

2270 Industriel, Montreal (Laval), Canada, H7S 1P9
Tel.: (450) 667-9769, Fax: (450) 667-6320

Thank you for choosing ORION'S 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.



OPERATION MANUAL

For All Inquiries
Please Contact
Our Local Distributor

FOR U.S.A. (Only)
1-800-333-6556

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 **2002-0412296**
- 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 MARCH 15, 2000

ORION MATRIX® SERIES MODEL H-55

2002-0412296

Spiral Semi-Automatic Extra Heavy Duty High Profile

Maximum Load Size	55"W x 55"L x 82"H
Weight Capacity	6,000 lbs. Dynamic, 20,000 lbs. Static
Utilities	115/1/60 20 Amp Service
Turntable	52"x 52" Formed & Welded Octagonal Turntable w/ Skirt Structural Steel Plate 4 Support Casters 4 1/2" x 2 1/2" Solid Steel Precision Caster Bearings
Turntable Drive	0 - 16 RPM Variable Turntable Speed Variable Speed Drive Motor Heavy Duty ANSI Chain & Sprocket Drive Electronically Adjustable Acceleration/Deceleration (Soft Start) Positive 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 Revo-Logic™ Exact Wrap Counting Technology 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 Turntable Jog Pushbutton Selectable Bottom Wraps First / Top Wraps First Operation
Film Delivery	20" Orion Insta-Thread™ Powered Prestretch Film Delivery System Precision Ground, Polyurethane Pre-Stretch Rollers for Consistent, Maximum Film Yield 245% 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 Adjustable Film Roping Bar on Chassis for Stronger Interlocking of Load and Pallet
Film Carriage Elevator Drive	Heavy Duty ANSI Chain Carriage Lift Variable Speed Drive Motor <u>Multi-Point UHMW Precision Carriage Guidance System</u>
Structural Features	100% Structural Steel Construction Throughout Non-Proprietary, Locally Obtainable Components Throughout Easy Access to All Components Open Mechanical Design for Ease of Maintenance Forklift Portable Base Design Structural Steel Tube Mast Hinged Mast for Ease of Shipping, Portability
Estimated Shipping Weight	1,800 lbs.

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

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.

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:
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.

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
- turn 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".

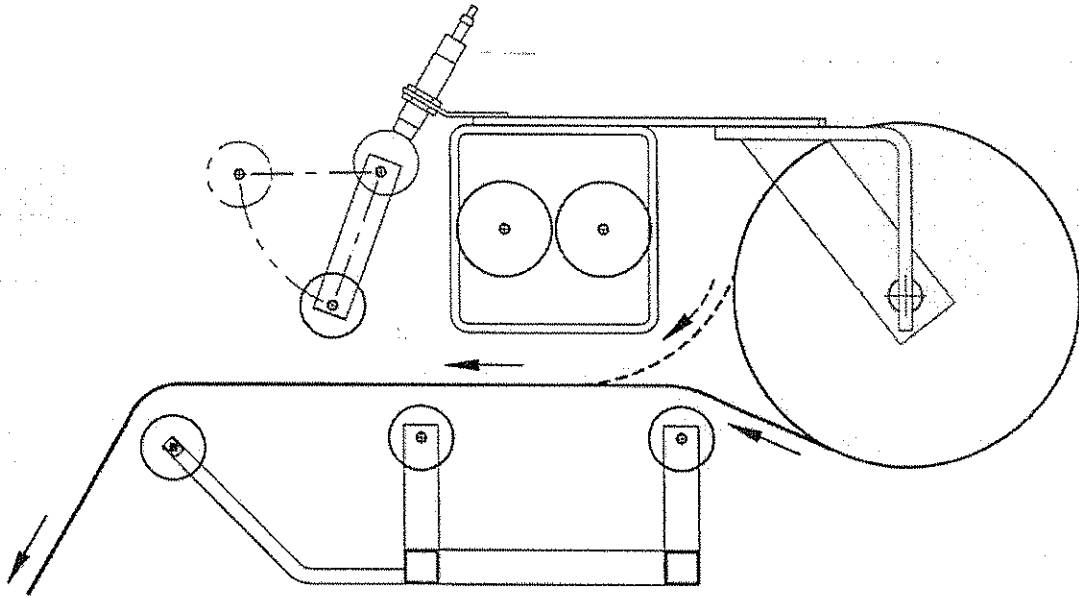


Fig. 1 OPEN CRADLE

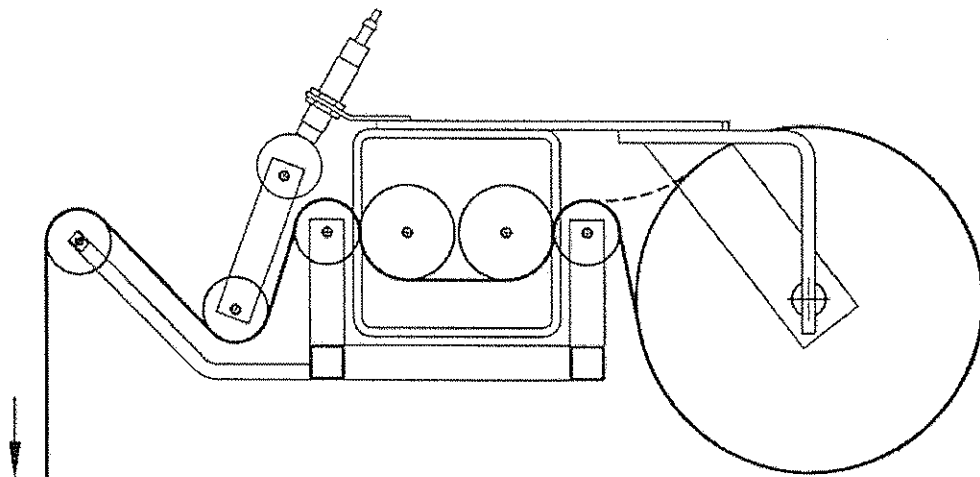
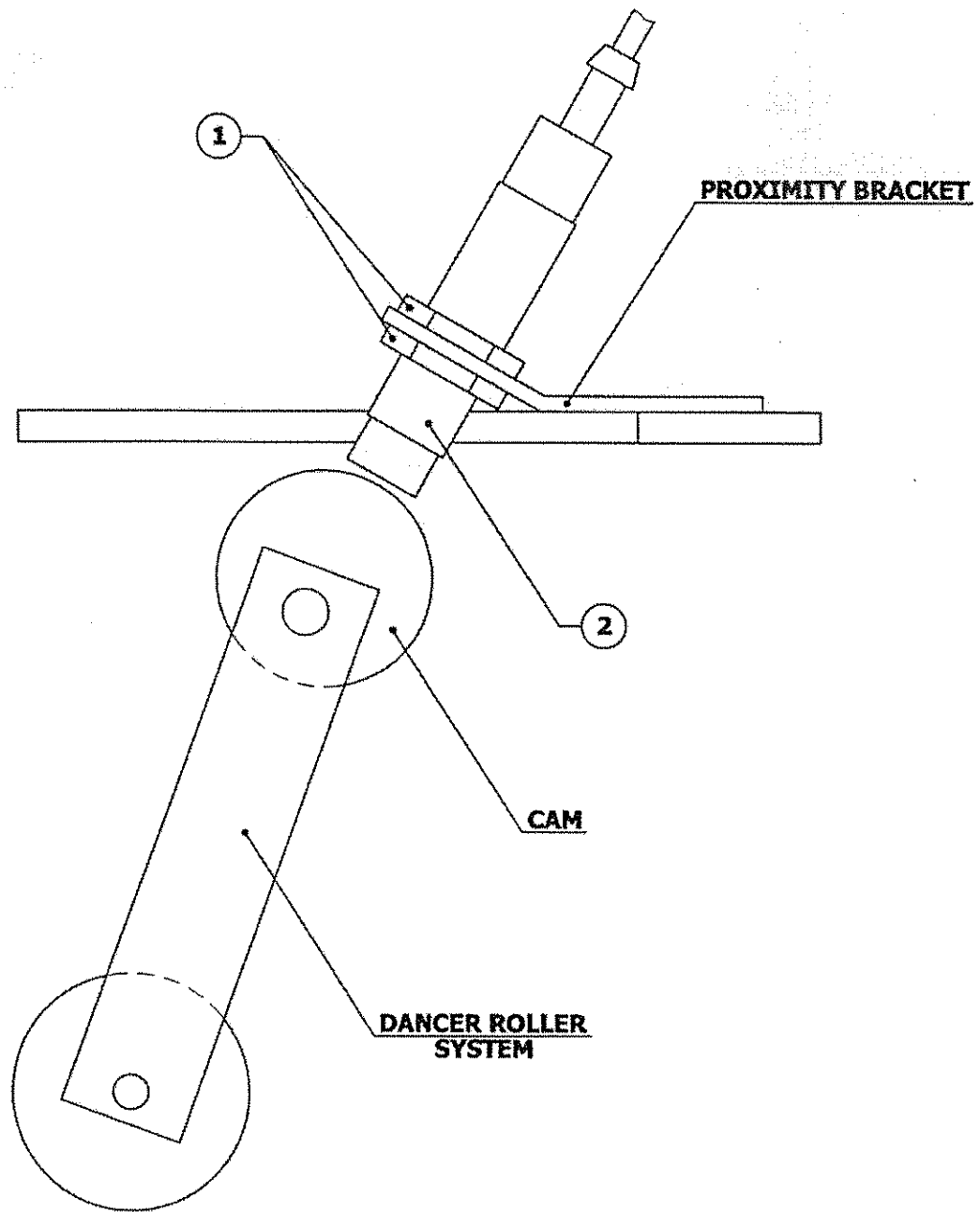


