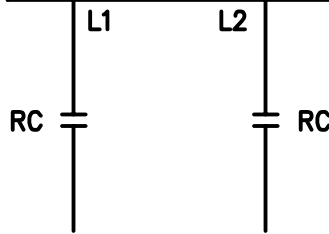
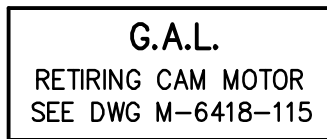
CONTROL CIRCUIT FOR SINGLE CONTACT INTERLOCK



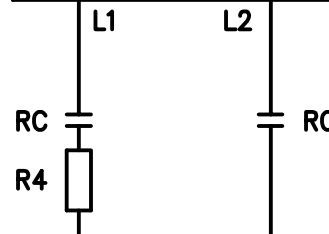
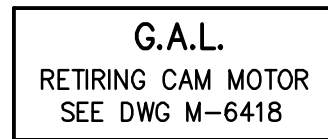
* DZ CONTACT MUST OPEN AFTER CAR DOOR ZONE ROLLER ARM CONTACT IS CLOSED (CAR OFF THE FLOOR, ROLLER ARM OFF CAM)



220 V.A.C. - 1 AMP.



120 V.A.C. - 1 AMP.
115 V.D.C. - 1 AMP.



265 V.D.C. - 1 AMP

LEGEND

- DZ** : DOOR ZONE CONTACT
- RC** : RETIRING CAM RELAY
- DR** : DOWN DIRECTION RELAY CONTACT
- UR** : UP DIRECTION RELAY CONTACT
- R4** : RESISTOR (BY CONTROLLER MFR. DWG. M-6418)

No.	REVISION	DATE	CHK.		

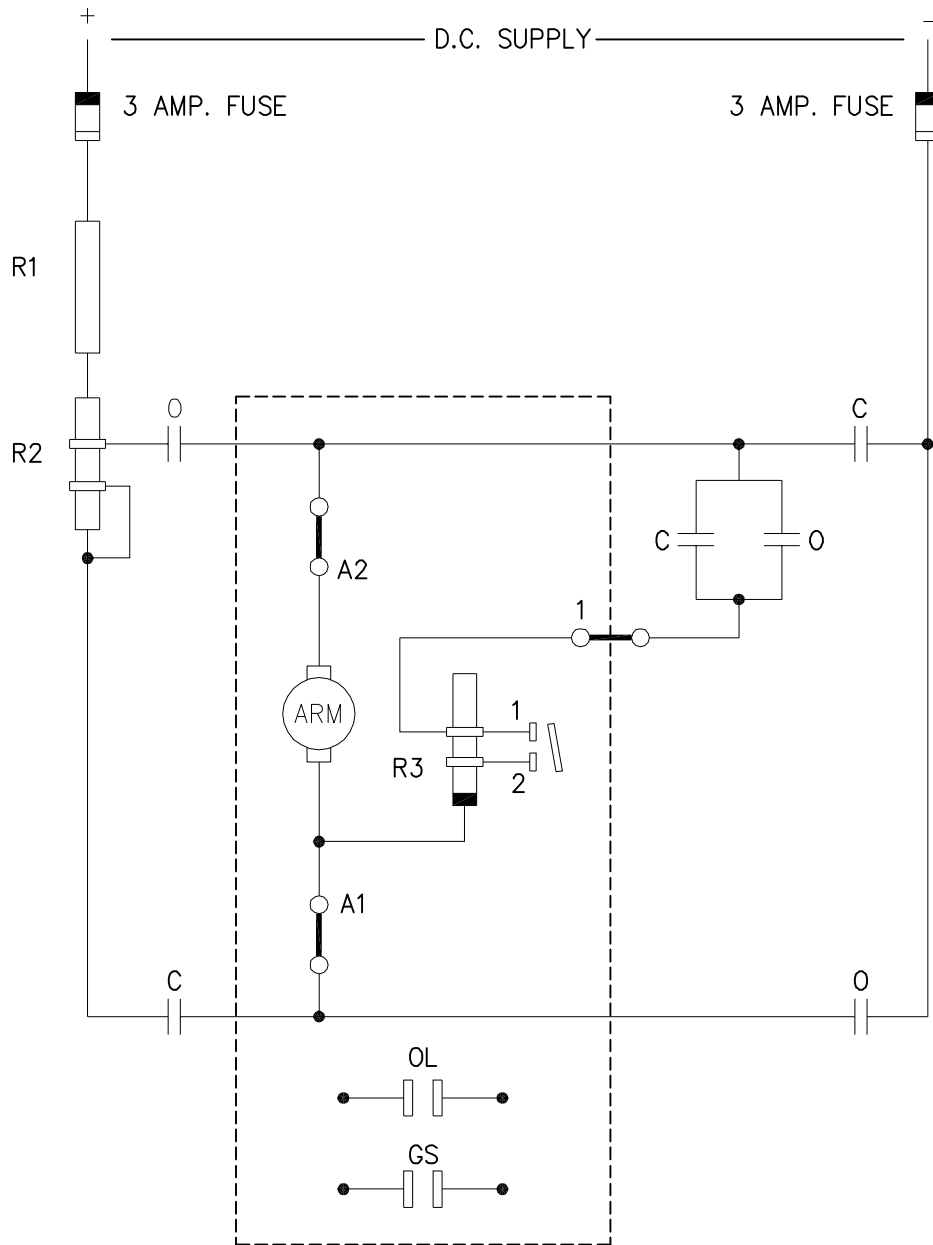


G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

SCALE	1 = 1
DWG. BY	
CHK. BY	
DATE	1-18-93

WIRING DIAGRAM FOR
SINGLE CONTACT INTERLOCK, RETIRING CAM,
ZONE LOCK AND DOOR ZONE SWITCH.

S7369-1



LEGEND

- C CLOSE RELAY
- O OPEN RELAY
- OL OPEN LIMIT
- GS GATE SWITCH
- DARK AREA TOP OF RES. TUBE

NOTE

INSIDE DOTTED LINES BY G.A.L.
 ALL OTHERS BY CONTROLLER MFG.

DC SUPPLY VOLTS	R1	R2	R3
100-160	50 Ω 200 W	50 Ω 200 W	100 Ω 100 W
200-300	250 Ω 200 W	250 Ω 200 W	300 Ω 100 W

No.	REVISION	DATE	CHK.



G.A.L. MANUFACTURING CORP.
 50 E. 153rd STREET BRONX, N.Y. 10451

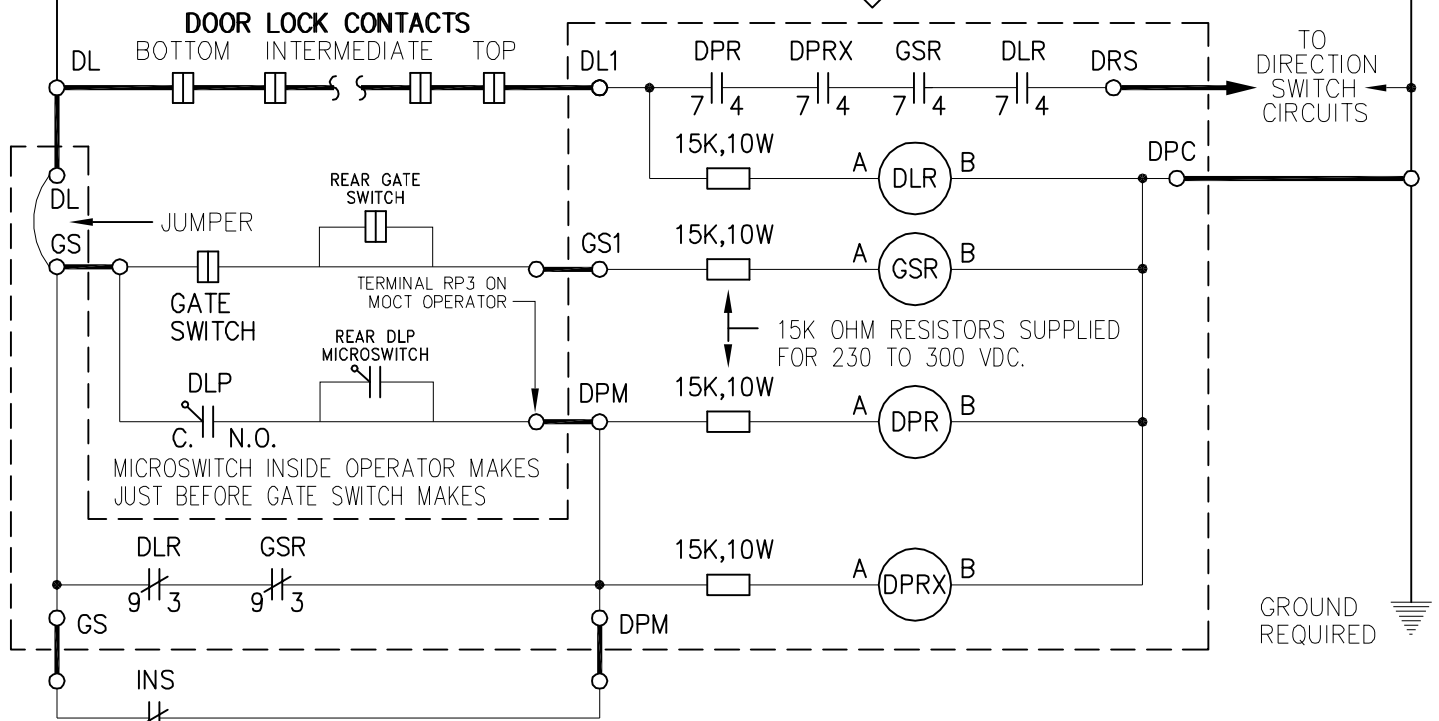
SCALE NONE
 DWG. BY
 CHK. BY
 DATE 6-20-95

