

Service Bulletin

Machinery Affected: *Easy-Set*® Saw
Document: SB178
Title: Replacing Breakers and Auxiliary Contacts
Applies To: Carriage-End Breakers and Auxiliary Contacts
Distribution: Customers, Upon Order



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MiTek
Machinery Division
301 Fountain Lakes Industrial Drive
St. Charles, MO 63301
Phone: 800-523-3380
Sales fax: 636-328-9222
Customer Service fax: 636-328-9218
www.mii.com

Date Created	12/14/06
Created By	R. Widder
Reviewed by	R. Tucker
Approved by	G. McNeelege
Manuf. Eng.	K. Schuermann
Applicability	7000000, 7030000, 7030100, 7030200
Effectivity	All



Purpose and Scope

If it is necessary to replace a breaker or the auxiliary contact on the carriage end of any *Easy-Set*® saw, both breakers and contacts must be replaced due to vendor product changes. This Service Bulletin provides instructions for safely removing and properly replacing the old breakers and auxiliary contacts with new ones.

Overview

The parts included in this kit are shown in Table 1. Please ensure all parts are present before starting this procedure.

Table 1: Parts in SB178KIT

Qty.	Part Description	Part #
1	Breaker, S202-B6	516364
1	Breaker, S262-B10	516365
2	Contact, auxiliary	408662

Before beginning the procedure, gather the supplies listed in Table 2.

Table 2: Tools and Supplies


Description
Standard screwdriver set
Adjustable wrench

If you have any questions, call MiTek Machinery Division Customer Service at 800-523-3380.

Procedure




Electrical Lockout/Tagout Procedures

WARNING	
	<p>ELECTROCUTION HAZARD!</p> <p>Verify that all power to the machine has been turned off and follow approved lockout/tagout safety procedures before performing any maintenance.</p> <p>All electrical work must performed by a qualified electrician.</p> <p>If it is absolutely necessary to troubleshoot an energized machine, follow NFPA 70E for proper procedures and personal protective equipment.</p>

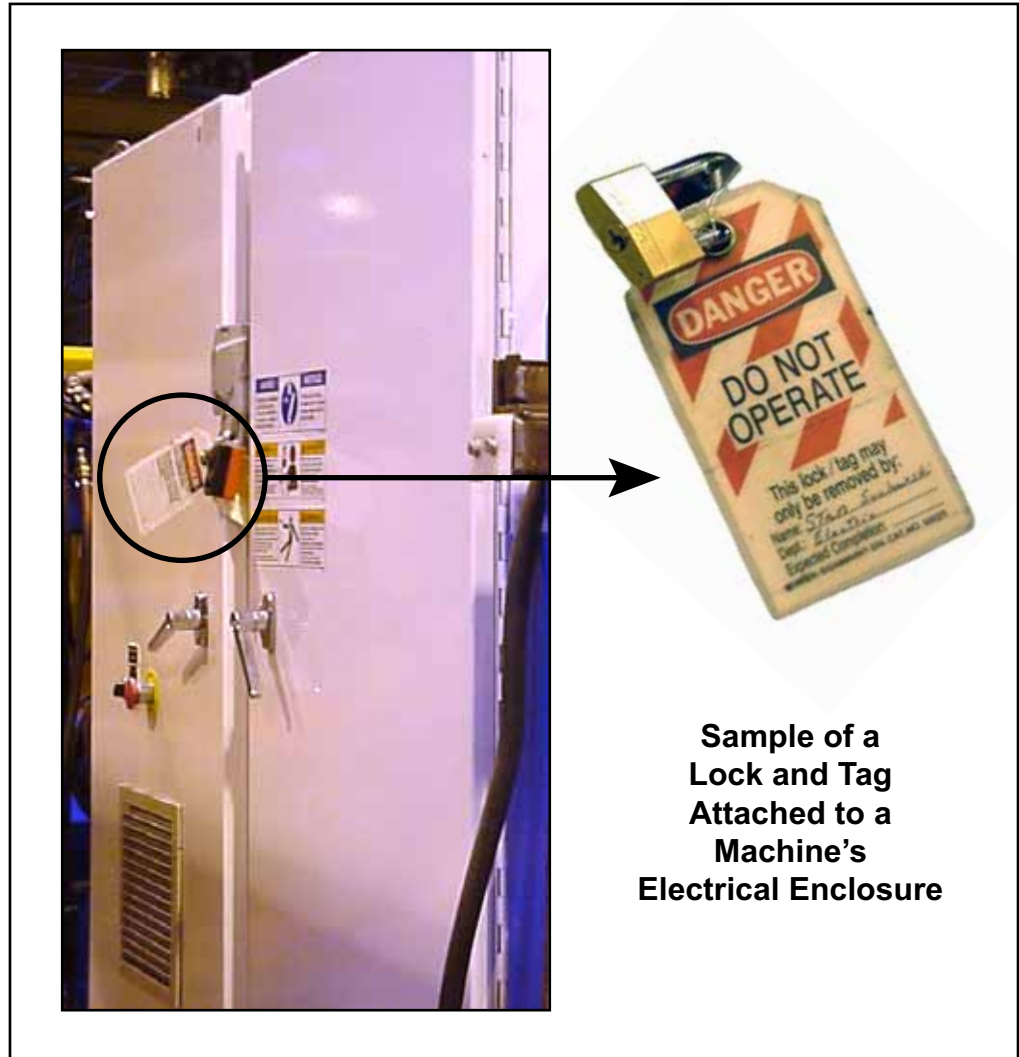
Before performing maintenance on any machine with electrical power, lockout/tagout the machine properly. When working on a machine outside of the machine’s main electrical enclosure, not including work on the electrical transmission line to the machine, follow your company’s approved lockout/tagout procedures which should include, but are not limited to the steps here.

1. Engage an E-stop on the machine.
2. Turn the disconnect switch handle on the machine’s main electrical enclosure to the “off” position.

WARNING	
	<p>ELECTROCUTION HAZARD.</p> <p>When the disconnect switch is off, there is still live power within the disconnect switch’s enclosure. Always turn off power at the building’s power source to the equipment before opening this electrical enclosure!</p>

3. Attach a lock and tag that meets OSHA requirements for lockout/tagout. See Figure 1.

Figure 1: Lockout/Tagout on the Main Electrical Enclosure



**Sample of a
Lock and Tag
Attached to a
Machine's
Electrical Enclosure**

Replacing the Breakers and Auxiliary Contacts

Breakers and auxiliary contacts are located on the left side of the carriage-end electrical enclosure. See Figure 2.

Figure 2: Breakers and Contacts



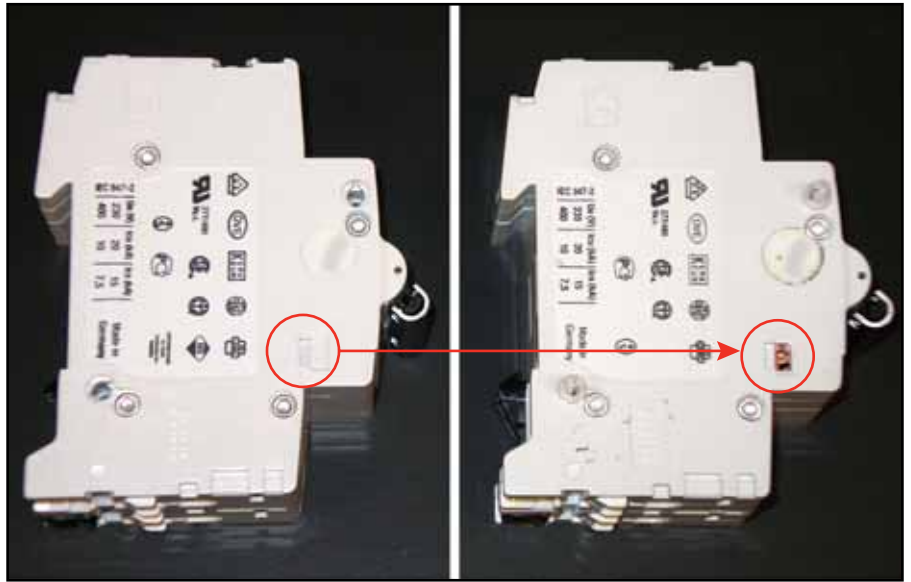
Removing the Breakers and Auxiliary Contacts

1. Lockout/tagout the saw at the stationary-end electrical enclosure.
2. Remove the two (2) 10-24 slotted screws holding the breakers, auxiliary contacts and DIN rail in place in the electrical enclosure. Save the screws for re-use.
3. Remove the breakers, auxiliary contacts, and DIN rail.
4. Remove the wires from the breakers and auxiliary contacts, noting how they are wired.
5. Remove the breakers and auxiliary contacts from the DIN rail.

Replacing the Breakers and Auxiliary Contacts

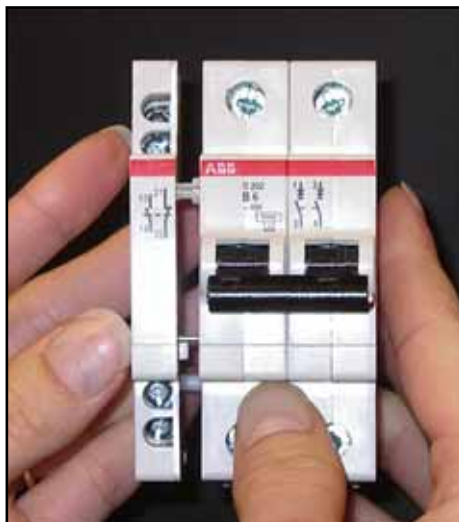
1. Turn the breaker switch to ON and then OFF to activate the breaker.
2. Attach the auxiliary contact to the breaker.
 - a) Remove the plastic piece covering the small hole on the left side of each breaker. See Figure 3.

