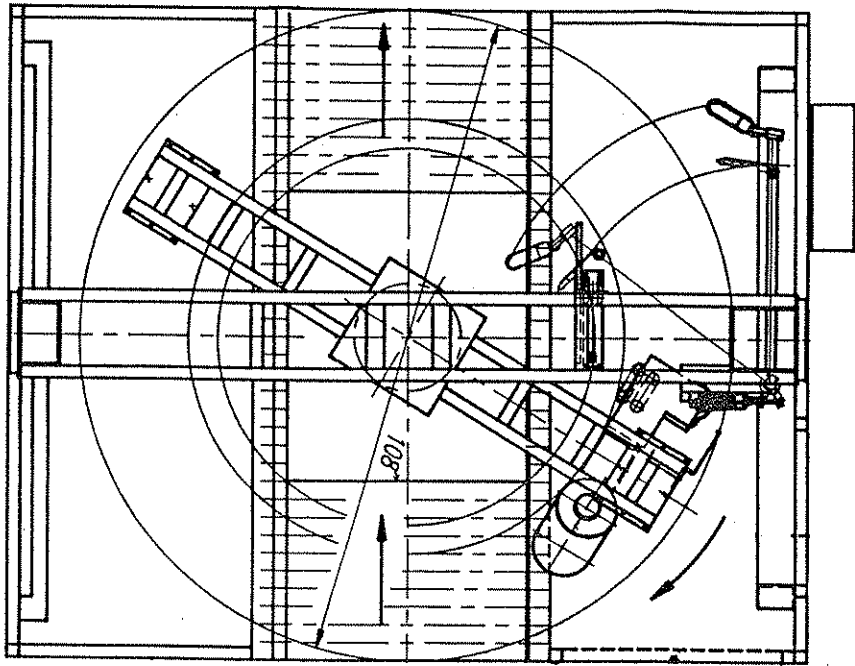
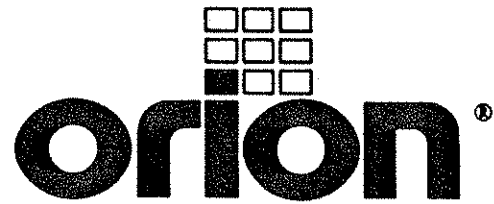

orion®



STRETCHWRAPPERS



INSTRUCTION MANUAL

FOR ALL INQUIRIES
PLEASE CONTACT
OUR LOCAL DISTRIBUTOR

FOR U.S. (ONLY)
1-800-333-6556

Thank you for choosing ORION stretch-wrapping equipment. It is a wise choice which will benefit your company now and in the future.

ORION uses a unique combination of functional, rugged steel structure and sophisticated control systems to offer equipment high in durability and low in maintenance requirements. Our advanced control systems mean that ORION equipment can be operated safely and efficiently without the need for special operator expertise.

Please read this manual carefully and keep it handy. Following these simple operating instructions will insure the safe and efficient performance of this machine while simple maintenance procedures will guarantee a long and productive life of the equipment.

NOTICE:

Our manual covers standard features of the machine. Certain options may not be fully covered due to their unique application.

In order to acquire more information about custom made features of your machine and to provide quicker service, the following information is required when making an inquiry:

- 1) MODEL**
- 2) SERIAL NUMBER**
- 3) SUBASSEMBLY (see PART LIST)**

SAFETY:

ORION'S stretch wrappers should be operated with caution and common sense as any other industrial equipment. To prevent injury and / or electrical shock, careful operation of the machine and awareness of its many automatic functions is required.

Note: All electrical power and compressed air must be disconnected prior to performing any inspection, maintenance or repair work.

ORION PACKAGING INC.

ORION MODEL M-67

Spiral Semi-Automatic Medium Heavy Duty Wall Mount Rotary Tower

Maximum Load Size:	48"W x 48"L x 80"H (Recommended) 50"W x 50"L x 84"H (Theoretical)*
Weight Capacity:	Unlimited (Floor Loaded)
Utilities:	115/1/60 20 Amp Service
Rotary Tower:	All Structural Steel Easy Access to All Components Steel Tube Matrix Design
Tower Drive:	12" Diameter Ring Bearing Tower Support Chain/Sprocket Drive 0 - 12 RPM Variable Tower Speed 1/2 HP DC/SCR Drive Electronic Soft Start
Control Features:	Safety Stop Photocell Electronic Film Force Control Separate Top and Bottom Wrap Selectors Variable Speed Film Carriage Control Auto-Height Photocell with On/Off Switch Film Carriage Raise/Lower Switch Tower Jog Pushbutton Power On/Off Switch Current Overload Protection NEMA 12 Electrical Enclosure
Film Delivery:	20" Orion MultiStretch Power Prestrech Electronic Film Tension Control Full Authority Film Dancer Bar Chain & Sprocket Stretch Ratio Control 1/4 HP DC/SCR Film Drive Low Wrap Feature (Minimum 3")
Film Carriage Drive:	#50 Roller Chain Carriage Lift 1/4 HP Elevator Drive Motor Variable Speed CR Control **UHMW Film Carriage Guide System
Structural Features:	Wall or Beam Mounting Design All Structural Steel Construction 6" x 12 lb./ft. "H" Beam Mast
Estimated Shipping Weight:	1,000 lbs.

*THEORETICAL MAY INCREASE OPERATOR DIFFICULTY IN PROPER LOAD PLACEMENT, AND REFLECTS MAXIMUM FILM WEB HEIGHT ATTAINABLE.

**ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE

MACHINE UNLOADING INSPECTION & INSTALLATION

UNLOADING

Machine can be easily unloaded and transported by a forklift with a minimum capacity of 2500 lbs.

1. Carefully insert the forks into the lifting tubes to the maximum possible depth. Depending on the model, a forklift access may be either at the turntable end of the machine frame, the tower end or both. In case of the mongoose machine or the conveyor, enter the forks under the frame.
2. Lift the machine (or other part of system) only to the necessary height to move it with no bouncing or friction on the floor.
 - 2a. On the mongoose machines use the brackets welded on the top part of the machine.
3. Sit the machine down assuring uniform contact with the floor which is necessary to ensure correct and smooth operation.
 - 3a. Mongoose type machines (M66, M67) have to be attached on the bracket or on the stand (collapsible or anchored to the floor). The M55 has it's own supporting frame which allows the machine to stand independently.

INSPECTION

1. Remove all packing and supporting additions - these may include the blocks under the carriage and the restraining bar over the table.

NOTE: when removing the stretchwrap film covering the machine, care must be taken not to cut any of the electrical wires and rubber covering on the multistretch rollers.

2. Perform a visual inspection of the electrical and mechanical parts for loosened joints and / or broken connections. Any suspected shipping damage must be reported immediately to the freight carrier.

Items that are vulnerable to damage and must be inspected are as follows:

- motors and transmissions
- junction boxes
- electrical conduits
- proximity and limit switches
- photocells

3. Check under the turntable (H - series models only) to ensure that there is no crippling of the movable parts i.e. casters, center axle or drive assembly.

4. Verify the following:

- turntable or rotary arm drive system to confirm that the reducer to drive the chain is snug and properly aligned
- verify the wires tight conduits for crushed sections or loose fittings
- verify the carriage to be sure that it is correctly aligned with the tower and verify the tension on the lift chain
- verify all the dials and knobs on the control panel for smooth action.

MACHINE INSTALLATION

After the visual inspection has been completed the electrical power and the compressed air may be connected as specified on the diagrams supplied with the machine.

An electrical diagram is provided with each machine in the envelope attached to the panel box.

ASSEMBLY PROCEDURE

The structural frames of the machine have to be installed on a levelled floor. Locate the main wrapper section into its final position, keeping the tower assembly* away from any traffic.

The wrapper mainframe section must be bolted to the floor by the 1/2" concrete floor anchors (leg & shield or expandable type).

Conveyor sections (where applicable) have to be positioned, levelled** and bolted to the floor. Any wiring which has been disconnected to facilitate transport is marked with a number located on the junction box to which the wiring must be reconnected. It allows identification of the proper position of the infeed and outfeed conveyor sections. Any wire run that appears too short or long may indicate that the position of the mechanical components is incorrect. Verify the status of all assemblies before proceeding.

CAUTION: improper placement and alignment of the conveyor section(s) and/or electric photocells may lead to equipment malfunction and damage.

* The tower deviation from vertical must not exceed 1/4" on the distance of 10 feet (angle: 0 degrees 6').

** In the case of the conveyors, the roller deviation from the horizontal must not exceed 1/16 "on the distance 52" (angle: 0 degrees 4').

CONTROL PANEL

In the case of the free standing panel (console) place it adjacent to the system and anchor firmly to the floor. Connect the liquid tide (rigid conduit) to the main junction box located on the wrapper main frame next to the tower (or tower home position in case of mongoose). The wires must be matched properly on both sides.

CYCLE CONTROLS

The control panel layout is custom designed for each particular installation, however, common standard controls have been employed.

CAUTION: before proceeding be familiar with the EMERGENCY button and all functions, switches and pushbuttons.

POWER SWITCH

The Power Switch has two settings:

ON - connects a power source to the machine (voltage depends on the machine type - see electrical diagram provided with the machine).

OFF - disconnects the power source.

START AND STOP SWITCHES (EMERGENCY STOP)

The START switch is used to start the cycle once the load is on the turntable (or under the rotary arm). The cycle may be stopped at anytime by pressing the STOP button.

NOTICE: In case of emergency, use the STOP button which interrupts all the machine electrical circuits (except multistretch drive). If the STOP pushbutton is pressed in the middle of the cycle, the carriage and turntable may be returned to their home position by using the jog buttons before restarting the cycle.

SPIRAL WRAP SWITCH

The SPIRAL WRAP switch has two positions:

UP - in this position the cycle will end after completing the specified number of top wraps, therefore, the machine will only wrap the load once, going up.

UP/DOWN - in this position the cycle will be completed after the load is wrapped in both the up and down directions.

NOTE: TOP WRAP FIRST (OPTIONAL)

The carriage raises faster at the beginning of the cycle to wrap the top of the load (see electrical diagram provided with the machine).

CARRIAGE CONTROL SWITCH

The CARRIAGE CONTROL switch is a three position switch with the following settings:

RAISE - raises the carriage until the top limit switch on the tower is activated.

LOWER - lowers the carriage until the bottom limit switch on the tower is attained.

The switch is normally positioned in the middle where the carriage remains stationary. Turning the switch to the RAISE or LOWER will activate the carriage to move in its respective direction.

TURNTABLE (ROTARY TOWER) JOG

The turntable (rotary tower) jog switch is a pushbutton which will rotate the turntable (rotary arm) in a clockwise direction (as viewed from the top) when the switch is held depressed. When the switch is released the turntable (rotary tower) will stop. The switch is inoperative during the wrap cycle.

PHOTOCELL SWITCH

The photocell switch has two settings:

ON - when turned ON, the photocell instructs the carriage to stop and begin the top wraps sequence once the top of the load is reached. The carriage will always stop at the top of the load regardless of its height. The photoswitch position on the track can be adjusted in order to make the carriage pass the top of the load and overlap the top.

OFF - when turned OFF, the photocell is inoperative and the carriage will stop when the top limit switch has been activated.

FILM TENSION

Film tension may be adjusted using the film tension control knob. It has a range of tension from 0 to 10 (0 to 4 the low range, 4 to 8 the most usefull range for most of the films used by our customers, 8 to 10 as a very high range which may break some films).

NOTE: Lighter loads may require lower tension settings then heavier loads.

