



# OPERATION MANUAL

For All Inquiries  
Please Contact  
Our Local Distributor

**FOR U.S.A. (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 and skills.

Please read this manual carefully and keep it handy. Following these simple operating instructions will insure the safe and efficient performance of this machine and simple maintenance procedures will guarantee 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 a potential 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 be disconnected prior to all inspection, maintenance or repair work.**

**ORION PACKAGING SYSTEMS INC.**  
**SEMI-AUTOMATIC SPECIFICATIONS - EFFECTIVE SEPTEMBER 1<sup>st</sup> , 2000**  
**REVISED APRIL 2001**

**ORION MATRIX® SERIES MODEL M-55GS**

**Spiral Semi-Automatic Heavy Duty Gantry Style Rotary Tower System**

<b>Maximum Load Size</b>	58"W x 58"L x 80"H (Max Load Diagonal 82")
<b>Weight Capacity</b>	Unlimited (Floor Loaded)
<b>Utilities</b>	115/1/60 15 Amp Service
<b>Rotary Tower</b>	20" Diameter Precision Ring Bearing Tower Support Structural Steel Tube Design
<b>Tower Drive</b>	Heavy Duty ANSI Chain & Sprocket Drive 0 - 18 RPM Variable Tower Speed Electronically Adjustable Acceleration/Deceleration (Soft Start) Variable Speed Drive Motor Positive Home Position Alignment Feature
<b>Control Features</b>	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 Revo-Logic™ Exact Wrap Counting Technology 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 Reinforce Wrap for Banding Photocell for Automatic Load Height Detection with On/Off Switch Tower Jog Pushbutton
<b>Film Delivery</b>	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 245% Standard Pre-Stretch Ratio (Maximum 395%) 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
<b>Film Carriage Elevator Drive</b>	Heavy Duty ANSI Chain Carriage Lift Variable Speed Drive Motor Multi-Point UHMW Precision Carriage Guidance System
<b>Structural Features</b>	100% Structural Steel Construction Throughout Non-Proprietary, Locally Obtainable Components Throughout Easy Access to All Components Open Mechanical Design for Ease of Maintenance Free Standing Two Leg Design (Self-Supporting) Expanded Metal Safety Fencing Around Process Area
<b>Estimated Shipping Weight</b>	2,700 lbs.

## 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 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.
3. Sit the machine down assuring uniform contact with the floor, which is necessary to ensure correct and smooth operation.

## 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:

- motors and transmissions (transmissions may require purge plugs which could have been unplugged for the transport purpose)
  - junction boxes
  - electrical conduits
  - proximity and limit switches
  - photocells
3. Check the turntable assembly 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 operating manual envelope attached to the panel enclosure.

## 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.

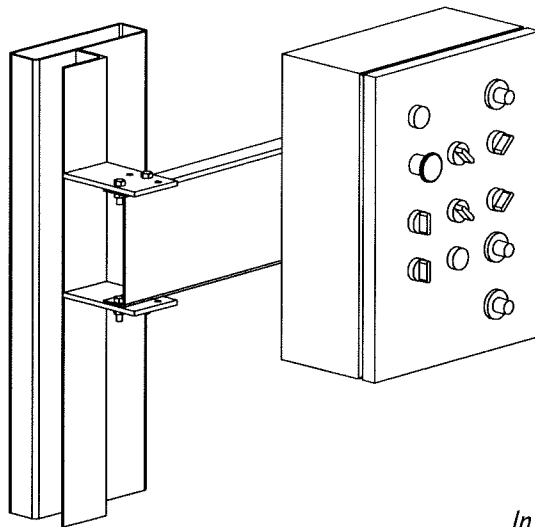
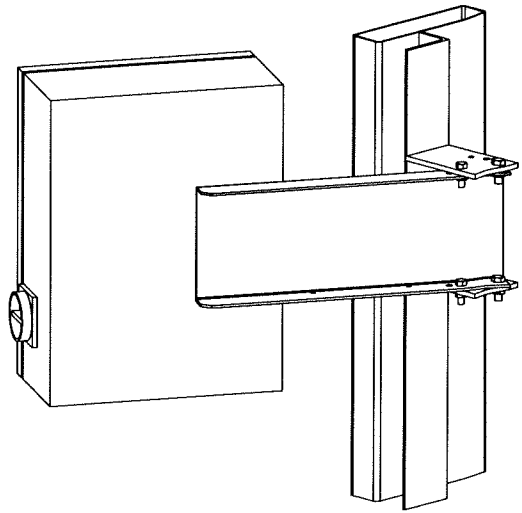
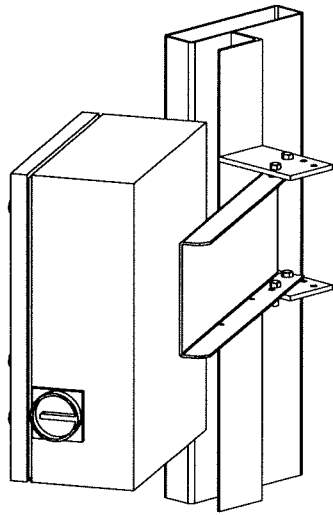
The wrapper mainframe section **must be bolted to the floor by the 1/2"** concrete floor anchors (leg & shield or expandable type).

**NOTE:** Mongoose M66IS or M67IS the "Z" stand **must be bolted to the floor by the 5/8"** 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 degree 6').
- The conveyor roller deviation from horizontal must not exceed 1/16" on the distance of 52" (angle: 0 degree 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 tight (rigid conduit) to the main junction box located on the wrapper main frame next to the tower.



*In order to facilitate access and manipulation  
the control panel can be mounted in several  
alternating positions.*

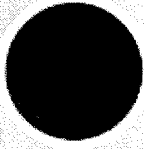
## **CONTROL PANEL POSITIONS**

STD

DWG. # 435217

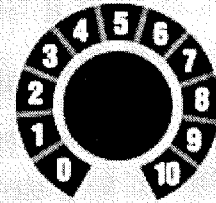


**START**



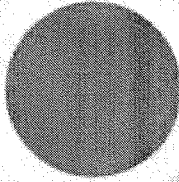
**Orion Packaging Systems**

Collierville, TN, USA  
Laval, PQ, Canada

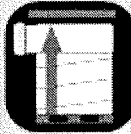


**FILM TENSION**

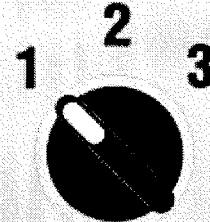
**STOP**



**UP ONLY**



**UP / DOWN**



**1X = PAUSE 2X = RESET**

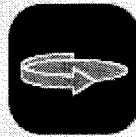
**WRAP MODE**

**TOP WRAPS**

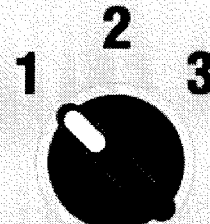
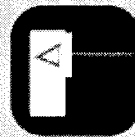
**REINFORCE WRAP**



**TURNTABLE TOWER JOG**

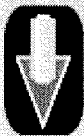


**PHOTOEYE**  
**OFF ON**



**BOTTOM WRAPS**

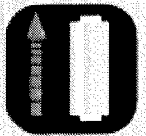
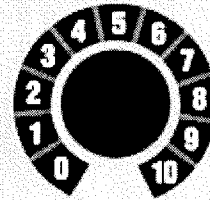
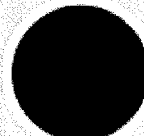
**DOWN**



**UP**



**POWER**

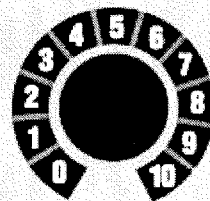


**CARRIAGE JOG**

**CARRIAGE UP SPEED**

**! WARNING !**

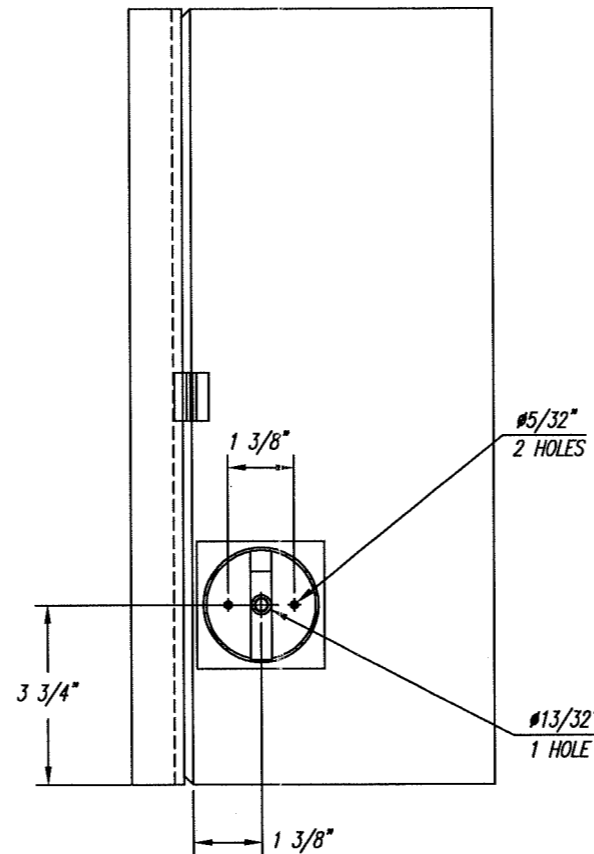
**DANGEROUS OR FATAL ELECTRIC SHOCKS MAY RESULT IF POWER TO THE MACHINE IS NOT DISCONNECTED BEFORE OPENING THE PANEL. DISCONNECT POWER TO THE MACHINE BEFORE OPENING THE PANEL.**



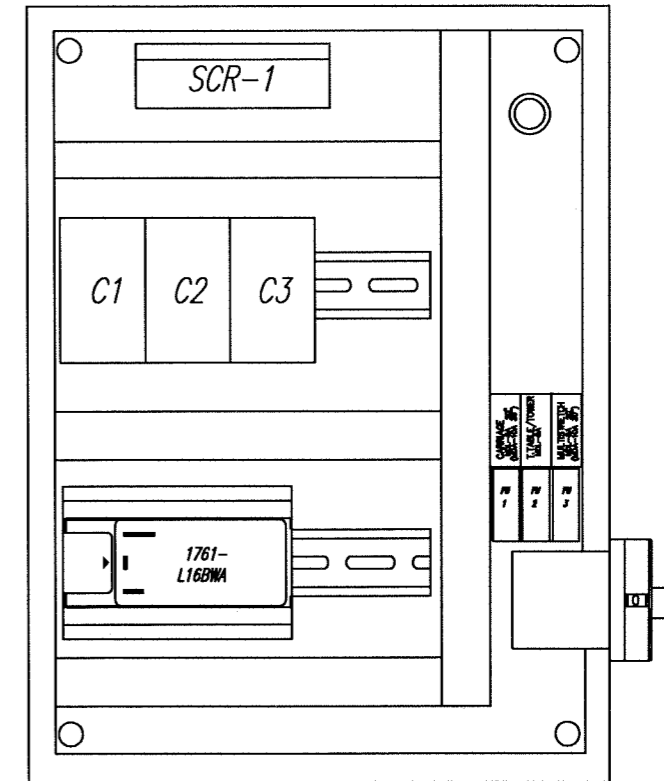
**CARRIAGE DOWN SPEED**



M55:M57:M66:M67-17(STD)  
 PANEL STICKER PN-500 104  
 (5412 ECH161206)



