

MODEL 6110HFA-CW-R4 FULLY-AUTOMATIC COCOON STRETCH WRAP SYSTEM



OPERATOR'S MANUAL

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Introduction

Congratulations! Your purchase of a **Kalamazoo** Fully-Automatic Cocoon Stretch Wrap System will provide you with years of efficient stretch wrapping service. Your investment will ensure that your products will arrive cleaner, with less damage and pilferage at their destination at a lower cost to you.

Warranty

Kalamazoo Packaging Systems, Inc. (**KPS**) agrees to furnish the purchaser, without charge, F.O.B. the factory, any part found to be defective in either material or workmanship within one (1) year from date of shipment, provided the purchaser gives immediate notice of any defect and description of that defect to **KPS**. **KPS** reserves the right to inspect any defective part to verify the defect and to determine probable cause of same.

The liability of **KPS** under this warranty is limited to furnishing replacements for defective parts, and unless otherwise agreed to in writing, the purchaser shall bear the expense of installation.

Failure of equipment or parts due to abuse, misuse, neglect, incorrect operating techniques or power line drops or surges shall not constitute failure because of defective material or workmanship, and are expressly excluded from this warranty.

The above is the only warranty with no other guarantees which extend beyond the above and the seller disclaims any implications including but not limited to a warranty of merchantability.

Assembly

Your Cocoon Stretch Wrap System has been assembled and tested at our manufacturing plant and released for shipment by a qualified technician. If the unit was shipped via common carrier, it may not be crated. **Any damage done in transit should be reported to the carrier immediately.** All our shipments are sent F.O.B. Grand Rapids, Michigan, therefore; the customer is responsible to settle any damage claims with the transportation company. Kalamazoo Packaging Systems will do everything possible to assist you in these matters.

The system was shipped fully assembled. Place the system on the floor and wire in the main power supply per the wiring dia.

This system will require air : 60-80 P.S.I. @ 15cfm

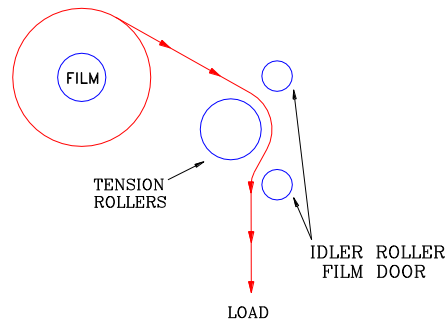
Set-Up Procedures

The Spiral module and Turntable are designed to run smoothly together. Before wrapping the first roll of product, check the AUTO/MANUAL functions of the Turntable, Product Rollers, and Film Carriage. Then center a roll of product on the Turntable Product Rollers and JOG the Turntable Disc to check for clearances. After the system has been checked and is ready to be put into product, push the RESET TO HOME button. Load the film per the drawing. Use the FILM HOLDER selector switch and lower the film hold bars. Lay the film end across the film holder box and turn the FILM HOLDER selector switch to AUTO. Make sure all of the AUTO/MANUAL selector switches to AUTO.

Loading the film for optional variable tension

If your wrapper is equipped with a Kalamazoo Variable Tension Film Delivery System, place a roll of 20" or 30" stretch film on the film core holder and open the film door. Thread the film clockwise around the black rubber covered tension roller and close the film door. Once the film is loaded and the desired film tension is arrived at, the film tension need not be adjusted again until the brand of film or the film thickness is changed.

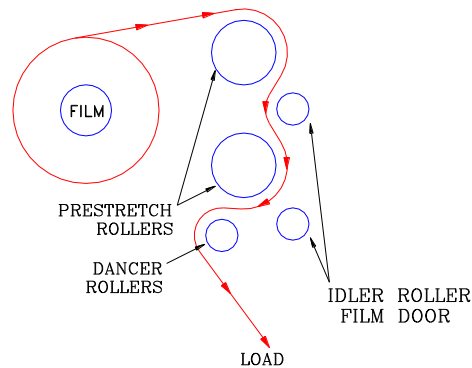
VARIABLE TENSION



Loading the film for optional powered prestretch

If your wrapper is equipped with a Kalamazoo Powered Prestretch Film Delivery System, place a roll of 20" or 30" stretch film on the film core holder and open the film door. Thread the film clockwise around the black rubber covered tension rollers and counterclockwise around the Dancer Bar Roller. Close the film door. Once the film is loaded and the desired film tension is arrived at, the film tension need not be adjusted again until the brand of film or the film thickness is changed.

POWERED PRESTRETCH



Controls

- 1) E-STOP: Turns off the main control relay. The system will not run.
- 2) CYCLE STOP: Stops all moving parts and reset all timers and counts.
- 3) CYCLE ENABLE: Turns the system on. The green light will flash
- 4) CYCLE INTERRUPT: Stops the wrap cycle. But does not reset the program counters or timers.
- 5) CYCLE START: Starts the wrap cycle from the control cabinet.
- 6) REMOTE CONTROL START: Starts the wrap cycle from the fork truck.
- 7) REINFORCING 1 2 3: Changes the wrap program from 1 layer to 2 or 3 layers.
- 8) RESET TO HOME: Resets the system. Film carriage will lower to the bottom limit switch the home position, Turntable will move forward to the autostop switch the home position, and the Film arm will move back to the home position. Film holder will close.
- 9) FILM LIFT Raise/Auto/Lower: Manually moves the film carriage.
- 10) TABLE JOG Auto/Manual: Used to manually run the turntable.
- 11) PRODUCT ROLL Auto/Manual: Used to manually run the product roller.
- 12) FILM ARM Fwd./Auto/Back: Used to manually run the film arm.
- 13) FILM HOLDER Auto/Lower: Used to lower the film holder bars so the film can be loaded.

Controls

Limit Switches, Photo-eyes, and Sensors

- 1) Load height photo-eye: This photo-eye is located on the film delivery head. The photo-eye will locate the top of the product, being the film delivery head back down to the middle of the product and it will determine the wrap cycle.
- 2) Film at Top Limit Switch: This switch is located on the film delivery head. The top limit switch will stop the film deliver head when it get to the top of the film carriage.
- 3) Film at Bottom Limit Switch: This switch is located on the film delivery head. The bottom limit switch will stop the film deliver head when it get to the bottom of the film carriage.
- 4) Autostop Limit Switch: This switch is located under the turntable disc. The autostop limit switch counts the revolutions of the turntable disc and stop the turntable disc at the home position at the end of the cycle.
- 5) Film Arm FWD. sensor: This sensor is located on the film arm post. The film arm fwd. sensor will stop the film arm in the forward motion.
- 6) Film Arm BACK sensor: This sensor is located on the film arm post. The film arm back sensor will stop the film arm in the back motion.

Optional Safety railing with photo-eye

The right and left safety railing photo-eyes will keep the system from starting if the fork truck is still in the way after loading the product. If a person and/or fork truck gets in front of the right or left photo-eye the system will shut down.

Easy operating Instructions

Loading the film.

- 1) If you are loading the film for the first time. Push the RESET TO HOME button.
- 2) Turn the FILM HOLDER selector switch to LOWER.
- 3) Load the film per the drawing and lay the film tail across the FILM HOLDER box.
- 4) Turn the FILM HOLDER selector switch to AUTO the film hold will grip the film.
- 5) The system is now ready for the first load.

Loading the product to be wrapped.

- 1) Make sure the GREEN light is on and the system is ready.
- 2) Bring the product to the stretch wrapper and lower the product onto the rollers. Make sure to center the product onto the rollers.
- 3) Remove the fork truck prong from the product and make sure there is nothing in the way.
- 4) Push the REMOTE CONTROL START button 1 or 2 for the machine you are using to start the automatic wrap cycle.
- 5) The GREEN light will go off and the YELLOW light will come. (System Busy)
- 6) The film carriage will raise to the top of the product and return to the middle of the product.
- 7) The turntable will start turning the product.
- 8) After the first revolution the film tension will come on and put tension to the film.
- 9) After the second revolution the product rollers will come on and start rotating the product. The film holder will open and release the film.
- 10) After the product is wrapped the YELLOW light will go off and the GREEN light will come back on

Maintenance

- 1) Check and tighten any loose fasteners.
- 2) Check all electrical connections and replace any worn or frayed cords.
- 3) Clean and lubricate the tower channels where the rollers run with #2 grease every three months, more frequently if the unit is in an especially dirty location.
- 4) Lubricate and adjust the turntable drive chains every three (3) months. Chain should be lubricated with a penetrating type commercial chain lube.
- 5) Lubricate pillow blocks with #2 grease every six months.
- 6) Check the main control relay for burning or arcing replace if necessary.
- 7) Check all push buttons and limit switch for shorts or sticking.

Troubleshooting

When any problem develops, review the operating instructions. Diagnose specific problems and review the options below.

Push the E-STOP button in wait 1 min.. Turn the button to reset.

This will denenergize the AC drives and reset a fault.

- ✓ Check wall receptacle for power.
- ✓ Check Power cord for cut. (Fork Lift Trucks damage cords.)

- ① STOP the spiral carriage and the turntable.

DISCONNECT POWER FROM MACHINE

- ✓ Check both top and bottom limit switches for damage, sticking, or internal shorts.
- 🔧 Remove panel cover. Visually inspect for loose wires and for signs of arcing or burning of any of the components.
 - Check belt tension .
 - Check optional variable tension brake controller for AC in and DC out.
 - Check for damage cords.
 - Check the AC drive for errors.
 - Check brake pads.
- ☎ It is advisable to call for technical assistance at this point.
 - Check for damage cords.
 - Check brake for DC power.
 - Check brake pads.

Technical and Customer Service is available from Kalamazoo Packaging Systems, Monday through Friday 7:30 A.M. to 4:00 P.M. (EST). Stock is maintained on parts to allow us to ship the same day on most orders.

If you have a problem, we want to know about it! Please call and report any difficulties you may encounter.

- Local - (616) 534-2600
- National - (800) 253-4625

Model # 6110HFA-CW

TELEMECANIQUE ALTIVAR 31 AC DRIVE PROGRAMMING

To change a parameter in the AC Drive.

1. Press the up or down key to get into the parameter you would like to change.
2. Press the ENT key.
3. Use the up/down arrow key to change the value.
4. Press the ENT key.
5. Press the ESC key.

TURNTABLE DRIVE

ACC	6.0	Acceleration time
DEC	7.0	Deceleration time
HSP	60.0	
SP2	10.0	
SP3	Start at 10Hz. And you can go up from they. (Do not go under 10Hz.)	
UFR	50	
SFR	2.0	
BFR	60.0	
TUN	YES	
UFT	L	
TCC	2C	
RFR	ENTER	

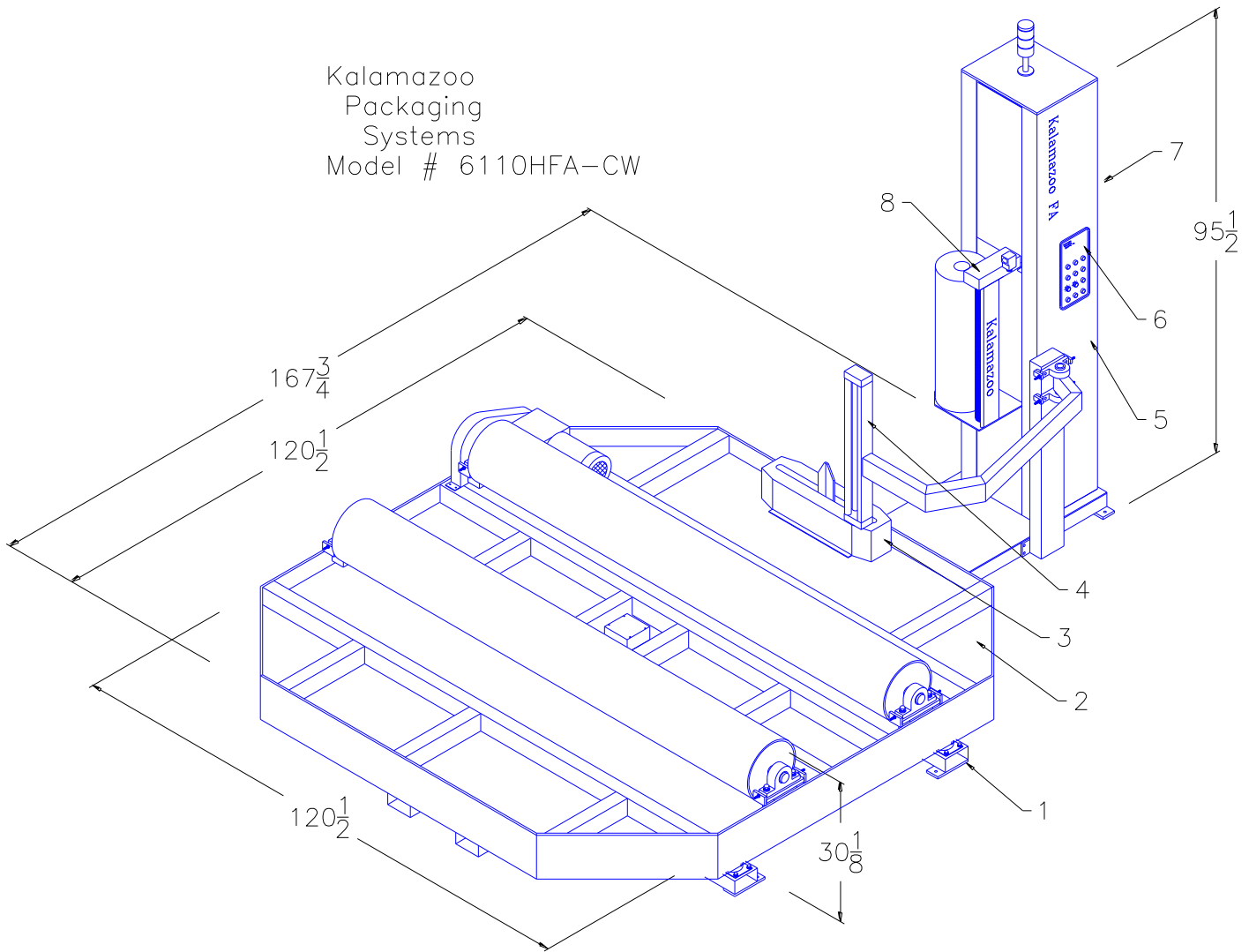
FILM CARRIAGE DRIVE

ACC	0.1	Acceleration time
DEC	0.1	Deceleration time
HSP	60.0	
BFR	60.0	
STA	10.0	
TUN	YES	
SFR	2.0	
TCC	2C	
RFR	ENTER	

PRODUCT ROLL

ACC	2.0	Acceleration time
DEC	2.0	Deceleration time
HSP	50.0	
BFR	50.0	
STA	10.0	
TUN	YES	
SFR	2.0	
TCC	2C	
RFR	ENTER	

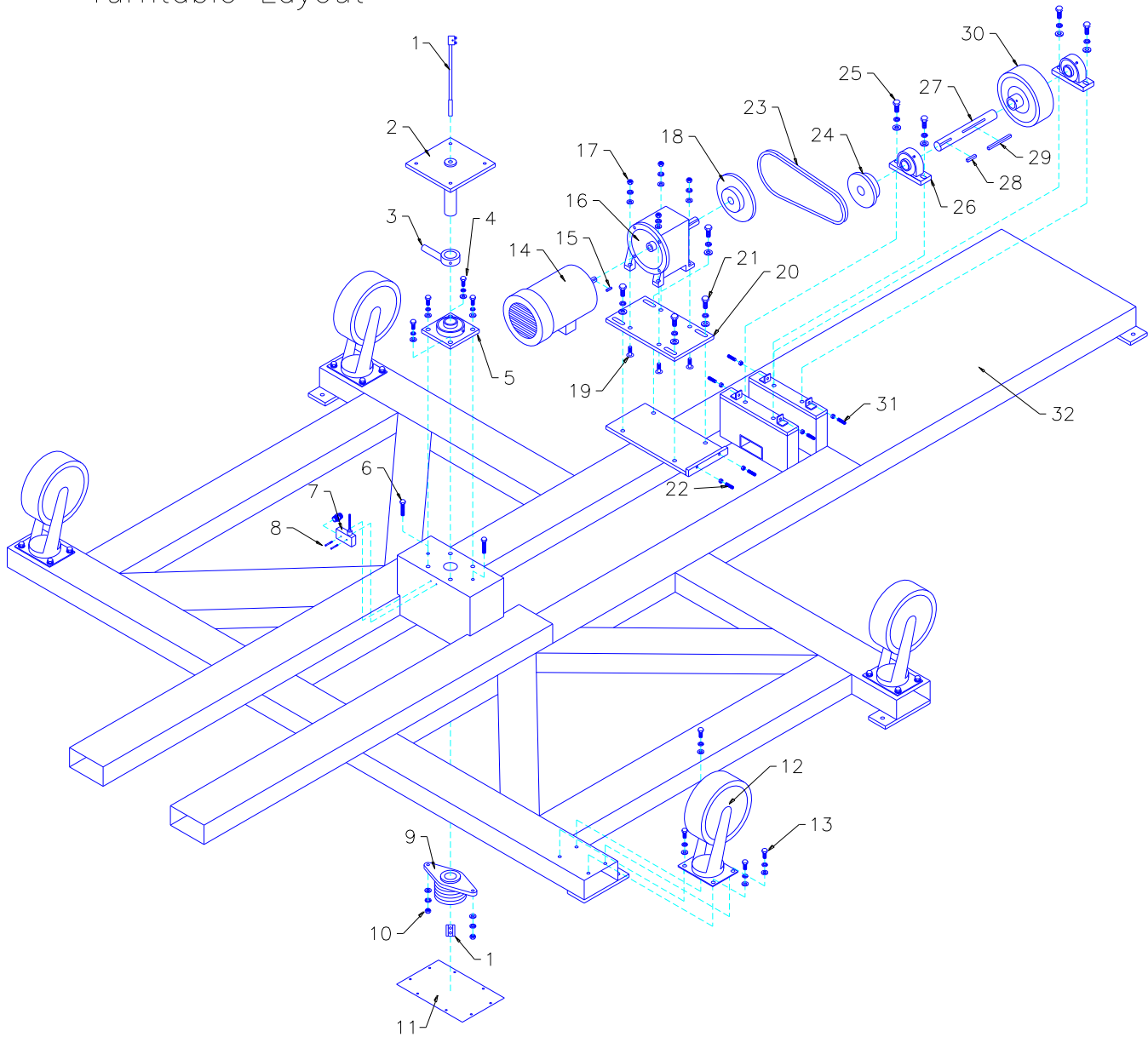
Kalamazoo
Packaging
Systems
Model # 6110HFA-CW



