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ANYTHING LESS IS A GAMBLE



**MODEL SPECTRA**  
**SERIAL # 2004-XXXXXXX**

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Tel.: (450) 667-9769, Fax: (450) 667-6320



# **INSTRUCTION** **MANUAL**

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# READ ME FIRST

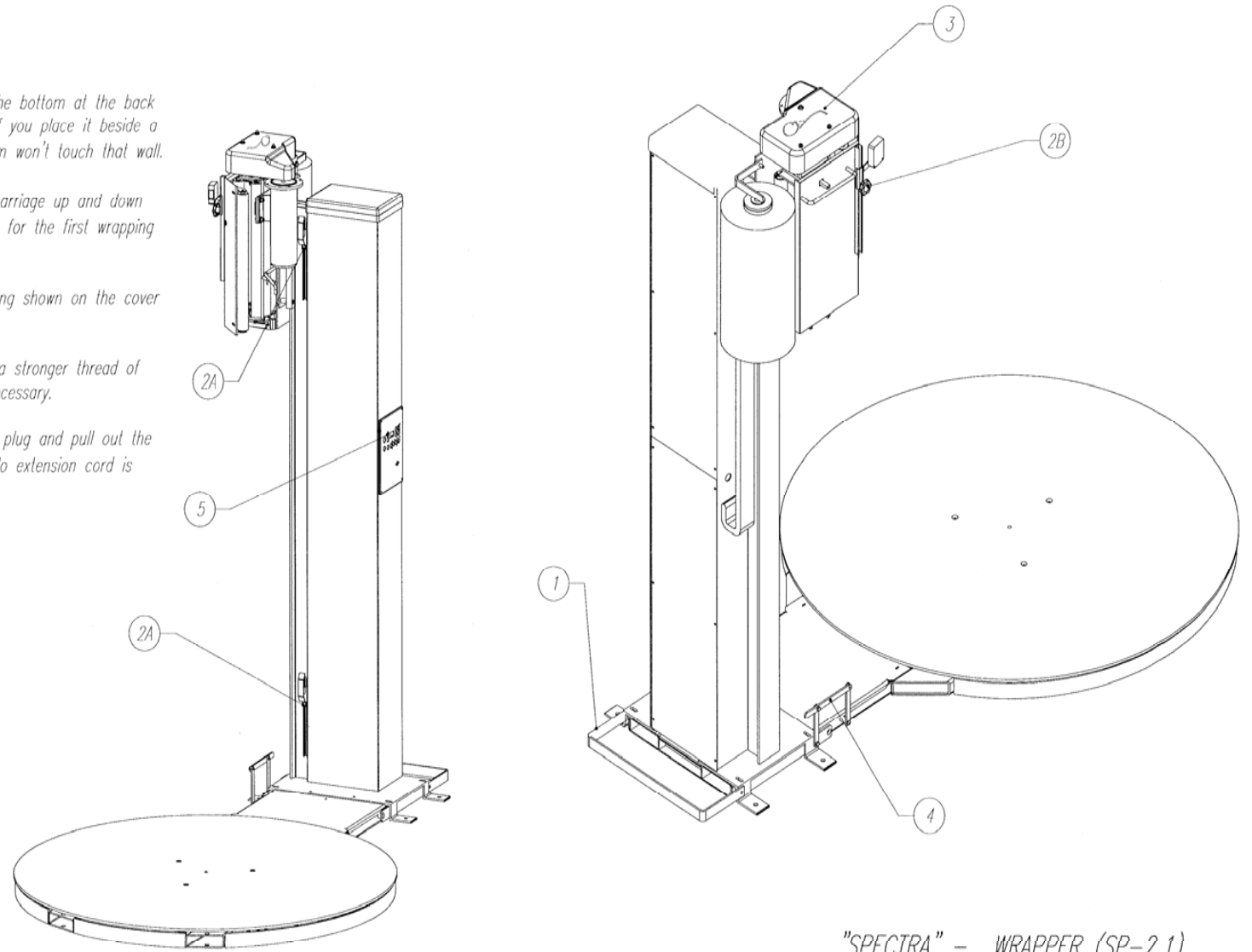
1- Unfold the rear wall spacer on the bottom at the back of the machine to make sure that if you place it beside a wall, the machine and the roll of film won't touch that wall.

2- Adjust the stricker (2A) of the carriage up and down and the height of the photocell (2B) for the first wrapping test.

3- Put a roll of film as the threading shown on the cover of the carriage.

4- Adjust the roping bar to create a stronger thread of film at the bottom of the load if necessary.

5- Connect the machine to a 120V plug and pull out the emergency stop (red mushroom). No extension cord is allowed.



"SPECTRA" - WRAPPER (SP-2.1)

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

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

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

**Notice:**

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

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

- 1)Model**
- 2)Serial Number**
- 3)Subassembly ( see PART LIST )**

**SAFETY:**

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

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

**ORION PACKAGING INC.**

# Spectra

## Low Profile Semi Automatic Heavy Duty Rotary Turntable Wrapper

<b>Maximum Load Size</b>	52"W x 52"L x 90"H
<b>Minimum Load Size</b>	30"W x 30"L x 10"H
<b>Weight Capacity</b>	5,000 lbs. Dynamic, 20,000 lbs. Static
<b>Utilities</b>	115/1/60 20 Amp Electrical Service
<b>Turntable &amp; Drive:</b>	65" Diameter x 3/8" Steel Plate 0-14 RPM variable speed with adjustable soft-start Dynamic positive alignment home positioning feature Chain & sprocket drive with automatic, self-adjusting chain tensioner In-line helical gear reducer on turntable drive train No-maintenance, quiet DuraGlide™ support bearings 3" Height floor to top of turntable
<b>Control Features:</b>	CSA and UL Approved Control Panel State-of-the-Art Logic Control User Friendly Microprocessor with Micro-Switch Keypad DuraLogic™ Controller with Modular Plug In Components Revo-Logic™ Exact Wrap Counting Technology Insta-Sense™ Film Broken / Out Sensing Logic with Indicator Electronic Film Tension Control Adjustment on the Panel Separate Top / Bottom Wrap Count Selectors with LED Count Display Variable Speed Film Carriage Up/Down Control Film Carriage Raise/Lower Switch (Manual) All Colors Compatible Photocell for Automatic Load Height Detection Turntable Jog Pushbutton Cycle Pause for Stopping the Wrap Cycle Without Resetting
<b>Film Stretch &amp; Delivery:</b>	Uses standard 20" film rolls InstaThread® for ultra-fast drop-in film threading 260% Standard film stretch (available from 100% to 425%) AUTOMATIC electronic non-contact film force-to-load control Dynamic dancer bar for consistent film tension around entire load Precision ground, polyurethane stretch rollers with lifetime warranty
<b>Film Carriage Drive:</b>	Heavy Duty Zero-maintenance industrial belt lift carriage Variable Speed Drive Motor UHMW Precision Carriage Guidance System
<b>Structural Features:</b>	All STEEL base frame and tower construction Base structure includes dual full-length steel channels Forklift portable from front or rear of machine Hinged tower for ease of transport (reduces machine profile) Adjustable, foldaway film roping bar to lock load to pallet
<b>Ease Of Use And Safety:</b>	Fail-Safe film carriage drive with free-fall prevention Film carriage features obstacle detection with automatic shut-off Ergonomic side facing film replacement Protective cover over powered prestretch rollers All-enclosed chains & electronics
<b>Available Options:</b>	SPE-001 Extended tower for loads up to 1 IO" tall (ships with tower hinged/tilted) SPE-010 Heavy-duty ramp for loading with pallet-jack or electric walkie

\*ORION PACKAGING RESERVES RIGHTS TO CHANGE THIS SPECIFICATION AT ANY TIME WITHOUT NOTICE

# MACHINE UNLOADING INSPECTION & INSTALLATION

## UNLOADING

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

1. Carefully insert the forks into the lifting tubes to the maximum possible depth. Depending on the model, a forklift access may be either at the turntable end of the machine frame, the tower end or both. In case of the mongoose machine enter the forks under the frame or insert the forks in the tube brackets welded to the top of the machine.
2. Lift the machine (or other part of system) only to the necessary height to move it with no bouncing or friction on the floor.
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 are as follows:

- Motors and transmissions
- Junction boxes
- Electrical conduits
- Proximity and limit switches
- Photocells

3. Check under the turntable to ensure that there is no crippling of the movable parts i.e. casters, center axle or drive assembly.

4. Verify the following:

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

## MACHINE INSTALLATION

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

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

## ASSEMBLY PROCEDURE

The structural frames of the machine have to be installed on a leveled floor.

Locate the main wrapper section into its final position, keeping the tower assembly\* away from any traffic.

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

Any wiring that has been disconnected to facilitate transport is marked with a number located on the junction box to which the wiring must be reconnected. Any wire run that appears too short or long may indicate that the position of the mechanical components is incorrect. Verify the status of all assemblies before proceeding.

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

### The roping bar

The roping bar is rotating around the shoulder screw (dwg M-435381 item # 7) and his height can be adjusted from 0 to 6 inches from the base. That device is squeezing a stripe from 0 to 6 inches of the film like a rope to stabilize the load itself or attach it on the pallet. To adjust the roping bar you need a 1/2" wrench and you have to loose up the screw #5 and #6.

### Getting started

#### Security tip

**Be careful to never walk on the turntable it could cause you an injury.**

Put a pallet on the turntable and attach the end of film around the load on the same side than the control panel. Put the carriage at the bottom end of the tower to begin a cycle of wrapping. After the start don't stay to close and wait until the end of the cycle.

After the cycle, cut the film and remove the load. The carriage is returned back to the bottom of the tower and ready to wrap again.



## **Machine operation and security**

### **Installation of a roll of 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. Release the lock and pull the handle to open film distributor cradle.
6. Pass the roped tail of the film through opening (as shown on the film quick threading pattern DWG. # 434460 Fig.1).
7. Close the film distributor cradle.
8. When the film distributor is completed (fig. 2) - turn the power switch on.
9. Peel off the first few winds of the film (multistrech will run due to displacement of the dancer roller) and fix the film end onto the load.

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

### **Broken film**

Open the cradle, pull a few winds of film, close the cradle and the machine is ready to wrap again.