SIDE VIEW  
 MAIN SWITCH LOCATION

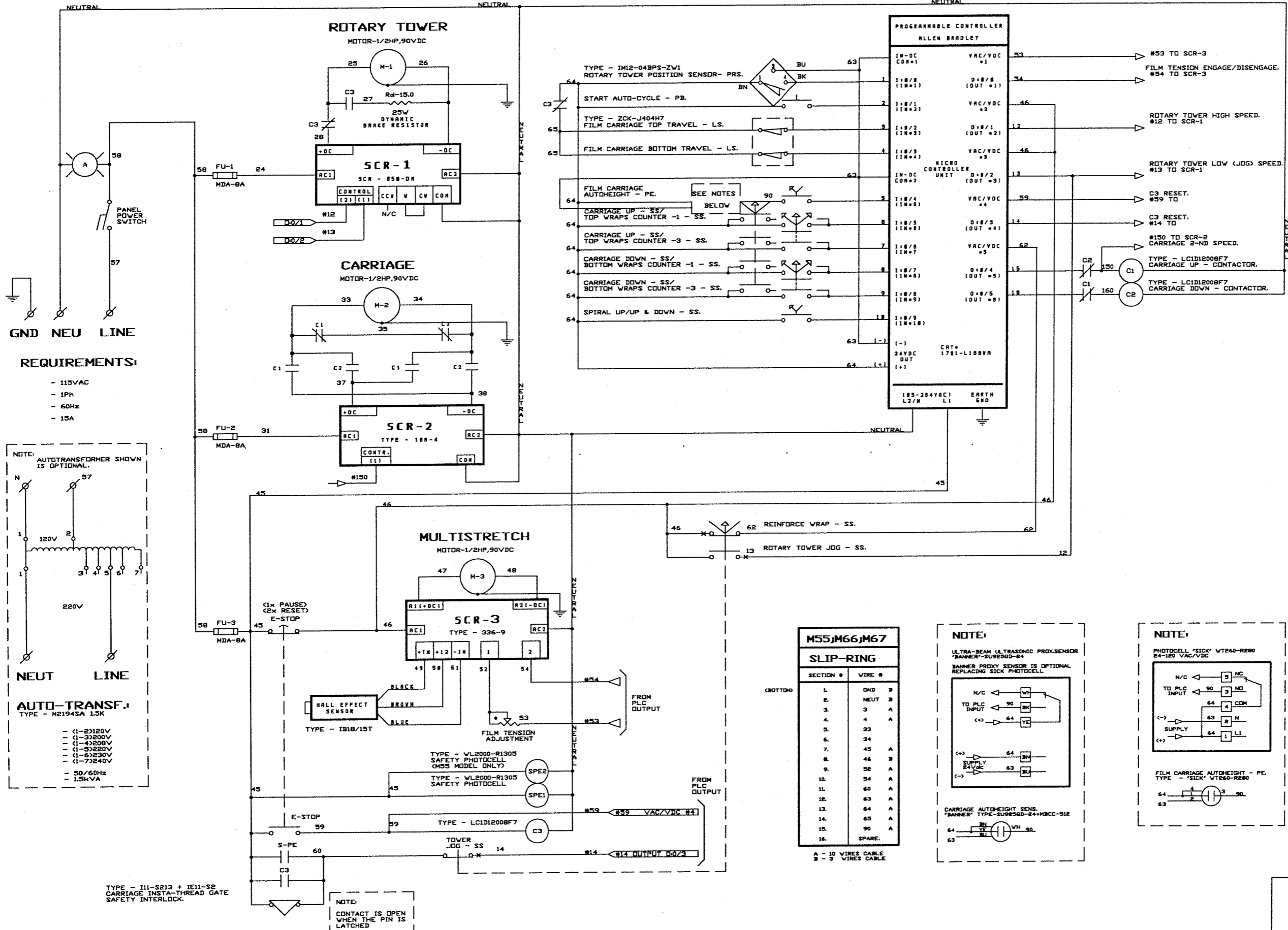


M55:M57:M66:M67-17 (STD) PANEL LAYOUT  
 PANEL SIZE 16X12X06

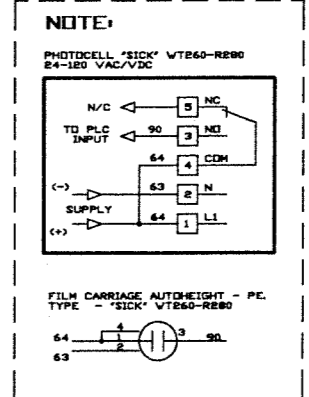
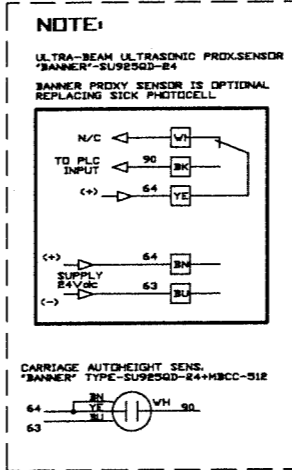
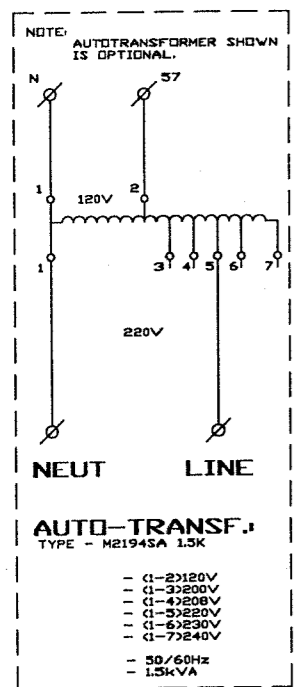
NOTES:

- 1: SCR-2 (168-4) IS LOCATED ON ENCLOSURE DOOR.
- 2: FU-2 & FU3:  
 MDL-8A (20" CARRIAGE)  
 MDL-10A (30" CARRIAGE OR HEAVY FILM GAUGE UPGRADE)
- 3: BOARD SCR-3:  
 336-9 (20" CARRIAGE)  
 336-7 (30" CARRIAGE) OR HEAVY FILM GAUGE UPGRADE)

<p>ORION          PACKAGING INC.          2270 INDUSTRIEL BOUL. LAVAL          QUEBEC, CANADA, H7S 1P9          TEL: (450) 667-9799</p>	<b>ORION PACKAGING INC.</b> 2270 INDUSTRIEL BOUL. LAVAL, QUE., CANADA H7S 1P9 TEL: (450) 667-9799 FAX: (450) 667-5300 APPR. BY: J.B.S. DRAWN BY: J. ALEXANDER		SCALE: 1:2	
	TITLE: M55,57,66,67-17(STD)			
	SIZE: D	DOCUMENT NO: 302 441/L	JOB # STD	REP: 3
	DATE: MAY-30-2003	SHEET: 1 OF 1		BASE:



- REQUIREMENTS:**
- 115VAC
  - 1Ph
  - 60Hz
  - 15A



- FUSES FU-2 AND FU-3 - MDA-8A (20" CARRIAGE) - MDA-10A (30" CARRIAGE OR HEAVY FILM GAUGE UPGRADE)
- BOARD SCR-3 - 336-9 (20" CARRIAGE) - 336-7 (30" CARRIAGE OR HEAVY FILM GAUGE UPGRADE)

**ORION PACKAGING INC.**  
2270 INDUSTRIEL BLD LAML, QUE. CANADA H7S 1P9  
TEL: (450) 867-8780 FAX: (450) 867-5320  
STICKER 500 154 (ENGLISH) STICKER 500 043 (FRENCH)

**ORION**

DATE: SEPT-10-2004  
FILENAME: M55-171.DWG

SIZE: DOCUMENT NO. 302 441 3  
JOB / STANDARD

SCALE: NTS  
SHEET: 1 OF 1

# **MACHINE OPERATION**

## **Before Starting Machine Operation**

Verify that the machine is properly connected to the electrical source. The electrical requirements depend on the machine type and features. For this information, please see the machine electrical diagram provided with the machine operation manual.

The control panel layout for the machine is shown on the drawing.

**CAUTION:** Before proceeding the machine operation familiarize yourself with the EMERGENCY-STOP button and all functions, switches and pushbuttons.

## **POWER SWITCH**

Located on the panel door or side of the panel box, the lockable power switch has two settings:

ON - connects a power source to the machine

OFF - disconnects the power source.

## **START AND EMERGENCY STOP SWITCHES**

The START switch is used to start the cycle once the load is on the turntable. The cycle may be stopped on by pressing the STOP button (may also be used for the choosing the range of counts of the top and bottom wraps - see TOP WRAPS and BOTTOM WRAPS).

**NOTICE:** In case of emergency, the push-pull STOP button interrupts all the machine electrical circuits. To continue the cycle the STOP push button should be pulled out and START button pressed for the machine restarting. Double pressing of the push - pull STOP button will reset the machine program and machine will be ready to apply the wrapping cycle from its beginning.

## WRAP PATTERN SELECTOR SWITCH “SPIRAL” UP / UP/DOWN

The Pattern Selector Switch “ SPIRAL” positions:

UP - When the UP position has been selected machine will first wrap bottom of load applying selected number of bottom wraps. The film carriage will then move to the top of load and stop. Selected number of top wraps will then be applied, after which the turntable will slow down and stop in home position. Wrap pattern “SPIRAL UP ONLY” has been completed.

UP/DOWN - This Selection has two Sub-Modes, programmable to enable the machine to perform the two different wrap patterns (Bottom Wraps First and Top Wraps First).

BOTTOM WRAPS FIRST - When this Sub-Mode has been selected machine will first wrap bottom of load applying selected number of bottom wraps. The film carriage will then move to top of load and stop. Selected number of top wraps will then be applied. The film carriage will move down to bottom position, after which the turntable will slow down and stop in home position.

TOP WRAPS FIRST - When this Sub-Mode has been selected film carriage will move to top of load and stop. Selected number of top wraps will be applied. The film carriage will then move to bottom of the load and stop. Selected number of bottom wraps will then be applied. The film carriage will be in bottom position; turntable will slow down and stop in home position.

Machine is shipped pre-programmed in TOP WRAPS FIRST Sub-Mode, in order to change Sub-Mode from TOP WRAPS FIRST to BOTTOM WRAPS FIRST see instructions below.

Before proceeding ensure that machine is in MANUAL, STANDBY MODE (machine is powered on and all machine manual functions are enabled)

- Press the STOP (Red) Button
- To Re-program machine to BOTTOM WRAPS FIRST Sub-Mode, switch and hold “Carriage Raise/Lower” Selector Switch in LOWER position and maintain for approximately 12 seconds.
- Pull the STOP (Red) push-button out.
- Perform standard machine reset procedure by double push-pull operation of the red mushroom stop button.
- At this point machine is ready and BOTTOM WRAPS FIRST Sub-Mode is now activated.

To Re-program machine to TOP WRAPS FIRST Sub-Mode follow procedures above, with the exception of step 2. Switch and hold “Carriage Raise/Lower” Selector Switch in RAISE position.

At this point machine is ready and TOP WRAPS FIRST Sub-Mode is now activated.

## **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 activated.

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 the respective direction.

## **TURNTABLE JOG & REINFORCE WRAP**

The turntable jog switch will rotate the turntable low speed when the switch positioned on the TOWER / TURNTABLE JOG. When the switch is released, the turntable (rotary tower) will stop. The switch is inoperative during the wrap cycle.

When the same switch is positioned on the REINFORCE WRAP the carriage will be stationary until the switch is released.

## **PHOTOCELL ON/OFF SWITCH**

The photocell switch has two settings:

ON - when turned ON, the photocell instructs the carriage to stop and begin the top wrap 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 useful range for most of the films used by our customers, 8 to 10 as a very high range which may break some films).

## **CARRIAGE SPEED**

The carriage speed potentiometer control can be used to control the amount of overlap the film will have during the wrap. The potentiometer has settings from 0 to 10, the higher settings being the fastest. High settings mean less film overlap because of faster carriage speed and low settings mean more film overlap because of lower carriage speed.

## **TOP WRAPS 1, 2, 3...9**

Three-position switch controls the number of wraps that may be applied on the top of the load. The machine is preset RANGE # 1 (top wraps: 1 or 2 or 3). To change the values of wrap see TOP & BOTTOM WRAP COUNTS CHANGE.

## **BOTTOM WRAPS 1, 2, 3...9**

Three-position switch controls the number of wraps that may be applied on the bottom of the load. The machine is preset with RANGE # 1 (bottom wraps: 1 or 2 or 3) which may be applied. To change the values of wrap see TOP & BOTTOM WRAP COUNTS CHANGE.

## **TOP & BOTTOM WRAP COUNTS CHANGE**

The Top & Bottom Wrap Selector Switches have three (3) ranges of wrap counts and operate independently of each other.

Range #1	Wrap values of 1 - 2 - 3
Range #2	Wrap values of 4 - 5 - 6
Range #3	Wrap values of 7 - 8 - 9

For the selection of any of these ranges for top and bottom wraps please do as follows:  
Before proceeding ensure that machine is in MANUAL, STANDBY MODE (machine is powered on and all machine manual functions are enabled)

Press the STOP (red) Button

Set the Top and Bottom wrap count selector switch to the position corresponding with the desired count range.

- 1 = Range #1
- 2 = Range #2
- 3 = Range #3

Press the START (Green) pushbutton and maintain for approximately 12 seconds.  
Pull the STOP (Red) pushbutton out.  
Perform standard machine reset procedure by double push-pull operation of the red mushroom stop button.  
At this point machine is ready and new preset values are loaded.

## **MACHINE WRAPPING TEST**

Notice: It is advisable to test-run the equipment with several pallet loads before attempting to wrap using film. Please position the operator beside the EMERGENCY STOP push button.

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

- load height stop photoswitch (on the carriage)
- top limit switch position
- bottom limit switch position
- roping bar height adjustment

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).



## **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 (multistretch 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.