Figure 3: Remove Plastic Covering



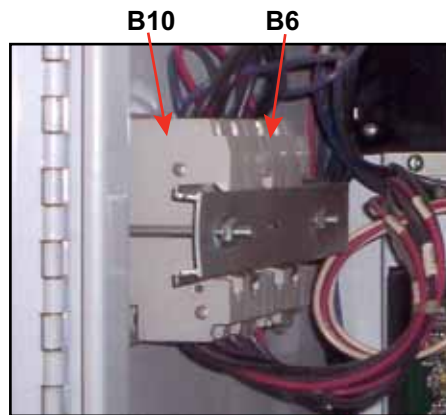
- b) Line up the edges of the auxiliary contact with the left side of the breaker. See Figure 4.

Figure 4: Line Up Contact and Breaker



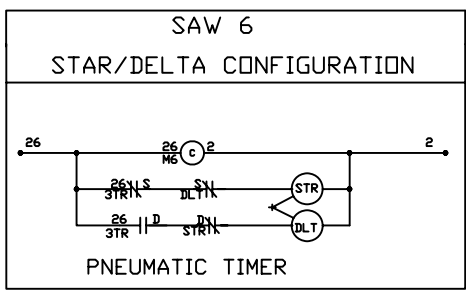
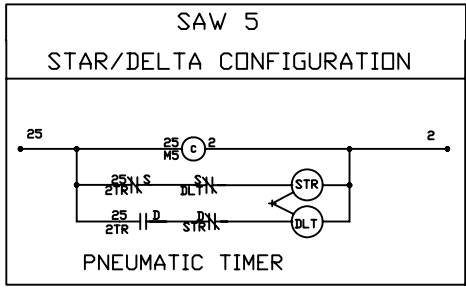
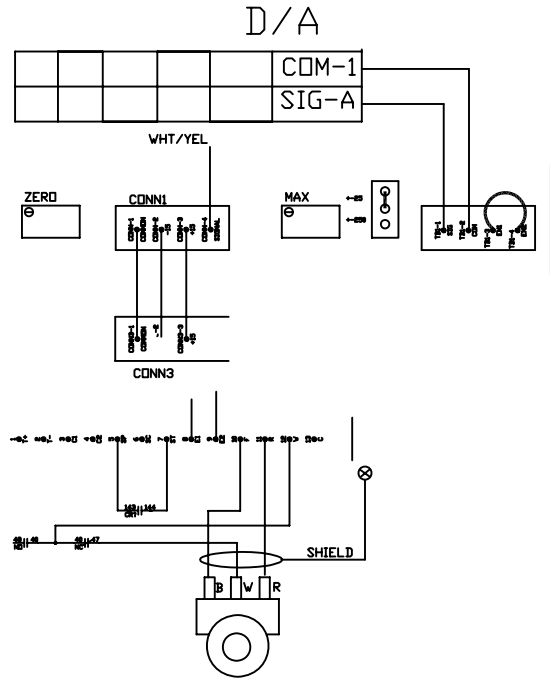
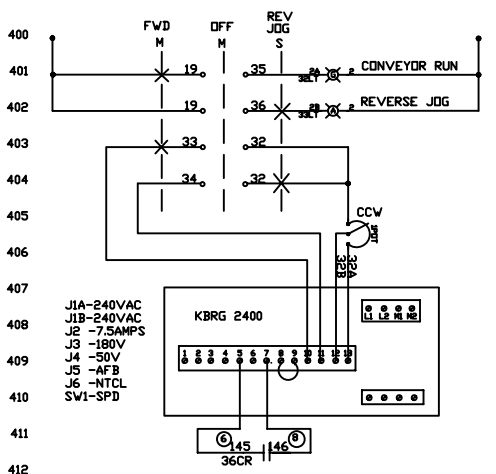
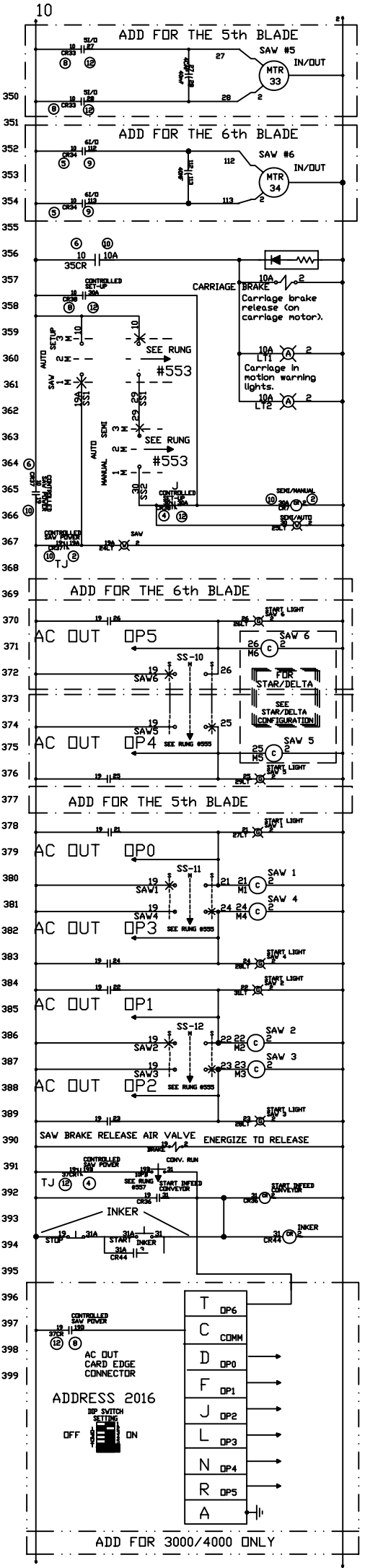
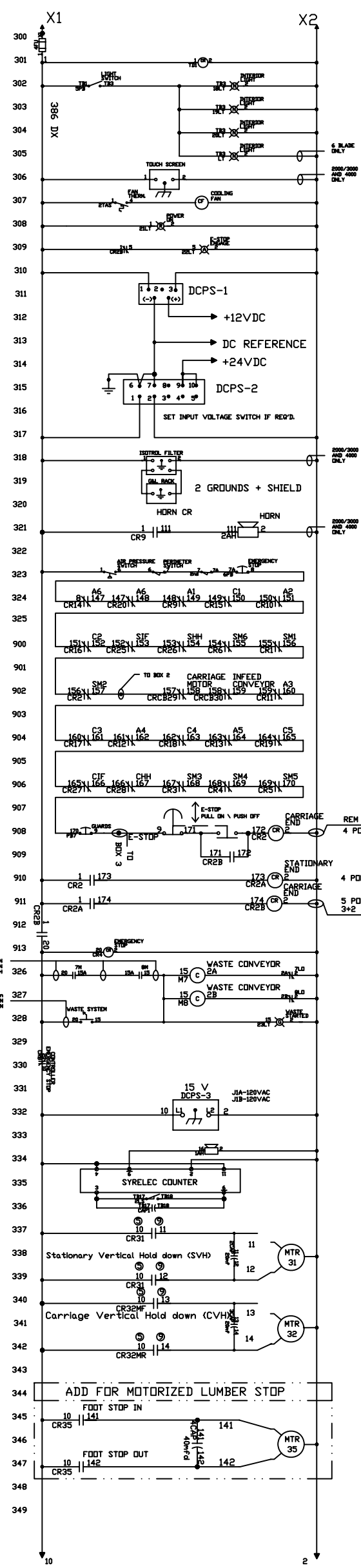
- c) Press the breaker and auxiliary contact toward each other until they snap together.
3. Repeat steps 1 and 2 for the other breaker and auxiliary contact.
4. Insert the breakers and auxiliary contacts into the DIN rail.
 - The switch side of the breakers must be facing toward the left side of the enclosure.
 - The B6 breaker, PN 516364, must be closer to the back of the enclosure, with the B10 breaker, PN 516365, in front. See Figure 5.

Figure 5: Breaker and Contact Locations



5. Reconnect wires to the breakers and auxiliary contacts in the same configuration as before the part replacement. Refer to Drawings 7059200, 7059300, and 7061600 for machines shipped before December 7, 1996, and to Drawing 90092 for machines shipped after December 7, 1996.
6. Line up the DIN rail, breakers, and auxiliary contacts with the screw holes in the electrical enclosure.
7. Insert and tighten the two (2) 10-24 slotted screws.
8. Close the electrical enclosure.
9. Remove the lockout/tagout device and turn the electrical disconnect to ON.
10. Restart the machine.
11. Turn the breakers on. If they are installed correctly, a light will appear on the stationary-end and carriage-end indicator boards.