Film tension is controlled through the dancer bar system. Occasionally the feed back proximity sensor may need some adjustment. Adjustment of feed back is shown on drawing # 001

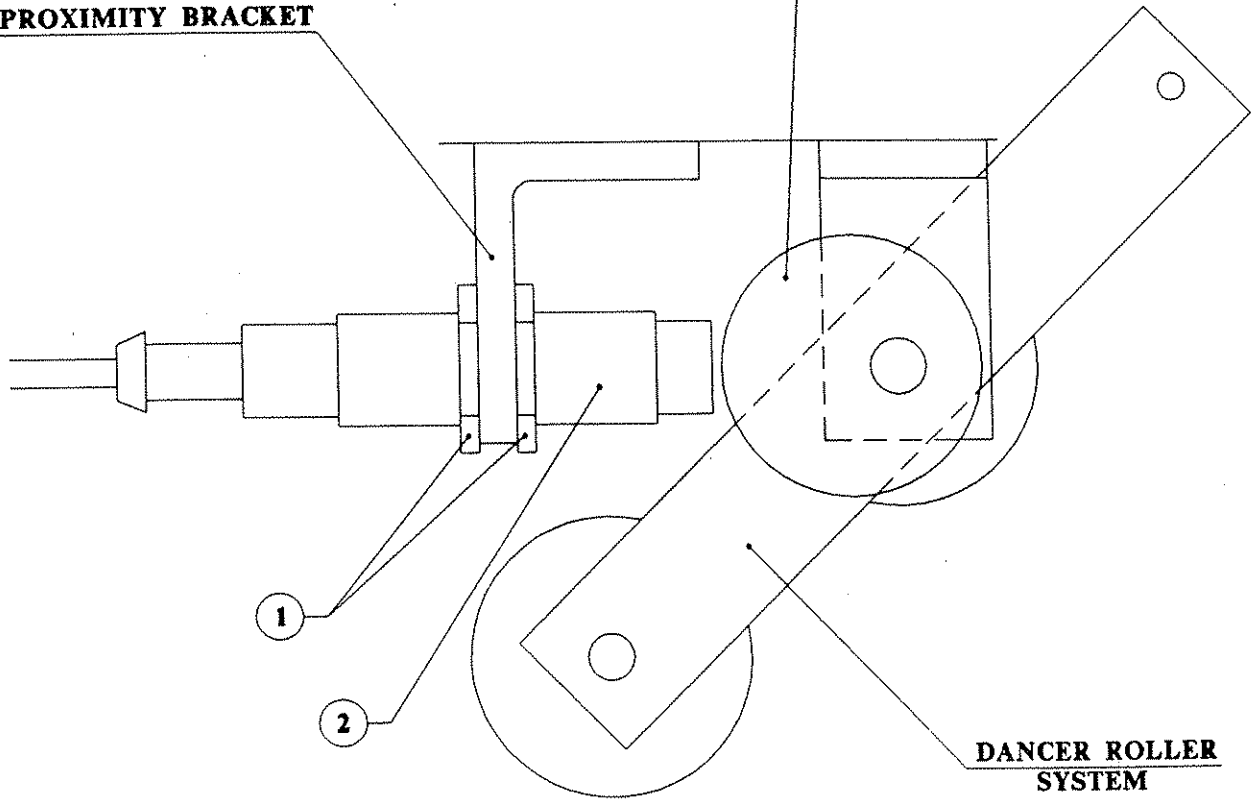
Adjustment instructions:

- remove the carriage cover
- unbolt the two nuts holding the proximity switch -item # 1
- turn the proximity switch - item # 2 until the moment when the motor starts to turn (or hums)
- tighten on the nuts securing the proximity switch.

NOTE: The condition in which the motor hums but does not turn must be maintained even after all elements are tightened. If not, the adjustment procedure must be repeated.

PROXIMITY BRACKET

CAM



**DANCER ROLLER
SYSTEM**

PROXIMITY SENSOR FEED BACK ADJUSTMENT

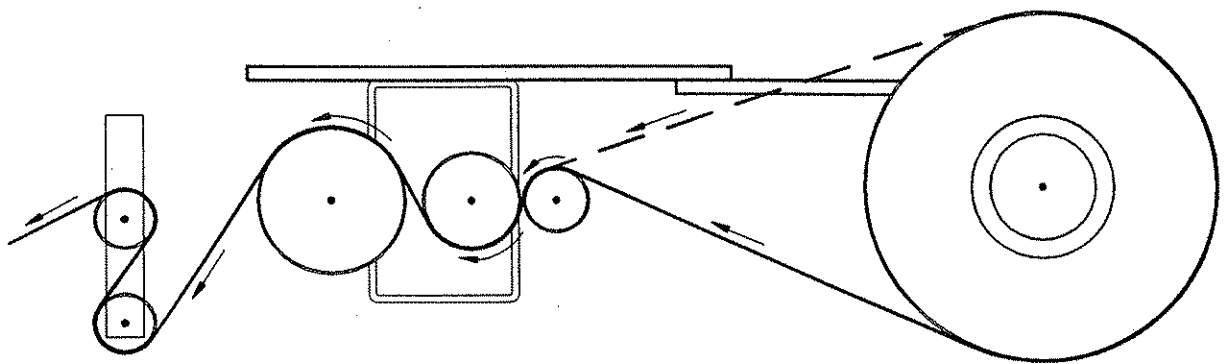
DWG. # 001

TO LOAD THE FILM....

The film roll can be loaded on the mandrel of the carriage from either end of the roll. When using tacky film, please verify that the inward tacky surface of the film is inward on the load.

1. Disconnect power (turn off power switch).
2. Put the roll of film on the mandrel and press down to insure penetration of spikes into the card board center of the film roll.
3. In the case of automatic machines, install the film cap on top of the roll to prevent upward movement.
4. Introduce the roping end of the film between the shafts of all rollers (as shown on the dwg.) and pull to pass it around all three rollers (pressure roller and both rubber rollers).
5. Pass the film between the two dancer (aluminium) rollers (in certain applications the film has to be passed around one or two additional position aluminium rollers).
6. When the film feeding is completed - turn the power switch ON
7. Peel off the first few winds of the film (multistretch will run due to displacement of the dancer roller) and fix the film end onto the load or into the clamp mechanism (if machine is fully automatic).

The system is now ready to begin the first wrapping cycle.
Proceed to page titled SYSTEM START UP.



WARNING:

DISCONNECT POWER BEFORE FEEDING FILM

**FILM FEEDING PATTERN
FOR "M" SERIES CARRIAGE**

SYSTEM START-UP

Notice: It is advisable to test-run the equipment with several pallet loads before make the attempt to wrap with film. Please position a worker at the EMERGENCY STOP push button.

Start up of the machine (system) may determine the need for the adjustment of:

- pallet sensor eyes (automatic systems only)
- load height stop photoswitch (on the carriage)
- conveyor acceleration/deceleration
- turntable speed & jog speed
- turntable speed acceleration/deceleration
- turntable home position (rotary tower home position)
- film tail treatment devices (automatic systems).

MACHINE WRAPPING TEST

Before the test procedure adjust the wrapping cycle parameters i.e. top wraps, bottom wraps, height photocell on/off, film tension, carriage speed (those two parameters may be adjusted during the wrapping cycle).

When there is no photocell, verify the top limit switch position.

MACHINE MAINTENANCE

REDUCER OIL CHANGE

On the reducing transmission, after the first week all external cap screws and plugs should be checked for tightness. It is recommended to change the oil every six months or 25000 hours of operation, which ever comes first. When adding oil, the transmission should never be filled above the oil level mark indicated, because leakage and overheating may occur. Below is a list of the type of lubricant that should be used:

Manufacturer	Lubricant
American Oil CO.	American Cyl Oil no:196-L
Cities Service Oil Co.	Citgo Cyl.Oil 100-5
Gulf Oil Corp.	Gulf Senate 155
Mobil Oil Corp.	Mobil 600 W Suerr Cyl.Oil
Philips Oil Co.	Andes S 180
Texaco Inc.	624+650T Cyl.Oil
Shell Oil Co.	Velvata Oil J82
Union Oil Of Cal.	Red Line Worm Gear Lube 140

MOTOR MAINTENANCE

An occasional inspection of the brushes should be made in order to establish a wear rate. Replacement brushes should be installed before old brushes wear to 9/16" long, measured on the long side. After replacing brushes run the motor near rated speed for at least 1/2 hour with no load to seat the new brushes.

Failure to properly seat the new brushes may cause commutator damage and rapid wear of the new brushes. If the commutator becomes rough, scored or out of shape, a competent motor shop should disassemble the motor and resurface the commutator. With every third brush change, have a competent motor shop resurface the commutator and blow the carbon dust out of the motor.

RING BEARING MAINTENANCE

The ring bearing is located under the turntable (or above the rotary tower), and should be lubricated internally and externally.

Internally: by injecting grease into all the lubrication nipples in succession until a collar of fresh grease appears around the perimeter of the ring.

Externally: by lubricating and wiping the chain drive with oily cloth.

The frequency of lubrication depends entirely upon the usage of the machine and the environment in which the machine is placed (dust, moisture etc...).

Machines working under extremely dirty conditions should be lubricated every 100 to 200 operating hours but at minimum, every 2 months. Longer lubrication intervals may occur only when machine is working under very clean and dry conditions but should not be longer than 6 months.

Lubricants of different manufacture recommended for the ring are shown below:

Manufacturer	Lubricant
BP	Energrease LS2
Castrol	Spheeroll AP2
ESSO	Beacon 2
Gulf	Crown Grease 2
Mobil	Mobilus 2
Shell	Alvania Grease R2
Texaco	Glissando FT 2
Valvoline	LB - 2

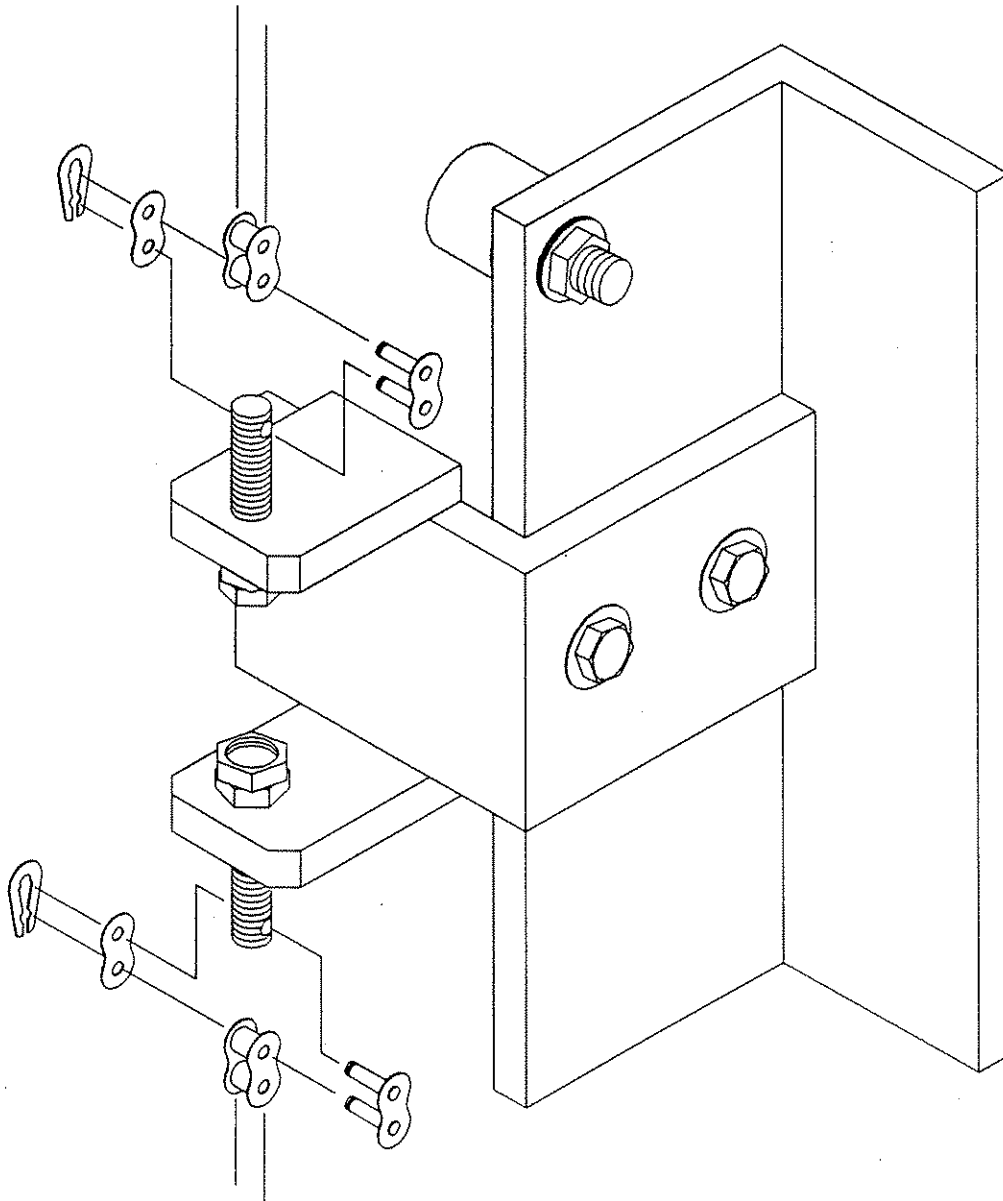
CHAIN MAINTENANCE

To clean the chain, wipe it with an oily cloth every month. If the environment is very dusty or damp, it may be necessary to clean it more often.