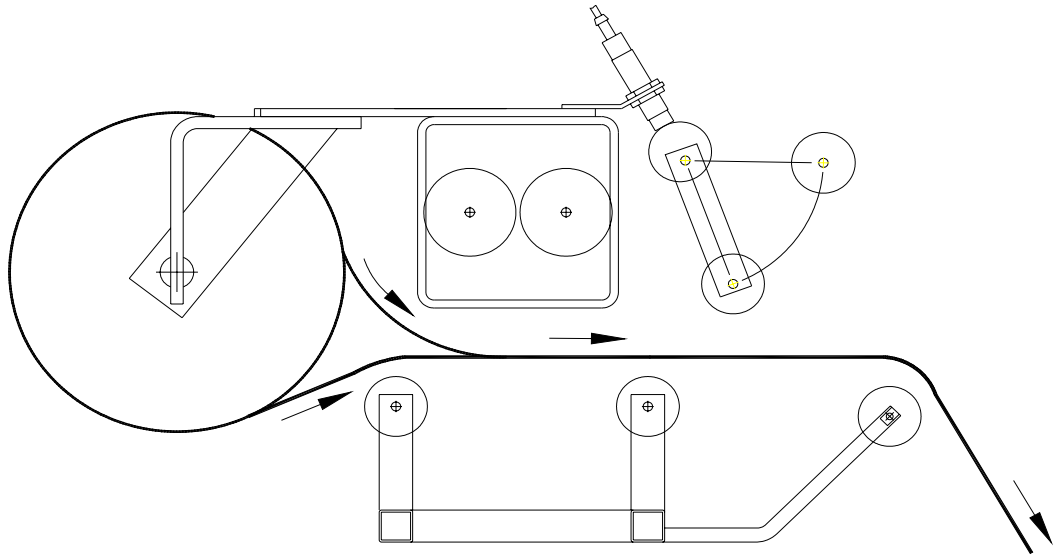


Fig. 1 OPEN CRADLE

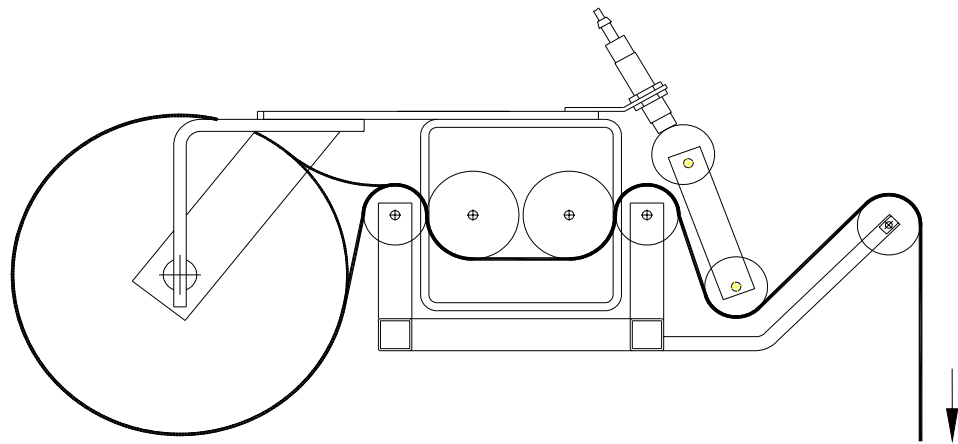


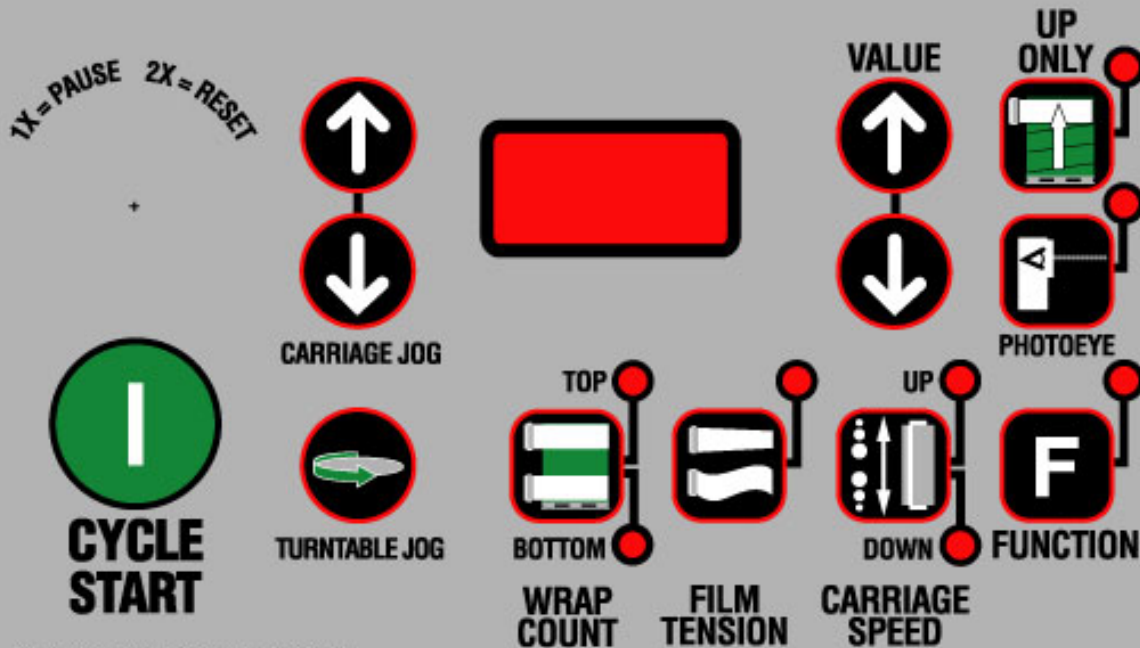
Fig. 2 CLOSED CRADLE

**FILM QUICK THREADING**

UPDATED APR-03-2002

DWG # 434460

# SPECTRA™



## OPERATING INSTRUCTIONS

Begin Wrap Cycle: Press START

Pause the machine: Press STOP once

Reset the machine: Press STOP twice

Manually raise or lower film carriage: Press CARRIAGE UP or CARRIAGE DOWN

Manually rotate turntable: Press TURNTABLE JOG

Set wrap count: 1) Press WRAP COUNT - once for top, twice for bottom  
2) Press VALUE up or down to set wrap count from 1 - 10  
3) Press WRAP COUNT to finish

Set film tension: 1) Press FILM TENSION  
2) Press VALUE up or down to set tension from 1 - 100  
3) Press FILM TENSION to finish

Set carriage speed: 1) Press CARRIAGE SPEED - once for UP, twice for DOWN  
2) Press VALUE up or down to set speed from 1 - 100  
3) Press CARRIAGE SPEED to finish

Set mode to spiral up only: Press WRAP UP ONLY until LED is lit

Enable photocell: Press PHOTOCELL ENABLED until LED is lit

FUNCTION key is for factory set parameters and is password protected: see manual

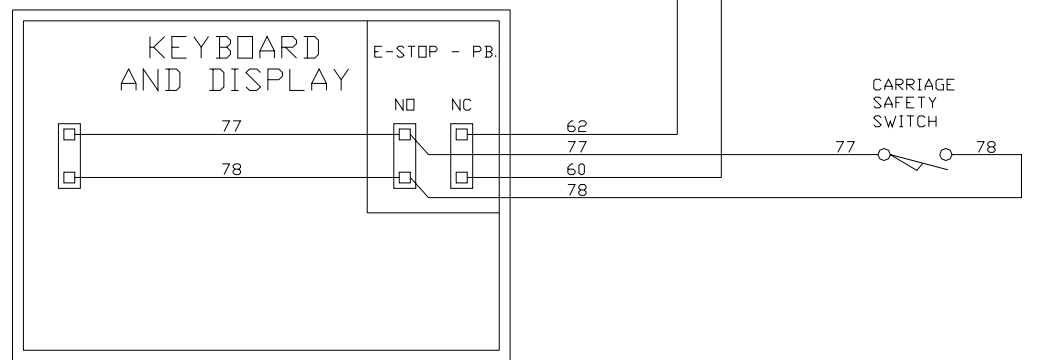
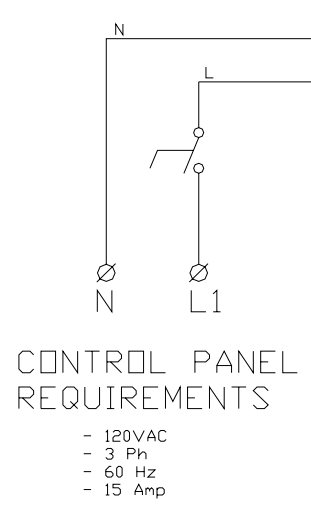
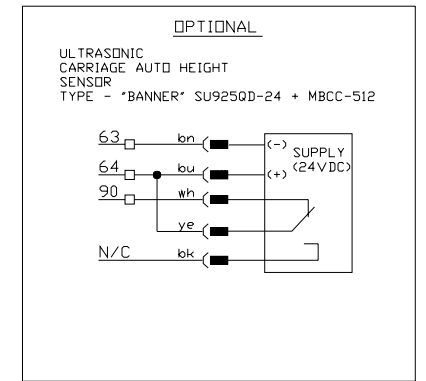
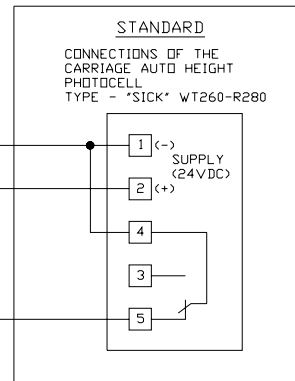
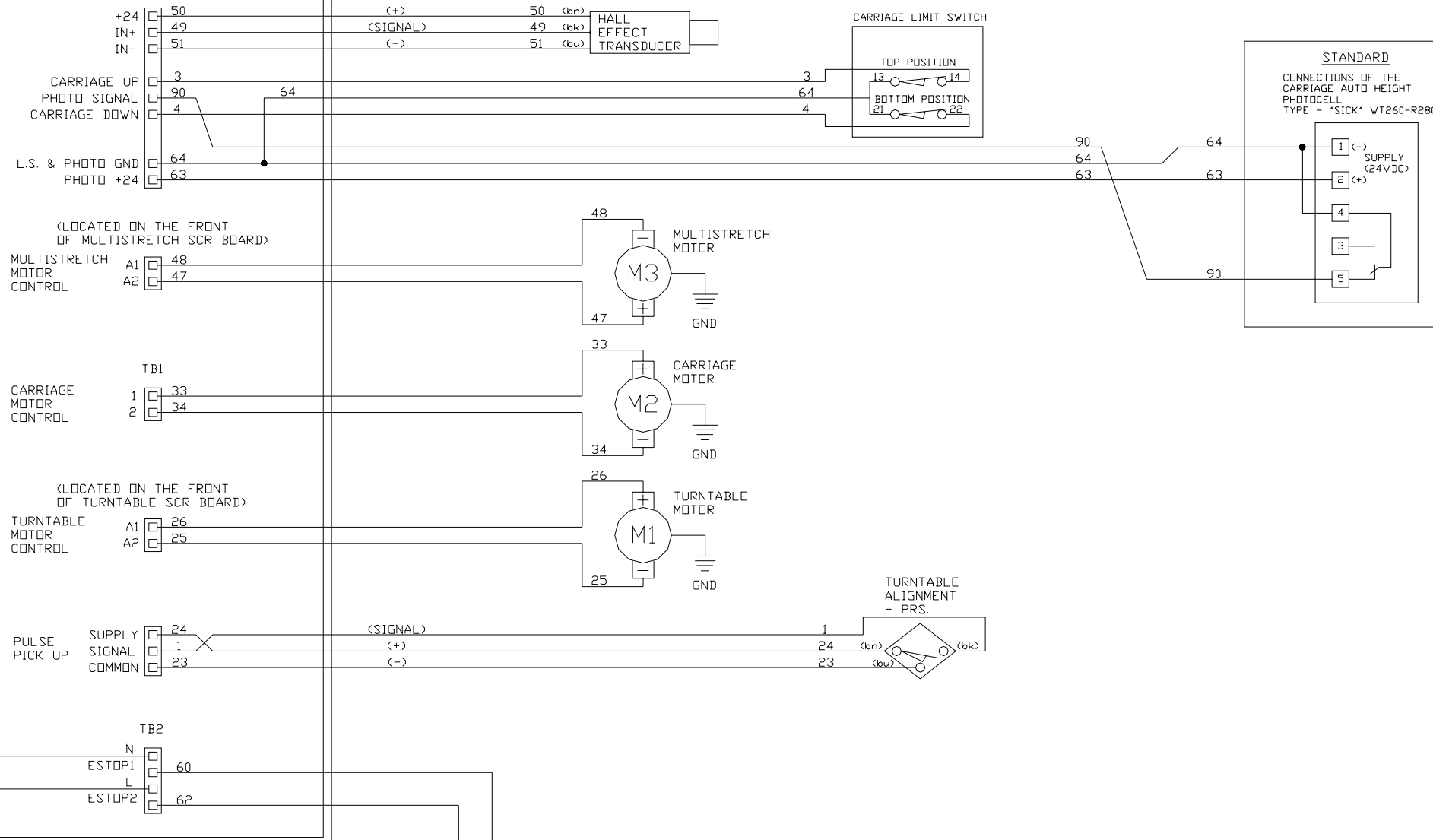
To save parameters: 1) Press any JOG key or -  
2) Press START or -  
3) Wait 30 seconds



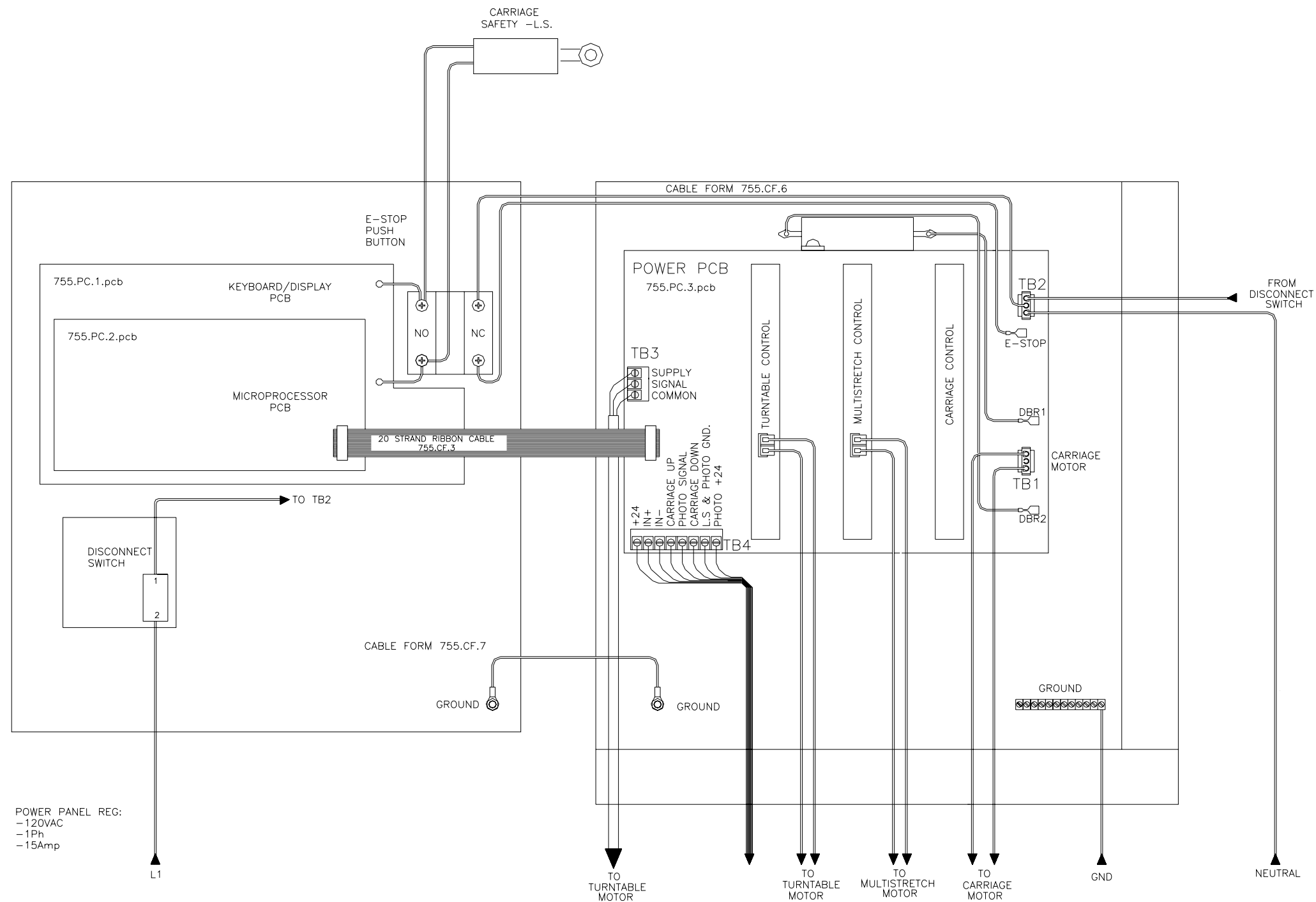
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# TYPE 755 CONTROL PANEL