Fig. 2 CLOSED CRADLE

FILM QUICK THREADING

UPDATED FEB-15-99

DWG #418180



**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..

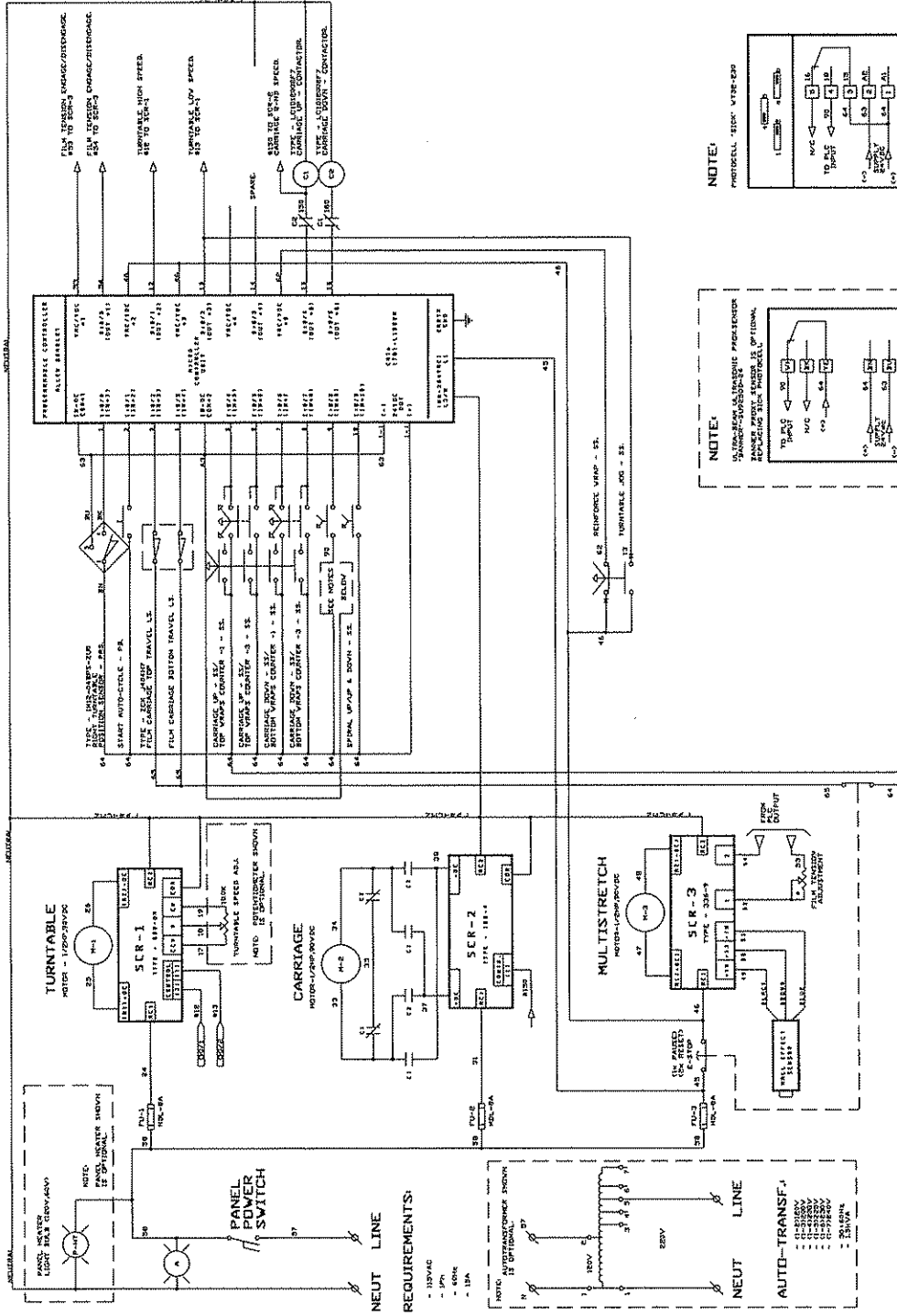
CAM FOLLOWER MAINTENANCE (when applicable)

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 ASSEMBLY PART LIST

NOTE:

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



REQUIREMENTS:
 - 115VAC
 - 1PH
 - 60HZ
 - 10A

NOTE: AUTO-TRANSFORMER SHOWN IS OPTIONAL.

NEUT LINE

220V

NEUT

AUTO-TRANSF.

115VAC

1PH

60HZ

10A

NOTE: AUTO-TRANSFORMER SHOWN IS OPTIONAL.

NEUT LINE

220V

NEUT

AUTO-TRANSF.

115VAC

1PH

60HZ

10A

NOTE:
 MODEL "SIC" VTR-EXP

TO PLS INPUT

TO PLS INPUT

TO PLS INPUT

TO PLS INPUT

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NOTE:
 MODEL "SIC" VTR-EXP

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TO PLS INPUT

TO PLS INPUT

1. FUSES FUSE AND FUSE-3

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

- 10A-10A 100% CARRIAGE

ORION

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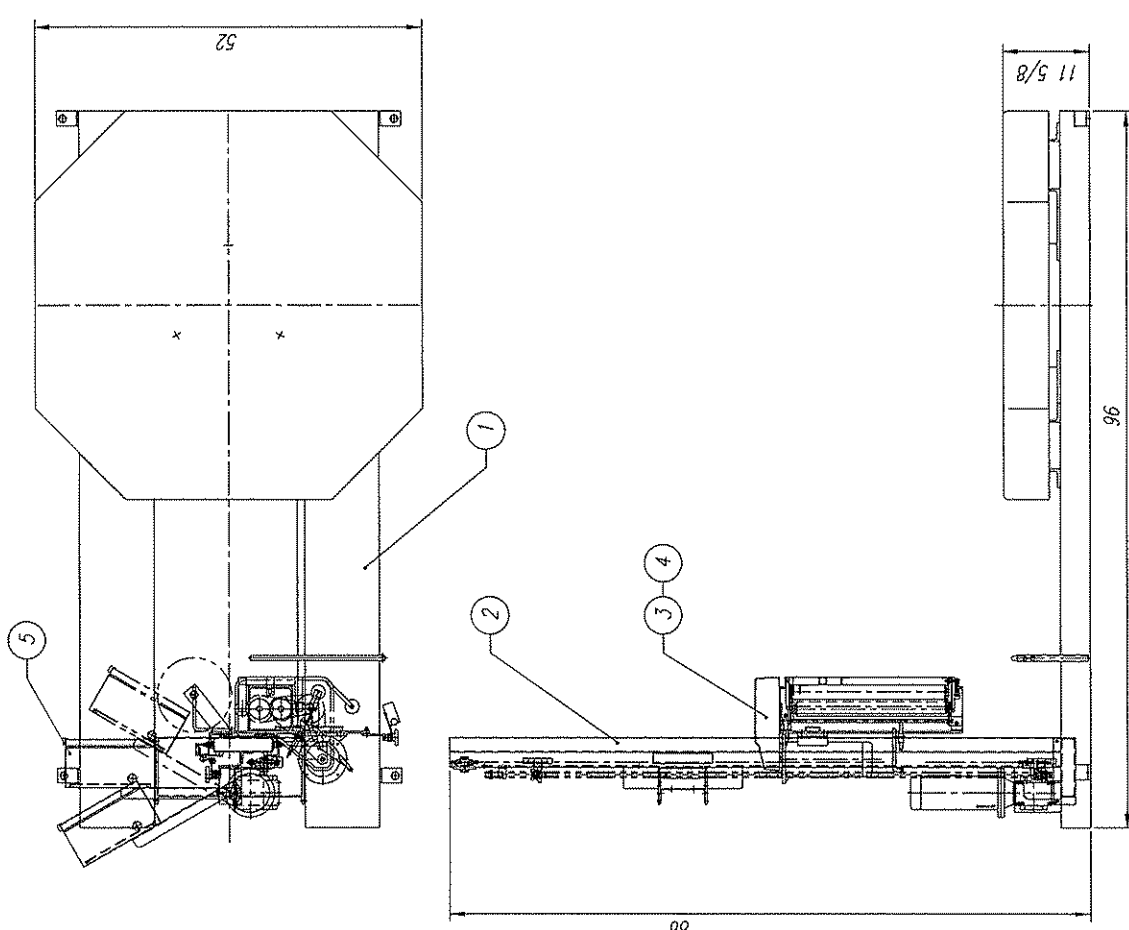
MODEL (HL66:HL55) - 14

DATE: 07-01-79

DESIGNER: J. J. EDWARDS

DRAWING NO: 301 964

SHEET 1 OF 1



REPLACES 426322 B

REVISION "A" NOV-30-2000 S.K.