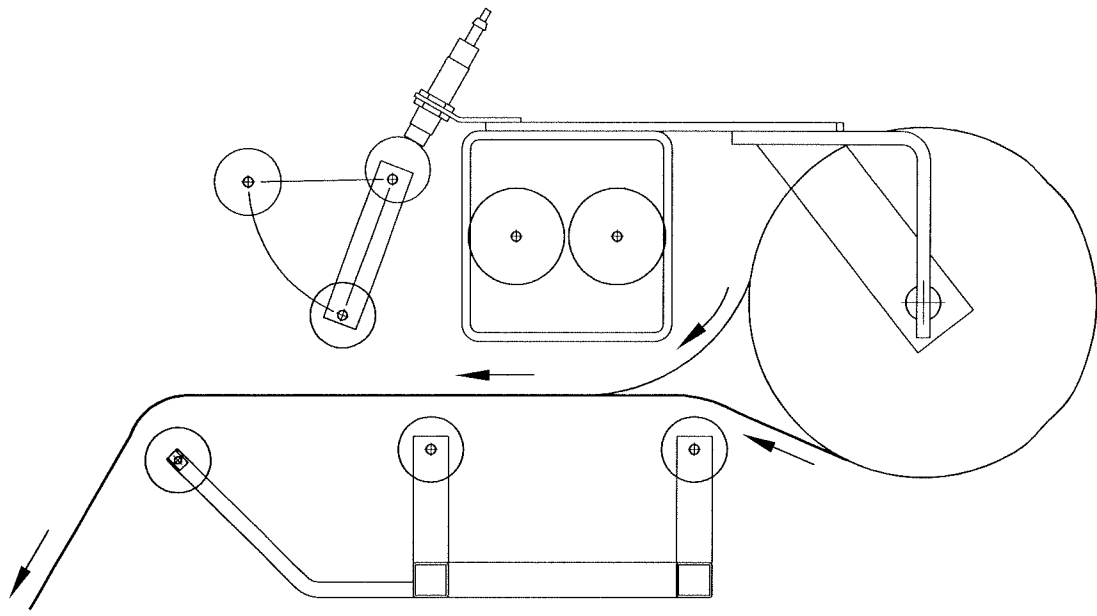


Fig. 1 OPEN CRADLE

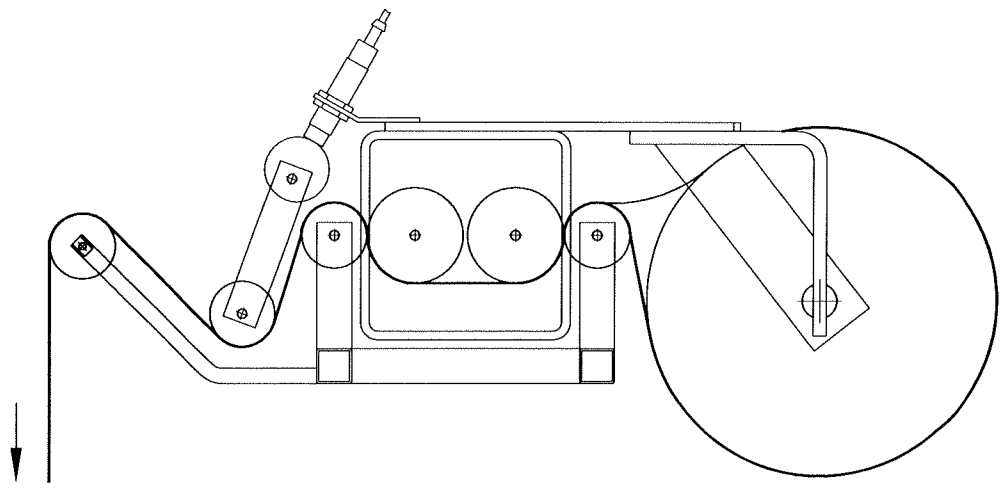


Fig. 2 CLOSED CRADLE

**INSTA-THREAD FILM CARRIAGE  
FILM QUICK THREADING**

UPDATED FEB-15-99

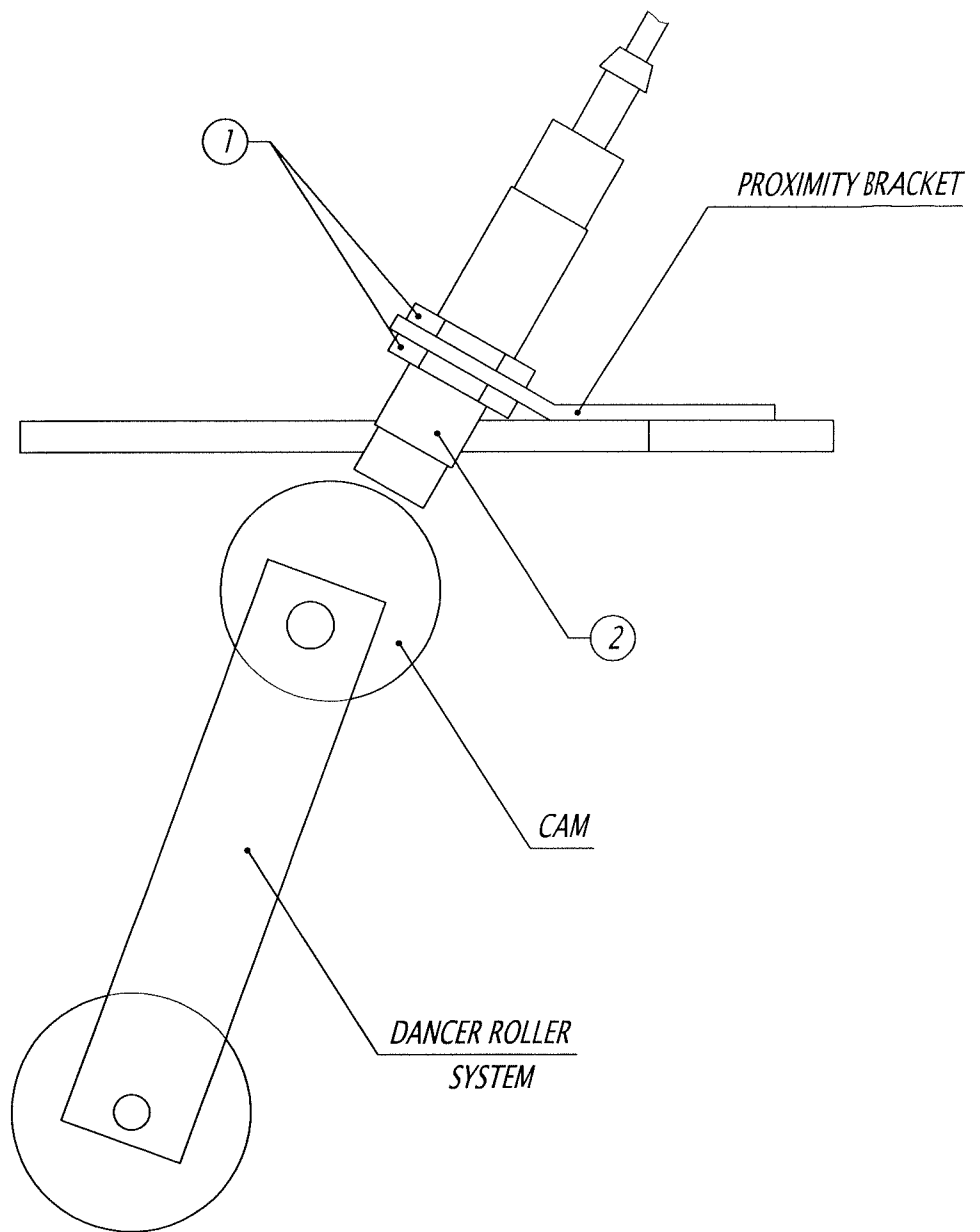
DWG # 418180

## **PROXIMITY SENSOR ADJUSTMENT**

Occasionally the Feed Back Proximity Sensor may need some adjustment. The position of the feed back proximity sensor against the cam is shown on drawing # 419139.

Adjustment instructions:

- remove the carriage cover
- unbolt the two nuts holding the proximity switch - item # 1
- turn the Proximity sensor - (item # 2) to create the gap between the cam and the front side of proximity sensor about 1/8 “
- tighten on the nuts securing the Proximity Sensor
- turning the trim pot SPAN (Board 336-8 or 336-9) adjust the moment when motor starts to turn when dancer roller moved from its home position up to 1 1/2”.



*PROXIMITY SENSOR  
FEED BACK ADJUSTMENT*

UPDATED FEB-15-99

DWG # 419139

## MACHINE MAINTENANCE

All general information about machine maintenance is based on normal machine working conditions: indoors, 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 Suerr 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)**

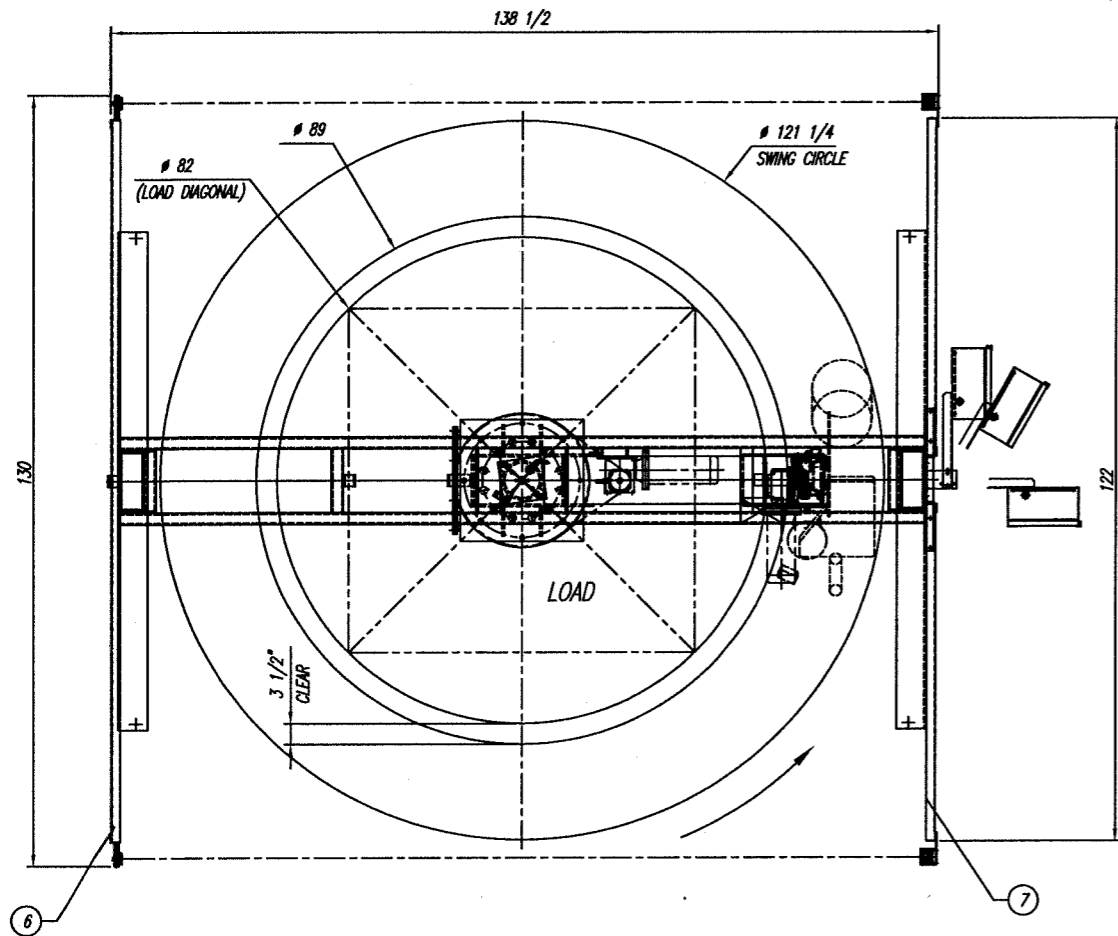
The cam followers have deep grease pockets and do not need frequent relubrication. The portion of the tower on which the cam followers run, should be cleaned and regreased every 300 hours of operation. If the machine operates in a dusty or corrosive environment the tower should be relubricated more often.