<p>ORION PACKAGING INC. 2270 INDUSTRIEL BOUL., LAVAL QUEBEC, CANADA, H7S 1P9 TEL: (450) 667-9769</p>	<p>2270 INDUSTRIEL BLD L'AVL, QUE., CANADA H7S 1P9 SCALE: NTS</p>		
	<p>TITLE: SPECTRA "STANDARD"</p>		
	<p>SIZE: C</p>	<p>DOCUMENT NO: 302 480</p>	<p>REV: 2</p>
	<p>DATE: MAY-15-2002</p>	<p>FILENAME: SPECTRA-EI-1.DWG</p>	<p>SHEET: 1 OF 1</p>



POWER PANEL REG:  
 -120VAC  
 -1Ph  
 -15Amp

		<b>ORION PACKAGING INC.</b>	
		2270 INDUSTRIEL BLVD LAVAL, QUE., CANADA H7S 1P9 TEL: (450) 967-9769 FAX: (450) 967-6300 APPR. BY: J.B.S. DRAWN BY: J. ALEXANDER	
TITLE: <b>SPECTRA</b>		SCALE: <b>NTS</b>	
SIZE: <b>D</b>	DOCUMENT NO.: <b>302 482</b>	REV: <b>2</b>	
DATE: <b>MAY-15-2002</b>	SHEET: <b>1 OF 1</b>	FILENAME: <b>SPECTRA-EI-ZLONG</b>	

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755 Orion Integrated Digital Control Center

# OPERATING INSTRUCTIONS

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SPECTRA

# TABLE OF CONTENTS

SECTION 1	GENERAL DESCRIPTION .....	2
1.1	Reference drawing .....	2
1.2	Description of sub-assemblies.....	2
1.3	Multistretch control description .....	3
1.4	Turntable control description .....	4
1.5	Carriage control description.....	4
SECTION 2	KEYBOARD DESCRIPTION .....	5
SECTION 3	MANUAL OPERATION.....	6
3.1	Turntable jog .....	6
3.2	Carriage jog up & down.....	6
SECTION 4	PROGRAMMING WRAPPING PATTERN.....	6
4.1	Top & bottom wrap .....	6
4.2	Film tension .....	7
4.3	Carriage up & down speed .....	7
4.4	Spiral up / up & down .....	7
4.5	Photo eye .....	8
4.6	Default setting .....	8
SECTION 5	MODE OF OPERATION .....	8
5.1	Cycle start .....	8
5.2	Pause / stop .....	8
5.3	End or broken film .....	9
5.4	Film carriage over travel safety switch.....	9
SECTION 6	ADVANCED PARAMETERS SETTING.....	10
6.1	Parameter description .....	10
6.2	Accessing parameters.....	10
6.3	Parameter saving .....	11
6.4	Get default settings.....	11
6.5	Exit function.....	11
SECTION 7	DISPLAY SCREEN.....	11
7.1	Display contents .....	11
7.2	Display refresh .....	12
SECTION 8	MAINTENANCE.....	12
8.1	Replacing sub assemblies.....	12
8.2	Board-level maintenance.....	12
SECTION 9	TROUBLE-SHOOTING.....	13
SECTION 10	SPARES PARTS .....	14
SECTION 11	TOTALIZING CYCLE COUNTER .....	14



# SECTION 1

## General Description

The system is an integrated control for a stretchwrapping machine. It includes three DC motor controls:

- Carriage control, reversing.
- Turntable control, fully programmable via keyboard interface.
- Multistretch control, fully programmable via keyboard interface.

**The 755 control comprises three principal sub-assemblies:**

- Keyboard and display - for setting and viewing the system parameters. (Type 755.1 Fig. 1)
- Microprocessor board - overall system control (Type 755.2 Fig. 2)
- Motor control and interface assembly (MCIA) (Type number 755.3 Fig. 3)

**These items are mounted and wired inside of enclosure or front panel plate mounted to the machine. The membrane switch/display operator interface is on the door of this enclosure.**

### 1.1 Reference Drawings

DWG. # 302 480 rev. 2

DWG. # 302 482 rev. 2

### 1.2 Description of Sub-Assemblies

- **KEYBOARD AND DISPLAY Type 755.1**

This board contains 12 keypads and three, seven-segment display modules (three digits). It is used to start an automatic wrapping cycle, or to operate the machine manually, and also to set and adjust the control parameters (carriage speed, film tension value, and turntable speed, etc.). It is mounted on the enclosure door, behind the membrane label. The keyboard communicates with the microprocessor board through a 28-pin connector (**P1**).

- **MICROPROCESSOR BOARD Type 755.2**

Contains the system microprocessor, E<sup>2</sup>PROM memory. This board generates the reference and control signals for the three machine drives: carriage, turntable and multistretch. It plugs into, and mounts behind the keyboard/display, connected to the MCIA by a 20-way ribbon cable.

- **MOTOR CONTROL AND INTERFACE ASSEMBLY (MCIA) Type 755.3**

This assembly comprises of a motherboard, power supplies and card rack, which is plugged into three distinct DC motor controls. This DC motor control regulates the function of the machine (multistretch, turntable and carriage). The motherboard houses the reversing relays for the carriage, and connectors to interface with machine. It also includes two regulated DC supplies - +5 VDC for the microprocessor board, and +24VDC for the hall effect device (which senses position of multistretch dancer roller and photocell).

## 1.3 Multistretch control description

The multistretch drive is a solid state DC motor control specially designed for use in constant tension mode on stretchwrapping machines. The unit functions as a pay-off drive, unwinding the pre-stretched film as the turntable and pallet rotate, and continuously regulating tension as the diameter of the wrapped load changes. Since the typical pallet load is a square cross section, the effective diameter changes abruptly with rotation; the film tension is monitored by a tension-arm, held in place by spring pressure. As the film tension changes, the arm moves, rotating a cam, and the cam orientation is sense by a hall effect transducer. The transducer is powered at 24VDC by a regulated supply on the MCIA. The transducer signal varies with the separation between its sensing head and the cam surface – the output range is from approximately 0.5 to 3.5 volts DC. The amplified transducer signal controls motor torque, increasing or decreasing it so as to restore the tension arm to its previous position, and to maintain tension at its preset level. The system response is tailored so that these small corrections are smooth, continuous and largely imperceptible. The tension defaults to minimum when the external tension adjustment circuit is opened. The control offers a film-break detection feature to be described later in this document (applicable on some models only).

### **ADJUSTMENTS:**

The operator, using the digital interface can set the film tension. In addition to the above-mentioned digital tension adjustment, there are three trimming potentiometers. The trimmers are accessible through the faceplate of the plug-in control, (See Fig. 3), functions as follows:

#### **• ZERO (RV1)**

This control injects an offset voltage, which adds or subtracts from the tension voltage reference; this will allow the extremes of adjustment from the digital interface to be set to levels consistent with appropriate operation. Typically, the “Zero” will be used to center the operating range in the linear portion of its characteristics. This adjustment is normally made at the factory and should not require field adjustment. The machine should be stopped and the film removed for this adjustment.

#### **• SPAN (RV2)**

This controls the system loop gain, and may be adjusted if the motor continues to turn when the dancer arm is unloaded. The potentiometer should be adjusted to ensure that the motor is de-energized when arm is unloaded.

#### **• TRIP (this feature is available on selected models only)**

An on-board comparator detects “film break” or “no-film” by monitoring armature voltage. Potentiometer RV3 adjusts the relay trip level. The comparator output is fed back to the microprocessor board, and a film break signal will cause the machine to pause if an automatic cycle is in progress.

### **CURRENT LIMIT**

To protect the unit against damage, if the motor should stall, jam, or current demands exceed the 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. The current limit is set at the factory and should not require field adjustment.

## **CONNECTION**

The motor armature attaches to terminals (+) (-) are accessible through the faceplate of the plug-in module. The unit is suitable for permanent magnet shunt style DC motors with 90 V armature rating, sized at up to 3/4HP.

### **1.4 Turntable control description**

The turntable control is a DC motor control designed for the use as a turntable drive of wrapping machines, where long and repeatable acceleration and deceleration times is needed, and remotely selectable pre-set speeds are required. The unit requires a 90 V armature, permanent magnet DC motor as output device.

#### **CURRENT LIMIT**

To protect the unit against damage, if the motor should stall, jam, or current demands exceed the rating, a current-limiting circuit is included which keeps motor current at a safe level regardless of motor load. The current limit is set at the factory and should not require field adjustment.

#### **CONNECTION**

The motor armature attaches to quick disconnect terminals (+) (-) are accessible through the faceplate of the plug-in module. The unit is suitable for permanent magnet shunt style DC motors with 90 V armature rating, sized at up to 3/4HP.

### **1.5 Carriage control description**

The carriage control is a DC motor control designed to operate in direct or reversing mode at preset speeds defined by the user through the keyboard section. The unit requires a 90 V armature, permanent magnet dc motor as output device.

Two relays and a dynamic braking resistor (DBR) are used for motor reversing and braking. The brake resistor is bolted to a card-rack side plate, part of the MBIA. The circuit is equipped with anti-plug protective interlocks.

#### **CURRENT LIMIT**

To protect the unit against damage, if the motor should stall, jam, or current demands exceed the rating, a current-limiting circuit is included which keeps motor current at a safe level regardless of motor load. The current limit is set at the factory and should not require field adjustment.

#### **CONNECTION**

The motor armature attaches to quick-disconnect terminals (+) (-), on the MBIA motherboard. The unit is suitable for permanent magnet shunt style DC motors with 90 V armature rating, sized at up to 3/4HP.

## SECTION 2

### Keyboard Description

The keyboard is used to control and monitor all the parameters of a stretch wrapper machine. It will also be used for in house calibration. See Fig 1. Below is a short description for the purpose of each keypad element.

- **START**  
The start keypad is used to start or continue a wrapping cycle.
- **E-STOP**  
The stop push-button is used to pause and stop a wrapping cycle before it is completed.
- **TURNTABLE JOG**  
The jog keypad is used to jog the turntable manually at a preset speed.
- **CARRIAGE RAISE**  
The carriage up keypad is used to move the carriage up manually.
- **CARRIAGE LOWER**  
The carriage down keypad is used to move the carriage down manually.
- **WRAPS**  
This keypad is used to program the number of top and bottom wraps that the turntable will perform during a cycle.
- **TENSION**  
This keypad will set the tension of the wrapping film.
- **CARRIAGE SPEED**  
This keypad is used to set the carriage up and down speed.
- **FUNCTION**  
This keypad is used for in house programming and adjustments. Access is limited to authorize personnel by a password code.
- **SPIRAL**  
This keypad is used to select between “UP/DOWN” and “UP ONLY” spiral wrapping patterns
- **PHOTOCELL**  
This keypad is used to enable and disable the load auto-height photocell.
- **VALUE UP and DOWN Arrows**  
Those keypads are used to change the value of parameters displayed on the SSD.

## SECTION 3 Manual Operation

### 3.1 Turntable Jog

To rotate the Turntable using the **TURNTABLE JOG** keypad, the machine must be stopped (out of wrapping cycle). If a cycle is being processed, this keypad is disabled. When the **JOG** keypad is pressed, the **turntable** turns at a **preset speed (Low)** until the keypad is released. Screen displays **JOG**.

### 3.2 Carriage Jog UP & DOWN

To move the carriage up or down using the **CARRIAGE UP** and **CARRIAGE DOWN** keypad, the machine must be stopped (out of wrapping cycle). If a cycle is being processed, those two keypads are disabled.

