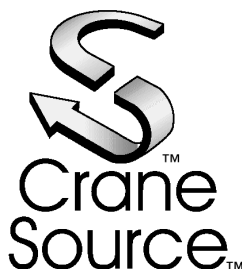


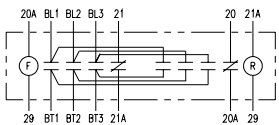
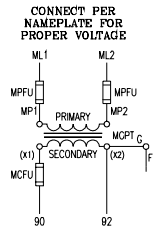
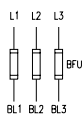
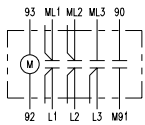
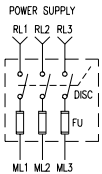
WIRING DIAGRAMS FOR BRIDGE CONTROL PANELS

Bridge W/D's

		Panel Part #	Page No.
Nema-4/12	1-Speed	444231-**-	2
Nema-4/12	1-Speed with Soft-Start	444711-**-	3
Nema-4/12	2-Speed	444232-**-	4
Nema-4/12	2-Speed with Soft-Start	444712-**-	5
Nema-4/12	V.F.C. P3 thru 10 hp	448550-**-	6
Nema-4/12	V.F.C. G+ thru 30 hp	445351-**-	7
Nema-1	1-Speed	446003-**-	8
Nema-1	2-Speed	446003-**-	9
Nema-1	1-Phase	446003-**-	10
Typical Interconnection M-1H-1T-1B P.B. from Trolley		11	
Typical Interconnection M-1H-1T-1B P.B. from Bridge		12	
Typical Interconnection M-2H-2T-2B P.B. from Trolley		13	
Typical Interconnection M-2H-2T-2B P.B. from Bridge		14	



WIRE #	DEVICE CONNECTED
RL1	DISC
RL2	DISC
RL3	DISC
ML1	DISC, M, MPFU
ML2	DISC, M, MPFU
ML3	DISC, M
MP1	MPFU, MCPT
MP2	MPFU, MCPT
L1	M, BFU
L2	M, BFU
L3	M, BFU
BL1	BFU, F-R
BL2	BFU, F-R
BL3	BFU, F-R
BT1	F-R
BT2	F-R
BT3	F-R
20	R, F
21	F, R
21A	F, R
28	BT2
29	R, F
90	MCPU, M
M91	BT1, M
92	BT1, MCPT, G, M
93	M
BB1	BT2
BB2	BT2



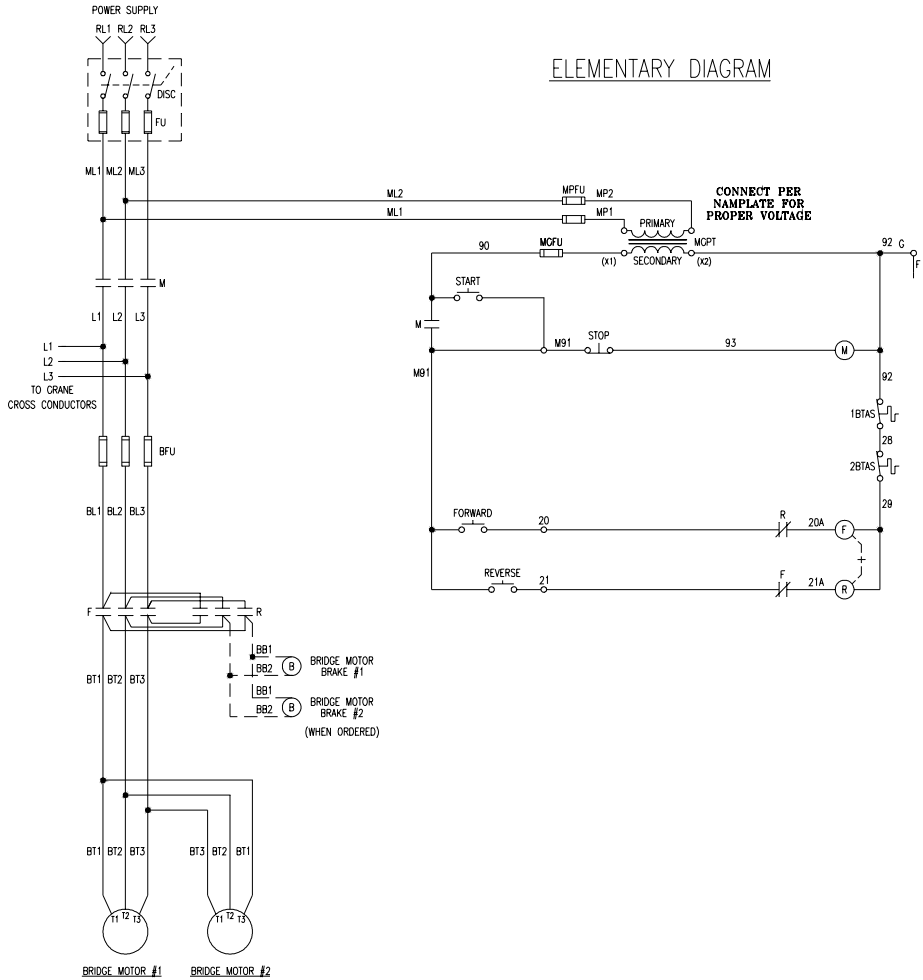
SYMBOL DESIGNATIONS

- DISC - POWER DISCONNECT SWITCH
- M - MAINLINE CONTACTOR
- BFU - BRIDGE MOTOR CIRCUIT FUSING
- MCPT - CONTROL CIRCUIT TRANSFORMER
- MPFU - CONTROL CIRCUIT PRIMARY FUSING
- MCPU - CONTROL CIRCUIT SECONDARY FUSING
- F - BRIDGE FORWARD CONTACTOR
- R - BRIDGE REVERSE CONTACTOR
- TB - TERMINAL BOARD
- BTAS - BRIDGE MOTOR TEMPERATURE ACTUATED SWITCH
- G - FRAME GROUND

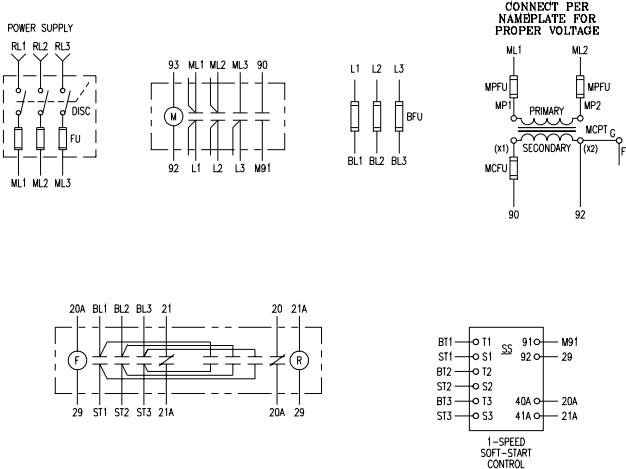


WARNING:
THIS EQUIPMENT MUST BE EFFECTIVELY GROUNDED
ACCORDING TO APPLICABLE CODES.

ELEMENTARY DIAGRAM



WIRE #	DEVICE CONNECTED
RL1	DISC
RL2	DISC
RL3	DISC
ML1	DISC, M, MPFU
ML2	DISC, M, MPFU
ML3	DISC, M
MP1	MPFU, MCPT
MP2	MPFU, MCPT
L1	M, BFU
L2	M, BFU
L3	M, BFU
BL1	BFU, F-R
BL2	BFU, F-R
BL3	BFU, F-R
ST1	F-R, SS
ST2	F-R, SS
ST3	F-R, SS
BT1	SS
BT2	SS
BT3	SS
20	TB1 R
20A	R, F, SS
21	TB1 F
21A	F, R, SS
28	TB1 R, F, SS
29	TB1 R, F, SS
90	TB2 MCFU, M
M91	M, SS
92	TB2 MCPT, G, M
93	TB2 M
BB1	TB1 F-R
BB2	TB1 F-R