With time the chain will tend to stretch. A loose elevator and turntable (rotary arm) chain should be tightened at the chain tensioner, or by moving the reducer on the mounting plate.

ATTENTION:

**WHEN MOUNTING THE CARRIAGE LIFT CHAIN,
PLEASE ENSURE, THAT THE CONNECTING
LINK'S PIN IS INSERTED FROM THE TOWER SIDE**



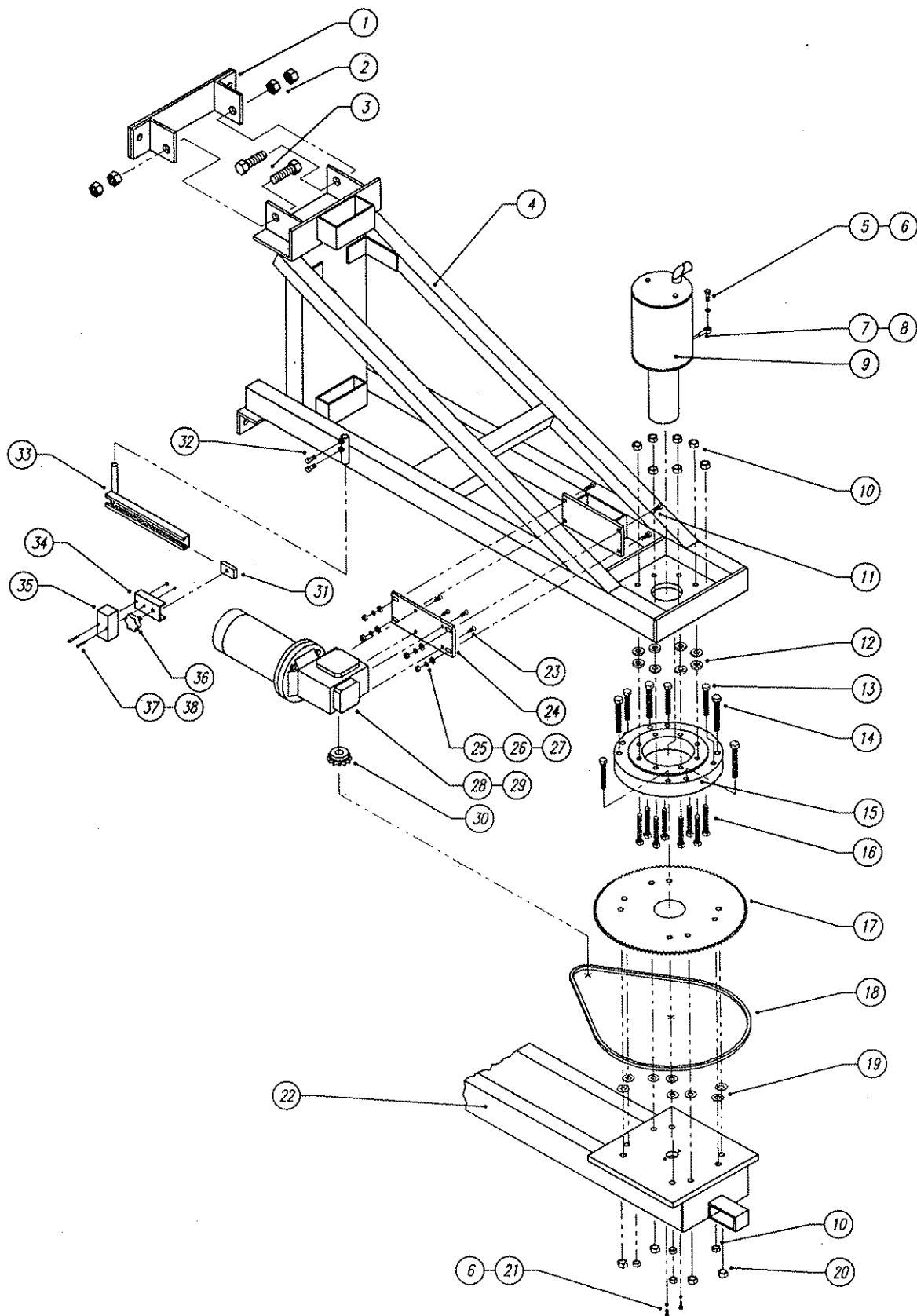
CHAIN TENSIONER ASSEMBLY

**SEMI-AUTOMATIC
STANDARD ASSEMBLY
PART LIST**

Note :

*** Quantity listed in order of part number**

**** The names given to the parts are generic**



**ROTARY ARM DRIVE
M67/9 ASSEMBLY**

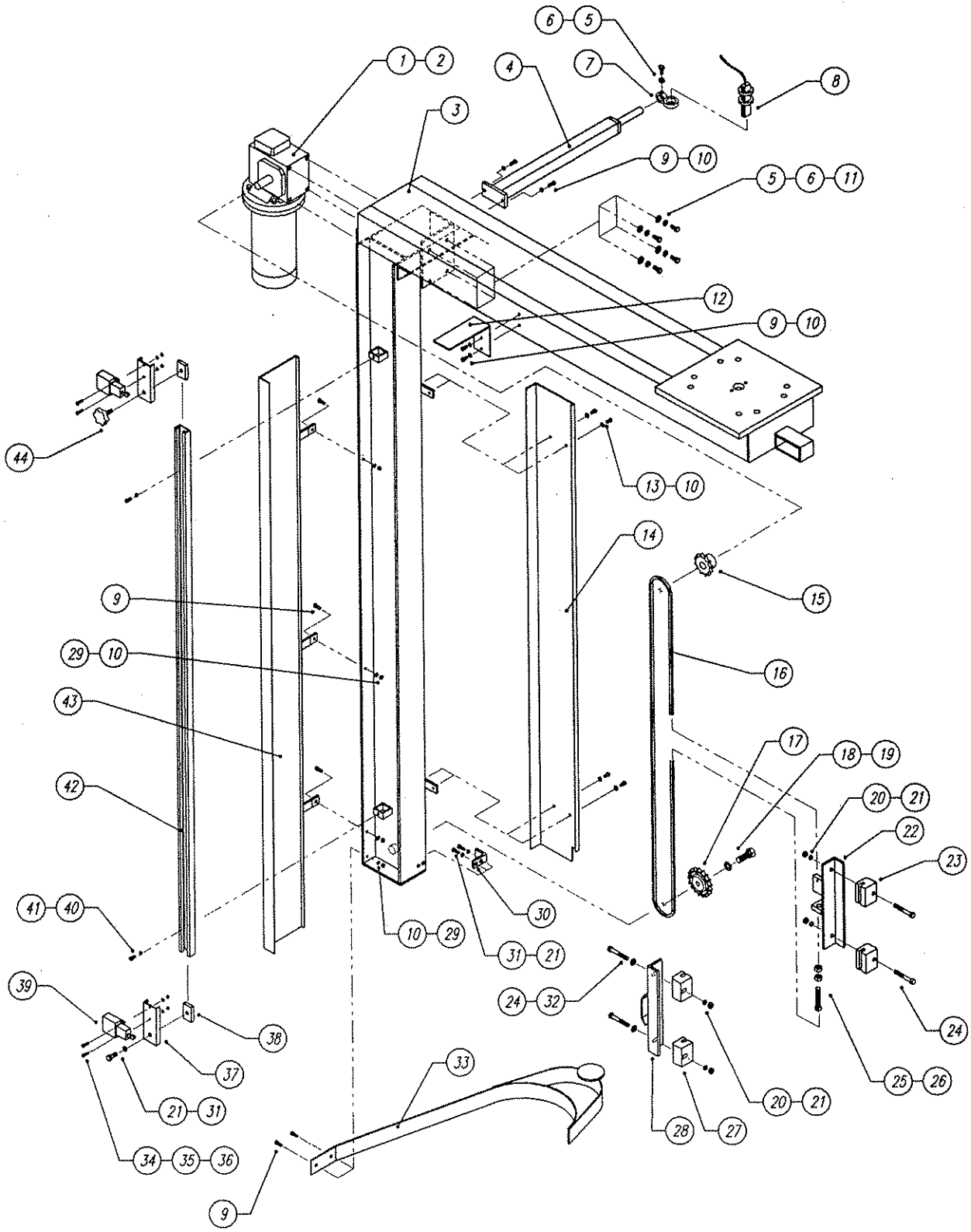
UPDATED AUG-09-94 # 405378

M 67/9 ROTARY ARM DRIVE ASS'Y**PART LIST**

updated Aug-09-94 # 405378

NO.	PART #	DESCRIPTION	QTY
1.	405552	PERCH HINGE	1
2.	011263	HEX NUT	4
3.	013257	HEX HEAD SCREW	2
4.	405552	PERCH	1
5.	012475	HEX HEAD SCREW	3
6.	011393	SPRING WASHER	5
7.	012795	SPHERICAL BRG ROD END	2
8.	013249	THREADED ROD	1
9.	403820	SLIP RING ASS'Y	1
10.	011266	HEX NUT	12
11.	012406	HEX HEAD SCREW	4
12.	403189	SPACER	8
13.	013633	HEX HEAD SCREW	4
14.	013277	HEX HEAD SCREW	4
15.	400307	RING BEARING	1
16.	011924	HEX HEAD SCREW	8
17.	260715	SPROCKET	1
18.	010009	CHAIN	1
19.	012930	FLAT WASHER	8
20.	013278	HEX NUT	4
21.	012793	HEX HEAD SCREW	2
22.	405149	M67/9 ROTARY ARM/TOWER ASS'Y	1
23.	012693	FLAT SOCKET CAP SCREW	4
24.	270227	REDUCER BASE	1
25.	012477	HEX NUT	4
26.	011390	SPRING WASHER	4
27.	012672	FLAT WASHER	4
28.	010093	REDUCER	1
29.	010036	ELECTR. MOTOR	1

30.	010074	SPROCKET	1
31.	220518	CHANNEL GUIDE	1
32.	010293	HEX HEAD SCREW	2
33.	260972	PROXIMITY SWITCH CHANNEL	1
34.	260817	PROXIMITY SWITCH HOLDER	1
35.	010739	PROXIMITY SWITCH	1
36.	010092	KNOB	1
37.	012690	PAN PHILL SCREW	2
38.	012726	HEX NUT	2