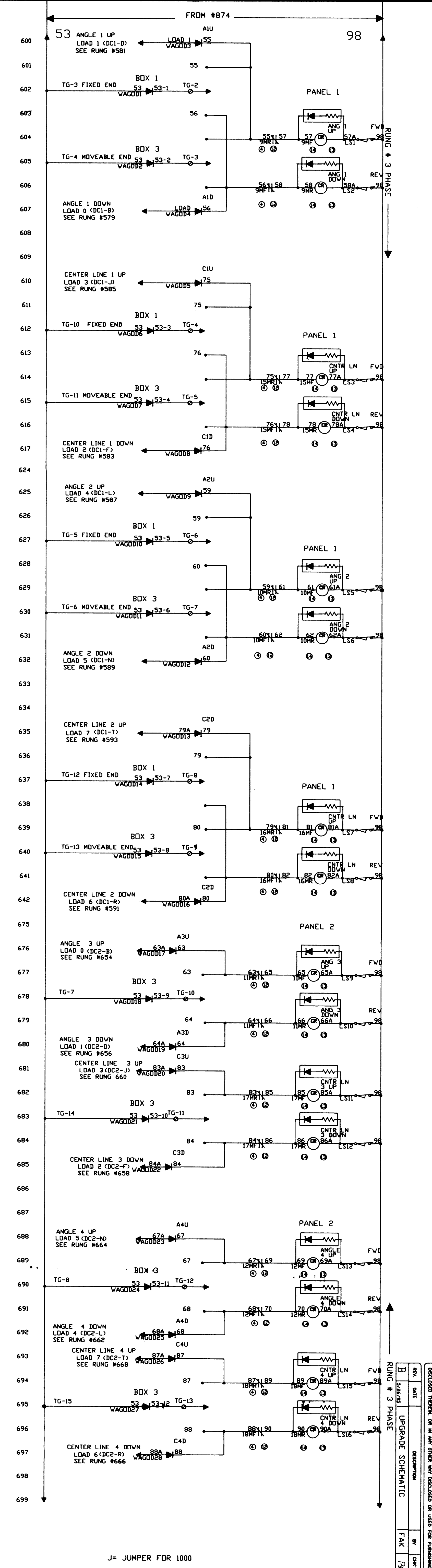
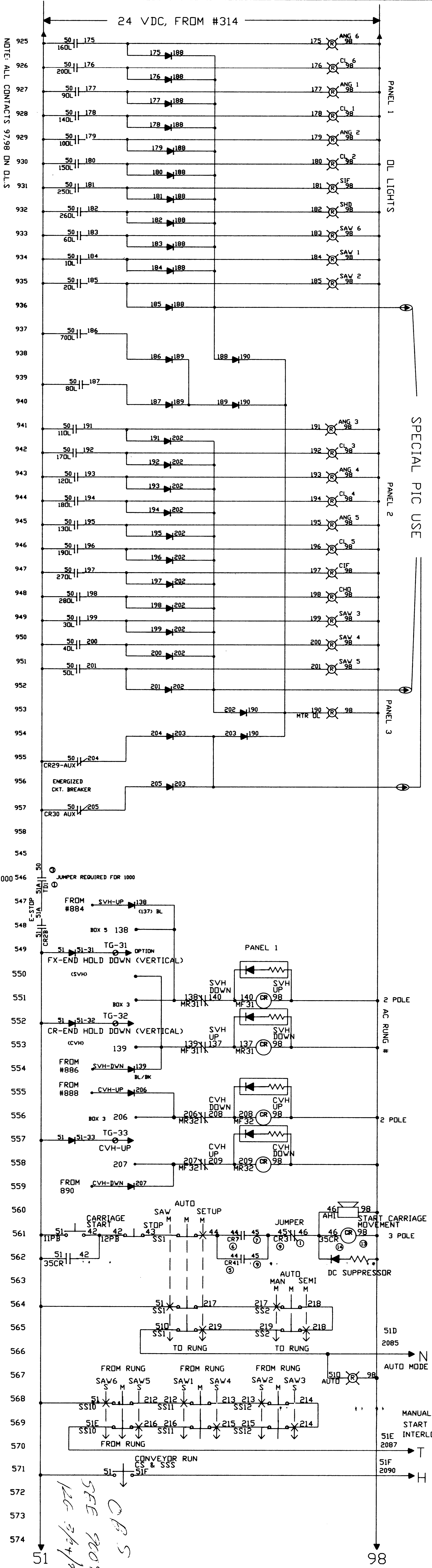
END OF SERVICE BULLETIN



APPROVED: _____
 CHECKED: _____
 DATE: _____
 DRAWN BY: M THAVES
 DATE: 12/09/83
 SCALE: _____
 SHEET NO. _____
 OF _____
MITEC Industries, Inc.
 EQUIPMENT DIVISION
 BATH, CT, STATION, MISSOURI
 PART NO. _____
MD-7059200

THIS DRAWING IS FOR DATA SHEET AND THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE INFORMATION IS NOT TO BE DEPENDENT ON THE INFORMATION PROVIDED IN THIS DRAWING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE INFORMATION PROVIDED IN THIS DRAWING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE INFORMATION PROVIDED IN THIS DRAWING.

NOTE: ALL CONTACTS 9798 DN DLS

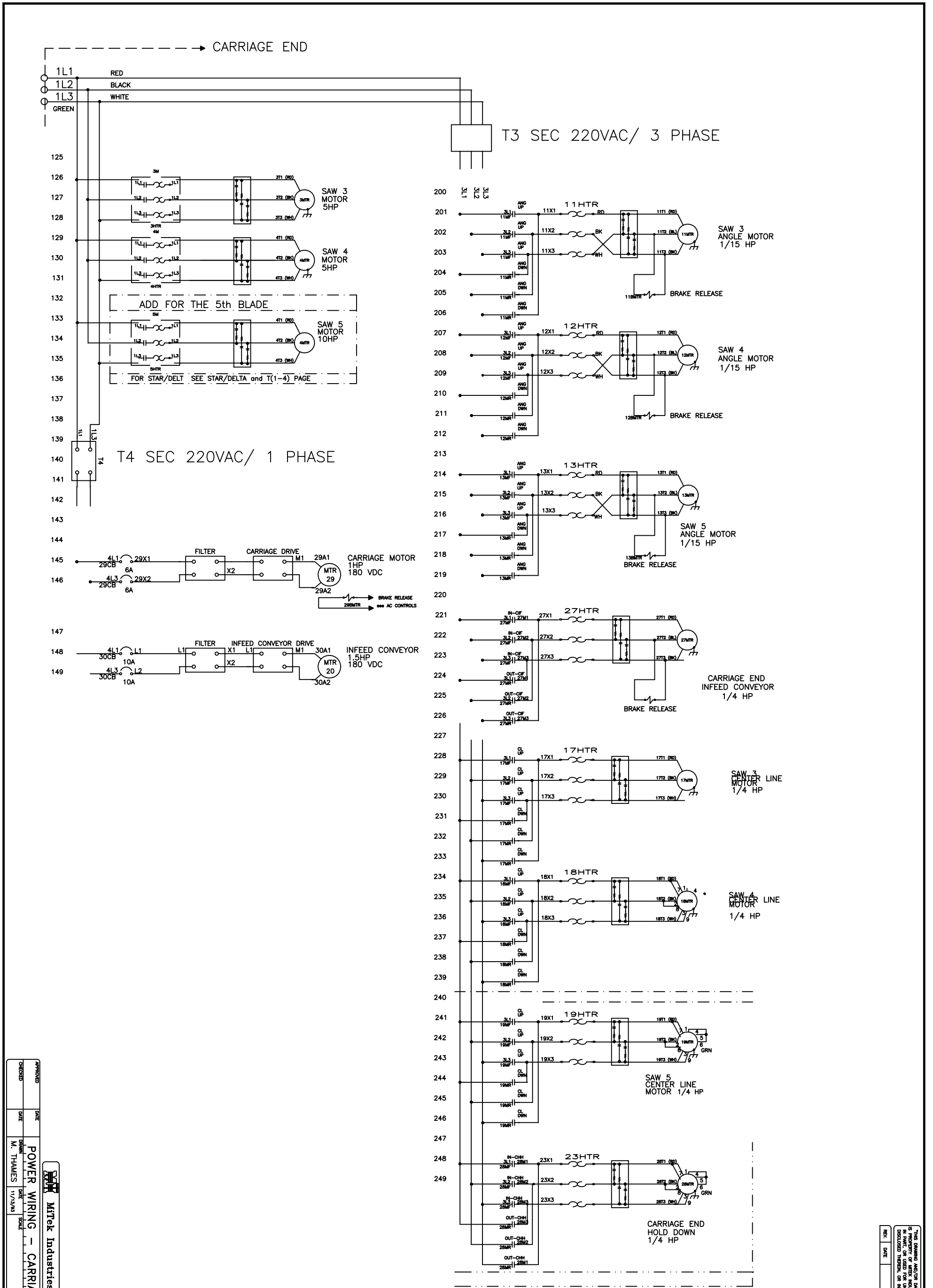


APPROVED	DATE	MOTION - Relays, Switches, Lights & Diodes	M. THAMES 12/26/81	EQUIPMENT DIVISION EQUIP. DIV. STATIONS, WISCONSIN
CHECKED	DATE			
DESIGNED	DATE	MD-7059300	REV. B	MATEK INDUSTRIES, INC.
DRAWN	DATE			

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REV.	DATE	DESCRIPTION	BY	CHK'D	APP'D	DATE
B	12/26/81	UPGRADE SCHEMATIC	FAK	RSB	6/1/81	

J = JUMPER FOR 1000



APPROVED	DATE	POWER WIRING - CARRIAGE END 1 of 2 MD-7061600
CHECKED	DATE	
Mitelk Industries, Inc. EQUIPMENT DIVISION 1000 W. 10th St., Stillwater, Missouri		PART NO. MD-7061600
M. THAMES 1/17/2011	S. COLE 1/17/2011	REV.