Kalamazoo Packaging Systems
PARTS MANUAL: 6110HFA-CW LAYOUT

ITEM	DESCRIPTION	QTY.	PAGE #
1	TURNTABLE BASE	1	11-13
2	TUNRTABLE DISC	1	14-15
3	FILM HOLDER	1	16-17
4	FILM ARM and FILM CUTTER	1	18-19
5	SPIRAL TOWER	1	20-21
6	CONTROL PANEL	1	22-23
7	SUB PANEL	1	24-25
8	VARIABLE TENSION FILM DELIVERY	1	26-28

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Model # 6110HFA-CW-TABLE
Turntable Layout



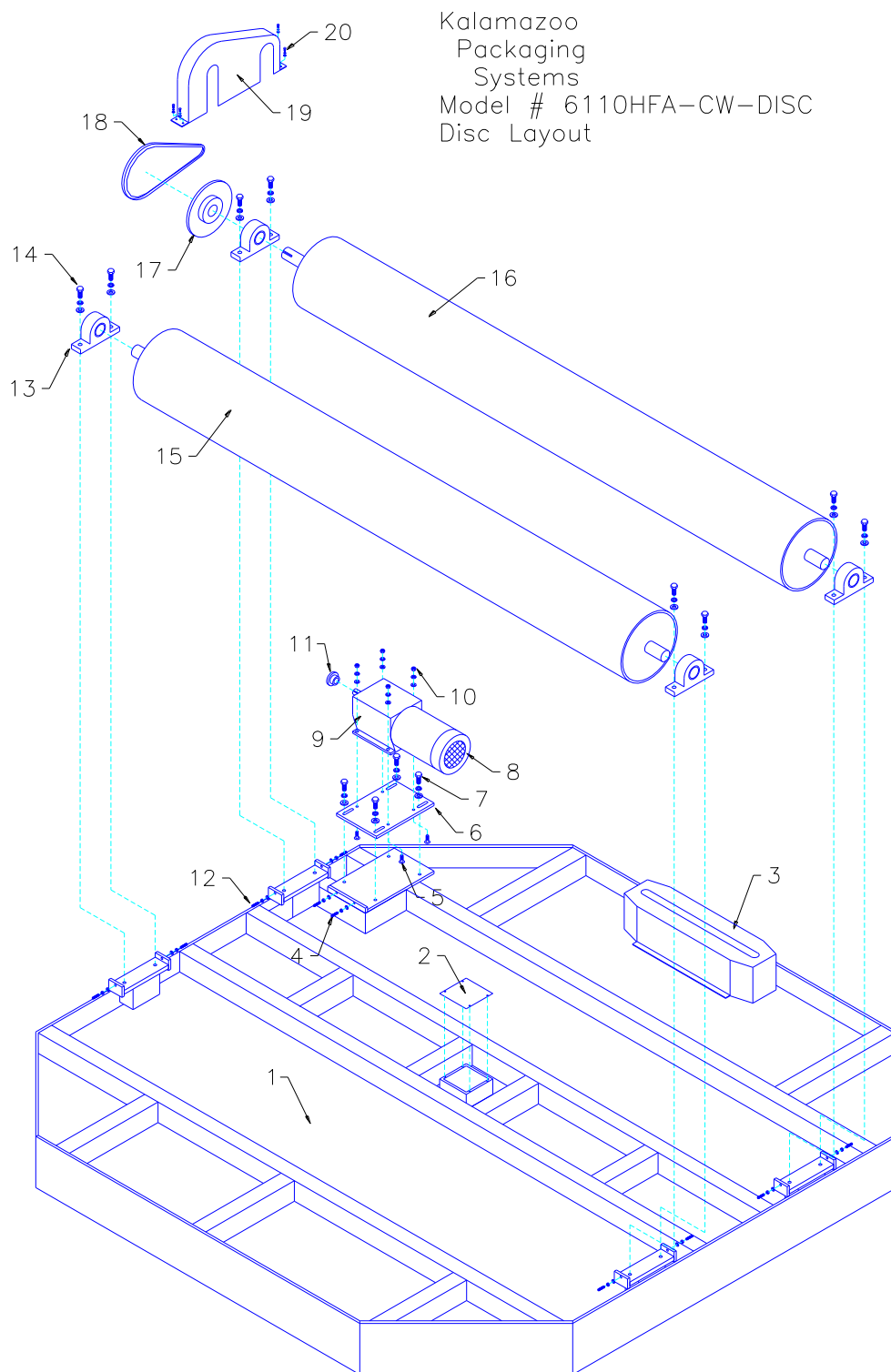
Kalamazoo Packaging Systems

PARTS MANUAL: 6110HFA-CW TURNTABLE

ITEM	PART#/ DWG.#	DESCRIPTION	QTY.
1	2408891	SLIP RING TUBE 8.44"	1
2	6110HFA-CW-TABLE-08	CENTER SHAFT	1
3	6110HFA-CW-TABLE-09	AUTOSTOP CAM	1
4	L103	7/16-20 x 1-1/2" H.H.C.S	4
4	L95	7/16 LOCK WASHER	4
4	L96	7/16 USS WASHER	4
5	121160	1-1/2" 4-BOLT FLANGE BEARING	1
6	L85	3/8-16 x 2" H.H.C.S.	2
7	210851	AUTOSTOP LIMIT SWITCH (SPRING ARM)	1
8	L4	6/32x 1-3/4" M.S.	2
9	2408500	SLIP RING 4-CIR 20AMP. 600v w/ OBLONG PLATE	1
10	L65	3/8 USS WASHER	2
10	L64	3/8 LOCK WASHER	2
10	L78	3/8-16 NYLOCK NUT	2
11	6110HFA-CW-TABLE-07C	SLIP RING COVER	1
12	122809	10x3 SWIVEL CASTER	4
13	L102	7/16-20 x 1" H.H.C.S	16
13	L95	7/16 LOCK WASHER	16
13	L96	7/16 USS WASHER	16
14		2 HP. 480/3/60Hz. MOTOR	1
15	L3	1/4"x 1/4"x 1" KEYWAY	1
16	106015	DODGE INLINE REDUCER (101 RPM)	1
17	L94	7/16-14 NUT	4
17	L95	7/16 LOCK WASHER	4
17	L96	7/16 USS WASHER	4
18	108160	60B26x1" SPROCKET (DRIVE)	1
19	L104	7/16-14x 1-1/2" FLAT HEAD	4
20	6110HFA-CW-TABLE-06	TURNTABLE GEARBOX SLIDE PLATE	1
21	L129A	1/2-20x 1-1/2" H.H.C.S.	4
21	L110	1/2 LOCK WAHER	4
Kalamazoo Packaging Systems Division of Kal-Tek, Inc.		1/2 USS WASHER	4

Kalamazoo Packaging Systems
PARTS MANUAL: 6110HFA-CW TURNTABLE

ITEM	PART#/ DWG.#	DESCRIPTION	QTY.
22	L54	5/16-18x 1-1/2" SET SCREW	2
22	L46	5/16 NUT	2
23	108550	#60 CHAIN w/ MASTER LINK	1
24	108158	60B18x 1-1/4" SPROCKET	1
25	L129A	1/2-20x 1-1/2" H.H.C.S.	4
25	L110	1/2 LOCK WAHER	4
25	L111	1/2 USS WASHER	4
26	121258	1-1/4" PILLOW BLOCK (1-11/16" CD)	2
27	6110HFA-CW-TABLE-DS	TURNTABLE DRIVE SHAFT	1
28	L3	1/4"x 1/4"x 1" KEYWAY	1
29	L3x 3-1/2"	1/4"x 1/4"x 3-1/2" KEYWAY	1
30	122807	10x3 DRIVE WHEEL w/ HUB	1
31	L54	5/16-18x 1-1/2" SET SCREW	2
31	L46	5/16 NUT	2
32	6110HFA-CW-TABLE	6110HFA-CW TURNTABLE BASE	1

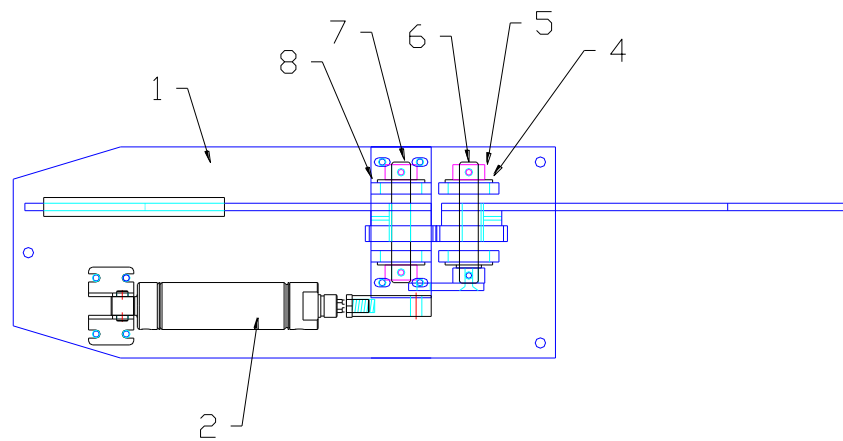
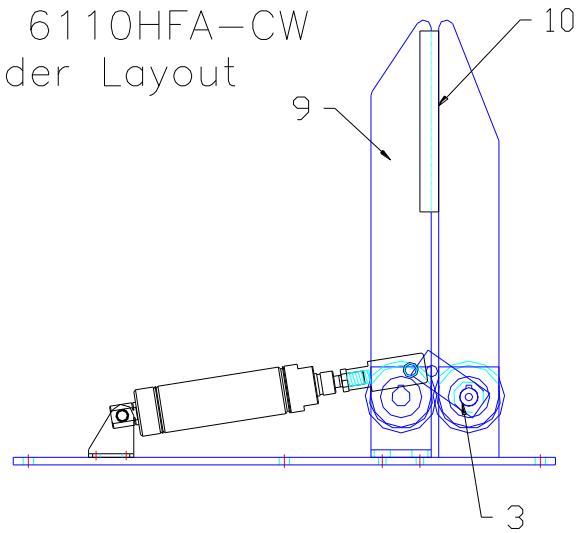


Kalamazoo Packaging Systems

PARTS MANUAL: 6110HFA-CW TURNTABLE DISC

ITEM	PART#/ DWG.#	DESCRIPTION	QTY.
1	6110HFA-CW-DISC-02	6110HFA-CW TURNTABLE DISC	1
2		6" x 6" x 3" DEEP NEMA 1 BOX COVER	1
3	4FAC51-FILMHOLD-03	FILM HOLDER COVER	1
		SEE FILM HOLDER PARTS MANUAL (NEXT PAGE)	
4	L54	5/16-18x 1-1/2" SET SCREW	2
4	L46	5/16 NUT	2
5	L92	3/8-16x 1-1/2" FLAT HEAD	4
6	6110HFA-CW-DISC-02	ROLLER MOTOR MOUNT SLIDE PLATE	1
7	L102	7/16-20 x 1" H.H.C.S	4
7	L95	7/16 LOCK WASHER	4
7	L96	7/16 USS WASHER	4
8	105326	3/4HP AC TEFC MOTOR (480/3/60Hz.)	1
9	105980	DODGE INLINE REDUCR (30 RPM)	1
10	L65	3/8 USS WASHER	4
10	L64	3/8 LOCK WASHER	4
10	L78	3/8-16 NYLOCK NUT	4
11	108000	50B10x 1" SPROCKET (DRIVE)	1
12	L88	3/8-16x 1-1/2" SET SCREW	4
12	L77	3/8-16 NUT	4
12	L64	3/8 LOCK WASHER	4
13	121320	2" PILLOW BLOCK	4
14	L116	1/2-20x 1-1/2" H.H.S.C.	8
14	L110	1/2" LOCK WASHER	8
14	L111	1/2" USS WASHER	8
15	6110HFA-CW-DISC-06	12-3/4" DIA. x 110" LONG IDLER ROLLER	1
16	6110HFA-CW-DISC-05	12-3/4" DIA. x 110" LONG DRIVE ROLLER	1
17	108134	50B48x 2" SPROCKET (DRIVEN)	1
18	108500	#50 CHAIN w/ MASTER LINK	1
19	6110HFA-CW-DISC-09	ROLLER DRIVE GUARD	1
20	L21	10/24x 3/4" TRUSS HEAD	4

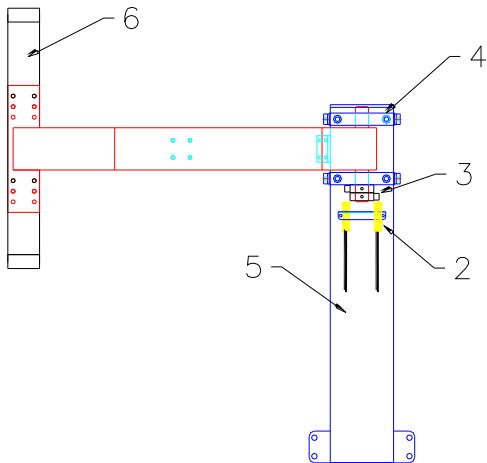
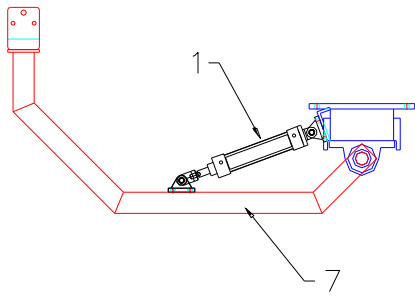
Kalamazoo
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Systems
Model # 6110HFA-CW
Film Holder Layout



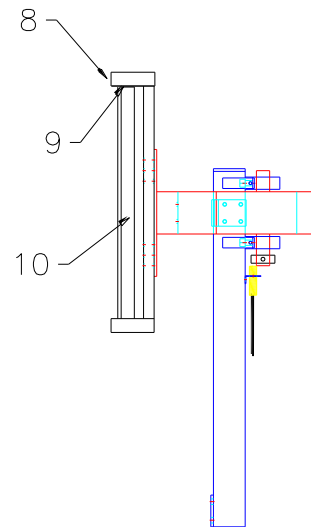
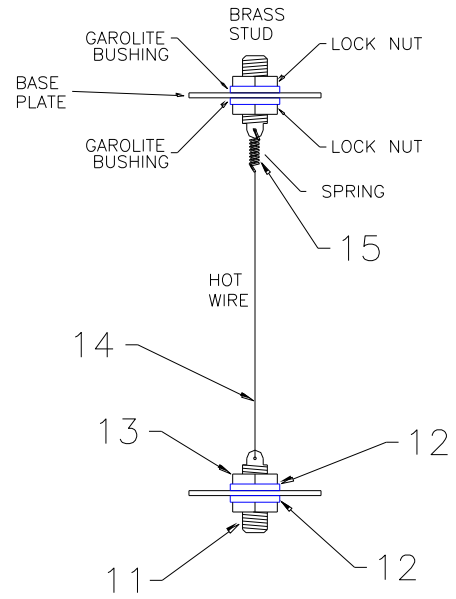
Kalamazoo Packaging Systems
PARTS MANUAL: 6110HFA-CW FILM HOLDER

ITEM	PART#/ DWG.#	DESCRIPTION	QTY.
1	4FAC51-FILMHOLDER-01	FILM HOLDER BASE PLATE	1
2	270200	FILM HOLDER CYLINDER	1
3	4FAC51-FILMHOLDER-05	FILM HOLDER LEVER	1
4	120650	5/8" x 1-3/8" PER. BEARING	4
5	121500	5/8" SHAFT COLLAR	3
6	4FAC51-FILMHOLDER-05	FILM HOLDER DRIVE SHAFT	1
7	4FAC51-FILMHOLDER-05	FILM HOLDER DRIVEN SHAFT	1
8	4FAC51-FILMHOLDER-02	FILM HOLDER DRIVEN SHAFT SLIDE PLATE	1
9	4FAC51-FILMHOLDER-04	FILM HOLDER BARS (1 RIGHT & 1 LEFT)	1 SET
	270210	COMPLETE FILM HOLDER w/o COVER	
	270211	FILM HOLDER COVER	
		3/8" GOODYEAR AIR HOLE x 6" GLUED TO ONE FILM HOLDER BAR.	1

Kalamazoo
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Systems
Model # 6110HFA-CW
Film ARM Layout