# **SEMI-AUTOMATIC STANDARD ASSEMBLIES PART LIST**

**NOTE:**

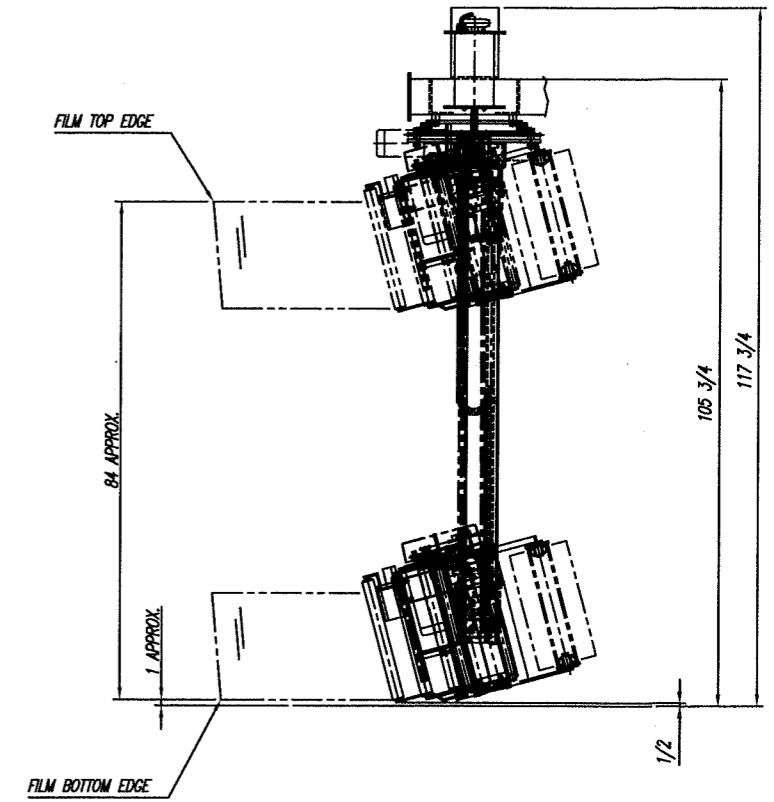
- Quantities listed in order of part number
- The names given to the parts are generic.
-



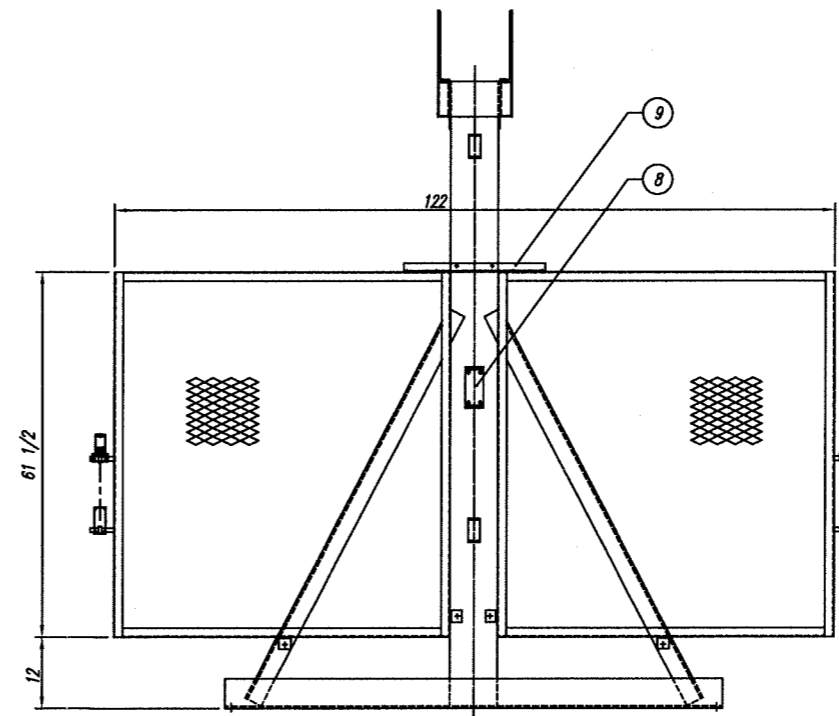
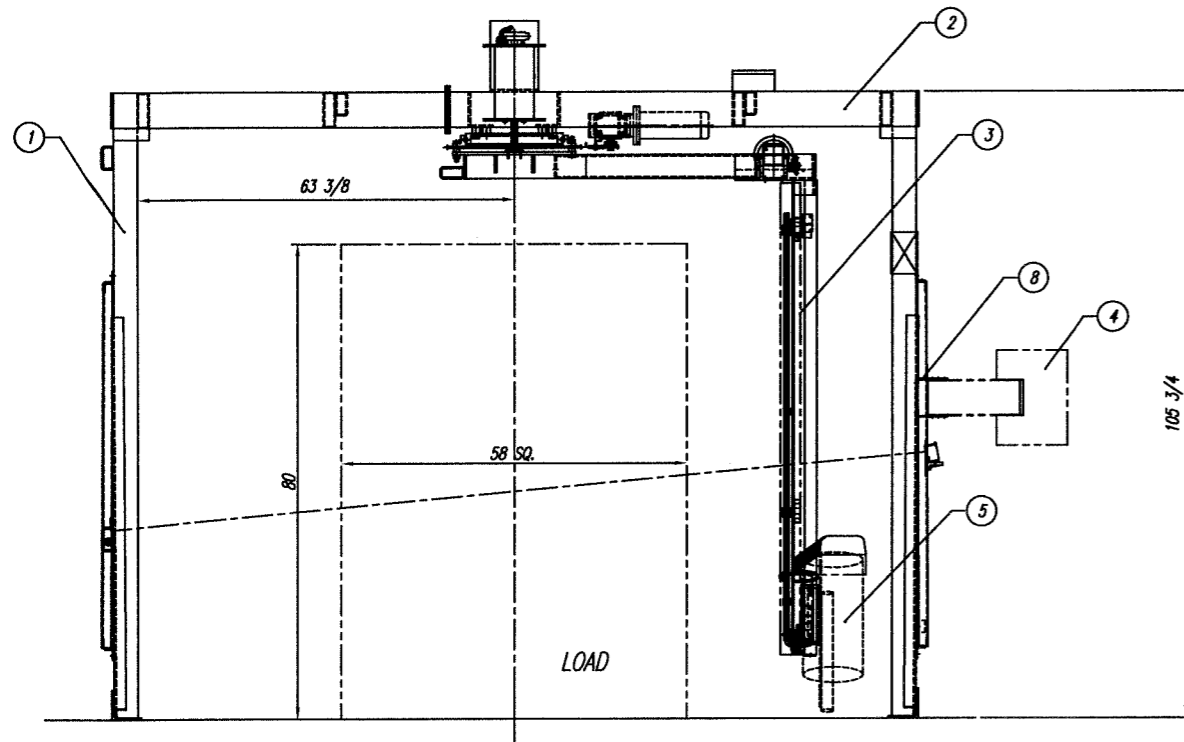


**NOTE :**

1. ROTARY ARM-TOWER SPEED : 18 RPM (20" FILM CARRIAGE)  
14 RPM (30" FILM CARRIAGE OR ROTARY ARM-TOWER EXTENSION)
2. MAX. LOAD SIZE : 58" L x 58" W x 80" H (MAX. LOAD DIAGONAL OF 82")
3. LOAD WEIGHT : UNLIMITED (FLOOR LOADED)
4. POWER SUPPLY : 115/1/60 , 15 A
5. MACHINE COLOUR : 2-TONE "ORION" STD GREY (PLATINUM & DARK GREY)



WRAPPING VIEW



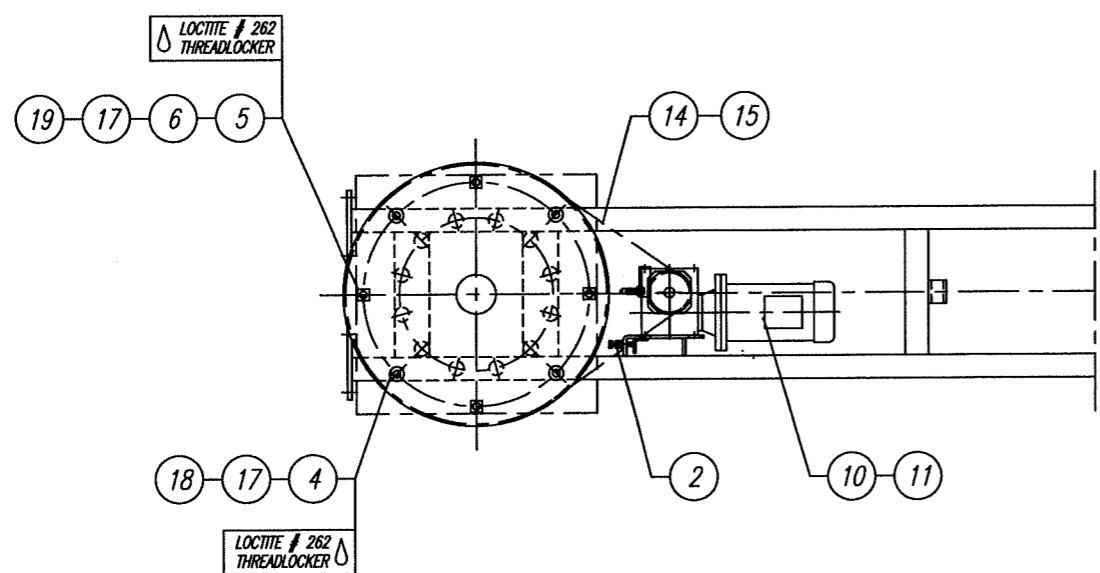
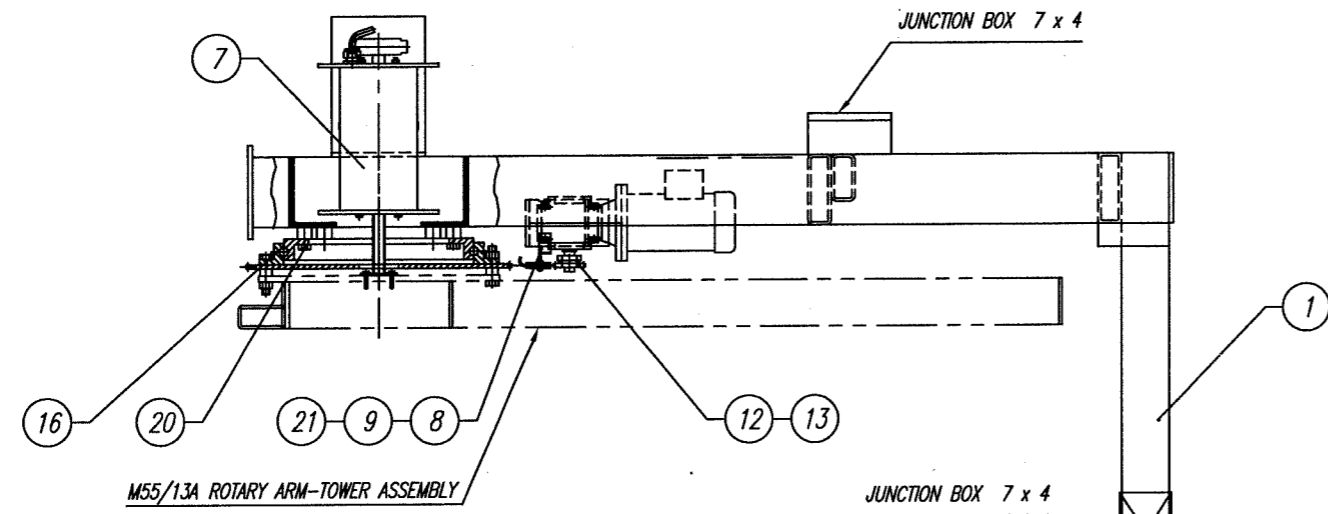
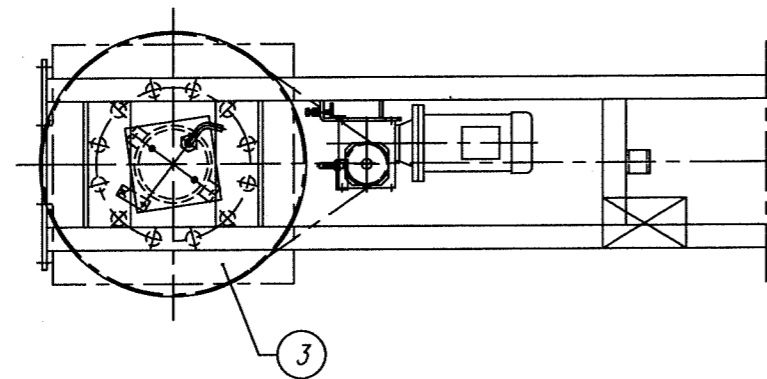
TOTAL WEIGHT : 1902.2 (1926.0) lbs.