SYMBOL DESIGNATIONS

DISC - POWER DISCONNECT SWITCH

M - MAINLINE CONTACTOR

BFU - BRIDGE MOTOR CIRCUIT FUSING

MCPT - CONTROL CIRCUIT TRANSFORMER

MPFU - CONTROL CIRCUIT PRIMARY FUSING

MCFU - CONTROL CIRCUIT SECONDARY FUSING

F - BRIDGE FORWARD CONTACTOR

R - BRIDGE REVERSE CONTACTOR

SS - SOFT-START ELECTRONIC MODULE

BTAS - BRIDGE MOTOR TEMPERATURE ACTUATED SWITCH

TB - TERMINAL BOARD

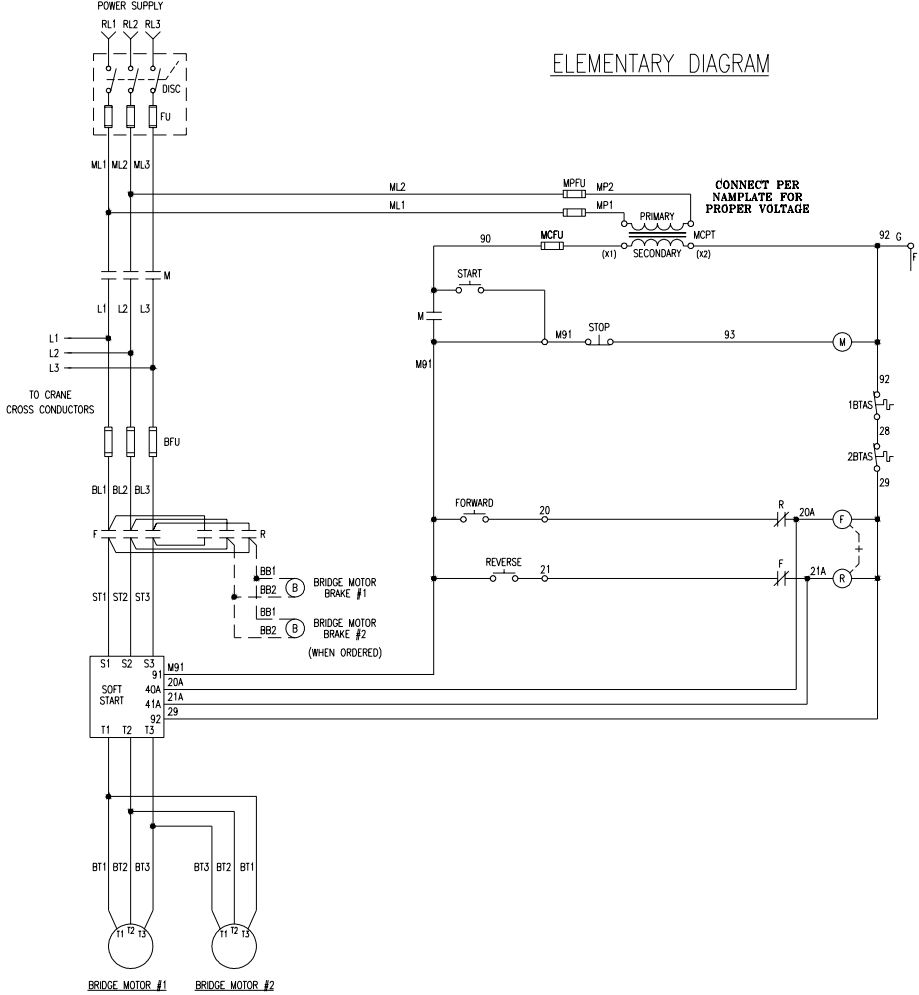
G - FRAME GROUND

F - FRAME GROUND

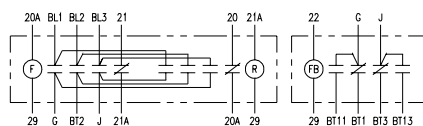
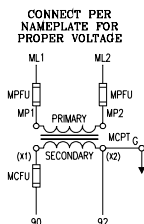
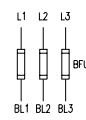
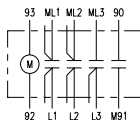
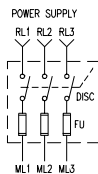
WARNING:

THIS EQUIPMENT MUST BE EFFECTIVELY GROUNDING
ACCORDING TO APPLICABLE CODES.

TB1						TB2					
20	21	28	29	BB1	BB2	90	91	92	93		



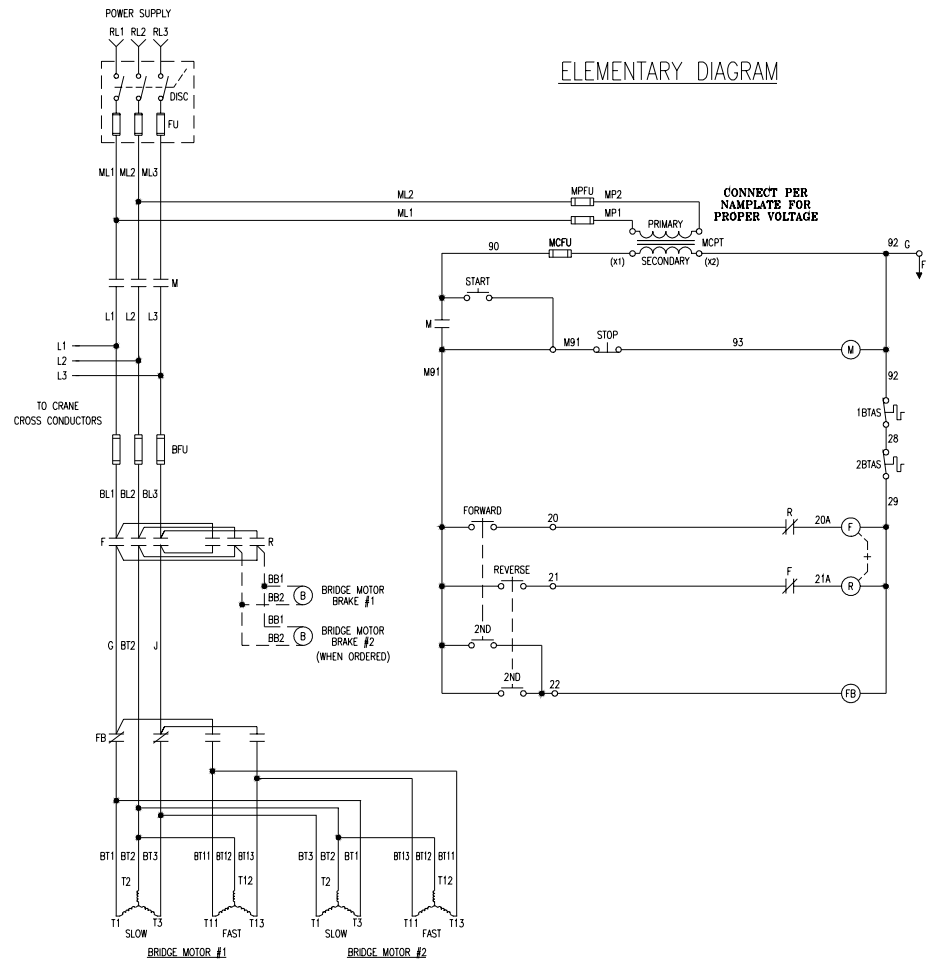
WIRE #	DEVICE CONNECTED
RL1	DISC
RL2	DISC
RL3	DISC
ML1	DISC, M, MPFU
ML2	DISC, M, MPFU
ML3	DISC, M
MP1	MPFU, MCPT
MP2	MPFU, MCPT
L1	M, BFU
L2	M, BFU
L3	M, BFU
BL1	BFU, F-R
BL2	BFU, F-R
BL3	BFU, F-R
G	F-R, FB
J	F-R, FB
BT1	FB
BT2	F-R
BT3	FB
BT11	FB
BT12	F-R
BT13	FB
20	TB2
20A	R, F
21	TB2
21A	F, R
22	TB2
28	TB2
29	TB2
90	TB1
M91	M, MCFU, M
92	TB1
93	TB1
BB1	TB2
BB2	TB2



- SYMBOL DESIGNATIONS**
- DISC - POWER DISCONNECT SWITCH
 - M - MAINLINE CONTACTOR
 - BFU - BRIDGE MOTOR CIRCUIT FUSING
 - MCPT - CONTROL CIRCUIT TRANSFORMER
 - MPFU - CONTROL CIRCUIT PRIMARY FUSING
 - MCFU - CONTROL CIRCUIT SECONDARY FUSING
 - F - BRIDGE FORWARD CONTACTOR
 - R - BRIDGE REVERSE CONTACTOR
 - FB - BRIDGE FAST SPEED CONTACTOR
 - TB - TERMINAL BOARD
 - BTAS - BRIDGE MOTOR TEMPERATURE ACTUATED SWITCH
 - G - FRAME GROUND

WARNING:
THIS EQUIPMENT MUST BE EFFECTIVELY GROUNDED
ACCORDING TO APPLICABLE CODES.

