ANYTHING LESS IS A GAMBLE

MODEL MPA67-17
SERIAL # 2006-8899999

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ANYTHING LESS IS A GAMBLE

INSTRUCTION MANUAL

FOR ALL INQUIRIES
PLEASE CONTACT
OUR LOCAL DISTRIBUTOR

FOR NORTH AMERICA 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 advance 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 2006-8899999

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 shocks, careful operation of the machine and awareness of its many automatic functions is required.

NOTE: All electrical power and compressed air must to be disconnected prior to all inspection, maintenance or repair work.

ORION PACKAGING INC.

ORION PACKAGING SYSTEMS INC.
SEMI-AUTOMATIC SPECIFICATIONS

ORION VORTEX SERIES MODEL MPA67
Spiral Automatic Rotary Tower System *with integral Stand*

Maximum Load Size	48"W x 48"L x 80"H
Minimum Load Size	30"W x 30"L x 26"H
Weight Capacity	Unlimited (Floor Loaded)
Utilities	115 / 1 / 60 ; 15 Amp Service
Rotary Tower	12" Diameter Precision Ring Bearing Tower Support Structural Steel Tube Design
Tower Drive	Heavy Duty ANSI Chain & Sprocket Drive 0 - 12 RPM Variable Tower Speed Electronically Adjustable Acceleration/Deceleration (Soft Start) Variable Speed Drive Motor Positive Home Position Alignment Feature
Control Features	CSA Approved, NEMA 12 Control Panel State-of the-Art Allen Bradley MicroLogix Programmable Logic Controller User Friendly Controls with Non-Proprietary Pushbuttons and Switches Lanyard Switch for Customer Installation to Allow Remote Cycle Start Insta-Sense Film Broken/Out Sensing Logic with Indicator Light Revo-Logic Exact Wrap Counting Technology Load / Personnel Safety Stop Photocell System Electronic Film Tension Control Adjustment on the Panel End of Cycle Film Force Release Separate Top and Bottom Wrap Count Selectors Variable Speed & Separate Film Carriage Up/Down Controls Film Carriage Raise / Lower Switch (Manual) Cycle Pause for Stopping the Wrap Cycle Without Resetting Photocell for Automatic Load Height Detection with On / Off Switch Tower Jog Pushbutton
Film Delivery	20" Orion Insta-Thread Powered Prestretch Film Delivery System Outward Facing Carriage for Ease of Film Roll Change Precision Ground, Polyurethane Pre-Stretch Rollers for Consistent, Maximum Film Yield 260% Standard Pre-Stretch Ratio (Adjustable from 100% to 425%) Easy & Safe to Operate Self-Threading Carriage Design Electronic Film Tension Control Adjustment on the Panel Full Authority Film Dancer Bar with Variable Speed Output (Non-Wearing Sensor) Heavy Duty ANSI Chain & Sprocket Ratio Control
Film Carriage Elevator Drive	Heavy Duty ANSI Chain Carriage Lift Variable Speed Drive Motor Multi-Point UHMW Precision Carriage Guidance System
Film Tail Treatment	Pneumatic Film Clamping Device Impulse Wire Film Cutting Pneumatic Load Seeking Brush Down System
Structural Features	100% Structural Steel Construction Throughout Easy Access to All Components Open Mechanical Design for Ease of Maintenance Integral Structural Steel Stand (Floor Bolted)
Estimated Shipping Weight	2,000 lbs.

Note: The MPA-67 is designed to be floor loaded. The film clamp can be pit mounted in order to bring the stretch film web as close to the bottom of the pallet as possible. If pit mounting the clamp is not preferred, and wrapping as low as possible is desired, an optional steel platform (48" x 48" x 3"H) (option #6609-K) can be purchased on which the load can be placed during the wrap cycle. Furthermore, if the platform is desired and is to be loaded via pallet jack or electric walkie, optional loading ramps (options SAL-0151016) are available.

Visit our Distributor Support Website at www.support.orionpackaging.com

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 enter the forks under the frame or insert the forks in the tube brackets welded to the top of the machine.**

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/ or polyurethane covering on the film carriage 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. Any transport damage cannot be claimed to Orion Packaging Inc.

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 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 film carriage to be sure that it is correctly aligned with the tower
- 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 shall 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

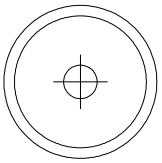
The structural frames of the machine have to be installed on a leveled floor. Locate the main wrapper section into its final position, keeping the tower assembly* away from any traffic.
The wrapper mainframe section **must be bolted to the floor by the 1/2" concrete floor anchors** (leg & shield or expandable type).

NOTE: Mongoose M66IS or M67IS the "Z" stand must be bolted to the floor by 5/8" anchors bolt or stronger anchors.

Any wiring that has been disconnected to facilitate transport is marked with a number located on the junction box to which the wiring must be reconnected. 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.

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

START
AUTO CYCLE



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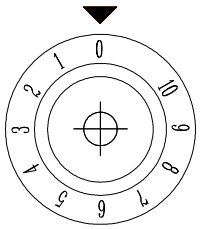
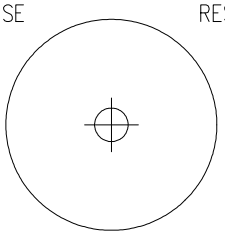
FILM TENSION



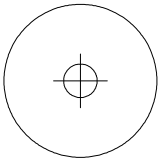
STOP

1x
PAUSE

2x
RESET



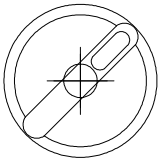
POWER



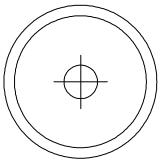
TOP WRAPS

2

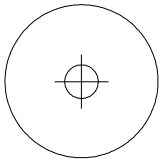
1 3



T.TABLE/TOWER
JOG



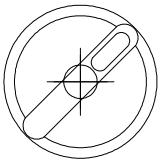
MACHINE
ALARM



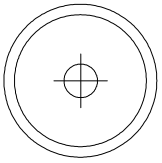
BOTTOM WRAPS

2

1 3

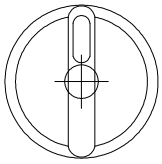


CLAMP
OPEN/CLOSE

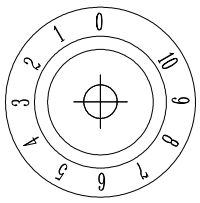


CARRIAGE

LOWER RAISE

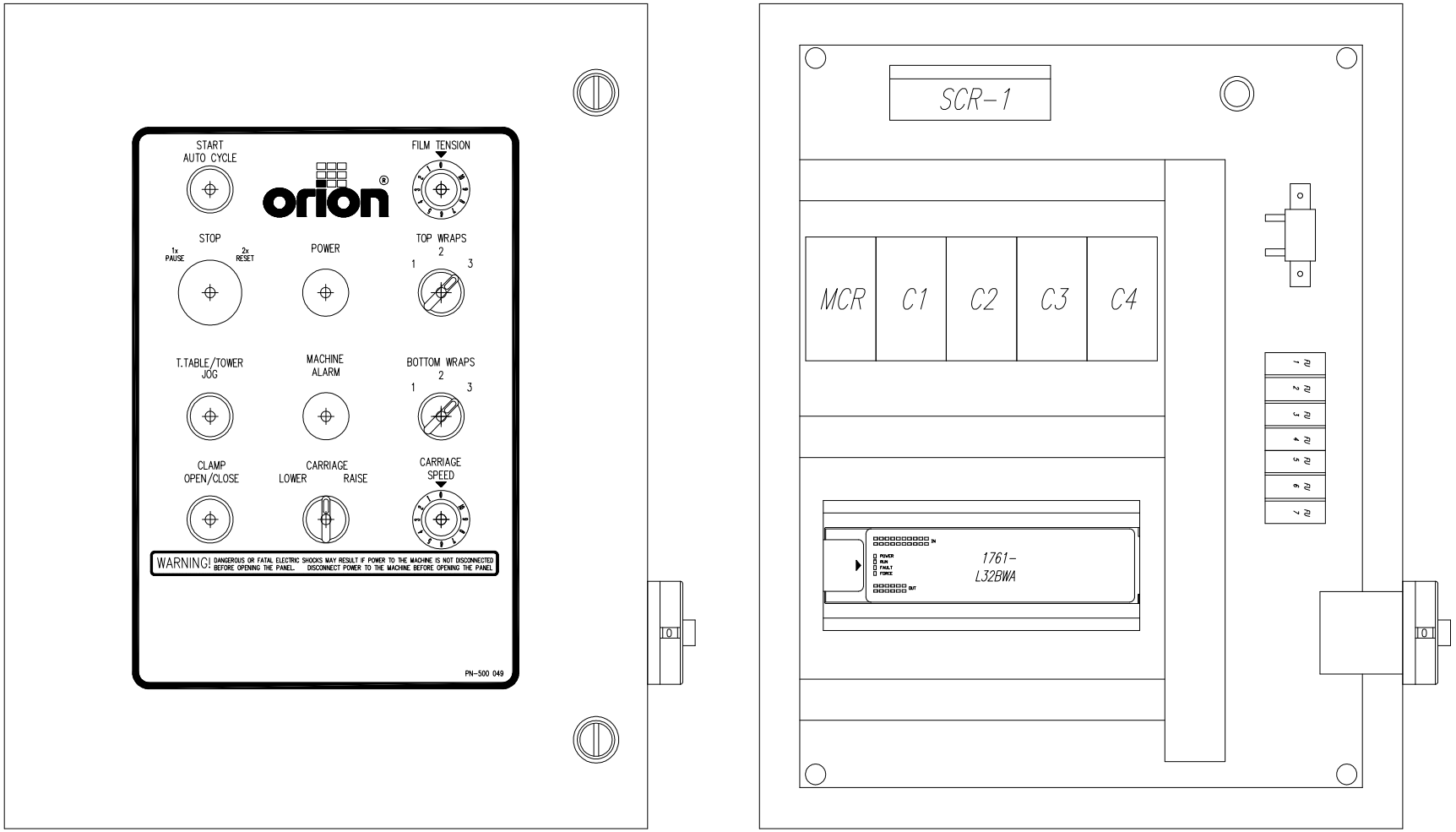


CARRIAGE
SPEED



WARNING! DANGEROUS OR FATAL ELECTRIC SHOCKS MAY RESULT IF POWER TO THE MACHINE IS NOT DISCONNECTED BEFORE OPENING THE PANEL. DISCONNECT POWER TO THE MACHINE BEFORE OPENING THE PANEL

PN–500 049



MPA67 STD PANEL LAYOUT (5412 ES201606)
PANEL SIZE 20x16x06

NOTE:
SCR-2 (168-A) IS LOCATED ON THE ENCLOSURE DOOR

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APPR. BY: J.B.S. DRAWN BY: J. ALEXANDER

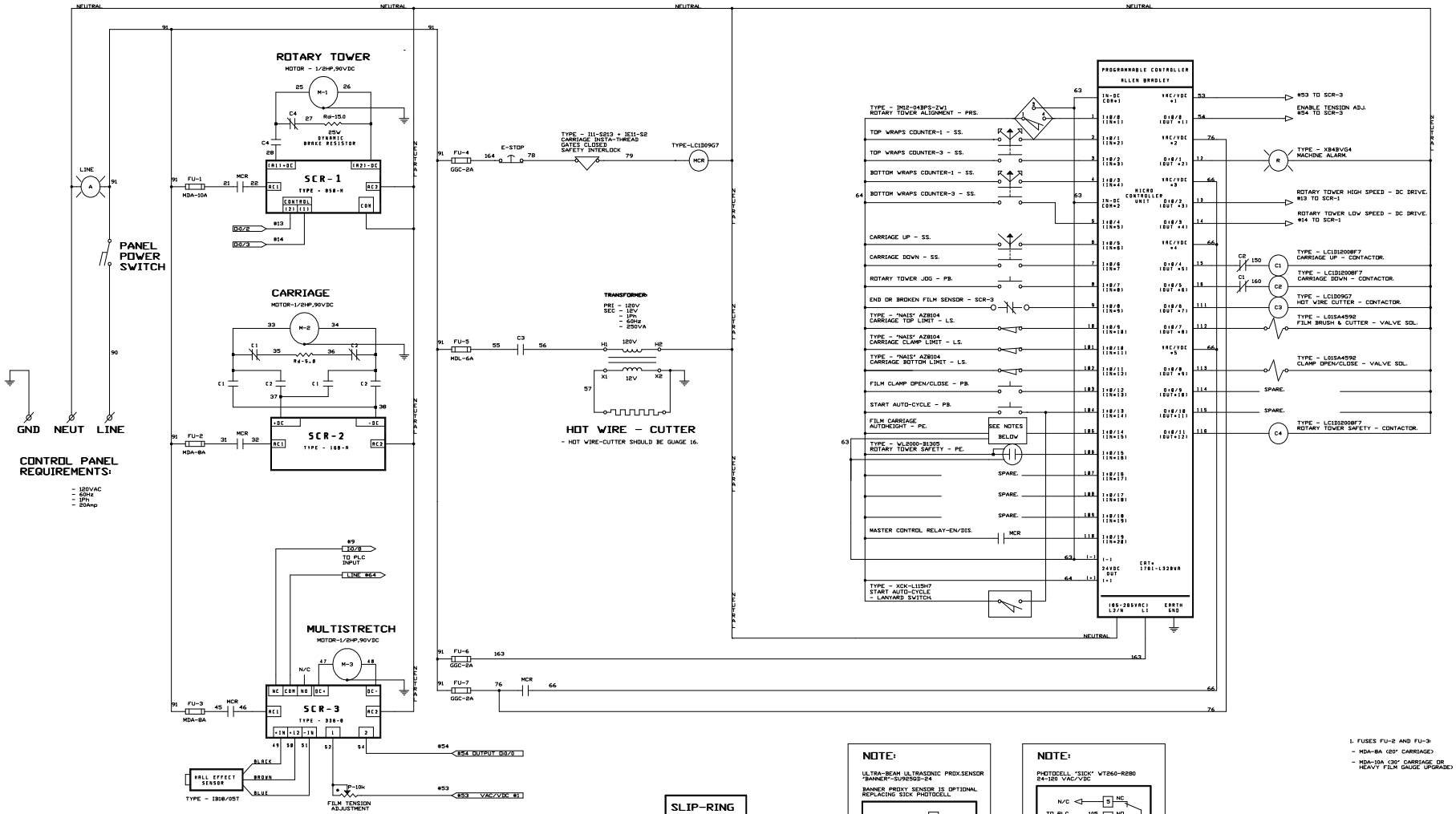
SCALE: 1:2

TITLE: MPA67-17 "STD"

SIZE: B | DOCUMENT NO: JOB # STD 302 448/L | REV: 5

DATE: NOV-09-2004 | SHEET: 1 OF 1

FILENAME:: MPA67-17L.DWG | BASE:



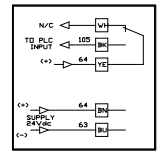
SLIP-RING

SECTION #	WIRE #
1.	GND
2.	NEUT
3.	9
4.	10
5.	33
6.	34
7.	46
8.	52
9.	54
10.	63
11.	64
12.	78
13.	79
14.	101
15.	102
16.	105
17.	106
18.	SPARE.

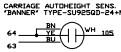
NOTE:

ULTRA-BEAM ULTRASONIC PROX.SENSOR "BANNER"-SU925QD-24

BANNER PROXY SENSOR IS OPTIONAL REPLACING SICK PHOTOCELL

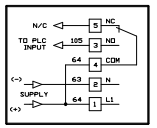


CARRIAGE AUTOHEIGHT SENS. "BANNER" TYPE-SU925QD-24-M3CC-512

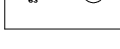


NOTE:

PHOTOCELL "SICK" WT260-R280
24-120 VAC/VDC



FILM CARRIAGE AUTOHEIGHT - PE.
TYPE - "SICK" WT260-R280



1. FUSES FU-2 AND FU-3
   - MDA-8A (20" CARRIAGE)
   - MDA-10A (30" CARRIAGE OR HEAVY FILM GAUGE UPGRADE)

W/INSTA-CUT

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SCALE: NTS

TITLE: MPA67-17

SIZE:	DOCUMENT NO:	REV:
B	JOB # STANDARD 302 448	4

DATE: SEPT-10-2004 SHEET: 1 OF 1

FILENAME: MPA67-17I.DWG BASE:

CONTROL PANEL

The control panel layout is custom designed for each particular installation. Please before proceeding be familiar with location of the EMERGENCY button and all functions, switches and pushbuttons.

POWER SWITCHES

Main Disconnect Switch

ON - connects the power source to the machine.
OFF - disconnects the power source.

Power Switch

When the power switch is not actuated, all the inputs of the machine are operative but the outputs will remain disabled. This is a useful aspect for troubleshooting since the signal may be traced at the PLC without having the machine operate. When the power switch is activated, the outputs are enabled and the machine will resume normal operation.

Operation Mode Selector Switch

The two settings on the operation mode selector switch are:

MANUAL: Manual operation for use during the machine testing, set-up, or troubleshooting.
AUTO: Automatic operation when using the programmed commands of the automatic cycle.

When the switch is set to **MANUAL** the manual control switches are enabled. In order to begin machine testing or operational set-up, the operation mode MUST be set to **MANUAL**. This will permit the operator to use the manual switches described in this section. When the mode selector switch is set to **AUTO**, the programmed commands stored in the PLC are operate and the **START** button may be pressed to permit normal automatic operation. The STOP button may be pressed to stop the cycle during operation. The mode selector switch may be switched from **AUTO** to **MANUAL** during the cycle for a transfer to manual operation.

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 (rotary arm) may be returned to their home position by using the buttons in the **MANUAL** mode.

REWRAP SELECTOR

The REWRAP selector is a pushbutton switch that restarts the wrapping cycle during the automatic operation. The REWRAP will work only when the operation switch is set to **AUTO,** and a load is in the proper position for wrapping on the turntable (process conveyor).