M67/9 ROTARY ARM/TOWER ASS'Y

UPDATED MAR-10-94

405149

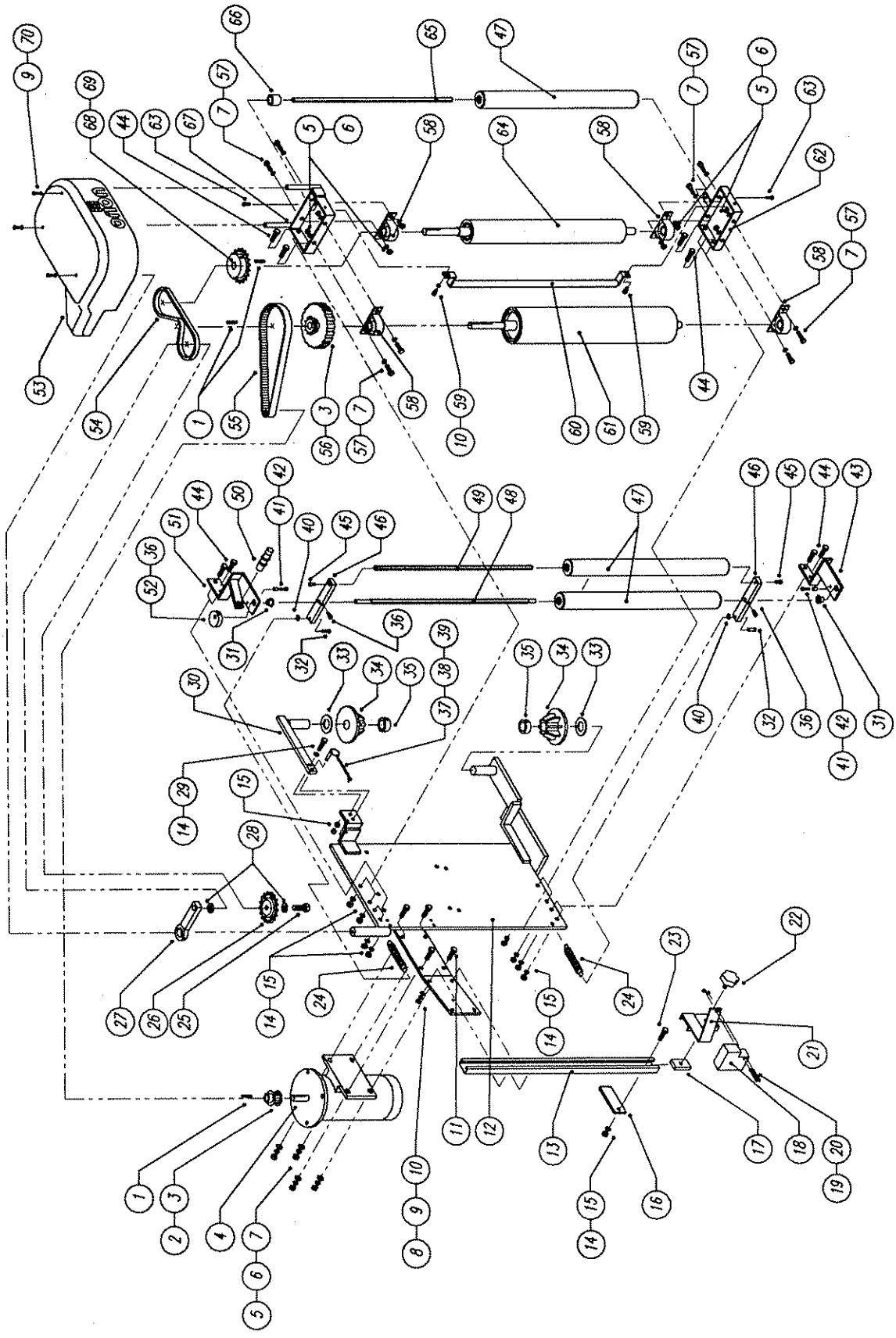
M67/9 ROTARY ARM/TOWER ASS'Y

PART LIST

updated Aug-08-94 # 405149

NO.	PART #	DESCRIPTION	QTY
1.	010059	ELECTR. MOTOR	1
2.	010344	REDUCER	1
3.	405553	ROTARY ARM/TOWER	1
4.	230961	SAFETY PHOTOCELL BRACKET	1
5.	012723	HEX HEAD SCREW	5
6.	012724	SPRING WASHER	5
7.	230590	PHOTOCELL BRACKET	1
8.	010675	PHOTOCELL	1
9.	012475	HEX HEAD SCREW	7
10.	011393	SPRING WASHER	10
11.	012725	FLAT WASHER	4
12.	400050	PROXIMITY SWITCH ACTUATOR	1
13.	012049	PAN PHILL SCREW	4
14.	404633	TOWER CHAIN GUARD	1
15.	010989	SPROCKET	1
16.	010009	CHAIN	1
17.	010008	IDLER SPROCKET	1
18.	012847	HEX HEAD SCREW	1
19.	012721	SPRING WASHER	1
20.	011128	HEX NUT	4
21.	011390	SPRING WASHER	7
22.	406430	FILM CARRIAGE ATTACHMENT	1
23.	405057	SLIDE BLOCK (TOP)	2
24.	010401	HEX HEAD SCREW	4
25.	400892	TIGHTENER SCREW	1
26.	011266	HEX NUT	2
27.	405058	SLIDE BLOCK (BOTTOM)	2
28.	405083	SLIDE BLOCK ALIGNING ANGLE	1
29.	012689	HEX NUT	5

30.	404624	CARRIAGE BUMPER	1
31.	012474	HEX HEAD SCREW	3
32.	010948	FLAT WASHER	2
33.	400265	SAFETY REFLECTOR BRACKET ASS'Y	1
34.	012690	PAN PHILL SCREW	4
35.	012726	HEX NUT	4
36.	012743	SPRING WASHER	4
37.	260816	LIMIT SWITCH HOLDER	2
38.	220518	CHANNEL GUIDE	2
39.	010123	LIMIT SWITCH	2
40.	010257	SOCKET HEAD CAP SCREW	2
41.	012221	FLAT WASHER	2
42.	220794	LIMIT SWITCH CHANNEL	1
43.	405427	CARRIAGE CABLE GUARD	1
44.	010092	KNOB	1