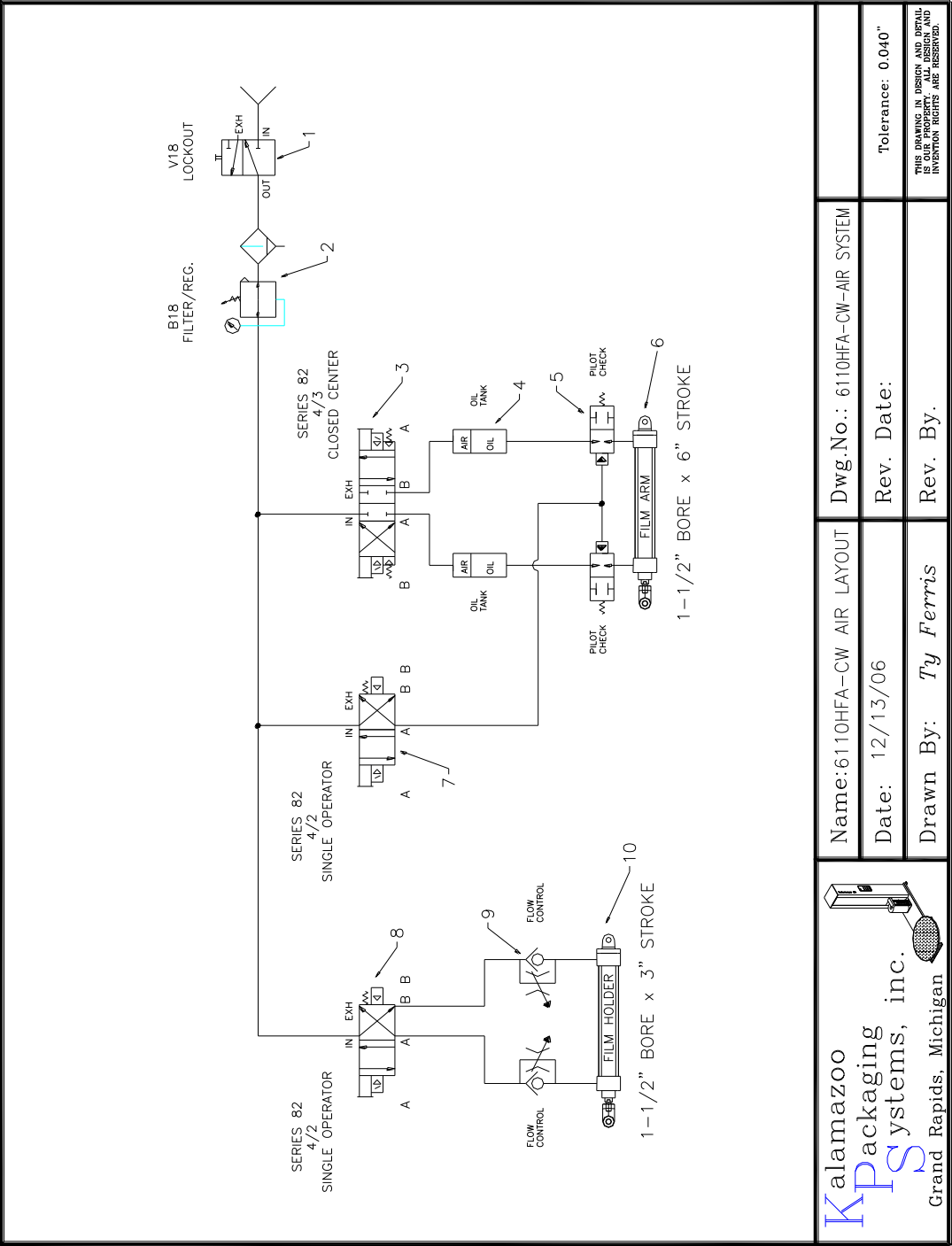
HOT WIRE CUT OFF ASSEMBLY



Kalamazoo Packaging Systems

PARTS MANUAL: 6110HFA-CW FILM ARM

ITEM	PART#/ DWG.#	DESCRIPTION	QTY.
1	207197	1-1/2" BORE x 6" STROKE FILM ARM CYLINDER	1
2	213200	BANNER 18mm BARREL SENSOR	2
2	213201	BANNER 30' 4-PIN CABLE	2
3	4FAC51-FILMARM-05	PROX SENSOR CAM	1
4	121260	1-1/4" PILLOW BLOCK	2
5	6110HFA-CW-FILMARM-01	BASE	1
6	6110HFA-CW-FILMARM-03	FILM CUTTER HEAD	1
7	6110HFA-CW-FILMARM-02	FILM ARM	1
8	4FAC51-FILMARM-03a	FILM ARM CUTTER HEAD COVER	2
9	120600	5/8"x 1-3/8" FLANGE BEARING	4
10	6110HFA-CW-FILMARM-06	FILM ARM CUTTER HEAD ROLLER & SHAFT	2
11	131206	5/16-18 x 2" BRASS THREADED ROD	2
12	131207	5/16 INSOLADED BUSHING	4
13	L46	5/16-18 NUTS	4
14	131208	HOT WIRE	1
15	131202	HOT WIRE SPRING #22	1



Kalamazoo
 Packaging
 Systems, inc.
 Grand Rapids, Michigan

Name: 6110HFA-CW AIR LAYOUT
 Date: 12/13/06
 Drawn By: Ty Ferris

Dwg. No.: 6110HFA-CW-AIR SYSTEM
 Rev. Date:
 Rev. By:

Tolerance: 0.040"
 THIS DRAWING IN DESIGN AND DETAIL
 IS THE PROPERTY OF KALAMAZOO
 PACKAGING SYSTEMS, INC. AND
 INVENTION RIGHTS ARE RESERVED.

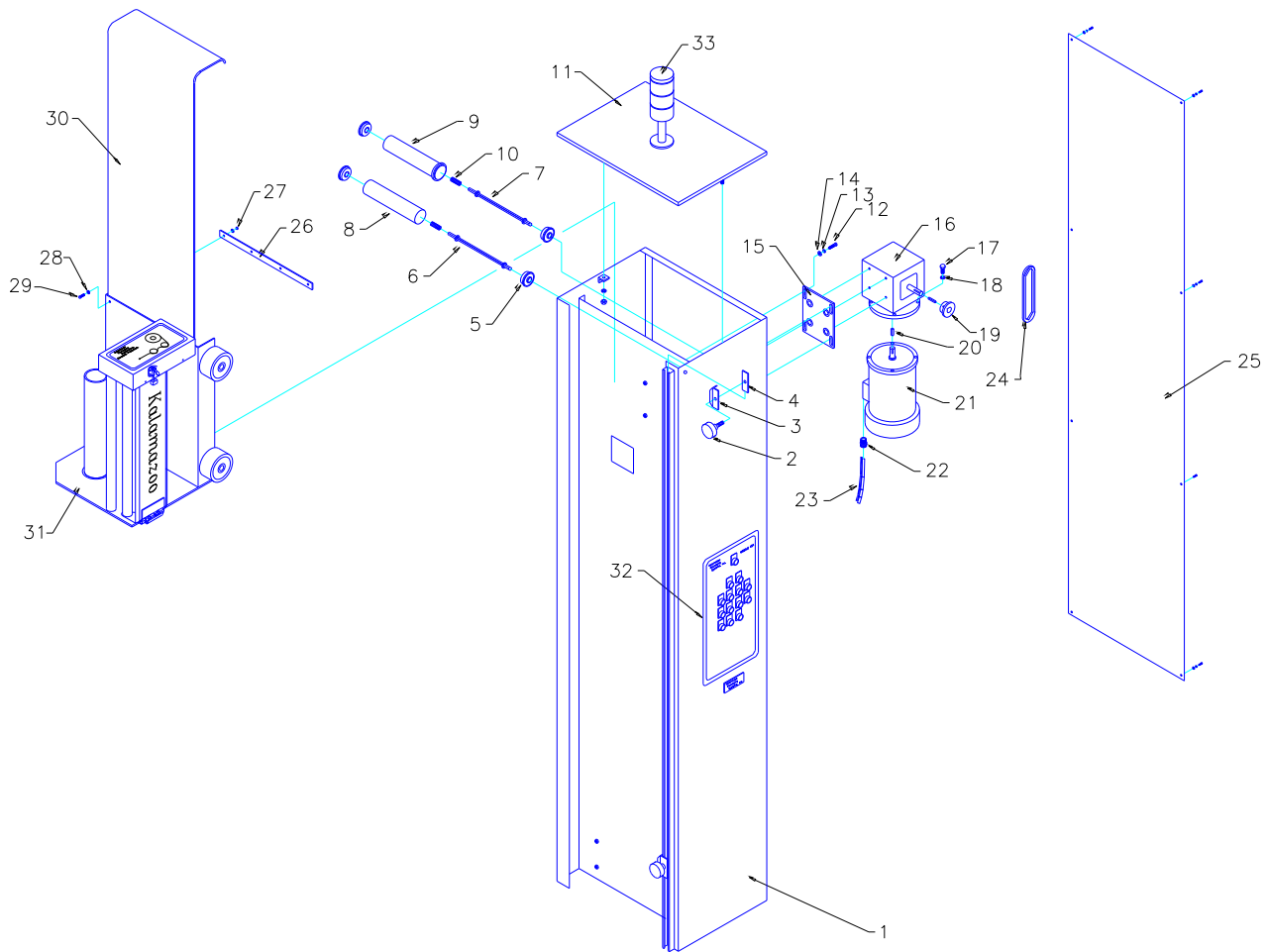
PARTS MANUAL: 6110HFA-CW Air System

ITEM	PART # / DWG. #	DESCRIPTION	QTY
1	270190	LOCK OUT/SHUT OFF UNIT	1
2	270192	FILTER REGULATOR UNIT	1
3,7,8	270195	MAC 82 SERIES ASSEMBLY (sol., reg., and gages)	1
4	270196	OIL TANK	2
5	270198	LOCKOUT VALVE	2
6	270197	1-1/2" BORE x 6" STROKE CYLINDER (FILM ARM) (cylinder was changed to a 2" bore by KCC so 70 p.s.i. could be used.)	1
9	270199	1/4" FLOW CONTROL	2
10	270197	1-1/2" BORE x 3" STROKE CYLINDER (FILM HOLDER)	1

Film arm air over oil system

Use standard hydraulic oil for the air over oil system on the film arm. To add or replace the hydraulic oil in the system. Manually extend the film arm all the way out, the oil will be transferred from one oil tank to the other oil tank. One tank should be filled with hydraulic oil 1" from the top of the tank and the other tank will only have 1" of hydraulic oil in it. If you need to add hydraulic oil remove the top air line on the oil tank so the oil does not get into the solenoid, remove the oil tank fill plugs located on top of the oil tanks and fill to about 1" from the top. Reinstall the air line and the fill plug and manually return the film arm. Add hydraulic oil to the other tank if needed the same

Kalamazoo
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Systems
Model # 6110HFA-CW-TOWER
Tower Layout



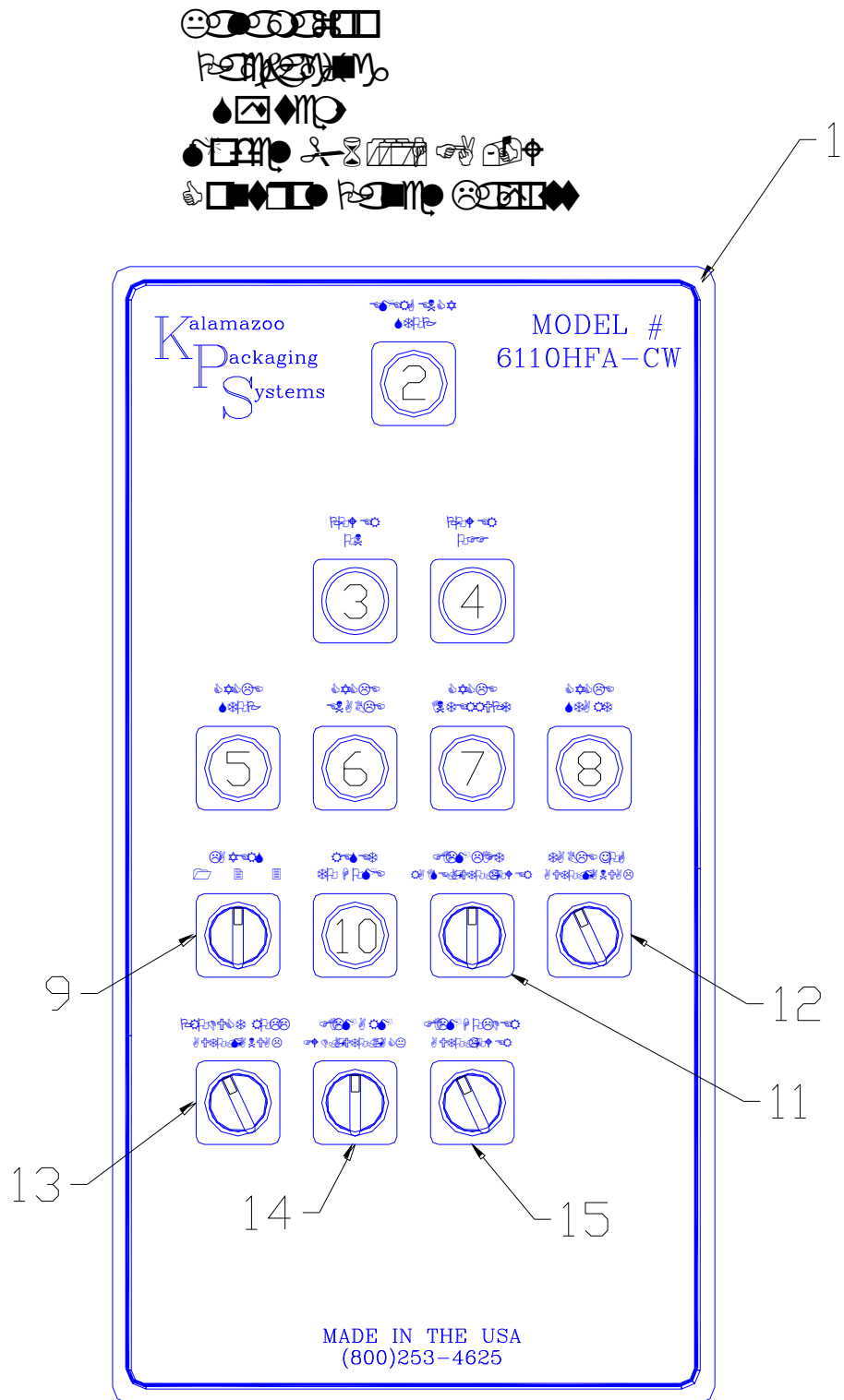
10/10/05 TF

Kalamazoo Packaging Systems

PARTS MANUAL: 6110HFA-CW TOWER

ITEM	PART#/DWG.#	DESCRIPTION	QTY.
1	406000	4000M TOWER WELDMENT	1
2	800095	3/8-16 KNOB x1"	2
3	406004	4000M-OLSB OUTER LIMIT SWITCH BRACKET	2
4	406005	4000M-ILSB INTER LIMIT SWITCH BRACKET	2
5	121405	1.9" CONV. ROLLER BEARING	4
6	406006	4000M-STIR IDLER ROLLER HEX SHAFT	1
7	406008	4000M-STDR DRIVE ROLLER HEX SHAFT	1
8	406007	4000M-STIR IDLER BELT ROLLER	1
9	406009	4000M-STDR DRIVE BELT ROLLER	1
10	121445	ROLLER SPRING	2
11	406001	4000M-STTC-01 TOWER TOP COVER	1
12	L51	5/16-18x 1" HEX HEAD CAP SCREW	4
13	L47	5/16 LOCK WASHER	4
14	L48	5/16 USS WASHER	4
15	4000M-STMM-02	FILM LIFT MOTOR MOUNT	1
16	106350	40:1 R/A REDUCER 56C (TIGER)	1
17	L80	3/8-16x 1" HEX HEAD CAP SCREW	4
18	L64	3/8 LOCK WASHER	4
19	107976	40B13x 5/8" SPROCKET	1
20	L2	3/16"x 3/16"x 3/4" KEYWAY	1
21	105326	3/4HP AC TEFC MOTOR (480/3/60Hz.)	1
22	210340	CORD GRIP	1
23		3ea. 14ga. RED & 1ea. 14ga. GREEN WIRE	4'
24	108400	# 40 CHAIN x 23" w/ MASTER LINK	1
25	406002	4000M-STD TOWER BACK COVER	1
26		BELT STRAP	1
27	L20	10/24 KEPS NUT	4
28	L16	#10 WASHER	4
29	L21	10/24x 3/4" TRUSS HEAD	4
30	406010	4000M-BELT #120 BLACK PVC 18"x 90"	1
31	406020	4000M-H-VT VARIABLE TENSION FILM DELIVERY	1
32	6110HFA-CW-P	CONTROL PANEL (SEE PAGE 24 & 25)	1
33	206480	STACK LITE (GREEN, YELLOW, and RED)	1

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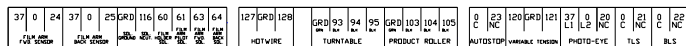


Kalamazoo Packaging Systems

PARTS MANUAL: 6110HFA-CW CONTROL PANEL

ITEM	PART #/DWG.#	DESCRIPTION	QTY
1	D-6110HFA-CW	CONTROL PANEL DECAL	1
2	206400	RED PUSH/PULL 1NC (E-STOP)	1
3	206408	LUMINATED GREEN 1NO (POWER ON)	1
4	206402	RED FLUSH PUSH BUTTON 1NO (POWER OFF)	1
5	206401	RED MUSHROOM PUSH BUTTON 1NO (CYCLE STOP)	
6	206402	GREEN FLUSH PUSH BUTTON 1NO (CYCLE ENABLE)	1
7	207055	RED FLUSH PUSH BUTTON (CYCLE INTERRUPT)	1
7	206430	1NO CONTACT BLOCK FOR ABOVE	1
8	206409	GREEN MUSHROOM PUSH BUTTON 1NO (CYCLE START)	
9	206422	3-POSITION SELECTOR SWITCH 2NO (LAYERS)	1
10	206406	BLUE PUSH BUTTON 1NO (RESET TO HOME)	1
11	206422	3-POSITION SELECTOR SWITCH 2NO (FILM LIFT)	1
12	206420	2-POSITION SELECTOR SWITCH 1NO (TABLE JOG)	1
13	206420	2-POSITION SELECTOR SWITCH 1NO (PRODUCT ROLL)	1
14	206422	3-POSITION SELECTOR SWITCH 2NO (FILM ARM)	1
15	206420	2-POSITION SELECTOR SWITCH 1NO (FILM HOLDER)	1