CLAMP JOG

The Clamp Jog is a bistable pushbutton (except “MA” type machines*) that opens the clamp when pressed once and closes when pressed again. The mono-stable action is achieved through the use of a four-way pneumatic valve mounted on turntable (or process conveyor frame) next to the clamp. The **CLAMP JOG** will work only when the Operation Selector Switch is set to **MANUAL.**
*“MA” MODELS HAVE 3 POSITIONS RETURN SPRING SWITCH

CONVEYOR CONTROL SWITCHES

Conveyor Jog Switches

The Conveyor Control Switches are the pushbuttons type switches activating the conveyor when depressed. Each conveyor section has its own switch. Standard configuration is: Infeed, Process and Exit Conveyor.
In case of extra conveyors (optional), the pushbutton switches will bear the number corresponding with particular conveyor (ex: Infeed # 2, # 3, etc. and Exit # 2, # 3 etc.).

Conveyor Reverse /Forward Switch

The conveyors reverse switch is a monostable two positions switch that reverses the flow direction of all/or chosen conveyor when activated. This Control Switch may be used & when the Operation Selector Switch is set to **MANUAL.**

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.

TOP WRAP FIRST (OPTIONAL)

The carriage rises 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 type switch with the
Following settings:

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

This switch is normally positioned in the middle where the carriage remains stationary. Turning 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 is held depressed. When the switch is released the turntable (rotary tower) will stop. The switch is inoperative during the wrap cycle.

FILM TENSION

Film tension may be adjusted using the Film Tension Control Knob. It has a range of tension from 0 to 10: low range from 0 to 4, 4 to 8 is the most useful1 range for most of the films used by our customers and 8 to 10 considered 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 sensor (item # 2) until the moment when the motor starts to turn (or hums)
- tighten on the nuts securing the Proximity Sensor.

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.

CARRIAGE SPEED

There are two carriage speed controls on the panel: CARRIAGE SPEED UP & CARRIAGE SPEED DOWN

The carriage speed controls can be used to control the amount of overlap the film will have on itself during a wrap. It is recommended to start with a RAPID upward wrap in order to stabilize the load early in the cycle.

The control potentiometers have settings from 0 to 10, the higher settings being the fastest. High settings will mean less film overlap because of faster carriage speed, and low settings will mean more film overlap because of lower carriage speed.

TOP AND BOTTOM WRAPS

There are two bistable, three position type switches controlling the number of wraps that may be put at the top and bottom of the load.

TOP WRAPS: 1,2,3
BOTTOM WRAPS: 1,2,3

These switches may be set before the automatic cycle begins, and in their different positions will wrap respectively 1,2 or 3 turns of the film on the top or on the bottom of the load.

PHOTOSWITCHES

Photoswitches are placed on the machine to monitor the motion and location of the loads on the conveyors. For each optional, additional conveyor on the machine an additional photoswitch will be added.
The photoswitches are located as follows (shown on the machine layout) :

Load Height Sensing Photoswitch: located on the carriage and stops it from moving higher than the highest point on the load. The photoswitch position on the track can be adjusted in order to make the carriage pass the top of the load and make the film overlap the top.

Turntable Load Location Photoswitch: is the middle one of the three photoswitches that are pointed at the turntable from behind the tower. Its purpose is to stop the load on the turntable/process conveyor in a suitable position for wrapping. The turntable conveyor or process conveyor is programmed to stop approximately 1.5 seconds after this photoswitch is activated.

Turntable or Process Conveyor Safety Photoswitches: these are the three photoswitches pointed at the turntable or process conveyor from behind the tower. Their purpose is to prevent the cycle from starting if the load is not properly positioned on the turntable or process conveyor.

Infeed and Outfeed Photoswitches: these are located approximately one foot from the side of each conveyor in the middle of the section. Their purpose is to monitor the position of the loads as load transfers are occurring. When the photoswitch is activated there is a delay of approximately 1.5 seconds before the conveyor stops.
NOTE: When testing the conveyor without the load the photoswitch must be kept activated for at least 1.5 seconds in order to have the conveyor stop. For a downstream conveyor, when the load is moved out the photoswitches range there will be delay of about 5 seconds before an upstream conveyor is activated to move load.

LIMIT SWITCHES.

There are three limit switches located on the tower. The top-most and bottom-most switches limits the motion of carriage determinate by location of the elevator's drive and idler sprocket. The middle limit switch purpose is to activate the clamp to open, once the carriage reaches its level.
CAUTION: These limit switches are factory adjusted. When setting the machine, please double check their proper position.

PROXIMITY SWITCH

Proximity Switch is located under the turntable next to the lock, or on the perch ("MA" type machine). Its purpose is to monitor the turntable or rotary arm position, and to signal the controller every time the turntable or rotary arm passes the home position. The proximity switches proper adjustment ensures that turntable or rotary tower will stop in the correct position for the lock to be activated (only turntable machine).
CAUTION: The Proximity Switch is factory adjusted and should not need any further adjustment unless it has been disturbed.

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).

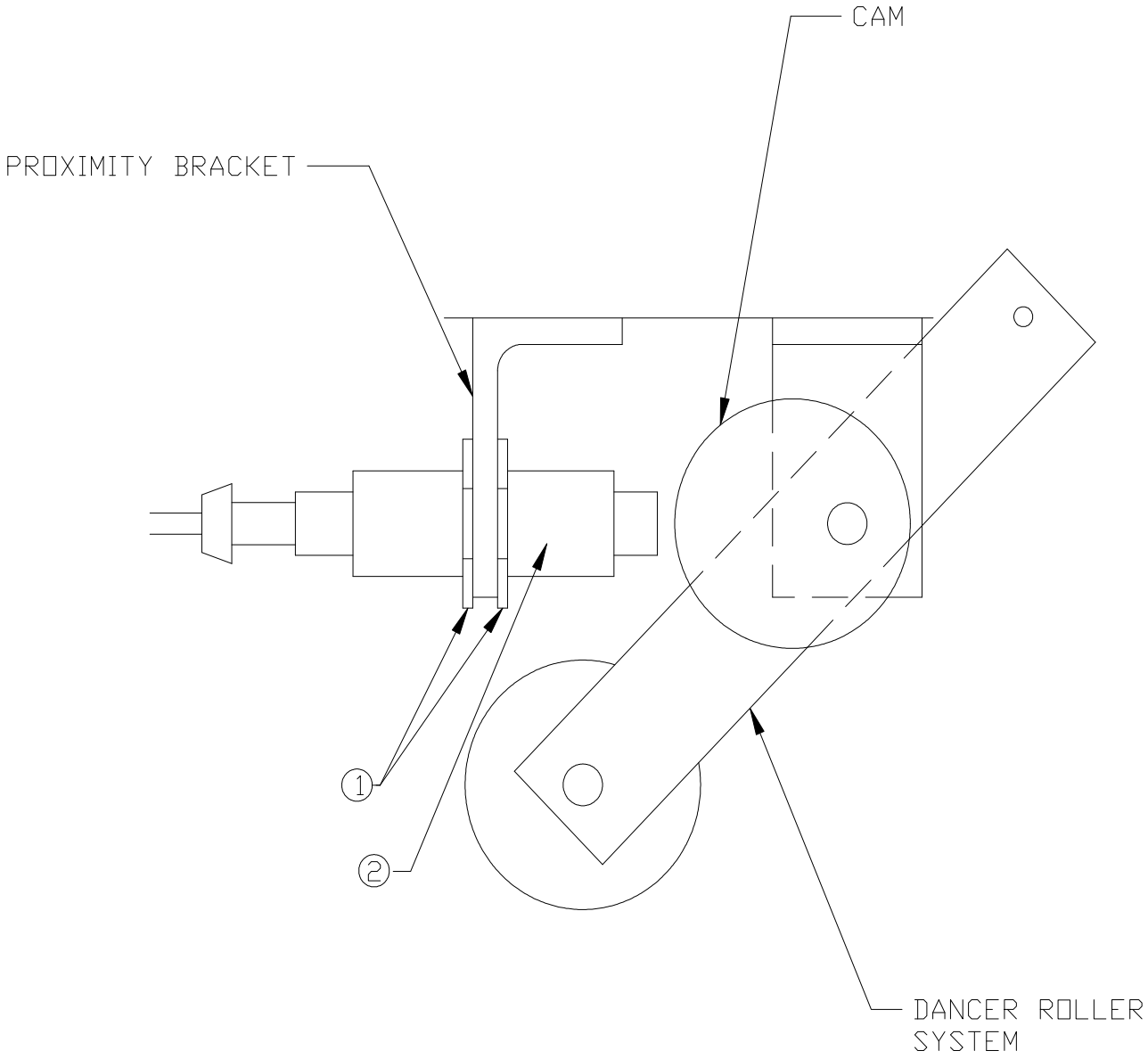
MACHINE WRAPPING TEST

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.

Film Cutter

Film Cutter Temperature Adjustment

Note: The temperature of the Film Cutter is factory preset at -250°F (12O'C). Under normal conditions, the temperature of the Film Cutter should **not require** field adjustment. However, when additional adjustment is needed the following should be observed: To increase temperature turn the adjustment screw of the thermal switch counterclockwise. The thermal switch is accessible from the bottom of the Film Cutter.



PROXIMITY SENSOR
FEED BACK ADJUSTMENT

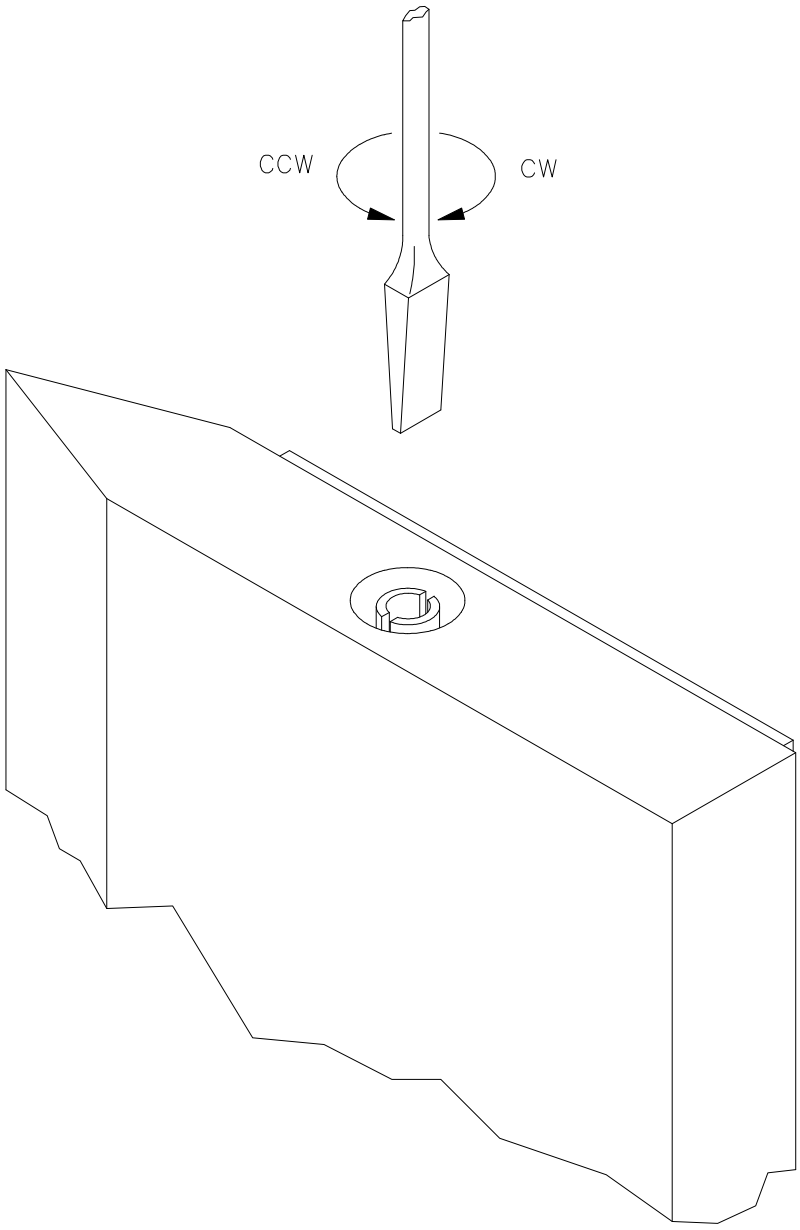
DWG. # 001

THERMOSTAT ADJUSTMENT

DUE TO THE HI–THERMAL CAPACITY OF THE KNIFE, (130°C ± 5° – 266°F ± 41°) ALLOW 10 TO 15 MIN. FOR TEMPERATURE TO STABILIZE AFTER ADJUSTMENT.

– FOR HIGHER TEMPERATURE ADJUSTMENT
  TURN CCW

– FOR LOWER TEMPERATURE ADJUSTMENT
  TURN CW



DWG #425288M

LOADING THE FILM

The film roll can be loaded on the carriage mandrel 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. Swing up the top mandrel spool.
3. Put the roll of film on the bottom mandrel.
4. Install the top mandrel on top of the roll to prevent upward movement.
5. Pull the handle marked PULL TO OPEN to open film distributor cradle.
6. Pass the roped tail of the film through opening (as shown on the film quick threading pattern DWG. # 418180 Fig.1).
7. Close the film distributor cradle by pushing bar marked PUSH TO CLOSE.
8. When the film feeding is completed (fig. 2) – turn the power switch on.
9. Peel off the first few winds of the film (multistrech will run due to displacement of the dancer roller) and fix the film end onto the load.

The system is now ready to begin the first wrapping cycle.

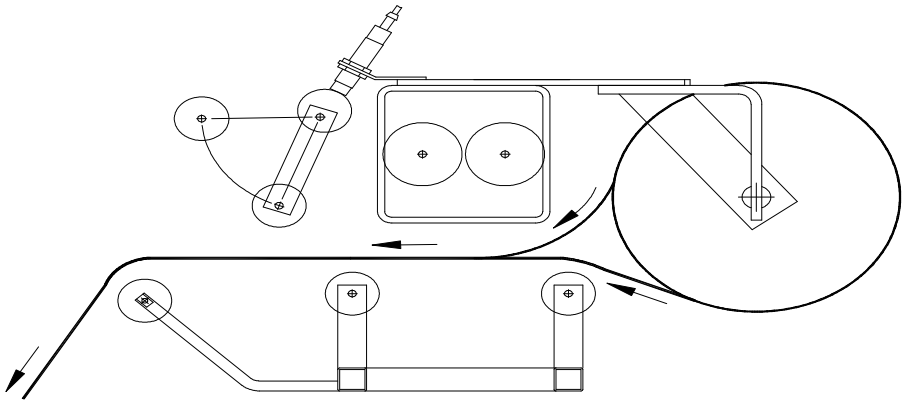


Fig. 1 OPEN CRADLE

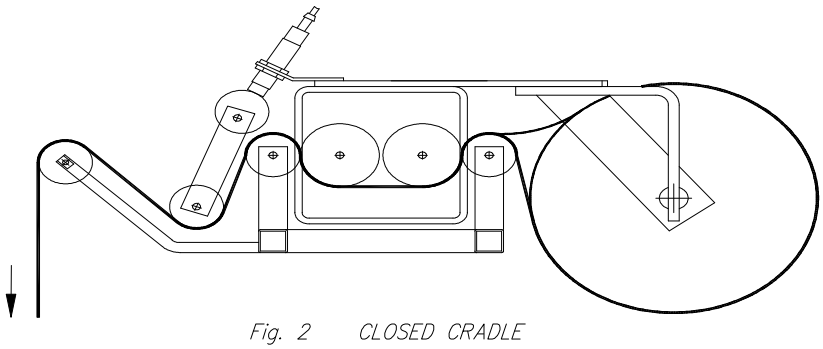


Fig. 2 CLOSED CRADLE

FILM QUICK THREADING

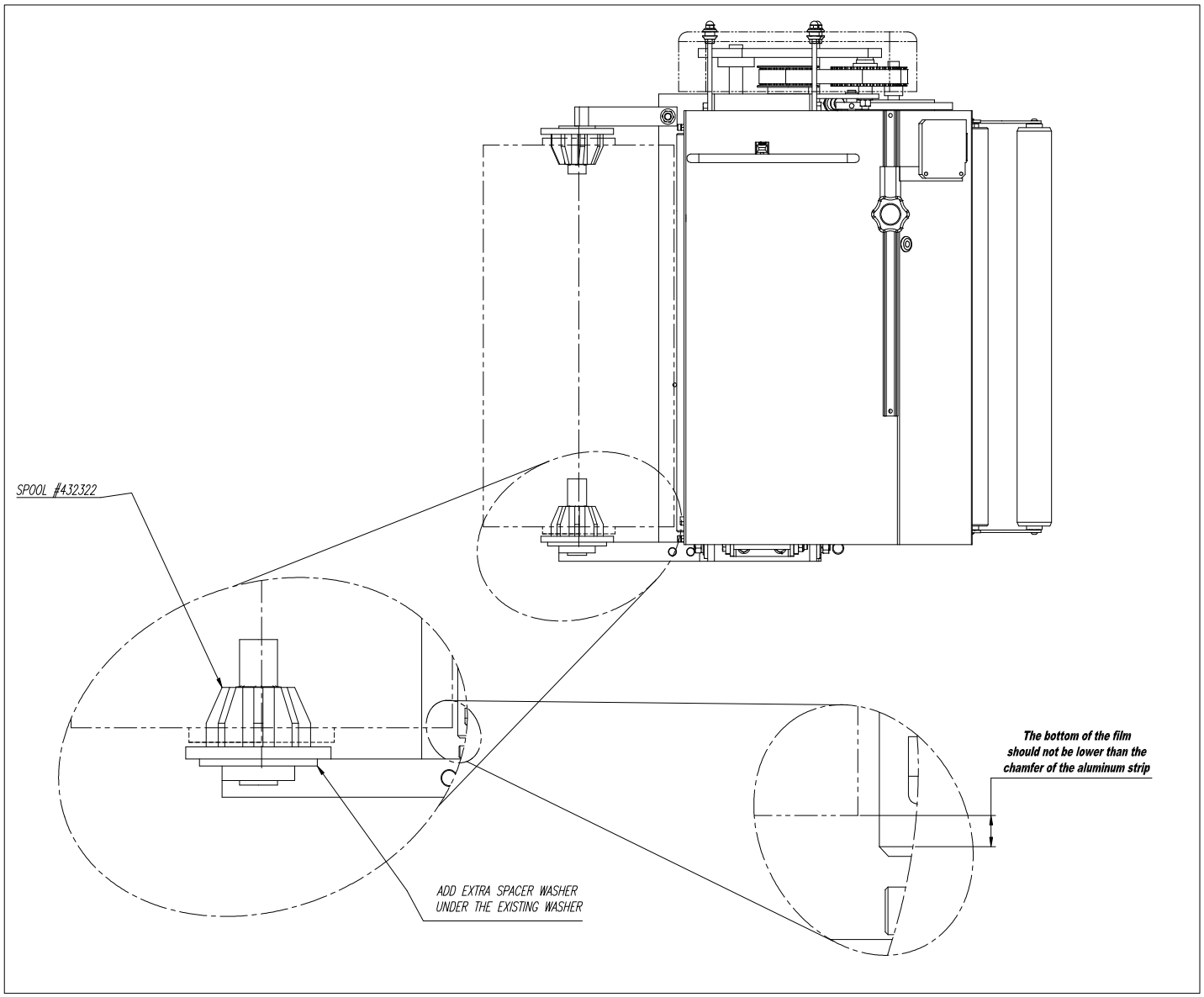
DWG # 418180

ADDITIONNAL SPACER WASHER

(IF NEEDED ONLY)

The roll of film may be slightly different from time to time, so you might have to change the bottom spool spacer (washer). The only thing you have to do is to add or remove the spacer washer under the bottom spool. With the machine their is 1 washer under the bottom spool (432322), and you have received with the machine 2 extra washer to be use if needed.