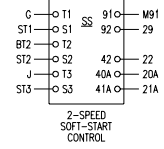
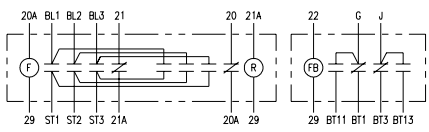
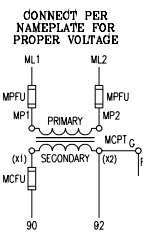
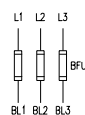
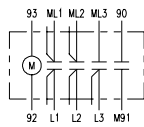
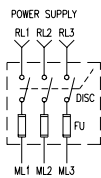
TB1				TB2			
90	M91	92	93	20	21	22	28
				29		BB1	BB2



ELEMENTARY DIAGRAM

CONNECT PER
NAMEPLATE FOR
PROPER VOLTAGE

WIRE #	DEVICE CONNECTED
RL1	DISC
RL2	DISC
RL3	DISC
ML1	DISC, M, MPFU
ML2	DISC, M, MPFU
ML3	DISC, M
MP1	MPFU, MCPT
MP2	MPFU, MCPT
L1	M, BFU
L2	M, BFU
L3	M, BFU
BL1	BFU, F-R
BL2	BFU, F-R
BL3	BFU, F-R
ST1	F-R, SS
ST2	F-R, SS
ST3	F-R, SS
G	SS, FB
J	SS, FB
BT1	FB
BT2	SS
BT3	FB
BT11	FB
BT12	SS
BT13	FB
20	BT1 R
20A	R, F, SS
21A	F, R, SS
22	BT1 FB, SS
28	BT1 F, R, FB, SS
29	BT1 M, SS
90	BT2 MCFU, M
M91	BT2 M, SS
92	BT2 MCPT, G, M
93	BT2 M
BB1	BT2 F-R
BB2	BT2 F-R



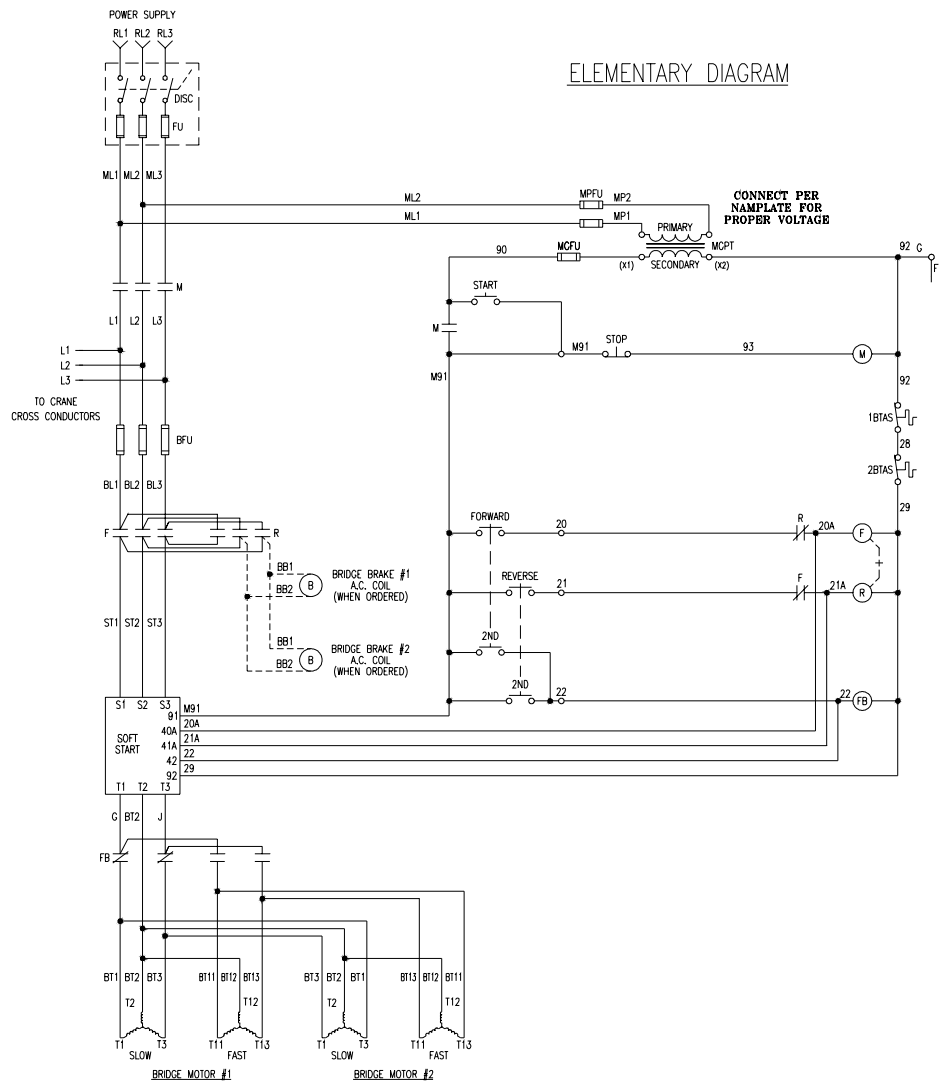
SYMBOL DESIGNATIONS

- DISC - POWER DISCONNECT SWITCH
- M - MAINLINE CONTACTOR
- BFU - BRIDGE MOTOR CIRCUIT FUSING
- MCPT - CONTROL CIRCUIT TRANSFORMER
- MPFU - CONTROL CIRCUIT PRIMARY FUSING
- MCFU - CONTROL CIRCUIT SECONDARY FUSING
- F - BRIDGE FORWARD CONTACTOR
- R - BRIDGE REVERSE CONTACTOR
- SS - SOFT-START ELECTRONIC MODULE
- FB - BRIDGE FAST SPEED CONTACTOR
| BT | - TERMINAL BOARD |
| BTAS | - BRIDGE MOTOR TEMPERATURE ACTUATED SWITCH |
| G | - FRAME GROUND |
| F | |

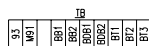
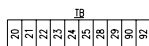
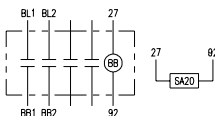
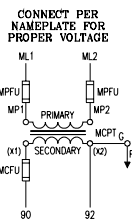
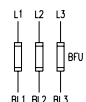
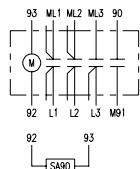
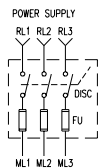
BT1					BT2				
20	21	22	28	29	90	M91	92	93	

WARNING:
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ACCORDING TO APPLICABLE CODES.