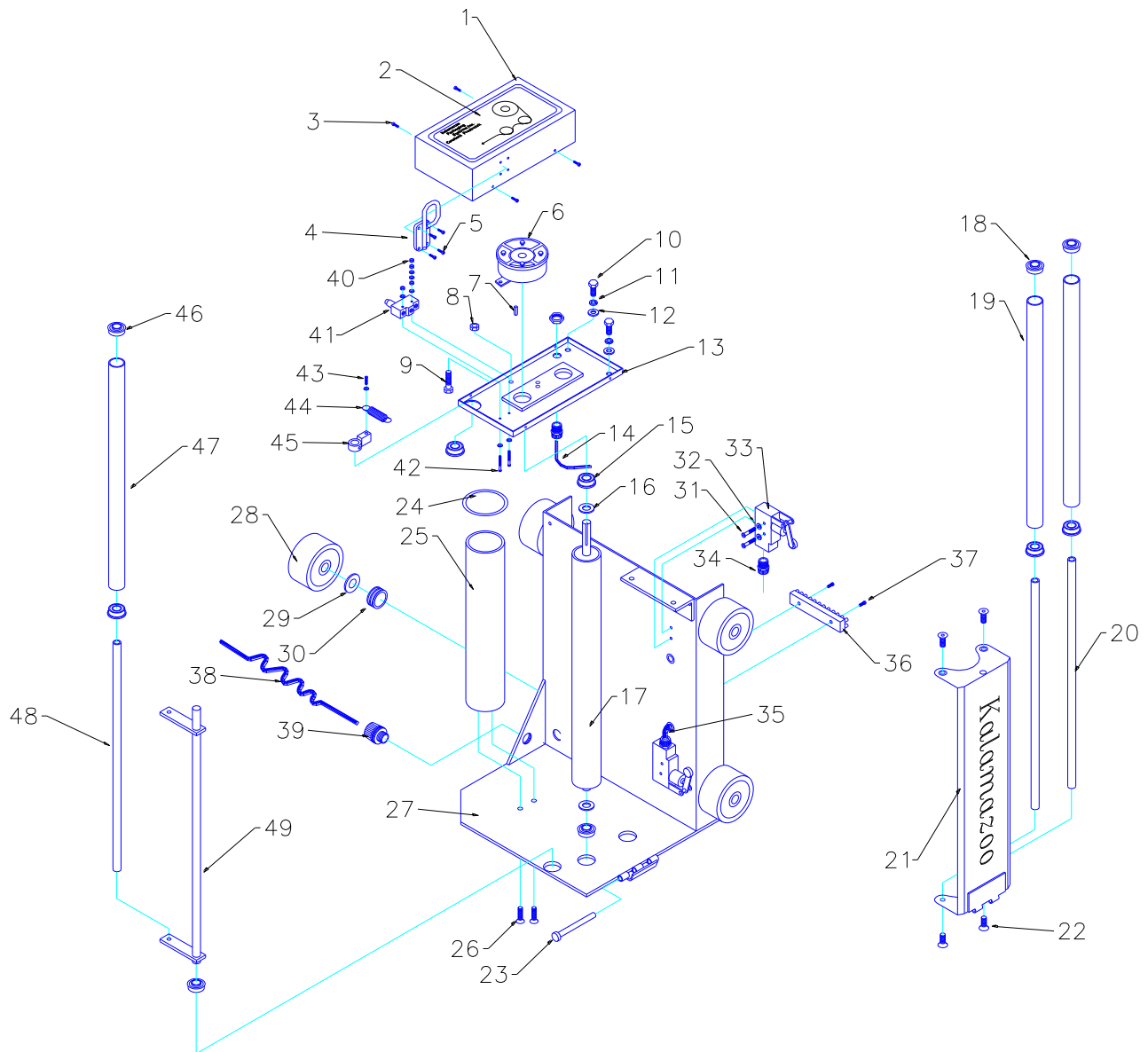
GRD	83	84	85				GRD	0	38	40	41				37	0	26	37	0	27
GR	BL	BL	BL												24V	0V	SIGNAL	24V	0V	SIGNAL
FILM LIFT							LIGHT							RIGHT SIDE			LEFT SIDE			
							GROUND							EYE			EYE			



Kalamazoo Packaging Systems
PARTS MANUAL: 6110HFA-CW SUB PANEL

ITEM	PART #	DESCRIPTION	QTY
1	131010	REMOTE START RECEIVER	1
2	209108	1500va TRANSFORMER	1
3	220188	MITSUBISHI PLC (FX2n-64MR)	1
4	131200	FILM TENSION CONTROL	1
5	210776	1 AMP. PLC FUSE	1
6	210777	3 AMP. FILM TENSION FUSE	1
7	210783	10 AMP. SECONDARY FUSE	1
8	210786	15 AMP. PRIMARY FUSE	2
9	210825	4 AMP. TABLE FUSE	3
10	210820	2 AMP. ROLLER FUSE	3
11	210820	2 AMP. FILM LIFT FUSE	3
12	208450	(POR) 4PDT RELAT	1
12	208460	(POR) 14-BASE	1
13	208250	(CR1) 2PDT RELAY	1
13	208260	(CR1) 8-PIN BASE	1
14	208090	40 AMP. MAIN CONTROL RELAY	1
15	210794	30 AMP. MAIN FUSE	3
16	210744	40 AMP. DISCONNECT	1
17	208250	(CR2) 2PDT RELAY	1
17	208260	(CR2) 8-PIN BASE	1
18	131201	HOTWIRE CONTROL	1
19	131872	FILM LIFT 1 HP. AC DRIVE	1
20	210155	110/1/60Hz. OUTLET	1
21	131013	12vDC POWER SUPPLY (outlet)	1
	131012	ANATENNA 7' CORD (not shown)	1
	131011	REMOTE TRANSMITTER (not shown)	1
22	131875	TABLE 2HP. AC DRIVE	1
23	131872	ROLLER 1 HP. AC DRIVE	1
24	209700	12-TERMINAL STRIP	4-1/2

4000M-30VT-DB
30" VARIABLE TENSION
FILM DELIVERY
w/ DANCER BAR



09/30/2010 TF

Kalamazoo Packaging Systems

PARTS MANUAL:

30" VARIABLE TENSION FILM DELIVERY w/ DANCER BAR

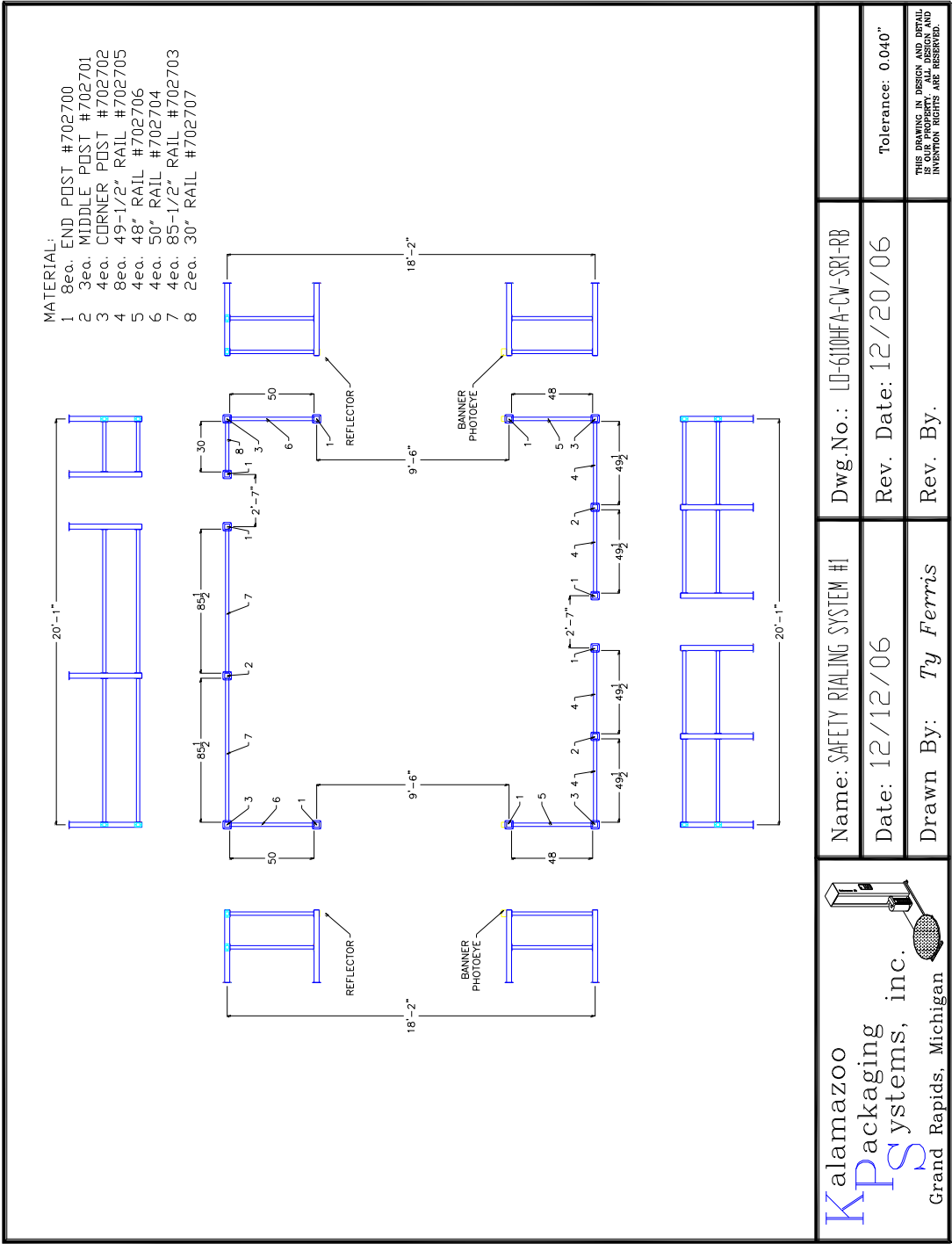
ITEM	PART#	DESCRIPTION	QTY
1	4000M-H2-C	FILM COVER	1
2	4060243	FILM-VT-DB VARIABLE TENSION FILM DELIVERY w/ DANCER BAR DECAL	1
3	L21	10/24 x 3/4" TRUSS HEAD SCREW	4
4	813498	FILM DOOR LATCH	1
5	L7	8/32 x 3/4" MACHINE SCREWS w/ LOCKNUTS	4
6	130500	3-3/4" 90v DC BRAKE	1
7	L2	3/16" x 3/16" x 3/4 "KEYWAY	1
8	L46	5/16-18 NUT	1
9	L53	5/16-18 x 1-1/2" HHCS	1
10	L80	3/8-16x 1 HEX HEAD CAP SCREWS	4
11	L64	3/8 LOCK WASHERS	4
12	L66	3/8 SAE WASHERS	4
13	4000M-H2-TP-01-DB	FILM TOP PLATE	1
14	2098600	16/4 STO CORD	
15	120650	5/8 x 1-3/8 FLANGE BEARINGS	2
16	L145	5/8 SPRING WASHER	2
17	4000M-H-1-R-30	30" BRAKE ROLLER w/ 1/8" BLACK	1
18	120600	5/8 x 1-3/8 FLANGE BEARINGS	4
19		30" FILM DOOR ROLLER	2
20	406027-30	30" FILM DOOR ROLLER SHAFT	2
21	4000M-H30-D1	30" FILM DOOR	1
22	L58	5/16-18x 1 FLAT HEAD CAP SCREW	4
23	338712	HINGE PIN	1

Kalamazoo Packaging Systems

PARTS MANUAL:

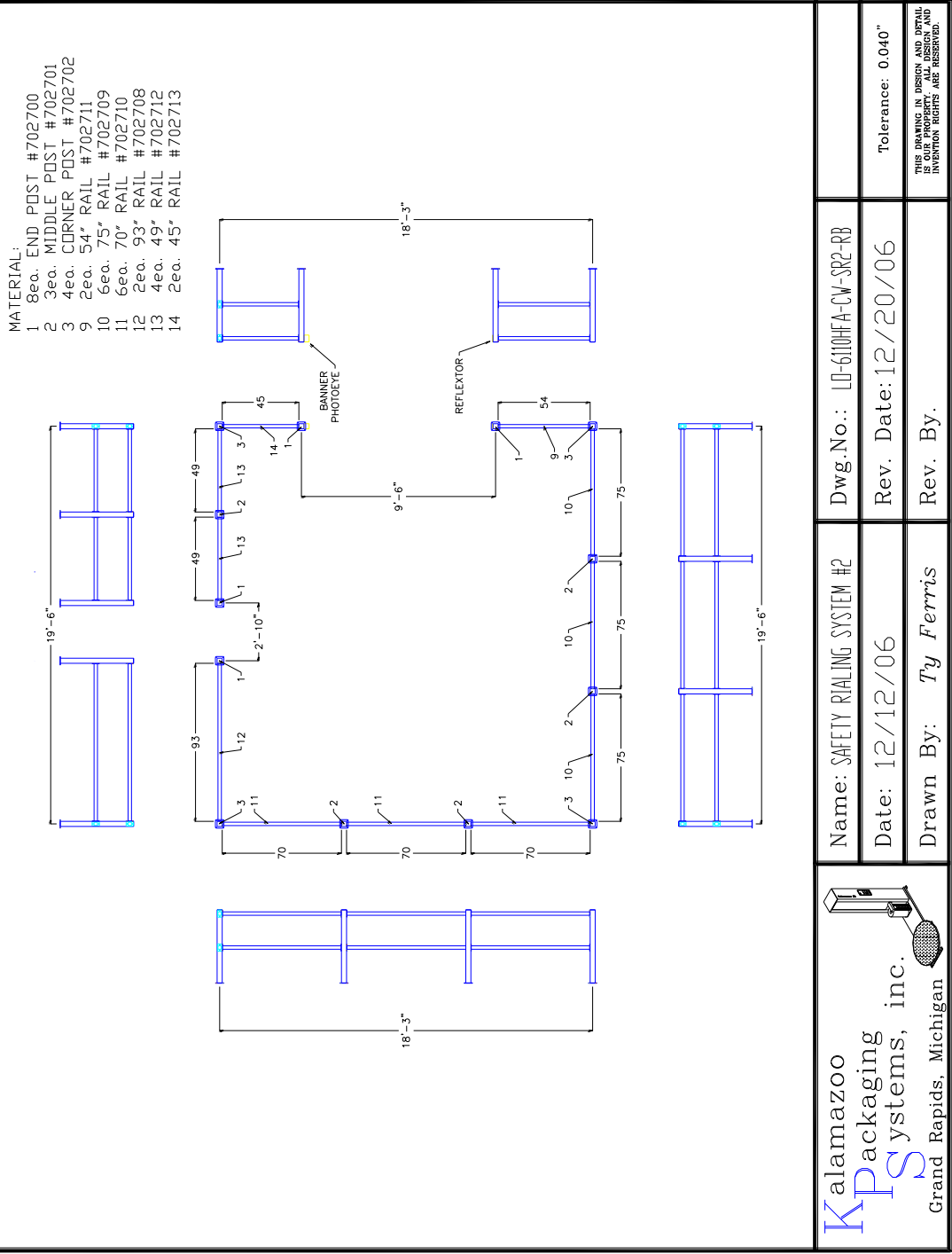
30" VARIABLE TENSION FILM DELIVERY w/ DANCER BAR

ITEM	PART#	DESCRIPTION	QTY
24	120860	3" THRUST WASHER	1
25	991-15	2.95" DIA. x 15" FILM CORE	1
26	L55	5/16-18x 1-1/2 FLAT HEAD CAP SCREW	2
27	4000M-H30-1-FHBS-DB	30" FILM BASE PLATE FOR DANCER BAR	1
28	122250	4"x 1-1/2"X 3/4" CARRIAGE WHEELS	4
29	L161	CARRIAGE WHEEL SPRING	4
30	122249	CARRIAGE WHEEL SPACER 0.840"	4
31	L6	6/32x1-3/4" MACHINE SCREWS	4
32	L6a	#6 WASHER	4
33	210850	LIMIT SWITCH (ROLLER ARM)	2
34	210340	CORD GRIP	2
35	209850	16/3 SJ CORD	2
36	209700	12 TERMINAL STRIP	1
37		#6 x 3/4" SHEET METAL SCREWS	2
38	2100530	16/8 COILED CORD	1
39	210357	1" CORD GRIP	1
40	F200	6/32 KEP NUTS AND WASHERS	4
41	2108550	MICRO LIMIT SWITCH	1
42	F210	6/32x 1-3/4 M.S.	2
43	F515	10/24x 3/4" T.H.	1
44	2108560	#99 SPRING (Cut to 1")	1
45	4000M-30H-1-DBSC	DANCER BAR SHAFT COLLAR	1
46	120600	5/8 x 1-3/8 FLANGE BEARINGS	4
47	4000M-30H-1-DBR	DANCER BAR ROLLER	1
48	4000M-30H-1-DBS	DANCER BAR ROLLER SHAFT	1
49	4000M-30H-1-DB	DANCER BAR	1
	4060212	30" Variable tension film deliver complete with dancer bar. Without 90vDC brake and photo-eye. (film carriage, wheels, brake roller, film core, film door w/ rollers, limit switches, coiled cord, dancer bar, micro limit switch, and spring)	



Kalamazoo Packaging Systems
PARTS MANUAL: 6110HFA-CW-SR1 Safety Rail

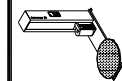
ITEM	PART#	DESCRIPTION	QTY
1	702700	END POST	8
2	702701	MIDDLE POST	3
3	702702	CORNER POST	4
4	702705	RAIL 49-1/2"	8
5	702706	RAIL 48"	4
6	702706	RAIL 50"	4
7	702703	RAIL 85-1/2"	4
8	702707	RAIL 30"	2
15	213265	Q45 BANNER PHOTO-EYE (POLARIZED)	2
16	213261	4-PIN CABLE 30'	2
17	213004	BRACKET	2



Kalamazoo Packaging Systems
PARTS MANUAL: 6110HFA-CW-SR2 Safety Rail

ITEM	PART#	DESCRIPTION	QTY
1	702700	END POST	8
2	702701	MIDDLE POST	3
3	702702	CORNER POST	4
9	702711	RAIL 54"	2
10	702709	RAIL 75"	6
11	702710	RAIL 70"	6
12	702708	RAIL 93"	2
13	702712	RAIL 49"	4
14	702713	RAIL 45"	2
15	213265	Q45 BANNER PHOTO-EYE (POLARIZED)	1
16	213261	4-PIN CABLE 30'	1
17	213004	BRACKET	1