<u>Note:</u> The bottom of the film should not be lower than the chamfer of the aluminum strip as shown on the drawing below.



MACHINE MAINTENANCE

All general information about machine maintenance is based on normal machine working conditions: indoor, moderate dust and low moisture environment, and maximum rotation of 32 RPM of turntable/rotary arm. They should be regarded as guidelines, reviewed and corrected according to requirements of actual use and conditions.

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 it 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.

REDUCER OIL CHANGE

All external cap screws and plugs on the reducing transmission should be checked for tightness after the first week. It is recommended to change the oil every six months or at least 1800 hours of operation, whichever comes first. When adding or changing oil, the transmission should never be filled above the oil level mark indicated, because leakage and overheating may occur. Below is the list of the type of lubricant that should be used.

List of recommended reducer oils

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 Suer-r Cyl. Oil
Philips Oil Corp.	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

RING BEARING MAINTENANCE (when applicable)

The ring bearing (located under the turntable) should be re-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. The re-lubrication interval suggested for these bearings, used in Stretch Wrapping Machinery is 750 hours, with a maximum period of 6 months. The lubricant should be fresh and applied in sufficient quantities to make sure all surfaces are lubricated.

Externally: by lubricating and wiping the chain drive with oily cloth. The frequency of lubrication depends on entirely upon the usage of the machine and environment in which the machine is placed (dust, moisture etc.). Machines working under extremely dirty conditions should be lubricated every 400 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 be not be longer than 6 months.

List of recommended lubricants for the ring bearing lubrication

Manufacturer	Lubricant
BP	Energrease LS2
Castrol	Speeroll AP2
Esso	Beacon 2
Gulf	Crown Grease 2
Mobil	Mobilus 2
Shell	Avania Grease R2
Texaco	Glissando FT 2
Valvoline	LB-2

TOWER RACEWAYS MAINTENANCE

The film distributor (carriage) is sliding on the plastic guides attached behind its back plate. The section of the tower on which the plastic guides move (raceways) should be cleaned and re-greased approximately every 600 hours of machine operation.
NOTICE: If the machine works in a dusty and corrosive environment, the raceways should be re-greased more often (at least every 100 hours).

CHAIN MAINTENANCE

To clean the chain, wipe it with an oily cloth every month. When machine is working in a dusty and damp environment, it may be necessary to repeat the cleaning operation more often. As the chain lubricants please use the most common chain lubricants on the market.
With time, the chain will tend to stretch. A loose chain should be tightened at the chain tensioner, or by moving the reducer on its mounting plate.
NOTICE: Chain tension first adjustment must be done after the first two weeks of machine usage.

PNEUMATIC SYSTEM MAINTENANCE (when applicable)

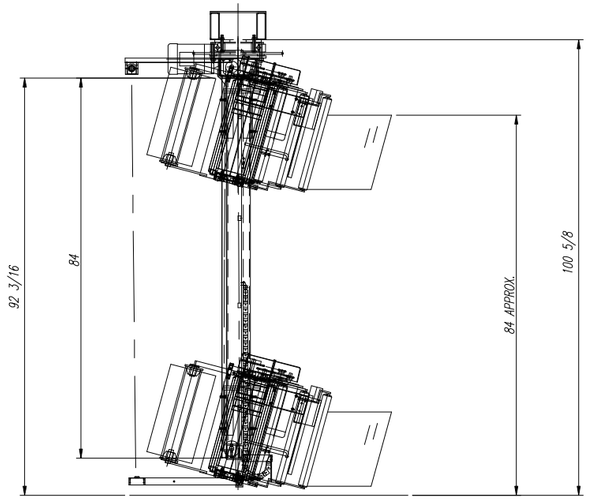
The air supply system must be checked weekly and must be free from the moisture. In cold environments, it may be necessary to drain the air supply system daily.

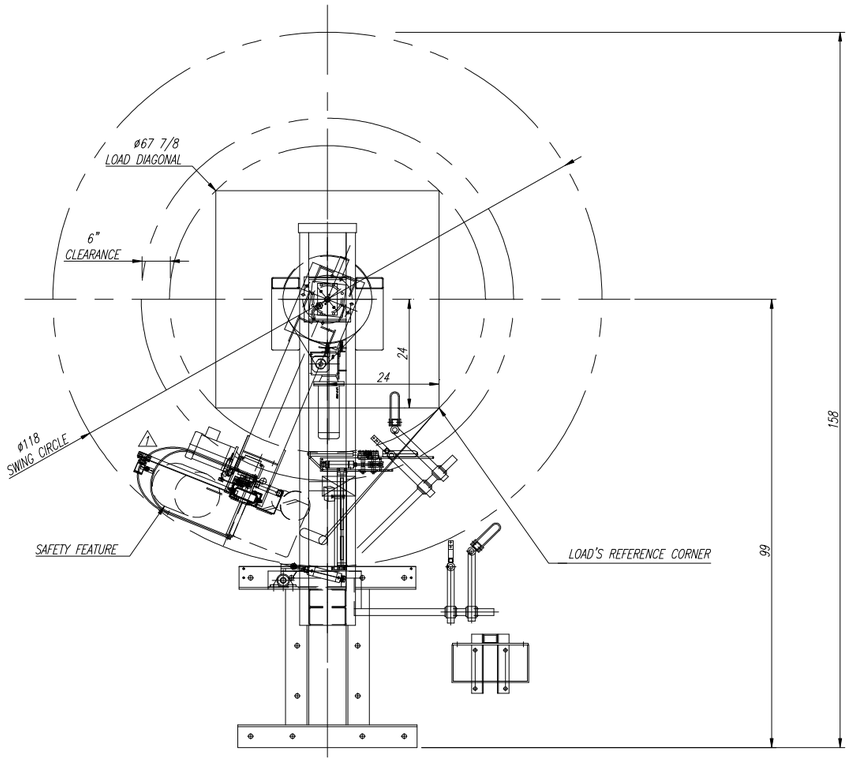
CAM FOLLOWER MAINTENANCE (when applicable)

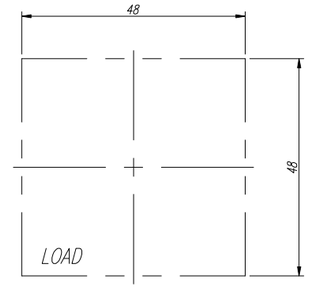
The cam followers have deep grease pockets and do not need frequent relubrication. The portion of the tower on which the cam followers run, should be cleaned and regreased every 300 hours of operation. If the machine operates in a dusty or corrosive environment the tower should be relubricated more often.

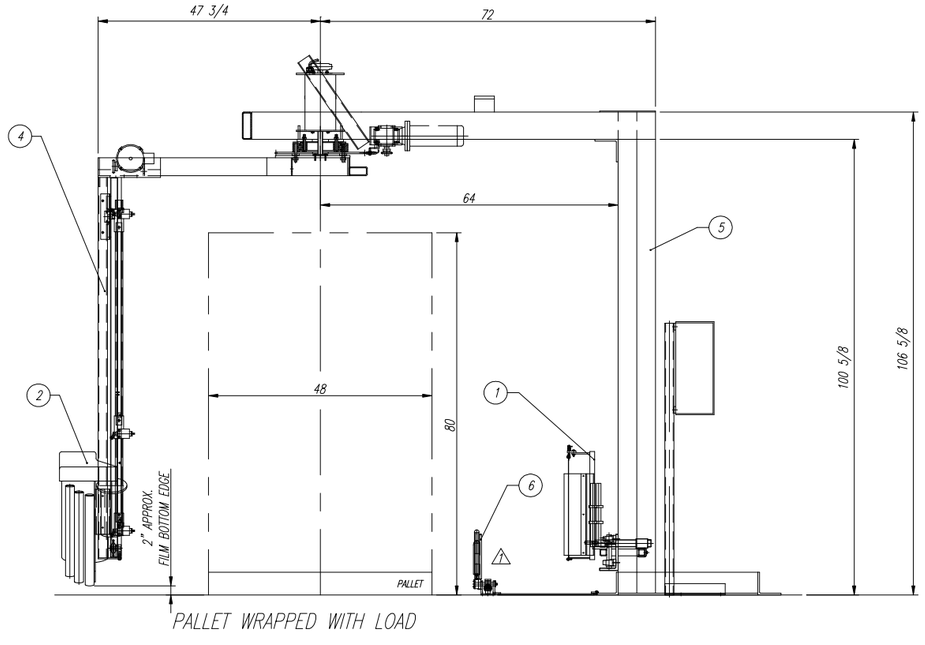
FULLY AUTOMATIC STANDARD ASSEMBLY PART LIST

Note :
*** Quantity listed in order of part number**
**** The names given to the parts are generic**

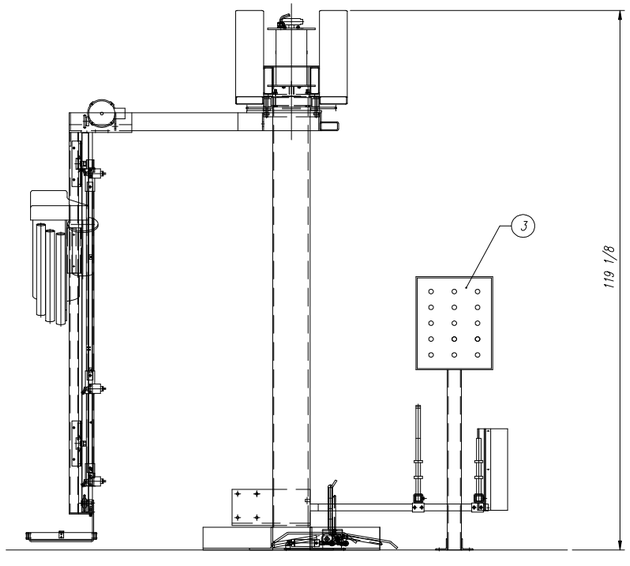


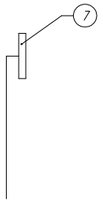






PALLET WRAPPED WITH LOAD





NOTES :

1. TOWER SPEED : 12 RPM MAX.
2. MAX. LOAD SIZE : 53" L x 53" W x 80" H
   – MIN. LOAD SIZE : 30" L x 30" W x 26" H (36"H W/ 30" CARR.)
3. LOAD WEIGHT : MIN. 200 lbs
4. PANEL POWER REQUIREMENT : 115 VAC , 1 Ph , 60 Hz , 20 A
5. AIR SUPPLY : 3 CFM AT 80 PSI
6. MACHINE COLOR : 2–TONE ORION STD GREY (PLATINUM GREY & DARK GREY)
7. 20" INSTA–THREAD CARRIAGE – FRL/17 (30" OPTIONAL)
8. FIXING WRAPPER TO A FLOOR USE MIN. 5/8" DIA. ANCHORING BOLTS GRADE 5 OR STRONGER

No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
7	LANYARD SWITCH			1	
6	CLAMP SPACER			1	
5	MPA67 INTEGRAL "Z" STAND ASS'Y			1	
4	MPA67 ROTARY ARM–TOWER ASS'Y			1	
3	ELECTRICAL CONTROL PANEL			1	
2	20" (30") INSTA–THREAD FILM CARRIAGE – FRL/17			1	
1	20" (30") FILM TAIL TREATMENT			1	

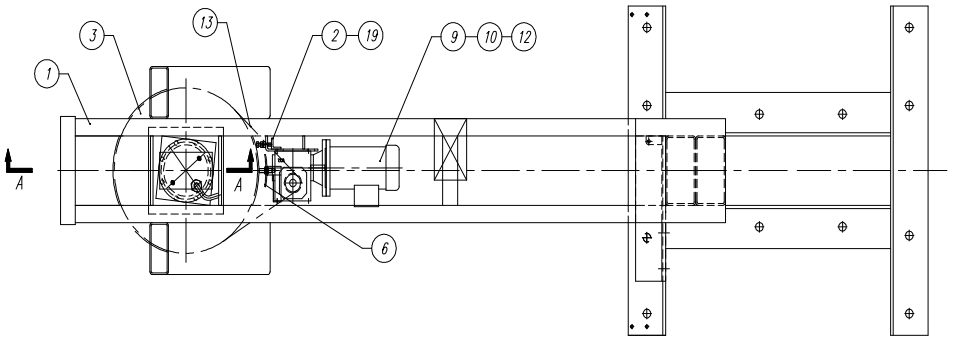
REMARKS: C.W. ROTATION

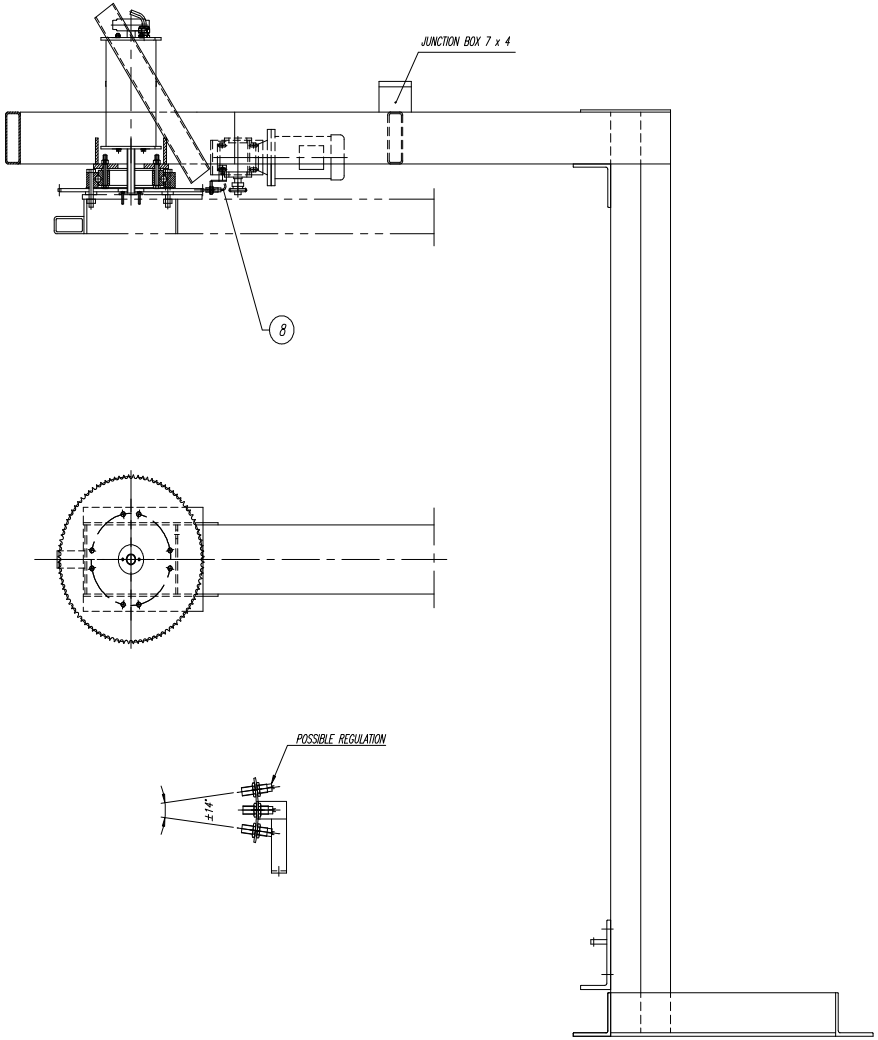
REMARKS: –

MPA67 LAYOUT

orion PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (450) 667–9769

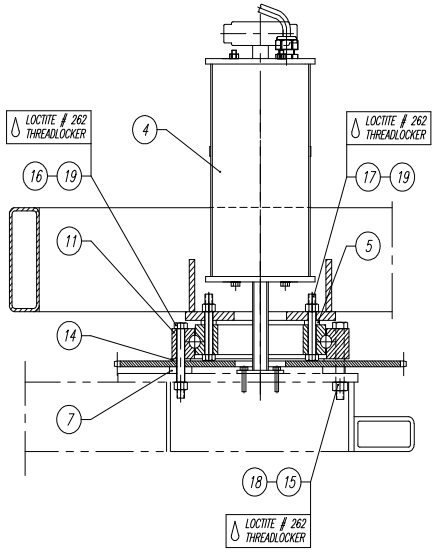
ASSEMBLY DWG.: –	JOB No.: STD	DRAWING No.: 435724M
	CHECKED BY:	DRAWING SIZE: D
	DRAWN BY: J–NICOLAS BACON	MACHINE TYPE: MPA67
	DATE: AUG–6–2002	SCALE: 1 : 16