ELEMENTARY DIAGRAM

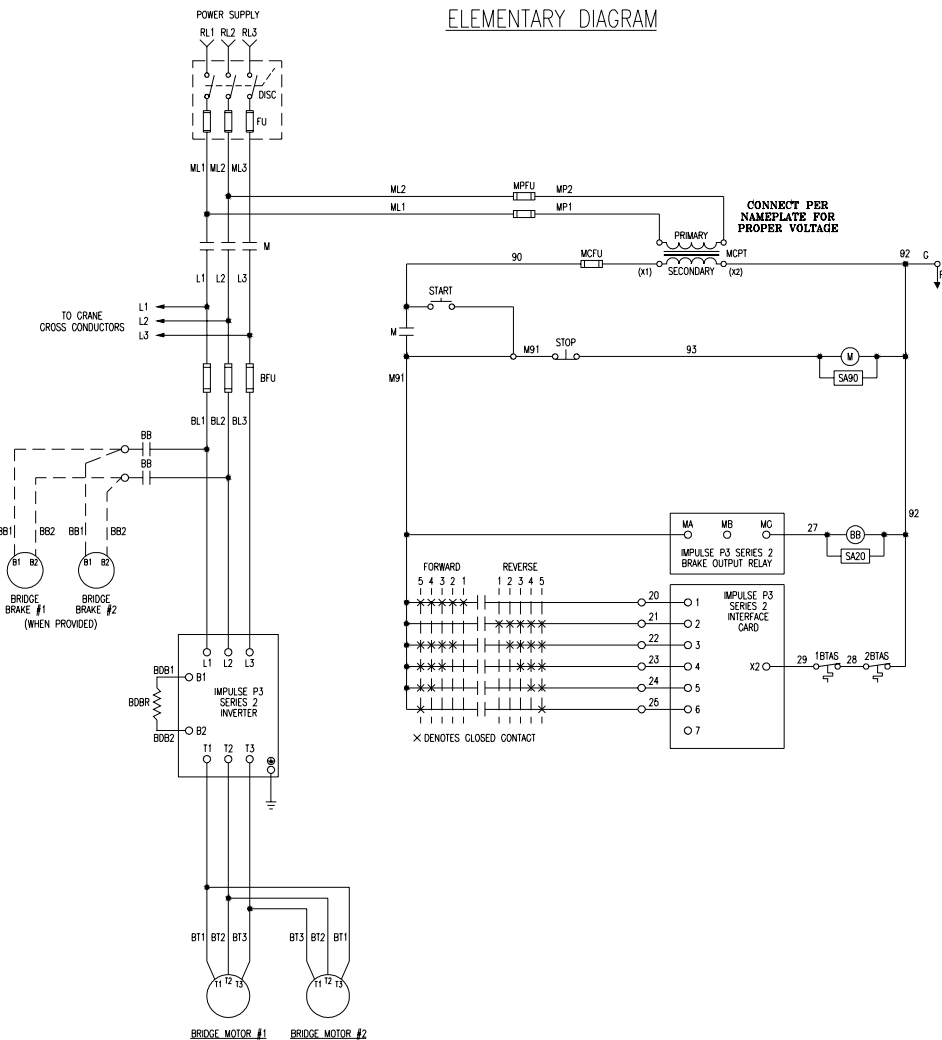


WIRE #	DEVICE CONNECTED
RL1	DISC
RL2	DISC
RL3	DISC
ML1	FU, M, MPFU
ML2	FU, M, MPFU
ML3	FU, M
L1	M, BFU
L2	M, BFU
L3	M, BFU
BL1	BFU, INVERTER, BB
BL2	BFU, INVERTER, BB
BL3	BFU, INVERTER
BT1	INVERTER
BT2	INVERTER
BT3	INVERTER
MP1	MPFU, MCPT
MP2	MPFU, MCPT
20	TB INTERFACE CARD
21	TB INTERFACE CARD
22	TB INTERFACE CARD
23	TB INTERFACE CARD
24	TB INTERFACE CARD
25	TB INTERFACE CARD
26	TB INTERFACE CARD
27	TB BRAKE OUTPUT RELAY, BB, SA20
28	TB
29	TB
30	TB
M91	TB M, BRAKE OUTPUT RELAY
92	TB MCPT, M, SA90, BB, SA20
93	TB M, SA90
BB1	TB BB
BB2	TB BB
BDB1	TB INVERTER
BDB2	TB INVERTER

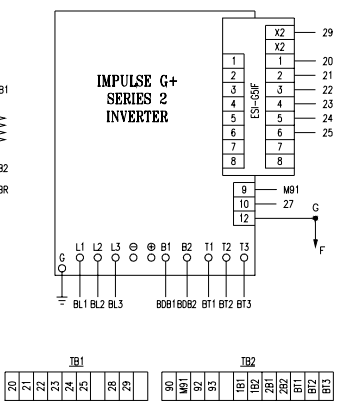
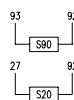
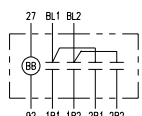
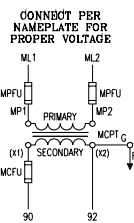
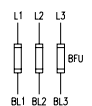
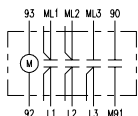
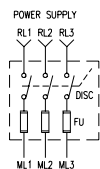


WARNING:
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GROUNDED ACCORDING TO APPLICABLE CODES.

SYMBOL DESIGNATIONS
DISC - POWER DISCONNECT SWITCH
FU - MAIN FUSES
M - MAINLINE CONTACTOR
MPFU - TRANSFORMER PRIMARY FUSING
MCPT - CONTROL CIRCUIT TRANSFORMER
MPFU - CONTROL CIRCUIT FUSE
BFU - BRIDGE MOTOR CIRCUIT FUSING
BB - BRIDGE BRAKE RELAY
BDBR - DYNAMIC BRAKING RESISTOR
1BTAS/2BTAS - MOTOR TEMPERATURE ACTIVATED SWITCH
SA - SURGE ABSORBER
TB - TERMINAL BOARD
G - FRAME GROUND.
F



WIRE #	DEVICE CONNECTED
RL1	DISC
RL2	DISC
RL3	DISC
ML1	FU, M, MPFU
ML2	FU, M, MPFU
ML3	FU, M
L1	M, BFM
L2	M, BFM
L3	M, BFM
BL1	BFU, INVERTER, BB
BL2	BFU, INVERTER, BB
BL3	BFU, INVERTER
BT1	INVERTER
BT2	INVERTER
BT3	INVERTER
MP1	MPFU, MCPT
MP2	MPFU, MCPT
20	INTERFACE CARD
21	INTERFACE CARD
22	INTERFACE CARD
23	INTERFACE CARD
24	INTERFACE CARD
25	INTERFACE CARD
27	INTERFACE CARD, BB, S20
28	INTERFACE CARD
29	INTERFACE CARD
90	MCFU, M
M91	M, INTERFACE CARD
92	MCPT, G, M, S90, BB, S20
93	M, S90
1B1	BB
1B2	BB
2B1	BB
2B2	BB

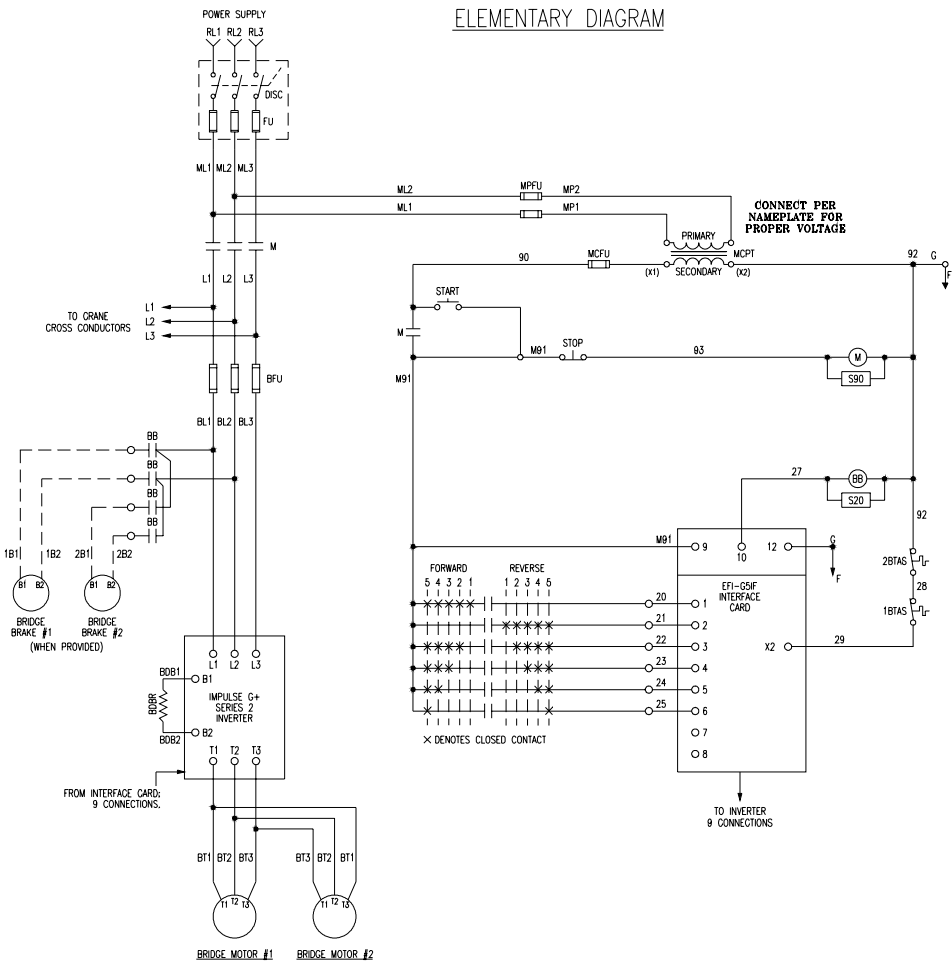


NOTE: THIS WIRING DIAGRAM SHOWS 5 SPEED CONTROL. THE INVERTER PROGRAMMING IS SETUP FOR 2 SPEED/STOP. INFINITELY VARIABLE. CONSULT THE G+ SERIES 2 MANUAL FOR ADDITIONAL PROGRAMMING FEATURES.

WARNING:
THIS EQUIPMENT MUST BE EFFECTIVELY GROUNDED ACCORDING TO APPLICABLE CODES.