**20" FILM CARRIAGE FOR STD MONGOOSE
PART # 405102 - ASS'Y**

UPDATED APR-20-94 # 405184

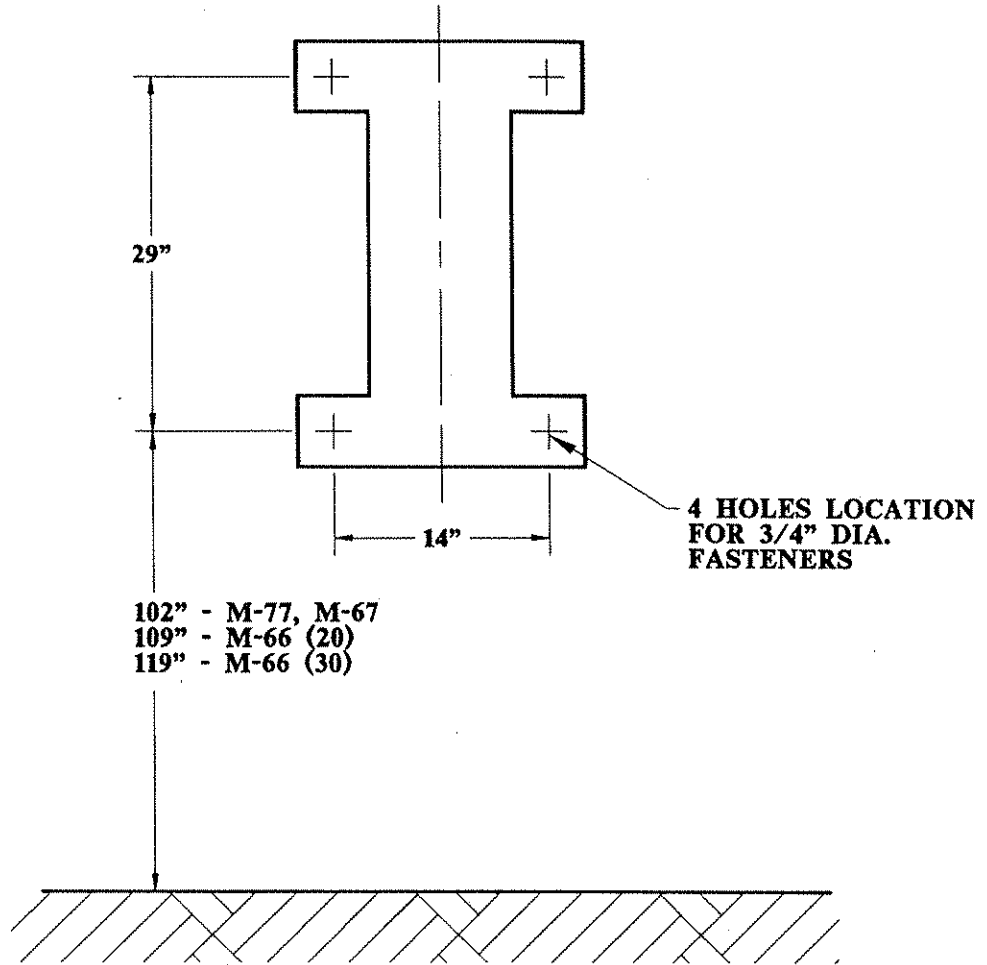
20" FILM CARRIAGE FOR STD MONGOOSE

PART # 405102 ASS'Y - PART LIST

updated Apr-20-94
405184

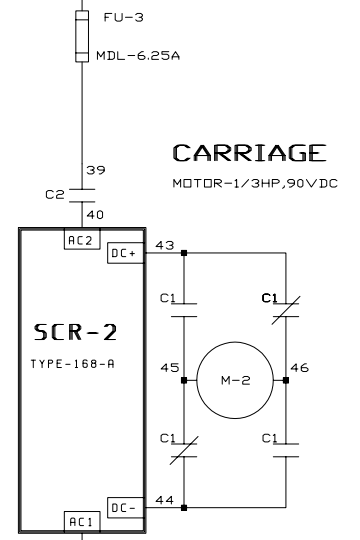
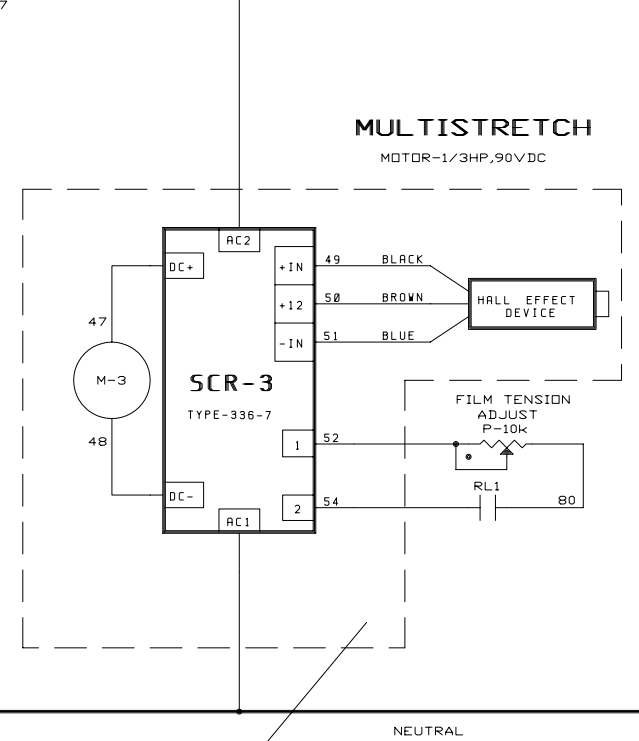
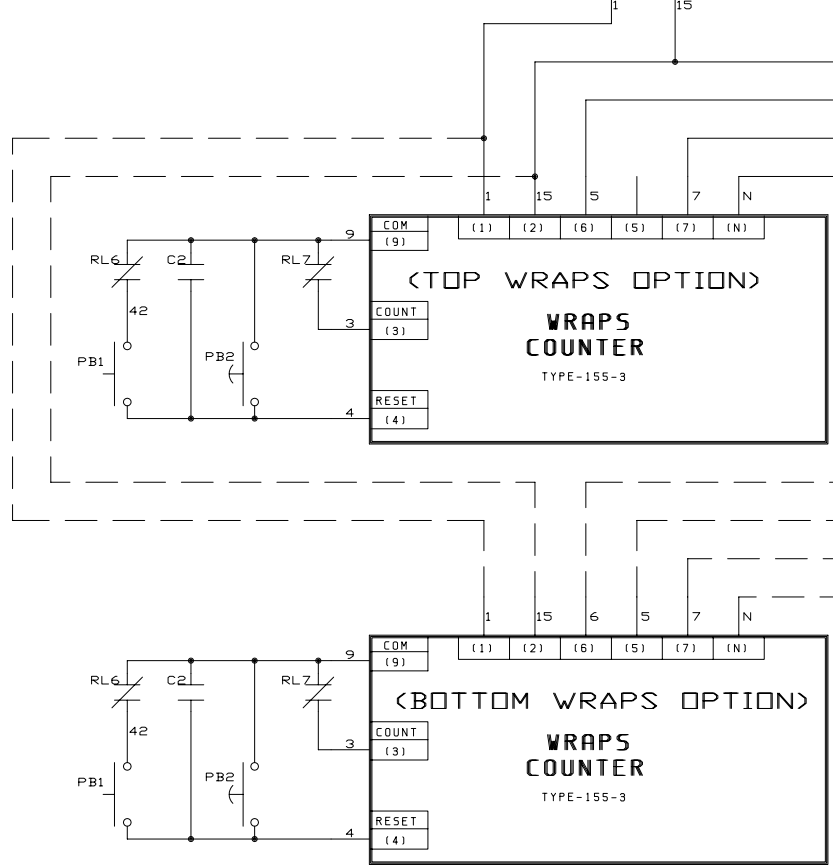
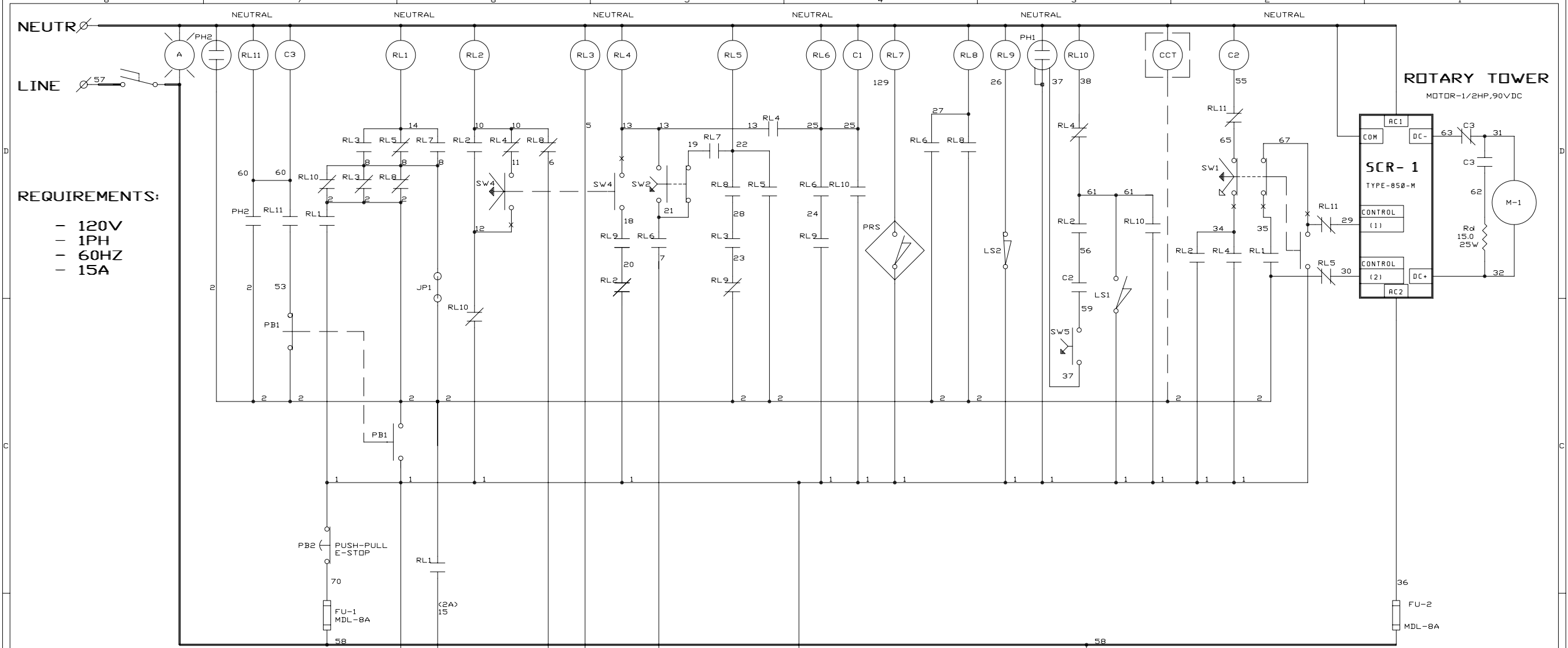
ORION			
NO.	PART NO.	DESCRIPTION	Q-TY
1.	010295	SQ. KEY	3
2.	011283	TIMING BELT PULLEY	1
3.	012800	SET SCREW	2
4.	010059	ELECTR. MOTOR (for M67/9) ~	1
or	010036	ELECTE. MOTOR (for M66/9 & M55/9) ~	1
5.	012751	HEX NUT	12
6.	012724	SPRING WASHER	12
7.	012725	FLAT WASHER	12
8.	012689	HEX NUT	2
9.	011393	SPRING WASHER	5
10.	012221	FLAT WASHER	3
11.	012757	HEX HEAD SCREW	4
12.	405103	BACK PLATE	1
13.	404564	PHOTOCELL CHANNEL	1
14.	011390	SPRING WASHER	8
15.	011128	HEX NUT	8
16.	404473	CABLE BRACKET	1
17.	220518	CHANNEL GUIDE	1
18.	011495	PHOTOCELL	1
19.	012754	PAN PHILL SCREW	2
20.	012726	HEX NUT	2
21.	230721	PHOTOCELL BRACKET	1
22.	010092	KNOB	1
23.	012474	HEX HEAD SCREW	1
24.	010047	TENSION SPRING, 40 COILS	2
or	011424	TENSION SPRING, UPPER, 50 COILS	1
&	401320	TENSION SPRING, LOWER, 37 COILS	1
25.	012482	HEX HEAD SCREW	1
26.	011297	IDLER SPROCKET	1
27.	401357	CHAIN TENSIONER	1
28.	012584	FLAT WASHER	2
29.	010322	HEX HEAD SCREW	1
30.	404895	TOP MANDREL	1
31.	010058	FL. BRONZE BUSHING	2
32.	401374	CLEVIS PIN	2
33.	012323	FLAT WASHER	2
34.	403801	SPOOL	2
35.	010052	COLLAR	2
36.	010257	SOCKET HEAD CAP SCREW	3
37.	013098	QUICK RELEASE PIN	1
38.	013156	STEEL SASH CHAIN	1
39.	013085	POP RIVET	1
40.	010948	FLAT WASHER	2

ORION			
NO.	PART NO.	DESCRIPTION	Q-TY
41.	011423	SHOULDER CAP SCREW	2
42.	010946	PLASTIC HOSE	2
43.	404150	DANCER ROLLER BOTTOM BRACKET	1
44.	010293	HEX HEAD SCREW	8
45.	010259	SOCKET HEAD CAP SCREW	2
46.	401358	DANCER ROLLER LEVER	2
47.	402789	ALUMINUM ROLLER	3
48.	402793	DANCER LEVER SHAFT	1
49.	402792	DANCER ROLLER SHAFT	1
50.	011470	PROXIMITY SENSOR	1
51.	404119	DANCER ROLLER TOP BRACKET	1
52.	230648	PROXIMITY SENSOR CAM	1
53.	404940	CARRIAGE COVER	1
54.	010583	CHAIN	1
55.	011151	TIMING BELT	1
56.	403494	PULLEY/SPROCKET	1
57.	010291	HEX HEAD SCREW	8
58.	010427	PILLOW BLOCK BEARING	4
59.	012722	HEX HEAD SCREW	6
60.	403449	SAFETY BAR	1
61.	402791	RUBBER ROLLER 4 1/8" DIA.	1
62.	402909	BOTTOM BRACKET	1
63.	012475	HEX HEAD SCREW	2
64.	402790	RUBBER ROLLER 2 3/4" DIA.	1
65.	402794	SNUB ROLLER SHAFT	1
66.	402822	PLASTIC TUBE SPACER	1
67.	402908	TOP BRACKET	1
68.	011456	DRIVE SPROCKET, 230 % PRESTRETCH	1
69.	012805	SET SCREW	2
70.	012049	PAN PHILL SCREW	3



MODEL		ASSUMED FIXING MOMENT	ASSUMED FIXING FORCES
MONGOOSE	CARRIAGE		
M-67 M-77	20"	6 000 LBS/FT 72 000 LBS/IN 830 KG/M	2 483 LBS 1 130 KG
M-66	20"	7 500 LBS/FT 90 000 LBS/IN 1 040 KG/M	3 100 LBS 1 410 KG
M-66	30"	8 300 LBS/FT 99 600 LBS/IN 1 150 KG/M	3 435 LBS 1 560 KG

BOLTS PLACEMENT FOR MONGOOSE INSTALLATION



- LEGEND**
- RL1 AUTOCYCLE START
 - RL2 CARRIAGE UP
 - RL3 FIRST COUNT FROM COUNTER
 - RL4 CARRIAGE DOWN
 - RL5 END OF CYCLE, BEGIN ROTOR DECELERATION
 - RL6 CARRIAGE DOWN
 - RL7 ROTOR PROXIMITY SWITCH
 - RL8 END OF CYCLE RECORDED
 - RL9 BOTTOM OF CARRIAGE TRAVEL LIMIT SWITCH
 - RL10 TOP OF CARRIAGE TRAVEL LIMIT SWITCH OR AUTO-HEIGHT PHOTOCELL
 - RL11 SAFETY PHOTOCELL LOCK RELAY
 - PH1 FILM CARRIAGE AUTOHEIGHT PHOTOCELL
 - PH2 SAFETY PHOTOCELL (TYPE 42SRU-6005)
 - C1 CARRIAGE REVERSE - POWER RELAY
 - C2 CARRIAGE DRIVER POWER - CONTROL RELAY
 - C3 SAFETY DYNAMIC BRAKING OF ROTARY ARM
 - PB1 START CYCLE - PB.
 - PB2 PUSH-PULL E-STOP - PB.
 - SW MAIN POWER - SW.
 - SW1 WRAPS CYCLE PAUSE/TOWER JOG - SS.
 - SW2 WRAP UP OR UP/DOWN - SS.
 - SW4 CARRIAGE UP/DOWN - SS.
 - SW5 PHOTOCELL OFF/DN - SS.
 - LS1 FILM CARRIAGE TOP - LS.
 - LS2 FILM CARRIAGE BOTTOM - LS.
 - PRS ROTARY TOWER HOME POSITION - PRS.
 - CCT CYCLE COUNTER (OPTIONAL)
- NOTE:** 30" MULTISTRETCH CARRIAGE
FU-1 (MDA-10A); FU-3 (MDL-8A)

ORION PACKAGING INC.

2270 INDUSTRIEL BD LAVAL, QUE., CANADA H7S 1P9
TEL: (514)-667-9769 FAX: (514)-667-6320
CK'D BY: J.B.S. DRAWN BY: R.SW/ATEK

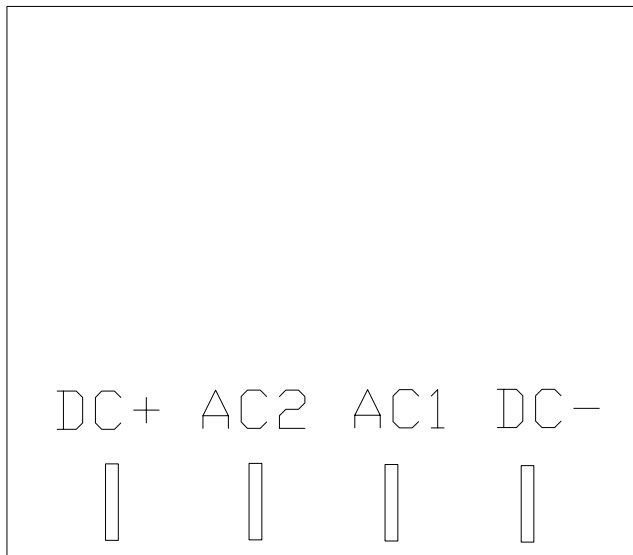
orion
PACKAGING INC. MONTREAL

ENCLOSURE SIZE: 4500-161206
PANEL STICKER: 500 025

M67-9
W/PUSH-PULL E-STOP, & CYCLE PAUSE - SS.