SECTION A-A

SCALE 1 : 4



No.	DESCRIPTION	DWG SIZE	PART No.	Q'ty	WEIGHT
19	HEX. NUT		011266	12	
18	HEX. NUT		013278	4	
17	HEX. HEAD SCREW		011924	8	
16	HEX. HEAD SCREW		013633	4	
15	HEX. HEAD SCREW		013277	4	
14	FLAT WASHER		012930	8	
13	ROLLER CHAIN		010009	1	
12	SPROCKET		010074	1	
11	BEARING		015597	1	
10	REDUCER		015191	1	
9	EL. MOTOR		017851	1	
8	PROXIMITY SWITCH		013848	1	
7	DOUBLE HOLES SPACER		409258	4	
6	PROXIMITY SWITCH BRACKET		431408	1	
5	SPACER		403189	8	
4	SLIP RINGS ASS'Y		423629	1	
3	SPROCKET		429204	1	
2	CHAIN TIGHTENER		419946	1	
1	MPA67 INTEGRAL STAND WELDING		435520	1	

REMARKS:

REMARKS:

MPA67 INTEGRAL STAND ASS'Y

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (450) 667-9769

DATE: JUL-12-2002

SCALE: 1 : 8

DRAWN BY: J-NICOLAS BACON

MACHINE TYPE: MPA67

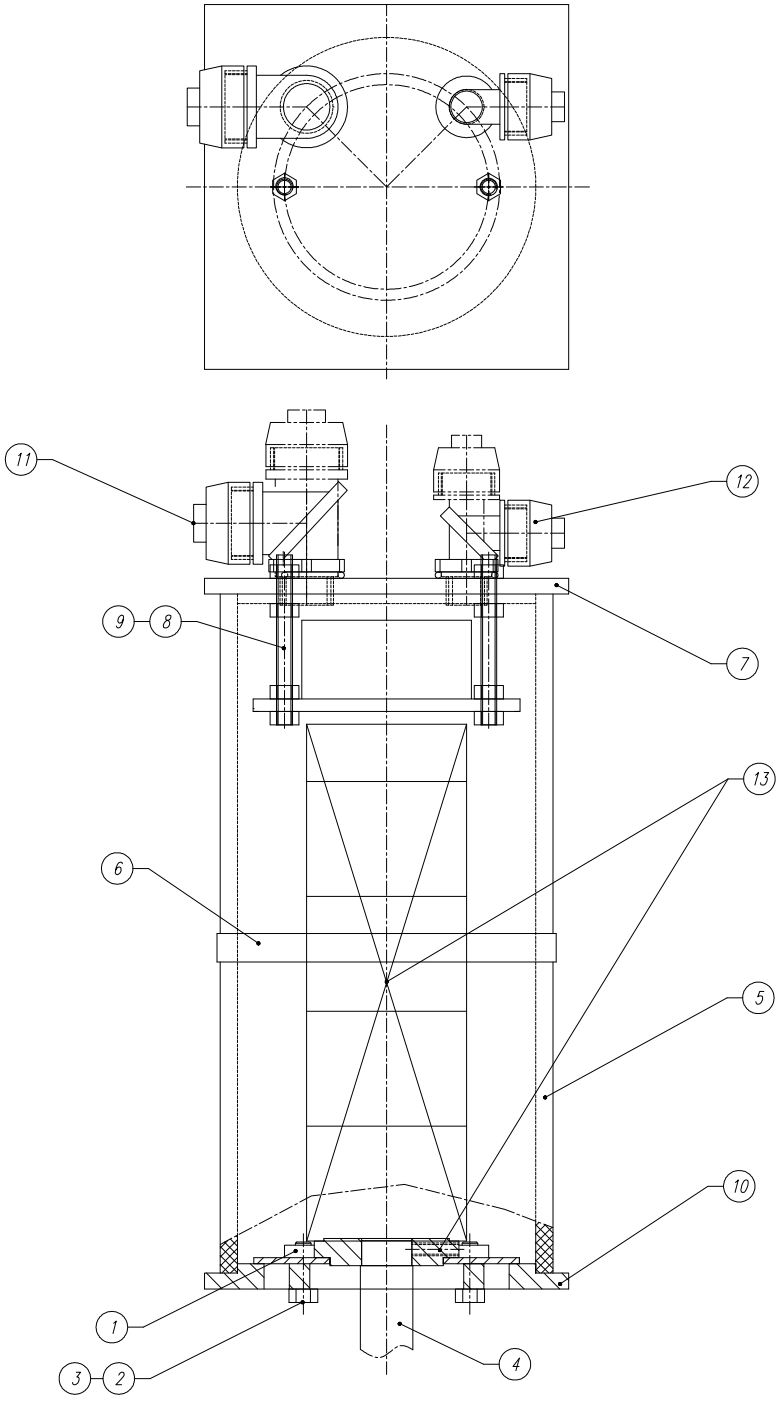
CHECKED BY:

DRAWING SIZE: D

ASSEMBLY DWG: -

JOB No.: 12609

DRAWING No.: 435519M



No.	DESCRIPTION	DWG SIZE	PART No.	Qty.	WEIGHT
13	SLIPRING ATTACHMENT		417990	1	
12	PLASTIC CONNECTOR			1	
11	PLASTIC CONNECTOR			1	
10	BOTTOM DISK		418515	1	
9	HEX. NUT			8	
8	THREADED ROD			2	
7	TOP DISK		423672	1	
6	HOSE CLAMP			1	
5	HOUSING		417189	1	
4	SLIPRING MOUNTING BRACKET ALL		418500	1	
3	FLAT WASHER			4	
2	HEX. BOLT			4	
1	SLIPRING MOUNTING NUT		418591	4	

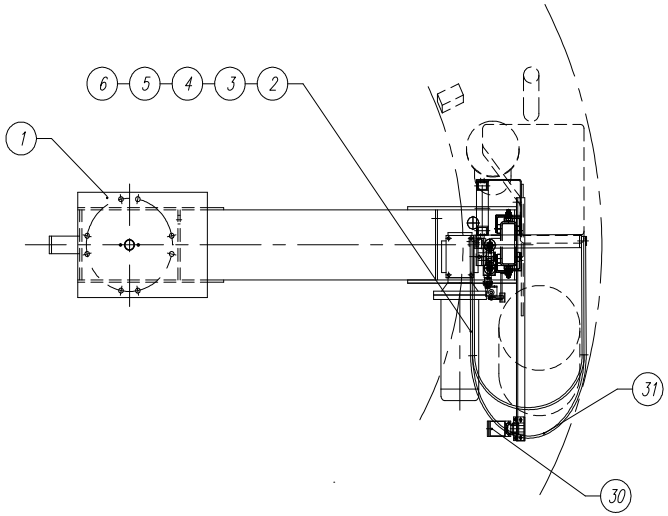
REMARKS:

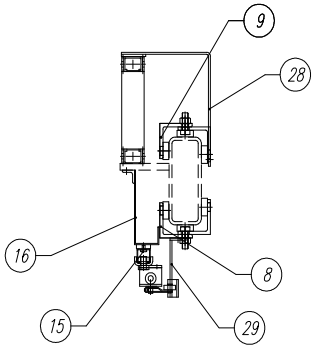
REMARKS:

SLIPRING ASS'Y – "M, MA" MACHINES

orion
PACKAGING INC.
2270 INDUSTRIEL BOUL., LAVAL
QUEBEC, CANADA, H7S 1P9
TEL: (514) 667-9769

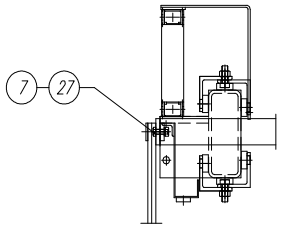
ASSEMBLY DWG:	DATE: MAY-06-99	SCALE: 1 : 2
	DRAWN BY: S. KUBICKA	MACHINE TYPE:
	CHECKED BY: M. GOLA	DRAWING SIZE: C
	JOB No.: STD/13	DRAWING No.: 423629M





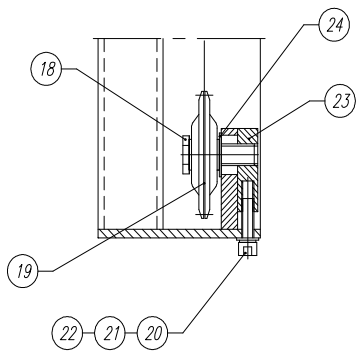
GUARD MOUNTING

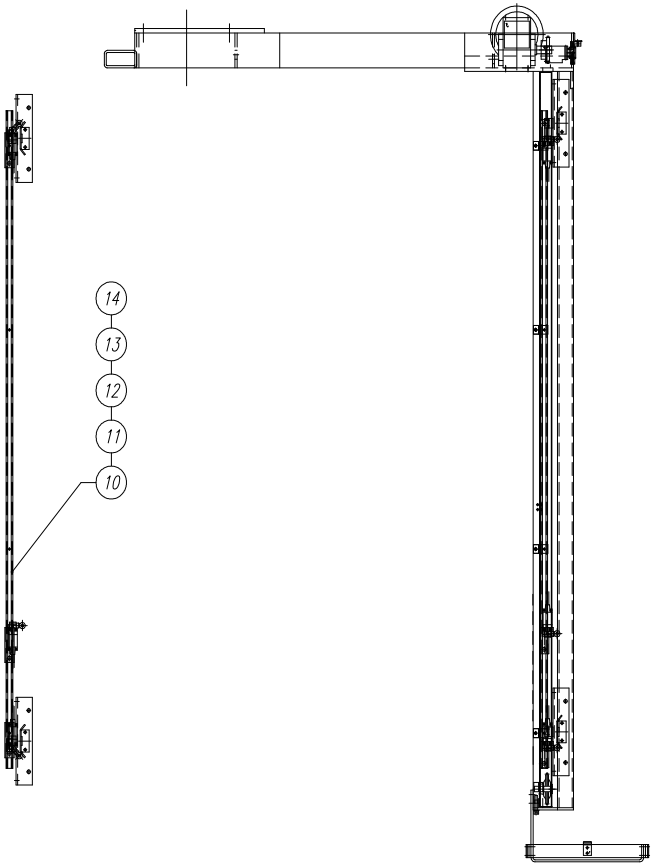
1 : 6

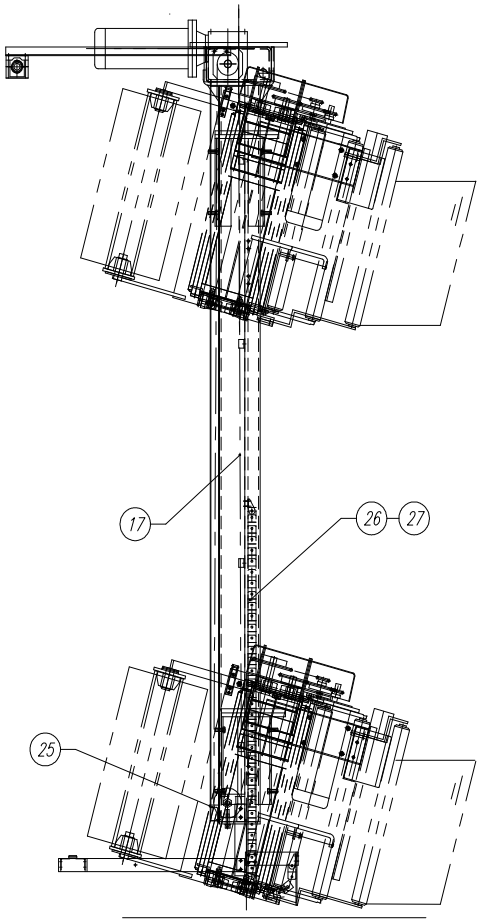


REFLECTOR BRACKET MOUNTING

1 : 6







31	ROTARY ARM SAFETY REFLECTOR BRACKET ASS'Y		437571	1	
30	SAFETY PHOTOCELL BRACKET		438434	1	
29	CARR. LIFT LIMIT SWITCH ACTUATOR		426883	1	
28	CARR. LIFT CABLE TRAK HOLDER		428525	1	
27	HEX. BOLT		012475	2	
26	NYLATRAC		015897	1	
25	CARRIAGE STOPPER		404624	1	
24	FLAT WASHER		012930	1	
23	CARRIAGE LIFT CHAIN TIGHTENER		426057	1	
22	SPRING WASHER		011390	1	
21	FLAT WASHER		010948	1	
20	S H C SCREW		013483	1	
19	IDLER SPROCKET		010008	1	
18	HEX SCREW		420869	1	
17	ROLLER CHAIN		010009	1	
16	CARRIAGE LIFT CHAIN GUARD (L-R)		436088	1	
15	PAN PHILL SCREW		013463	4	
14	MPA67 CHANNEL		436089	1	
13	MINI LIMIT SWITCH		012006	3	
12	HEX BOLT		012397	3	
11	CHANNEL GUIDE		427690	3	
10	LIMIT SWITCH HOLDER		436261	3	
9	CARRIAGE CHAIN ATTACHMENT ANGLE		429220	1	
8	CARRIAGE ATTACHMENT ANGLE		426923	1	
7	HEX. NUT		012689	2	
6	SPRING WASHER		012724	4	
5	HEX BOLT		010316	4	
4	SPROCKET		010343	1	
3	REDUCER		015200	1	
2	EL. MOTOR		015240	1	
1	MPA 67 ROTARY ARM-TOWER WELDING (L-R)		436087	1	
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT

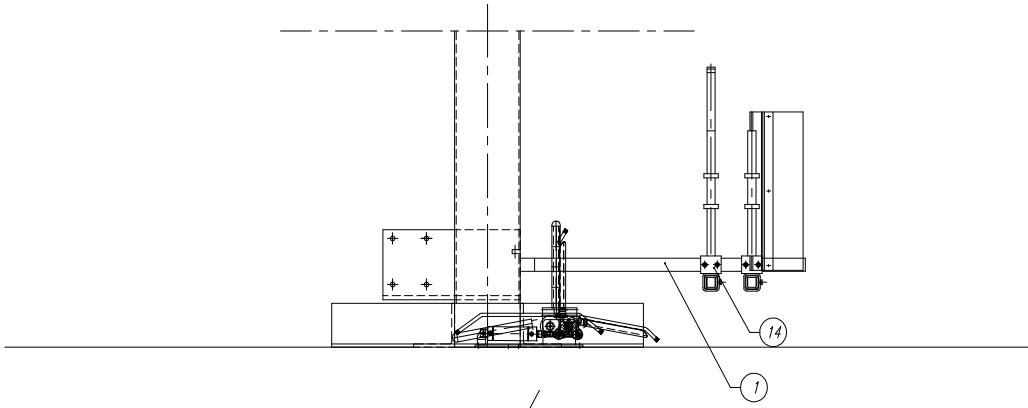
REMARKS:

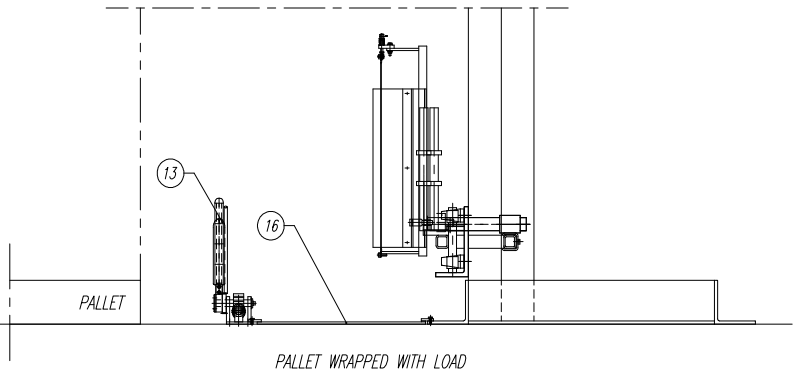
REMARKS:

MPA67 ROTARY-ARM TOWER ASS'Y (L-R)

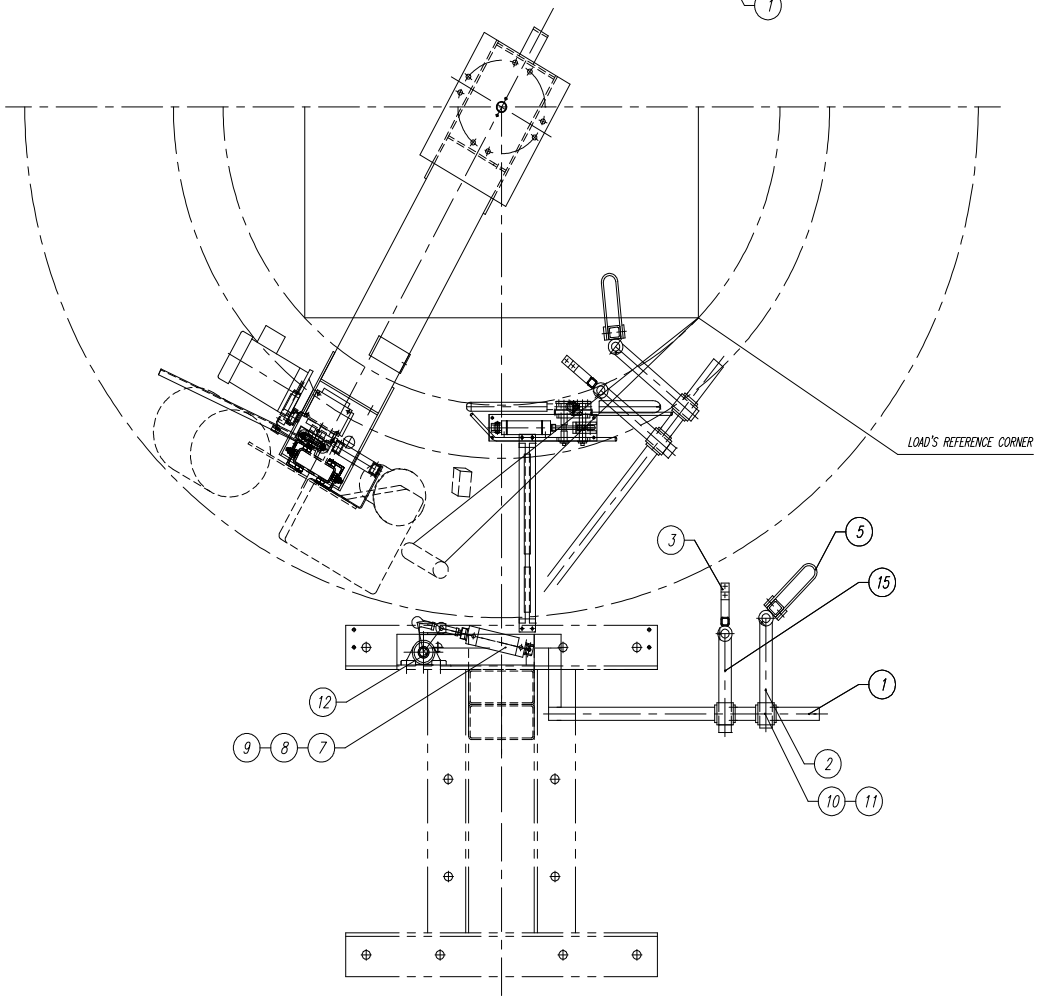
orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (450) 667-9769