REV.	DATE	DESCRIPTION	BY	CHKD	APPROV	DATE

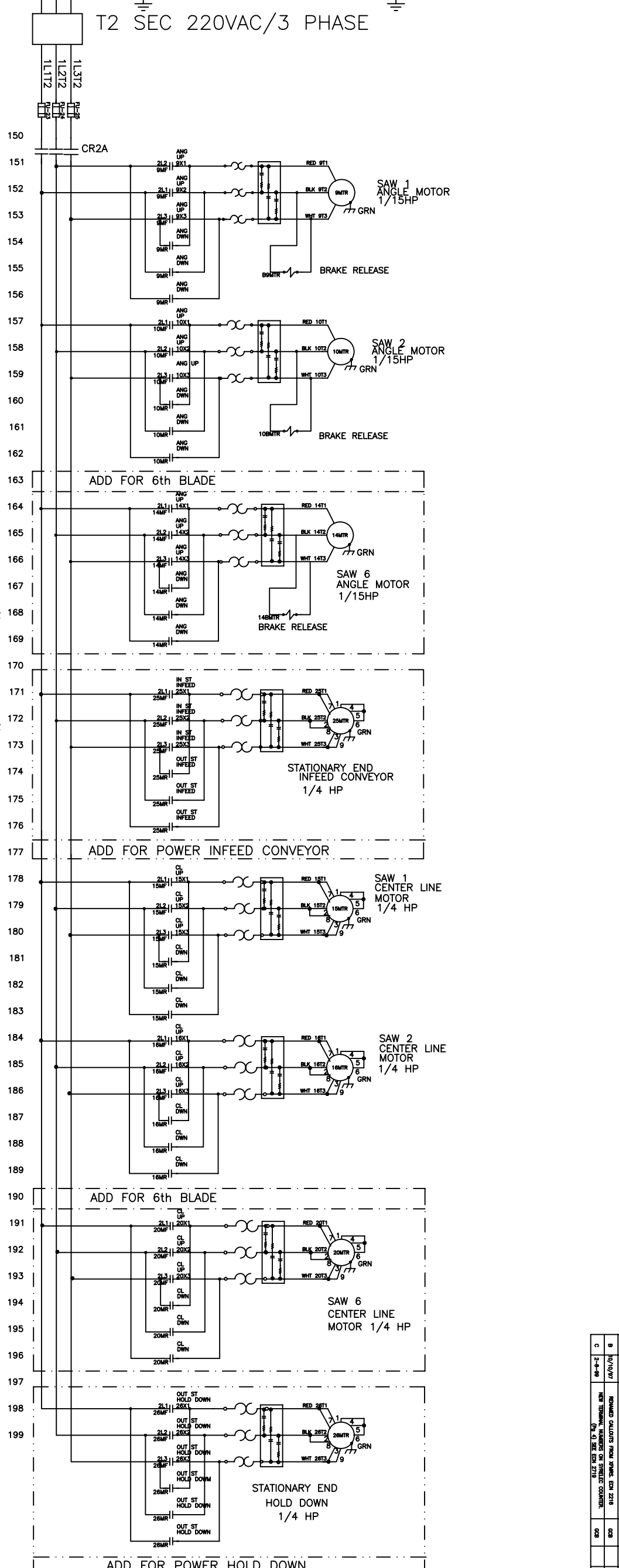
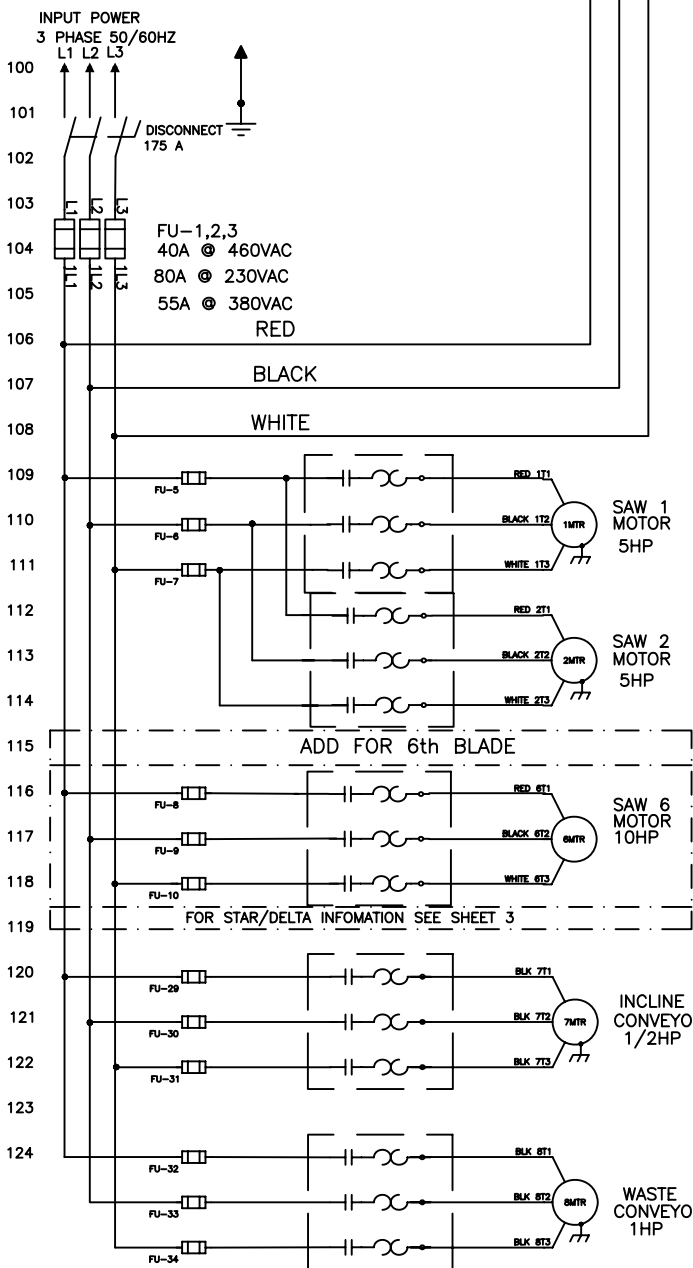
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STATIONARY END ←

POWER CABLE

→ CARRIAGE END

TO CARRIAGE END PANEL (SHEET 2)



FUSE	VOLTAGE	SIZE
FU5-FU16	460	25A
FU23-FU28	230/208	50A
FU29-FU31	460	10A
FU32-FU34	230/208	2A
FU35-FU42	460	4A
	230/208	3.5A
	460	7.5A
	230/208	6A
		N/A

VOLTAGE	4-BLADE	5-BLADE	6-BLADE
460	90332	90333	90334
230/208	90335	90336	90337

NOTE: MOTOR FUSING KITS ARE OPTIONAL FUSES AND FUSE HOLDERS ARE CALLED OUT ON FUSE KIT BOMS. MOTOR FUSEBLOCKS ARE MOUNTED DIRECTLY ON MOTOR STARTER, ALL OTHERS MOUNT TO SIDE OF ENCLOSURE

NOTE:
1) All power wiring both AC and DC is to be Black.
2) As shown all the 3 phase AC Motors will rotate in the proper direction for standard operation when connected to a properly phased supply (IE...L1,L2,L3 = A,B,C).
3) If an individual motor needs to be reversed for a special application, then XL1 and XL2 on the input side of that motor starter are to be reversed.

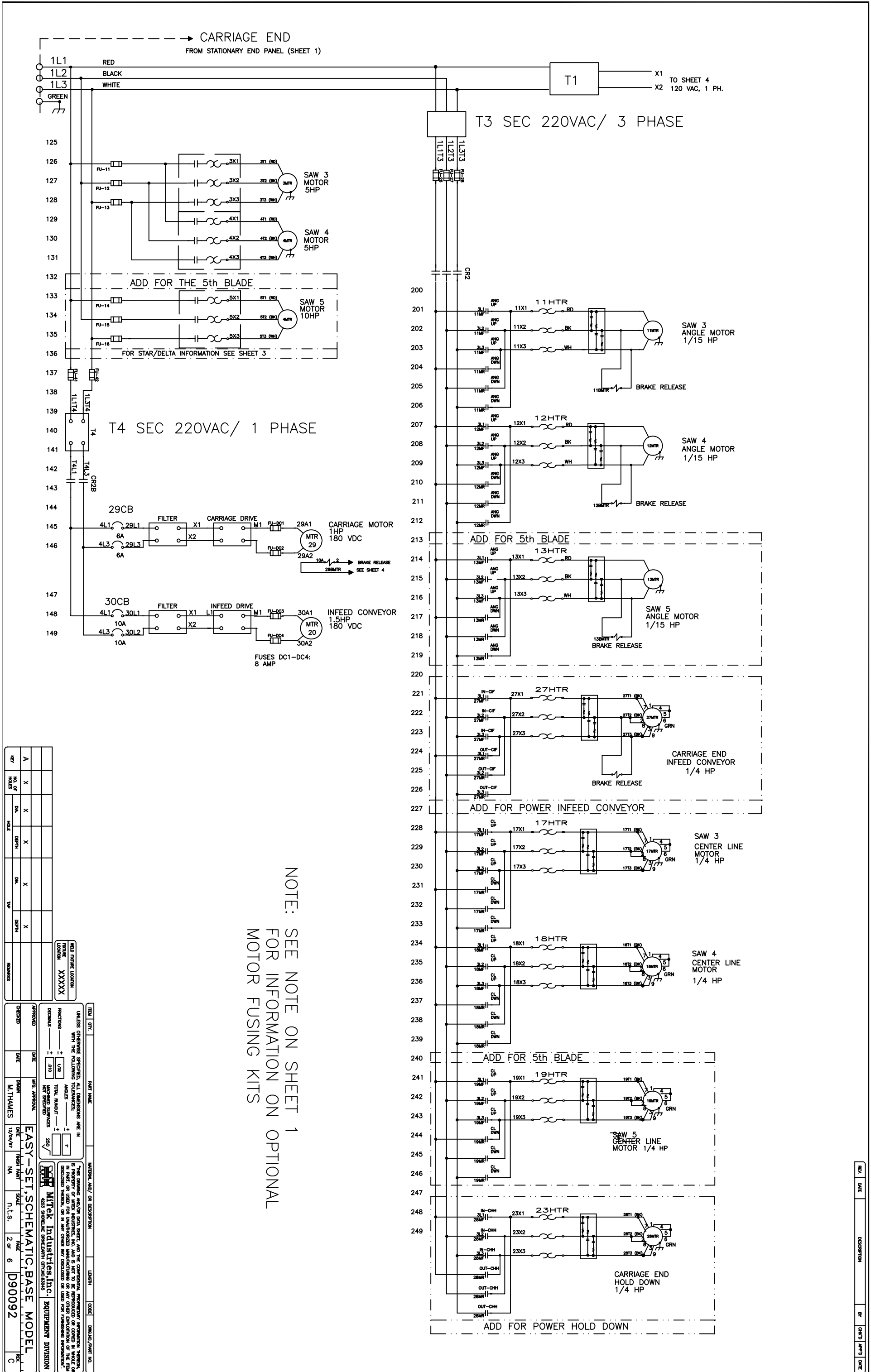
KEY	NO. OF PAGES	BLK	GRN	WH	RED	BRN	YEL	OR	REMARKS
A	X	X	X	X	X	X	X	X	

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.