WIRING DIAGRAM D.C. COLLAPSIBLE GATE OPERATOR TYPE MODG

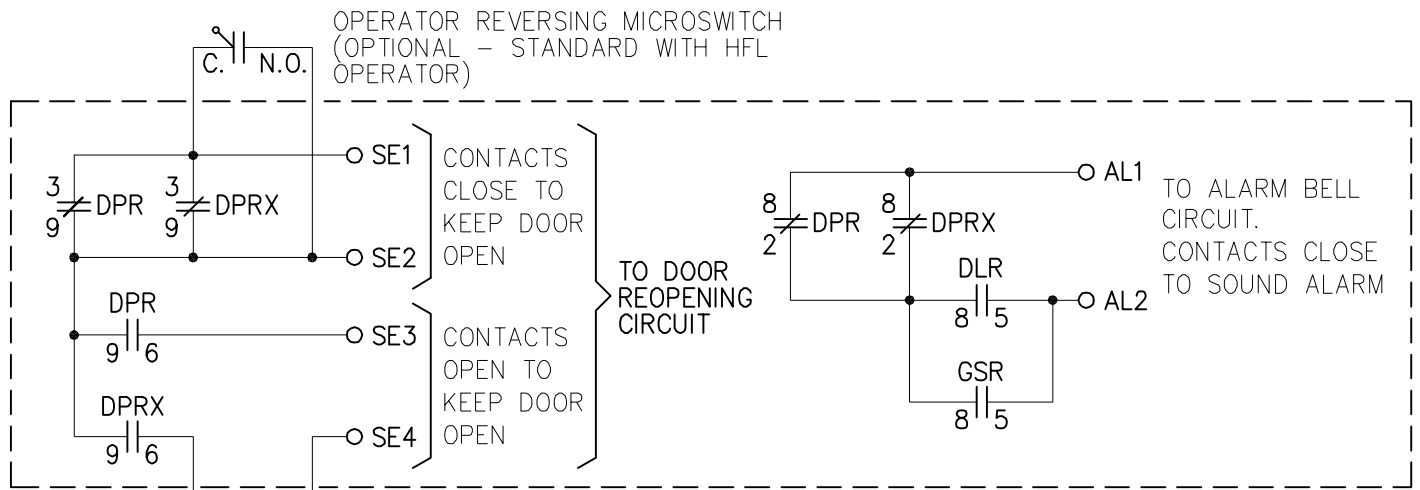
S6383

ADVISE EXISTING POWER SUPPLY
(LINE MUST BE GROUNDDED AS SHOWN)

CIRCUITS INSIDE DOTTED BOX ARE SUPPLIED BY G.A.L.
AND LOCATED IN ELEVATOR MACHINE ROOM.
HEAVY LINES DENOTE FIELD WIRING.




"INS" CONTACT LOCATED ON ELEVATOR CONTROLLER CLOSED ON INSPECTION OPERATION.
NEEDED FOR ANY OPERATION WHICH REQUIRES THE CAR TO RUN WITH DOORS OPEN AND
GATE OR DOOR LOCKS INTENTIONALLY BYPASSED. (ACCESS SWITCH OPERATION, ETC.)



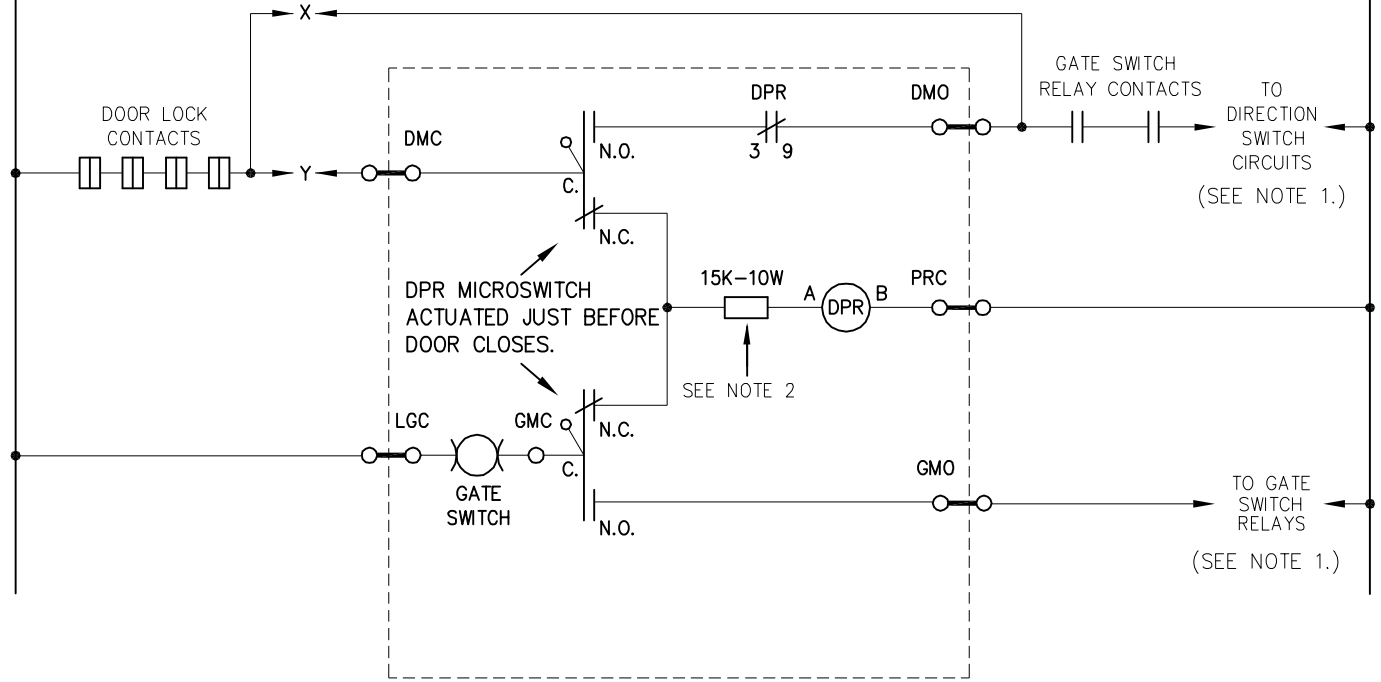
OPERATOR REVERSING MICROSWICH
(OPTIONAL - STANDARD WITH HFL
OPERATOR)

U.S. PATENT # 4108281
CANADIAN PATENT # 1105160
OTHER U.S. AND FOREIGN PATENTS PENDING

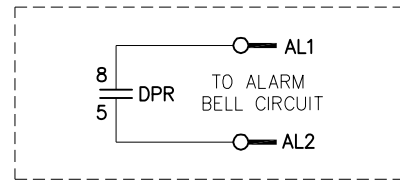
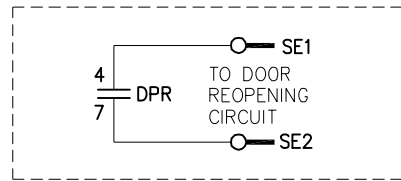
					G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451	SCALE	NONE
						DWG. BY	T.P.
						CHK. BY	G.D.C.
						DATE	12-10-93
3	ADDED REAR DOOR MICROSWICH	4-99	G.D.C.	ELEVATOR DOOR TAMPERING SYSTEM TYPE "FM" (FAULT MONITOR) ALSO SUPPLIED WITH HFL OPERATOR			S7475
2	DESIGNATION REVISED FROM HHA TO HFL	10-97					
1	ADDED OPERATOR REVERSING MICROSWICH	8-16-94					
No.	REVISION	DATE	CHK.				

ADVISE EXISTING CONTROL CIRCUIT VOLTAGE VALUE AND TYPE
(REQUIRED IN ORDER TO INSTALL CORRECT DPR RELAY)

X = CONTACT ON INSPECTION RELAY CLOSED ON INSPECTION
Y = CONTACT ON INSPECTION RELAY OPEN ON INSPECTION



CIRCUITS INSIDE DOTTED LINES INCLUDED
IN DOOR OPERATOR BY G.A.L.



- NOTE :
1. - MUST COMPLY WITH REDUNDENCY CLAUSE OF CAN/CSA, B-44 M-90 RULE 3.12.9.(c). AND ASME A17.1b-1992 RULE 210.9 (c)
 2. - IF VOLTAGE IS 220 VDC, A 15K OHM, 10 WATT RESISTOR IS SUPPLIED.

OPERATOR MARKINGS	
LGC	— LINE GATE COMMON
GMC	— GATE MICRO SWITCH COMMON
GMO	— GATE MICRO SWITCH OPEN
DMC	— DOOR MICRO SWITCH COMMON
DMO	— DOOR MICRO SWITCH OPEN
PRC	— PLUG RELAY COMMON
AL1	} TO ALARM BELL CIRCUIT
AL2	
SE1	} TO DOOR REOPENING CIRCUIT
SE2	
DPR	— DOOR PROTECTION RELAY AND MICROSWITCH

No.	REVISION	DATE	CHK.