No.	DESCRIPTION	QTY	WEIGHT
9	FENCE HOLDER	1	4.7
8	EL.PANEL BRACKET	1	3.6
7	SAFETY FENCE SEGMENT # 2	1	83.5
6	SAFETY FENCE SEGMENT # 1	1	73.8
5	30" INSTA-THREAD FILM CARRIAGE (OPTIONAL)		148.1
	20" INSTA-THREAD FILM CARRIAGE	1	124.3
4	ELECTRICAL PANEL	1	30.0
3	M-55 ROTARY ARM-TOWER ASSY	1	327.9
2	M-55 DRIVE SIDE FRAME ASSY	1	746.8
1	M-55 LEG	1	507.6

REMARKS:  
REMARKS:

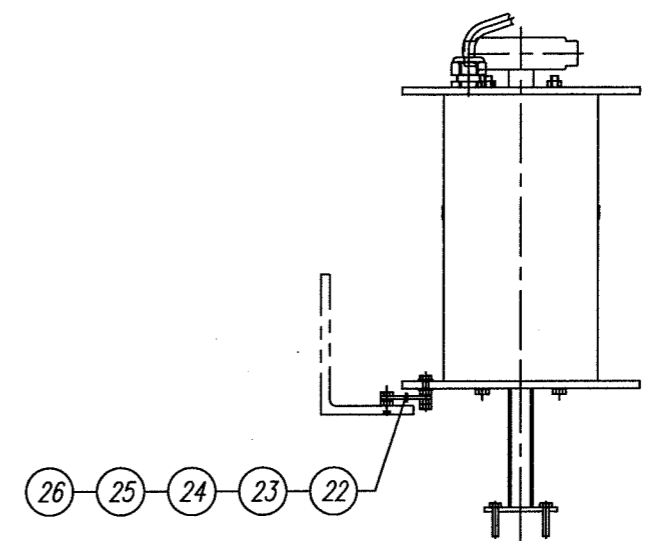
M55/17 GS WRAPPER LAYOUT

<p>ORION PACKAGING INC. 2270 INDUSTRIEL LAMAL QUEBEC, CANADA, H7S 1P9 TEL: (514) 867-6700</p>	DATE: MAY-13-2002	SCALE: 1 : 16
	DRAWN BY: S. KUBICKA	MACHINE TYPE: M55/17 GS
CHECKED BY:	DRAWING SIZE: D	
ASSEMBLY DRAW: LAYOUT	JOB No.: STD	DRAWING No.: 434948



SLIP RINGS MOUNTING

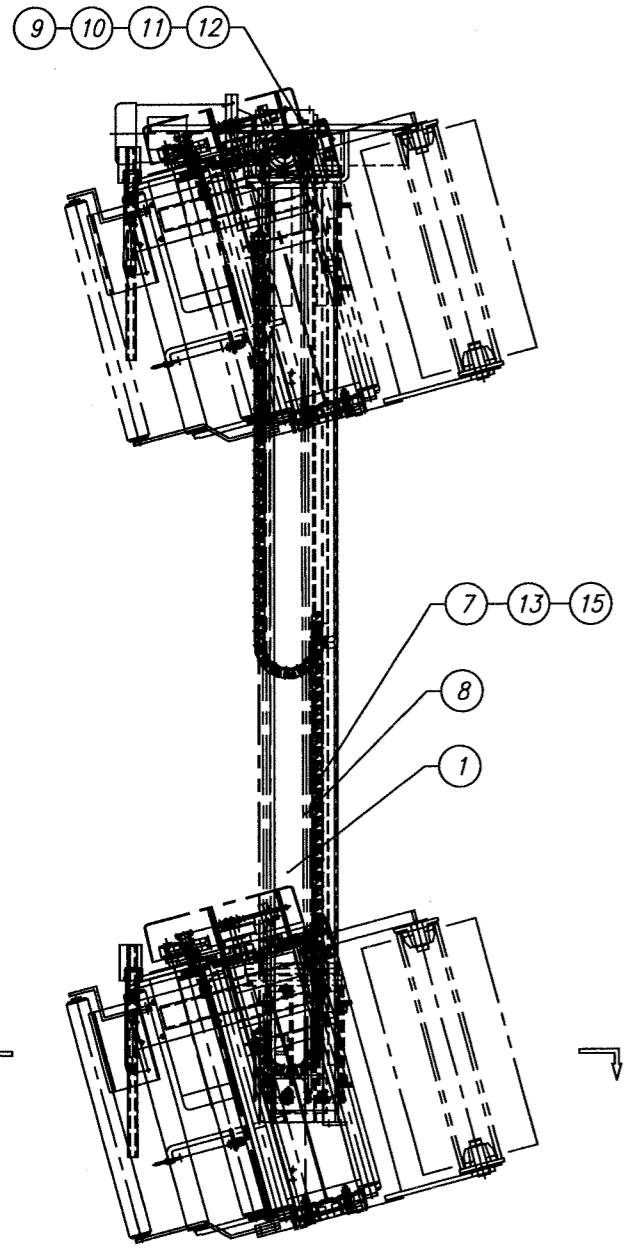
1:4



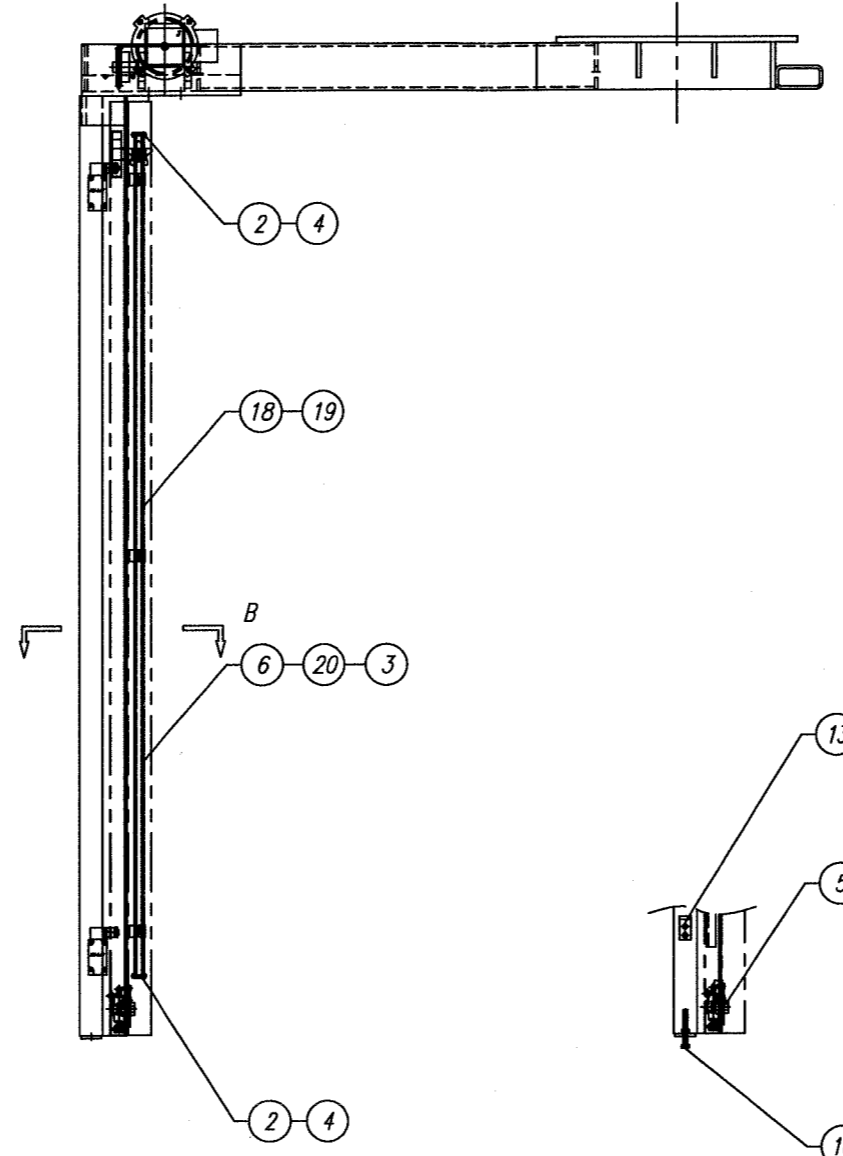
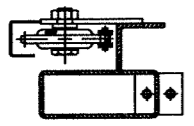
26	FLAT WASHER	012221	2	
25	HEX. NUT	012689	4	
24	HEX. HEAD SCREW	012793	1	
23	HEX. HEAD SCREW	012475	1	
22	SLIPRING REACTION BAR	412509	1	
21	PROXIMITY SWITCH	013848	1	
20	HEX. HEAD SCREW	013402	12	
19	HEX. HEAD SCREW	013527	4	
18	HEX. HEAD SCREW	012929	4	
17	HEX. NUT	012846	8	
16	TURNTABLE BEARING	015136	1	
15	ROLLER CHAIN	010009	1	
14	ROLLER CHAIN	010009	1	
13	SPROCKET	010343	1	
12	SPROCKET	013162	1	
11	REDUCER	015191	1	
10	EL. MOTOR	017851	1	
9	PROXIMITY SWITCH BRACKET	422195	1	
8	PROXIMITY SWITCH BRACKET	427552	1	
7	SLIP RINGS ASSEMBLY	423627	1	
6	CENTERING BUSHING	402388	4	
5	SPACER	400578	4	
4	TURNTABLE SPACER	270060	4	
3	SPROCKET	427366	1	
2	CHAIN TIGHTENER	419946	1	
1	M55/13 GSA DRIVE SIDE FRAME (WELDING)	427544	1	

No.	DESCRIPTION	DWG SIZE	PART No.	Q'ty	WEIGHT
REMARKS:					
REMARKS:					

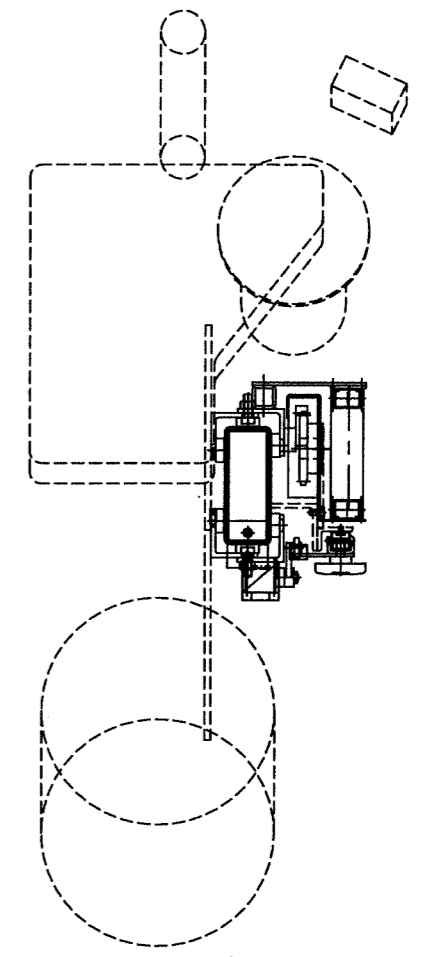
M55/13 GSA DRIVE SIDE FRAME (ASSEMBLY)					
<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 687-9769</p>	DATE:	JUN-02-2000	SCALE:	1:8	
	DRAWN BY:	M. G. GOLA	MACHINE TYPE:	M55/13 GSA	
	CHECKED BY:		DRAWING SIZE:	D	
	ASSEMBLY DWG:	427542 D	JOB No.:	STD/13A	DRAWING No.:



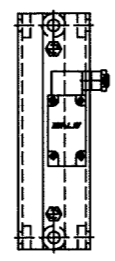
A - A  
1 : 4



B - B  
1 : 4



LIMIT SWITCH MOUNTING  
1 : 4

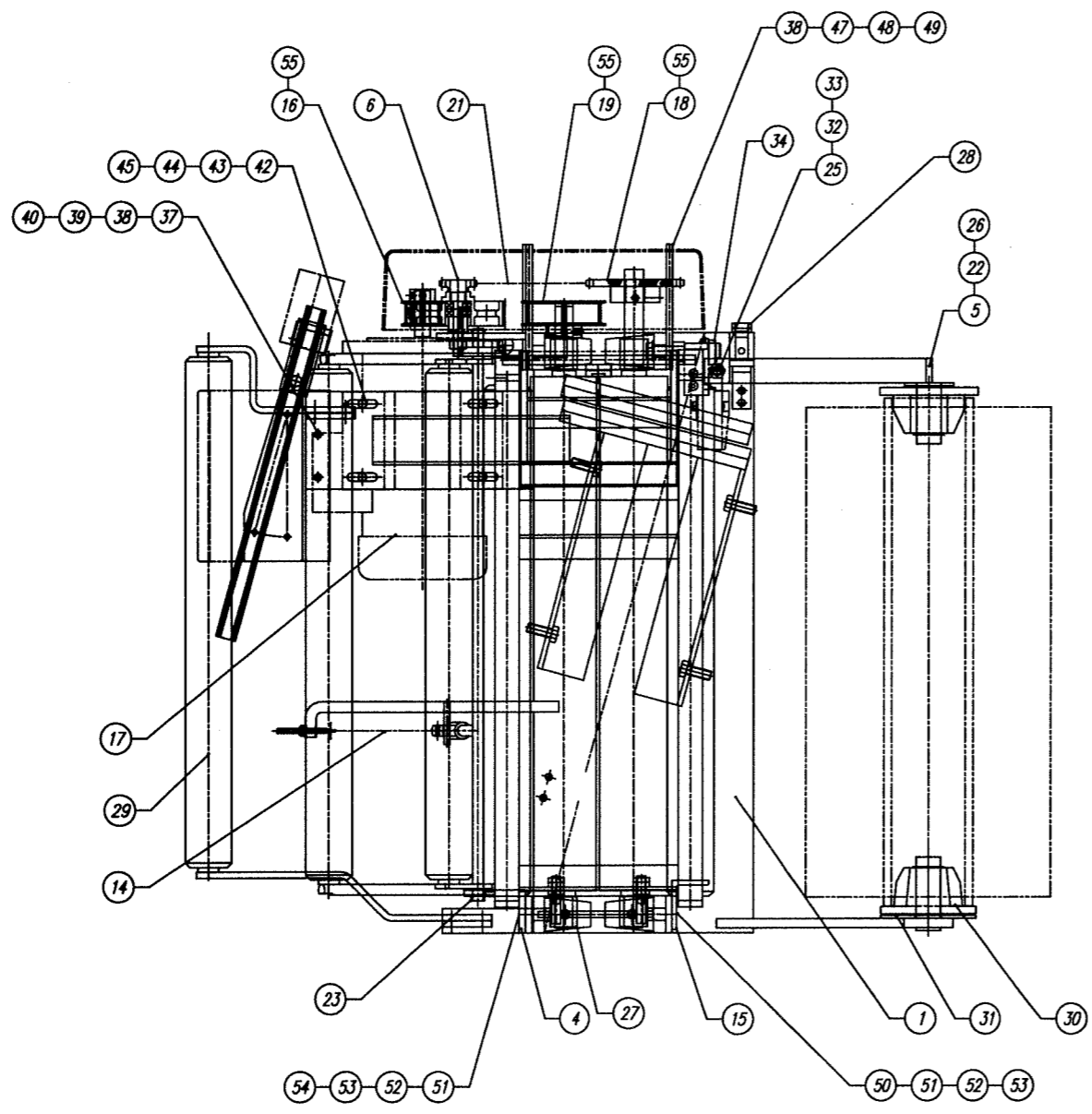
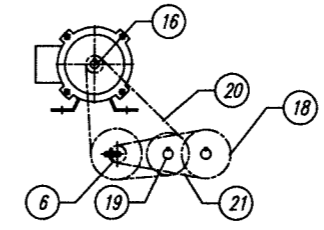
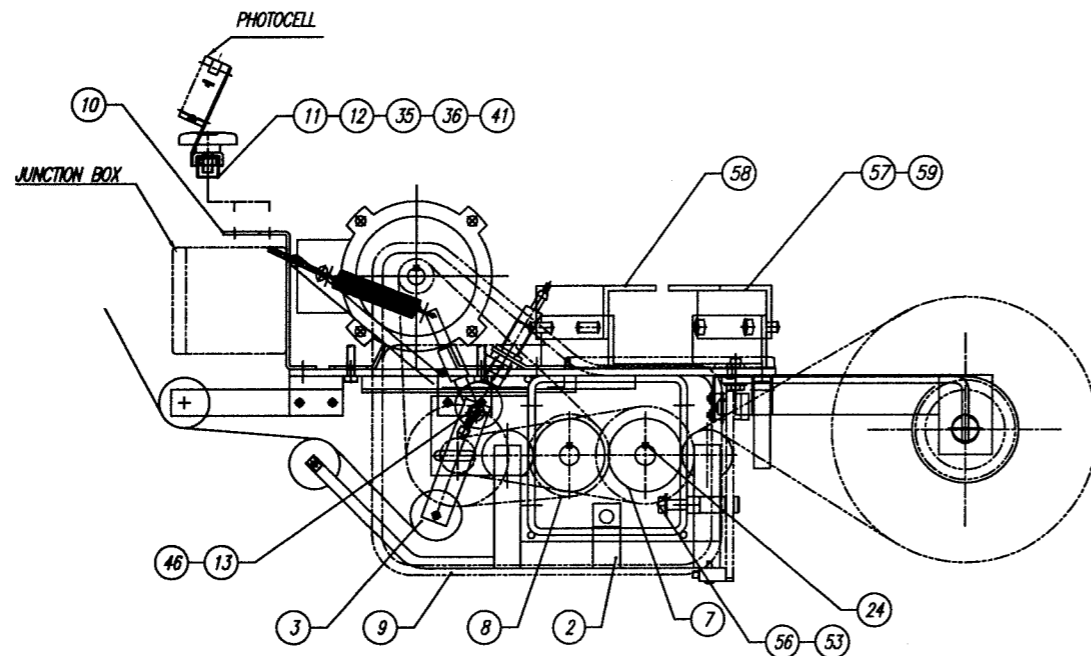


20	BLACK KNOB	010092	2		
19	PAN PHILL SCREW	013463	3		
18	CHANNEL	427689	1		
17	HEX. NUT	011128	1		
16	HEX. HEAD SCREW FULL THREAD	015063	1		
15	CARRIAGE LIFT TRAK HOLDER	428528	1		
13	POWER TRACK	015897	1		
12	CARRIAGE BUMPER (FOR 30" CARRIAGE ONLY)	404624			
11	EL.MOTOR	017851	1		
10	REDUCER	015200	1		
9	SPROCKET	011218	1		
8	CHAIN	010009	1		
7	GUARD	428527	1		
6	STRIKER	427691	2		
5	IDLER SPROCKET ASS'Y	420809	1		
4	HEX. NUT	012726	2		
3	CHANNEL GUIDE	427690	1		
2	PAN PHILL SCREW	012690	2		
1	M-55/13 GSA ROTARY ARM - TOWER (WELDING)	427547	1		
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT

REMARKS:  
REMARKS:

M-55/13 GSA ROTARY ARM - TOWER ASSEMBLY

 ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769	DATE:	JUN-01-2000	SCALE:	1 : 8	
	DRAWN BY:	M. G. GOLA	MACHINE TYPE:	M55/13 GSA	
	CHECKED BY:		DRAWING SIZE:	D	
	ASSEMBLY DWG.:	427542 D	JOB No.:	STD/13A	DRAWING No.:



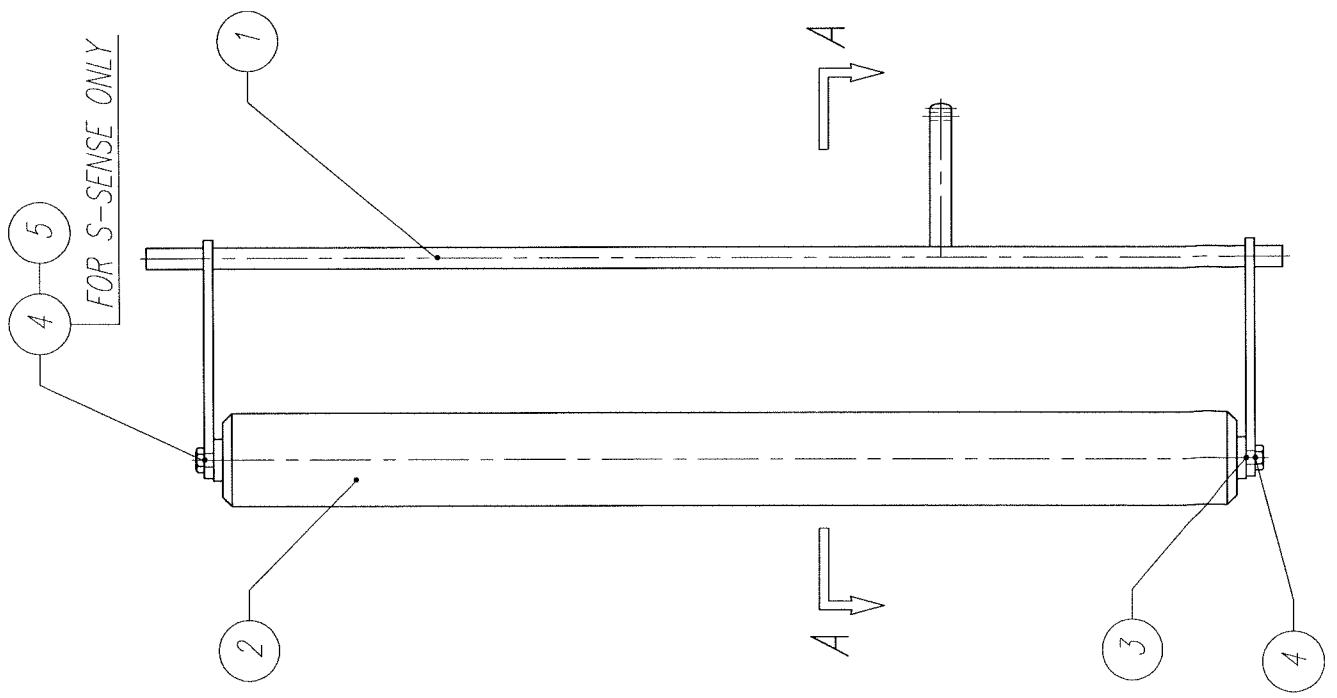
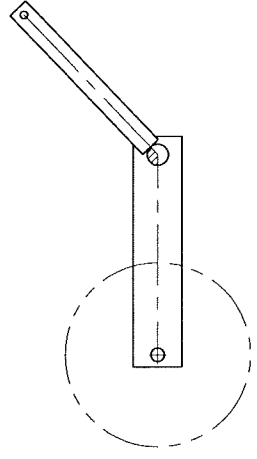
59	SLIDE BOTTOM	427058	12	
58	CARRIAGE CHAIN ATTACHMENT ANGLE (5x2-TOWER)	420000	1	
57	CARRIAGE ATTACHMENT ANGLE (2"- TH'K TOWER)	419999	1	
56	HEX HEAD SCREW	016131	1	
55	SET SCREW	-	6	
54	HEX HEAD SCREW	013479	1	
53	WASHER FLAT	010948	8	
52	WASHER LOCK	011390	7	
51	NUT HEX	011128	7	
50	HEX HEAD SCREW	012476	6	
49	NUT CAP	-	3	
48	WASHER FLAT	012221	3	
47	RUBBER GROMMET	014502	3	
46	HEX SOCKET HEAD CAP SCREW	010257	1	
45	WASHER FLAT	012725	4	
44	WASHER LOCK	012724	4	
43	NUT HEX	012751	4	
42	HEX HEAD SCREW	012757	4	
41	PAN PHILL SCREW	013384	2	
40	LOCK WASHER	011393	2	
39	FLAT WASHER	012221	2	
38	HEX NUT	012689	5	
37	HEX HEAD SCREW	012475	2	
36	KNOB	010092	1	
35	NUT FLAT SQUARE	017853	1	
34	SAFETY SWITCH BRACKET ASS'Y - FRL	434221	1	
33	JAM NUT	015121	1	
32	FLAT WASHER	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	012323	1	
25	HEX. HEAD SCREW	010293	1	
24	SQ. KEY	010227	3	
23	FL.BRONZE BUSHING	014247	2	
22	SELF SEATING RETAINING RING	013860	2	
21	CHAIN	013397	1	
20	GEARBELT	011151	1	
19	GEARBELT PULLEY	431672	1	
18	SPROCKET ( 245 X)	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 (FRL, FLR)	432739	1	
11	PHOTOCELL CHANNEL	436223	1	
10	JUNCTION BOX (7 x 4) BRACKET FRL	438619	1	
9	FIBERGLASS COVER - (FRL)	414305	1	
8	RUBBER ROLLER - 2 (20" FILM)	420917	1	
7	RUBBER ROLLER - 1 (20" FILM)	420916	1	
6	SPROCKET / PULLEY ASS'Y	431475	1	
5	TOP MANDREL - FRL	420942	1	
4	DANCER ROLLER BRACKET (FRL)	413745	1	
3	DANCER ROLLER ASSEMBLY - 20 (FRL)	414194	1	
2	CRADLE ROLLER ASSEMBLY - 20 M/14 (FRL)	422327	1	
1	I.T. BACK PLATE - 20" (FRL)	431146	1	

No.	DESCRIPTION	QTY	WEIGHT
REMARKS:			
REMARKS:			

20" INSTA-THREAD CARRIAGE (FRL)

<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL: (514) 887-9789</p>	DATE: JUNE-26-2003	SCALE: 1 : 4
	DRAWN BY: S. KUBICKA	MACHINE TYPE: M/17
	CHECKED BY:	DRAWING SIZE: C
	ASSEMBLY DWG:	JOB No.: STD

A - A



No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
5	SOCKET HEAD CAP SCREW		010259	1 (0)	
4	HEX HEAD SCREW		012475	1 (2)	
3	FLANGE NUT		014164	2	
2	ALUMINIUM ROLLER - 20	A	402789	1	
1	DANCER ROLLER CRADLE - 20 (FRL)	A	414195	1	