When the **CARRIAGE UP** keypad is pressed, the carriage will go up until the keypad is released or the carriage top limit switch is activated. Screen displays **UP**.

When the **CARRIAGE DOWN** keypad is pressed, the carriage will go down and it will stop only when carriage down keypad is pressed again or carriage up keypad is pressed, or when it reached the carriage bottom limit switch. Screen displays **dn**. A delay of one **(1) second** must elapse before the **carriage** can **reverse** direction.

## SECTION 4 Programming Wrapping Pattern

This section describes how to change all programmable parameters and values. Also, operator can select up to three (3) wrapping cycles by using the **spiral** keypad and the function parameter **P02**:

- Spiral Up Only
- Spiral Up/Down with top wraps first
- Spiral Up/Down with bottom wraps first.

### 4.1 Top & Bottom Wraps

There are two settings for the number of wraps. The numbers of wraps are executed at the bottom and at the top of the load.

To select the top wrap variable, the **set # wraps** keypad must be pressed once, this turns **ON** the **LED** located beside the top right corner of the keypad. This indicates that the top wrap variable is selected. By using the **UP** or **DOWN** arrows the value can be changed. The value can be set from 1 to 10.

To select the bottom wrap variable, the **set # wraps** keypad must be pressed twice or until the **LED** located beside the bottom right corner is **ON**. This indicates that the bottom wrap variable is selected. By using the **UP** or **DOWN** arrows the value can be changed. The value can be set from 1 to 10.

For changes “on-the-fly”, a delay of 1 (one) second must elapse before new top/bottom wraps settings will be effective

## 4.2 Film Tension

To select the film tension variable, press the **FILM TENSION** keypad. The **FILM TENSION LED** is located at the top right corner of the keypad. Once the keypad is pressed and the **LED** is **ON**, the **UP** and **DOWN** arrows can be used to change the value.

The value may be set from 0 to 100 (0 -100%).

## 4.3 Carriage UP & DOWN Speed

There are two settings for the carriage speed: the **CARRIAGE UP** and the **CARRIAGE DOWN** speeds.

By pressing once on the carriage speed keypad, the **LED** located at the top right corner of the keypad will turn **ON**. This means that the carriage speed up variable is selected. By using the **UP** or **DOWN** keypad arrows the value can be changed.

The value will vary from 0 to 100 (0-100%).

To select the **CARRIAGE DOWN** variable, the **CARRIAGE SPEED** keypad must be pressed twice or until the **LED** located at the bottom right corner is **ON**. By using the **UP** or **DOWN** keypad arrows the value can be changed.

The value will vary from 0 to 100 (0-100%).

## 4.4 Spiral UP / UP & DOWN

Pressing up only keypad, it will switch between “spiral up only” and “spiral up & down”. When LED is ON, the “spiral up only” mode is selected and the sequence will be:

1. Film carriage wraps bottom of load with selected number of bottom wraps
2. Film carriage moves up until top of load is reached
3. Applies selected number of top wraps
4. Turntable decelerates and stops in home position

When LED is OFF, the “spiral up & down” mode is selected and the sequence will be according to the value of the advanced parameter P02 (see section 6 for setting of P02).

If “**top wraps first**” selected (**P02=0**)

1. Film carriage moves until top of load is reached
2. Applies selected number of top wraps
3. **Film carriage moves to the bottom of load**
4. Applies selected number of bottom wraps
5. Turntable decelerates and stops in home position

If “**bottom wraps first**“ is selected (**P02=1**)

1. Applies selected number of bottom wraps
2. **Film carriage moves until top of load is reached**
3. Applies selected number of top wraps
4. Film carriage moves to the bottom of load
5. Turntable decelerates and stops in home position

## 4.5 Photo eye

*Note: this feature works only when machine is running ... (During Cycle)*

To automatically detect top of the load (to stop carriage motion up with or without “overlap”) carriage auto-height photocell must be enabled. The photo eye is enabled or disabled by the photo eye keypad. When enabled, the photo eye goes ON.

## 4.6 Default Setting

DESCRIPTION	DATA RANGE	Default Value
Top wraps	From 1 to10	<b>02</b>
Bottom wraps	From 1 to 10	<b>02</b>
Tension	From 0 to100	<b>10</b>
Carriage speed up	From 0 to100	<b>65</b>
Carriage speed down	From 0 to100	<b>65</b>

# SECTION 5 Mode of Operation

## 5.1 Cycle Start

To start new wrapping cycle press green keypad CYCLE START.

## 5.2 Pause/Stop

*Note: this feature works only when machine is running ... (During Cycle)*

Machine can be put in a pause state by pressing the **E-STOP** button **ONCE**. Machine keeps the present machine cycle parameter values. Screen will display **PAU/FLT** or **PAU** depends on E-Stop button position. Machine will remain in pause state until either:

- **START** keypad has been pressed. **Cycle** will **continue** uninterrupted and screen displays the present machine cycle state.
- **STOP** button has been pressed twice. Cycle will be aborted, indicating that reset has been performed and **screen** will display **end**. Machine is ready for a new wrapping cycle.

## 5.3 End or Broken Film

*Note: this feature works only when machine is running ... (During Cycle)*

If the film ends or is broken during cycle, Machine will stop and screen will display **FLM**. With machine in End or Broken Film state (display will show **FLM**) it is possible to:

- Move the carriage up/down manually
- Jog the turntable manually ...
- Re-start cycle by pressing start keypad.

## 5.4 Film carriage over travel safety switch

*Note: this feature is available on SPECTRA models only*

All SPECTRA models are equipped with carriage over travel safety switch device. This device is equipped with electrical limit switch. In case of carriage over travel limits or some obstacle preventing carriage to move down when descending - carriage over travel safety device will be engage causing safety limit switch to change position and in effect, cause safety pause. If such conditions occurs screen will display flashing PAU/FLT message and all manual function of 755 control panel will be disable including cycle start with exception to carriage jog up. In order to recover from this situation it is required to jog carriage a few inches in up direction. When this is done and safety limit switch of carriage over travel safety device is disengaged, the screen will change message from flashing PAU/FLT to PAU only. Machine will remain in pause state until either:

- **START** keypad has been pressed. **Cycle** will **continue** uninterrupted and screen displays the present machine cycle state.
- **STOP** button has been pressed twice. Cycle will be aborted, indicating that reset has been performed and **screen** will display **end**. Machine is ready for a new wrapping cycle.



## SECTION 6

### Advanced parameters setting

#### 6.1 Parameter Description

PARAMETER	DESCRIPTION	DATA RANGE	DEFAULT
P00	Table Speed High	From 0 to 100	78
P01	Table Speed Low	From 0 to 100	06
P02	Top Bottom Wraps First	0 "Top Wraps First" or 1 "Bottom Wraps First"	0
P03	End or Broken Film	0 "Disable" or 1 "Enable"	1
P04	Table Acceleration Time	From 0 to 100	10
P05	Table Deceleration Time	From 0 to 100	10
P06	Table Pulses Per Rotation	From 0 to 250	96
P07	Not Implemented	0	N/A
P08	Not Implemented	0	N/A
P09	Not Implemented	0	N/A
P10	Not Implemented	0	N/A
P11	Exit	When selected we <b>exit</b> Function	N/A
P12	Get Default	When Selected we <b>load</b> Default settings	N/A

#### 6.2 Accessing parameters

The **select function** keypad is used to access advanced parameters settings - as describe in table above. Editing these parameters is permitted only when machine is stopped (out of wrapping cycle).

Parameters are not available to the operator; they are protected by a 3-digit pass-code (**range from 0 to 250**). (For **password** contact your local distributor).

When the **select function** keypad is depressed, the screen displays **PSU (user to enter the password)**. Using the **up** and **down** arrows, the correct 3-digit number code must be entered: when it is entered, the **select function** keypad must be pressed again and the Function **LED** will start flashing.

The advanced parameter has now been accessed. The parameters are identified by a 3-digit code Pxx where xx is a number between 0 -12. Use the **up** and **down** arrows to select a parameter. Once the desired parameter has been selected, press the **select function** button to toggle between the data and the parameter mode.

The **Up** or **Down** arrows are used to set the desired value (Data) in the Parameter. Once the value is entered, press the **select function** keypad again to return to the Select Parameter Mode. While Function Parameters are being edited, the Function LED continuously flashes.

## 6.3 Parameter Saving

The new values are saved when one of the following procedures is applied:

- Jog keypad is pressed
- **Start keypad is pressed**
- 30 Seconds without any editing activity (no button pressed).

## 6.4 Get Default Settings

*Note: this feature works only when machine is stopped ... (Off Cycle)*

The user can load a specific default setting of parameters by selecting the function parameter P12. Screen will display **DEF**. The actual machine settings will be overwritten by a set of default values.

## 6.5 Exit Function

There are two ways to exit the Function Editing Mode:

Once the editing is complete, press the **select function** keypad again and choose parameter P11 to exit function editing and return to the operator's menu. New values will be saved at this time.

**If 30 seconds elapse without any editing activity, the program exits the function-editing mode, saves the new values and returns to the operator's menu.**

# SECTION 7 Display Screen

## 7.1 Display Contents

Screen	Description
End	Machine is stopped
PAU/FLT	Machine in a pause (out of wrapping cycle) with E-STOP depressed (display will flash).
PAU	Machine in a pause with E-STOP released.
UP	Carriage is moving up
dn	Carriage is moving down
PSU	Asks user to enter password code to have access to function parameters edition.
DEF	While getting default settings and then it displays the present machine state.
eXt	While exiting function parameters edition then it displays present machine state.
Pxx	When selecting function parameter
xxx	When editing machine parameters values
JOG	When jogging the turntable manually

## 7.2 Display Refresh

**Display** is refreshed every **3 seconds**. When finished editing, it displays the present machine cycle state (PAU for a pause state, END when machine stopped, UP when Carriage moving up, DN while carriage moving down, number of wraps when wrapping).

# SECTION 8 Maintenance

## 8.1 Replacing Sub Assemblies

The connections are mainly plug-in, and wrong connection is unlikely, but special attention should be taken to the configuration when removing items. Repair and replacement **should only be done by experienced personnel who are aware of the dangers of working on line-operated equipment. Power must be turn off when changing sub-assemblies, and the technician should dissipate any static charges before handling parts, by touching the grounded cabinet.**

The MBIA can be removed by removing the four screws securing the chassis to the back plate. Unplug the various terminal connectors, the ribbon connector, the disconnect terminals and remove the unit. The three DC Drive controls can be individually replaced, by removing two securing screws and then unplugging. Each control is protected by an on-board AGC-8 fuse, accessible when the drive control has been unplugged.

The microprocessor board on the inside of the cabinet door connects by ribbon cable to the MCIA. The ribbon cable should be unplugged before removing the PCB. The microprocessor board is held in place by six #6 nylon nuts. When these nuts are removed, the microprocessor board can be unplugged from the keyboard/display by gently pulling it out. The keyboard display can be removed by releasing the six nylon hex threaded spacers.

## 8.2 Board-Level Maintenance

In most cases, repair is beyond the scope of field service, without special equipment. However, the motherboard does contain replaceable items – the control fuse (AGC ½ Amp), and the carriage reversing relays.

## SECTION 9 Trouble-Shooting

When operating the machine manually, if the carriage can be raised/lowered, it is assumed the carriage section to be functional. If the turntable can be jogged, this section too should be functional. If the film control responds to a light pull on the film, feeding freely, this section is also functional. If only one of these functions does not respond, the appropriate drive module can be unplugged and its fuse can be examined. If the fuse is blown, it should be replaced only with the recommended type and value. If the fuse immediately blows again, it is probably because one or more of the power devices is shorted. The proper devices should be used for replacement.

If there are problems reversing the carriage drive, and/or the relays show signs of burned contacts, these should be replaced. They are plug-in devices.

If the Display is not lit, displays anomalous characters, or does not respond to keyboard input, the problem could be a problem with the Microprocessor PCB.

There is also the possibility of problems with external limit switches, pulse pickups sensor, or the Hall effect device. This should be apparent by problems with particular functions, i.e.: failure to respond to limits. Operating the devices manually and measuring the resistance of the switches or the output of the pulse pickup sensor could assist in diagnosis.

The microprocessor PCB is equipped with six monitoring LEDs, which should assist in verifying whether signals from external devices are being received and detected by the 755 system (Fig 2.).

These are (from the top):

- Pulse pickup (turntable momentary position sensor) – an inductive sensor beneath the turntable detects the passage of drive gear teeth as a means of monitoring turntable position. Each tooth produces a pulse input to the microprocessor. An LED flashes with each pulse. The device connects to the 3 position green plug-in terminal strip (TB3) on the left side of the MCIA. Proper input can be observed as rapid flashing of the LED
- Carriage run – light turns off when the carriage drive is energized.
- Carriage down limit – light turns off when the down limit switch is operated
- Carriage up Limit – light turns off when the up limit switch is operated
- Turntable run – light turns on when the turntable drive is energized

The hall effect device calibration is described on page 3. If there is no input voltage measure from the hall effect device while moving the multistretch dancer arm, replace the hall effect device to see if the problem is related to the sensor. This can be monitored at terminals 1 (signal) and 23 (common) of the terminal interface (TB 4 - green plug-in terminals at bottom left of MCIA - see Fig. 3). The supply 24VDC can be observed at terminal 24.