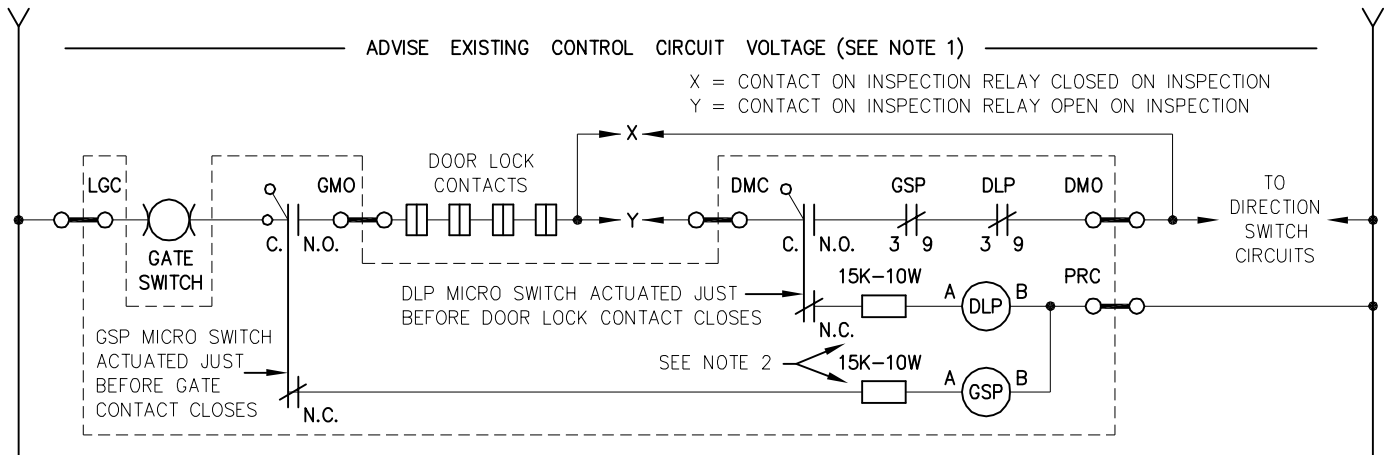


G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

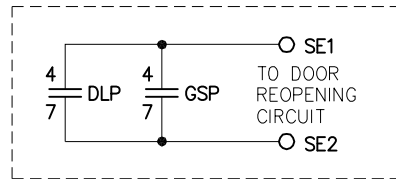
ELEVATOR DOOR TAMPERING SYSTEM (PATENTED)
TYPE "SL" (SAFE LOCK)

SCALE NONE
DWG. BY
CHK. BY
DATE 8-25-93

S6489-1



CIRCUITS INSIDE DOTTED LINES INCLUDED IN DOOR OPERATOR BY G.A.L.

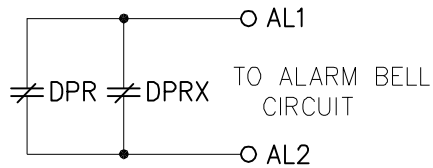
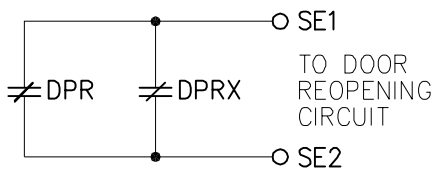
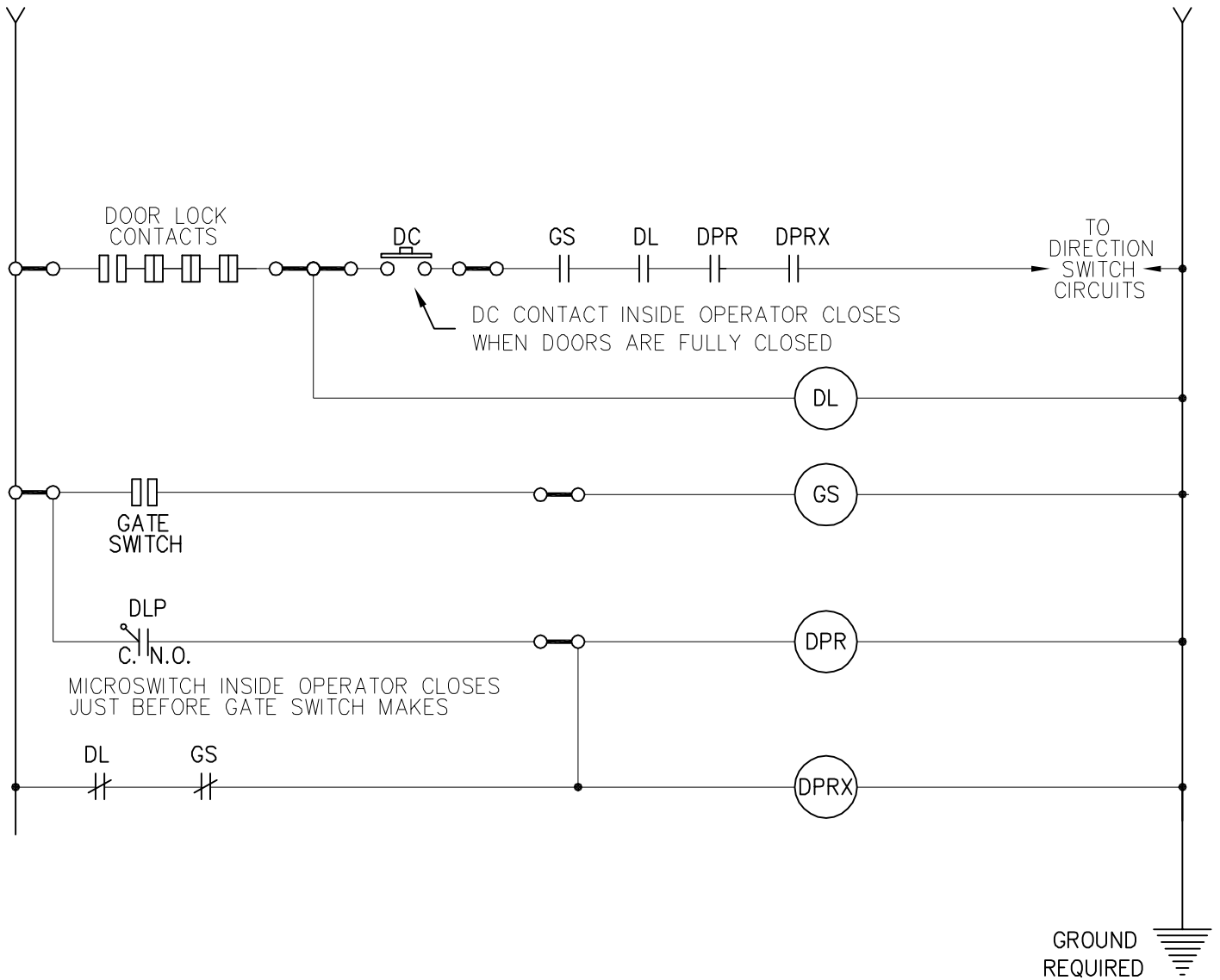


OPERATOR MARKINGS	
LGC	— LINE GATE COMMON
GMO	— GATE MICRO SWITCH OPEN
DMC	— DOOR MICRO SWITCH COMMON
DMO	— DOOR MICRO SWITCH OPEN
PRC	— PLUG RELAY COMMON
SE1	} TO DOOR REOPENING CIRCUIT
SE2	
GSP	— GATE SWITCH PROTECTION RELAY AND MICROSWITCH
DLP	— DOOR LOCK PROTECTION RELAY AND MICROSWITCH

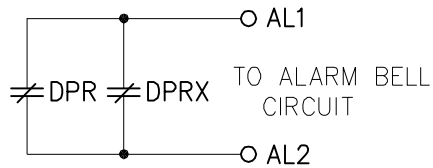
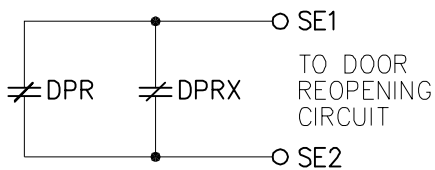
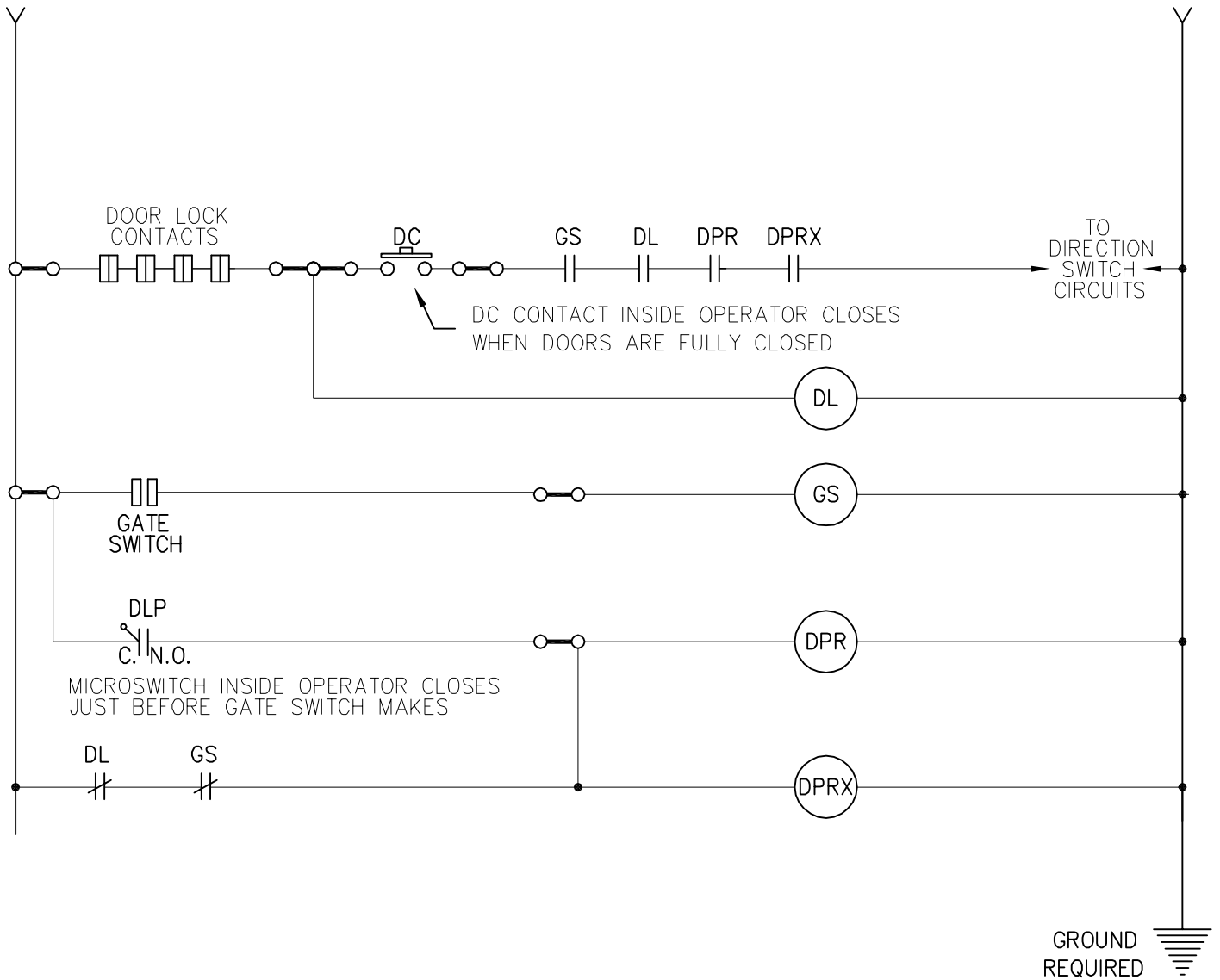
NOTE :