NOTE: 09/30/2010
ADDED DANCER BAR
LIMIT SWITCH



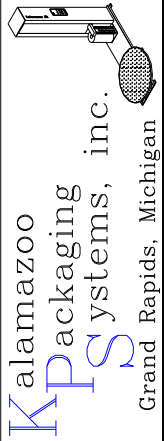
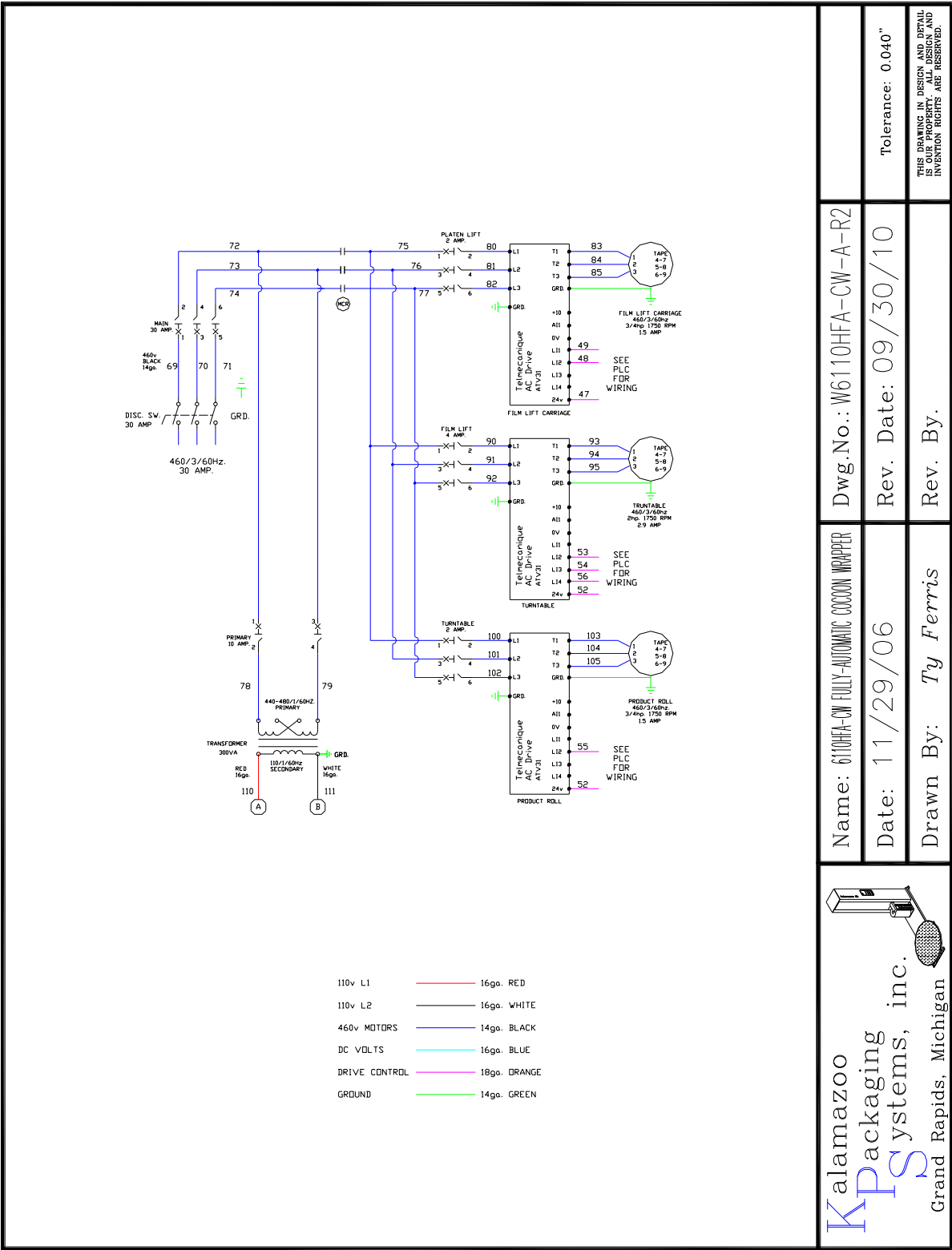
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Date: 11/29/06	Rev. Date: 09/30/2010
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Drawn By: Ty Ferris

Tolerance: 0.040"

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Name: 6110HFA-CW FULLY-AUTOMATIC COCOON WRAPPER

Dwg.No.: W6110HFA-CW-A-R2

Date: 11/29/06

Rev. Date: 09/30/10

Drawn By: Ty Ferris

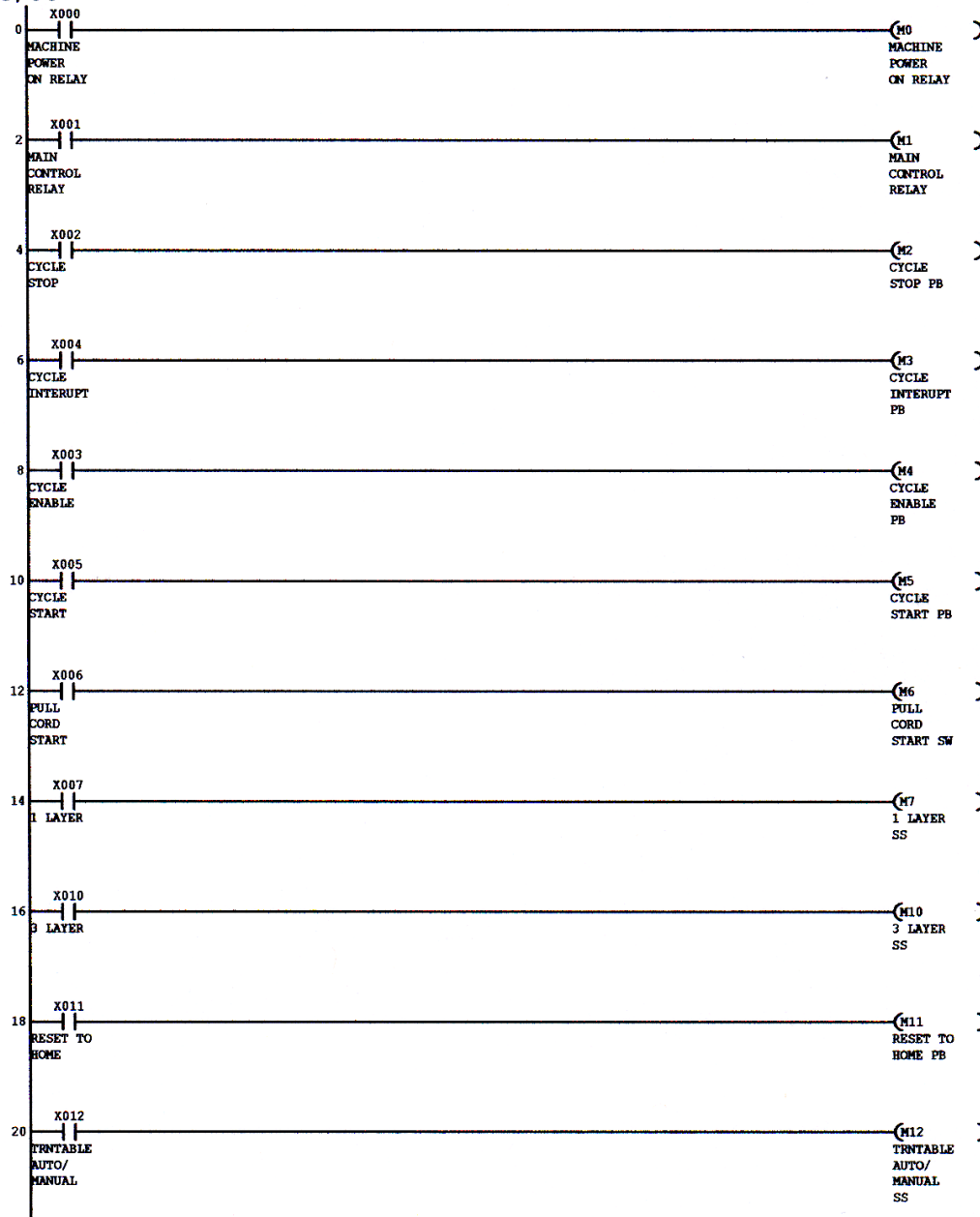
Rev. By:

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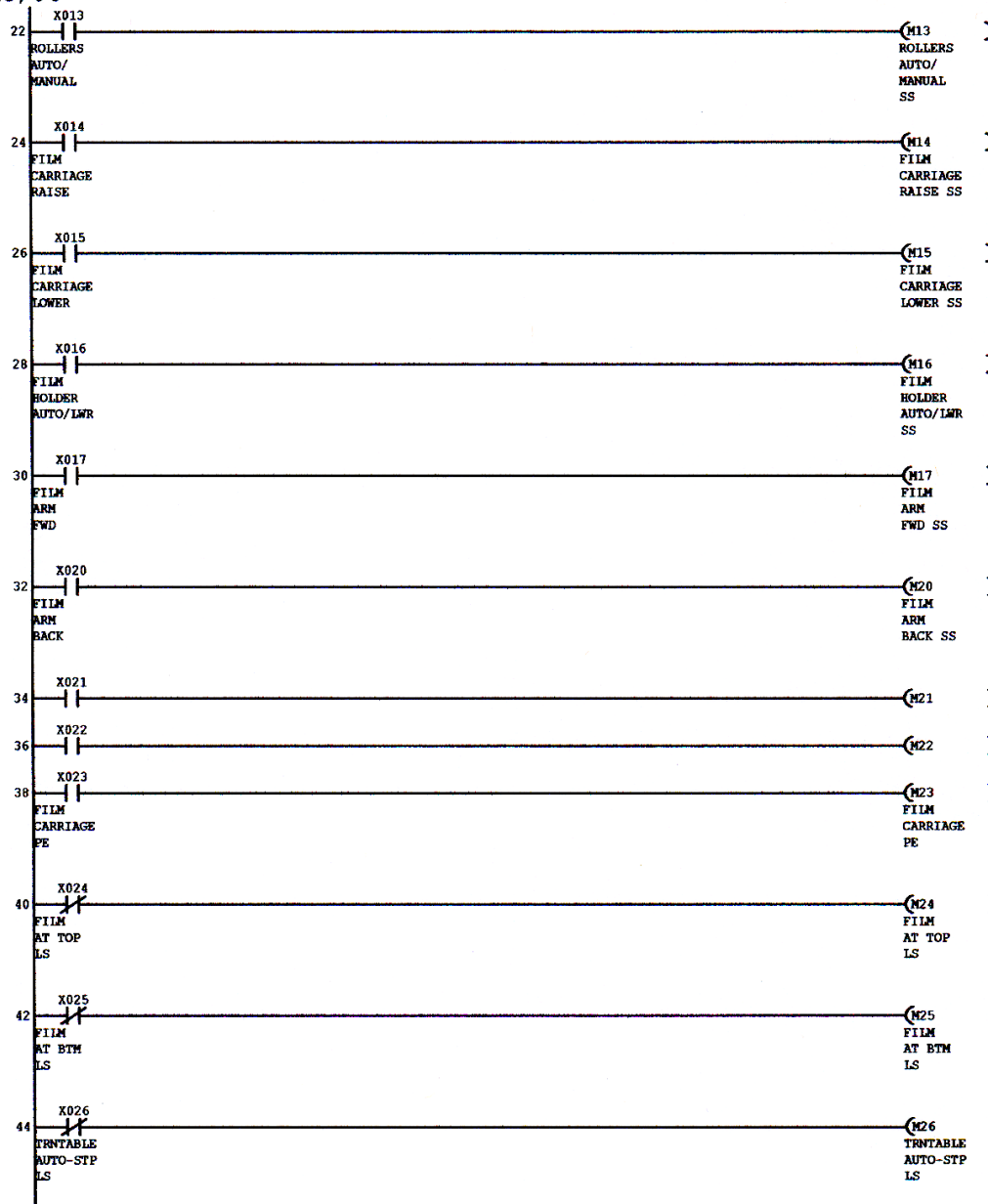
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Step	Cycle Start		=
1	Film carriage raise (5 inches per second)	Film carriage photo-eye off.	m256
	For example: If it takes 4 sec. to raise off the film carriage photo-eye it travels 20 inches. So Dia. is 56 inches $56 \times \pi = 176$ inches of wrapping.		
2	Divide 4 sec./ 2=2 sec. then lower film carriage	Film carriage lower done.	m214
3	Check wrapping layers	Multi done.	m217
4	Turntable forward y14 and timer 5 sec.	After 1 count.	m220
5	y20 On film tension	After 2 counts.	m223
6	Open film holder y22 and product rollers forward y16 and start to count turntable Rotations.	When turntable rotations reached.	m226
7	Turn no turntable decel y15 and turn off product rollers y16 and after time delay lower film carriage to home position.	Turntable auto stop is made.	m229
8	Turn off turntable y14 and y15. Turn off y20 film tension	Film carriage at home position.	m232
9	Film arm forward y24.	Film arm forward.	m235
10	Close film holder y22 and turn no hotwire y21 for 5.5 sec.	Film cut off done.	m238
11	Product rollers forward y16 for 120 sec.	Film tail done	m241
12	Film arm back y25.	Film arm back done	m244
13	Cycle completed.	Reset all counter and timers	m247