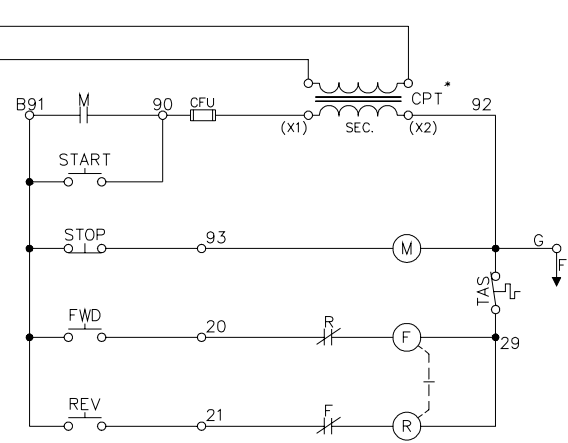
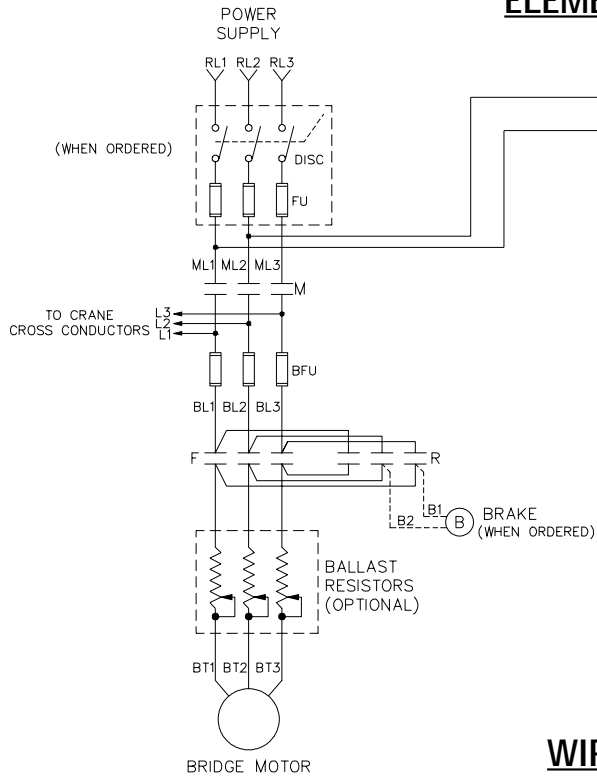
SYMBOL DESIGNATIONS
DISC - POWER DISCONNECT SWITCH
FU - MAIN FUSES
M - MAINLINE CONTACTOR
MPFU - TRANSFORMER PRIMARY FUSING
MCPT - CONTROL CIRCUIT TRANSFORMER
MCFU - CONTROL CIRCUIT FUSE
BFU - BRIDGE MOTOR CIRCUIT FUSING
BB - BRIDGE BRAKE RELAY
DBR - DYNAMIC BRAKING RESISTOR
1BTAS/2BTAS - MOTOR TEMPERATURE ACTIVATED SWITCH
S90 - SURGE ABSORBER FOR MAINLINE CONTACTOR
S20 - SURGE ABSORBER FOR BRAKE RELAY
TB - TERMINAL BOARD
G - FRAME GROUND.

ELEMENTARY DIAGRAM



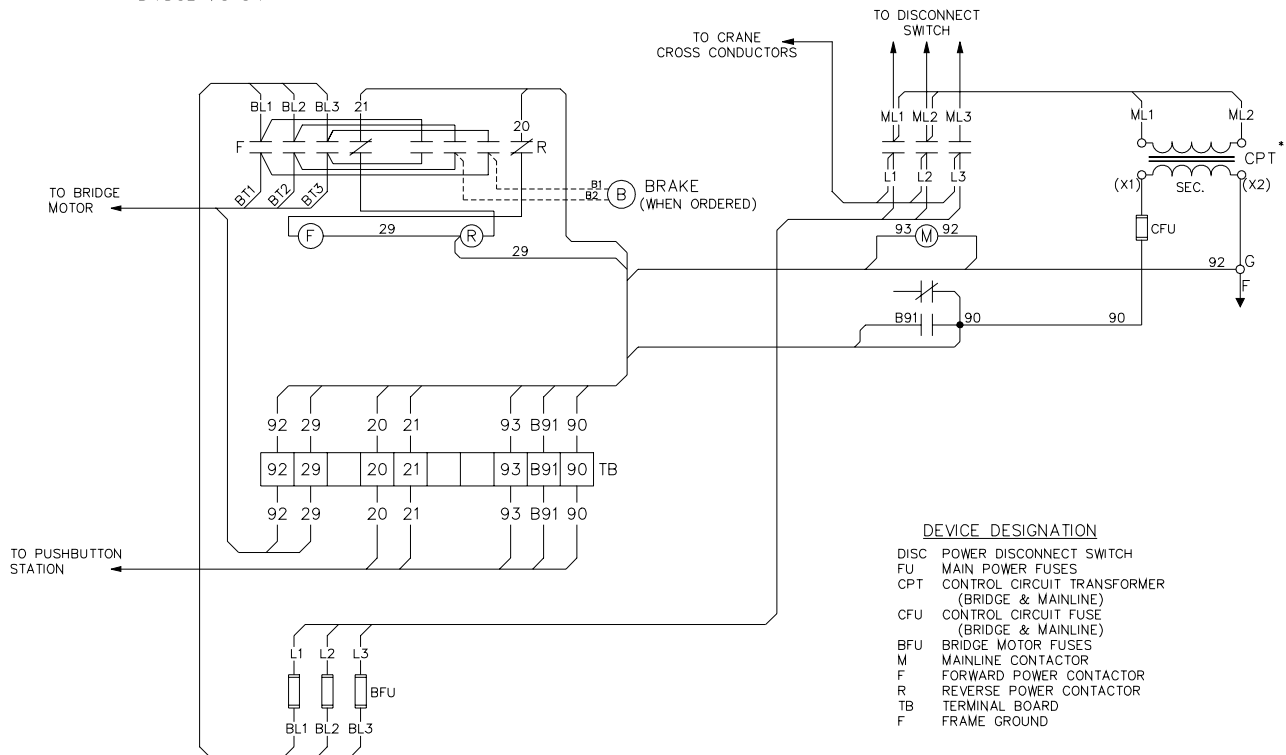


ELEMENTARY DIAGRAM



* CONNECT PER NAMEPLATE FOR PROPER VOLTAGE.

WIRING DIAGRAM



DEVICE DESIGNATION

DISC	POWER DISCONNECT SWITCH
FU	MAIN POWER FUSES
CPT	CONTROL CIRCUIT TRANSFORMER (BRIDGE & MAINLINE)
CFU	CONTROL CIRCUIT FUSE (BRIDGE & MAINLINE)
BFU	BRIDGE MOTOR FUSES
M	MAINLINE CONTACTOR
F	FORWARD POWER CONTACTOR
R	REVERSE POWER CONTACTOR
TB	TERMINAL BOARD
F	FRAME GROUND

WARNING

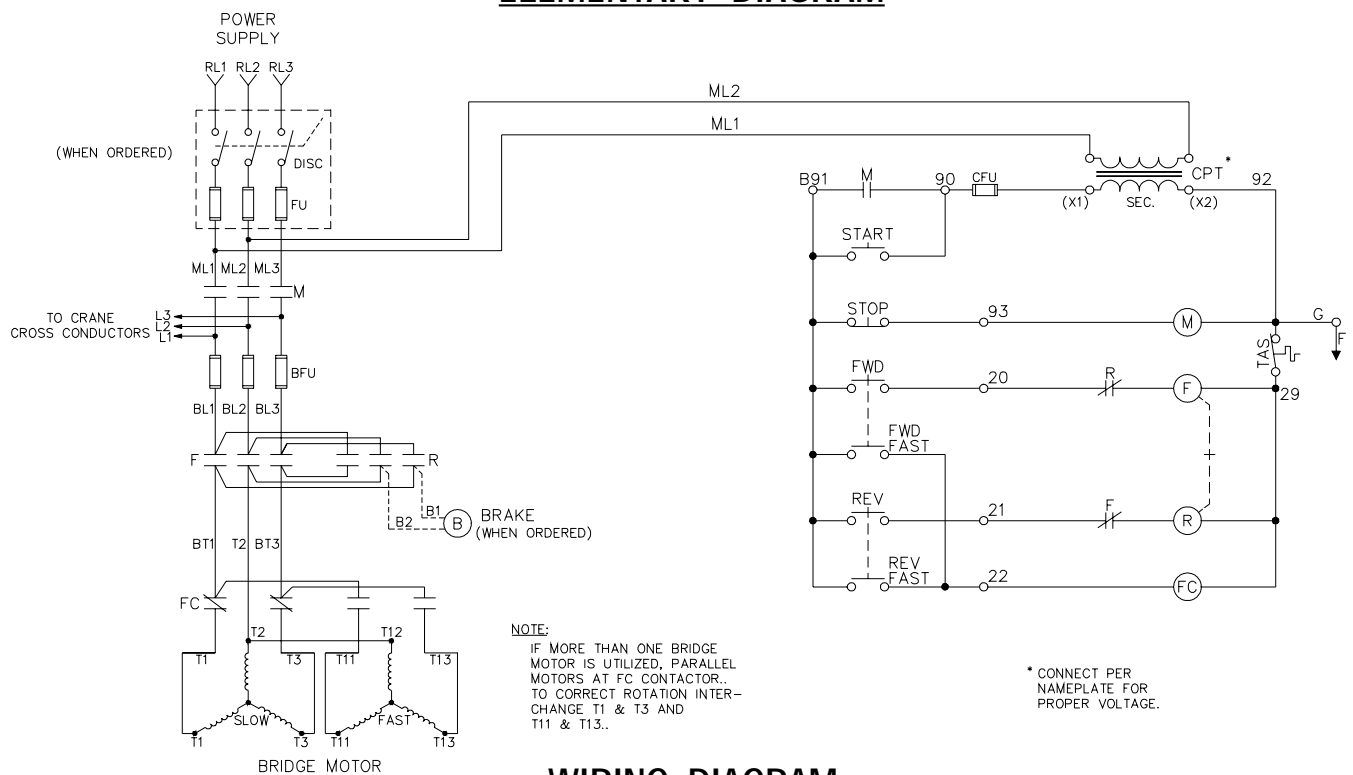
THIS EQUIPMENT MUST BE EFFECTIVELY GROUNDED ACCORDING TO APPLICABLE CODES.