- CONTROL CIRCUIT VOLTAGE VALUE AND TYPE REQUIRED IN ORDER TO INSTALL CORRECT GSP AND DLP RELAYS THE FOLLOWING RELAY COIL VOLTAGES ARE AVAILABLE:
6/12/24/110/220 VOLTS DC OR AC
48 VOLTS DC ONLY
- IF VOLTAGE IS 220 VDC, A 15K OHM, 10 WATT RESISTOR IS SUPPLIED.

				 G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451	SCALE NONE
					DWG. BY
					CHK. BY
					DATE 6-12-93
				ELEVATOR DOOR TAMPERING SYSTEM (PATENTED) TYPE "SL" (SAFE LOCK)	S6489-3
No.	REVISION	DATE	CHK.		



				 <p>G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451</p>	SCALE NONE
					DWG. BY
					CHK. BY
					DATE 8-26-93
					S6489-4
No.	REVISION	DATE	CHK.	ELEVATOR DOOR TAMPERING SYSTEM TYPE "SL" (SAFE LOCK)	



No.	REVISION	DATE	CHK.

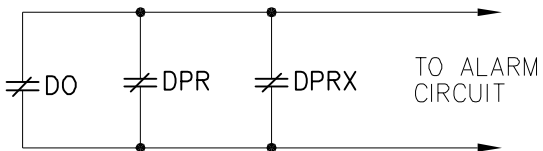
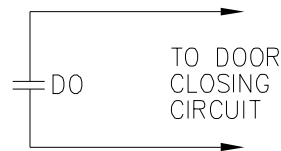
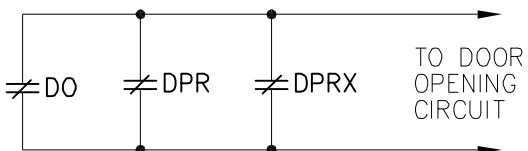
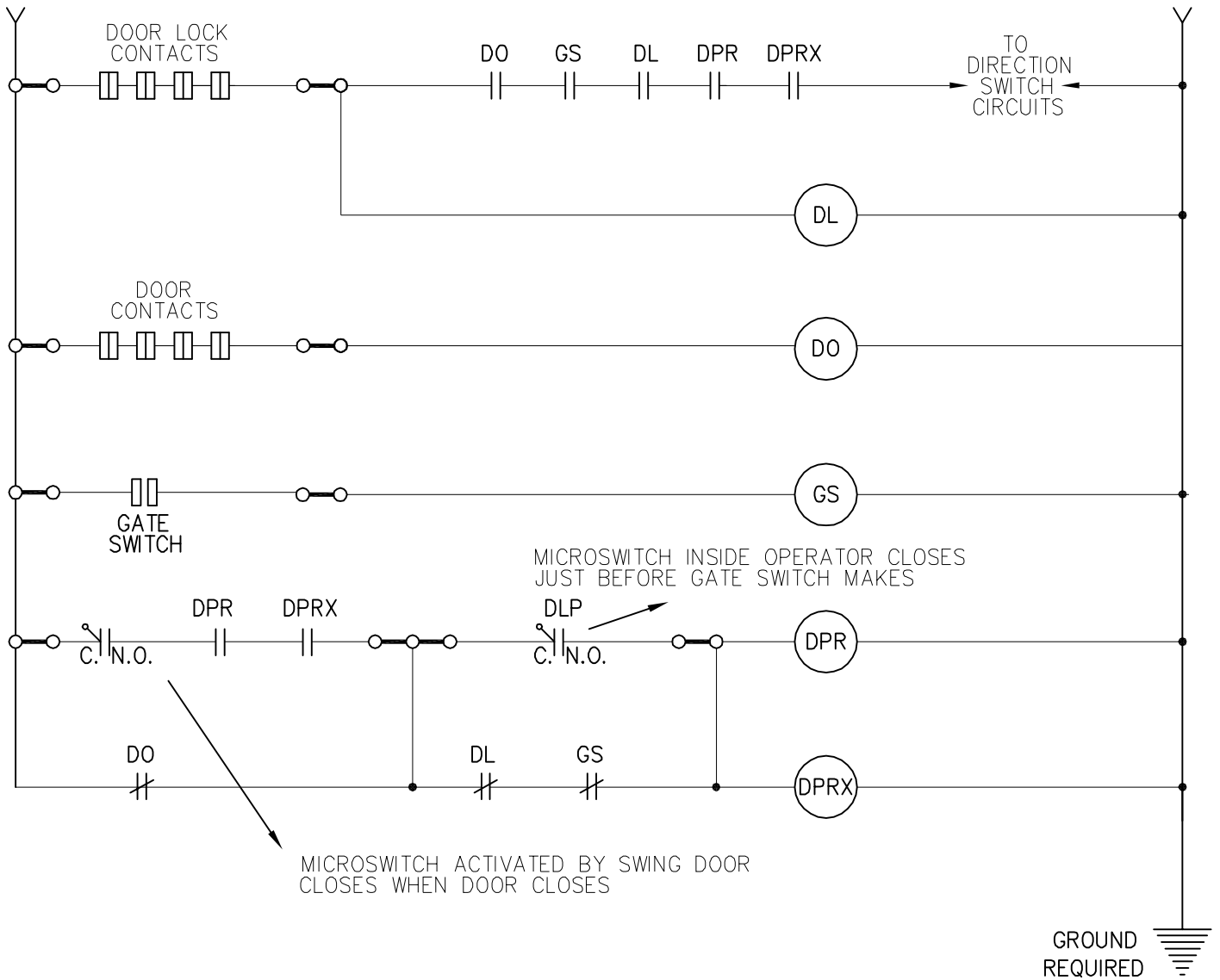


G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

ELEVATOR DOOR TAMPERING SYSTEM
TYPE "SL" (SAFE LOCK)

SCALE NONE
DWG. BY
CHK. BY
DATE 8-26-93

S6489-5



No.	REVISION	DATE	CHK.

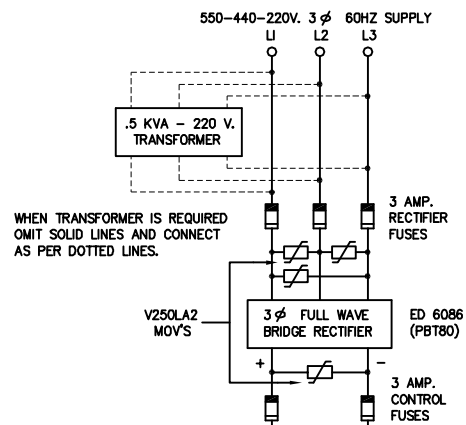
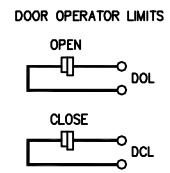