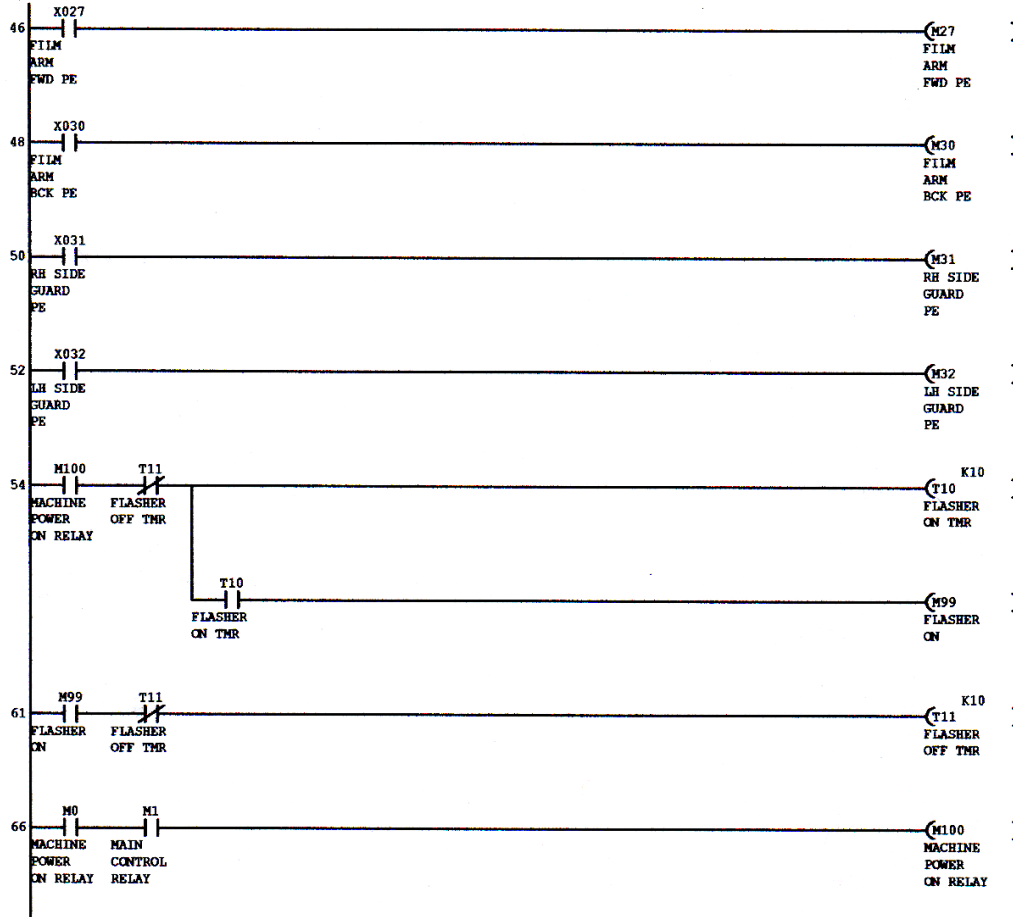
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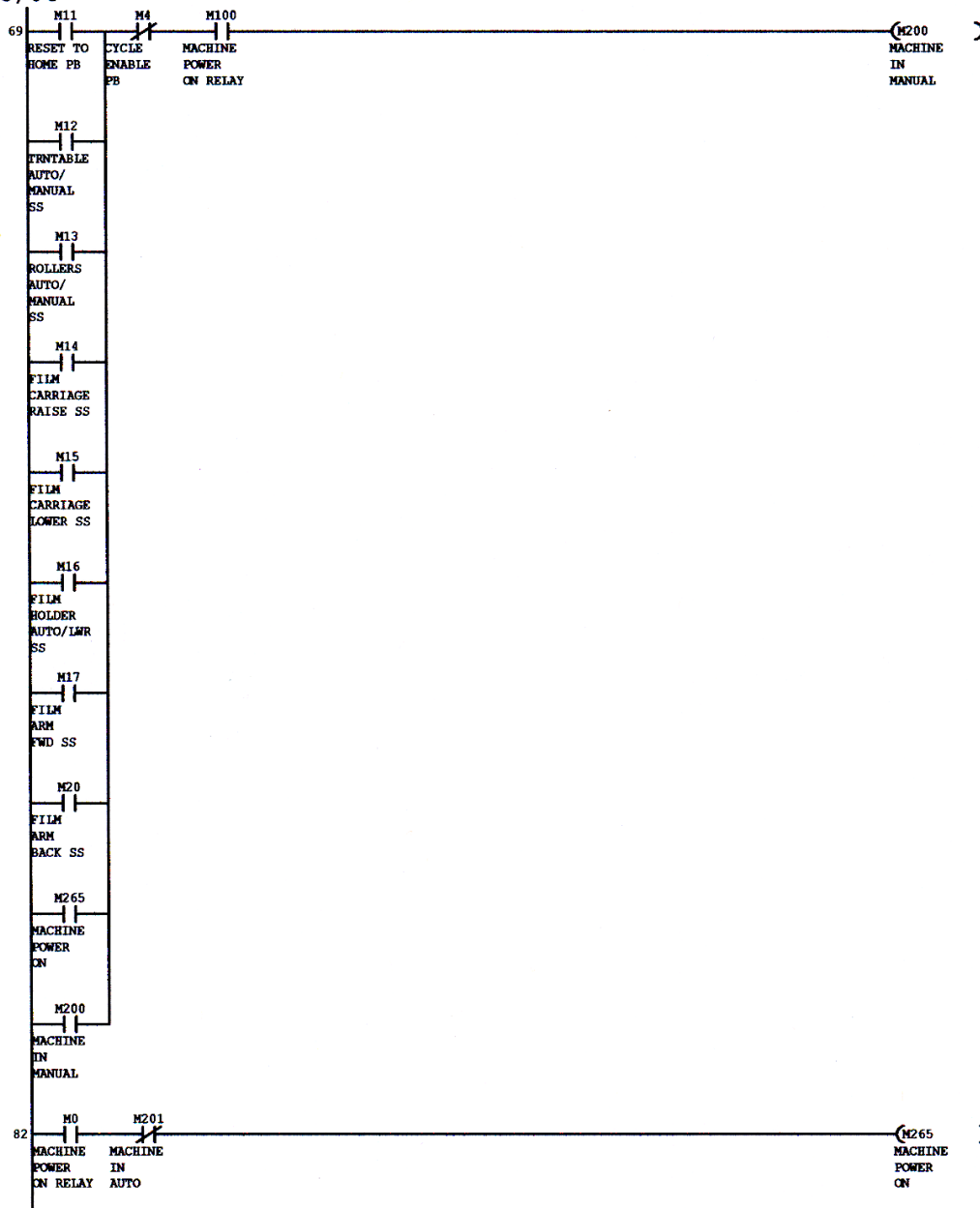
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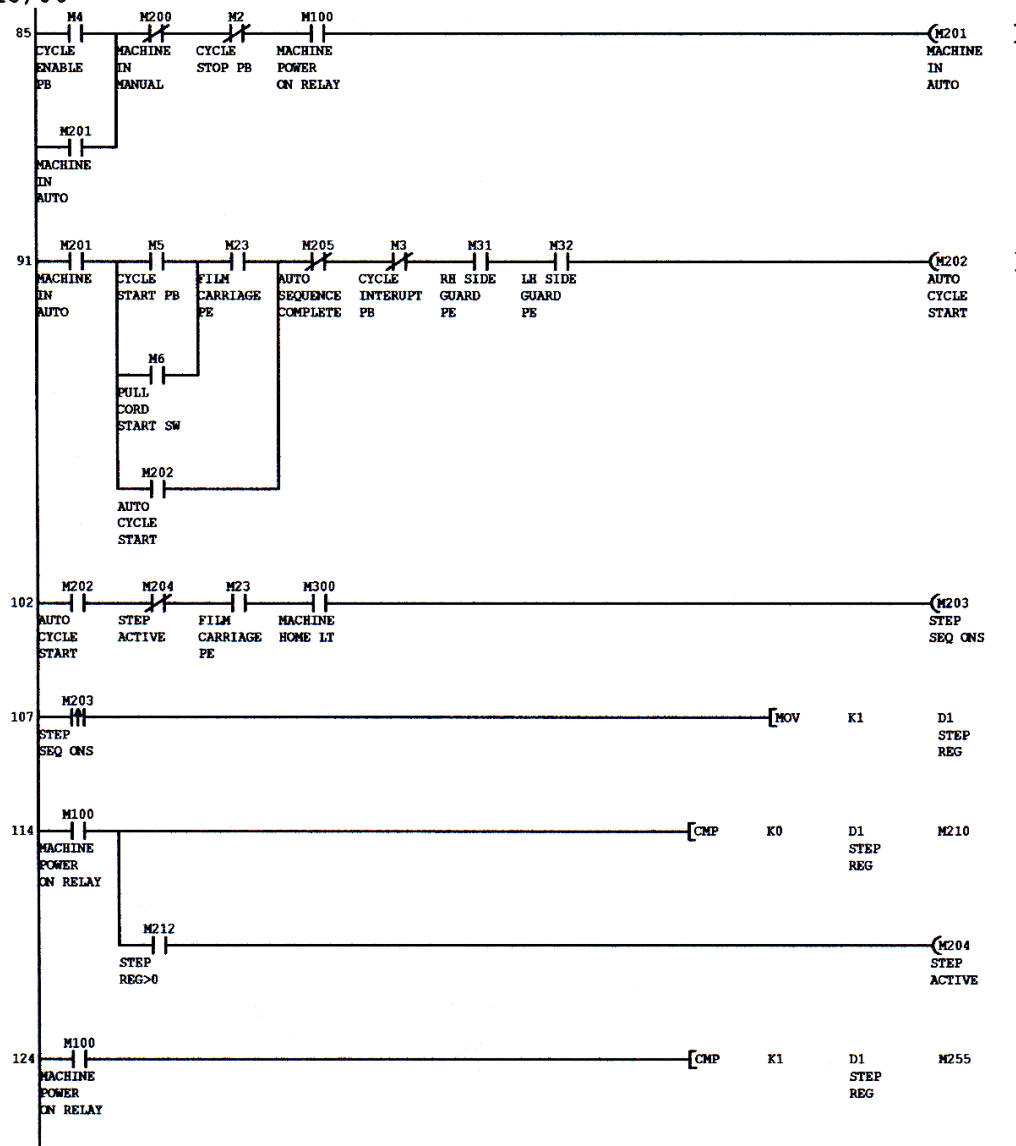
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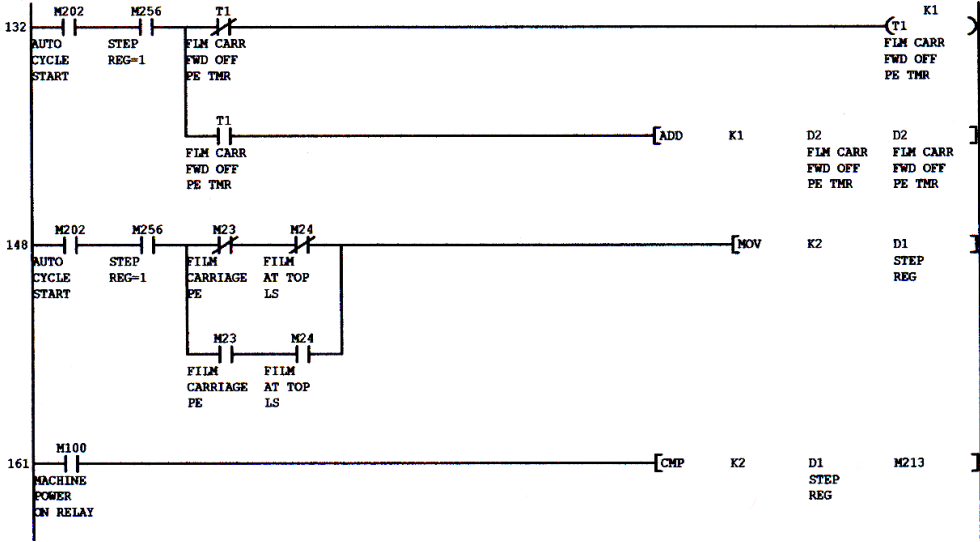
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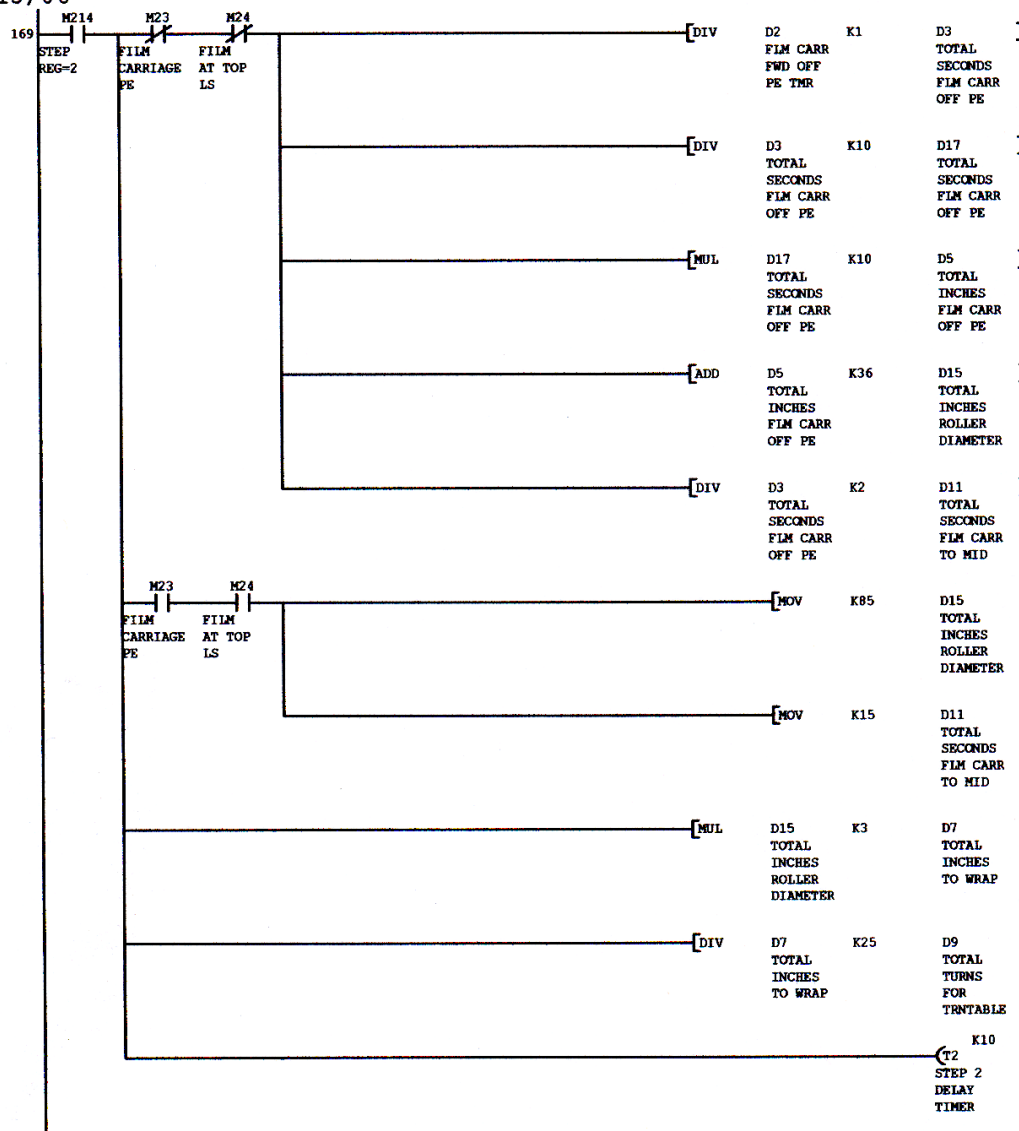
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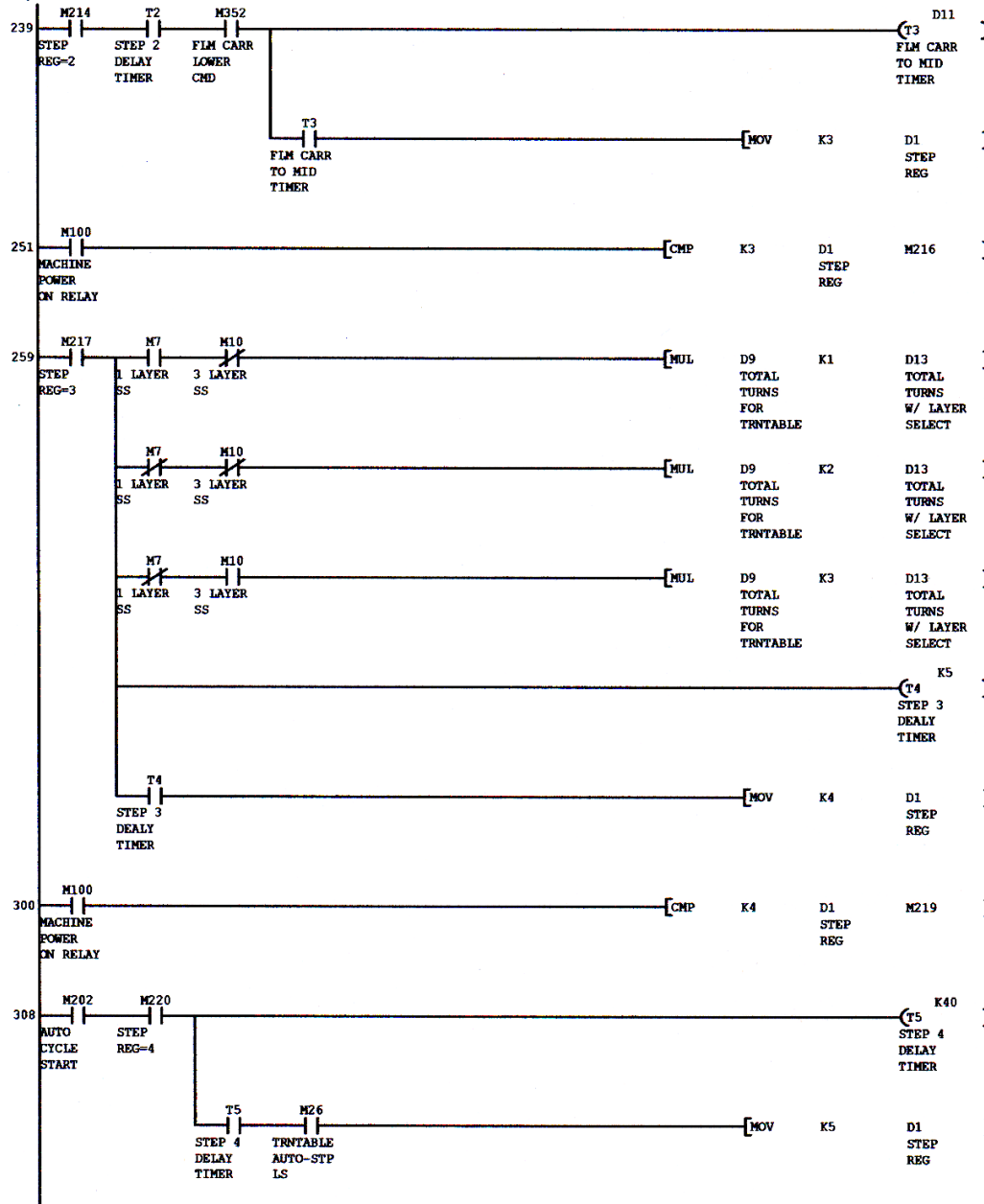