DATE: 12/27/98
DRAWN: M. THAMES
CHECKED: M. THAMES
DATE: 12/04/97

EASY-SET, SCHEMATIC, BASE MODEL
D90092

REV	DATE	DESCRIPTION	BY	CHKD	APP'D	DATE
A	12/27/98	INITIAL RELEASE				
B	10/10/97	ISSUED OUTLINES FROM 9000, 9001, 9002, 9003, 9004, 9005, 9006, 9007, 9008, 9009, 9010, 9011, 9012, 9013, 9014, 9015, 9016, 9017, 9018, 9019, 9020, 9021, 9022, 9023, 9024, 9025, 9026, 9027, 9028, 9029, 9030, 9031, 9032, 9033, 9034, 9035, 9036, 9037, 9038, 9039, 9040, 9041, 9042, 9043, 9044, 9045, 9046, 9047, 9048, 9049, 9050, 9051, 9052, 9053, 9054, 9055, 9056, 9057, 9058, 9059, 9060, 9061, 9062, 9063, 9064, 9065, 9066, 9067, 9068, 9069, 9070, 9071, 9072, 9073, 9074, 9075, 9076, 9077, 9078, 9079, 9080, 9081, 9082, 9083, 9084, 9085, 9086, 9087, 9088, 9089, 9090, 9091, 9092, 9093, 9094, 9095, 9096, 9097, 9098, 9099, 9100, 9101, 9102, 9103, 9104, 9105, 9106, 9107, 9108, 9109, 9110, 9111, 9112, 9113, 9114, 9115, 9116, 9117, 9118, 9119, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9127, 9128, 9129, 9130, 9131, 9132, 9133, 9134, 9135, 9136, 9137, 9138, 9139, 9140, 9141, 9142, 9143, 9144, 9145, 9146, 9147, 9148, 9149, 9150, 9151, 9152, 9153, 9154, 9155, 9156, 9157, 9158, 9159, 9160, 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9991, 9992, 9993, 9994, 9995, 9996, 9997, 9998, 9999, 10000				



NOTE: SEE NOTE ON SHEET 1
 FOR INFORMATION ON OPTIONAL
 MOTOR FUSING KITS

REV	NO. OF HOLES	DK	DEPTH	DK	DEPTH	REMARKS
A	X			X		
B	X			X		
C	X			X		

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.

DATE: 12/04/97

SCALE: 2" = 6"

PROJECT: EASY-SET, SCHEMATIC, BASE MODEL

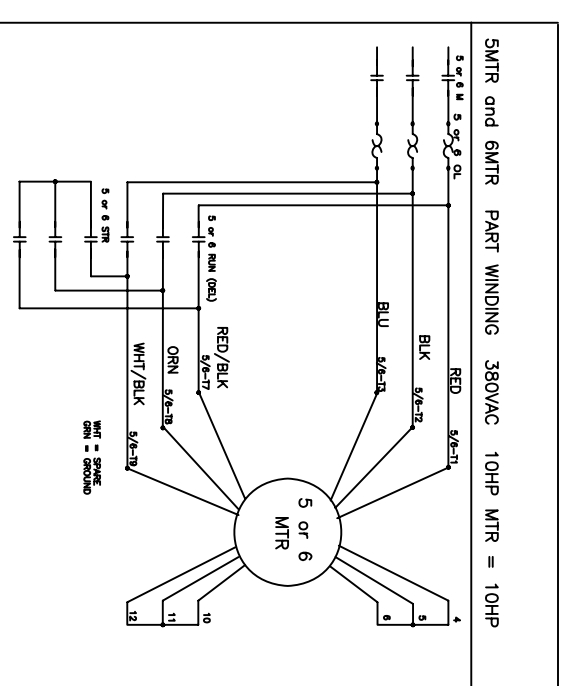
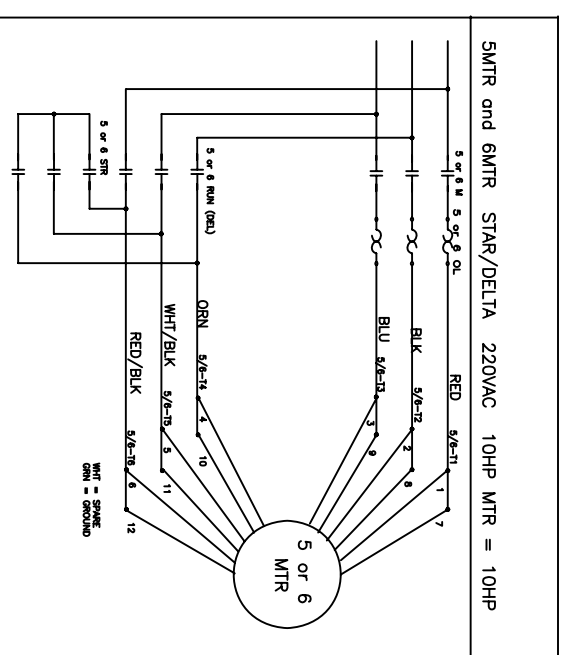
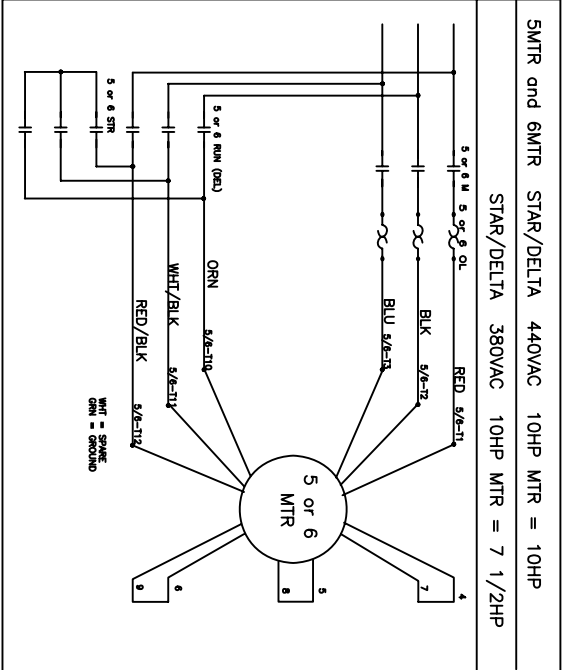
DESIGNER: M. THAMES

CHECKED: C

APPROVED: C

MITEK INDUSTRIES, INC. EQUIPMENT DIVISION

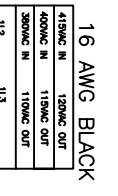
REV.	DATE	DESCRIPTION	BY	CHK'D	APP'D	DATE



T1
CONTROL 1KVA

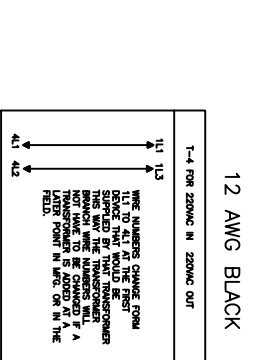
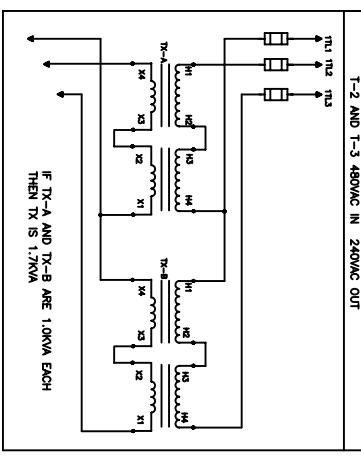
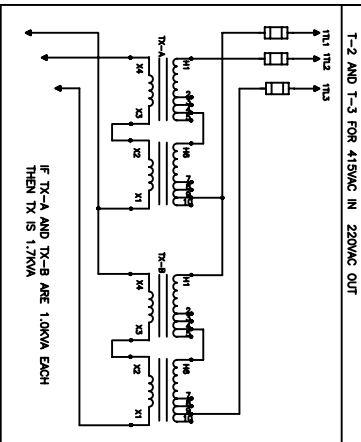
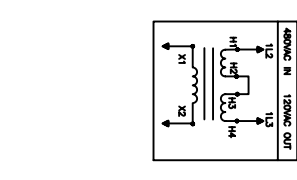
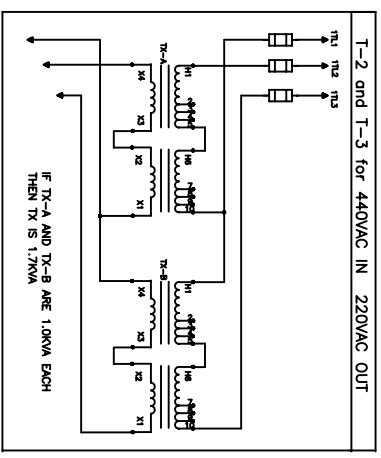
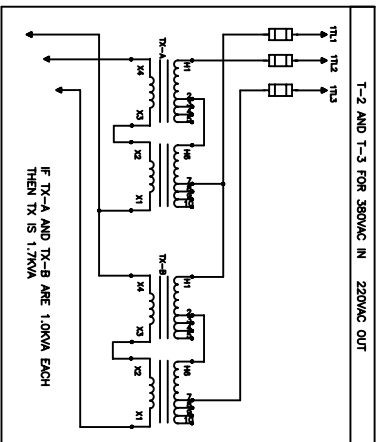
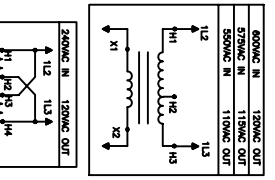
T2 and T3

T4



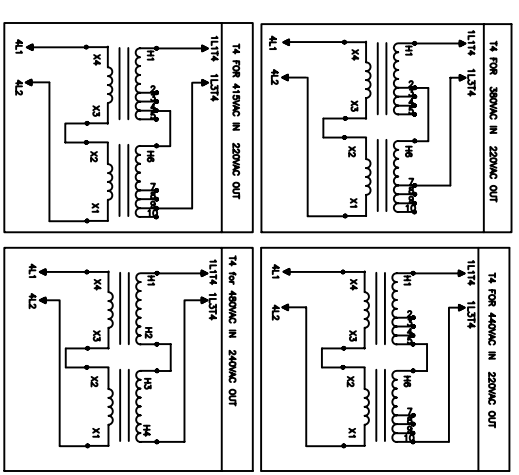
T2 and T3 for 220VAC IN 220VAC OUT

Wire numbers change from 1L1 to 2L1 or 3L1 at the first device that would be supplied by that transformer pair. This way the transformer branch wire numbers will not have to be changed if a transformer is added at a later point in MTR, or in the field.