G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

SCALE NONE
 DWG. BY
 CHK. BY
 DATE 9-9-93

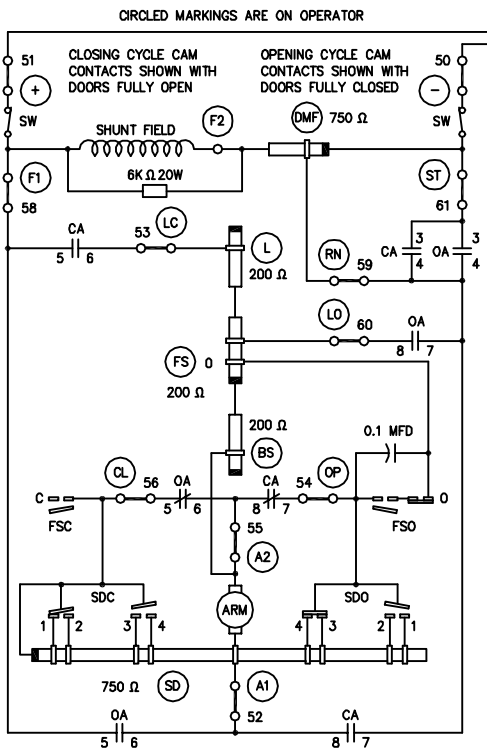
ELEVATOR DOOR TAMPERING SYSTEM
 TYPE "SL" (SAFE LOCK) SWING DOOR

S6489-7

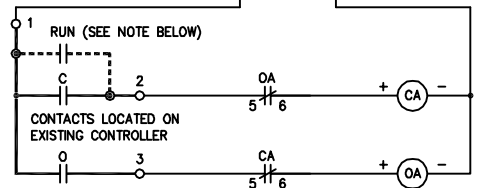


SYMBOL	NAME	COIL No	LC No	NORMALLY OPEN								NORMALLY CLOSED												
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
CA	DOOR CLOSE RELAY	Δ 26				DM	DM	DM	/									OA	DM					
OA	DOOR OPEN RELAY	Δ 26				DM	DM	DM	/									CA	DM					

Δ COIL No S-6437



MOM - MOH OPERATOR
 PL-24D-3R PL-15D-4
 PL-24D-3RH PL-15D-4H

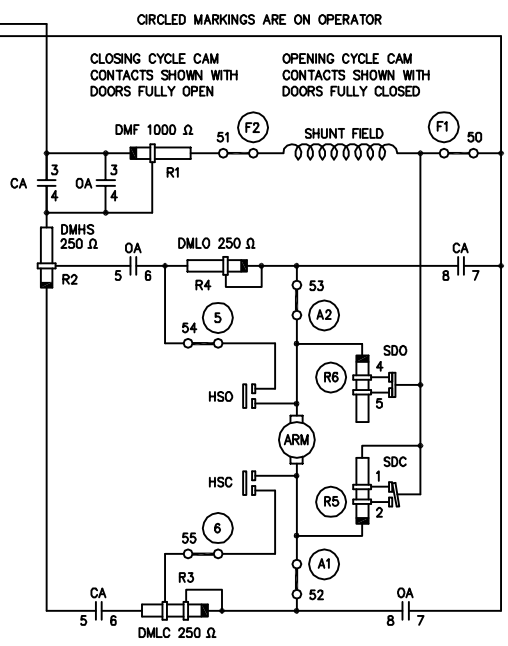


CONTROL CIRCUIT

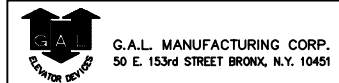
THE CONTACTS "C" AND "O" LOCATED BETWEEN TERMINALS 1, 2 AND 3 ARE EXISTING CONTACTS LOCATED ON THE ELEVATOR CONTROLLER. THEY WILL BE USED TO PILOT THE OPEN AND CLOSE RELAYS ON THE NEW DOOR OPERATOR CONTROLLER.

THE OPEN AND CLOSE LIMIT SWITCHES ON THE NEW OPERATOR WILL CONNECT INTO THE EXISTING ELEVATOR CONTROL CIRCUIT IN PLACE OF THE LIMIT SWITCHES ON THE PRESENT DOOR OPERATOR.

IF "C" RELAY DROPS OUT WHILE CAR IS TRAVELING, A CONTACT MUST BE ADDED AS SHOWN DOTTED TO HOLD "CA" RELAY ENERGIZED WHILE CAR IS RUNNING.



MOD OPERATOR
 PL-24D-2R PL-15D-1 (PREFERRED LAYOUT)
 PL-24D-2RH PL-15D-2



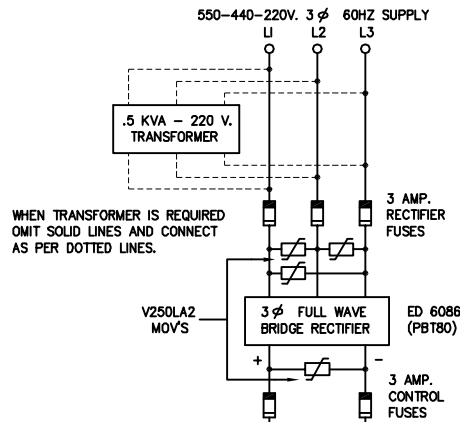
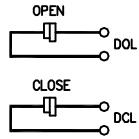
DOOR PANEL

SCALE	NONE	DATE	1 - 31 - 90
DWG. BY		CHK. BY	L - 10,026

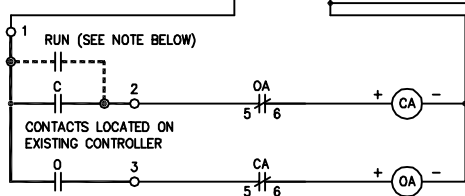
L7099

No.	REVISION	DATE	CHK.

DOOR OPERATOR LIMITS



WHEN TRANSFORMER IS REQUIRED OMIT SOLID LINES AND CONNECT AS PER DOTTED LINES.

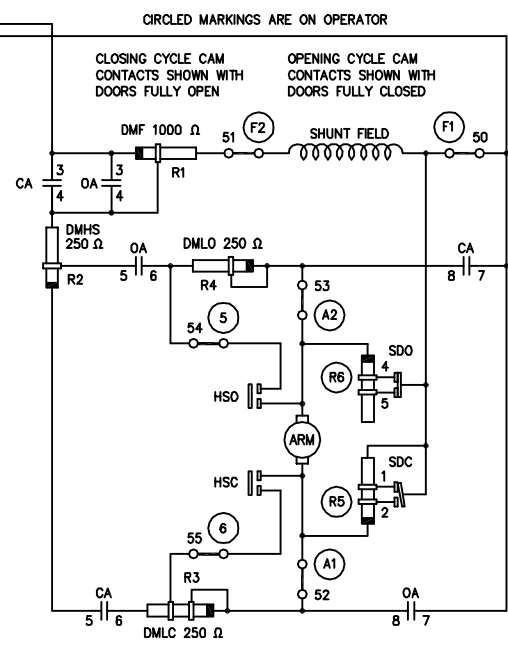


CONTROL CIRCUIT

THE CONTACTS "C" AND "O" LOCATED BETWEEN TERMINALS 1, 2 AND 3 ARE EXISTING CONTACTS LOCATED ON THE ELEVATOR CONTROLLER. THEY WILL BE USED TO PILOT THE OPEN AND CLOSE RELAYS ON THE NEW DOOR OPERATOR CONTROLLER.

THE OPEN AND CLOSE LIMIT SWITCHES ON THE NEW OPERATOR WILL CONNECT INTO THE EXISTING ELEVATOR CONTROL CIRCUIT IN PLACE OF THE LIMIT SWITCHES ON THE PRESENT DOOR OPERATOR.

IF "C" RELAY DROPS OUT WHILE CAR IS TRAVELING, A CONTACT MUST BE ADDED AS SHOWN DOTTED TO HOLD "CA" RELAY ENERGIZED WHILE CAR IS RUNNING.



MOD OPERATOR

- PL-240-2R PL-15D-1 (PREFERRED LAYOUT)
- PL-240-2RH PL-15D-2

SYMBOL	NAME	COIL No	LC No	NORMALLY OPEN						NORMALLY CLOSED																
				1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11
CA	DOOR CLOSE RELAY	△	26	DM	DM	DM	/												OA	DM						
OA	DOOR OPEN RELAY	△	26	DM	DM	DM	/												CA	DM						

△ COIL No S-6437



DOOR PANEL

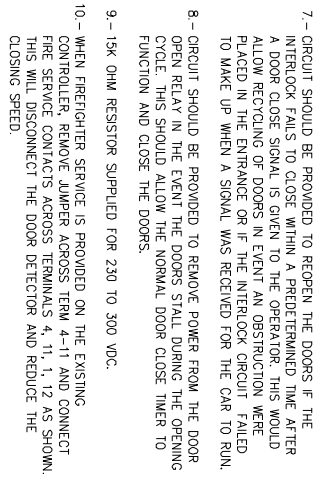
SCALE	NONE	DATE	1 - 31 - 90
DWG. BY		CHK. BY	L-10,026 MOD

L7102

No.	REVISION	DATE	CHK.