SIZE DOCUMENT NO. **300 650**

DATE: JAN-03-1994 SHEET 1 OF 1
FILENAME: M67-9.SCH



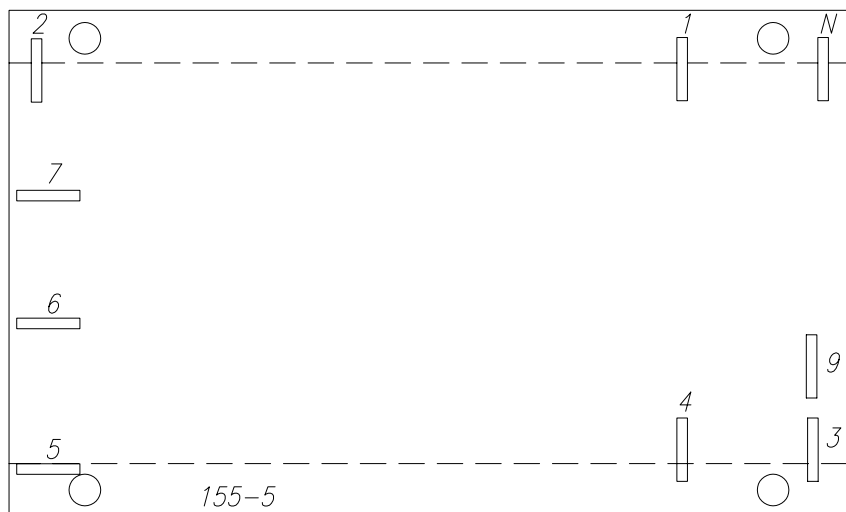
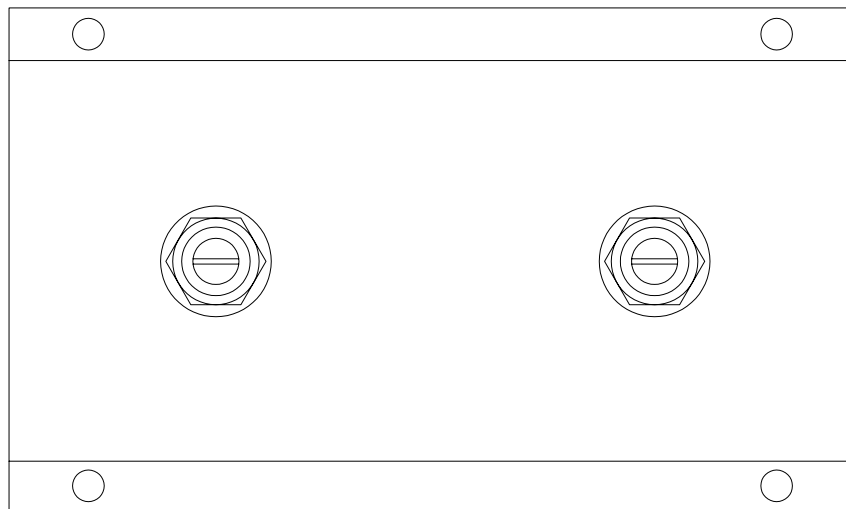
DC - OUT

DC + OUT

AC2 IN

AC1 IN (NEUTRAL)

168-A CARRIAGE UP/DN
SINGLE SPEED BOARD



- 1: AC INPUT
- 2: AC INPUT
- 3: COUNT
- 4: RESET
- 5: OUTPUT PULSE AFTER 1-ST COUNT
- 6: OUTPUT T/W
- 7: OUTPUT B/W
- 8: N/A
- 9: COMMON
- N: NEUTRAL

155-5
COUNTER BOARD

TURNTABLE & TOWER MOTOR CONTROL BOARD ADJUSTMENTS

66 & 55 SERIES EQUIPMENT (850M & 850DM Board)

INTRODUCTION

The 850M and 850 DM Motor Control Boards are DC/SCR drives that are used in 66 & 55 series Orion stretch wrapping equipment. The following calibration instructions apply to all 66 & 55 series turntable and rotary tower type machinery, but it will be important to note specific reference to your particular Orion model for best calibration results.

The 850M and 850DM boards feature two selectable pre-set speeds (1 & 2), and four potentiometers (marked 1,2,A and D).

The instructions are in the suggested order of adjustment, and intended to be made after installation of the board in the control enclosure. Please refer to the attached sketch of the board for identification of the adjustment points.

INSTALLATION

This unit is equipped with an aluminum chassis, which serves as a heatsink. This should be oriented with the printed circuit board in a vertical plane for optimum convection cooling.

Connectors are to .250" quick-disconnect terminals. Standard units require 120 VAC supply. AC line attaches to terminals **AC1**, **AC2**. Motor Armature attaches to terminals **DC+**, **DC-**. The standard unit is suitable for permanent magnet shunt style DC motors with 90 V armature rating.

ADJUSTMENTS

Acceleration: (RV3) The pot marked **A** is the control for the acceleration or electronic soft start feature.

For an initial setting, turn the **A** pot fully counter-clockwise (CCW) until a faint “clicking” sound is heard, then approximately 2 turns (or revolutions) clockwise (CW). CW adjustment of this potentiometer softens the start and lengthens the time required for the turntable/tower to reach its preset speed.

Speed Control: (RV1) The pot marked **1** controls the turntable/tower jog speed₁.

Simply activate the turntable/tower jog function, adjusting the jog speed (pot 1) as the turntable/tower rotates. This should be set for approximately 2 to 3 RPM. Please note that this setting should be made with a load on the turntable (turntable type models only). A CW turn increases the jog speed, while CCW decreases jog speed.

Speed Control: (RV2) The pot marked **2** is the control for the high speed₂ for the turntable/tower during the wrap cycle once acceleration is complete.

This speed can be as high as 12 RPM. However, you should note that if it is set too high, you may see chopping of the current to the turntable/tower drive motor which will cause pulsating, half-speed operation of the turntable/tower drive itself. If this is seen, please decrease the setting of pot **2**, until it is no longer in effect.

For best calibration results, it is recommended that you make this adjustment while the machine is in cycle. After starting a wrap cycle, set the film carriage speed control to the “0” (minimum) position. This will prevent the film carriage from rising and completing its cycle. Then simply adjust the high speed (pot **2**) as the turntable/tower rotates. A CW turn increases speed, a CCW turn decreases speed.

1 Speed Control 1 = Turntable/Tower Jog Speed
Selected by a 120 VAC signal applied from terminal (1) to (C)

2 Speed Control 2 = Turntable/Tower High Speed
Selected by a 120 VAC signal applied from terminal (2) to (C)

Deceleration: (RV4) The pot marked **D** is the deceleration control. Functionally, it is the opposite of acceleration, except that it is a more critical setting, in that our machine logic requires that we decelerate from speed 2 to speed 1 during the course of the final revolution of the turntable/tower before shutoff.

For an initial setting, start with the **D** pot set fully CCW. Then, cycling the machine; observe the transition to jog speed at the end of the cycle, prior to the stop of the turntable/tower at the home position. Gradually increase the **D** pot setting (CW) until the turntable/tower only jogs approximately 1/8 to 1/4 revolution before reaching home position. CW adjustment of this potentiometer quickens the stop and shortens the deceleration time required for the turntable/tower to settle to its preset jog speed. CCW softens the stop and lengthens the time required for the turntable/tower to settle to its preset jog speed.

Thus, the deceleration control is important in that if the deceleration time is too short, we will prematurely reach jog speed and jog an excessive amount of time to the home position before shutoff.

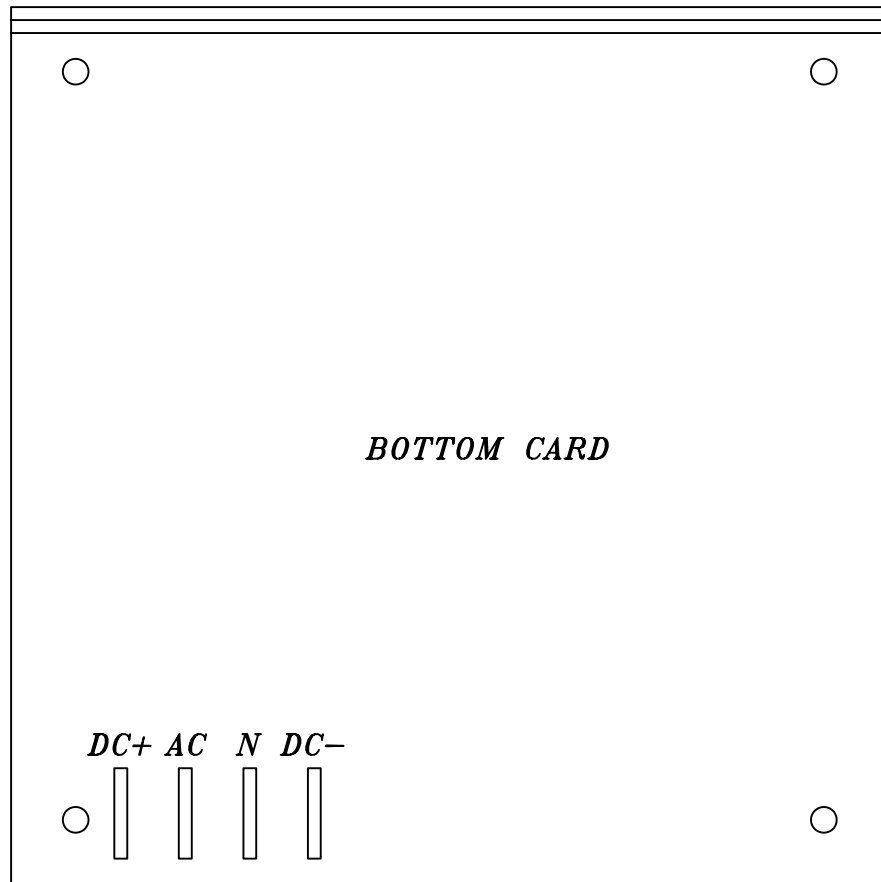
Conversely, if the deceleration time is set too long, the turntable/tower will not settle to the jog speed and thus will be going too fast to align properly and the momentum will take the turntable/tower beyond the start position. As you can imagine, any time the wrap speed is changed, you will need to make a corresponding change in the setting of the pot marked **D** (for deceleration).

Note: The 850DM requires a jumper from the **W** pin to the **CW** pin for speed 2 to operate.

TROUBLE SHOOTING & REPAIR

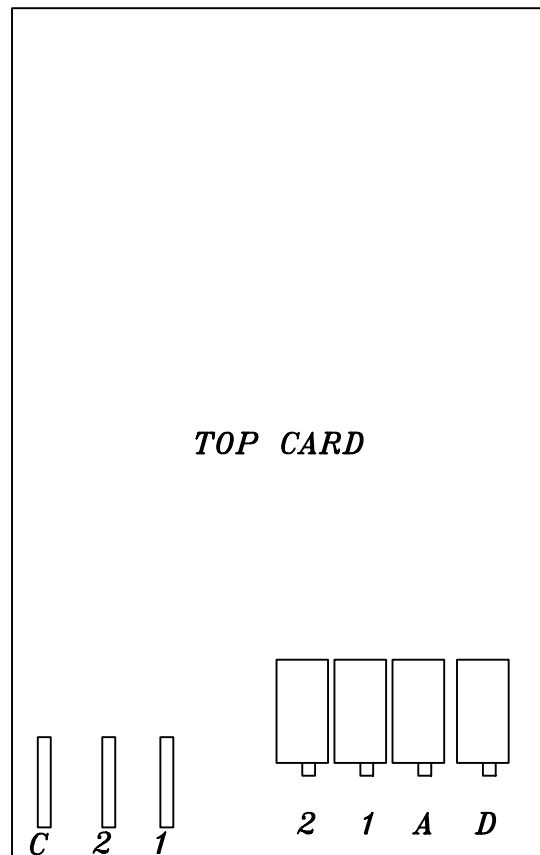
In most cases, repair will require parts replacement. If user intends to, and is equipped to perform repairs, spare parts are available from Orion Parts & Service.

Damage is usually visually evident on the 850M board. Replacing the obviously damaged board frequently restores operation. However, if damage is not evidently visible, swapping boards will determine if the board is at fault.



DC+ : ARMATURE CONTROL.
AC : AC INPUT - LINE.
N : AC INPUT - NEUTRAL.
DC- : ARMATURE CONTROL.

1 : CONTROL - LINE. LOW SPEED
1 : LOW SPEED ADJ.
2 : CONTROL - LINE. HIGH SPEED
2 : HIGH SPEED ADJ.
C : CONTROL - COMMON.
(REQUIRES A JUMPER TO "N")



*850M TWO SPEED 120VAC/90VDC
 MOTOR CONTROL BOARD*

MULTISTRETCH 336-6/7/9 MOTOR CONTROL BOARD CALIBRATION INSTRUCTIONS

Bias: (RV3) The **RV3** pot controls the system bias.

This control injects an offset voltage that adds or subtracts from the voltage reference defined by the external tension adjustment (film tension potentiometer); this will allow extremes of adjustment to be set to levels consistent with proper operation. Typically, the bias will be used to center the operation range in the linear portion of its characteristics.

Note: This adjustment is normally factory pre-set and should not require field adjustment. For reference, the factory test procedure calls for a setting of 1.3 volts DC at the cathode of Z1 (Zener Diode) achieved by adjusting the **RV3** pot. Check for voltage between the (-IN) and the pin located next to the bias trim-pot.