T-4 FOR 380VAC IN 220VAC OUT

THIS WIRING SCHEME FROM THE TRANSFORMER TO THE DEVICE THAT WOULD BE SUPPLIED BY THAT TRANSFORMER IS THE SAME AS THE TRANSFORMER WIRING IN THE FIELD. THE TRANSFORMER IS ADDED AT A LATER POINT IN MTR OR IN THE FIELD.



T2 AND T3 PRIMARY FUSES ARE NUMBERED 35, 36 AND 37 FOR STATIONARY END, 38, 39 AND 40 FOR CARRIAGE

T4 PRIMARY FUSES SHOWN ON SHEET 2

REV	NO. OF	DATE	BY	CHKD	APPROV	REVISIONS
A	X					
	X					
	X					
	X					

FIELD PHONE LOCATION: XXXXX

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN MILLIMETERS.

FUNCTIONS: 2 1/2

DECIMALS: ± 0.10

APPROVED: DATE: 12/03/97

DESIGNED: DATE: M.T.HAMMES

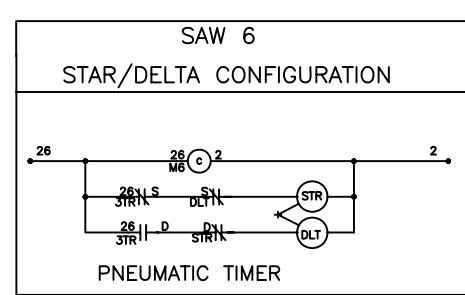
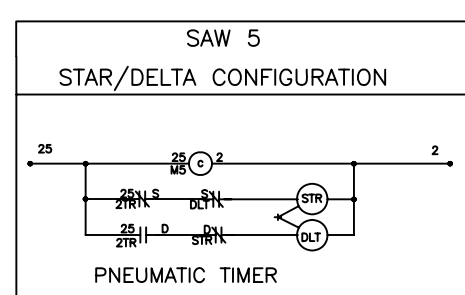
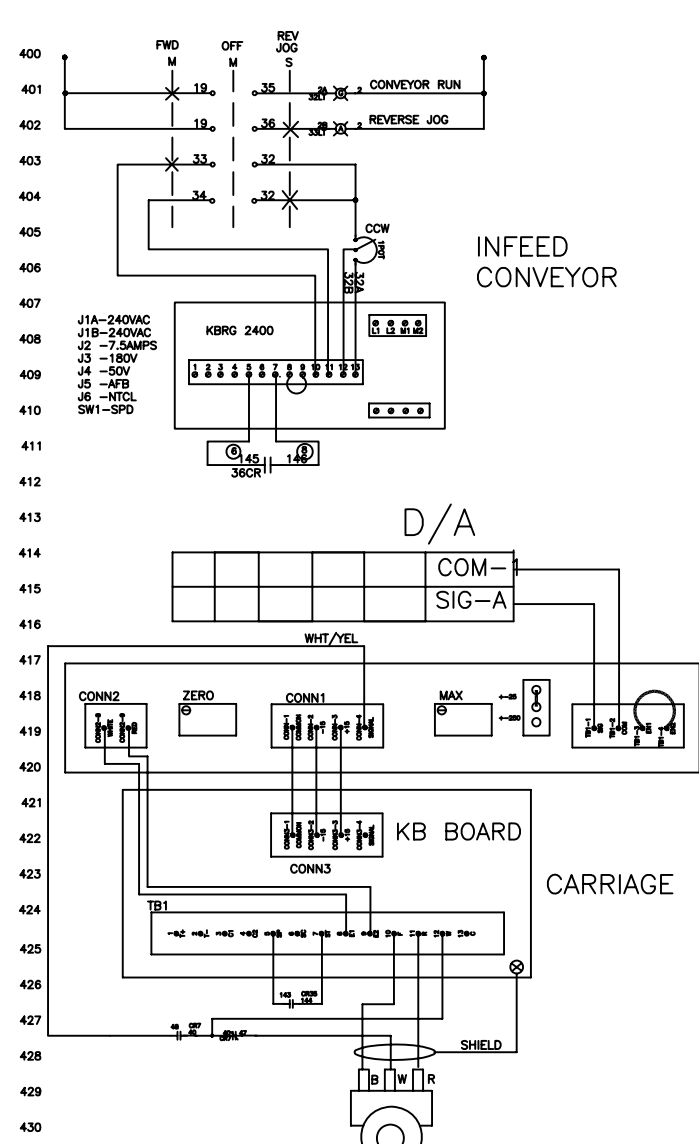
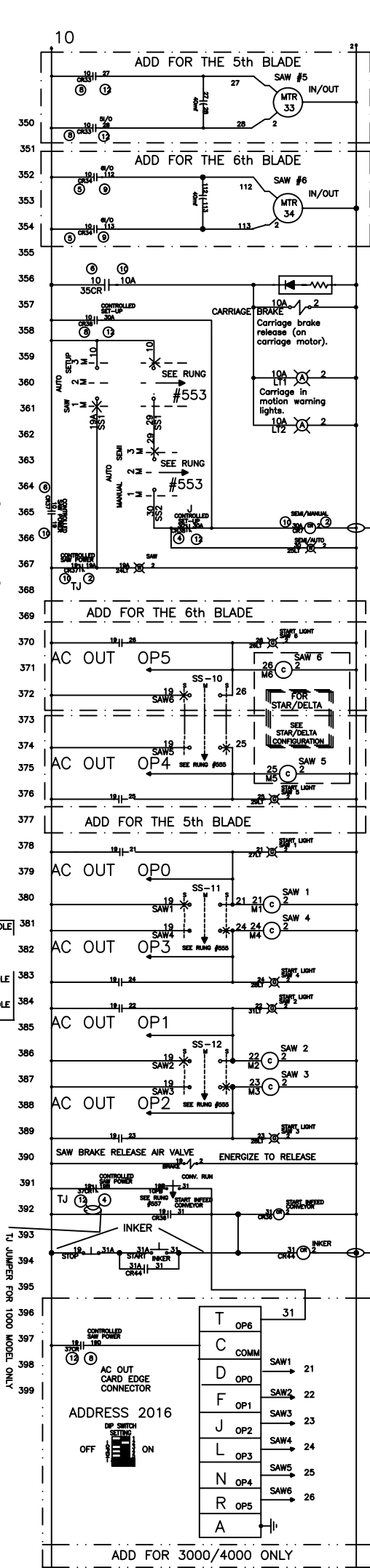
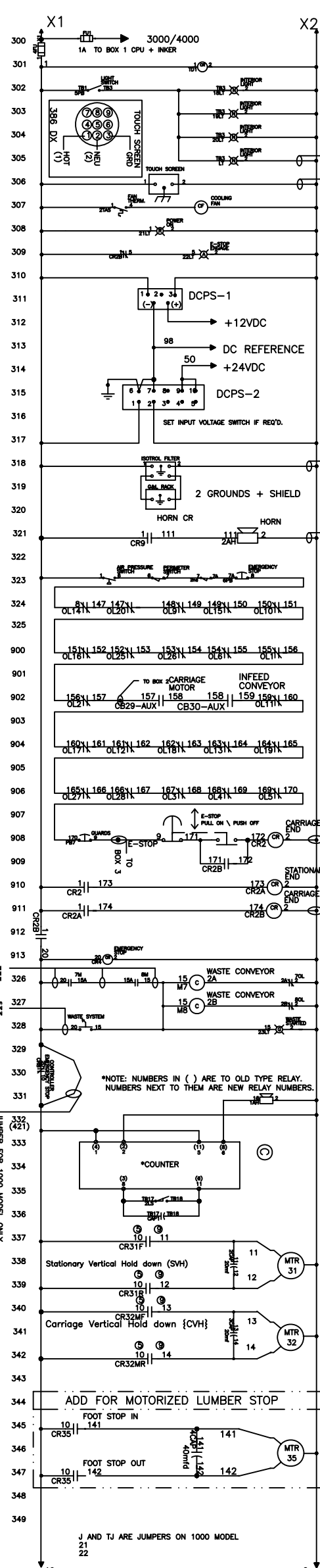
MATERIAL AND/OR DESCRIPTION: EASY-SET, SCHEMATIC, BASE MODEL

LENGTH: CODE: 3 or 6

QTY: 6

PART NO./MTR NO.: D90092

NOTE: SEE NOTE ON SHEET 1 FOR INFORMATION ON OPTIONAL FUSE KITS



APPROVED	DATE	BY
DESIGNED	DATE	BY
DATE	THRESHOLD	M.I. THAMES
DATE	SCALE	1/2"=1'
DATE	NO. OF SHEETS	11 OF 11
DATE	REV.	4 OF 6
DATE	REV.	6
DATE	REV.	D90092