NOTES:

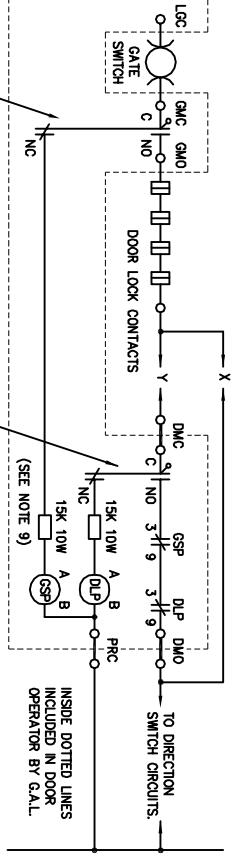
- 1- THE CONTACTS "C" AND "O" LOCATED BETWEEN TERMINALS 1, 2 AND 3 ARE EXISTING CONTACTS LOCATED ON THE ELEVATOR CONTROLLER. THEY WILL BE USED TO PILOT THE OPEN AND CLOSE RELAYS ON THE NEW DOOR OPERATOR CONTROLLER.
- 2- THE OPEN AND CLOSE LIMIT SWITCHES ON THE NEW OPERATOR WILL CONNECT INTO THE EXISTING ELEVATOR CONTROL CIRCUIT IN PLACE OF THE LIMIT SWITCHES ON THE PRESENT DOOR OPERATOR.
- 3- THE DOOR DETECTOR AND NUDGING RELAY CONTACTS LOCATED BETWEEN TERMINALS 5-10 WILL CONNECT INTO THE EXISTING ELEVATOR CONTROL CIRCUIT FOR DOOR RE-OPENING AND DOOR CLOSING.
- 4- IF "C" RELAY DROPS OUT WHILE CAR IS TRAVELING, A CONTACT MUST BE ADDED AS SHOWN DOTTED TO HOLD "CA" RELAY ENERGIZED WHILE CAR IS RUNNING.
- 5- CONTACT "DOP" IS ON DOOR DETECTOR CLOSED WHEN BEAM IS INTERRUPTED.
- 6- ARRANGE DOOR CLOSING CIRCUITS SO THAT POWER IS HELD ON THE OPERATOR AT ALL TIMES EXCEPT WHEN CAR IS STOPPED AT FLOOR LEVEL. ACTUATING THE EMERGENCY STOP SWITCH BETWEEN FLOORS MUST NOT REMOVE DOOR CLOSING POWER.
- 7- CIRCUIT SHOULD BE PROVIDED TO REOPEN THE DOORS IF THE INTERLOCK FAILS TO CLOSE WITHIN A PREDETERMINED TIME AFTER A DOOR CLOSE SIGNAL IS GIVEN TO THE OPERATOR. THIS WOULD ALLOW RECOVERING OF DOORS IN EVENT AN OBSTRUCTION WERE PLACED IN THE ENTRANCE OR IN THE INTERLOCK CIRCUIT "Y" FAILED TO MAKE UP WHEN A SIGNAL WAS RECEIVED FOR THE CAR TO RUN.
- 8- CIRCUIT SHOULD BE PROVIDED TO REMOVE POWER FROM THE DOOR OPEN RELAY IN THE EVENT THE DOORS STALL DURING THE OPENING CYCLE. THIS SHOULD ALLOW THE NORMAL DOOR CLOSE TIMER TO FUNCTION AND CLOSE THE DOORS.
- 9- 15K OHM RESISTOR SUPPLIED FOR 230 TO 300 VDC.
- 10- WHEN FIREFIGHTER SERVICE IS PROVIDED ON THE EXISTING CONTROLLER, REMOVE JUMPER ACROSS TERM. 4-11 AND CONNECT FIRE SERVICE CONTACTS ACROSS TERMINALS 4, 11, 1, 12 AS SHOWN. THIS WILL DISCONNECT THE DOOR DETECTOR AND REDUCE THE CLOSING SPEED.



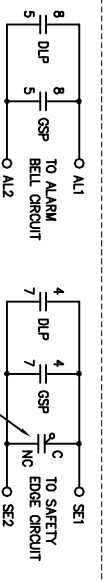
CONTROL CIRCUIT FOR TYPE MODHA VANDAL RESISTANT DOOR OPERATOR

ELEVATOR DOOR TAMPERING PROTECTION SYSTEM (PATENTED)

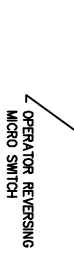
X = CONTACT ON INSPECTION RELAY CLOSED ON INSPECTION
Y = CONTACT ON INSPECTION RELAY OPEN ON INSPECTION



"GSP" MICROSWITCH ACTIVATED JUST BEFORE DOOR LOCK CONTACT CLOSURE

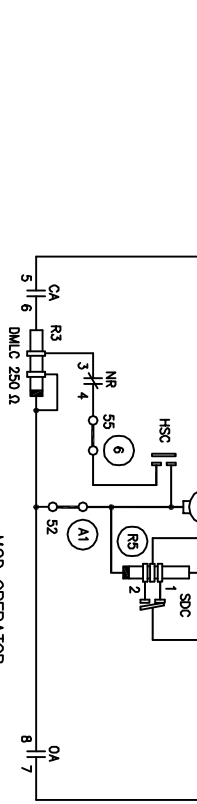


NOTE: DISCONNECT ALARM CIRCUIT ON INSPECTION OPERATION.



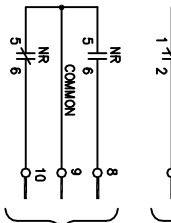
TERMINAL	VANDAL RESISTANT OPERATOR MARKINGS	FUNCTION	COMMON
LGC	GMC	GATE	COMMON
GMC	GMO	GATE	COMMON
GMO	DMC	DOOR MICROSW.	COMMON
DMC	DMO	DOOR MICROSW.	COMMON
DMO	PRC	PLUGS	RELAY
PRC			COMMON

CONTROL CIRCUIT



TO EXISTING CONTROLLER DOOR RE-OPENING CIRCUIT (SEE NOTE 3)

TO EXISTING CONTROLLER DOOR CLOSING CIRCUIT (FOR IMMEDIATE DOOR CL) (SEE NOTE 3)



LOCATION	SYMBOL	NAME	2	3	4	5	6	7	8	9	10	11	12
AUX. DOOR PANEL	CA	DOOR CLOSE RELAY	△	△	△	△	△	△	△	△	△	△	△
AUX. DOOR PANEL	OA	DOOR OPEN RELAY	△	△	△	△	△	△	△	△	△	△	△
AUX. DOOR PANEL	NR	NUDGING RELAY	△	△	△	△	△	△	△	△	△	△	△
AUX. DOOR PANEL	TR	TIMER NUDGING	△	△	△	△	△	△	△	△	△	△	△
AUX. DOOR PANEL	DET	DOOR DETECTOR RELAY	△	△	△	△	△	△	△	△	△	△	△
DOOR OPERATOR	DLP	DOOR LOCK PILOT	□	□	□	□	□	□	□	□	□	□	□
DOOR OPERATOR	GSP	GATE SWITCH PILOT	□	□	□	□	□	□	□	□	□	□	□