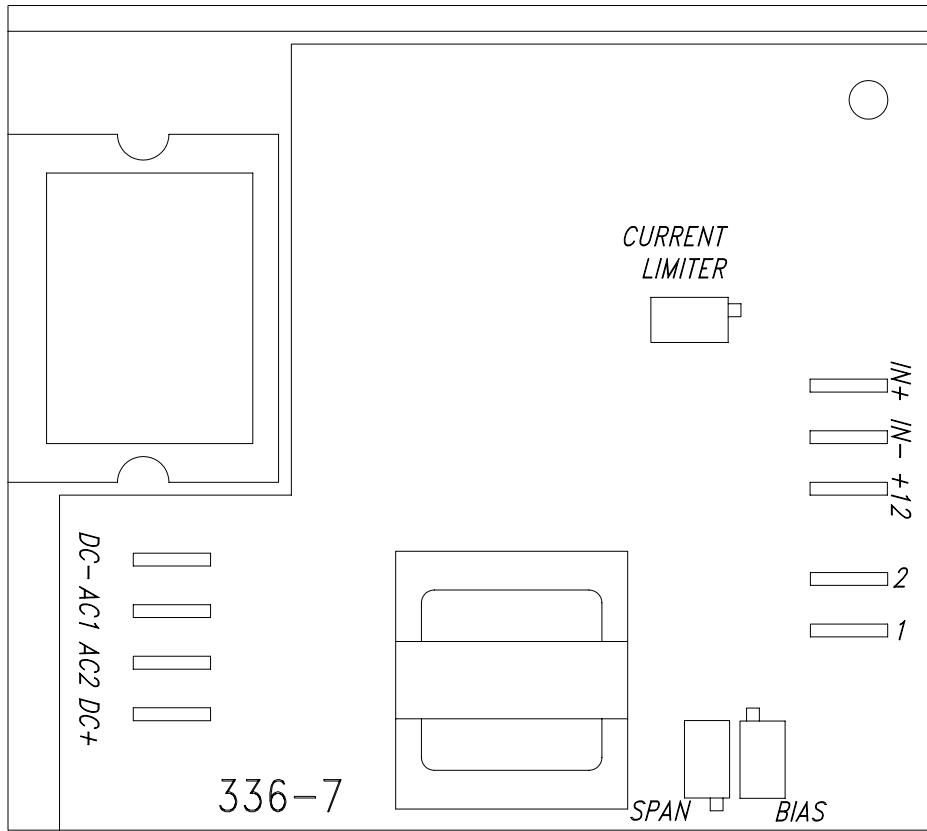
Span: (RV1) The **RV1** pot controls the systems loop gain.

The system loop gain may be adjusted if the motor continues to be energized when the dancer roller is unloaded and at rest. With the machine stopped, the pot should be adjusted to ensure that the motor is de-energized in this condition, and so that a light pull on the free end of the film causes the film to feed freely. Counter clockwise (CCW) adjustment of this pot will increase the response time, in effect softening the motor tension response plus decreasing the maximum motor speed attainable. Clockwise (CW) adjustment will decrease the response time, in effect sharpening the motor response time plus increasing the maximum motor speed attainable.

Current Limit: (RV4) The **RV4** pot controls the torque (amperage) that the 336 board will allow to the motor.

To protect the unit against damage should the motor stall, jam, or current demands exceed its rating, a current limiting circuit is included which keeps motor current at a safe level regardless of motor load or input from the Hall effect proximity switch.

This pot is factory pre-set to suit ½ HP motors. Should changes be required in the field, proceed as follows: Monitor the motor current. Turn the current limit **RV4** to minimum (full CCW). Stall the motor. Advance the pot slowly until the desired current is achieved. This should not exceed 125% of the motor nameplate rating. Do not stall the motor for more than a few seconds, or damage may occur.



DC+: ARMATURE CONTROL

AC1: AC INPUT

AC2: AC INPUT

DC-: ARMATURE CONTROL

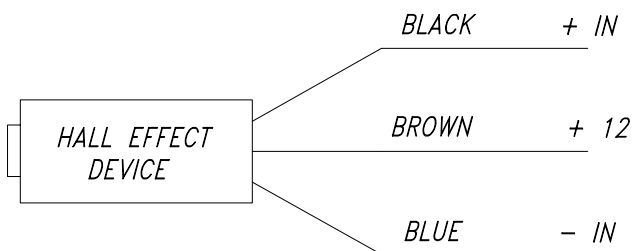
POTENTIOMETER

SPAN: HALL EFFECT SENSITIVITY CONTROL

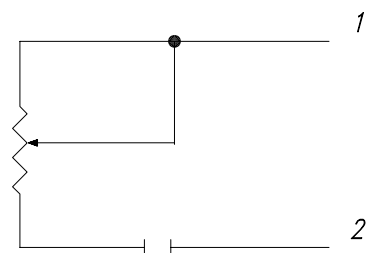
BIAS: SYSTEM BIAS (FACTORY SET)

TRIP: END OR BROKEN FILM SENSING CIRCUITRY.
TRIP LEVEL (FACTORY SET)

CURRENT LIMITER: (FACTORY SET)