TOTAL WEIGHT: 1284.5 lbs

No.	DESCRIPTION	QTY	WEIGHT
5	CONTROL PANEL	1	
4	INSTA THREAD - 30" FRL (OPTIONAL)	1	
3	INSTA THREAD - 20" FRL	422047	129.6
2	HINGE TOWER 8 x 2 ASSY	428962	218.4
1	H55/14 H BASE ASSY	425571	936.5

REMARKS: -

REMARKS: -

orion
 PACKAGING INC.
 2270 INDUSTRIEL, LAVAL
 QUEBEC, CANADA, H7S 1P9
 TEL.: (514) 867-9769

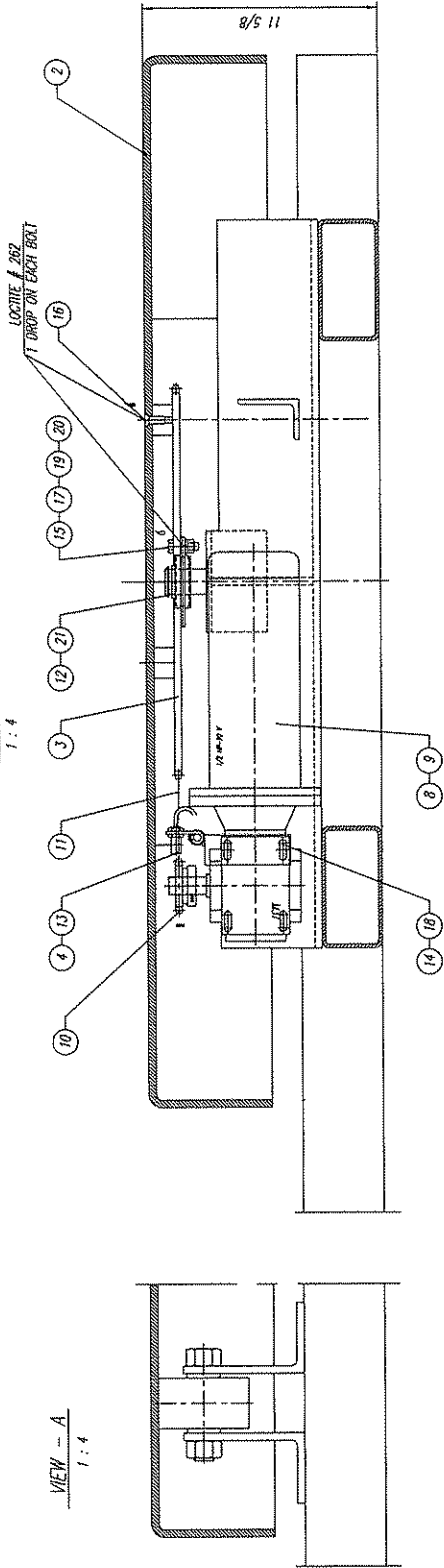
DATE: SEP-01-2000
 DRAWN BY: S. KUBICKA
 CHECKED BY:
 JOB No.: STD
 SCALE: 1 : 16
 MACHINE TYPE: H55/14.1 H
 DRAWING SIZE: B
 DRAWING No.: 429046

H55/14.1 H WRAPPER - LAYOUT

REQ'D - 1 PCE

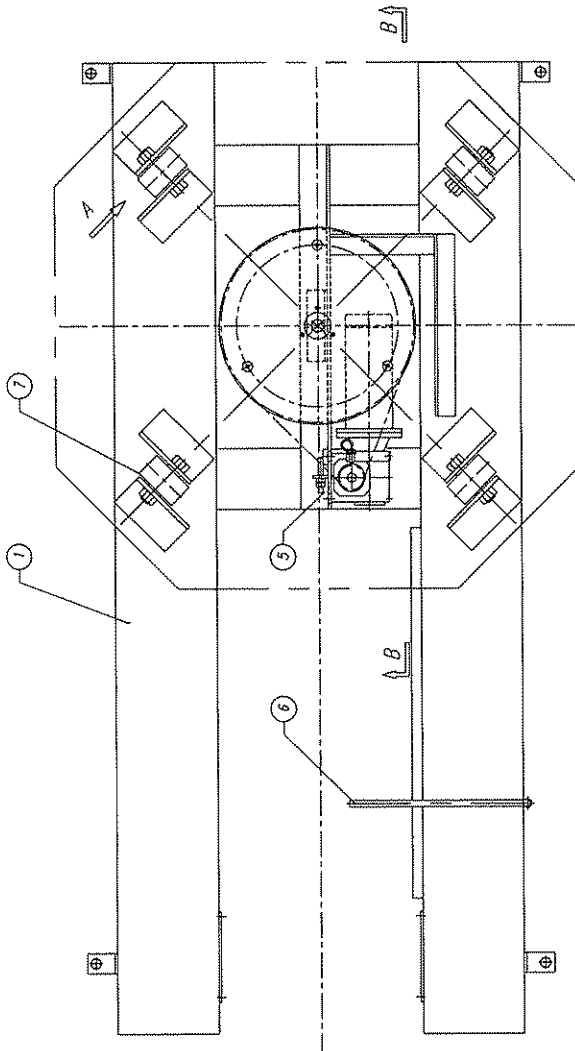
VIEW - A
1 : 4

B - B
1 : 4



TOTAL WEIGHT: 938.5 LBS

No.	DESCRIPTION	Q'ty	WEIGHT
21	SWAP RING 1 1/4 SHAFT DIA	1	0.13655
20	HEX NUT 3/8-16 UNC	3	0.11128
19	SPRING WASHER 3/8" SIZE	3	0.11390
18	SPRING WASHER 5/16" SIZE	4	0.12724
17	FLAT WASHER 3/8" SIZE	6	0.09848
16	FLAT SOCKET CAP SCREW 3/8-24 UNF - 3/4 LG	3	0.13363
15	HEX HEAD SCREW 3/8-16 UNC 1 1/4 LG	3	0.24008
14	HEX HEAD SCREW 5/16-18 UNC 1 LG	4	0.10291
13	PROXIMITY SWITCH	1	-
12	STAMP HOUSING FLANGE BEARING SUFF. 206-20	1	0.13054
11	CHAIN 50 60 1/8 LG (100 LINKS & 1 C/L)	1	0.00809
10	SPROCKET 30014 x 7/8" BORE	1	0.10343
9	EL. MOTOR 1/2 HP, 90 VOL, 1750 RPM	1	0.10036
8	REDUCER CPC-175, 15:1, ASSY-3	1	0.75191
7	SOLID STEEL CASTER 4 1/2 DIA - ASSY	4	42.2465
6	ROPING BAR	1	41.3668
5	CHAIN TIGHTENER (80-175)	1	4.2261
4	PROXIMITY SWITCH BRACKET (1667)	1	4.2316
3	SPROCKET 50A06	1	4.06338
2	TURNABLE 52° OCTAGONAL	1	4.12978
1	14-55/14 H BASE WELDING	1	425.572
No. of PART No. Q'ty WEIGHT			
REMARKS: TURNABLE SPEED 16 RPM, 11 5/8" PASS HEIGHT			
REVISION:			