COIL No S-6437
RELAY MOUNTED ON DOOR OPERATOR

CIRCLED MARKINGS ARE ON OPERATOR

CLOSING CYCLE CAM CONTACTS SHOWN WITH DOORS FULLY OPEN

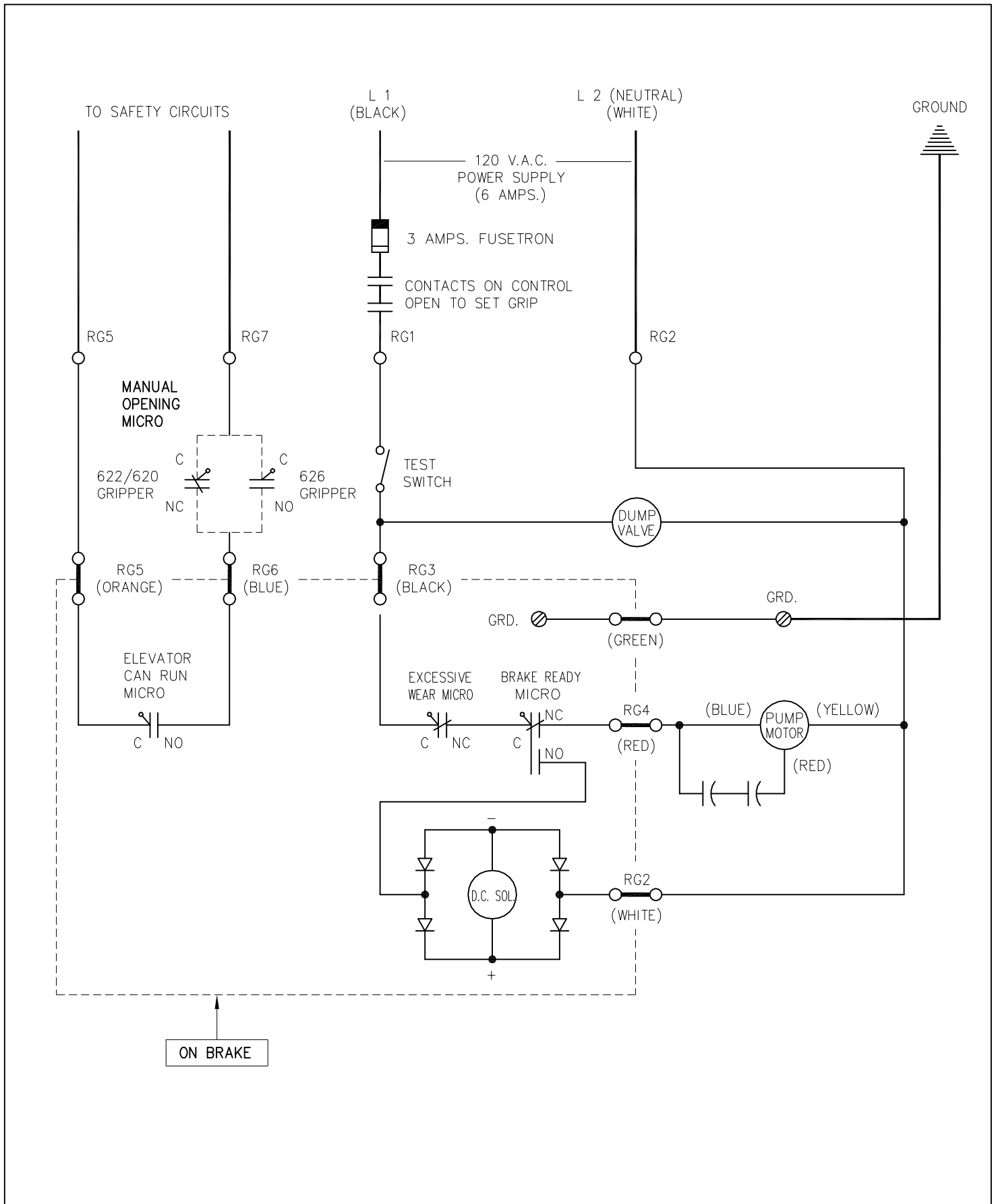
OPENING CYCLE CAM CONTACTS SHOWN WITH DOORS FULLY CLOSED



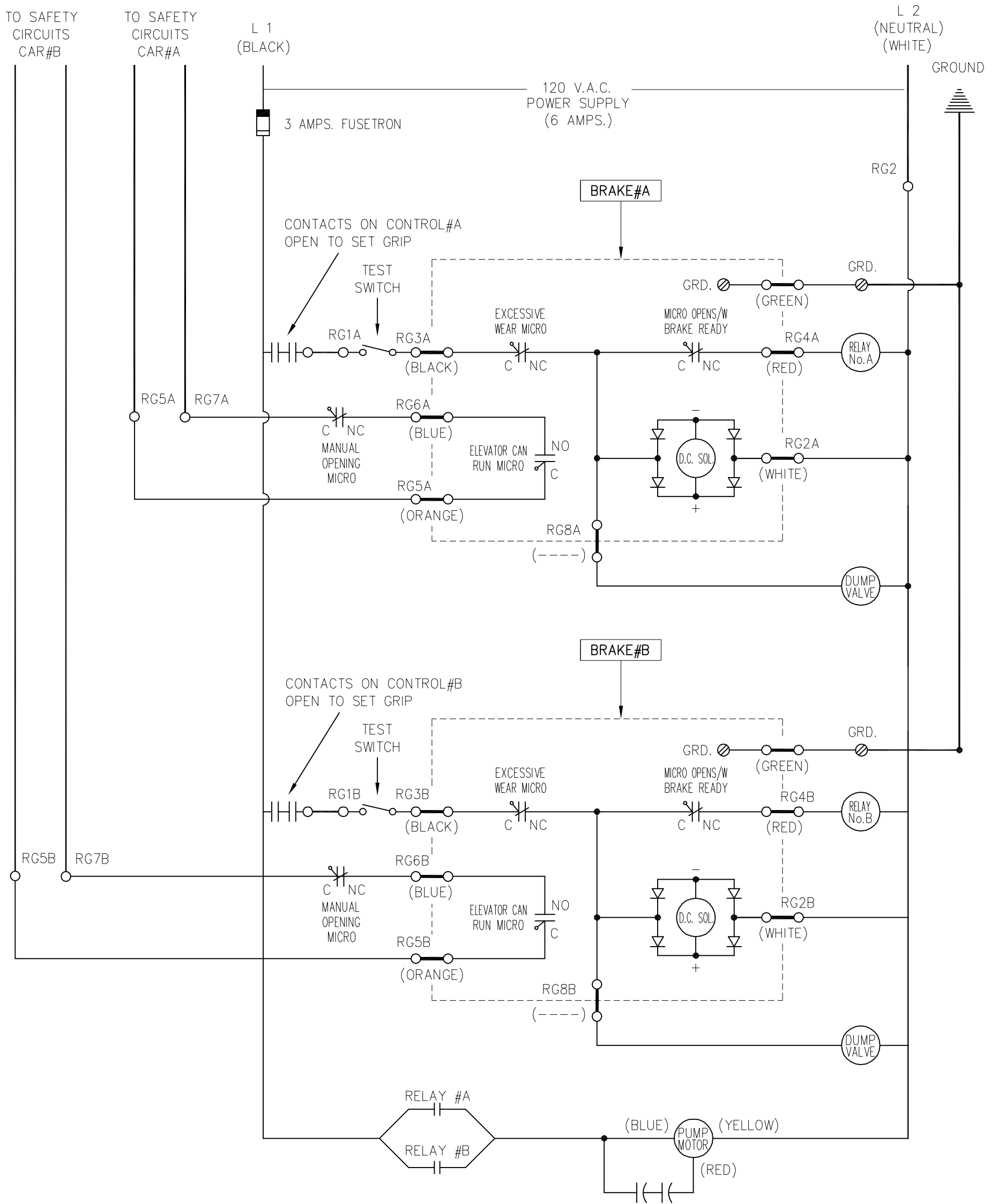
DOOR PANEL WITH NUDGING

NO.	NOTE & RELAY TYPE	DATE/CHK.	CHK.	SCALE	DWG. BY	DATE
1	NOTE 8, RELAY TYPE 2/93			NONE		3-8-90
	REVISION					

L7119



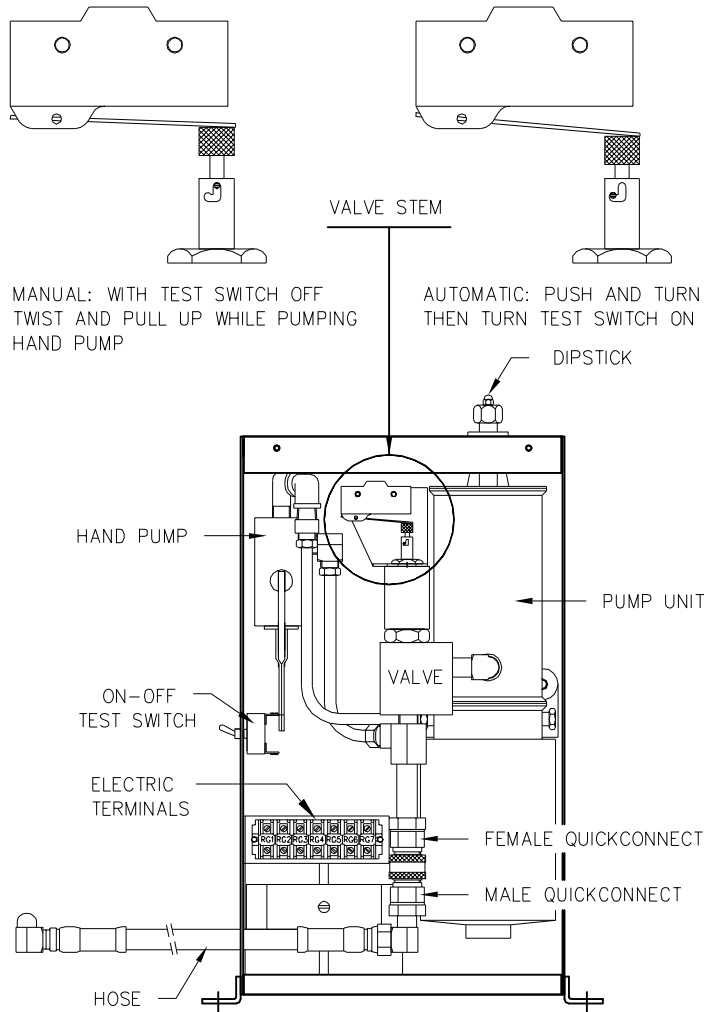
				 <p>G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451</p>	DRAWN BY GAVIRIA A.	DATE 10-19-98
					ENGINEER ALVAREZ A.	SHEET OF
					SCALE NONE	SIZE
					PART No.	REV
REV	DESCRIPTION	DATE	ECN	HOLLISTER WHITNEY ROPE GRIPPER PUMPING STATION - WIRING DIAGRAM -		DOCUMENT No. 7950-14



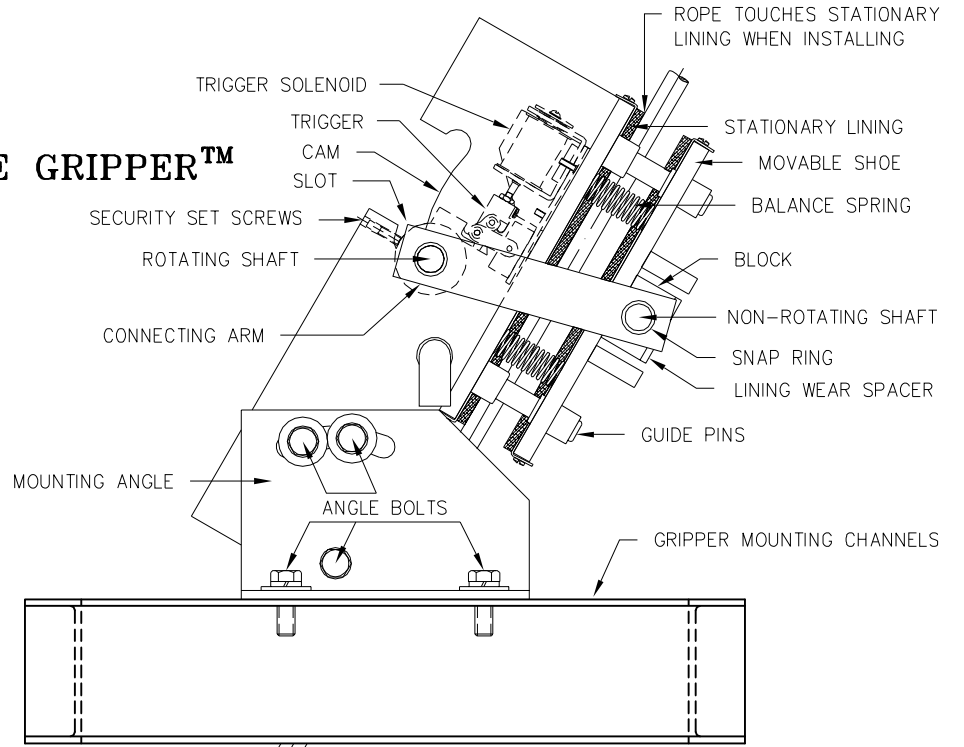

G.A.L. MANUFACTURING CORP.
50 E. 153rd STREET BRONX, N.Y. 10451

				ROPE GRIPPER WIRING DIAGRAM USING MORE THAN ONE BRAKE, WITH ONE PUMPING STATION			
				SCALE	NONE	DATE	10-9-93
				DWG. BY		M7269-29	
No.	REVISION	DATE	CHK.	CHK. BY			