*FILM TENSION ADJUSTMENT
REMOTE POTENTIOMETER*

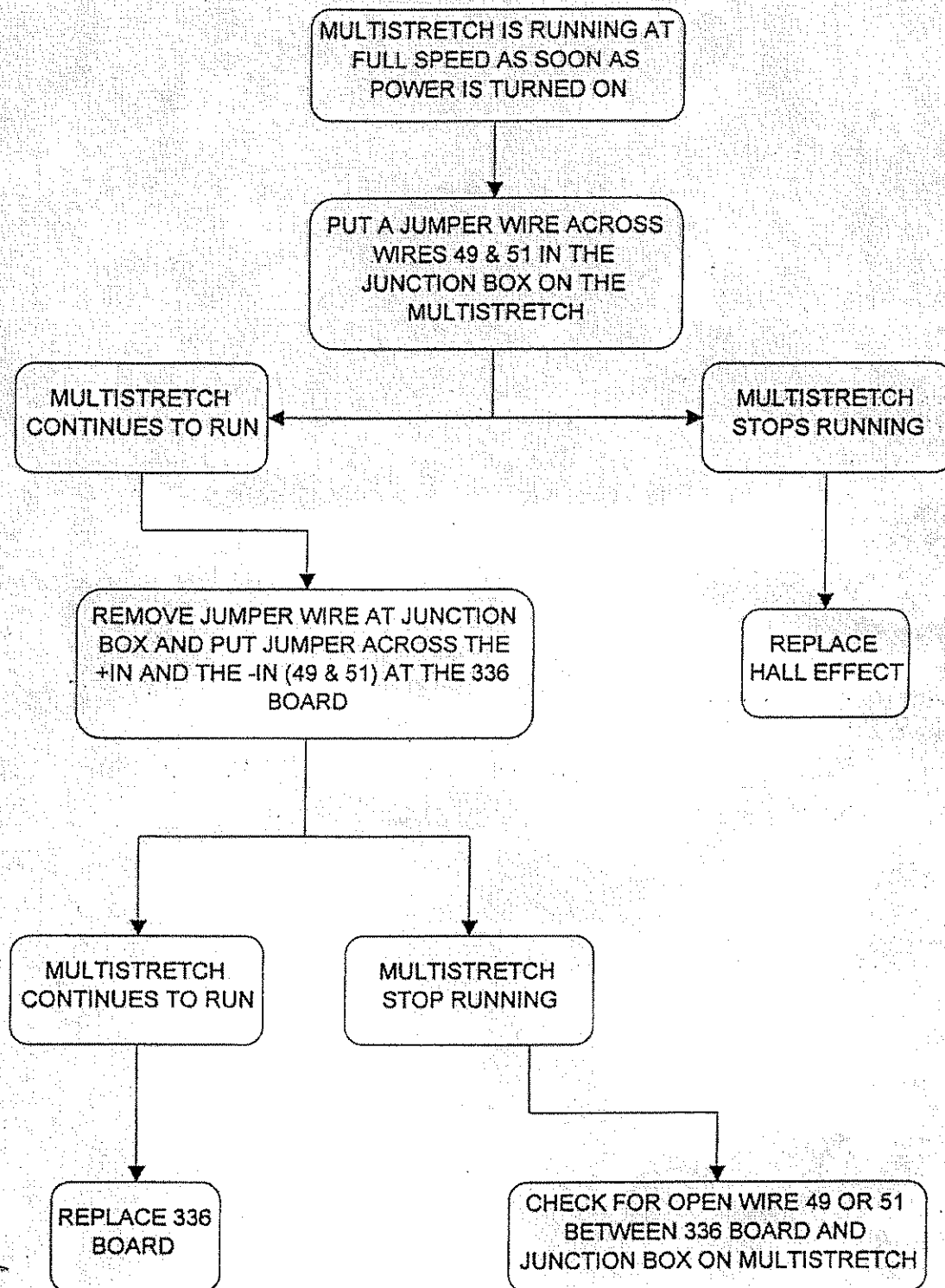


*tension on/off
relay*

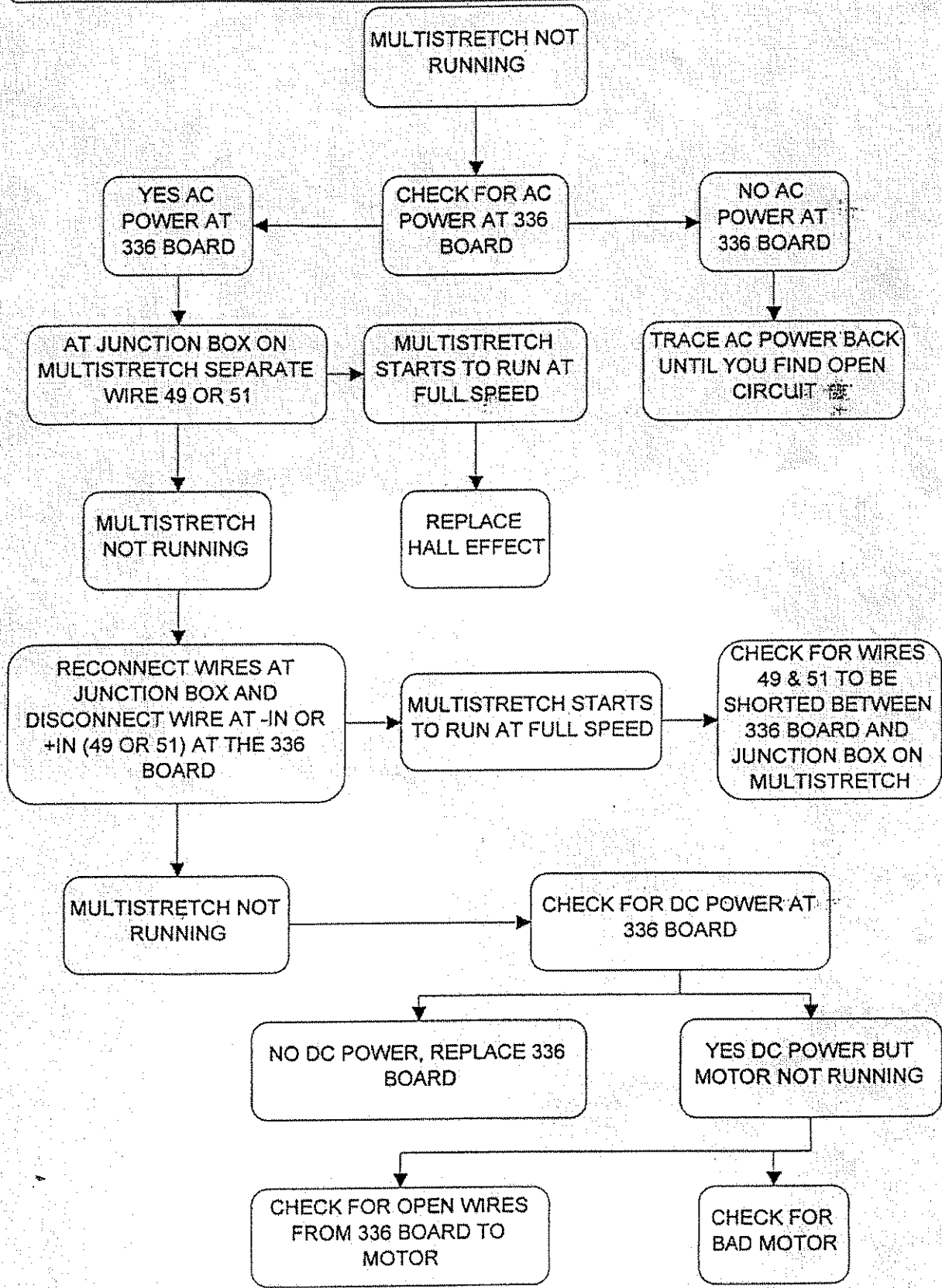
336-7

MULTISTRETCH BOARD

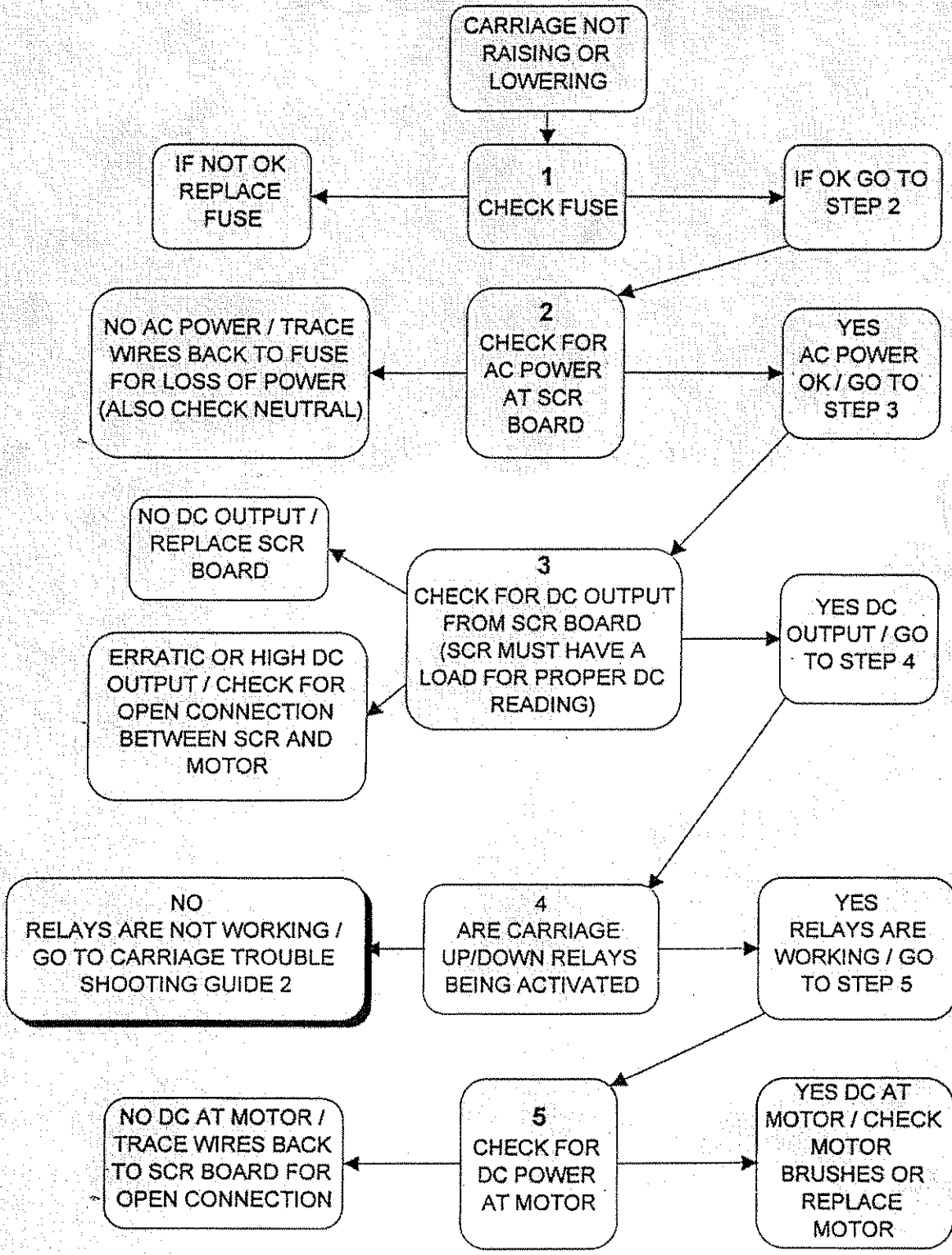
MULTISTRETCH TROUBLE SHOOTING GUIDE 1



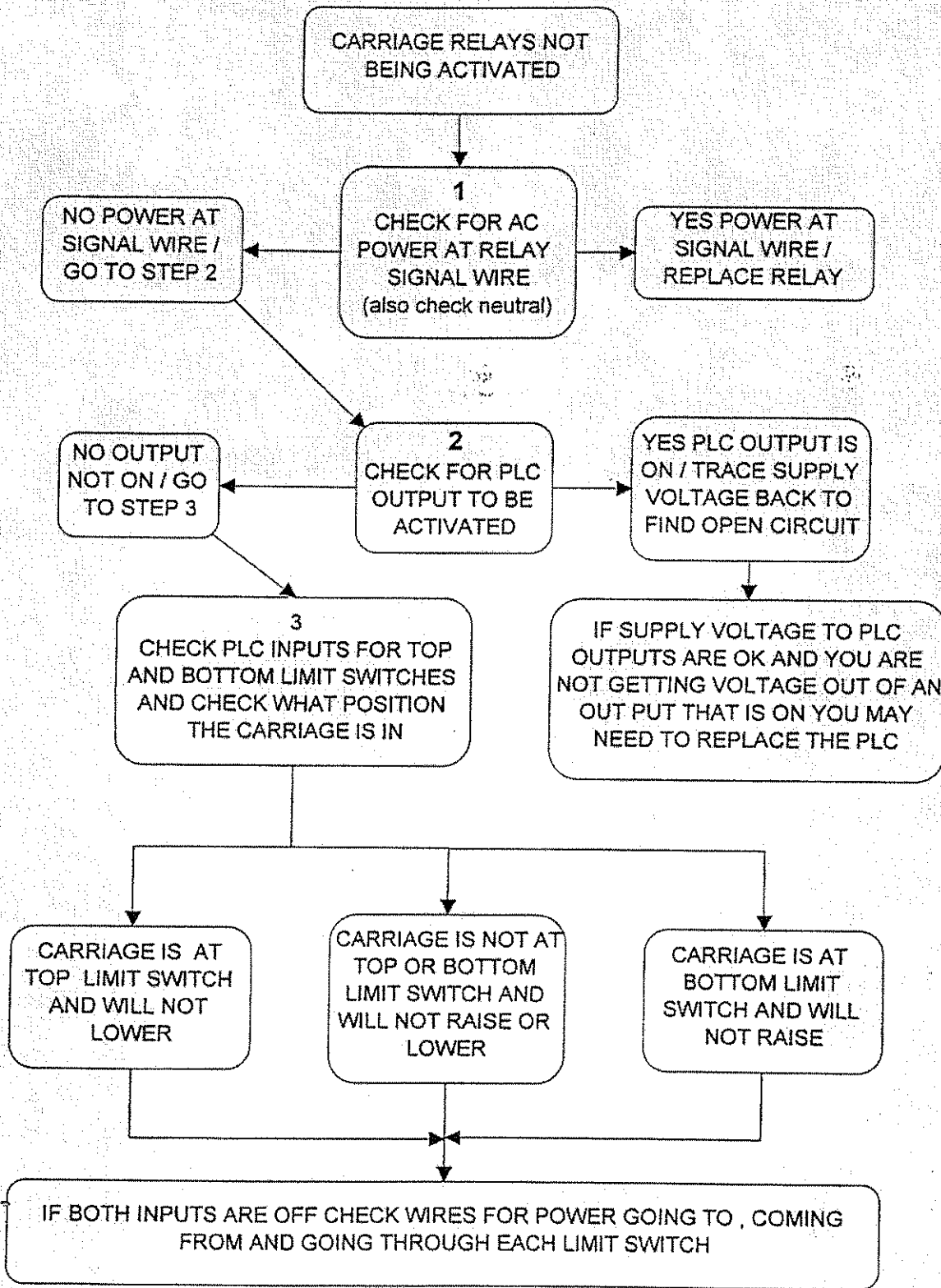
MULTISTRETCH TROUBLE SHOOTING GUIDE 2



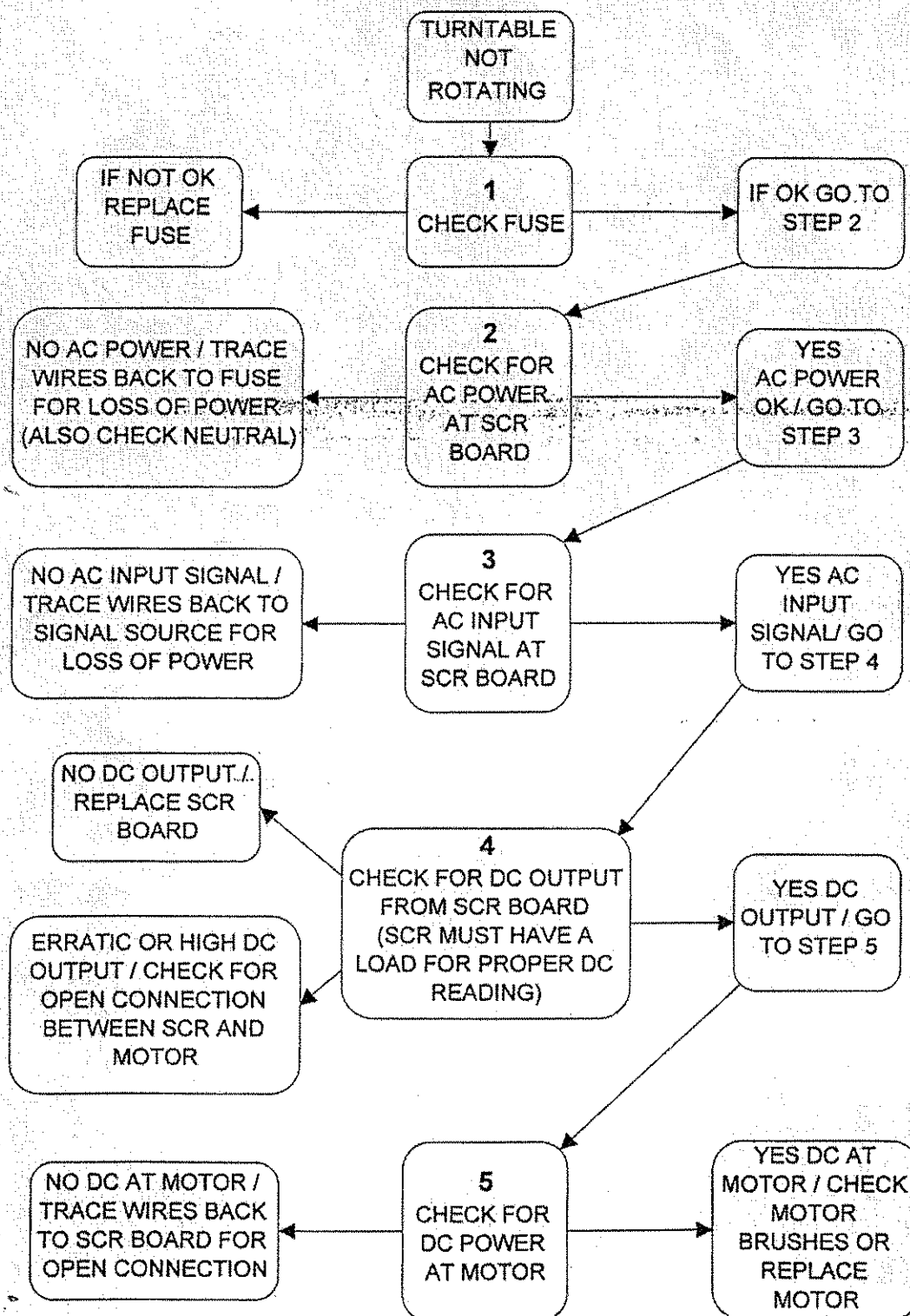
1
BASIC CARRIAGE RAISE / LOWER TROUBLE SHOOTING GUIDE



2 BASIC CARRIAGE RAISE / LOWER TROUBLE SHOOTING GUIDE



BASIC TURNTABLE TROUBLE SHOOTING GUIDE



- IF TURNTABLE RUNS AS SOON AS POWER IS TURNED ON THE MOTOR MAY HAVE AN INTERNAL SHORT TO GROUND.