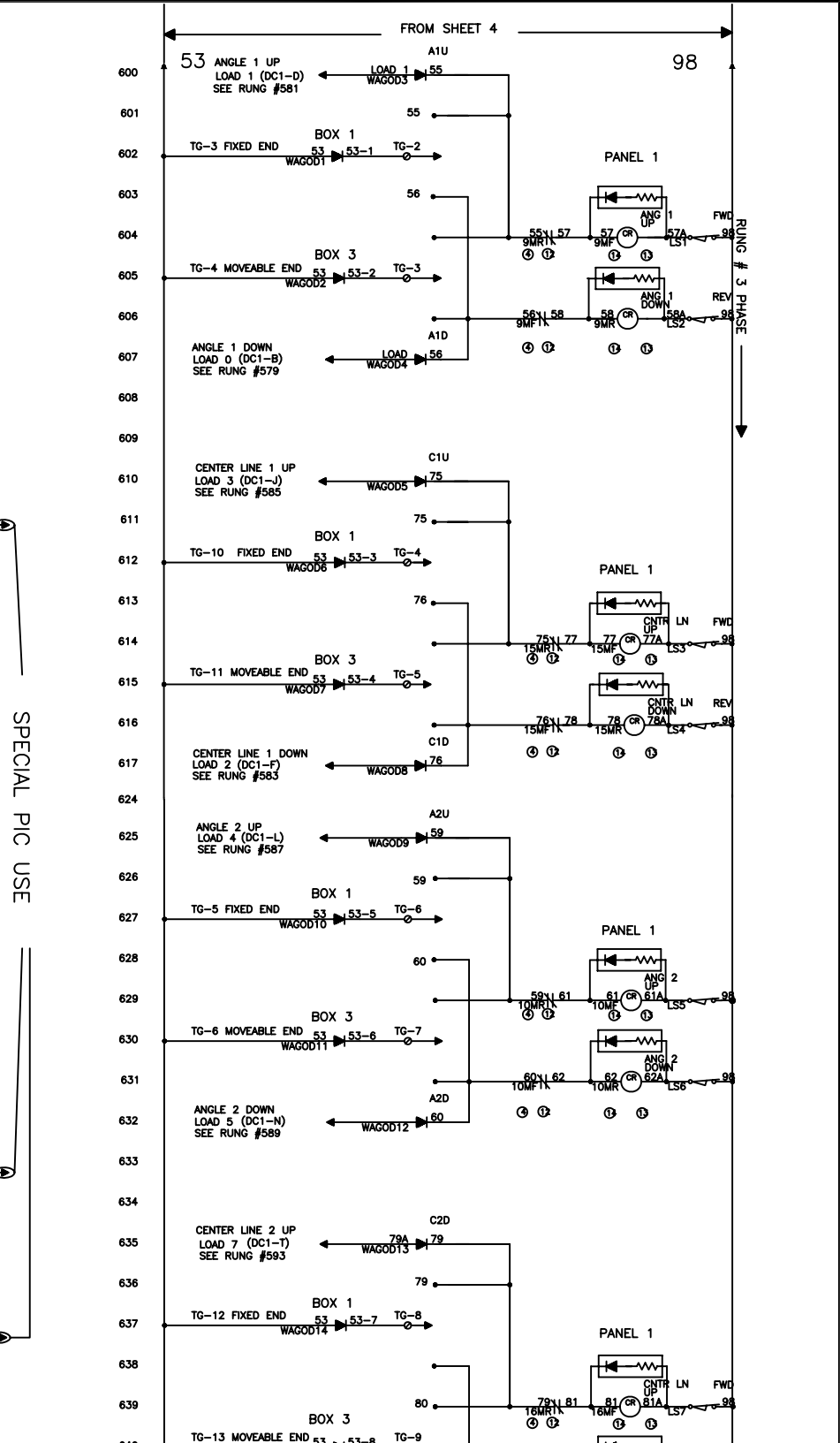
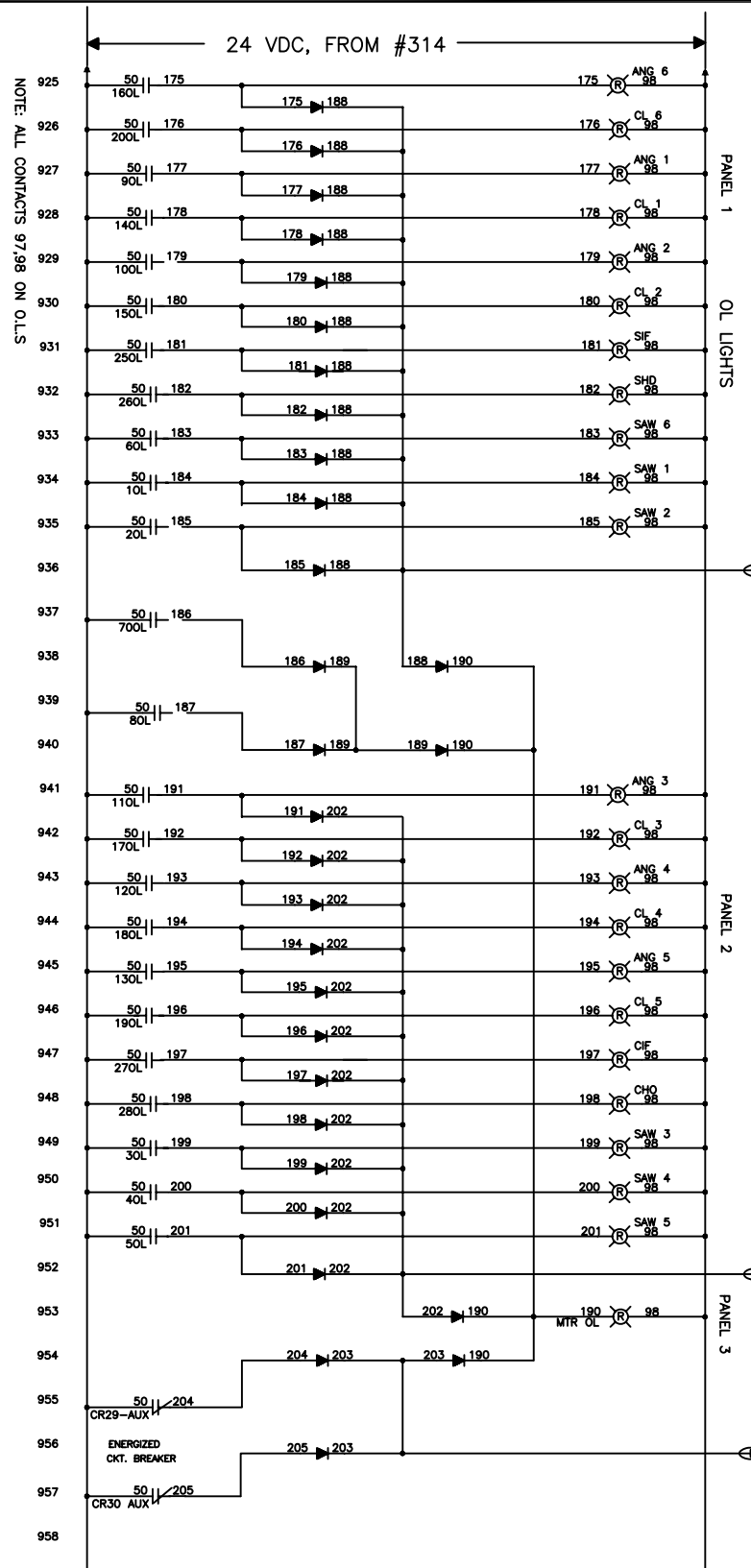
Mitok Industries Inc.
EQUIPMENT DIVISION
4825 SHERRILL DRIVE, CLEVELAND, OH 44130