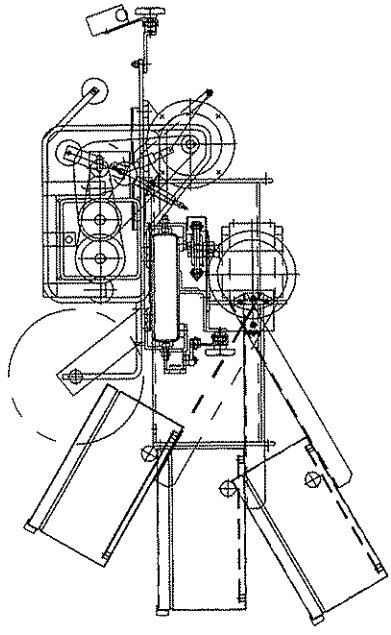


H-55/14 H BASE ASSEMBLY

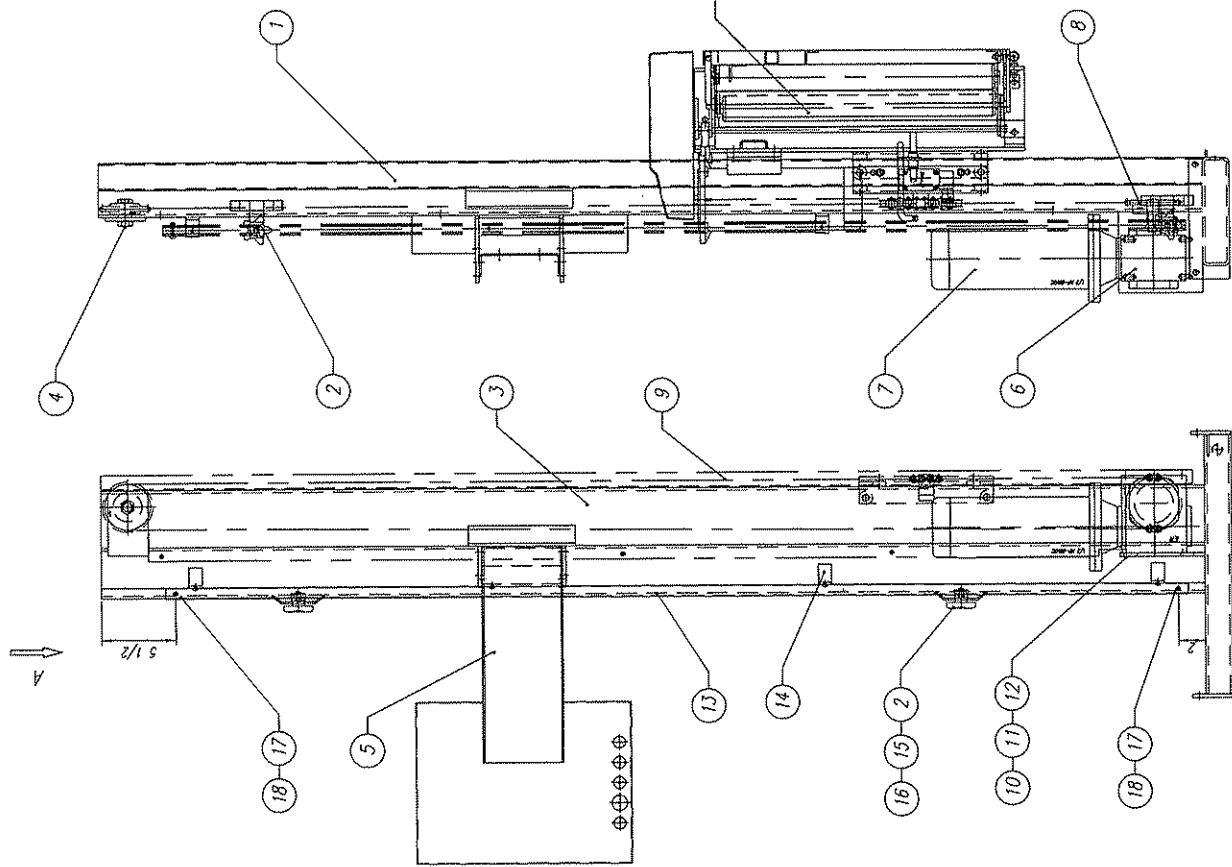
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DRAWN BY: S. KUBACKA	MACHINE TYPE: H55/14
CHECKED BY: ROGER F.	DRAWING SIZE: C
ASSISTANT: 425573 B	JOB NO.: 510
	WORKING NO.: 425571



VIEW - A



REPLACES 425853 C



REASON "A" NOV-28-2000 S.K.

TOTAL HEIGHT : 218.4 LBS

No.	DESCRIPTION	QTY	WEIGHT
1	HINGE TOWER 8 x 2 - WELDING	1	133.1
2	STRIPPER	1	1.2
3	CHAMM GUARD	1	14.3
4	ROLLER SPROCKET ASSEMBLY	1	1.7
5	REDUCER C/C-175, 50:1, ASSY-3	1	70.5
6	REDUCER C/C-175, 50:1, ASSY-3	1	25.0
7	EL MOTOR 1/2 HP 90 VDC, 1250 RPM	1	8.8
8	SPROCKET 50B19	1	1.0
9	CHAIN 150, 159, 3/8 LG (253 LINKS±2 C/L)	1	7/8 BORE
10	LOCK WASHER 5/16 SIZE	4	0.10281
11	LOCK WASHER 5/16 SIZE	4	0.10281
12	WASHER 5/16 SIZE	4	0.12725
13	CHANNEL P-6000	1	428665
14	PAW PHIL SCREW 10-24UNC	4	0.13463
15	BLACK ANOD #193	2	0.10092
16	CHANNEL GUIDE	1	427690
17	HEX. NUT 10-24UNC	2	0.12726
18	PAW PHIL SCREW 10-24UNC	2	0.12600

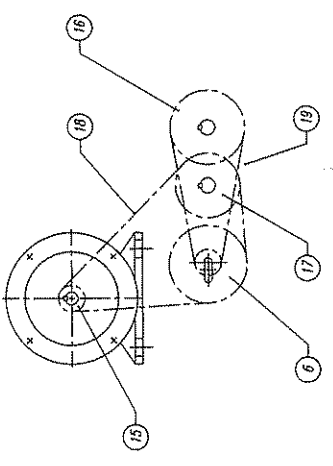
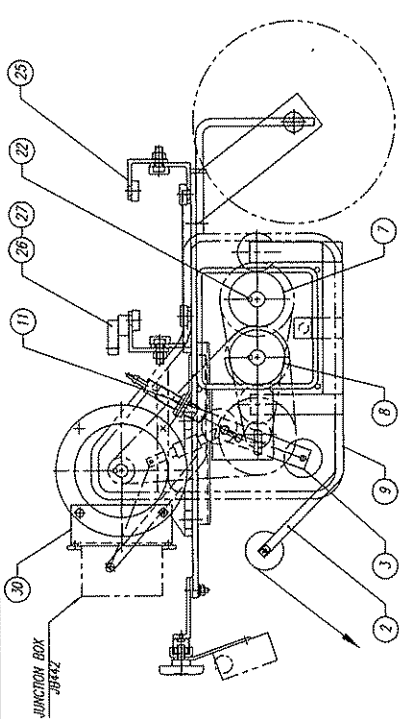
HINGE TOWER 8 x 2 - ASSEMBLY

DATE	SCALE
DRAWN BY	INDENT TYPE
CHECKED BY	DRAWN SIZE
JOB NO.	DRAWING NO.

ORION
 MANUFACTURING CO.
 1000 GERRARD ST. E. #100
 TORONTO, CANADA, M1M 1P8
 TEL: (416) 467-3759

REQ'D - 1 PCE

PRESTRETCH CHANGE AVAILABILITY				
No.	DESCRIPTION	PART No.	WEIGHT	PRESTRETCH %
40813		401317	3.2	85 %
40832		401316	3.1	80 %
40830		011463	2.9	350 %
40828		011462	2.7	320 %
40827		011461	2.6	305 %
40826		011460	2.5	290 %
40825		011459	2.5	275 %
40824		011458	2.4	260 %
40823		011457	2.1	245 %
40822		011456	1.9	230 %
40821		011455	1.7	215 %
40820		011454	1.6	200 %
40819		011453	1.4	185 %
40818		010968	1.1	170 %
40817		011452	.9	155 %
40816		011451	.8	140 %
40815		013134	.7	125 %
40814		012403	.6	110 %
40813		012402	.5	95 %
40812		010748	.4	80 %



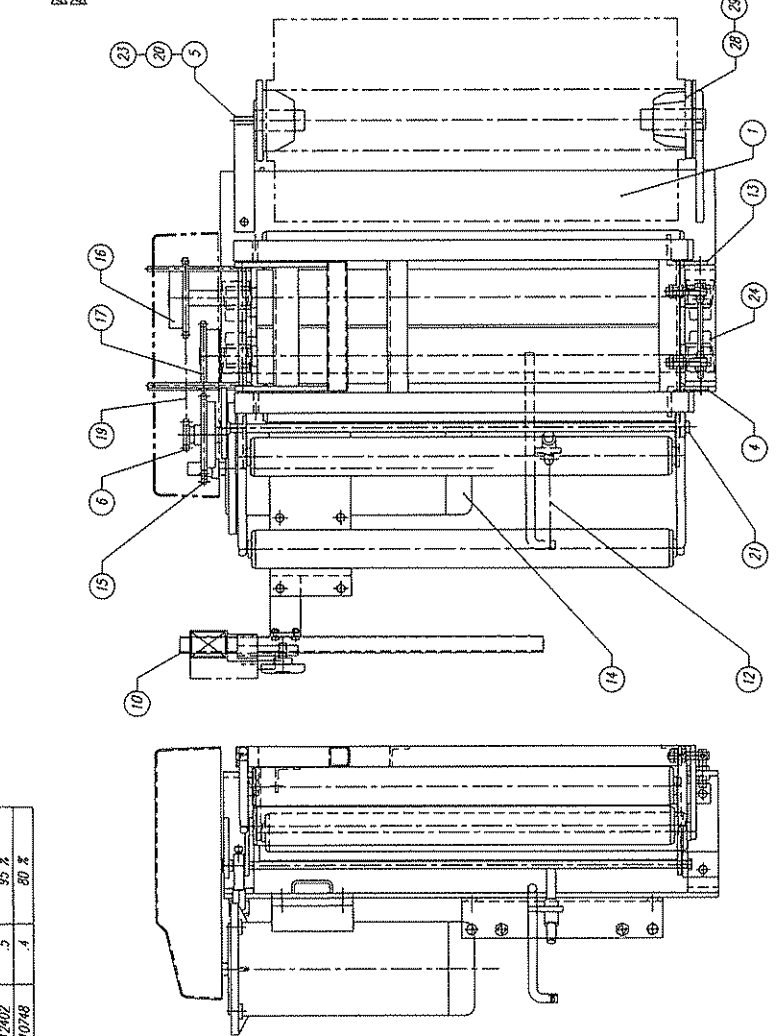
REPLACES 422047 C

TOTAL WEIGHT: 129.6 LBS

REVISION "A" AUG-29-2001 S.K.