## SECTION 10 Spares Parts

The three principal sub-assemblies to control the operation. To ensure continuity of operation, spares parts should be obtainable:

- The Keyboard display (type 755.1)
- The Microprocessor Board (type 755.2)
- The Motor Control Interface Assembly which comprises:
  - Mother Board Assembly (type 755.3)
  - Multistretch Drive (type 755.4)
  - Carriage Drive (type 755.5)
  - Turntable Drive (type 755.6)
- Fuse Buss AGC 8
- Fuse Buss AGC 1/2
- Relay P&B K10P-11A15-120
- Power switch knob LFS 2-N-6-175
- Power switch body LE 2-20-1752
- Hall effect transducer IB05T
- Top & bottom limit switch ZCK-J404H7

## SECTION 11 Totalizing Cycle Counter

1. Counter of wrapping cycles.
  - The counter would increment at the last deceleration wrap of each cycle.
  - Maximum count **65,000** cycles.
  - Counter will rollover at maximum count.
  
2. To display the accumulated number of cycles, user should access function mode by providing the right **PASSWORD**. Select parameter **08** or parameter **09**.
  - Display would then flash between **CXX** (high digits) and **NNN** (low digits).
  - **EX.** If total cycles **9.650** cycles display should read: **C09** then **650** (flashing)

## 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 Suer-r Cyl. Oil
Philips Oil Corp.	Andes S 180
Texaco Inc.	624 + 650T Cyl.Oil
Shell Oil Co.	Velvata Oil J82
Union Oil of Cal.	Red Line Worm Gear Lube 140

### RING BEARING MAINTENANCE (when applicable)

The ring bearing (located under the turntable) should be re-lubricated internally and externally.

**Internally:** by injecting grease into all the lubrication nipples in succession until a collar of fresh grease appears around the perimeter of the ring. The re-lubrication interval suggested for these bearings, used in Stretch Wrapping Machinery is 750 hours, with a maximum period of 6 months. The lubricant should be fresh and applied in sufficient quantities to make sure all surfaces are lubricated.

**Externally:** by lubricating and wiping the chain drive with oily cloth. The frequency of lubrication depends on entirely upon the usage of the machine and environment in which the machine is placed (dust, moisture etc.).

Machines working under extremely dirty conditions should be lubricated every 400 operating hours but at minimum, every 2 months. Longer lubrication intervals may occur only when machine is working under very clean and dry conditions but should be not be longer than 6 months.

List of recommended lubricants for the ring bearing lubrication

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

## TOWER RACEWAYS MAINTENANCE

The film distributor (carriage) is sliding on the plastic guides attached behind its back plate. The section of the tower on which the plastic guides move (raceways) should be cleaned and re-greased approximately every 600 hours of machine operation.

**NOTICE:** If the machine works in a dusty and corrosive environment, the raceways should be re-greased more often (at least every 100 hours).

## CHAIN MAINTENANCE

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

**NOTICE:** Chain tension first adjustment must be done after the first two weeks of machine usage.

## PNEUMATIC SYSTEM MAINTENANCE (when applicable)

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

## CAM FOLLOWER MAINTENANCE (when applicable)

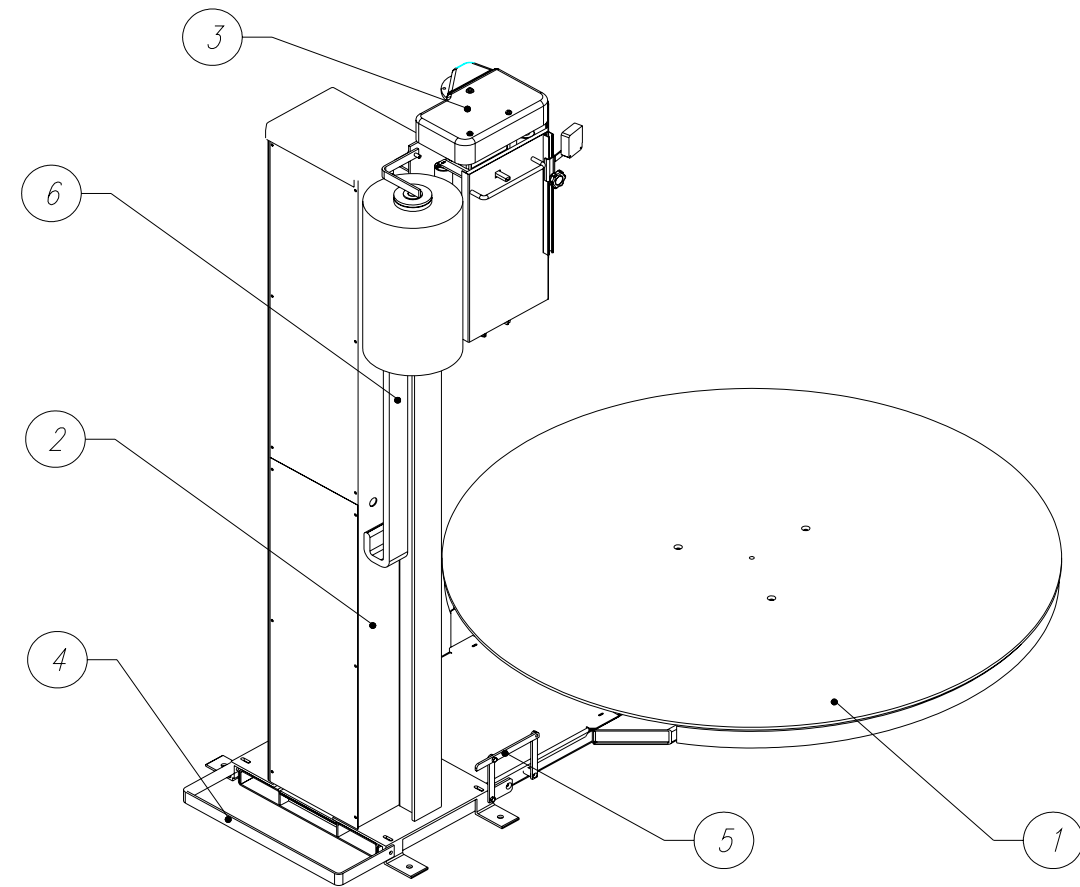
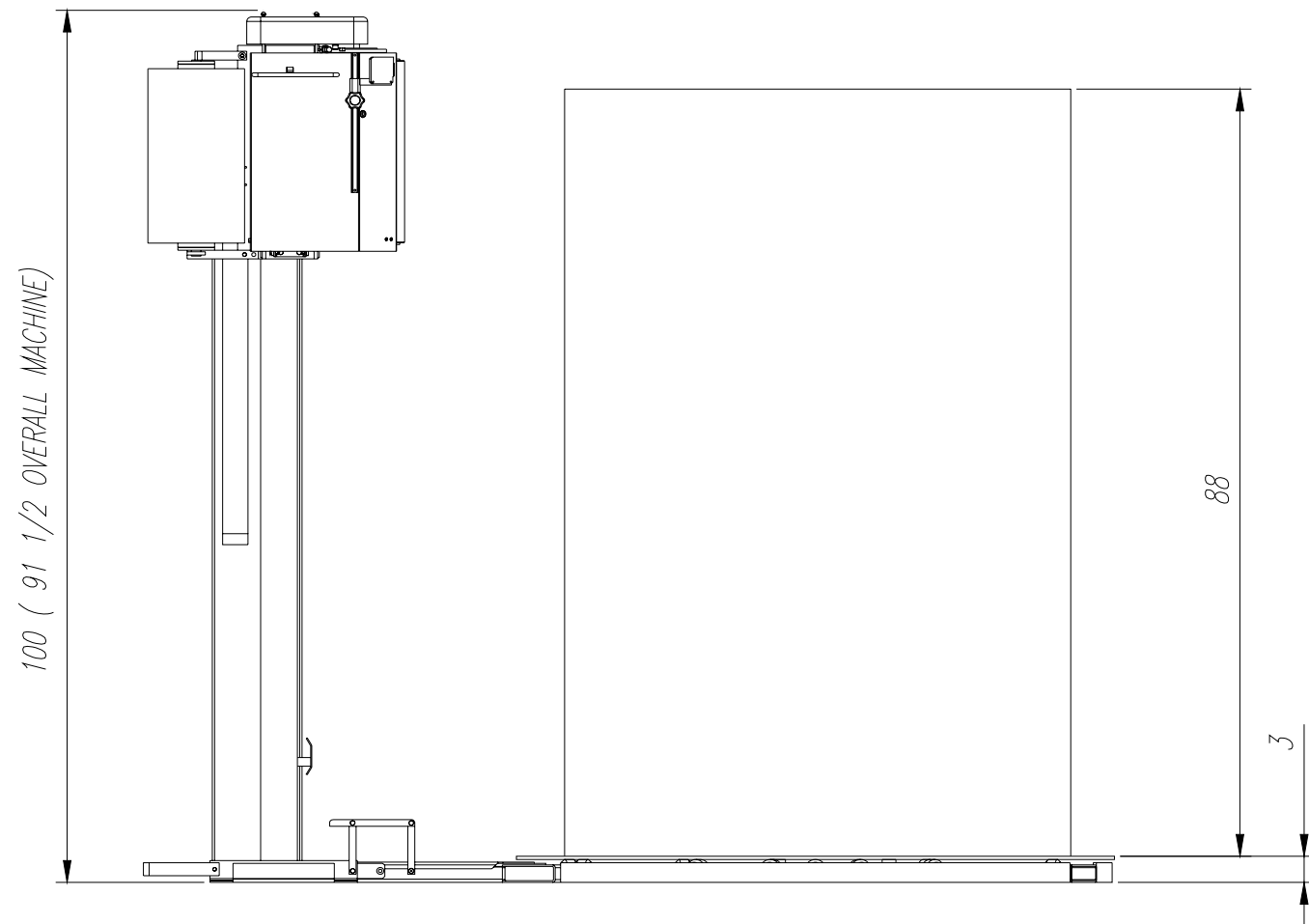
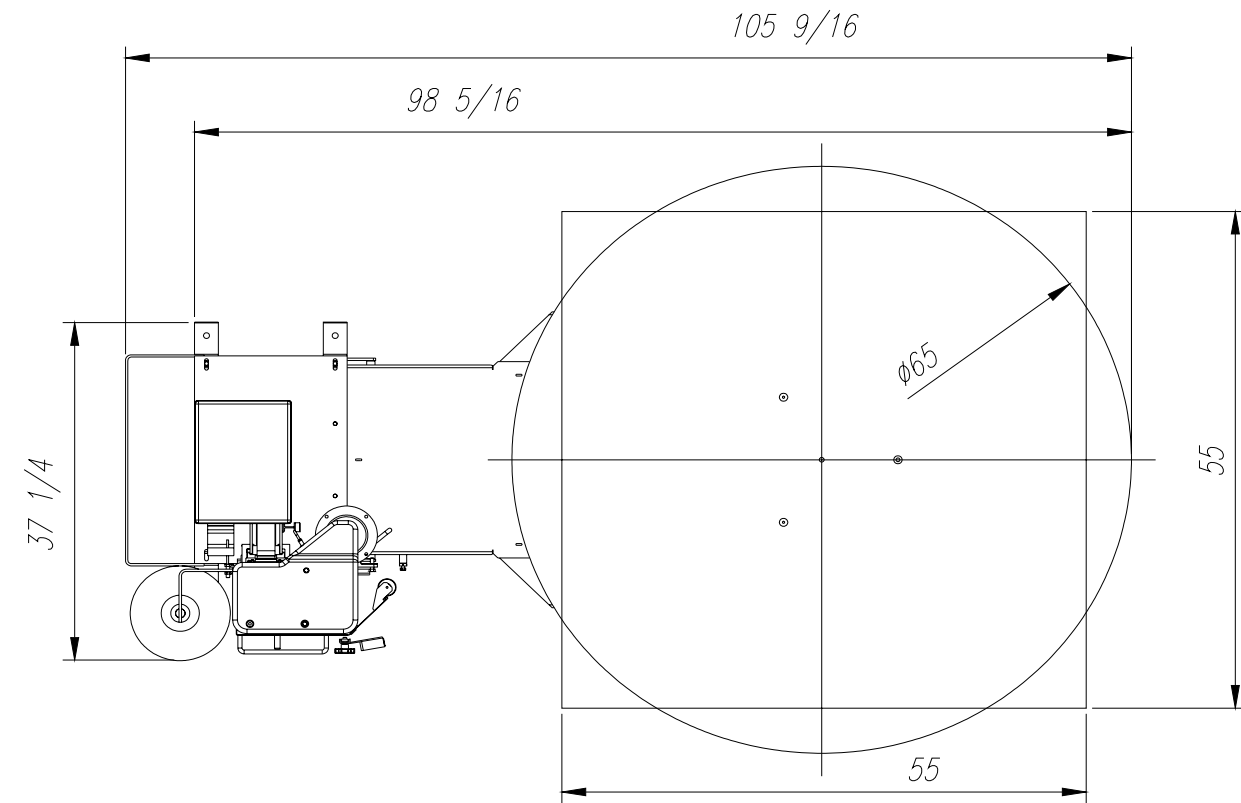
The cam followers have deep grease pockets and do not need frequent relubrication. The portion of the tower on which the cam followers run, should be cleaned and regreased every 300 hours of operation. If the machine operates in a dusty or corrosive environment the tower should be relubricated more often.