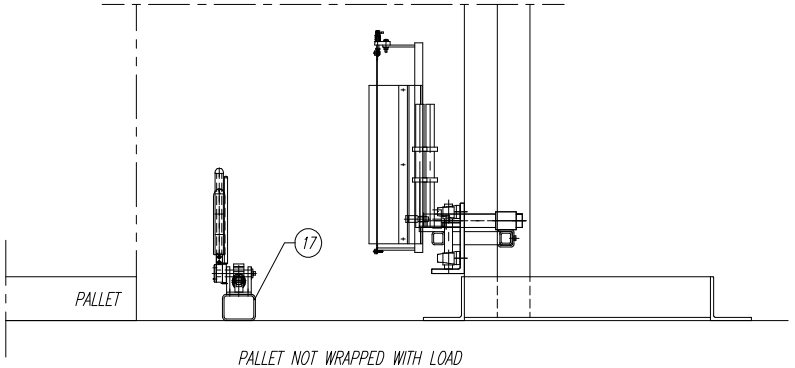
DATE: SEP-13-2002		SCALE: 1 : 12
DRAWN BY: J-NICOLAS BACON		MACHINE TYPE: MPA67
CHECKED BY:		DRAWING SIZE: D
ASSEMBLY DWG.: -	JOB No.: STD	DRAWING No.: 436086M





PALLET WRAPPED WITH LOAD





PALLET NOT WRAPPED WITH LOAD

No.	DESCRIPTION	DWG SIZE	PART No.	Q'ty	WEIGHT
17	FILM CLAMP SPACER		435546	1	
16	AIR PASSAGE BRACKET		434902	1	
15	KNIFE ARM SEGMENT		428240	1	
14	BRUSH/CUTTER BRACKET		428197	2	
13	CLAMP ASSEMBLY – MPA67		434896	1	
12	PILLOW BLOCK		012101	2	
11	HEX NUT		012751	8	
10	HEX SCREW		013086	8	
9	SOCKET CAP SCREW		013814	1	
8	ROD END		013813	1	
7	AIR CYLINDER		014167	1	
5	20"(30") BRUSH ASS'Y		417539	1	
3	20"(30") HOT WIRE CUTTER ASS'Y		417750	1	
2	BRUSH ARM SEGMENT		428239	1	
1	MA66 BRUSH & CUTTER ARM L–R		427903	1	

REMARKS:

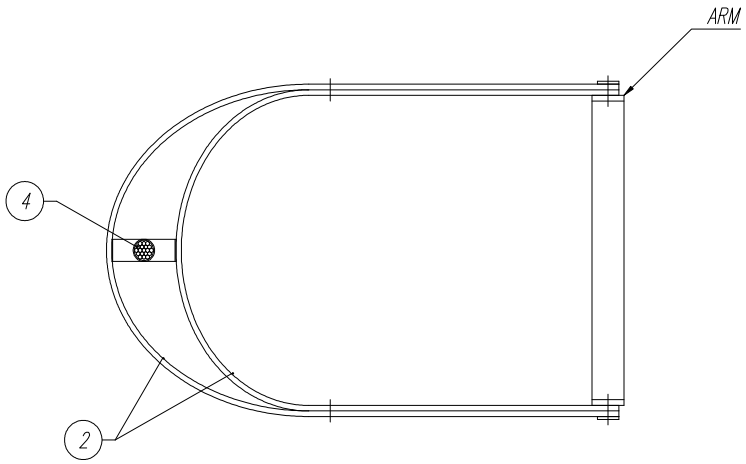
REMARKS:

MPA67 FILM TAIL TREATMENT 20" L–R FLOW

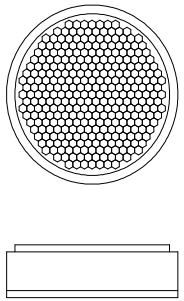
orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (450) 667-9769

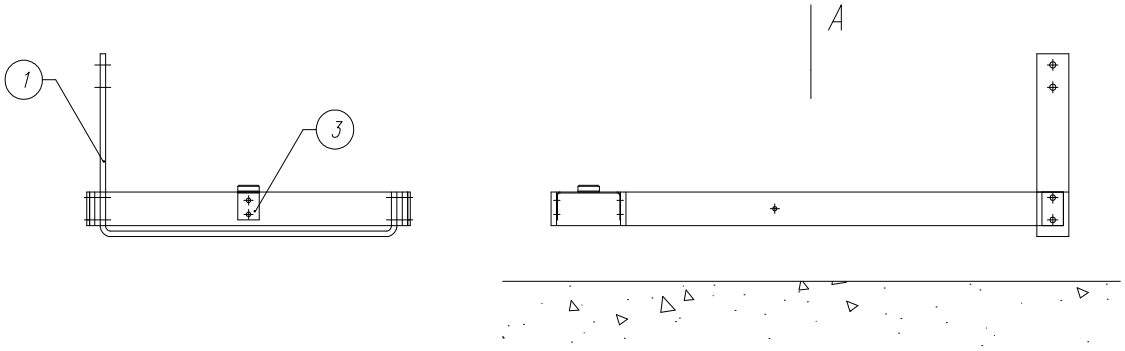
ASSEMBLY DWG: 435724 D	JOB No.: STD	DRAWN BY: J-NICOLAS BACON	DATE: AUG-08-2002
DRAWING No.: 435751M	DRAWING SIZE: D	MACHINE TYPE: MPA67	SCALE: 1 : 8
		CHECKED BY:	

VIEW A



REFLECTOR SICK 1" SELF-ADHESIVE





No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
4	REFLECTOR SICK 1" SELF-ADHESIVE		017688	1	
3	SAFETY REFLECTOR BRIDGE		437196	1	
2	SAFETY PLASTIC BUMPERS		437195	1	
1	SAFETY BRACKET		437572	1	

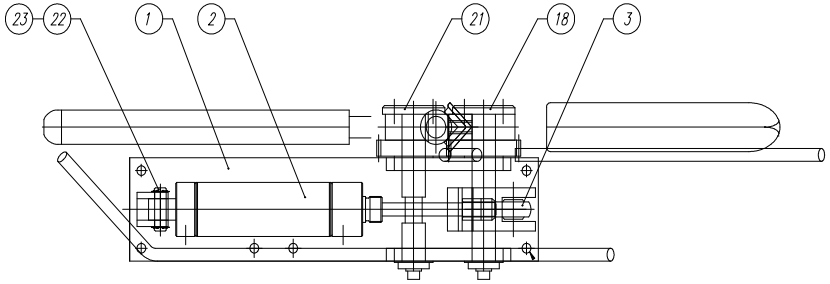
REMARKS:

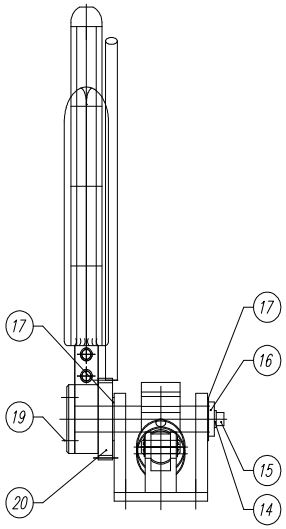
REMARKS:

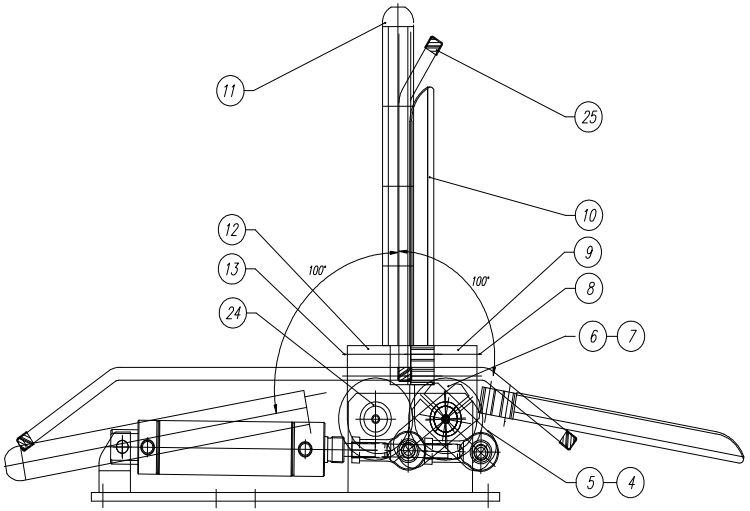
ROTARY ARM SAFETY REFLECTOR BRACKET ASS'Y

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (450) 667-9769

DATE: MAR-4-2003	SCALE: 1 : 4
DRAWN BY: J-NICOLAS BACON	MACHINE TYPE: MPA67/17
CHECKED BY: -	DRAWING SIZE: C
ASSEMBLY DWG.: -	JOB No.: 13465	DRAWING No.: 437571M







No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
25	PLASTIC PROTECTION CAP		017493	4	
24	BRONZE BUSHING		014800	4	
23	RETAINING RING		010266	2	
22	CYLINDER PIN		434935	1	
21	SHAFT		434900	1	
20	SPUR GEAR		011384	2	
19	FLAT CAP SCREW		012671	6	
18	CLAMP JAW PIVOT SHAFT		260558	1	
17	THRUST WASHER		010193	4	
16	FLAT WASHER		011381	2	
15	HEX SOCKET SCREW		010286	2	
14	SPRING WASHER		011393	2	
13	HEX SOCKET SCREW		012834	2	
12	SMOOTH JAW HOLDER		401184	1	
11	SMOOTH JAW		400810	1	
10	JAW WITH RUBBER		434897	1	
9	JAW WITH RUBBER HOLDER		401185	1	
8	HEX SOCKET SCREW		012686	2	
7	SPRING WASHER		011390	1	
6	HEX HEAD SCREW		012406	1	
5	CLAMP YOKE		434899	1	
4	SPRING PIN		010264	1	
3	ROD END		011201	1	
2	AIR CYLINDER		014150	1	
1	CLAMP BASE WELDING		434907	1	

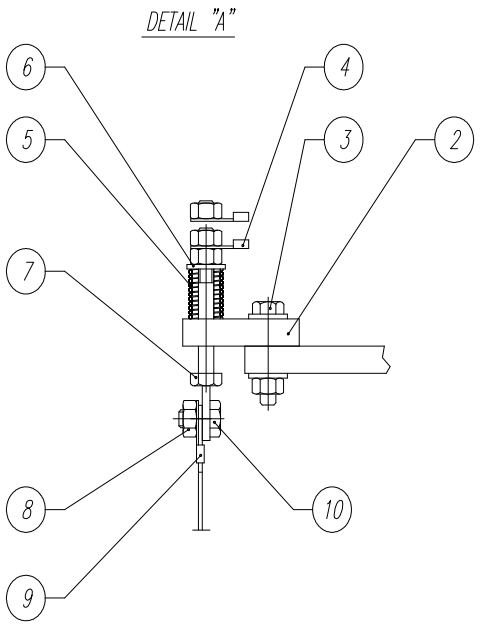
REMARKS:

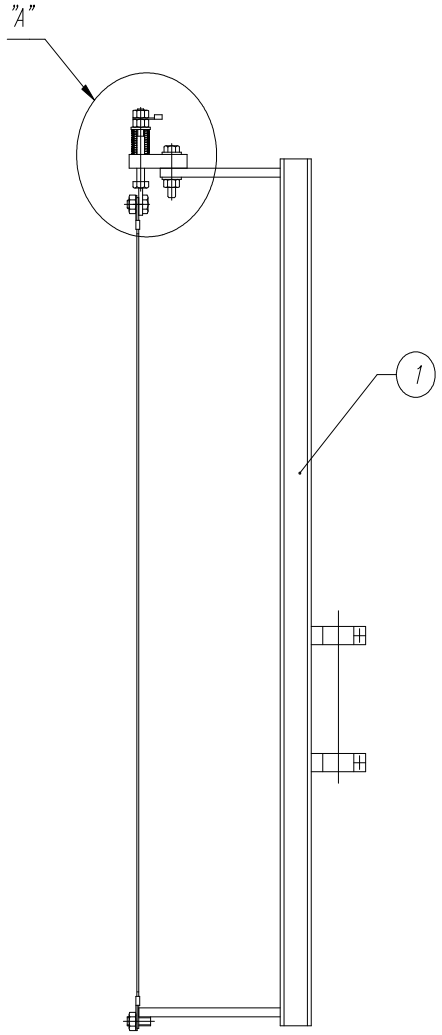
REMARKS:

FILM CLAMP ASSEMBLY - MPA67

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (514) 667-9769

DATE: MAY-10-2002
SCALE: 1 : 2
DRAWN BY: M. G. GOLA
MACHINE TYPE: MPA67
CHECKED BY:
DRAWING SIZE: D
ASSEMBLY DWG.: 434929 D
JOB No.: STD
DRAWING No.: 434896M





No.	DESCRIPTION	DWG SIZE	PART No.	Q'ty	WEIGHT
10	HEX. HEAD CAP SCREW		012722	1	
9	CUTTING WIRE		402745	1	
8	HEX. NUT		012689	5	
7	WIRE ATTACHMENT		409351	1	
6	FLAT WASHER		012221	1	
5	COMPR. SPRING		013995	1	
4	TERMINAL RING		010693	1	
3	HEX. HEAD CAP SCREW		012793	1	
2	HOT WIRE BRACKET		409350	1	
1	20" CUTTING WIRE BRACKET		417752	1	

REMARKS:

REMARKS:

20" HOT WIRE CUTTER ASS'Y

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (514) 667-9769

DATE: OCT-30-1997

SCALE: 1 : 4

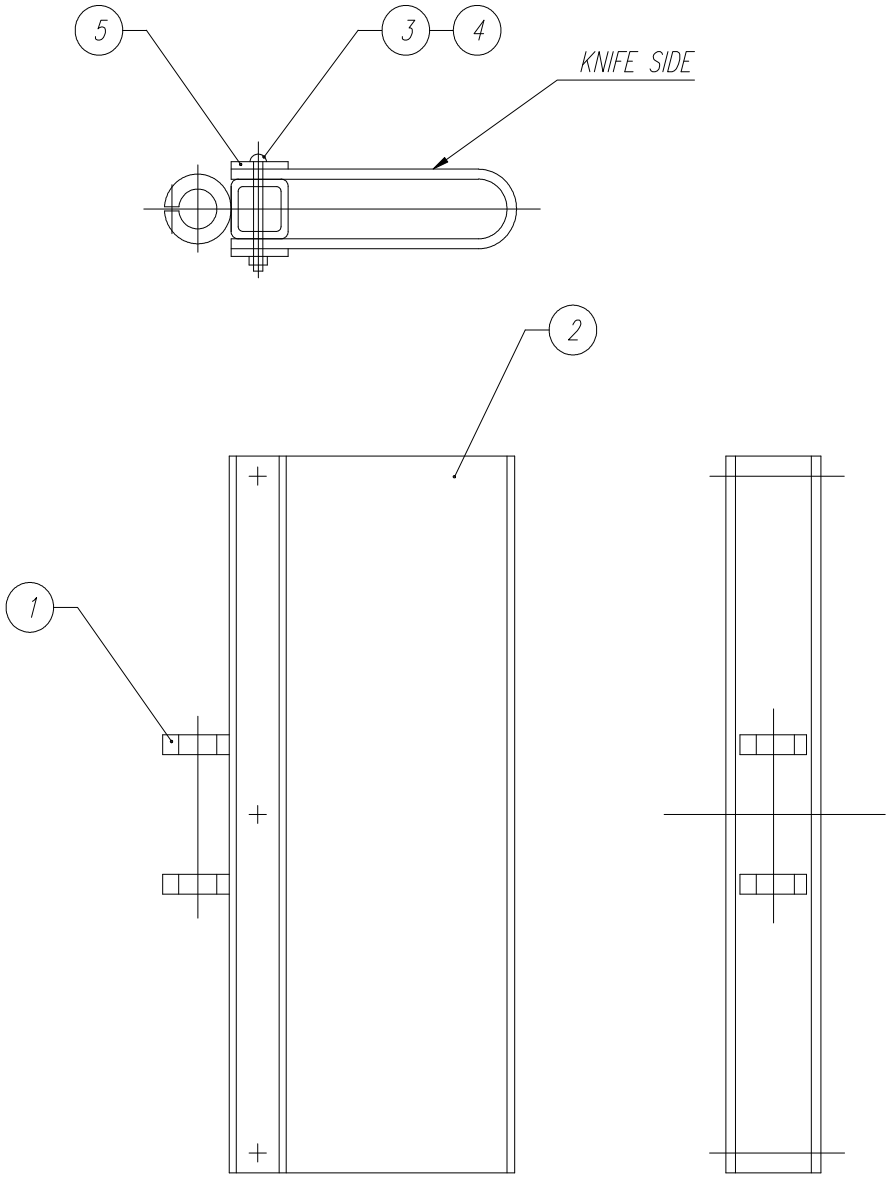
MACHINE TYPE: ALL-66

DRAWING SIZE: B

ASSEMBLY DWG: –

JOB No.: 13405

DRAWING No.: 417750M



No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
5	FLAT BAR		417541	2	
4	HEX NUT		012689	3	
3	PAN PHIL. SCREW		016933	3	
2	ROUGH RUBBER		017499	1	
1	BRUSH HOLDER		417543	1	