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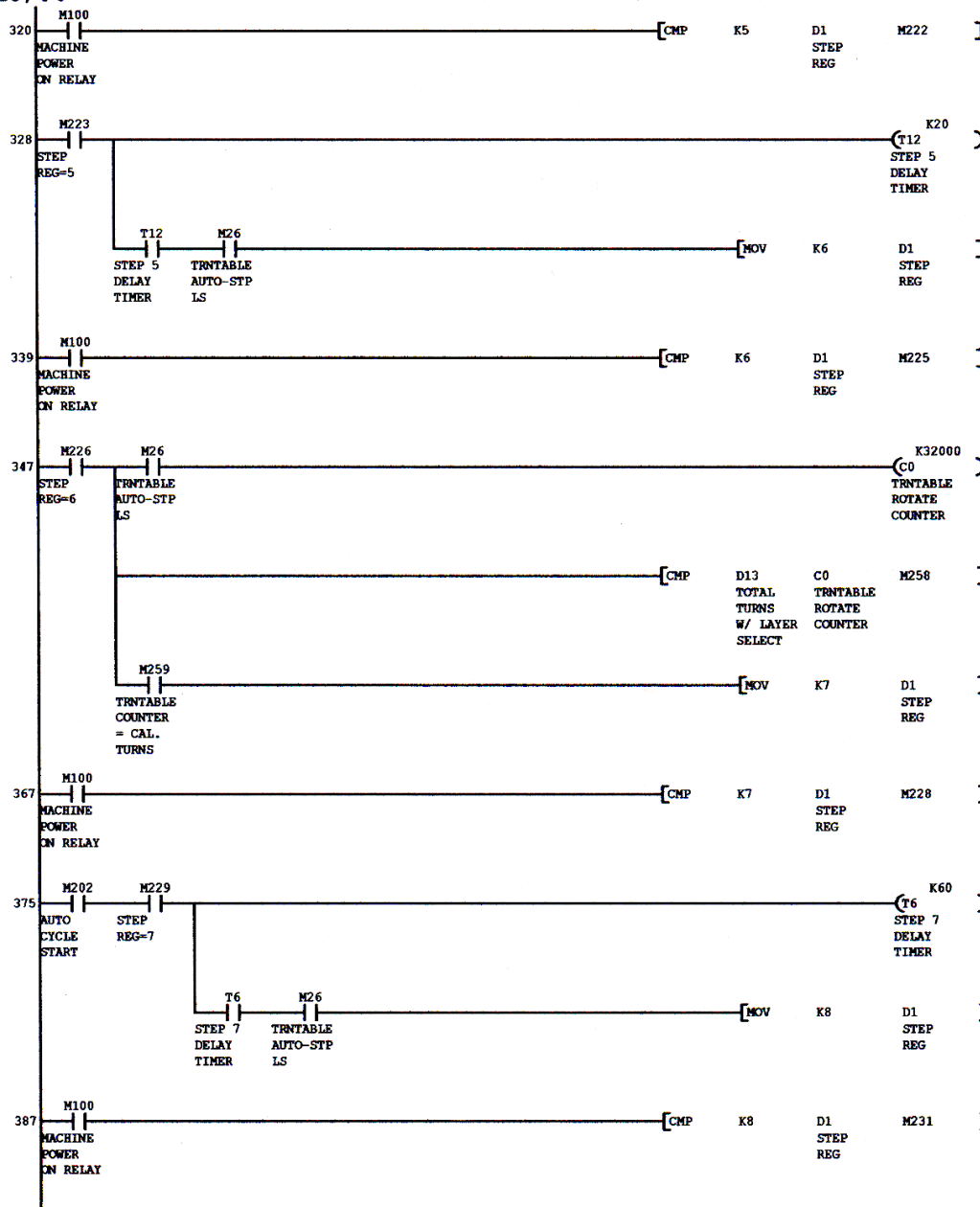
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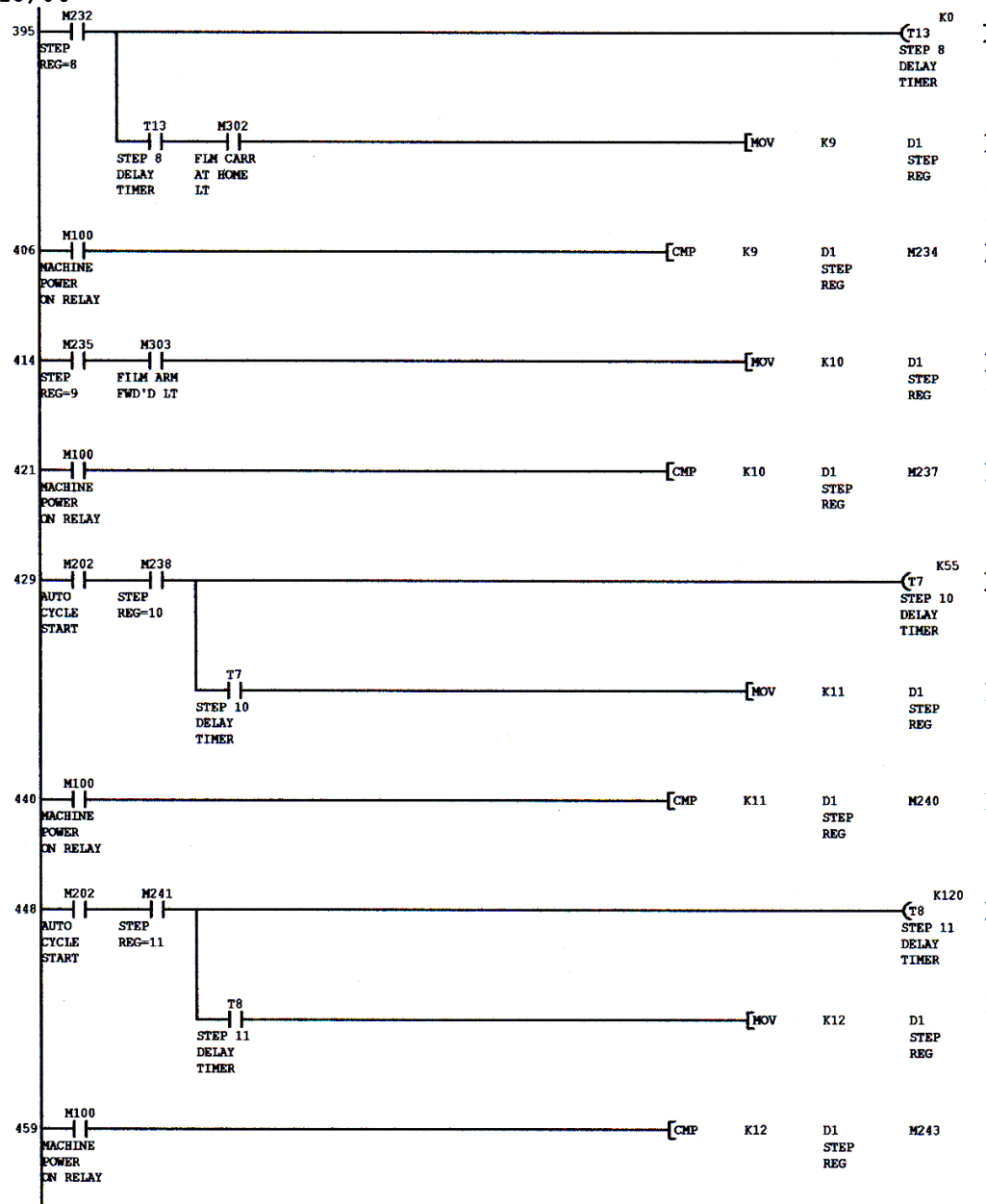
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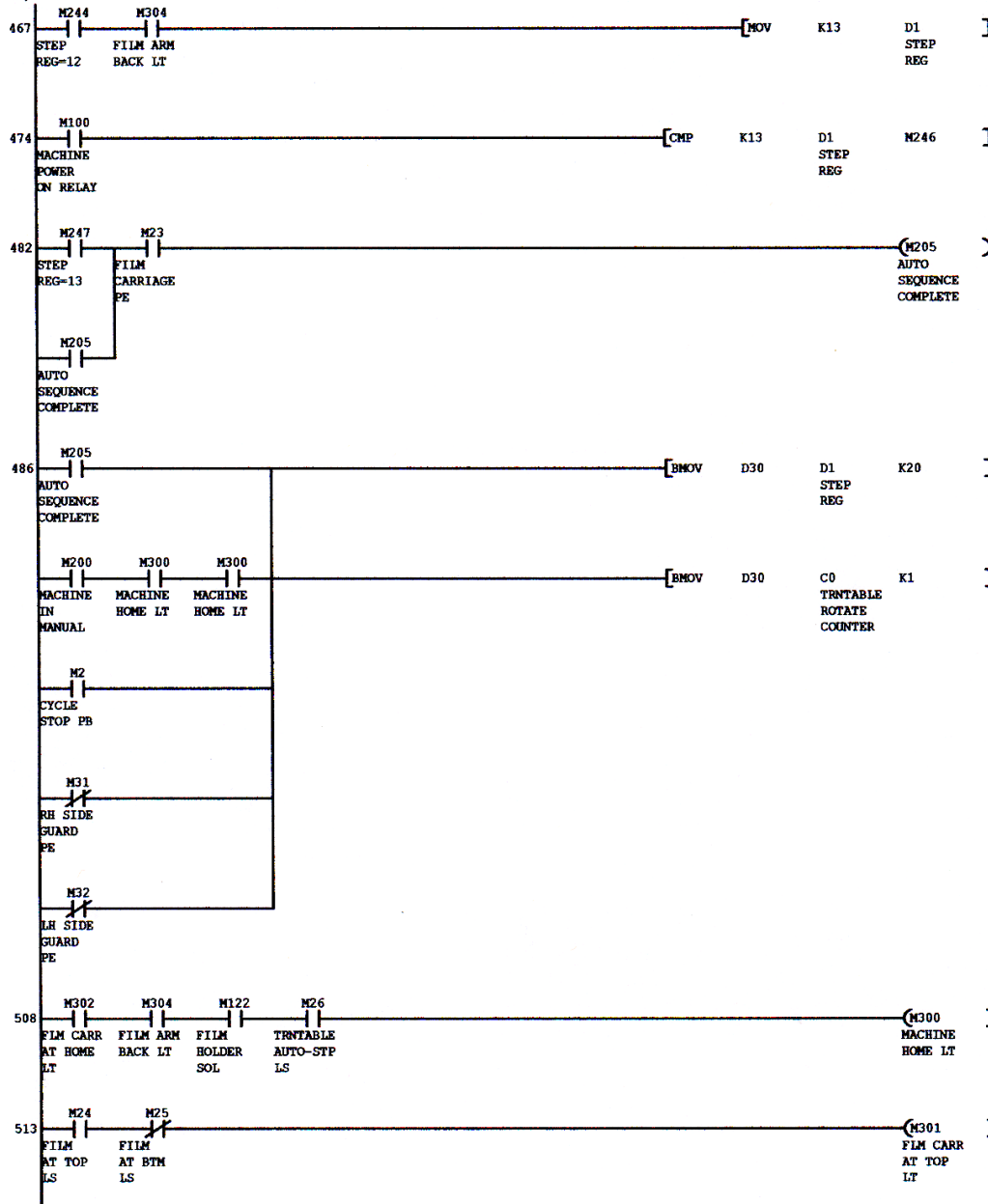
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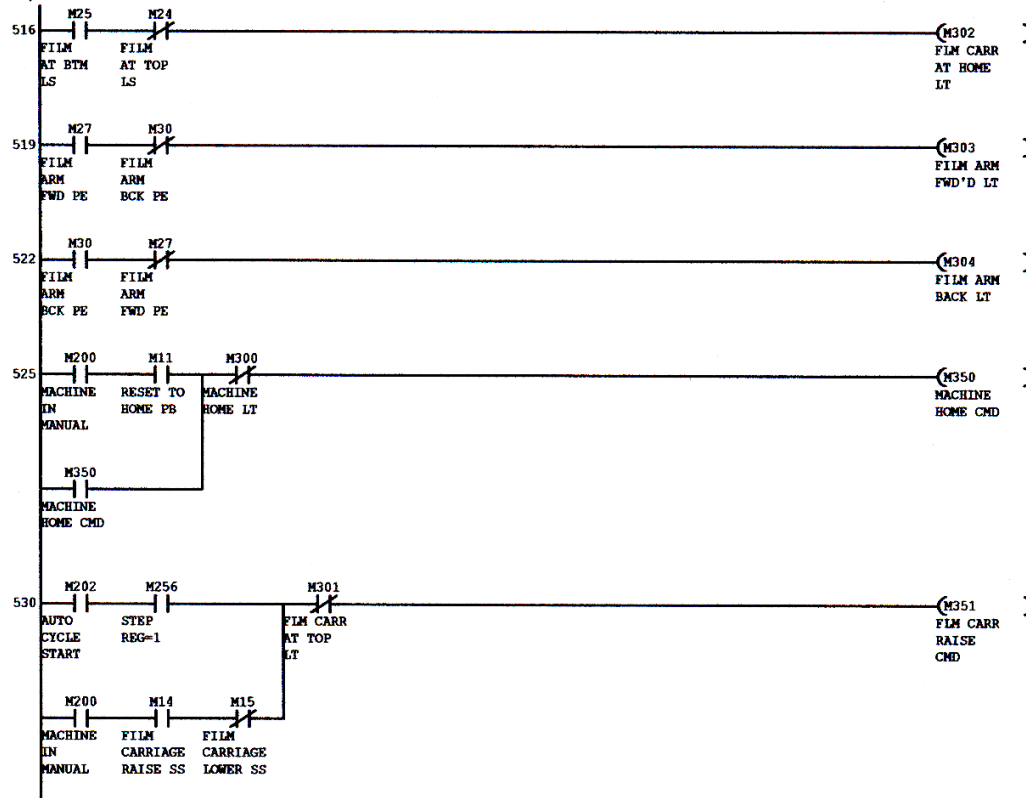
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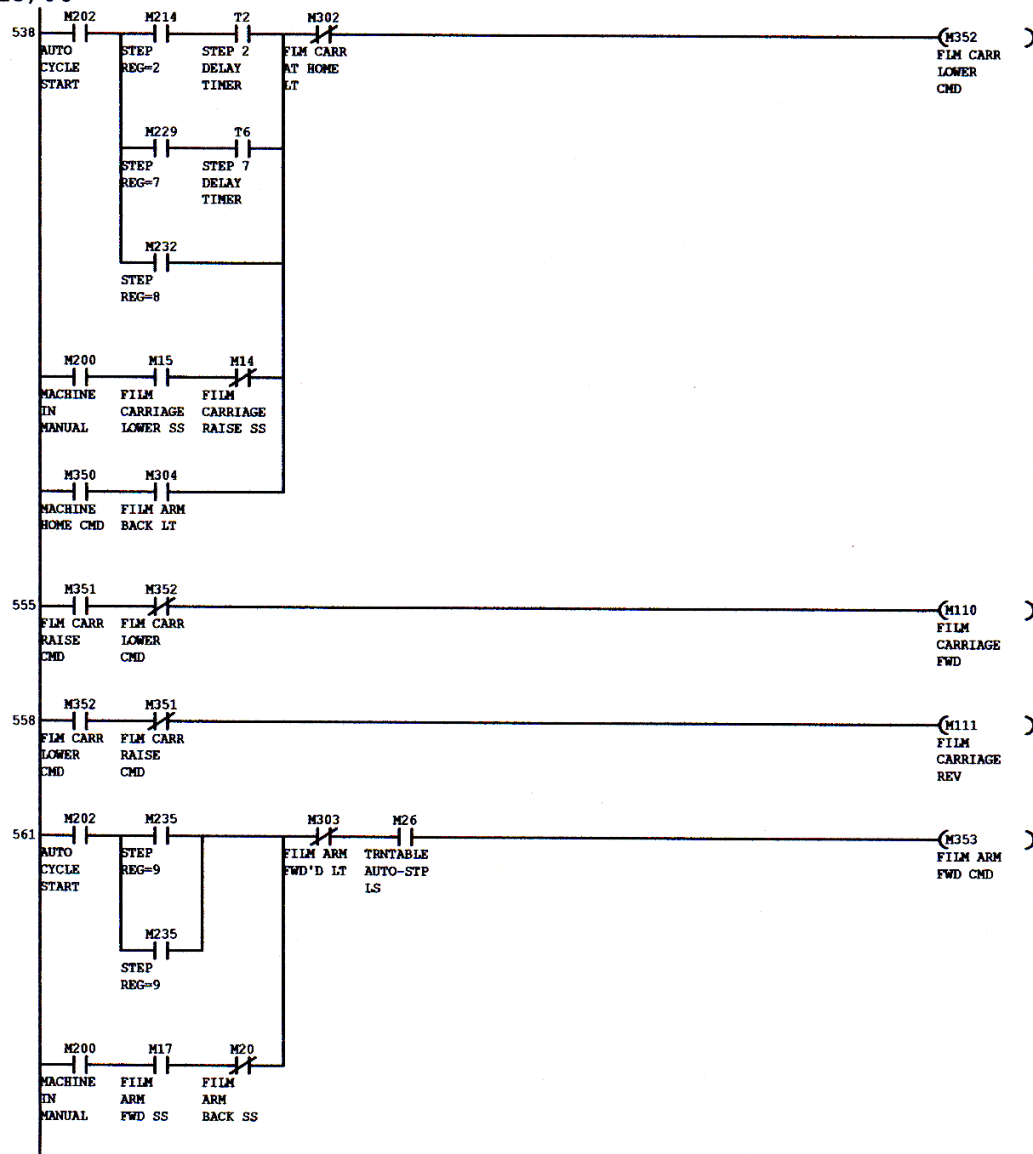
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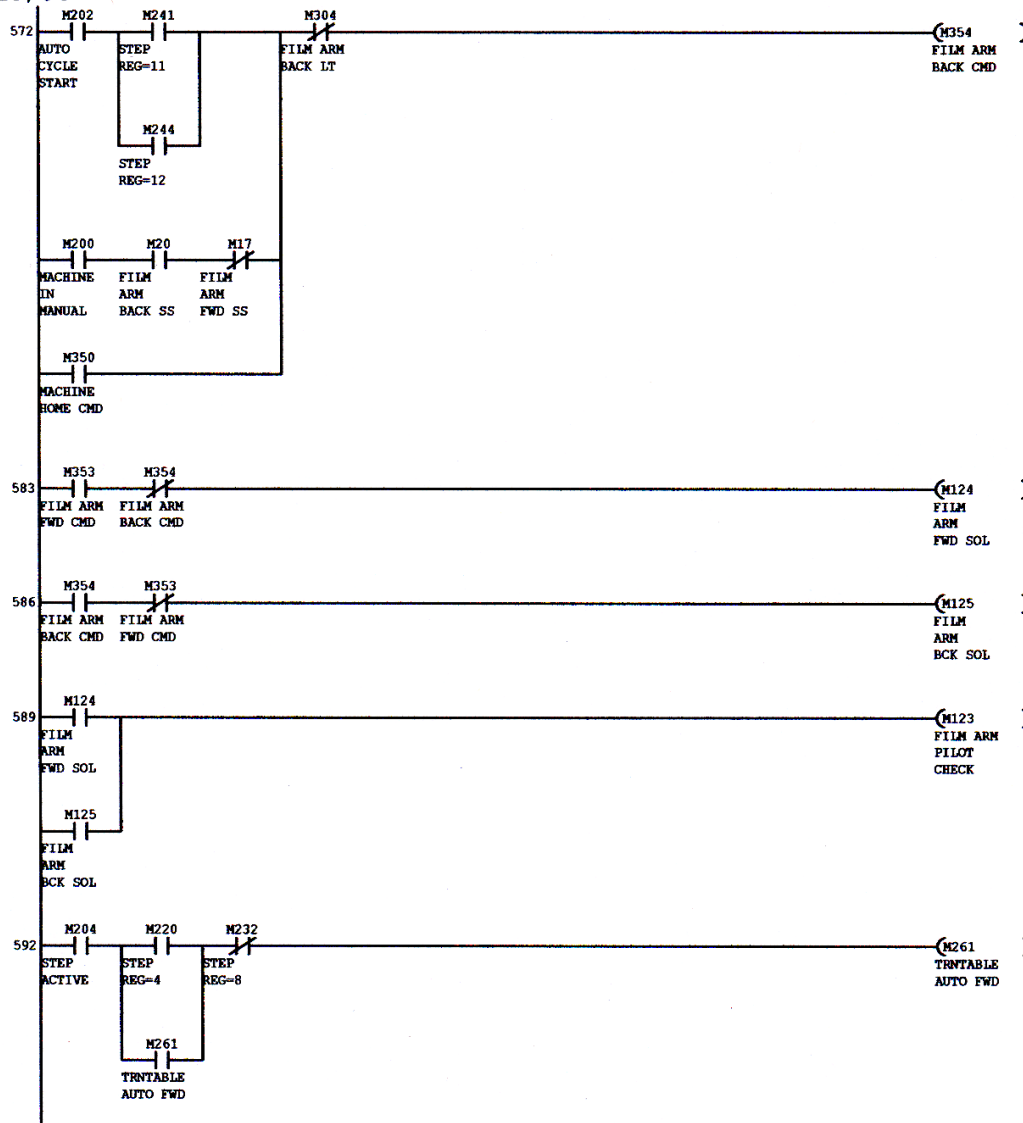