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

**Note :**

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





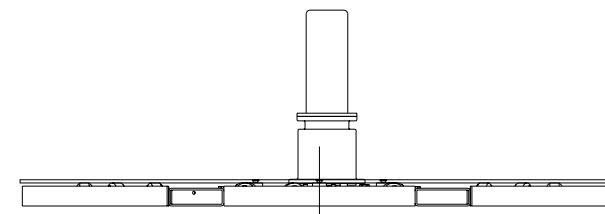
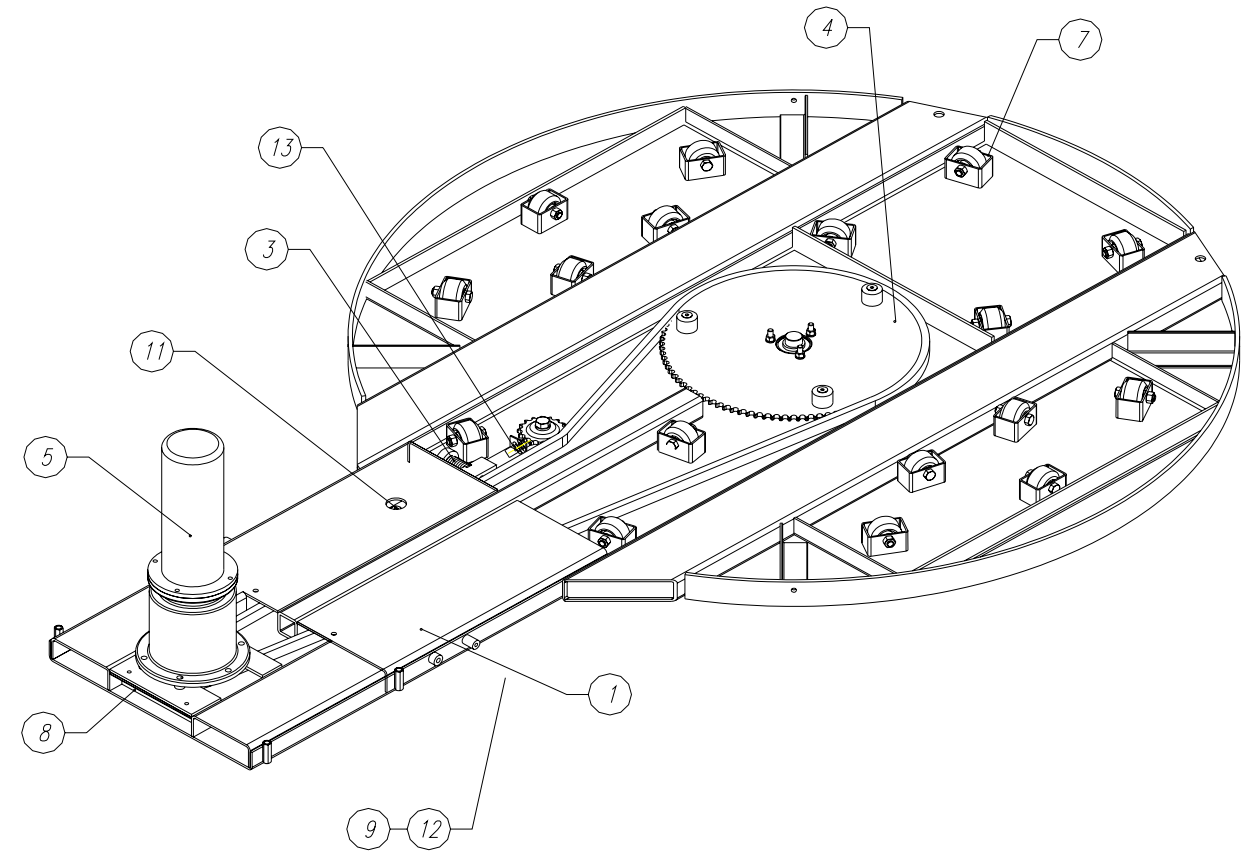
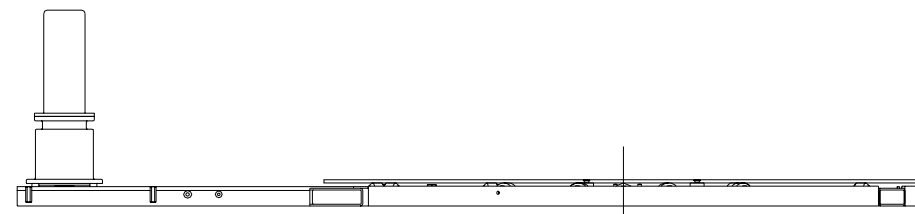
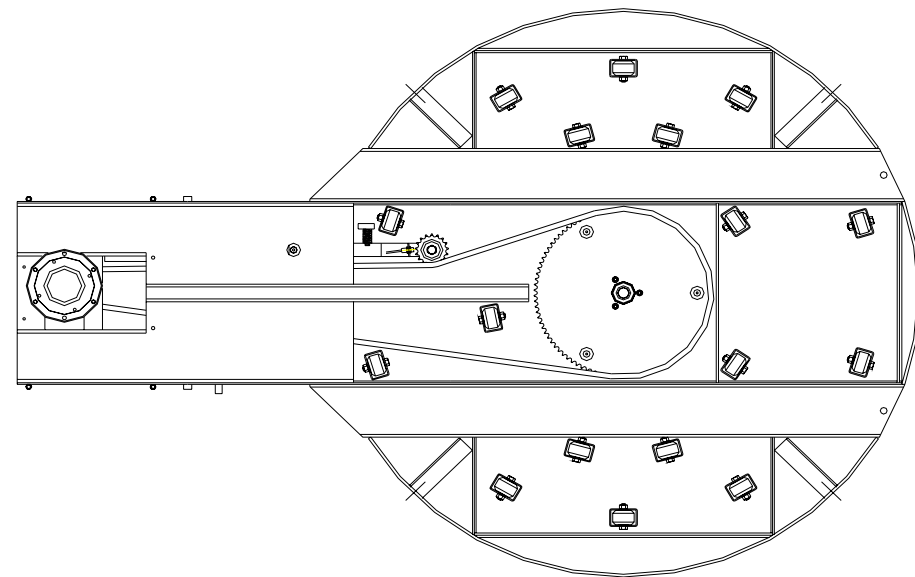
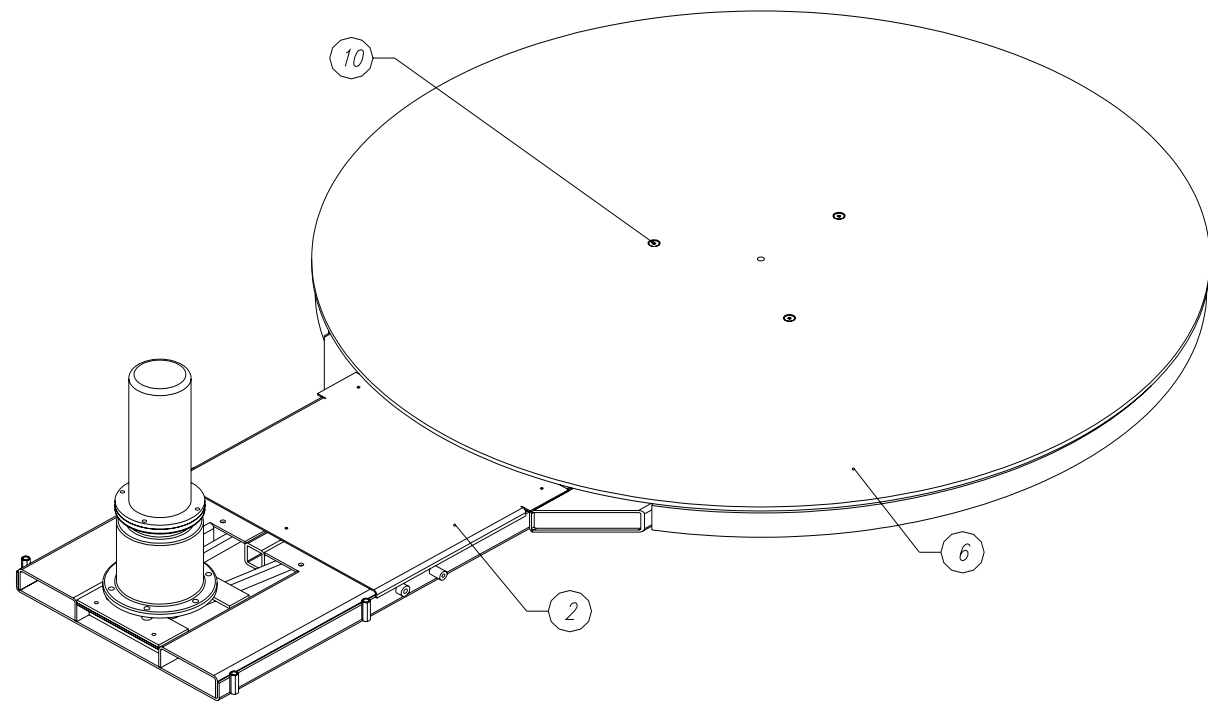
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7	"ORION" & "SPECTRA" TOWER STICKERS		017404	1	
6	POWER TRAC		015897	1	
5	ROPING BAR ASSEMBLY		436405	1	
4	BACK TOWER STOPPER		436790	1	
3	INSTA-THREAD-FLR-20-SPECTRA		435713	1	
2	TOWER ASSEMBLY (SP-2.1)		436473	1	
1	BASE ASSEMBLY		436403-C	1	

REMARKS:

REMARKS:

"SPECTRA" - WRAPPER (SP-2.1)