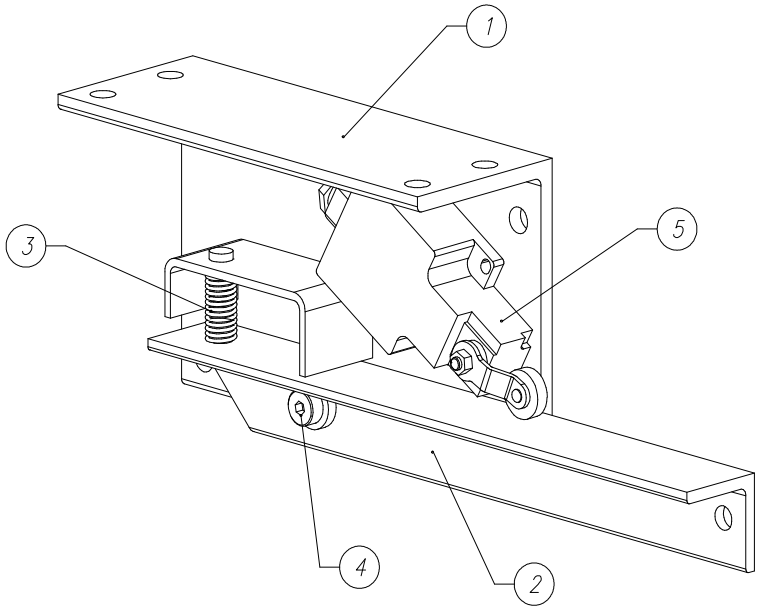
REMARKS:

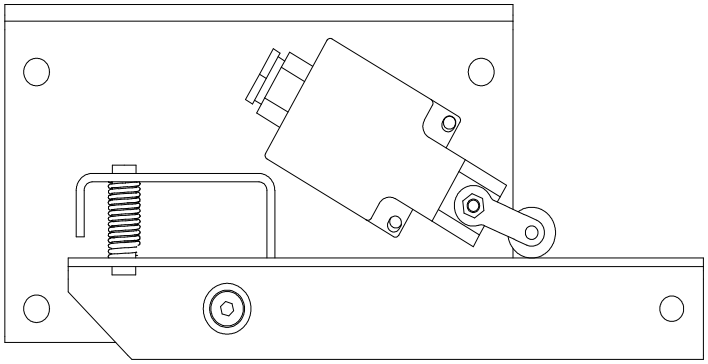
REMARKS:

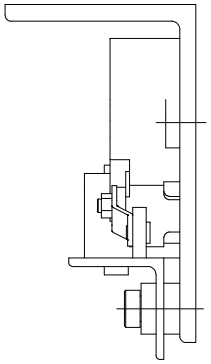
20" BRUSH ASS'Y

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (514) 667-9769

	DATE: OCT. 01/1997	SCALE: 1 : 4
	DRAWN BY: GREGORY STACHURA	MACHINE TYPE: ALL
	CHECKED BY:	DRAWING SIZE: B
ASSEMBLY DWG.: –	JOB No.: STD	DRAWING No.: 417539M







No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
5	LIMIT SWITCH			1	
4	SHOULDER SCREW		010892	1	
3	COMPRESSION SPRING		013995	1	
2	LANYARD SWITCH LEVER		433609	1	
1	LANYARD SWITCH BASE		433608	1	

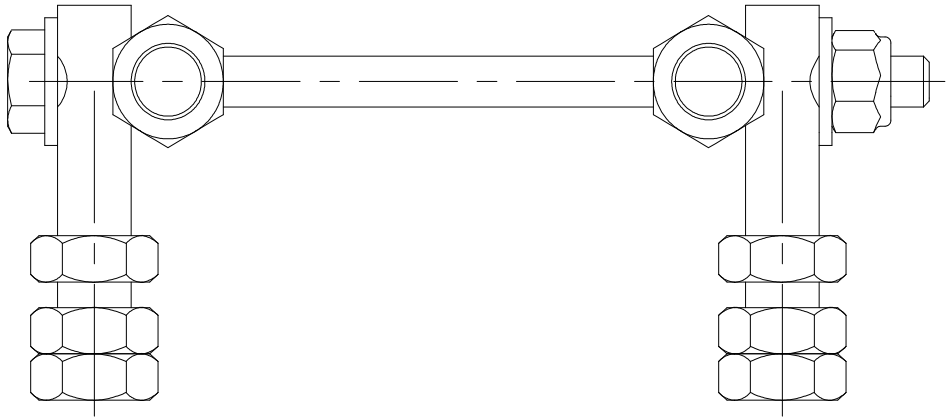
REMARKS:

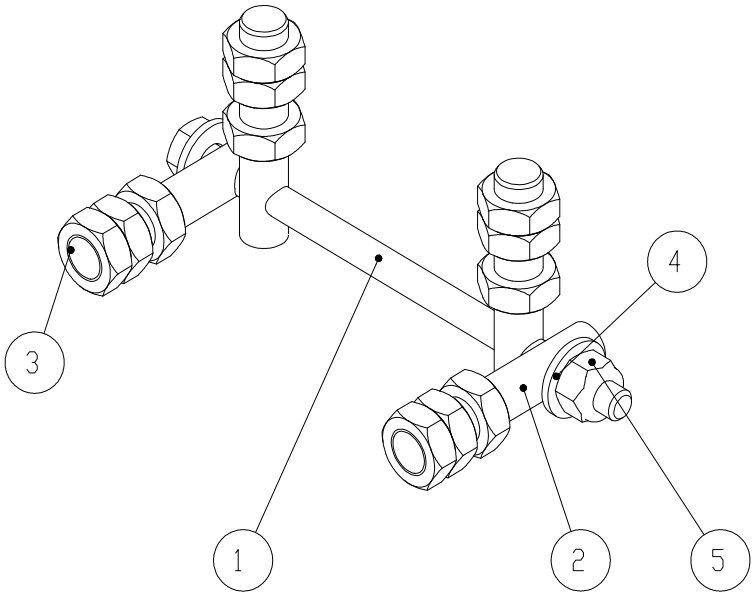
REMARKS:

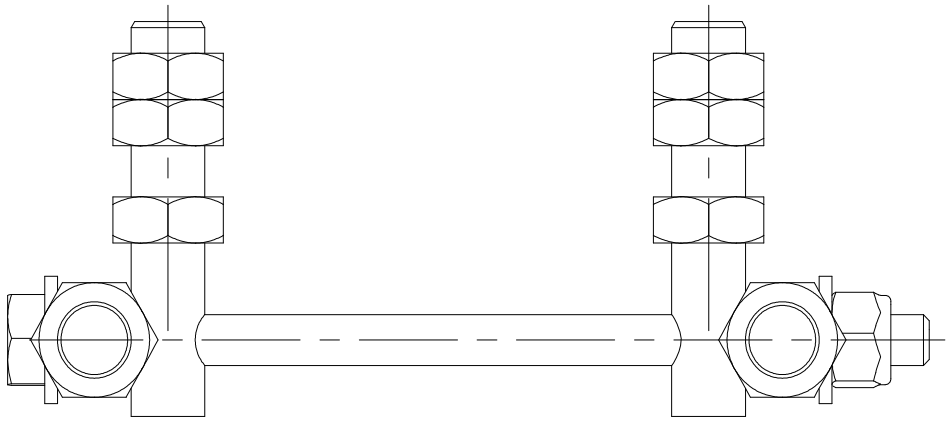
LANYARD SWITCH ASSEMBLY

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (450) 667-9769

	DATE: JAN-30-2002	SCALE: 1 : 2
	DRAWN BY: ROGER F.	MACHINE TYPE: -
	CHECKED BY:	DRAWING SIZE: B
ASSEMBLY DWG.: -	JOB No.: STD	DRAWING No.: 433607M







#	TITLE	Length	PART NO	Q
5	HEX. SELF-LOCKING NUT		015098	1
4	FLAT WASHER		012221	2
3	HEX. JAM NUT		014235	12
2	SPECIAL BOLT		415938	4
1	HEX BOLT		015099	1

REMARKS

REMARKS

CRADDLE HINGE ASS'Y

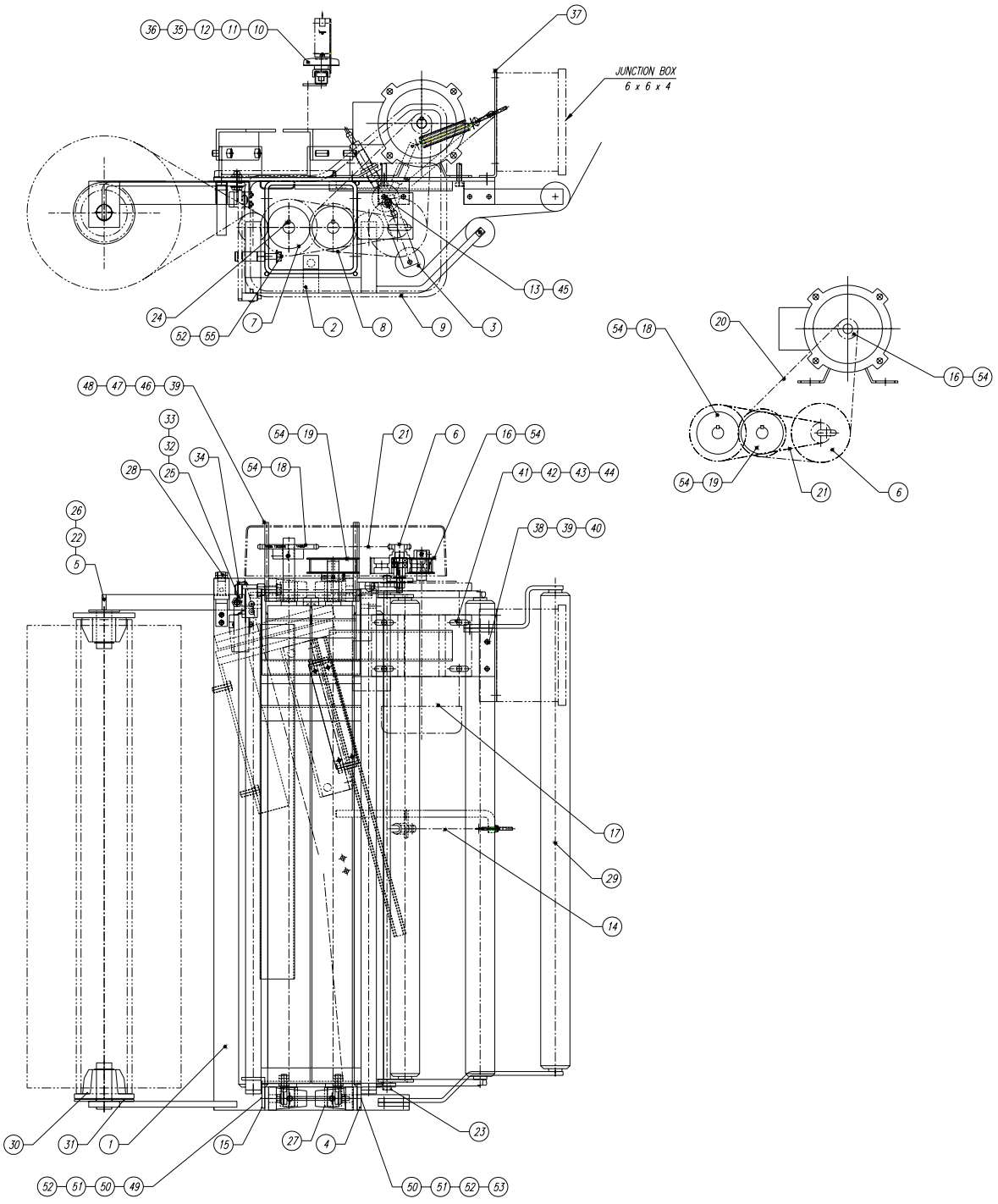
orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL: (450) 667-9769

TOLERANCES
UNLESS OTHERWISE SPECIFIED
MACHINED : ±1/32
WELDED : ±1/16
ANGLE : ±1/16 PER 60°
X.XX : ±0.02
X.XXX : ±0.005

REFERENCE DWG.

DRAWN BY	DRAWN DATE	WEIGHT (lb)
S.KUBICKA	12/15/1999	0.45
APPROVED BY	APPROVED DATE	SCALE
		1:1
MACHINE TYPE	JOB NO.	SHEET
ALL		1 / 1
ASSEMBLY DWG	DWG SIZE	DWG NO. / REV.
	A	426200M A+

APPENDIX



No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
55	HEX HEAD SCREW 3/8-24UNF 1 1/2 LG		016131	1	
54	SET SCREW 1/4-20UNC 1/2LG		–	6	
53	HEX HEAD SCREW 3/8-16UNC 1 3/4 LG		013479	1	
52	WASHER FLAT 3/8		010948	8	
51	WASHER LOCK 3/8		011390	7	
50	NUT HEX 3/8-16UNC		011128	7	
49	HEX HEAD SCREW 3/8-16UNC 1 1/2 LG		012476	6	
48	NUT CAP 1/4-20UNC		–	3	
47	WASHER FLAT 1/4		012221	3	
46	RUBBER GROMMET		014502	3	
45	HEX SOCKET HEAD CAP SCREW 1/4-20UNC 1/2LG		010257	1	
44	WASHER FLAT 5/16		012725	4	
43	WASHER LOCK 5/16		012724	4	
42	NUT HEX 5/16-18UNC		012751	4	
41	HEX HEAD SCREW 5/16-18UNC 1 1/4 LG		012757	4	
40	WASHER LOCK 1/4		011393	2	
39	NUT HEX 1/4-20UNC		012689	5	
38	HEX HEAD SCREW 1/4-20UNC 3/4 LG		012475	2	
37	JUNCTION BOX		434135		
36	KNOB		010092	1	
35	NUT FLAT SQUARE 3/8-16UNC x 5/8 x 1/4 TH'K		017853	1	
34	SAFFETY SWITCH BRACKET ASS'Y – FLR		434148	1	
33	JAM NUT 3/8-16UNC		015121	1	
32	FLAT WASHER 3/8 SIZE		010948	2	
31	BOTTOM SPOOL WASHER		432322	1	
30	BOTTOM SPOOL		432323	2	
29	IDLE ROLLER ASSEMBLY		426543	1	
28	MANDREL LOCK		421643	1	
27	PILLOW BLOCK		011192	4	
26	FLAT WASHER 1" SIZE x 1/8 TH'K		012323	1	
25	HEX. HEAD SCREW 3/8-16 UNC		010293	2	
24	SQ. KEY – 3/16		010227	3	
23	FLANGE BRONZE BUSHING		014247	2	
22	SELF SEATING RETAINING RING		013860	2	
21	CHAIN #40		013397	1	
20	GEARBELT		011151	1	
19	GEARBELT PULLEY		431672	1	
18	SPROCKET (245 %)		428647	1	
17	ELECTRIC MOTOR		015240	1	
16	GEARBELT PULLEY		431477	1	
15	CRADLE ROLLER OPENING LOCK		409469	2	
14	TENSION SCREW ASS'Y		433628	1	
13	PROXIMITY SENSOR CAM		413744	1	
12	PHOTOCELL HOLDER (FLR)		432739	1	
11	PHOTOCELL CHANNEL BRACKET		436777	1	
10	PHOTOCELL CHANNEL P-6000 – 20"		436091	1	
9	FIBERGLASS COVER – (FLR)		414854	1	
8	RUBBER ROLLER – 2 (30" FILM)		420919	1	
7	RUBBER ROLLER – 1 (30" FILM)		420918	1	
6	SPROCKET 40B8/ PULLEY 32L075 ASS'Y		431475	1	
5	TOP MANDREL – FLR		424061	1	
4	DANCER ROLLER BRACKET (FLR)		414852	1	
3	DANCER ROLLER ASSEMBLY – 30" (FLR)		421361	1	
2	CRADLE ROLLER ASSEMBLY – 30 (FLR)		426147	1	
1	I.T. BACK PLATE – 30' (FLR)		431234	1	

REMARKS:

REMARKS:

30" INSTA-THREAD CARRIAGE (FLR)

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (514) 667-9769

ASSEMBLY DWG.:

DATE: JULY-02-03

DRAWN BY: S. KUBICKA

CHECKED BY:

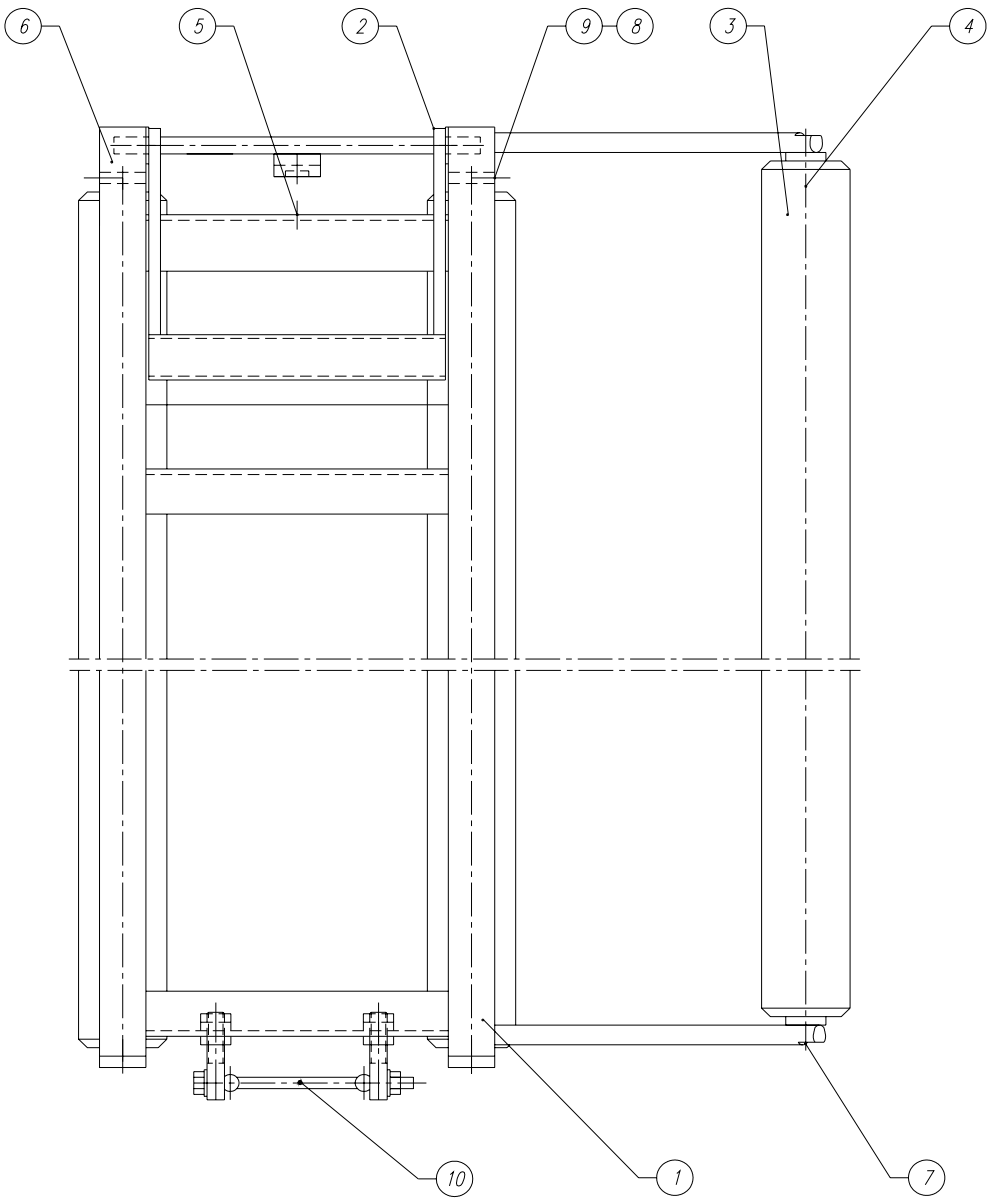
JOB No.: STD

SCALE: 1 : 4

MACHINE TYPE: MPA67

DRAWING SIZE: D

DRAWING No.: 438637M



No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
10	CRADLE HINGE ASS'Y		426200	1	
9	HEX NUT		013451	2	
8	HEX SOCK. CAP SCREW		015020	2	
7	HEX SOCKET BUTTON HEAD SCREW		015133	2	
6	POLYETHYLENE		015023	2	
5	SPRING		013994	1	
4	IDLE ROLLER SHAFT		414385	3	
3	ALUMINIUM ROLLER		402875	3	
2	LOCK		412542	1	
1	CRADLE ROLLER FRAME – 30" (FLR)		426148	1	

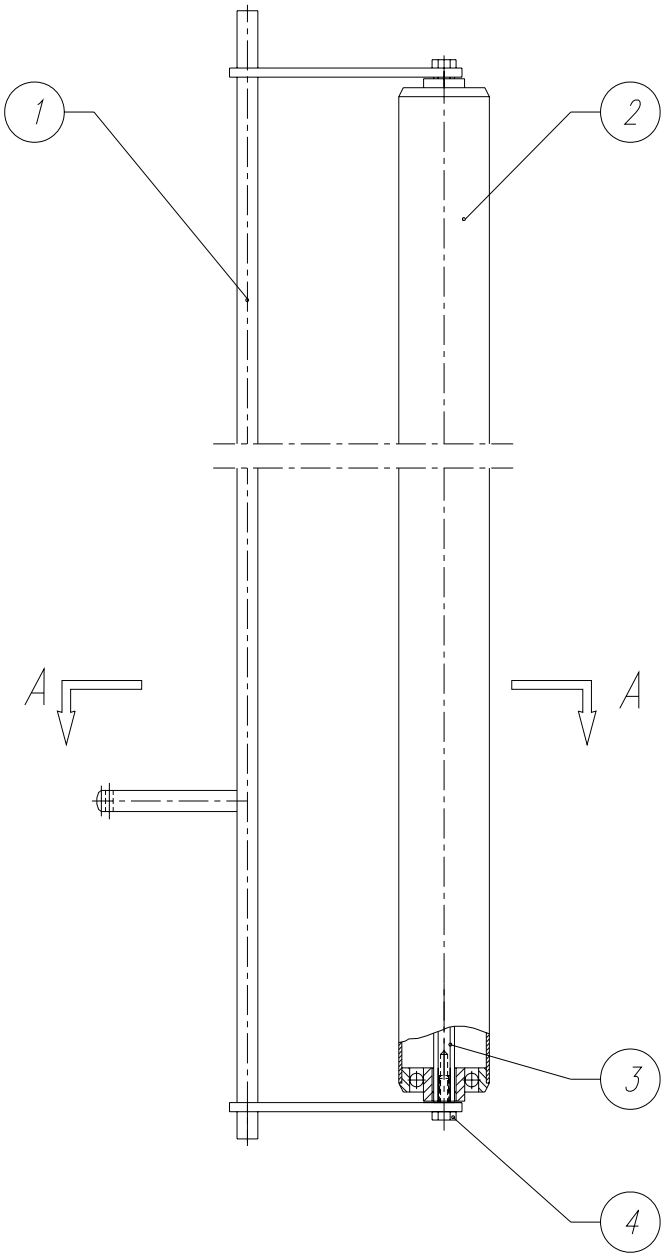
REMARKS:

REMARKS:

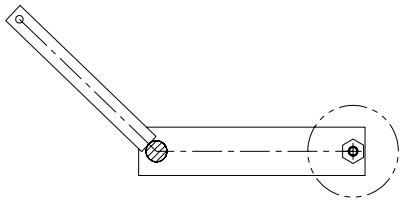
CRADLE ROLLER ASSEMBLY – 30 (FLR)

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (514) 667-9769

	DATE: DEC-13-99	SCALE: 1 : 2
	DRAWN BY: S. KUBICKA	MACHINE TYPE: H,L/14
	CHECKED BY:	DRAWING SIZE: C
ASSEMBLY DWG.: –	JOB No.: STD	DRAWING No.: 426147M



A – A



No.	DESCRIPTION	DWG SIZE	PART No.	Q'ty	WEIGHT
4	HEX. SOCK. HEAD SCREW		014209	2	
3	IDLER ROLLER SHAFT		414385	1	
2	ALUMINUM ROLLER		402875	1	
1	DANCER ROLLER CRADLE – 30 (MIRROR)		421362	1	

REMARKS:

REMARKS:

DANCER ROLLER ASSEMBLY – 30 (FLR)

orion
PACKAGING INC.
2270 INDUSTRIEL, LAVAL
QUEBEC, CANADA, H7S 1P9
TEL.: (514) 667-9769

DATE: OCT-01-98

SCALE: 1 : 4

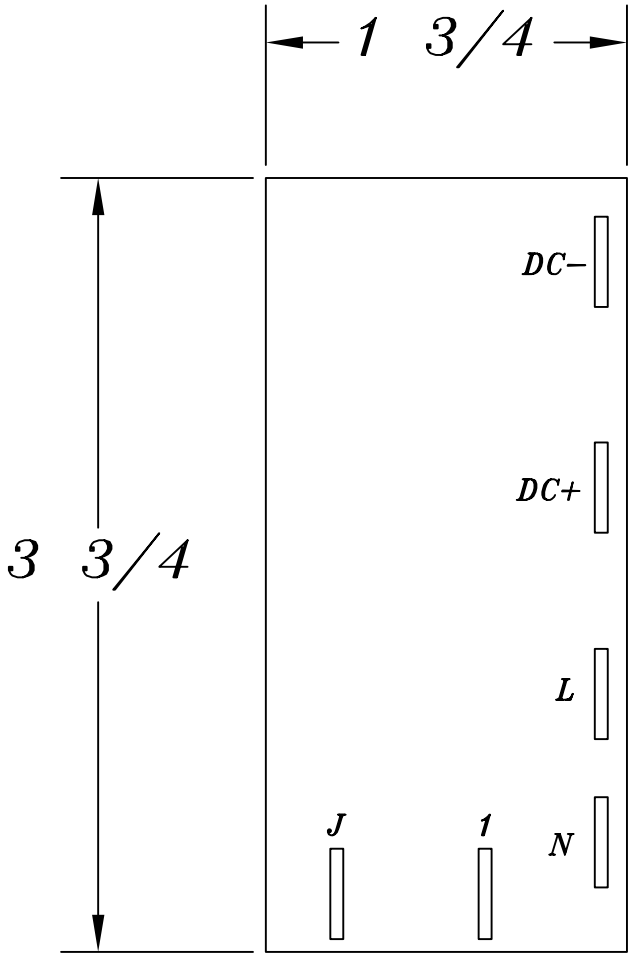
MACHINE TYPE: ALL INSTA

DRAWING SIZE: A

ASSEMBLY DWG: –

JOB No.: STD /12

DRAWING No.: 421361M



DC–: ARMATURE CONTROL.
DC+: ARMATURE CONTROL.
L: AC INPUT – LINE.
N: AC INPUT – NEUTRAL.
1: CONTROL – LINE.
J: CONTROL – COMMON.
(REQUIRES A JUMPER TO "N")

NEW STYLE
168–4 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.

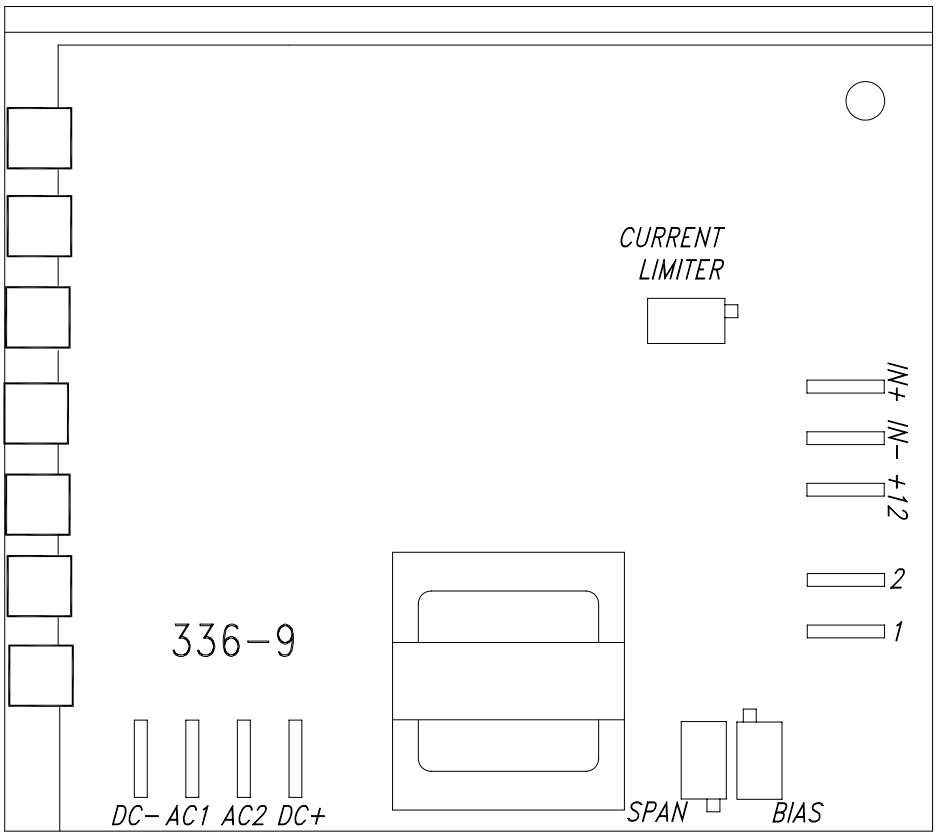
Span: (RV1) The **RV1** pot controls the systems loop gain.

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

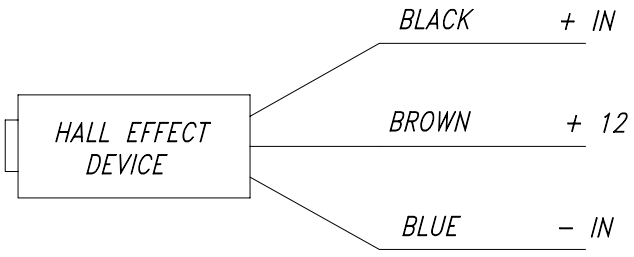
DC−: ARMATURE CONTROL

POTENTIOMETER

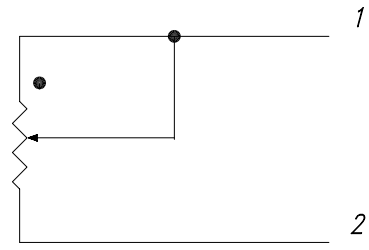
SPAN: HALL EFFECT SENSITIVITY CONTROL

BIAS: SYSTEM BIAS (FACTORY SET)

CURRENT LIMITER: (FACTORY SET)



FILM TENSION ADJUSTMENT
REMOTE POTENTIOMETER



336−9
MULTISTRETCH 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 speed*1*.

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 speed*2* 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.

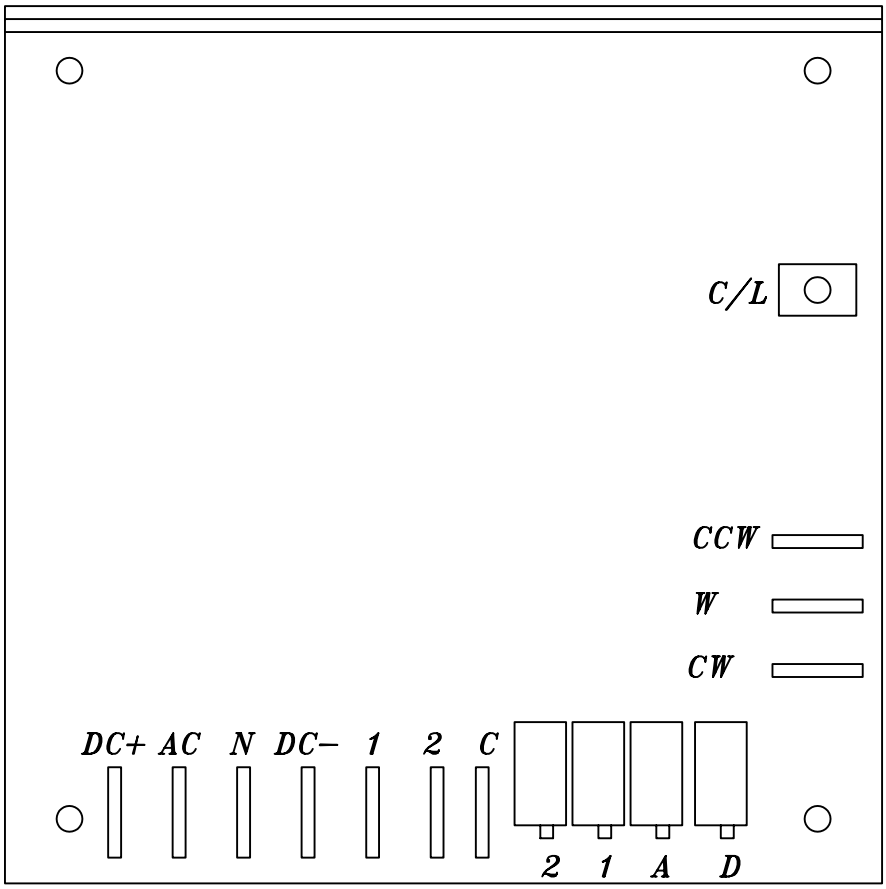
Conversely, if the deceleration time is set too long, the turntable/tower will not settle to the jog speed and thus will be going too fast to align properly and the momentum will take the turntable/tower beyond the start position. As you can imagine, any time the wrap speed is changed, you will need 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. JOG SPEED

2: CONTROL – LINE. WRAP SPEED

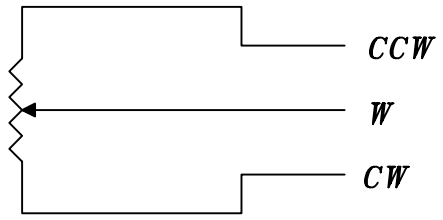
C: CONTROL – COMMON.
(REQUIRES A JUMPER TO "N")

MAX: MOTOR SPEED ADJUSTMENT.

ACC: ACCELERATION ADJUSTMENT.