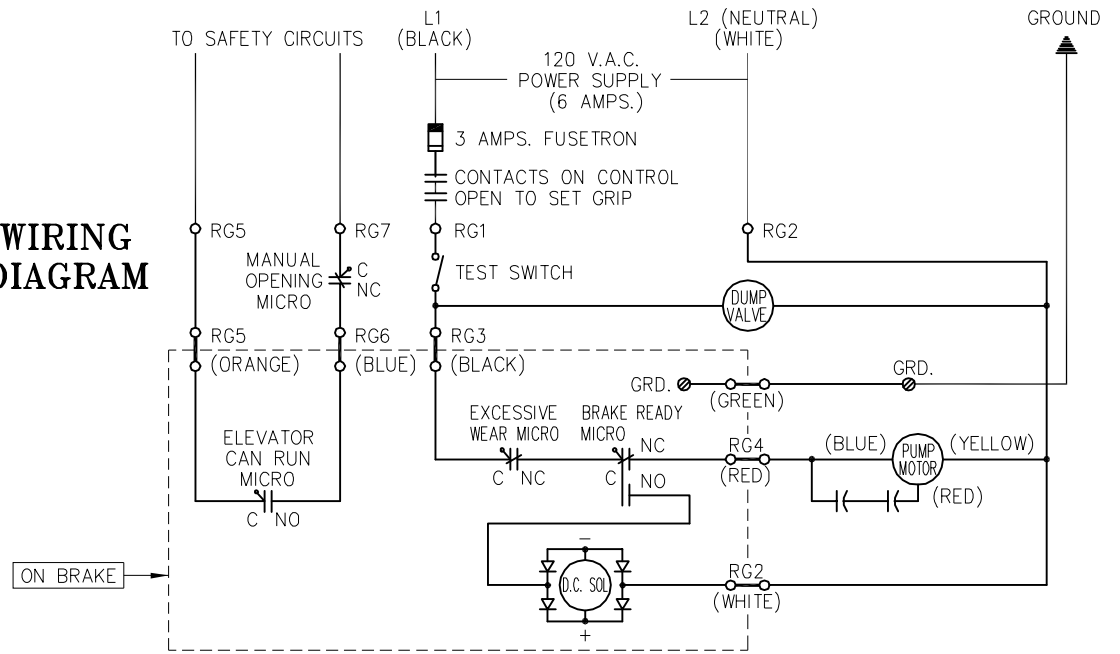
600 PUMPING UNIT

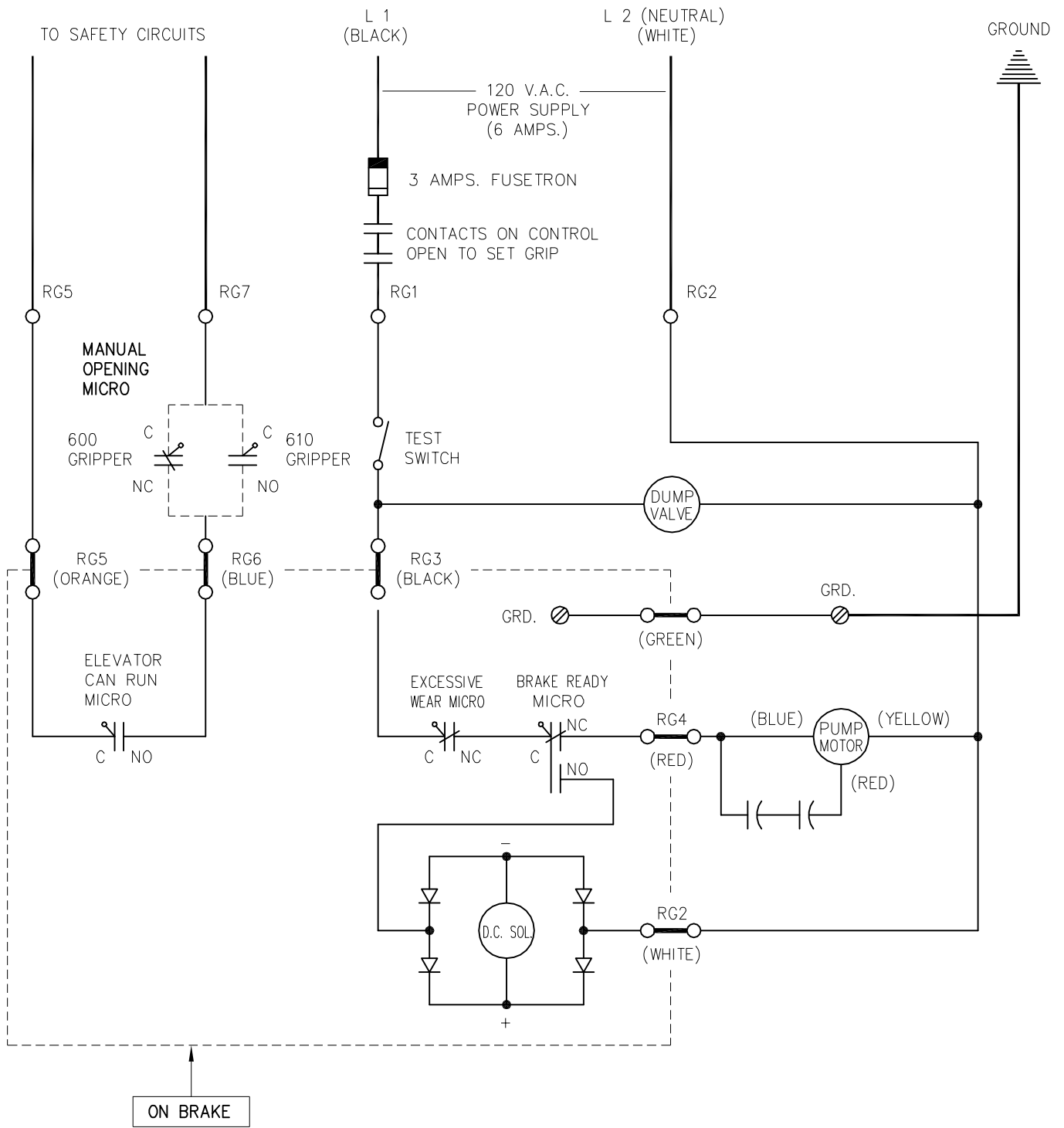


ROPE GRIPPER™



WIRING DIAGRAM





				 G.A.L. MANUFACTURING CORP. 50 E. 153rd STREET BRONX, N.Y. 10451	DRAWN BY GAVIRIA A.	DATE 3-26-92
					ENGINEER VARON J.	SHEET OF
C	REVISED TO R14	10-15-98			SCALE NONE	SIZE
B	MANUAL OPENING MICRO					
	N.O. ON 610 GRIPPER	2-96				
A		11-94				
REV	DESCRIPTION	DATE	ECN	HOLLISTER WHITNEY ROPE GRIPPER PUMPING STATION - WIRING DIAGRAM -		PART No. DOCUMENT No. S7269-23
						REV C



MODEL	DOCUMENT NUMBER	PAGE
MOVFR	8032	3
MODL	L5836	4
MOD-PM	L5836-2	5
	L5836-4	6
	L5777	7
MOD	L5836-G	8
	8070	9
MODHA	S6489	10
	S6489-A	11
MODG	M-10,017-8	12
MODP	S6362	13
	S5683-D	14
	L6076-A	15
	S5683-F	16
MODCT	L7632	17
	8004	18
	M7662-2	19
MOCT2	M7662	20
MOCTA	M-10,198-1	21
MOCTA-PM	S7549	22
MOCTP	L-7378	23
MOA	MOA	24
MOPM & MOPM-PL	S6649-2A	25
	S10033-1	26
	S10033-2	27
	S10033-3	28
	OP11-0024N	29

MODEL	DOCUMENT NUMBER	PAGE	
MO2LSA	7698	30	
	M7281-B	31	
	M7281-3	32	
	M7281-3A	33	
MOM-MOH	S7587-2	34	
	S7587-2A	35	
	S7587-2SR	36	
	S7587-1	37	
	S7587-10	38	
	S7587	39	
	L6587	40	
	L6587-1	41	
	L6587-10	42	
	M7292	43	
	M7294	44	
	M7295	45	
	M7296	46	
	7587-10A	47	
	7587-10A1	48	
	7587-10B	49	
	7649	50	
	7845	51	
	MOMCT-MOHCT	7774	52
		M7662-1	53
MOMSVL-MOHSV L	8015	54	
	L7240	55	
MOMVC-MOHVC	L7037-B	56	

MODEL	DOCUMENT NUMBER	PAGE
MOH-OS	L6143-B	57
MOR	8702	58
RC (RETIRING CAM)	S7369	59
	S7369-1	60
C (COLLAPSIBLE)	S6383	61
FM (FAULT MONITOR)	S7475	62
SL (SINGLE LOCK)	S6489-1	63
	S6489-3	64
	S6489-4	65
	S6489-5	66
	S6489-7	67
DP (DOOR PANEL)	L7099	68
	L7101	69
	L7102	70
	L7119	71
RGPS (ROPE GRIPPER PUMPING STATION)	7950-14	72
	M7269-29	73
	P7269234	74
	S7269-23	75
INDEX		76