No.	DESCRIPTION	QTY	REV	DATE
30	JUNCTION BOX SPOCKET	1	B	420059
29	BOTTOM SPOOL WASHER	1	A	43232
28	BOTTOM SPOOL	2	A	43233
27	SLEEVE BOTTOM	12	A	427058
26	CARRIAGE CHAIN ATTACH ANGLE (2--THK TOPER)	1	A	420000
25	CARRIAGE ATTACHMENT ANGLE (2--THK TOPER)	1	A	419989
24	MILUM BLOCK UCP-204	4		011192
23	FLAT WASHER 1" SIZE x 1/8 THK	3		012323
22	SO. KEY - 3/16	1		010227
21	FIBERGLASS BUSHING 9/16 O.D.x7/16 L.D.-1/2 LG	2		014247
20	SELF SEATING RETAINING RING RB100-100	2		013960
19	CHAIN #40 MADE IN JAPAN 43 LINKS + C/L	1	B	011397
18	CHAIN #40 MADE IN JAPAN 55 LINKS + C/L	1	B	011397
17	SPOCKET 40B20 3/4" BORE	1	B	011454
16	SPOCKET 40B23 - 245 %	1	B	011457
15	SPOCKET 40B24 5/8" BORE	1	B	415109
14	ELECTRIC MOTOR 1/2 HP, 90 LBS, 1750 RPM	1	A	010035
13	CRADLE ROLLER OPENING LOCK	2	A	409469
12	EXTENSION SPRING	1	B	403118
11	PROXIMITY SENSOR CAM	1	A	413744
10	PHOTOCODE ASST 20 30" CARRIAGE FRL	1	B	429052
9	FIBERGLASS COVER - ON ROYTN	1	B	414305
8	RUBBER ROLLER - 2 (20" FILM)	1	A	420917
7	RUBBER ROLLER - 1 (20" FILM)	1	A	420916
6	DOUBLE SPOCKET 40B9/40B24	1	A	414546
5	TOP HANDROL FRL	1	A	414783
4	DANCER ROLLER BRACKET	1	A	413745
3	DANCER ROLLER ASSEMBLY - 20 (FRL)	1	A	414194
2	CRADLE ROLLER ASSEMBLY - 20 (FRL)	1	C	422327
1	INSTA-THREAD BACK PLATE (20-FRL)	1	C	422039

QTY: 1
REV: 1
DATE: 08/29/01



REV'D - 1 PGE

20" INSTA-THREAD ASSEMBLY (FRL)

SCALE: 1 : 4

DATE: 06T-23-2000

DESIGNED BY: S. KUBICKA

CHECKED BY: []

WORKING SIZE: C

APPROVED BY: []

ISSUE NO.: 429437

DESIGNER: []

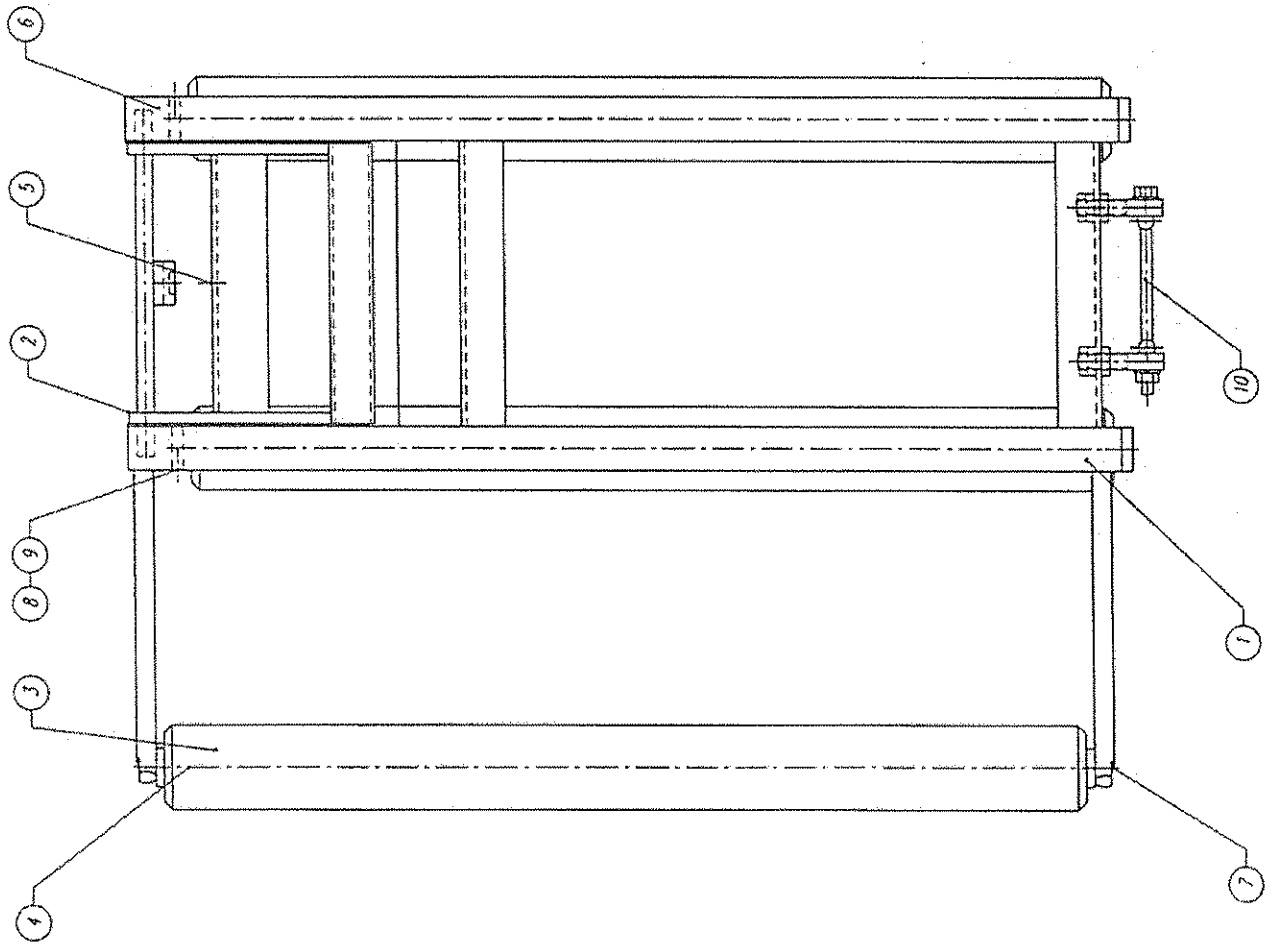
DATE: []

SCALE: []

WORKING SIZE: []

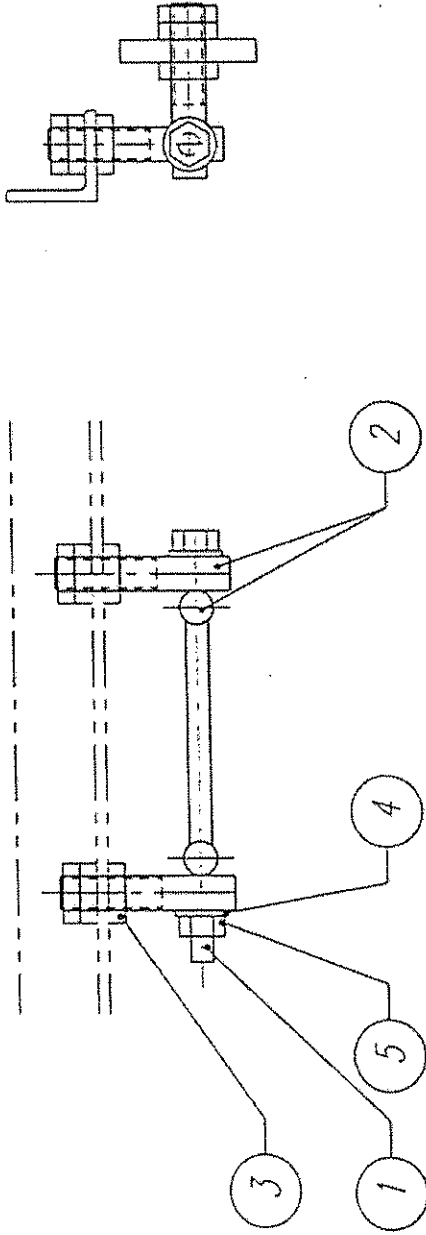
APPROVED BY: []