<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769</p>	DATE:	SCALE:
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CHECKED BY:	DRAWING SIZE:	
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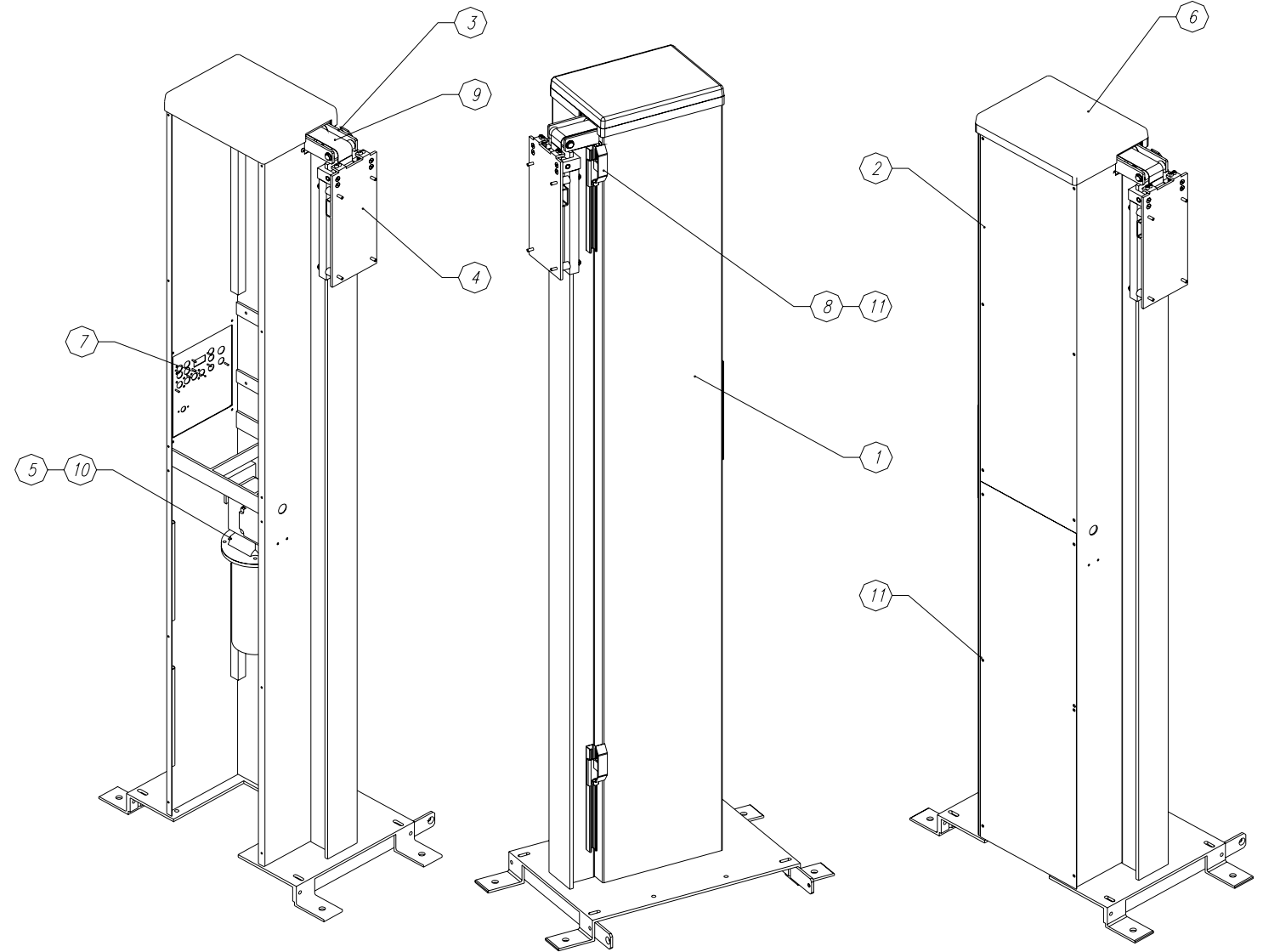
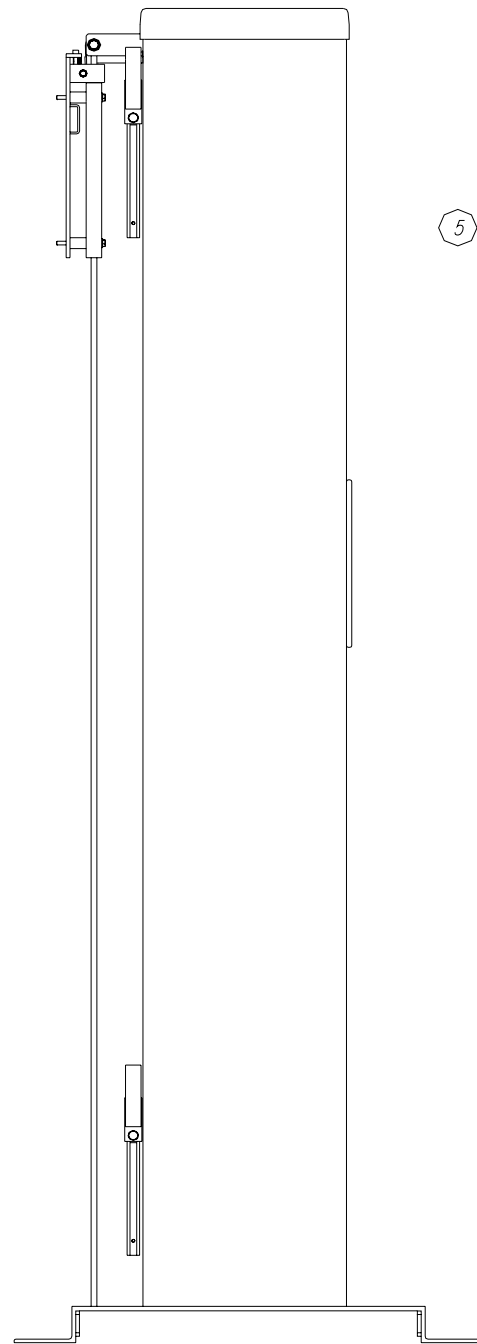
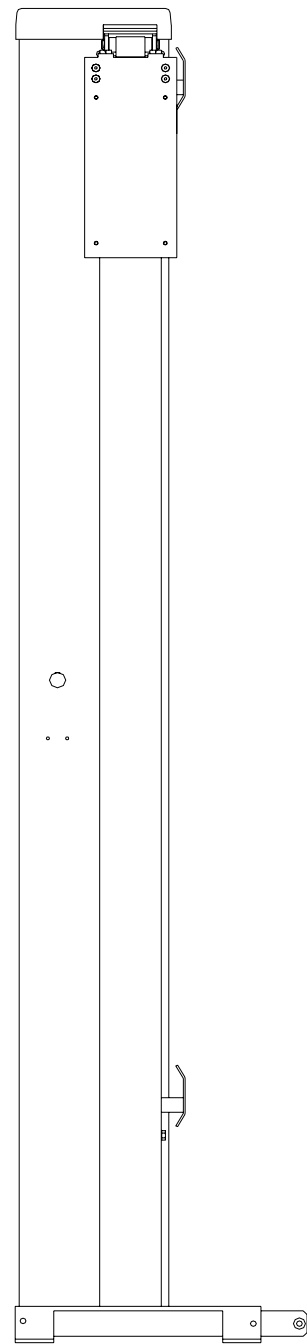
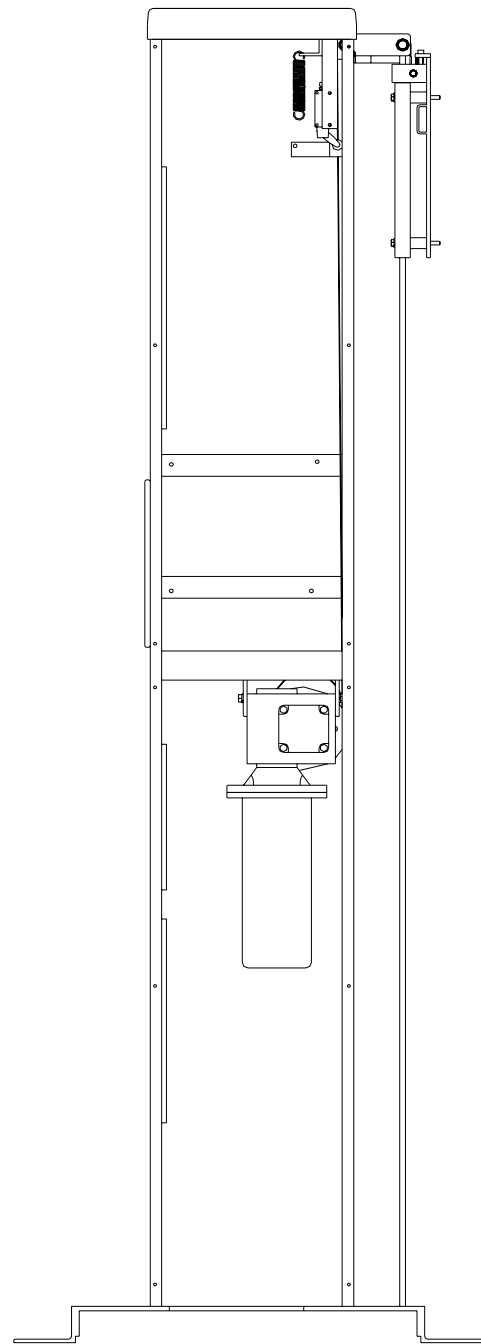
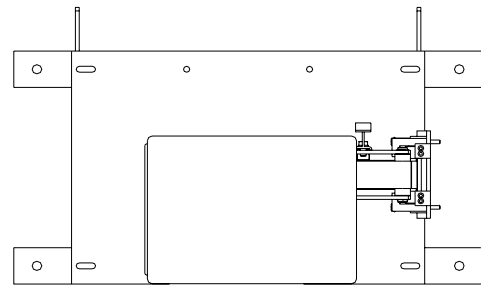


13	PROXIMITY SWITCH	014719	1		
12	HEX SCREW	014157	4		
11	SHOULDER SCREW	015122	1		
10	HEX SOCKET FLAT SCREW	013842	3		
9	PLAIN WASHER	010948	4		
8	BASE BACK COVER	436438	1		
7	DURA-GLIDE CASTER 2.33 DIA-ASS'Y	435325	17		
6	65 DIA TURNTABLE DISK	433774	1		
5	TURNTABLE DRIVE ASSEMBLY	433972	1		
4	DRIVEN SPROCKET ASSEMBLY	430036	1		
3	CHAIN TIGHTENER ASSEMBLY	441083	1		
2	BASE COVER	441096	1		
1	BASE WELDING	436406-F	1		
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT

REMARKS:

### BASE ASSEMBLY

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	CHECKED BY:		DRAWING SIZE:	D	
	ASSEMBLY DWG. No.:	436402	JOB No.:	-	DRAWING No.:



11	PHILIPS PAN SCREW	013351	16	
10	HEX NUT	012582	4	
9	CARRIAGE BELT (SP-2.1)	436474	1	
8	LIMIT SWITCH STRIKER ASSEMBLY	436843	2	
7	ELECTRIC PANNEL	434427	1	
6	TOP COVER	433976	1	
5	CARRIAGE BELT DRIVE	436414	1	
4	CARRIAGE ATTACHMENT ASSEMBLY	430020	1	
3	BELT IDLE ROLLER ASSEMBLY	436413	1	
2	TOWER BACK WALL	436412	2	
1	TOWER WELDING (SP-2.1)	436481	1	

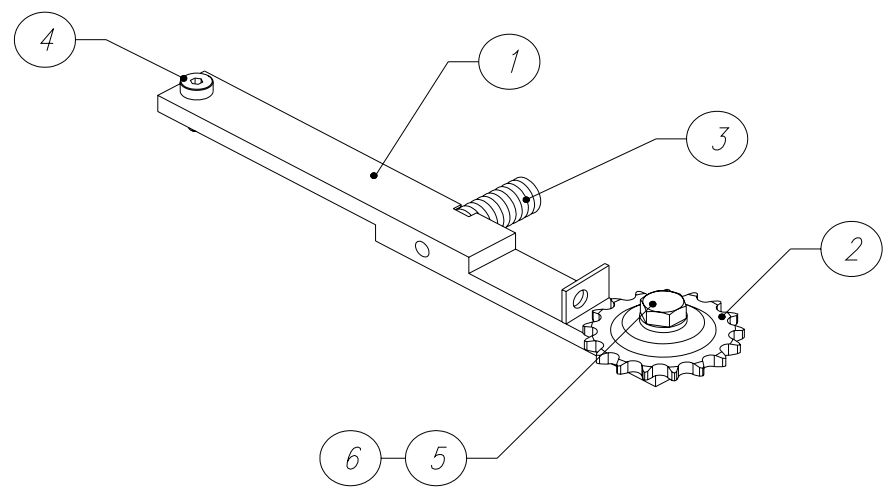
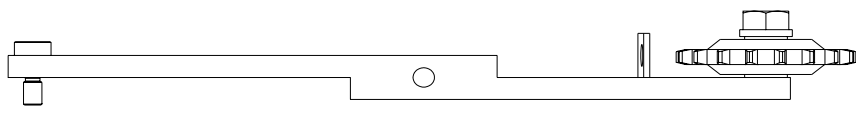
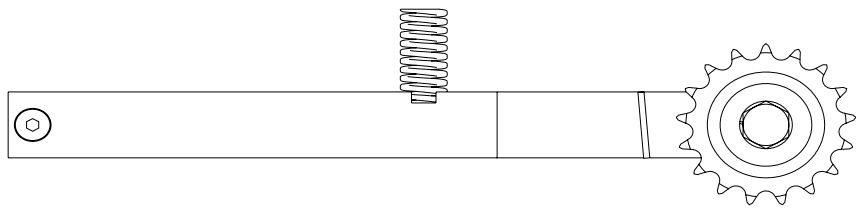
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REMARKS:

REMARKS:

### TOWER ASSEMBLY (SP-2.1)

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ASSEMBLY DWG.:	436472	CHECKED BY:		DRAWING SIZE:	D
		JOB No.:	-	DRAWING No.:	436473M




6	LOCK WASHER	012721	1	
5	SCREW	010329	1	
4	SHOULDER SCREW	015122	1	
3	SPRING	016581	1	
2	IDLE SPROCKET	010008	1	
1	CHAIN TIGHTENER ARM	430035	1	