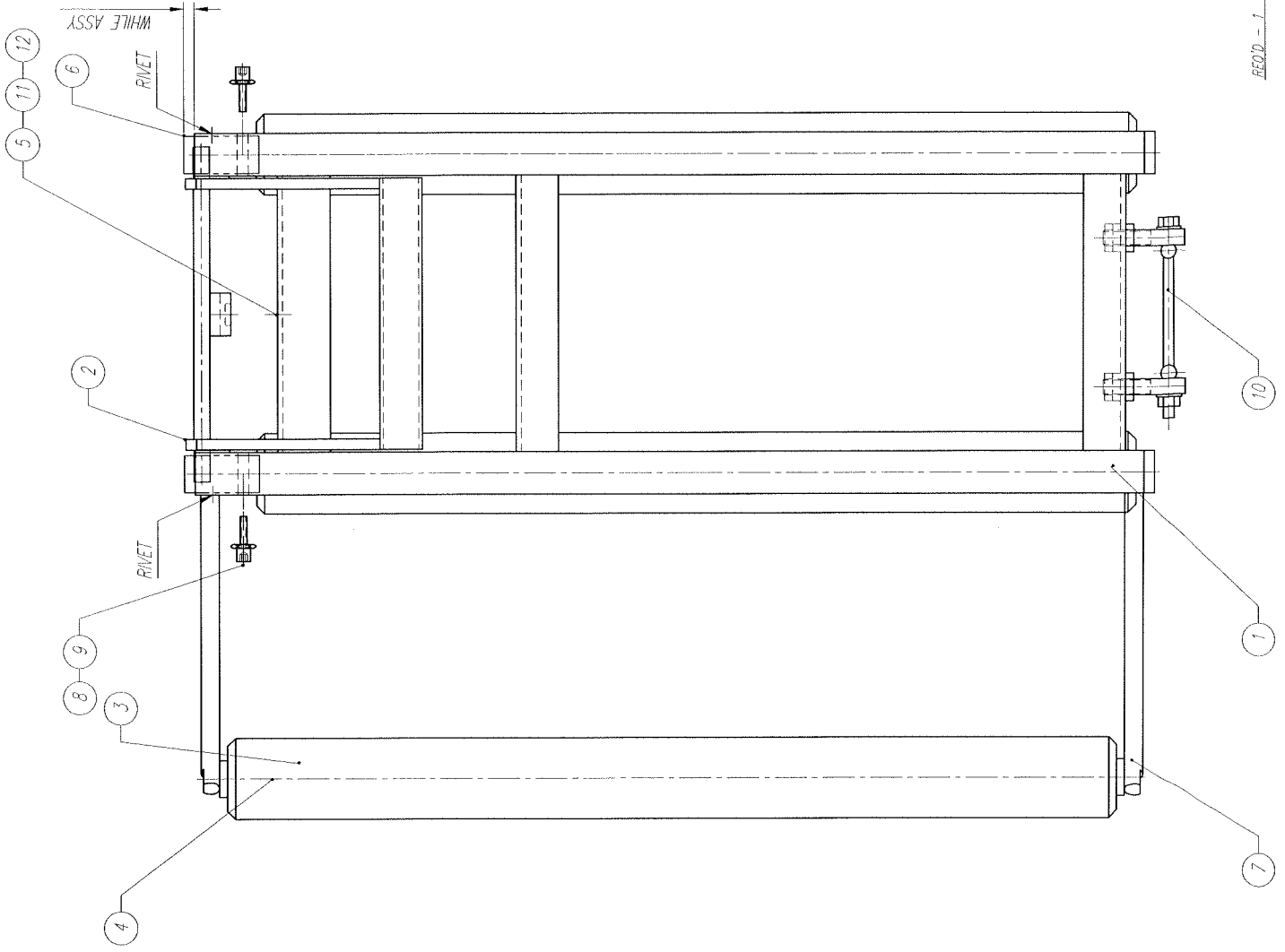
REMARKS:

REMARKS:

DANCER ROLLER ASSEMBLY - 20 (FRL)

DATE:	SEP-17-99	SCALE:	1 : 4
DRAWN BY:	ROGER F.	MACHINE TYPE:	ALL/12
CHECKED BY:		DRAWING SIZE:	A
JOB No.:	STD - 12.1	DRAWING No.:	M-414194
ASSEMBLY DWG.:			

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



REVISION "B" APR-22-2003 S.K.(AS PER KRIS)  
 REVISION "A" AUG-13-2002 S.K.

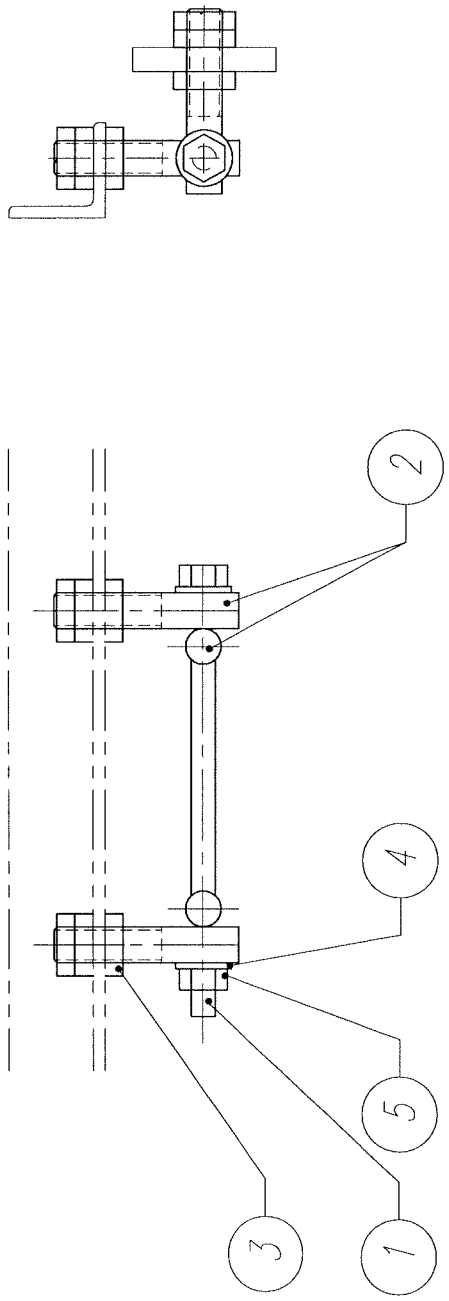
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
12	HEX NUT		013048	1	
11	HEX SOCKET HEAD CAP SCREW 1/4-28UNF 5/8" LG		-	1	
10	CRADLE HINGE ASSY	A	426200	1	
9	HEX NUT		013451	4	
8	SOCKET HEAD CAP SCREW		014002	4	
7	BUTTON SOCKET CAP SCREW		015133	6	
6	POLYETHYLENE	A	431158	2	
5	SPRING		013994	1	
4	IDLE ROLLER SHAFT	A	413249	1	
3	ALUMINUM ROLLER	A	402789	3	
2	LOCK	A	412542	1	
1	CRADLE ROLLER FRAME - 20" (FRL)	B	422328	1	

REMARKS: REPLACES THE SAME DWG. # FROM JAN-25-99

CRADLE ROLLER ASSEMBLY - 20 ( FRL)

DATE: DEC-15-99  
 DRAWN BY: HLL/14  
 CHECKED BY: C  
 JOB No.: STD  
 ASSEMBLY DWG.: 422047 C  
 DRAWING No.: M-422327

ORION  
 2270 INDUSTRIEL LAMIN,  
 QUEBEC, CANADA, H7S 1P9  
 TEL.: (400) 667-9789

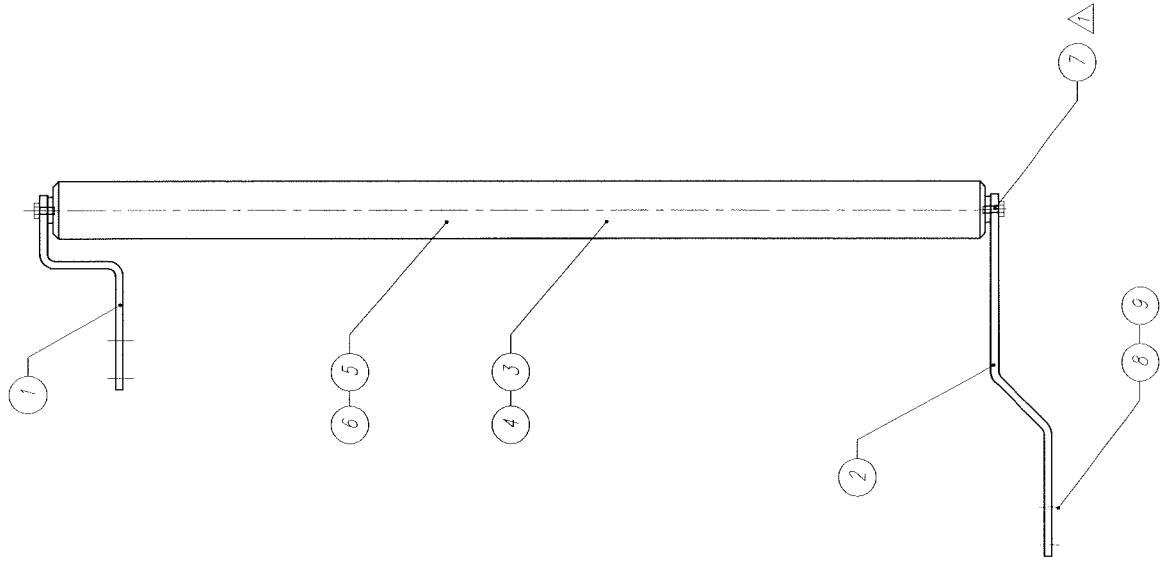


No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
5	HEX. SELF-LOCKING NUT		015098	1	
4	FLAT WASHER		012221	2	
3	HEX. JAM NUT		012582	12	
2	SPECIAL BOLT	A	415938	4	
1	HEX. HEAD SCREW		015099	1	

REMARKS: -  
 REMARKS: -

**CRADLE HINGE ASS'Y**

<p>ORION          PACKAGING INC.          2270 INDUSTRIEL, LAVAL          QUEBEC, CANADA, H7S 1P9          TEL.: (514) 667-9769</p>	DATE:	DEC-15-1999	SCALE:	1 : 2	
	DRAWN BY:	S. KUBICKA	MACHINE TYPE:	ALL	
	CHECKED BY:		DRAWING SIZE:	A	
ASSEMBLY DWG.:		JOB No.:	STD	DRAWING No.:	M-426200



REVISION  $\Delta$  3 APR-22-2003 S.K.(AS PER KRIS)  
 REV.  $\Delta$  2 JUN-08-2001 M. GOJA  
 REV.  $\Delta$  1 OCT-18-2000 G. SEWERIN

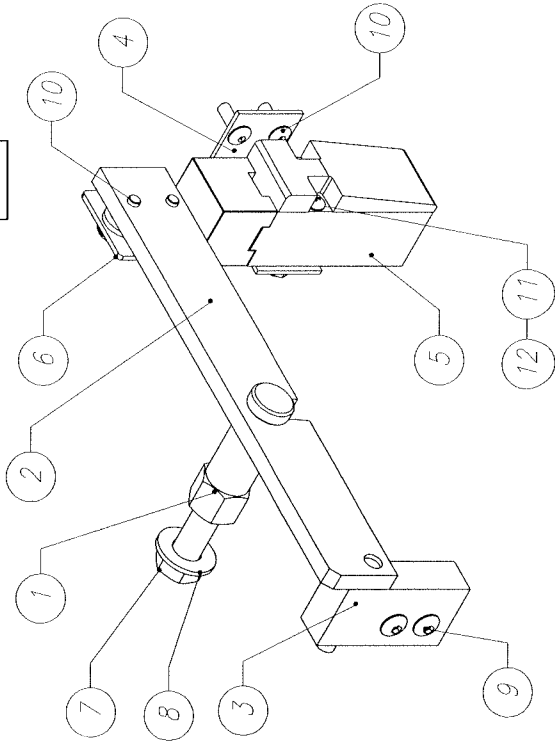
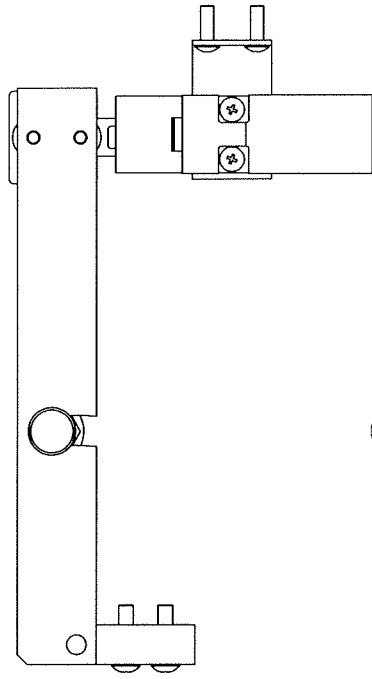
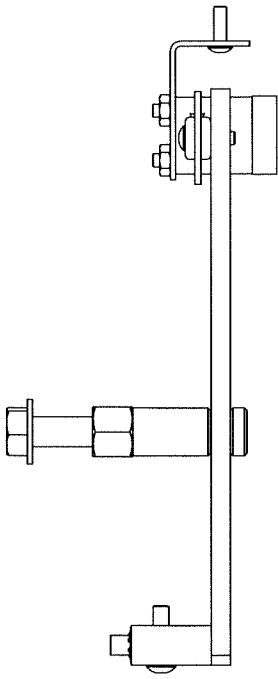
REV	NO	DESCRIPTION	QTY	UNIT	WEIGHT
3	1	NUT	1		
3	2	NUT	1		
3	3	ROLLER SHAFT	1		
3	4	ROLLER	1		
3	5	ROLLER	1		
3	6	ROLLER	1		
3	7	NUT	1		
3	8	NUT	1		
3	9	NUT	1		

**orion**  
 ORION ENGINEERING, INC.  
 1000 W. 10TH ST. #100  
 DENVER, CO 80202-1100  
 TEL: 303.733.1100

DATE: JUN-20-2000  
 SCALE: 1 : 2  
 DRAWING NO: 4455  
 PROJECT NO: 0  
 PART NO: 425497-0  
 REV NO: M-426543

QTY : 1 pce





REQ'D - 1 PCE

REVISION "A" APR-23-2003 S.K.(AS PER KRIS)