AVERTISSEMENT

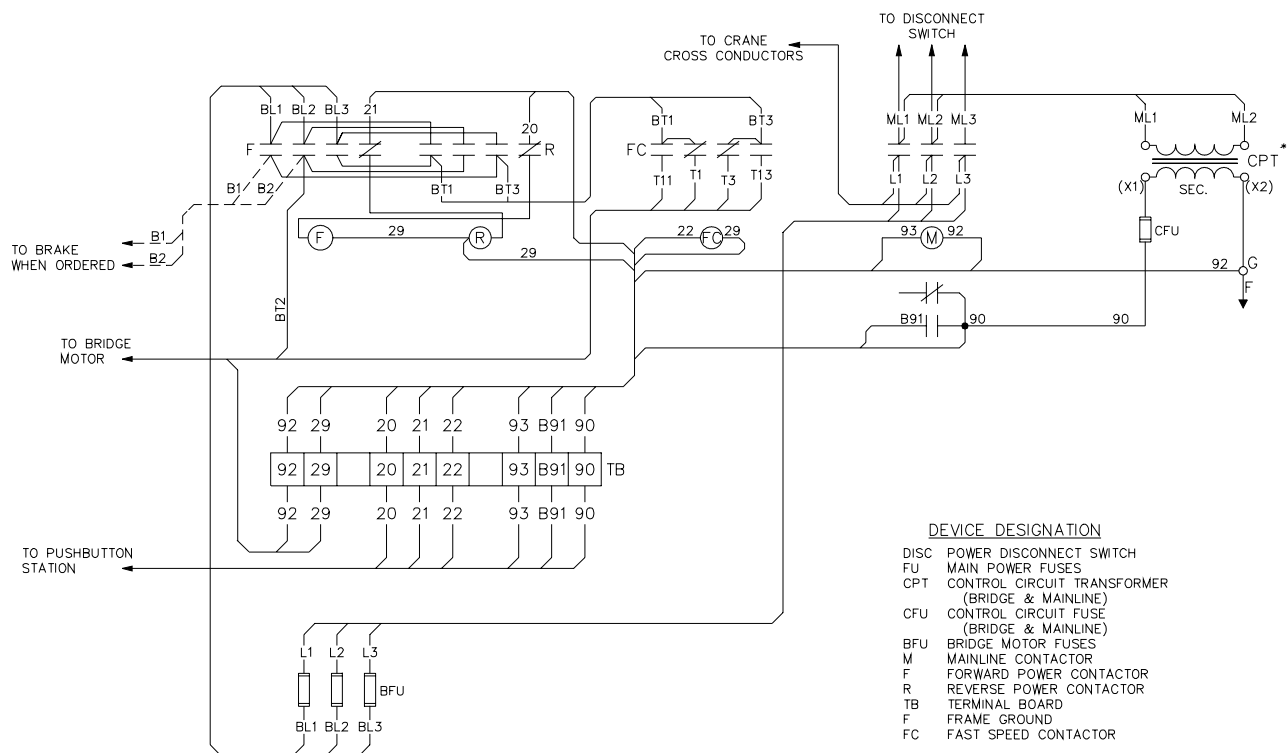
CET EQUIPEMENT DOIT ETRE MIS A LA TERRE EN ACCORDANCE AVEC LES NORMES EN VIGUEUR.

SINGLE SPEED

ELEMENTARY DIAGRAM



WIRING DIAGRAM



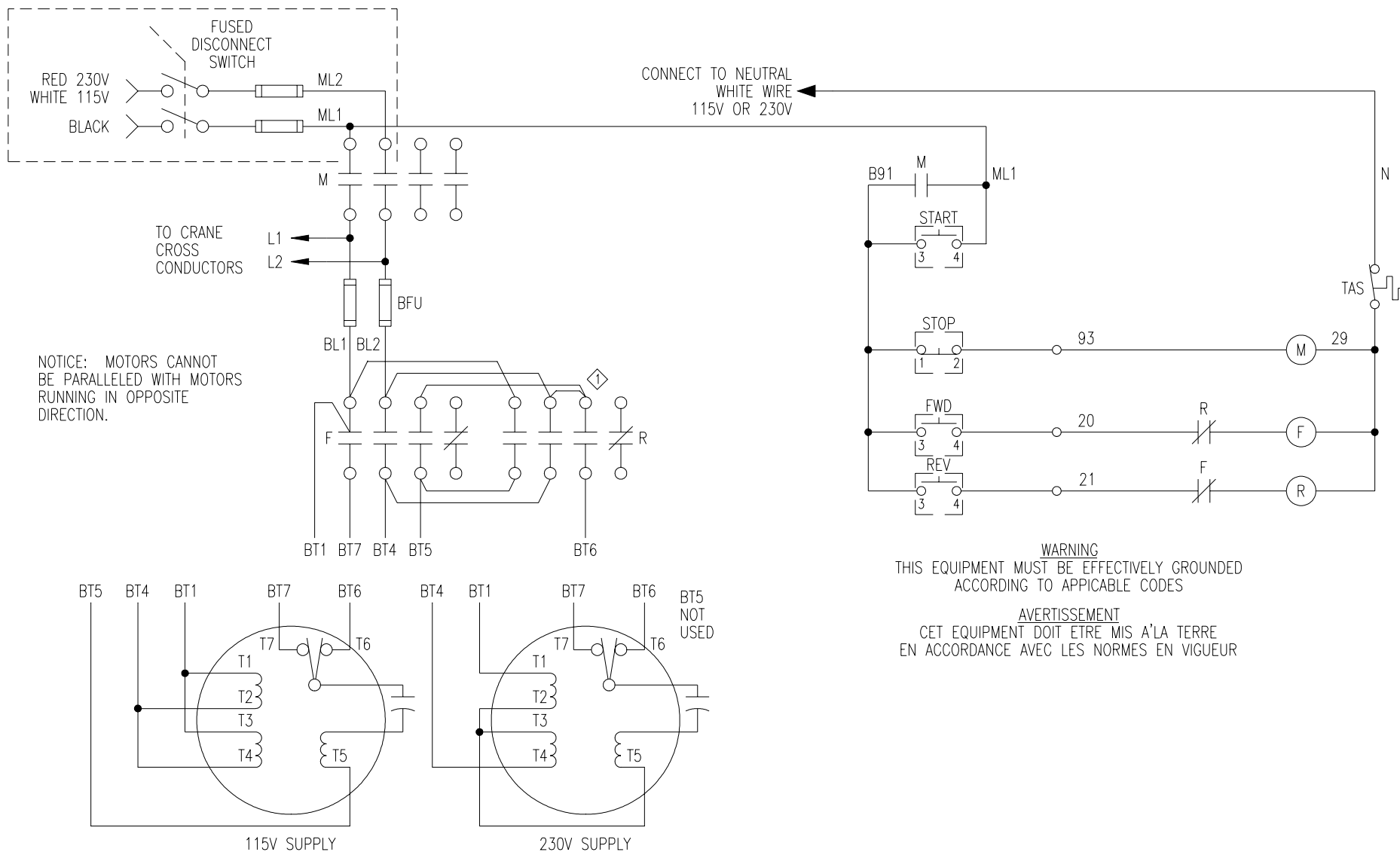
WARNING

THIS EQUIPMENT MUST BE EFFECTIVELY
GROUNDED ACCORDING TO APPLICABLE
CODES.