EASY-SET, SCHEMATIC BASE MODEL

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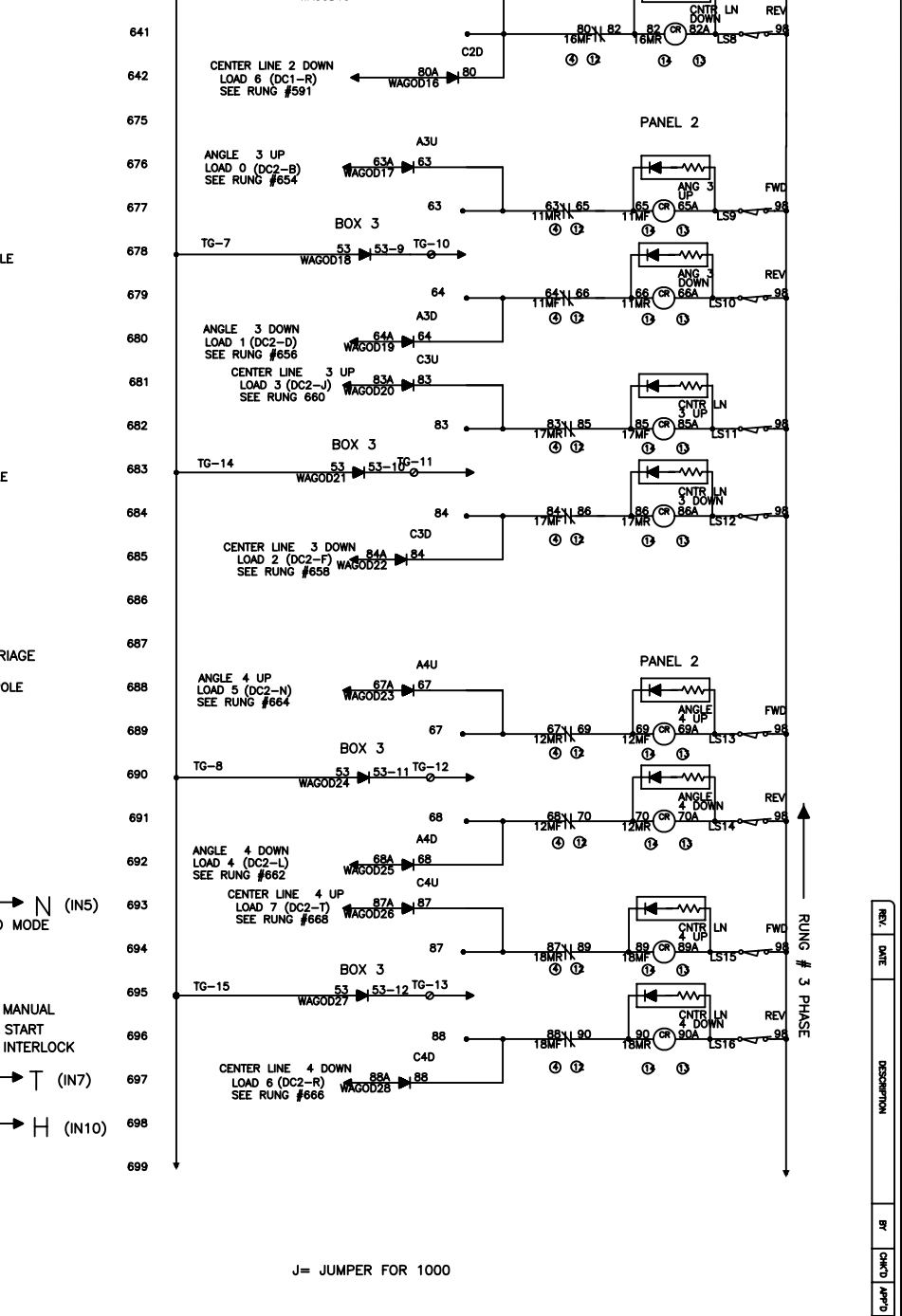
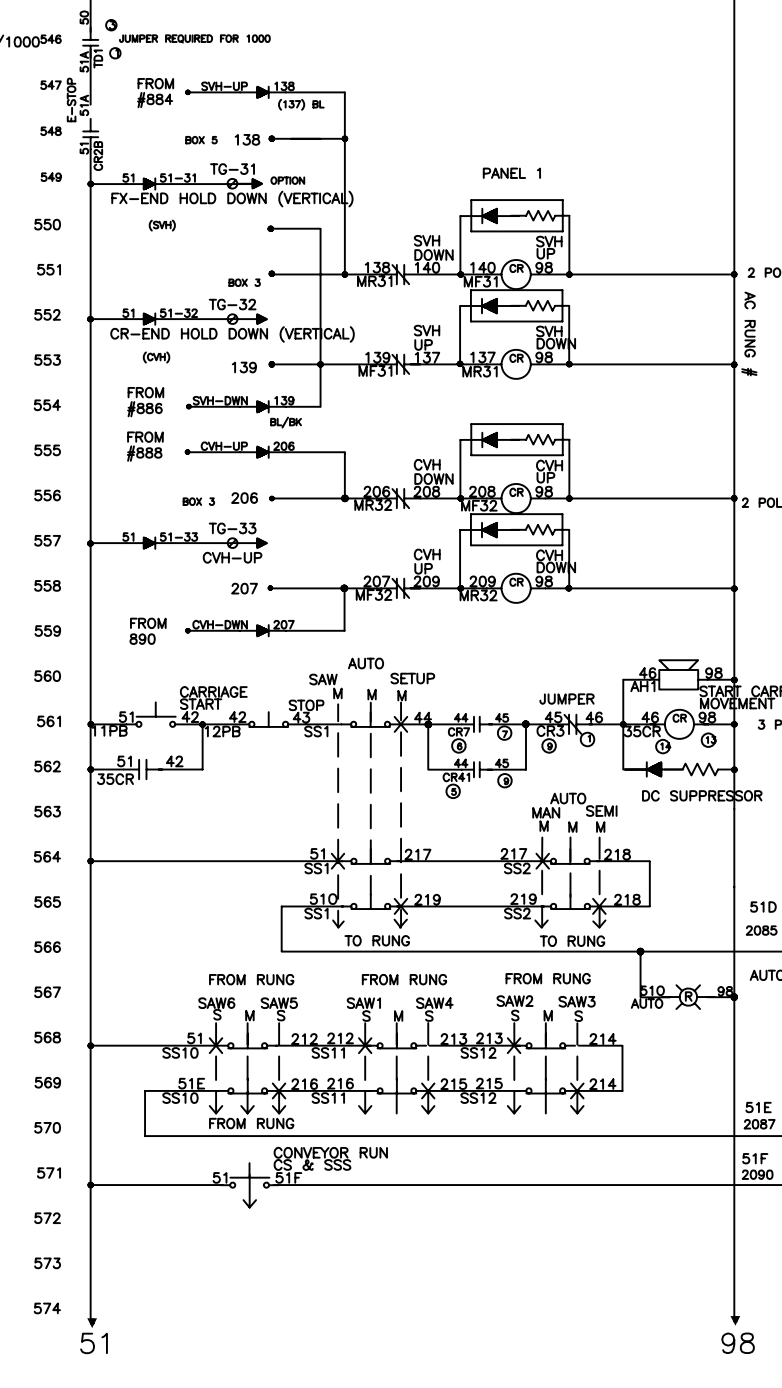
REV.	DATE	DESCRIPTION
BY	CHK'D	APP'D
DATE	DATE	DATE

NOTE: ALL CONTACTS 97.98 ON O.L.S.



J/1to3/TD1/1000546

REV	A						
NO. OF	X						
REVISED		X					
DATE			X				
BY				X			
REVISIONS					X		



APPROVED	DATE	BY	APPROVED	DATE	BY
		M. THOMAS		12/03/97	

EASY-SET SCHEMATIC, BASE MODEL

Mitek Industries, Inc. EQUIPMENT DIVISION
800 SHOSHONE DRIVE, CHANDLER, AZ 85226-1101

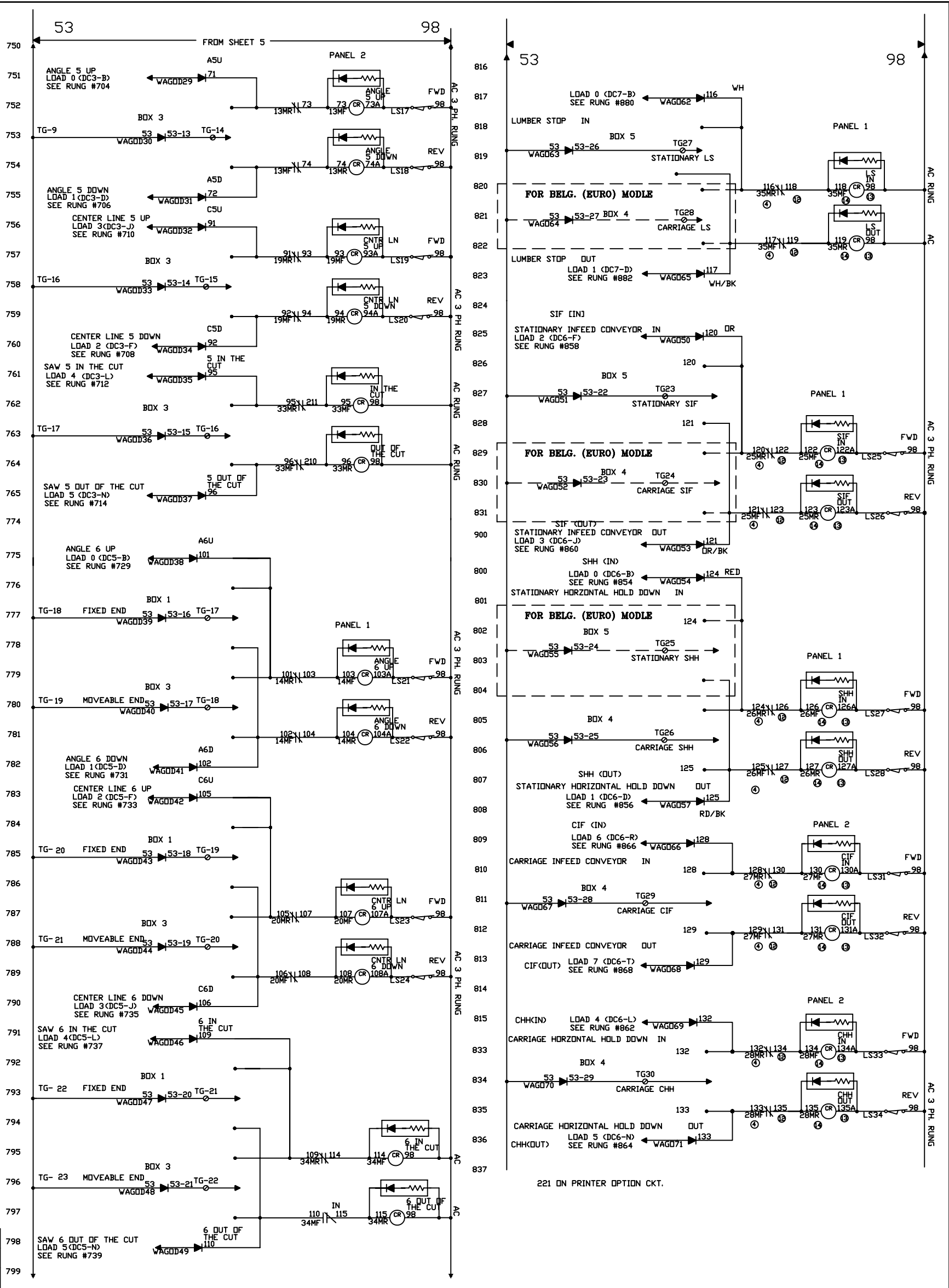
CHANGED / PART NAME / DIMENSIONS / PART NO. / CODE / DIM. NO. / PART NO.

CHANGED	DATE	BY	REVISIONS

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS. DIMENSIONS IN PARENTHESES ARE NOT TO BE USED FOR IDENTIFICATION OF THE ITEM IN THIS SCHEMATIC OR IN ANY OTHER DOCUMENTS OR USED FOR IDENTIFICATION.

J = JUMPER FOR 1000

REV.	DATE	DESCRIPTION	BY	CHK'D	APP'D	DATE
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REV	NO. OF	DATE	BY	DESCRIPTION
A	1			
B	1			
C	1			
D	1			
E	1			
F	1			
G	1			
H	1			
I	1			
J	1			
K	1			
L	1			
M	1			
N	1			
O	1			
P	1			
Q	1			
R	1			
S	1			
T	1			
U	1			
V	1			
W	1			
X	1			
Y	1			
Z	1			

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DATE: 12/03/97

BY: M. THAMES

SCALE: n.i.s.

PROJECT: EASY-SETS SCHEMATIC BASE MODEL

REV: C

REV.	DATE	DESCRIPTION	BY	CHK'D	APP'D	DATE