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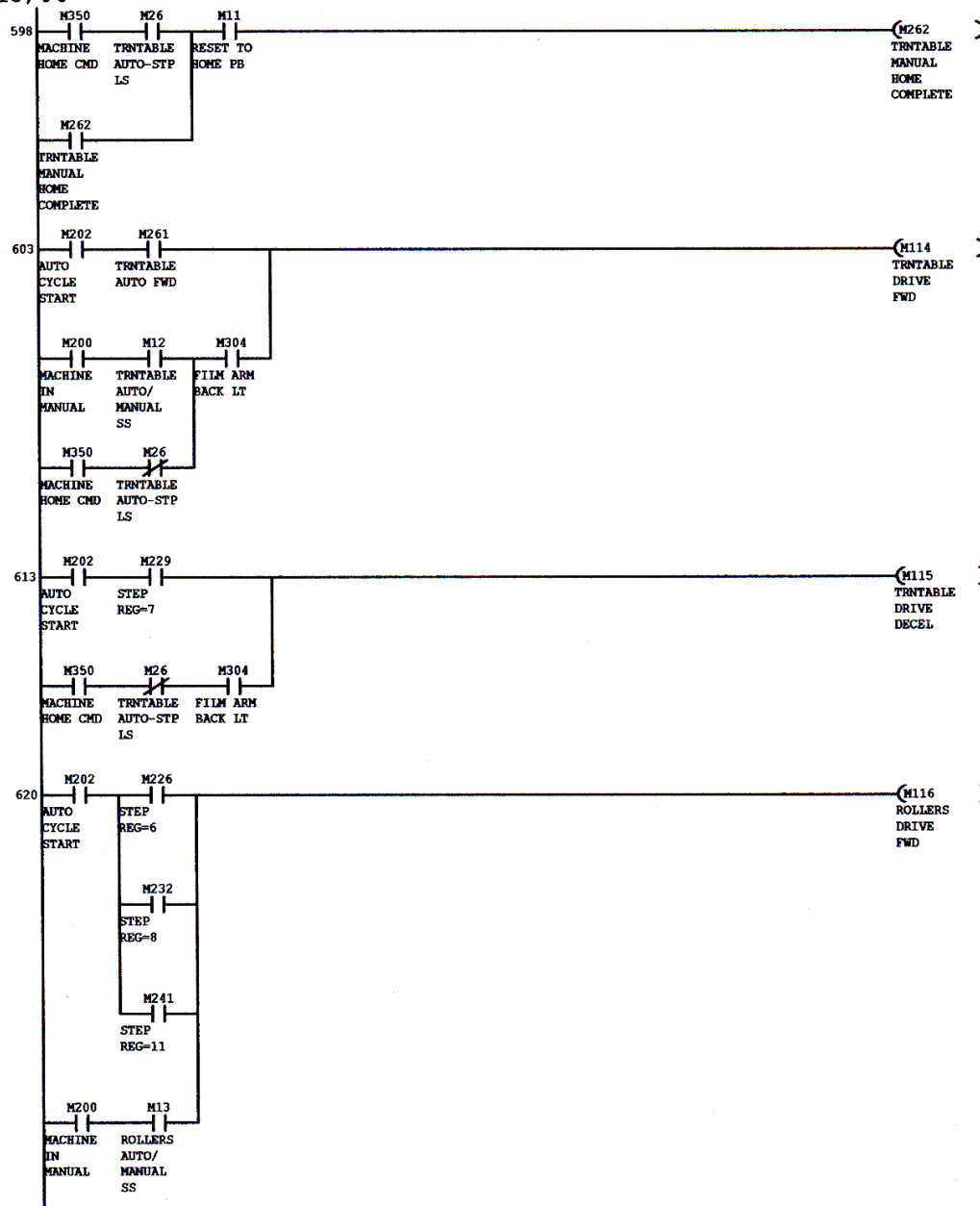
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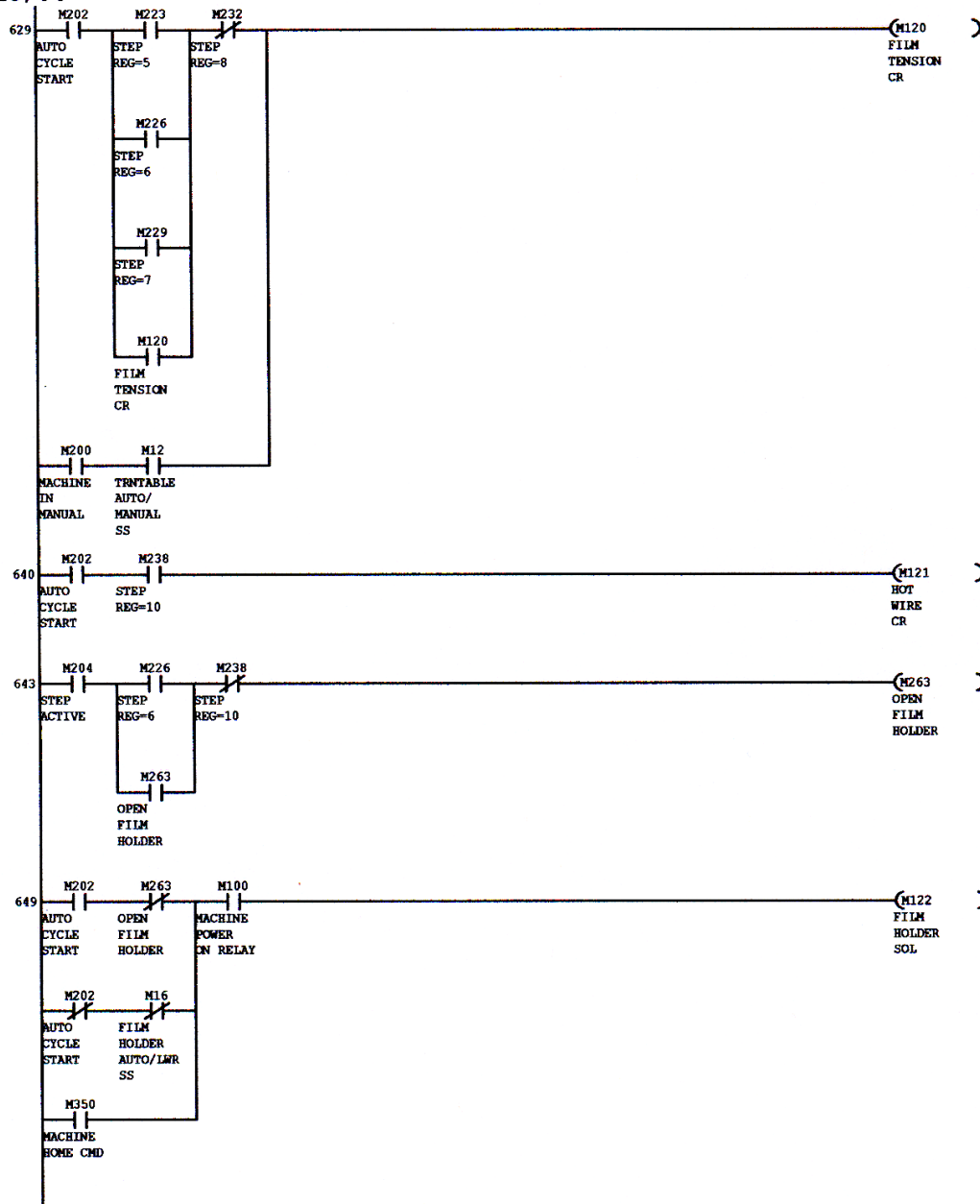
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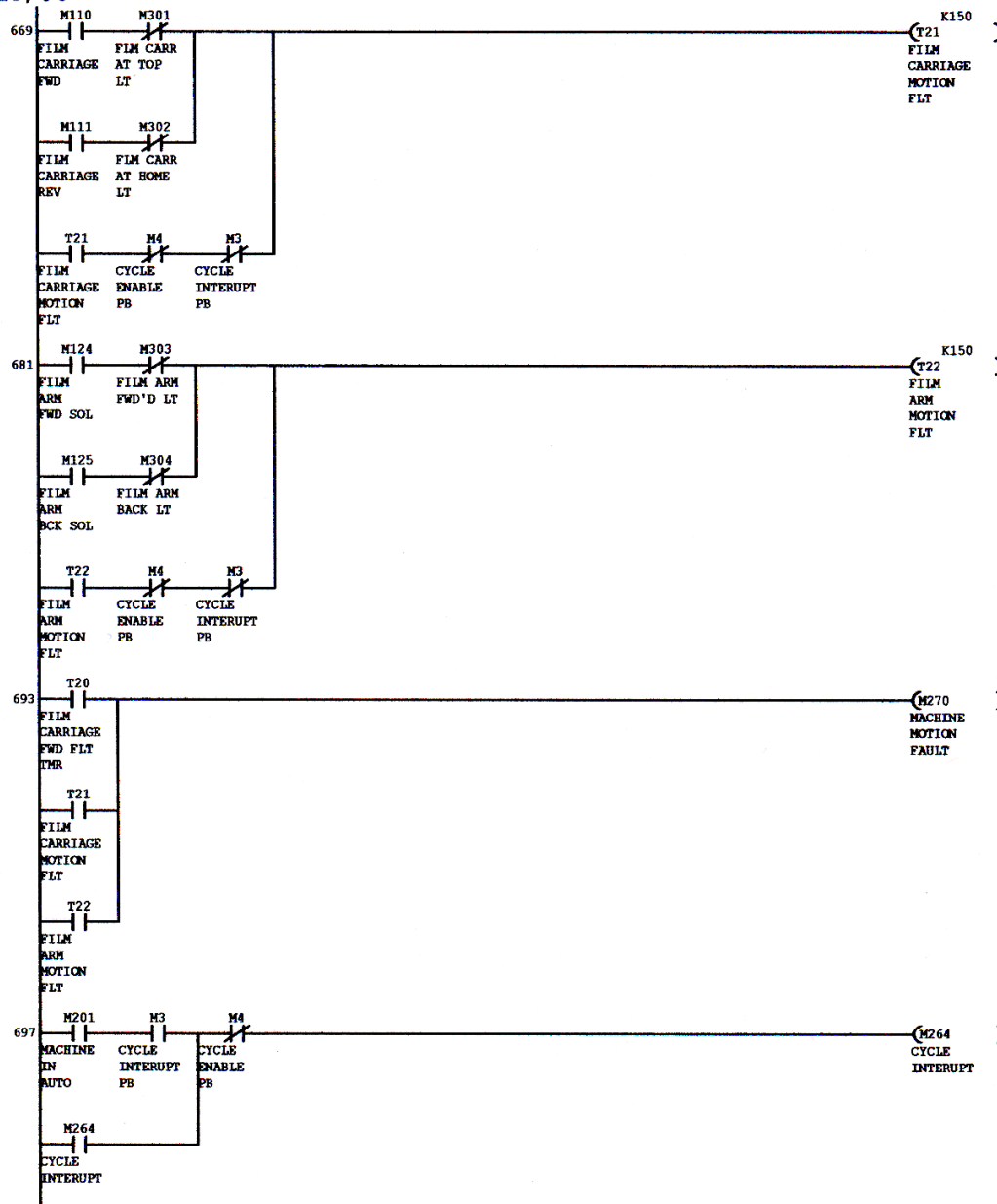
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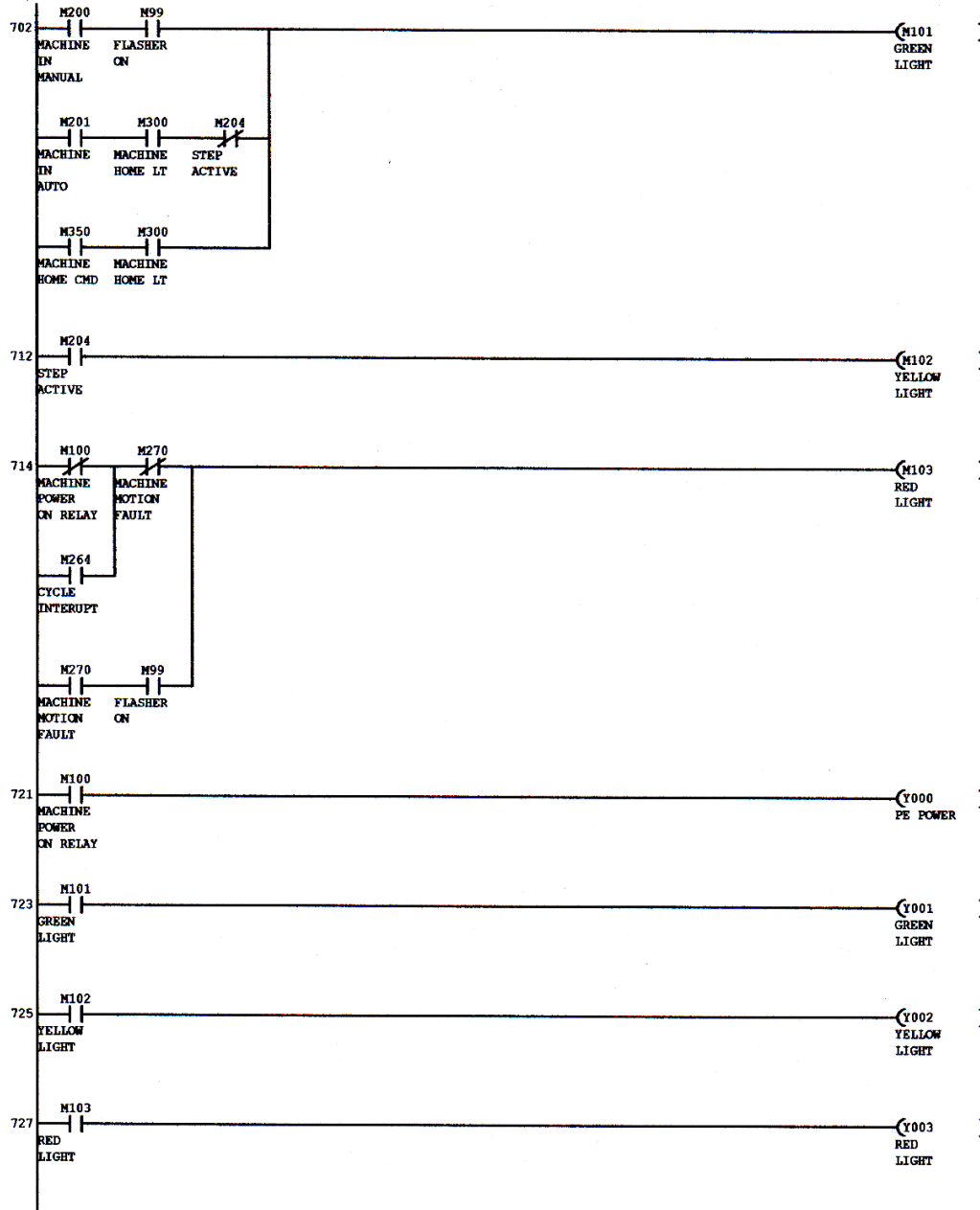
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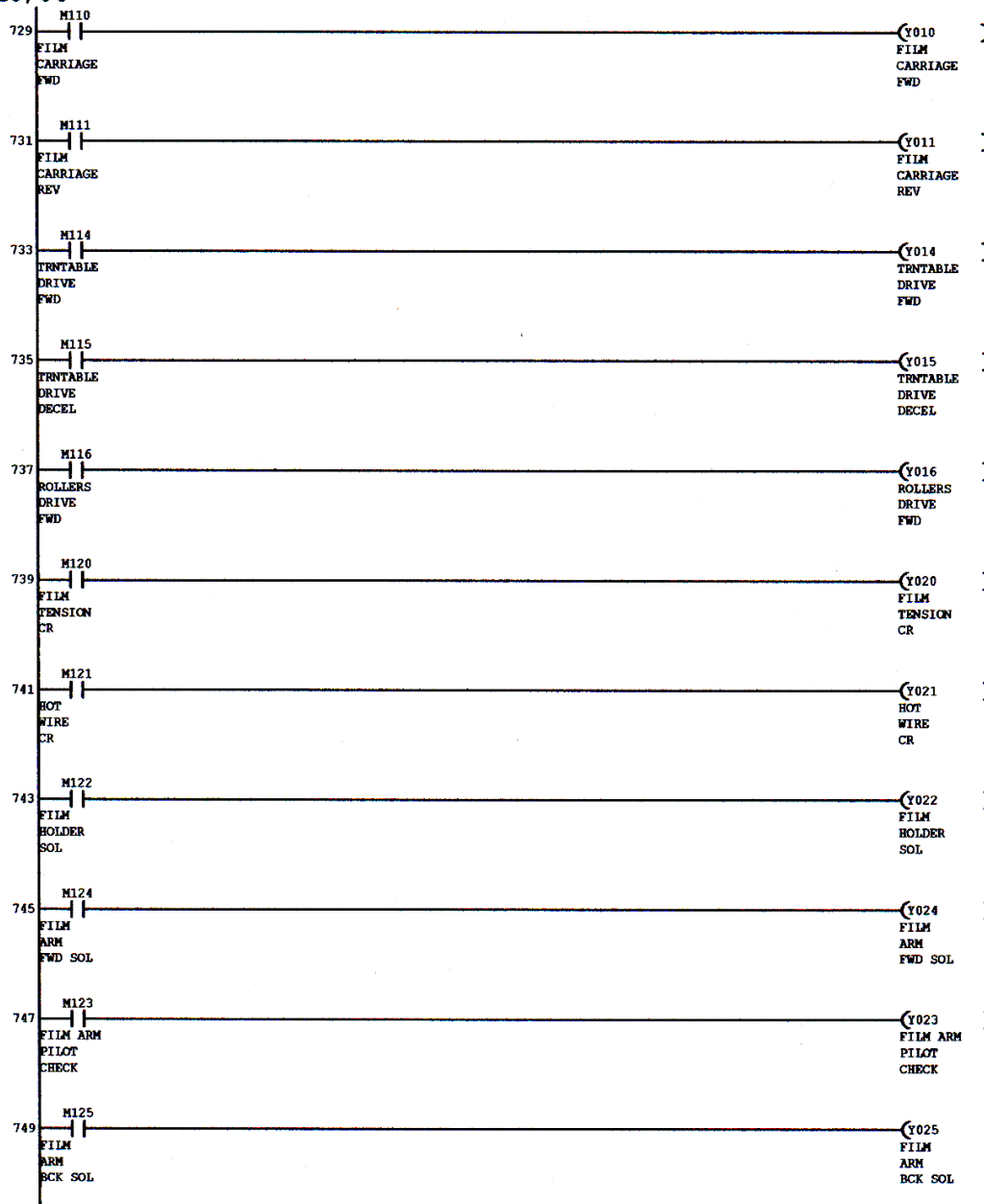
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