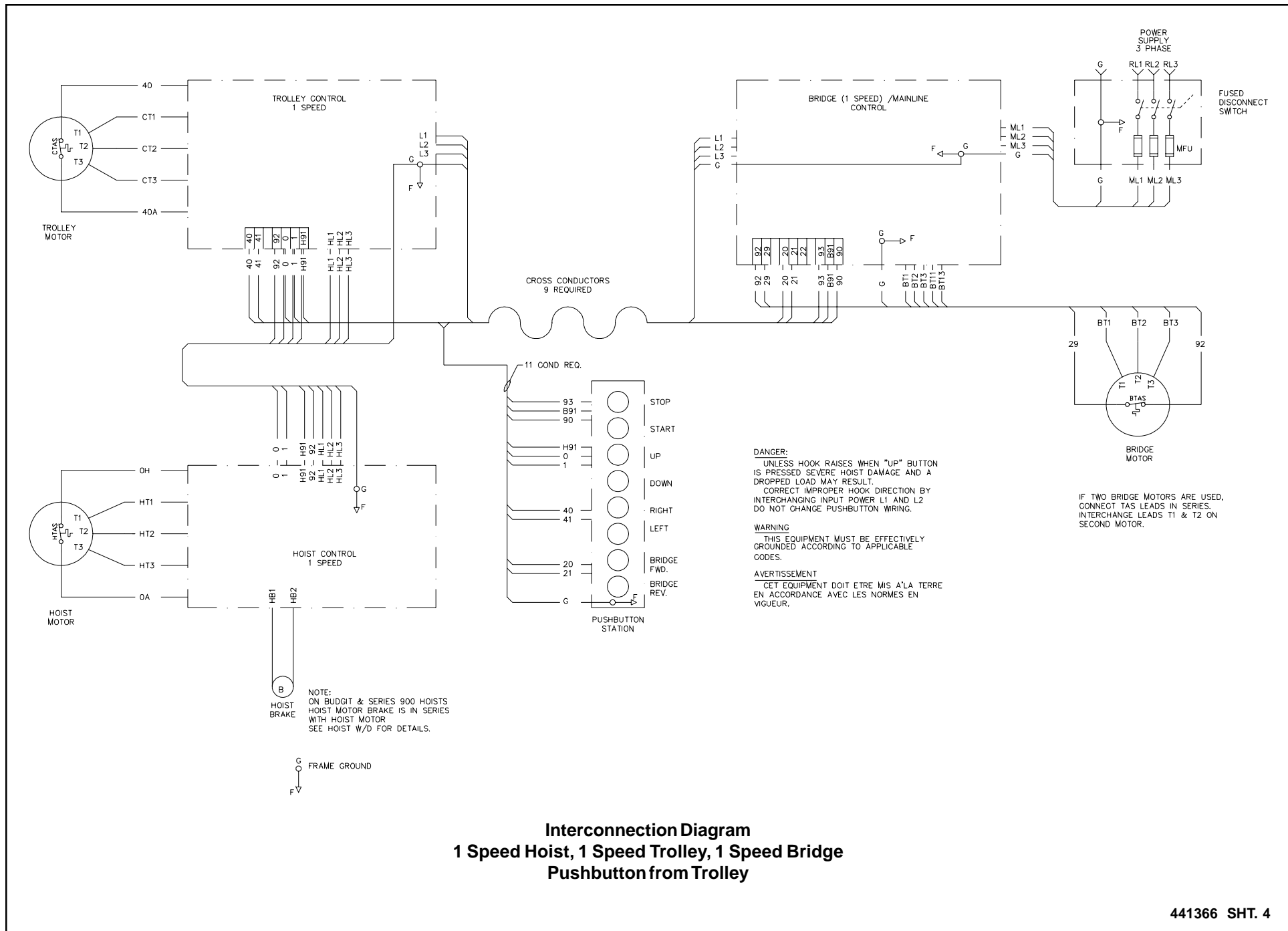
AVERTISSEMENT

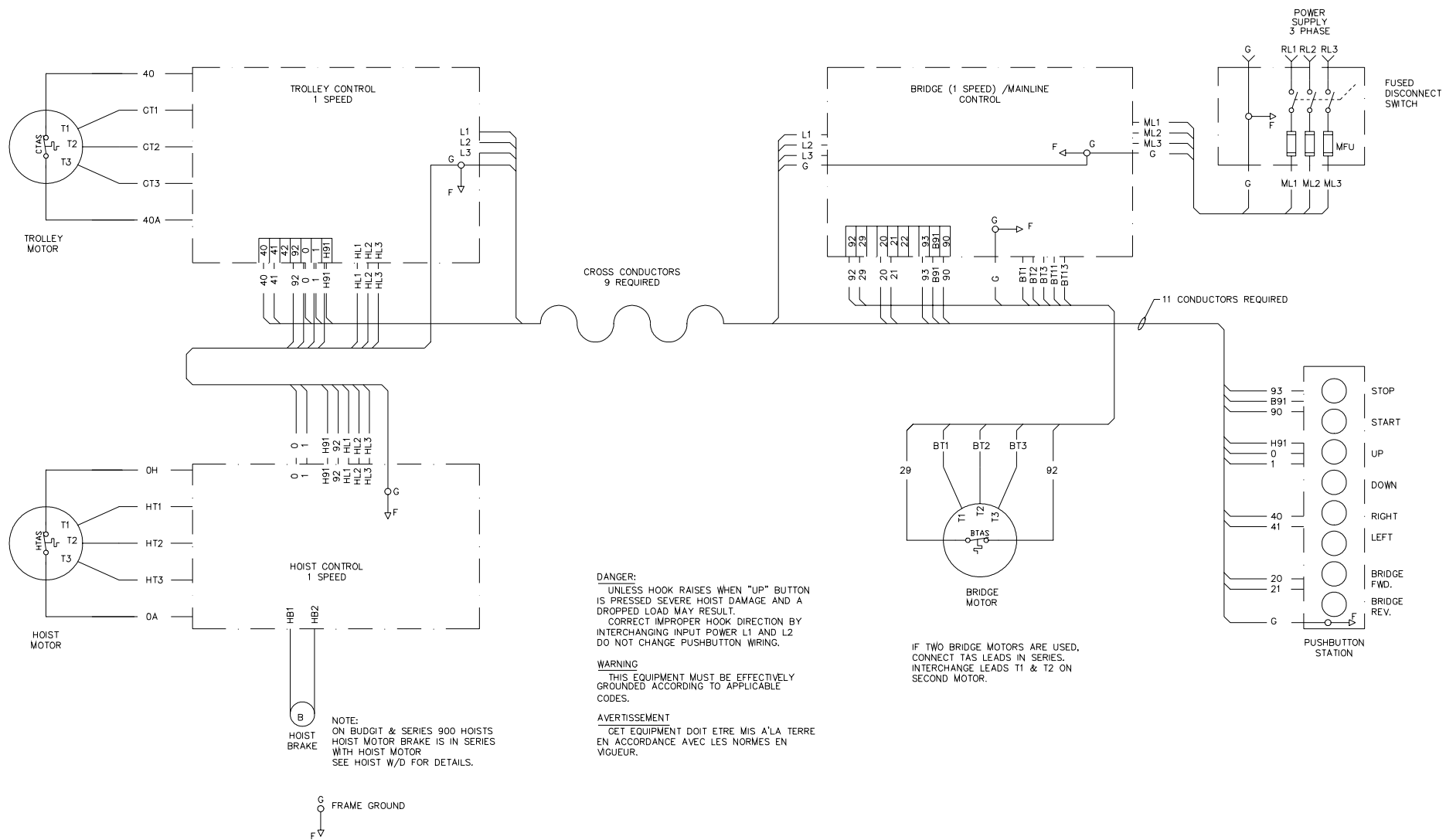
CET EQUIPMENT DOIT ETRE MIS A'LA TERRE
EN ACCORDANCE AVEC LES NORMES EN
VIGUEUR.