ISSUE NO.: []



No.	DESCRIPTION	QTY	PART No.	WEIGHT
10	CRADLE ROLLER ASSY	1	A 426280	1
9	HEX NUT	2	013491	2
8	HEX SOCK CAP SCREW	2	015050	2
7	HEX SOCK BUTT HEAD SCREW	2	015133	2
6	POLYURETHANE	2	015023	2
5	SPRING	1	011994	1
4	AXLE ROLLER SHAFT - 21-5/16 LG	1	A 412949	3
3	ALUMINUM ROLLER 1.9 DIA - 20 LG	1	A 402789	3
2	LOCK	1	A 412547	1
1	CRADLE ROLLER FRAME - 20" (FRL)	1	B 422328	1
REVISIONS: REPLACES PRE. SAUCE DRG / FROM JAN-25-69				
DRAWING No. 422047 C				
DATE: DEC-15-99		SCALE: 1:2		
DRAWN BY: S. KUBACKA		WORKING DATE: 4/1/74		
CHECKED BY:		DESIGNER'S SIGNATURE: C		
ASSEMBLY No. 422047 C		WORKING No. 422327		

orion
 PACKAGING INC.
 1170 WASHINGTON BLVD
 WILMINGTON, DE 19804
 TEL: (302) 641-4758



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: -

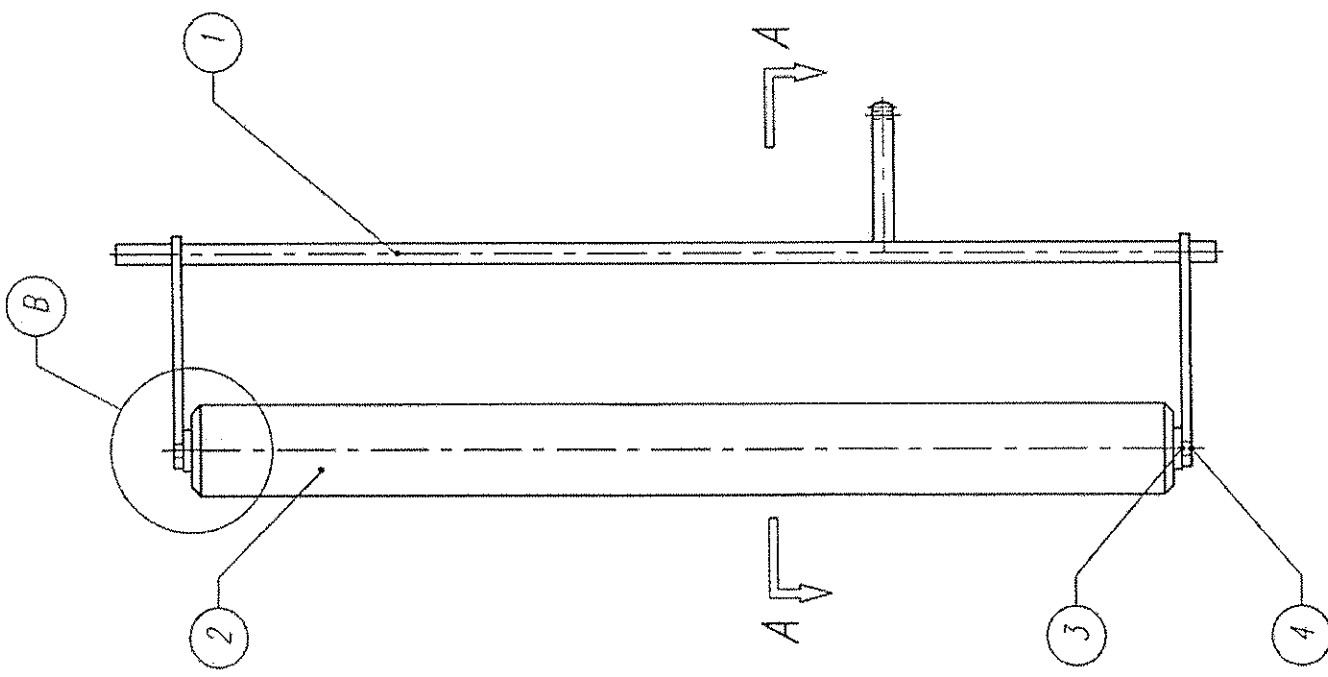
REMARKS: -

CRADLE HINGE ASS'Y

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

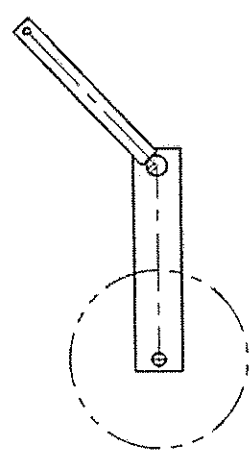
DATE: DEC-15-1999
 DRAWN BY: S. KUBICKA
 CHECKED BY:
 JOB No.: STD
 ASSEMBLY DWG.: -

SCALE: 1 : 2
 MACHINE TYPE: ALL
 DRAWING SIZE: A
 DRAWING No.: M-426200



A - A

DETAIL "B"
1 : 2



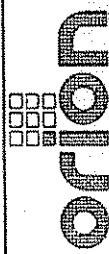
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
4	HEX HEAD SCREW		012475	2	
3	FLANGE NUT		014164	2	
2	ALUMINIUM ROLLER - 20	A	402789	1	
1	DANCER ROLLER CRADLE - 20 (FRL)	A	414195	1	

REMARKS:

REMARKS:

DANCER ROLLER ASSEMBLY - 20 (FRL)

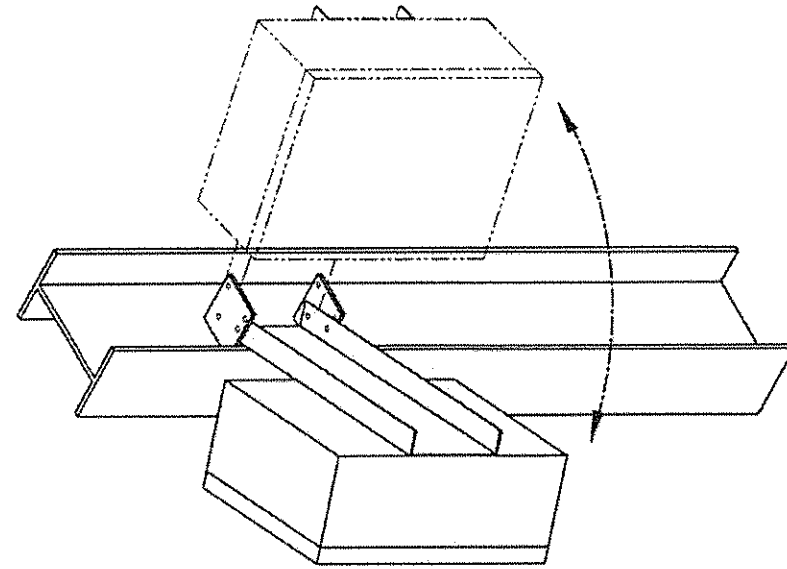
DATE:	SEP. 29/1998	SCALE:	1 : 4
DRAWN BY:	ROGER F.	MACHINE TYPE:	ALL/12
CHECKED BY:		DRAWING SIZE:	A
JOB No.:	STD - 12.1	DRAWING No.:	414194


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

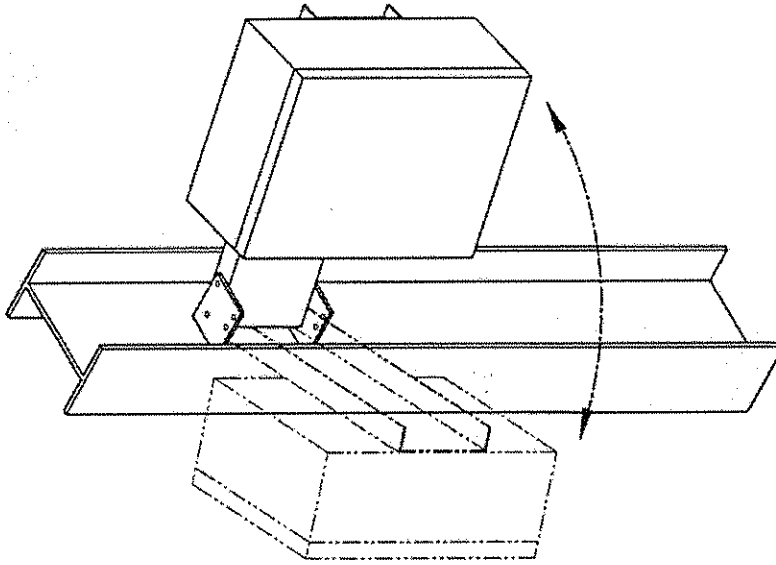
ASSEMBLY DWG.:

APPENDIX 1

In order to facilitate access and manipulation, the control panel can be mounted in two positions:



Position 1



Position 2

CONTROL PANEL MOUNT TWO POSITIONS

UPDATED FEB-15-99

DWG #418390

START

FILM TENSION



STOP

SPIRAL

TOP WRAPS

**1x
PAUSE**

**2x
RESET**

UP

UP/DOWN

1

2

3



**REINFORCE
WRAP**

**TOWER
T.TABLE
JOG**

**PHOTOCELL
OFF ON**

BOTTOM WRAPS

1

2

3



CARRIAGE

POWER

**CARRIAGE
SPEED UP**

LOWER

RAISE

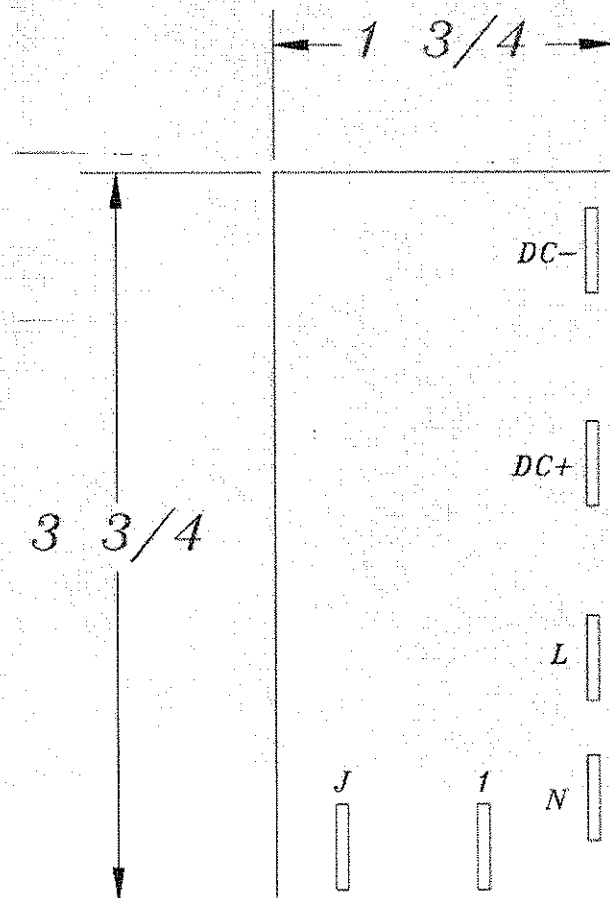


WARNING!

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.

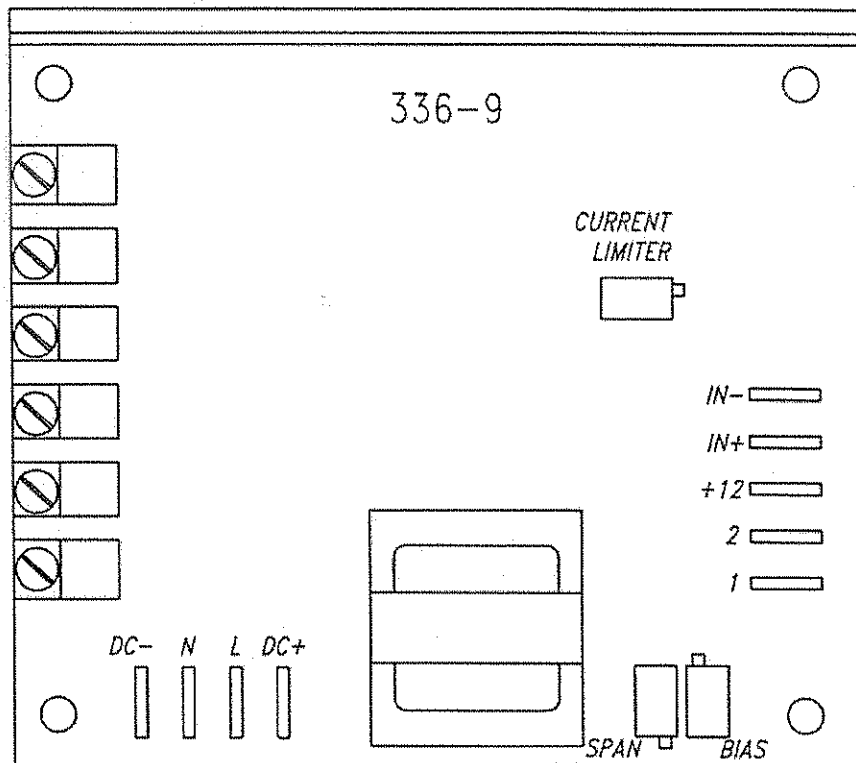
**CARRIAGE
SPEED DOWN**





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



DC+: ARMATURE CONTROL

N: AC NEUTRAL

L: AC LINE

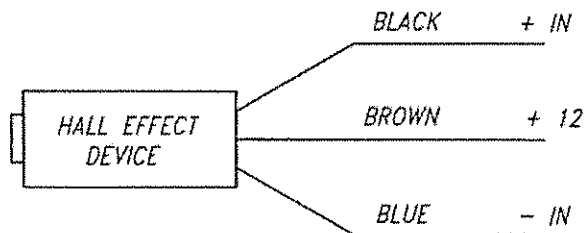
DC-: ARMATURE CONTROL

POTENTIOMETER

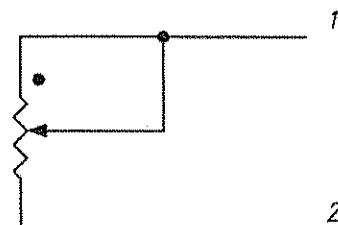
SPAN: HALL EFFECT SENSITIVITY CONTROL

BIAS: SYSTEM BIAS (FACTORY SET)

CURRENT LIMITER: (FACTORY SET)



FILM TENSION ADJUSTMENT
REMOTE POTENTIOMETER



336-9
MULTISTRETCH BOARD

1. Adjust dancer cam approx. 30 deg. from center in the direction that the dancer rotates.

2. Adjust the Hall Effect Sensor so there is an approx. gap of 1/8" between the sensor and the cam.

3. With no film in the Multistretch and power to the Multistretch, adjust the Span pot. clockwise until the motor starts to run.

4. Adjust the Span pot. counterclockwise until the motor stops and then 1/2 to 1 turn more until you have 1/2" to 1" dancer movement before the motor starts to run.

NOTE: See drawing to the right.

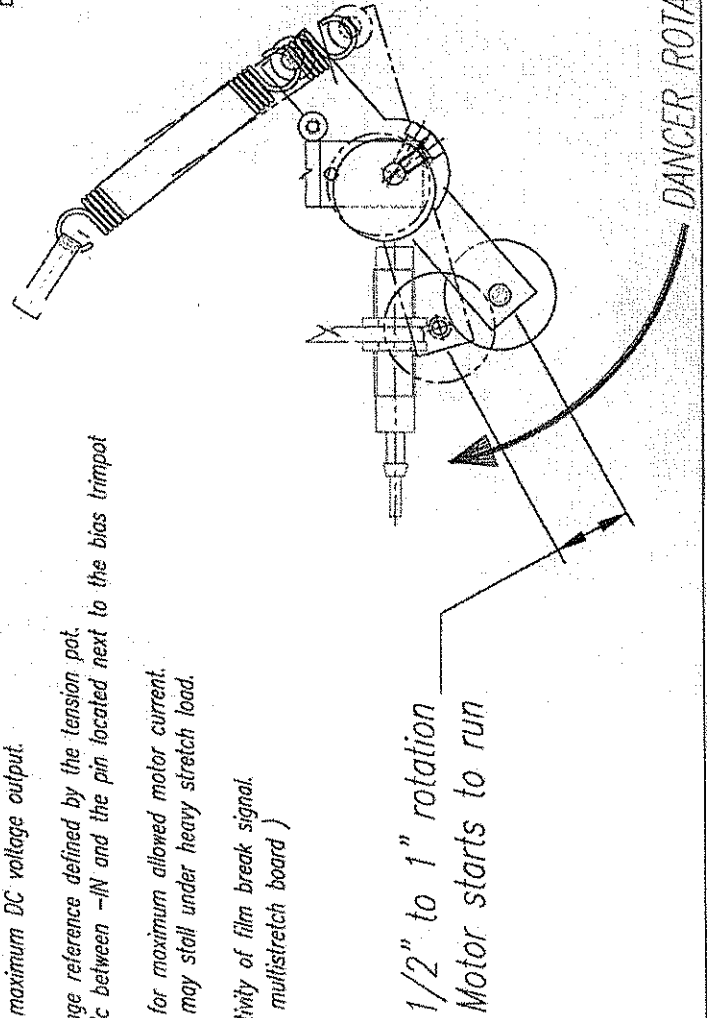
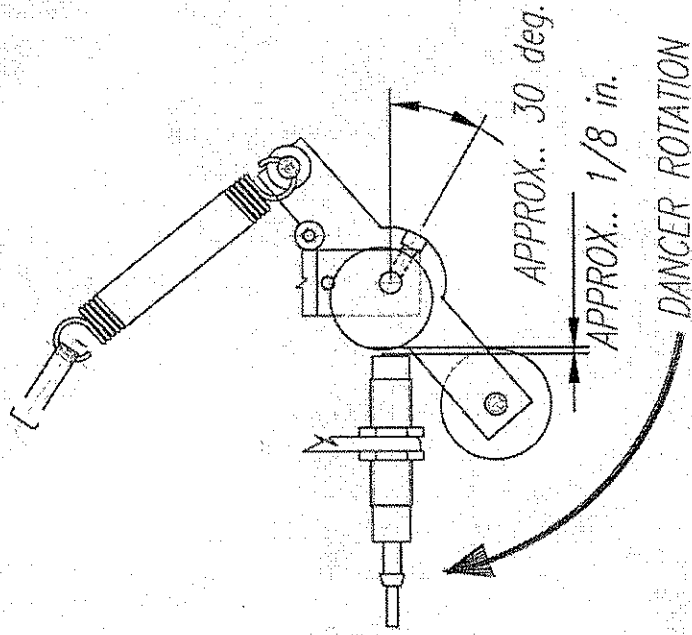
Dancer rotation may be opposite depending on machine model.
to obtain softer or harder tension it may be necessary to change dancer springs.