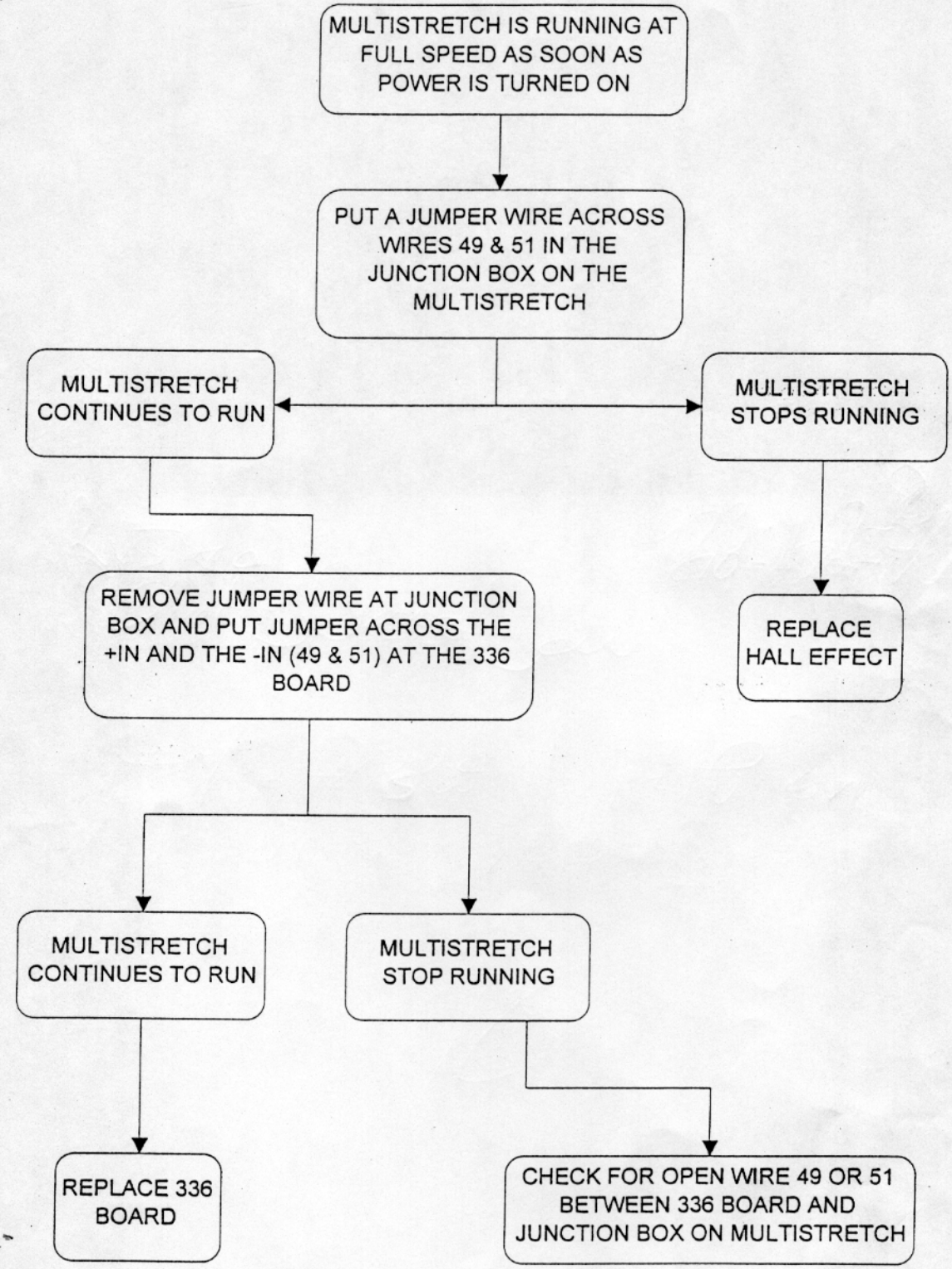
C/L: CURRENT LIMITER.
(FACTORY SET)

NOTE: WHERE A REMOTE POT IS NOT USED (CONVEYOR) "W" & "CW" ARE SHORTED.

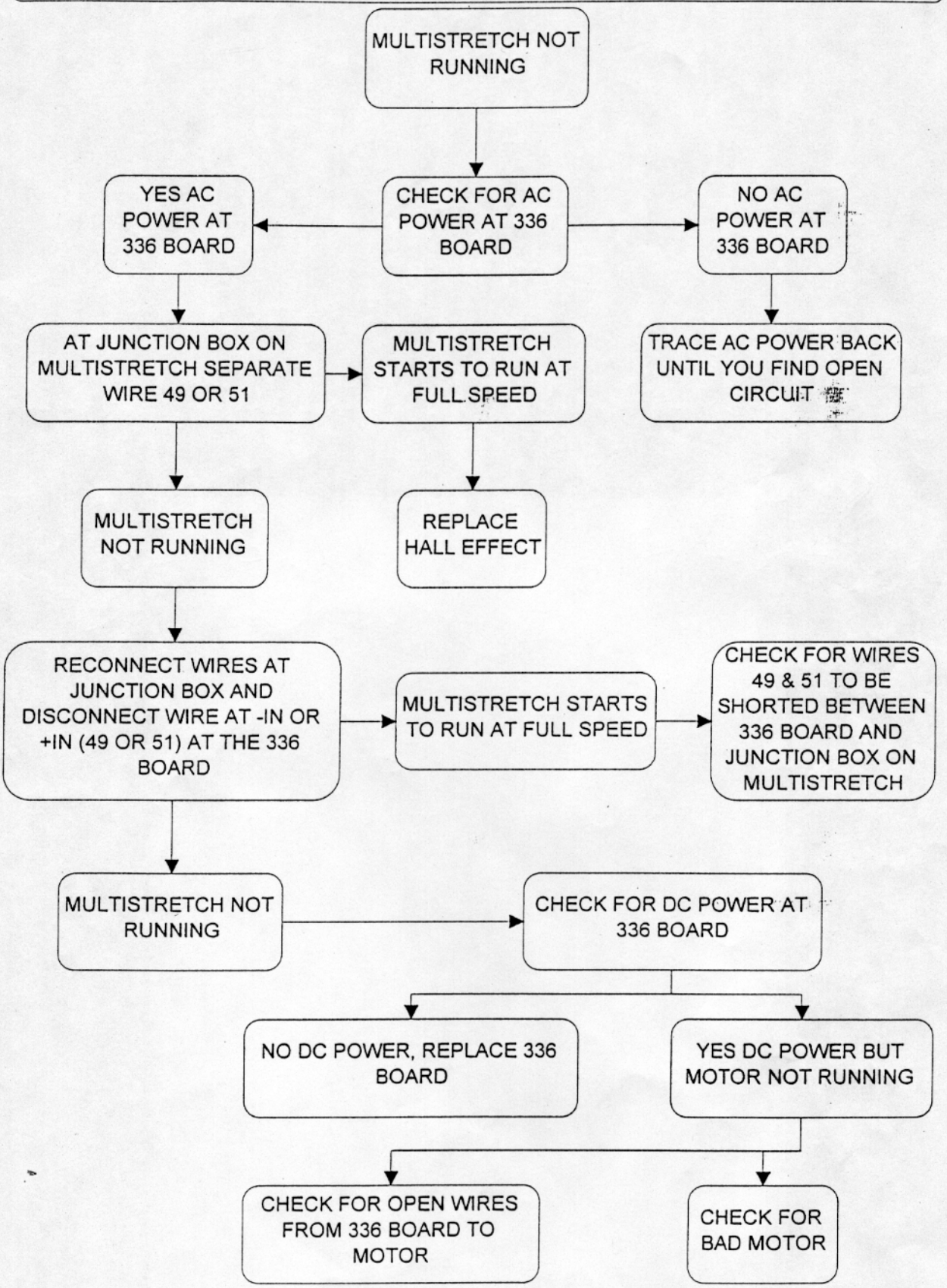


850DM TWO SPEED 120VAC/90VDC MOTOR CONTROL BOARD

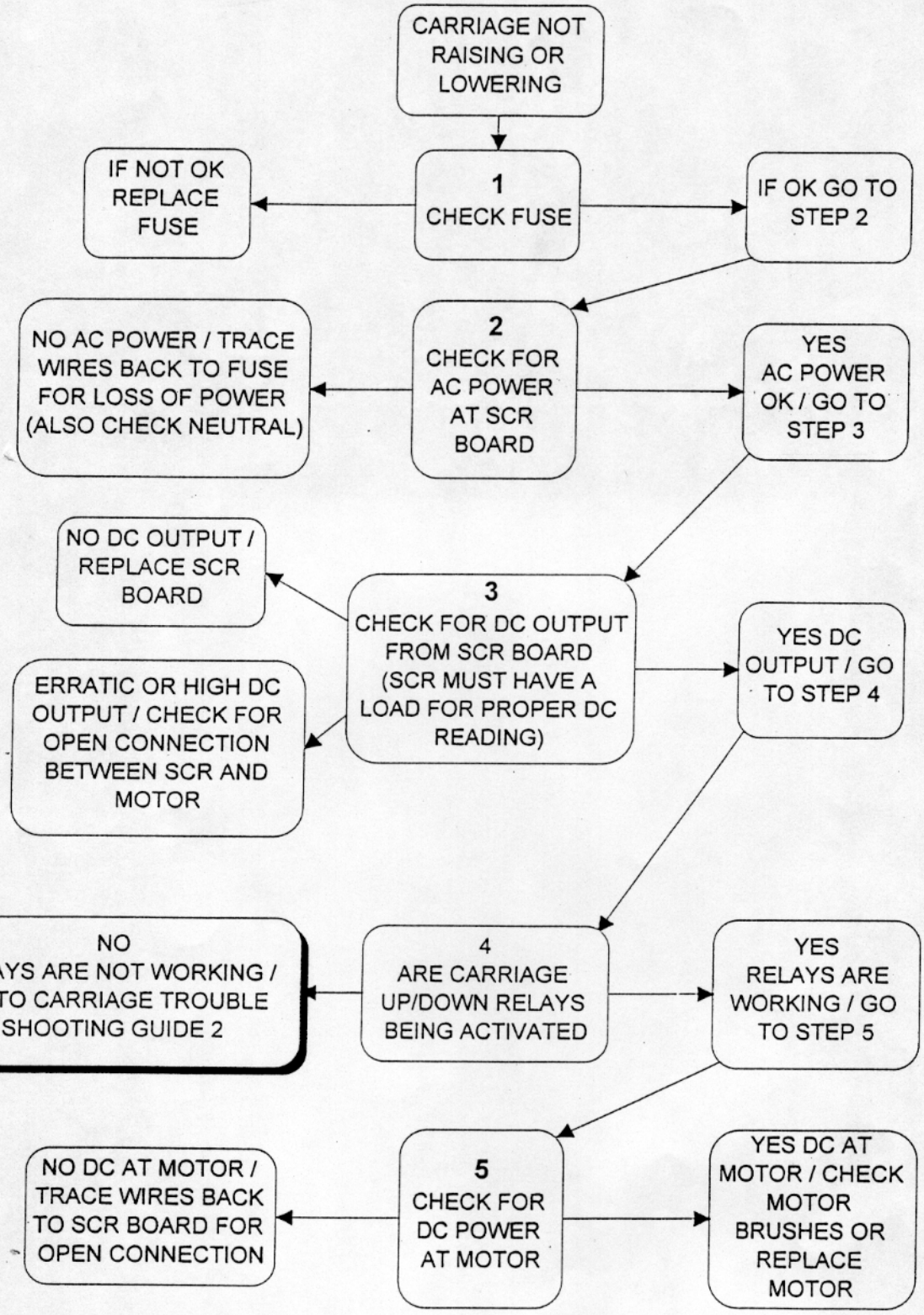
MULTISTRETCH TROUBLE SHOOTING GUIDE 1



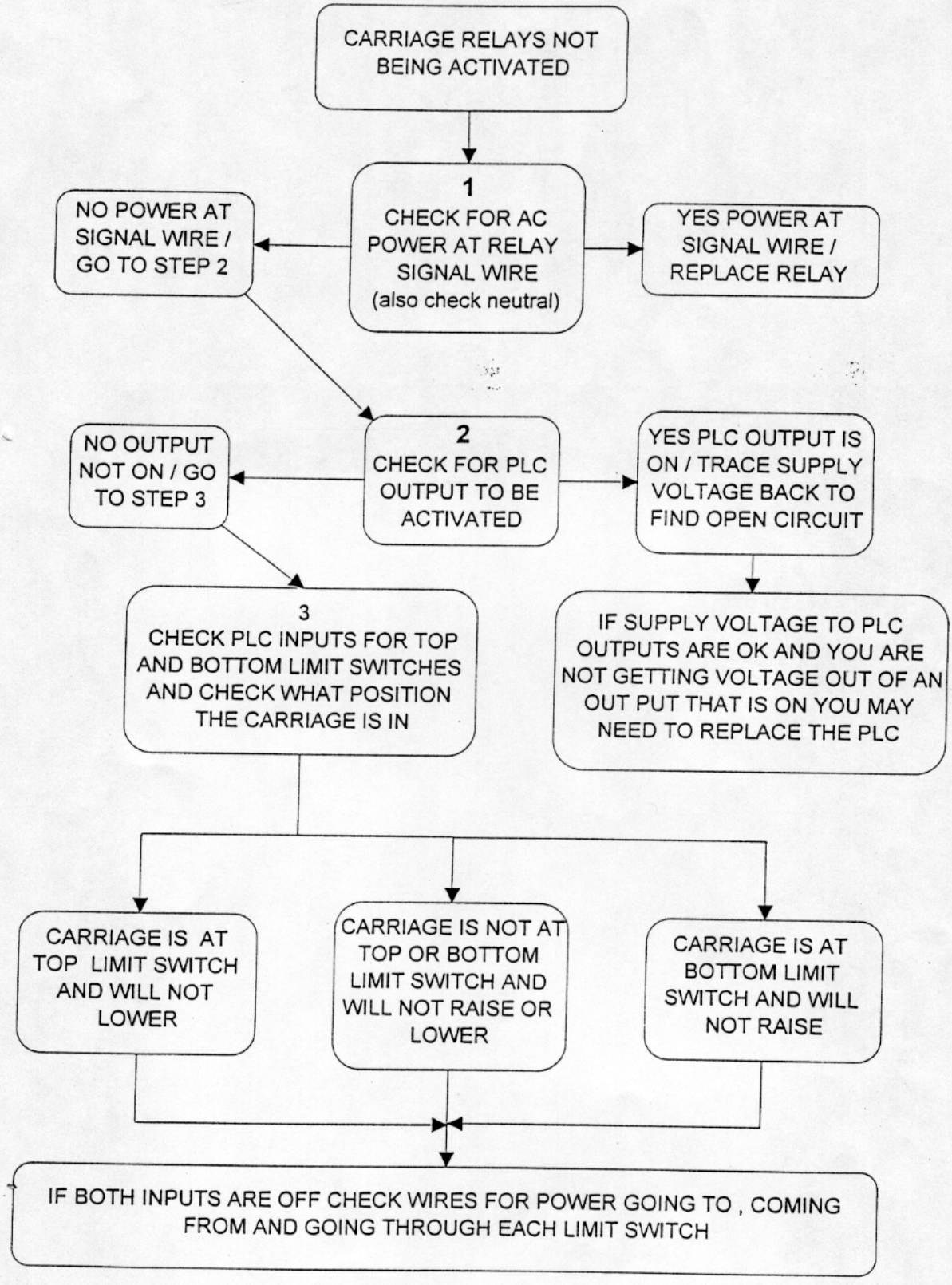
MULTISTRETCH TROUBLE SHOOTING GUIDE 2



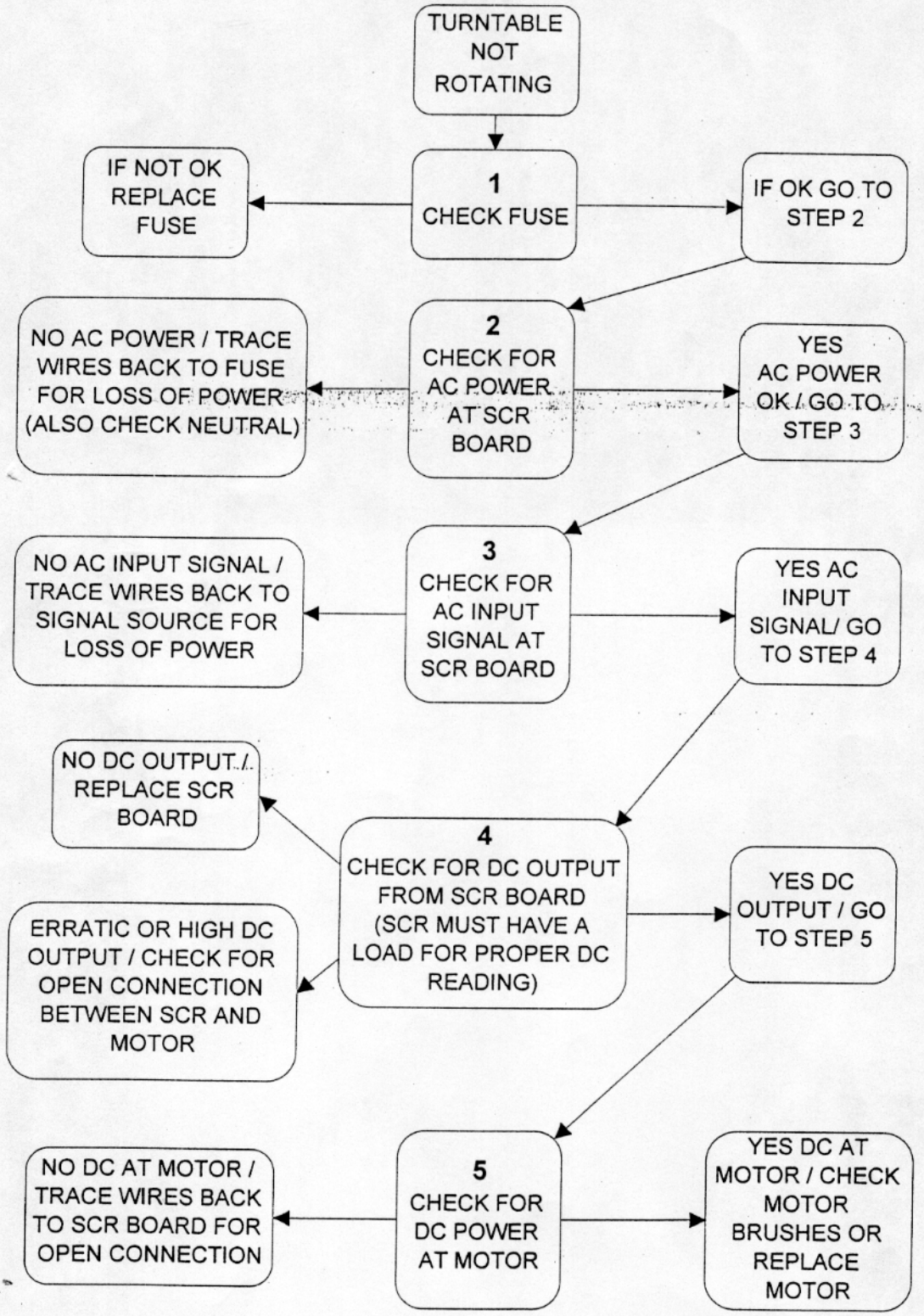
1
BASIC CARRIAGE RAISE / LOWER TROUBLE SHOOTING GUIDE



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.