TWO SPEED

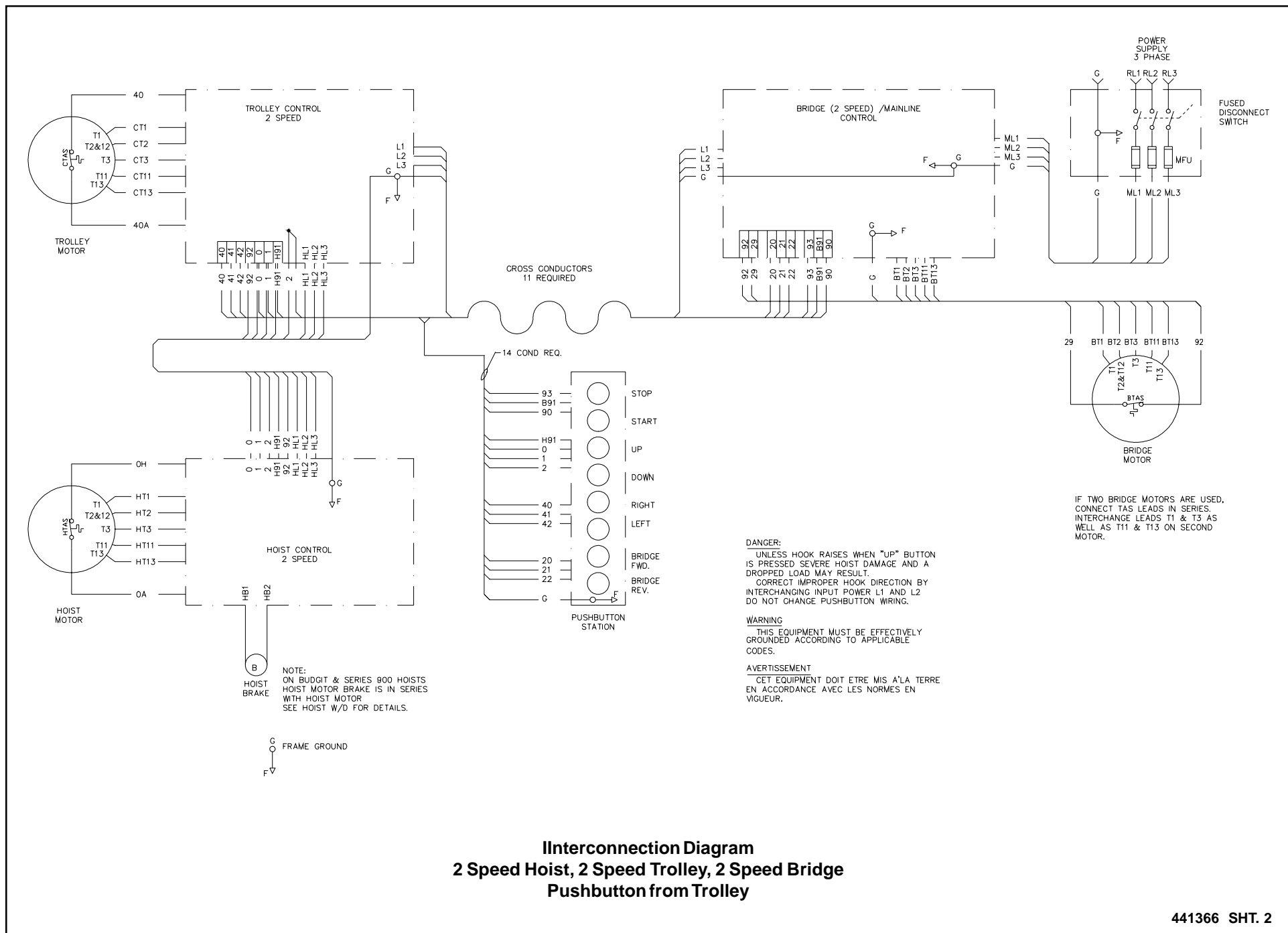


Elementary Diagram Bridge-Mainline
Single Phase

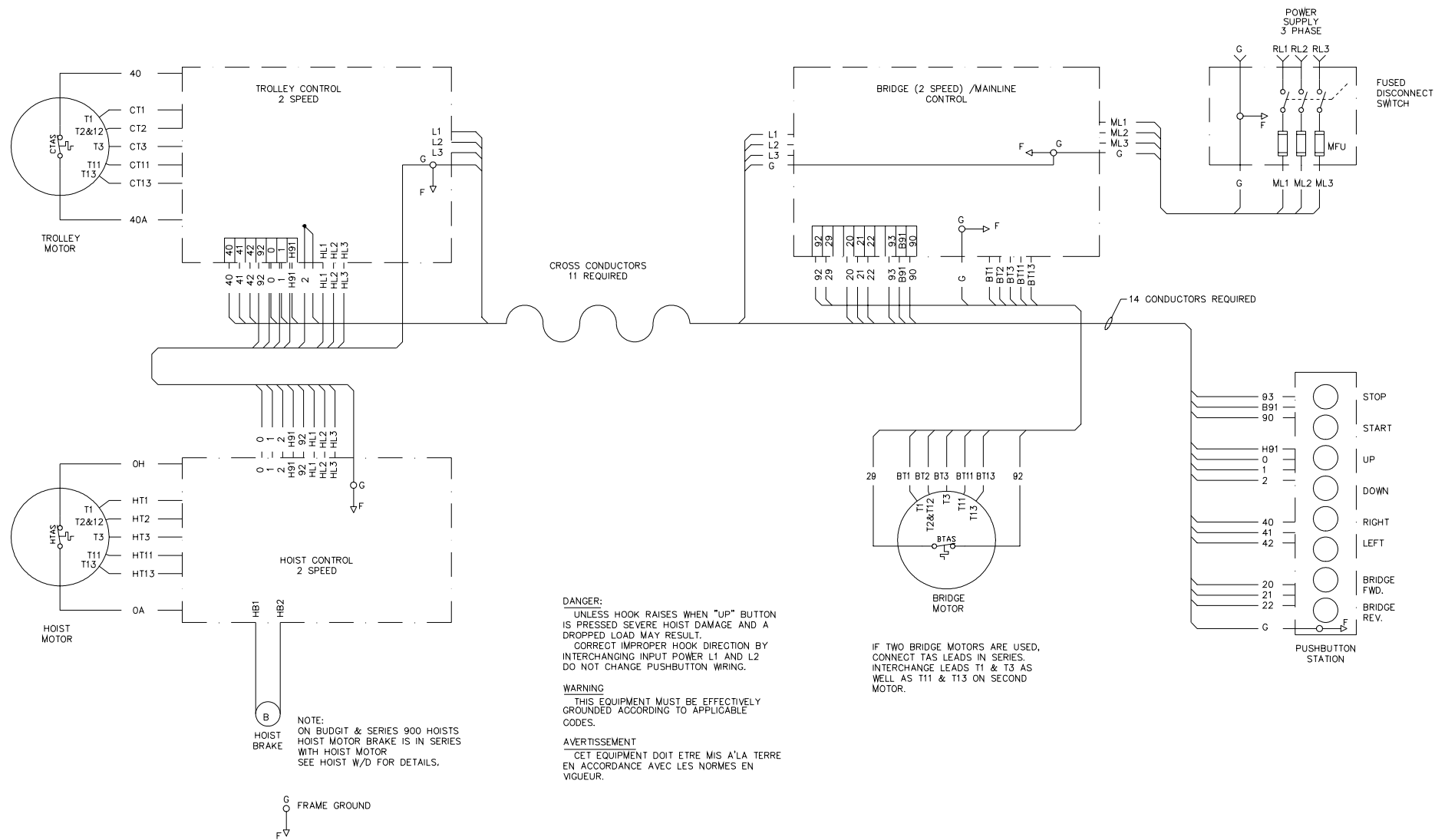




Interconnection Diagram
1 Speed Hoist, 1 Speed Trolley, 1 Speed Bridge
Pushbutton from Bridge



Interconnection Diagram
2 Speed Hoist, 2 Speed Trolley, 2 Speed Bridge
Pushbutton from Trolley



Interconnection Diagram
2 Speed Hoist, 2 Speed Trolley, 2 Speed Bridge
Pushbutton from Bridge

[illegible]

For the location of your nearest repair station

Yale•Lift-Tech
P.O. Box 769
Muskegon, MI 49443-0769

Phone: **800 742-9269**
Fax: **800 742-9270**

WARRANTY

WARRANTY AND LIMITATION OF REMEDY AND LIABILITY

A. Seller warrants that its products and parts, when shipped, and its work (including installation, construction and start-up), when performed, will meet applicable specifications, will be of good quality and will be free from defects in material and workmanship. All claims for defective products or parts under this warranty must be made in writing immediately upon discovery and, in any event, within one (1) year from shipment of the applicable item unless Seller specifically assumes installation, construction or start-up responsibility. All claims for defective products or parts when Seller specifically assumes installation, construction or start-up responsibility, and all claims for defective work must be made in writing immediately upon discovery and, in any event, within one (1) year from completion of the applicable work by Seller, provided, however, all claims for defective products and parts made in writing no later than eighteen (18) months after shipment. Defective items must be held for Seller's inspection and returned to the original f.o.b. point upon request. THE FOREGOING IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

B. Upon Buyer's submission of a claim as provided above and its substantiation, Seller shall at its option either (i) repair or replace its product, part or work at either the original f.o.b. point of delivery or at Seller's authorized service station nearest Buyer or (ii) refund an equitable portion of the purchase price.

C. This warranty is contingent upon Buyer's proper maintenance and care of Seller's products, and does not extend to normal wear and tear. Seller reserves the right to void warranty in event of Buyer's use of inappropriate materials in the course of repair or maintenance, or if Seller's products have been dismantled prior to submission to Seller for warranty inspection.

D. The foregoing is Seller's only obligation and Buyer's exclusive remedy for breach of warranty, and is Buyer's exclusive remedy hereunder by way of breach of contract, tort, strict liability or otherwise. In no event shall Buyer be entitled to or Seller liable for incidental or consequential damages. Any action for breach of this agreement must be commenced within one (1) year after the cause of action has accrued.