Span: Fine tuning adjustment for Hall Effect Sensor.
May also affect the maximum DC voltage output.

Bias: Fine tuning for voltage reference defined by the tension pot.
Factory set at 1.3vdc between -IN and the pin located next to the bias trimpot

Current Limit: Adjustment for maximum allowed motor current.
Factory set, motor may stall under heavy stretch load.

Trip: Adjustment for sensitivity of film break signal.
(Only on the 336-8 multistretch board)



orion ORION ELECTRONICS, INC. 1000 W. 10TH AVE., SUITE 100 DENVER, CO 80202-3775 TEL: (303) 435-5775 FAX: (303) 435-5775		DATE	REV
DESIGNED BY	DATE	DESIGNED BY	DATE
CHECKED BY	DATE	CHECKED BY	DATE
APPROVED BY	DATE	APPROVED BY	DATE
PROPERTY NO.		AS SETTINGS	

336-9

MULTISTRETCH 336-6/7 MOTOR CONTROL BOARD CALIBRATION INSTRUCTION (FOR ORION USE ONLY)

Bias: (RV3) The potentiometer labeled 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 operation range in the linear portion of its characteristics.

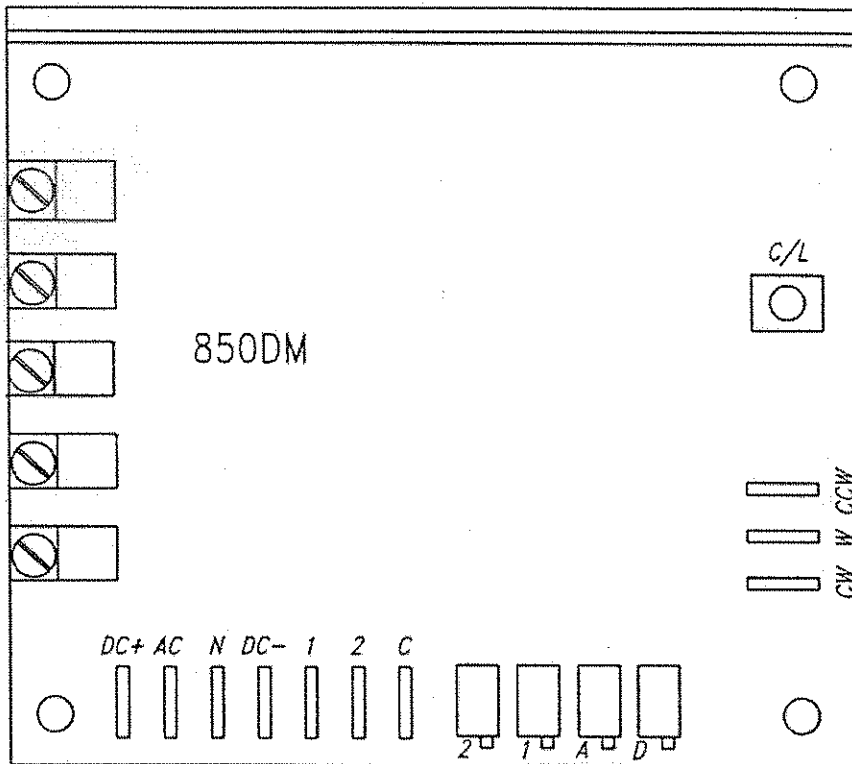
Note: This adjustment is normally factory pre-set and should not require field adjustment. For reference, the factory test procedure calls for a setting of 1.3 volts DC at the cathode of Z1 (zener diode) achieved by adjusting the RV3 pot. Check for voltage between the (-IN) and the pin located next to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

Span: (RV1) The potentiometer labeled RV1 controls the system 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 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, in effect soften the motor tension response plus decrease the maximum motor speed attainable. Clockwise (CW) adjustment of this potentiometer will decrease the response time, in effect sharpen the motor response plus increase the maximum motor speed attainable.

Current Limit: (RV4) The potentiometer labeled RV4 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 potentiometer is factory pre-set to suit 1/2 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 potentiometer slowly until the desired current is achieved. This should not exceed 125% of the motor name plate rating. Do not stall the motor for more than a few seconds, or damage may occur.



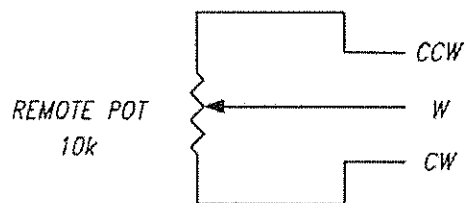
2-ND SPEED (HIGH)
 REMOTE ADJUSTMENT
 (IF NOT USED-PUT JUMPER
 BETWEEN "CW" & "W").

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

TURNTABLE ADJUSTMENT INSTRUCTIONS

1. SET JOG SPEED TO 2 RPM.

- HOLD JOG TURNTABLE SELECTOR SWITCH,
- COUNT TURNTABLE REVOLUTIONS PER MINUTE.
 - ⇒ COUNTER CLOCKWISE ADJUSTMENT OF THE JOG SPEED POT WILL DECREASE THE TURNTABLE SPEED.
 - ⇒ CLOCKWISE ADJUSTMENT OF THE JOG SPEED POT WILL INCREASE THE TURNTABLE SPEED.

2. SET WRAPPING SPEED TO MACHINE SPECIFICATIONS (12, 14, 16 rpm).

- RAISE CARRIAGE TO A MIDDLE POSITION,
- TURN CARRIAGE SPEED TO 0,
- START WRAP CYCLE,
- COUNT TURNTABLE REVOLUTIONS.
 - ⇒ COUNTER CLOCKWISE ADJUSTMENT OF THE WRAP SPEED POT WILL MAKE THE TURNTABLE GO SLOWER.
 - ⇒ CLOCKWISE ADJUSTMENT OF THE WRAP SPEED POT WILL MAKE THE TURNTABLE GO FASTER.

3. WITH THE HEAVIEST LOAD ON THE TURNTABLE ADJUST THE DECEL SO THE TURNTABLE REACHES JOG SPEED ¼ REVOLUTION AWAY FROM HOME POSITION.

- ⇒ COUNTER CLOCKWISE ADJUSTMENT OF THE DECEL POT ALLOWS THE TURNTABLE TO REACH JOG SPEED FARTHER AWAY FROM HOME POSITION.
- ⇒ CLOCKWISE ADJUSTMENT OF THE DECEL POT ALLOWS THE TURNTABLE TO REACH JOG SPEED CLOSER TO THE HOME POSITION. IF ADJUSTED TO FAR THE TURNTABLE WILL NOT REACH JOG SPEED BEFORE HOME POSITION AND WILL COAST PAST HOME POSITION.

TURNTABLE & TOWER MOTOR CONTROL BOARD ADJUSTMENTS

66 & 55 SERIES EQUIPMENT (850M Board)
(8500M)

INTRODUCTION

The 850M Motor Control Board is a DC/SCR drive that is 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 board features 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 are 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.

The 850Mx has 3 speeds and 6 Adj pots marked
1, 2, 3, A, D1, D2

INSTALLATION

The 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.

Connections 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, rated at up to 1HP.

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), and 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 it's preset speed. CCW quickens the start and decreases the time for the turntable/tower, to reach it's 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 tower/turntable rotates. This should be set for approximately 2-3 R.P.M... Please note that this setting should be made with a load on the turntable (turntable type models only). A CW turn increases jog speed, while CCW decreases jog speed.

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

This speed can be as high as 12 R.P.M.; however you should note that if it is set to 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 tower/turntable rotates. A CW turn increases speed, while 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 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. While 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 momentum will take the turntable/tower beyond home 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.

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 evident visually 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.

APPENDIX 2