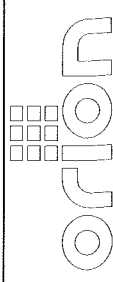
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
12	HEX NUT	-	013278	2	-
11	PAN SCREW	-	016015	2	-
10	BUTTON HEAD M4 x 14MM	-	-	4	-
9	BUTTON HEAD SCREW #10-32UNF 1 LG	-	-	2	-
8	FLAT WASHER	-	014481	1	-
7	HEX SCREW	-	014668	1	-
6	STRAIGHT KEY	-	017312	1	-
5	SAFETY SWITCH	-	017311	1	-
4	SAFETY SWITCH BRACKET	A	434153	1	-
3	LOCKING ARM BEARING	A	434152	1	-
2	LOCKING ARM-FRL	A	434222	1	-
1	SAFETY PIN	A	434150	1	-

REMARKS: -

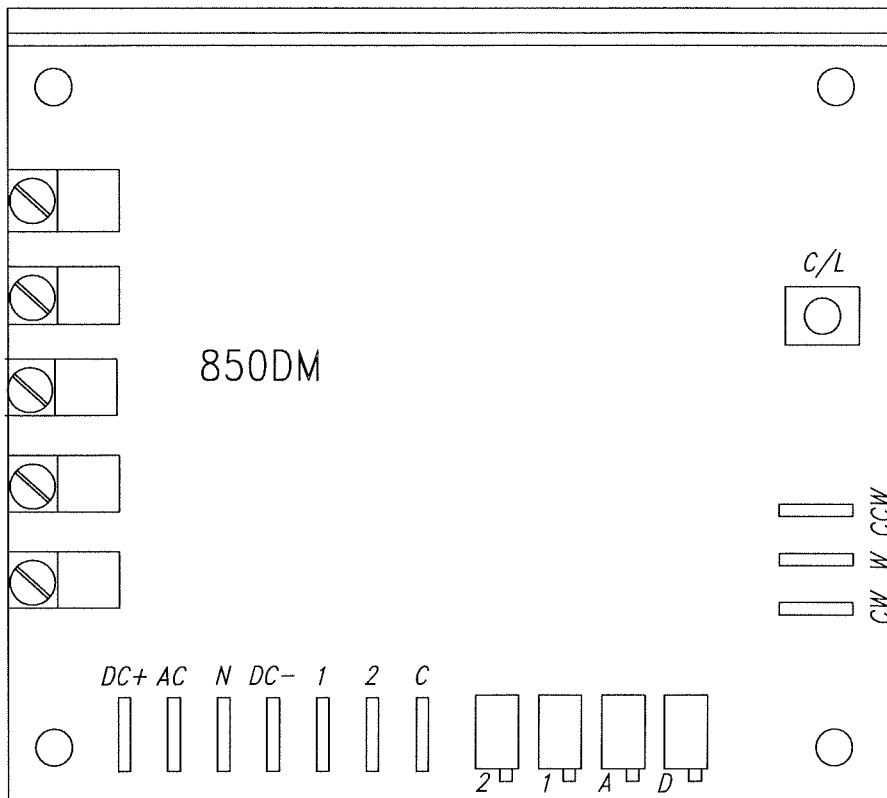
REMARKS: -

### SAFETY SWITCH BRACKET ASSEMBLY-FRL

DATE:	APR-09-2002	SCALE:	1 : 2.5
DRAWN BY:		MACHINE TYPE:	M
CHECKED BY:		DRAWING SIZE:	A
ASSEMBLY DWG.:		JOB No.:	STD
		DRAWING No.:	M-434221


**ORION**  
 PACKAGING INC.  
 2270 INDUSTRIEL, LAYAL  
 QUEBEC, CANADA, H7S 1P9  
 TEL.: (450) 667-9769

# **APPENDIX**



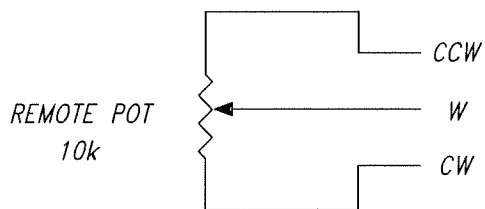
2-ND SPEED (HIGH)  
 REMOTE ADJUSTMENT  
 (IF NOT USED-PUT JUMPER  
 BETWEEN "CW" & "W").

TERMINALS:

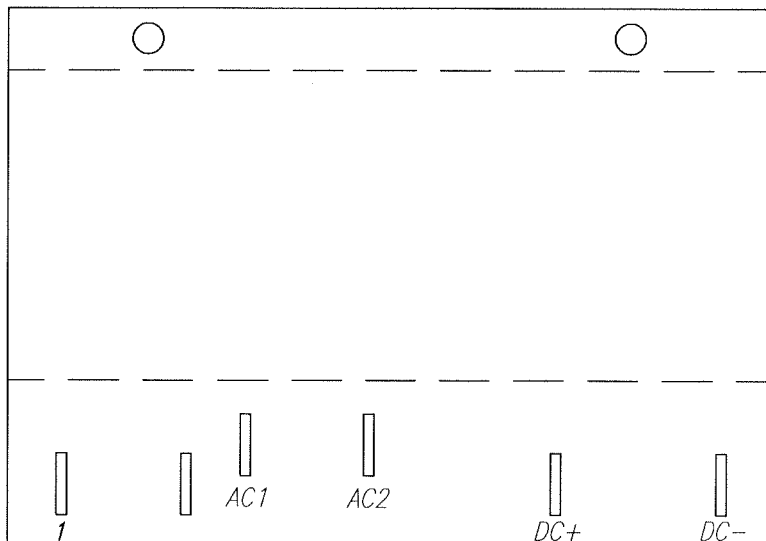
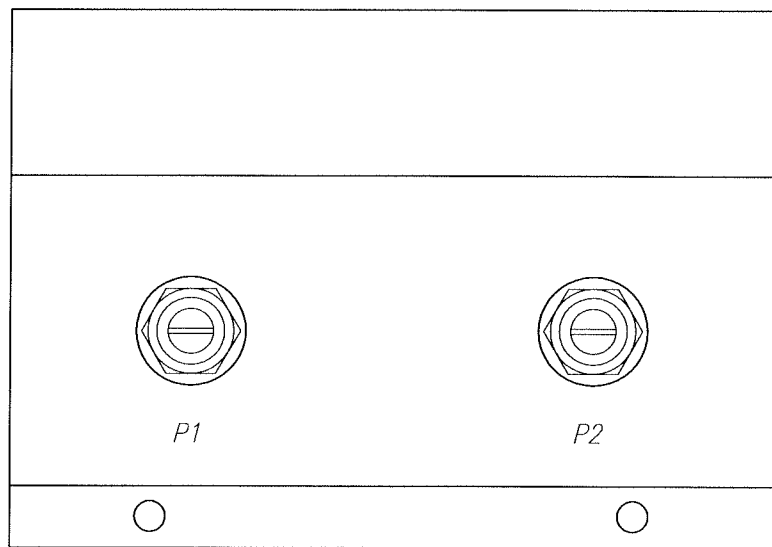
DC+: ARMATURE CONTROL.  
 AC: AC (HOT) POWER INPUT.  
 N: AC NEUTRAL.  
 DC-: ARMATURE CONTROL.  
 C: CONTROL COMMON.  
 2: SPEED CONTROL (HIGH).  
 1: SPEED CONTROL (JOG).

POTENTIOMETERS:

2: HIGH SPEED ADJUSTMENT.  
 1: JOG SPEED ADJUSTMENT.  
 A: ACCELERATION ADJUSTMENT.  
 D: DECELERATION ADJUSTMENT.  
 C/L: CURRENT LIMIT.



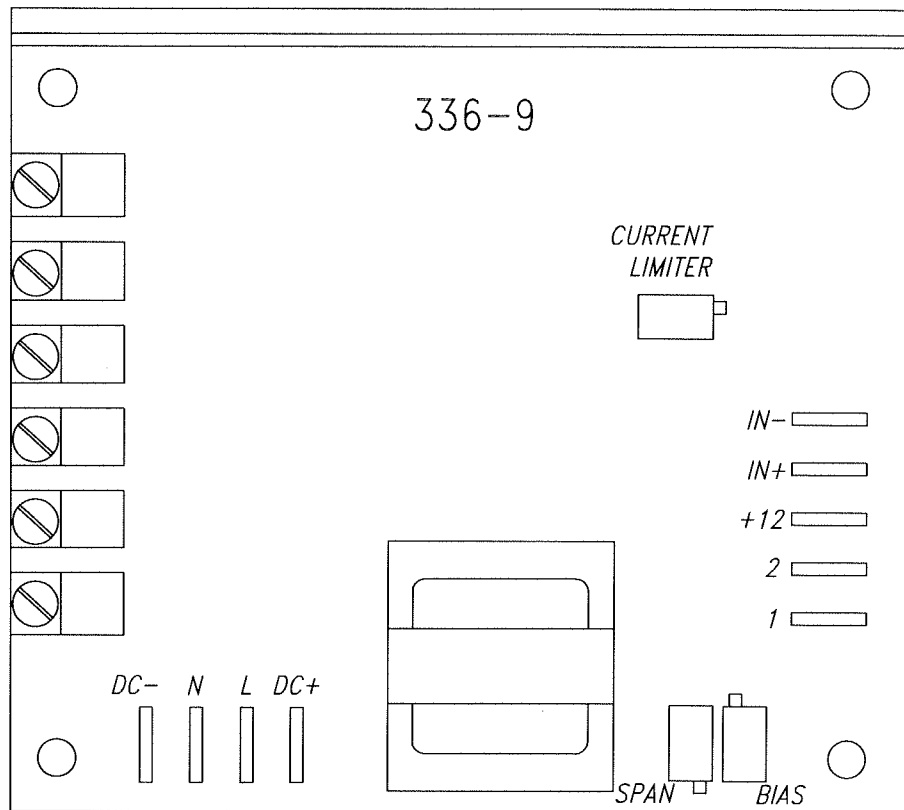
*850DM 2 SPEED DC  
 MOTOR CONTROL BOARD*



1 : CONTROL  
 AC1: AC INPUT  
 AC2: AC INPUT  
 DC+: ARMATURE CONTROL  
 DC-: ARMATURE CONTROL

POTS: SPEED ADJUSTEMENT.

168-4 CARRIAGE  
 DOUBLE SPEED BOARD



*DC+:* ARMATURE CONTROL

*N:* AC NEUTRAL

*L:* AC LINE

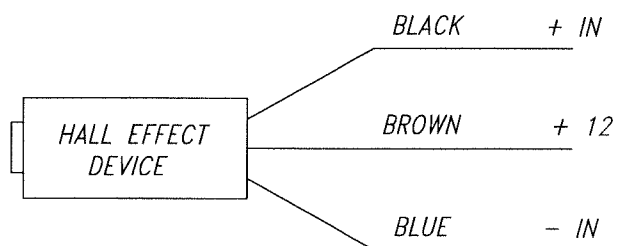
*DC-:* ARMATURE CONTROL

*POTENTIOMETER*

*SPAN:* HALL EFFECT SENSITIVITY CONTROL

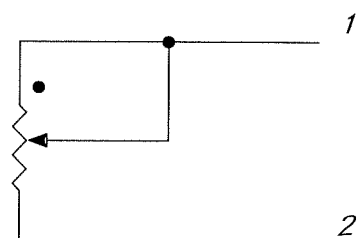
*BIAS:* SYSTEM BIAS (FACTORY SET)

*CURRENT LIMITER:* (FACTORY SET)



*FILM TENSION ADJUSTMENT*

*REMOTE POTENTIOMETER*



*336-9*  
*MULTISTRETCH BOARD*

# Multistretch Motor Control Board Calibration Instructions For 336-6,7,8,9, Board.

## Adjustments:

### Bias: (RV3) The Pot marked RV3 controls the system Bias.

This control injects an offset voltage, which 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 operating range in linear portion of its characteristics.

**Note:** This adjustment is normally made at the factory and should not require field adjustment. For reference, the factory test procedure calls for a voltage setting of 1.30 Volts DC at the cathode of Z1 (Zener Diode) achieved by adjusting the RV3 pot.

### Span: (RV1) The Pot marked RV1 controls the system loop gain.

This system loop gain may be adjusted if the motor continues to be energized when the dancer arm is unloaded and at rest. With the machine stopped, the potentiometer 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 potentiometer will increase the response time i.e. (soften the motor tension response) plus decrease the response time i.e. (sharpen the motor response) plus increase the maximum possible motor speed attainable.

### Current Limit: (RV4) The pot marker RV4 controls the torque (Amps) that the 336 Board allows to the motor.

To protect the unit against damage, should the motor stall. Jam, or current demands exceed it's rating, a current-limiting circuit is included which keeps motor current at a safe level regardless of motor load, or input from the tension arm. This potentiometer is set at the factory to suit ½ hp Motors. Should changes be required in the field, proceed as follows. Monitor the motor current. Advance the potentiometer slowly until desired current is reached. This should not exceed 125% of the nameplate rating. Do not install the motor for more than a few seconds, or damage may occur.

### Trip: (for 336-8 only)

The output relay located on SCR Board (Outputs: Com, NO,NC) is energized when the current is flowing between DC "+" & DC "-" overshoots the level selected on the potentiometer marked "Trip". It de-energizes when the voltage falls below the normal current by approximately 5% or when power to board breaks.