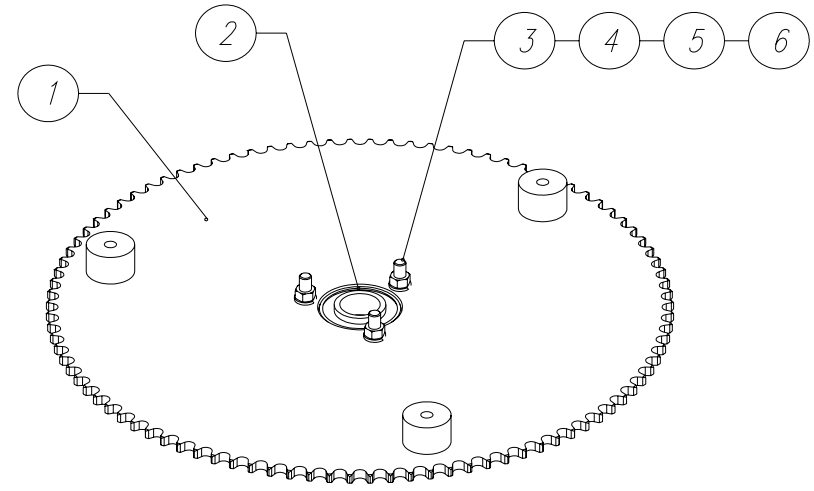
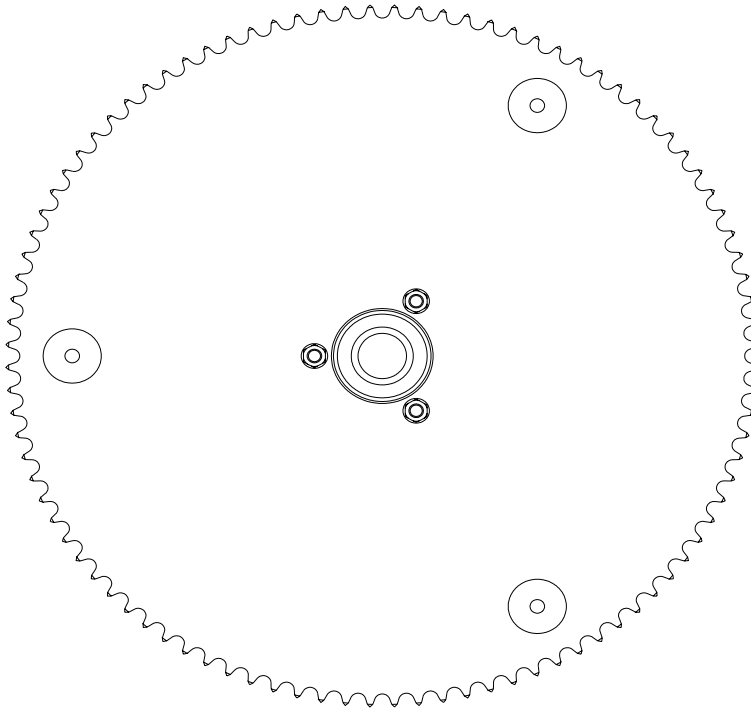
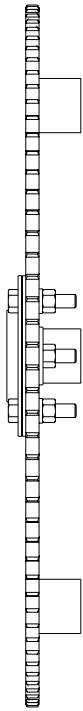
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REMARKS:

REMARKS:

*CHAIN TIGHTENER ASSEMBLY*

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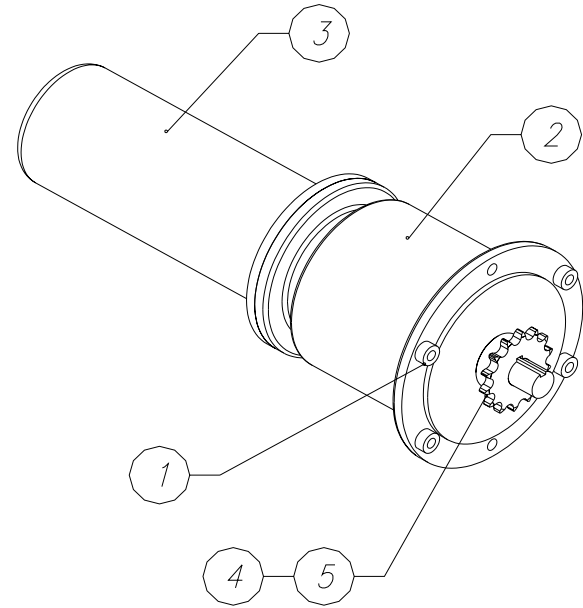
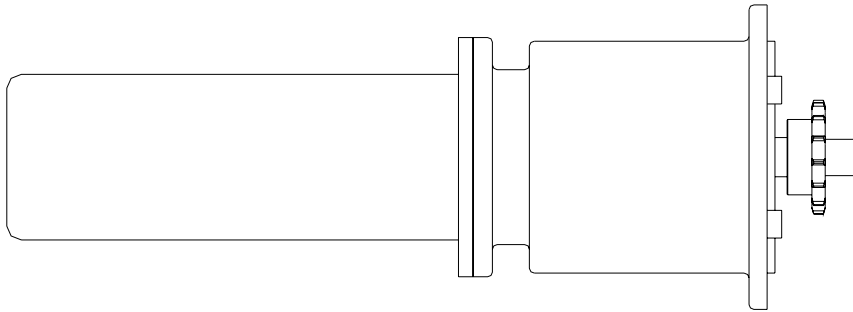
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5	FLAT WASHER		010948	3	
4	NUT		011128	3	
3	BOLT		010293	3	
2	FLANGE BEARING		013654	1	
1	SPROCKET		406338	1	
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT

REMARKS:

REMARKS:

### DRIVE SPROCKET ASSEMBLY


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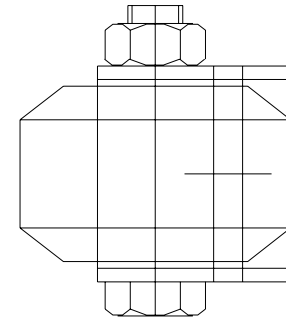
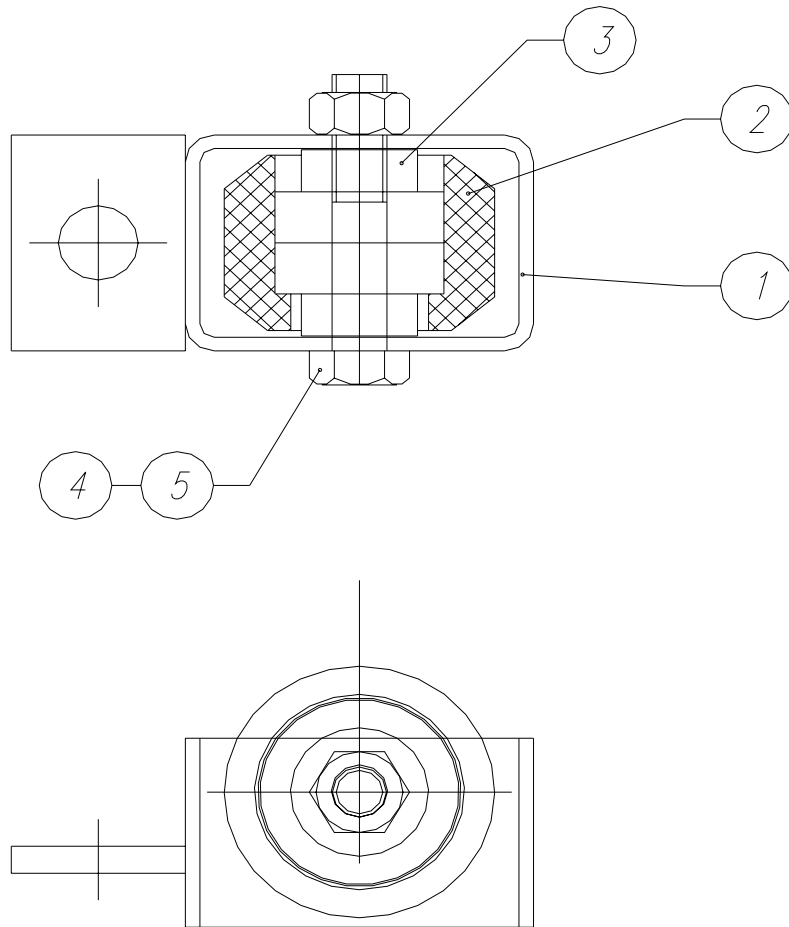


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4	SPROCKET		013997	1	
3	ELECTRIC MOTOR		010036	1	
2	VERTICAL REDUCER		016580	1	
1	SPACER		434081	4	

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

*TURNTABLE DRIVE ASSEMBLY*

 <p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769</p>	DATE:	JAN-23-2003	SCALE:	1 : 1	
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SPECTRA	
	CHECKED BY:		DRAWING SIZE:	A	
	ASSEMBLY DWG.:	433771	JOB No.:	12237	DRAWING No.:



5	METRIC HEX. NUT	013041	1	
4	METRIC HEX. HEAD SCREW	014508	1	
3	SPACER	413853	2	
2	PHENOLIC TIRE W/BEARINGS	429919	1	
1	CASTER SUPPORT	416056	1	

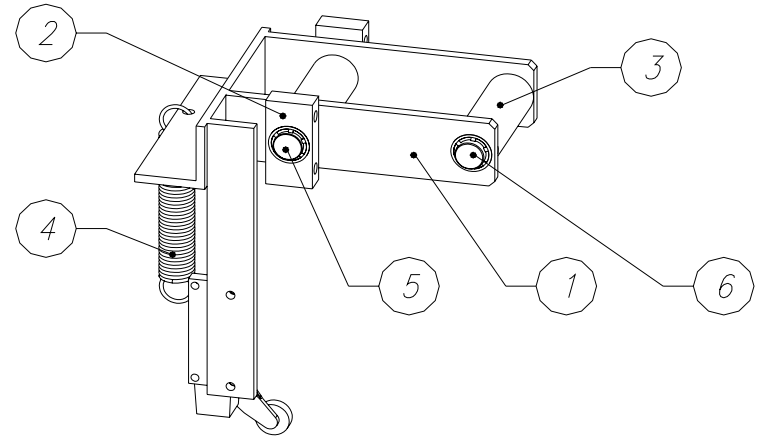
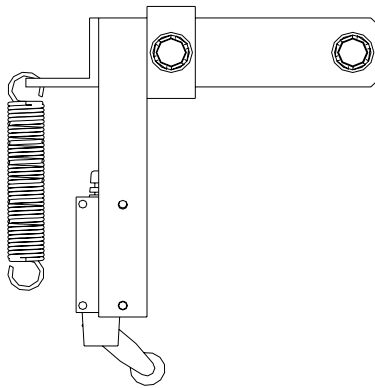
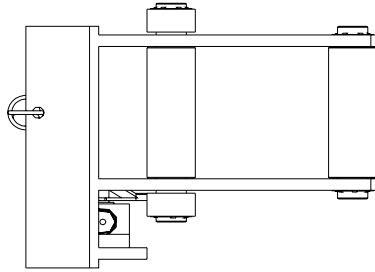
No.	DESCRIPTION	DWG SIZE	PART No.	Q'ty	WEIGHT
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REMARKS:

REMARKS:

*"DURA-GLIDE" CASTER 2.33" DIA. - ASSEMBLY*

<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769</p>	DATE:	APR-14-1997	SCALE:	1 : 2	
	DRAWN BY:	M. W. SOBUCKI	MACHINE TYPE:	L/12	
	CHECKED BY:		DRAWING SIZE:	A	
	ASSEMBLY DWG:	-	JOB No.:	STD /12	DRAWING No.:




7	SELF SEATING EXTERNAL RETAINING RING	017603	4	
6	CRS SHAFT	-	1	
5	CRS SHAFT	-	1	
4	EXTENSION SPRING	403118	1	
3	BELT ROLLER	436421	2	
2	BEARING PLATE	430022	2	
1	BELT IDLER ROLLER BRACKET	436420	1	

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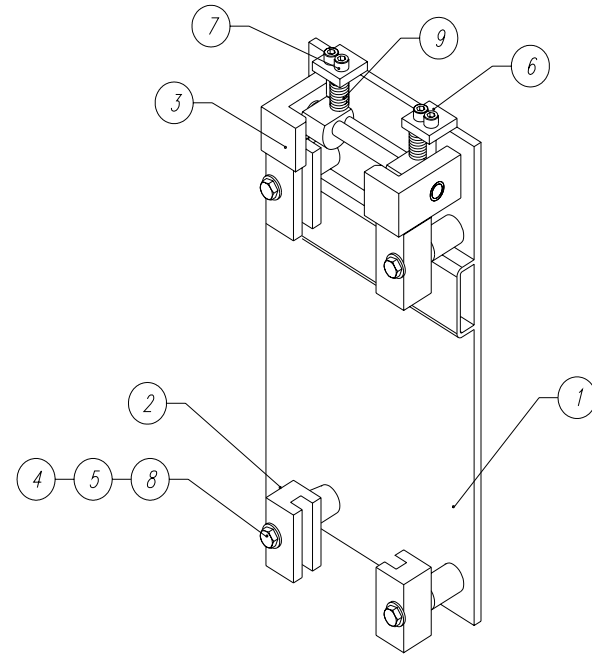
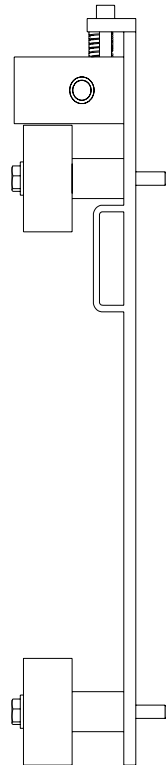
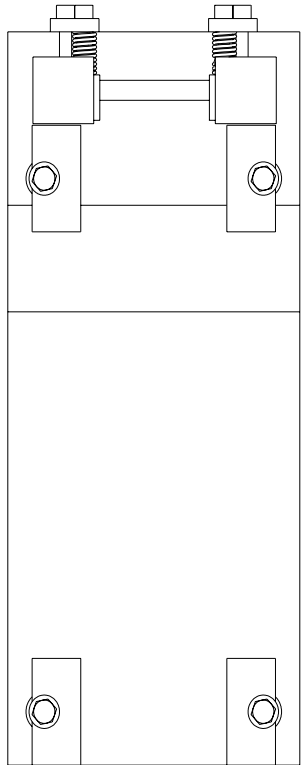
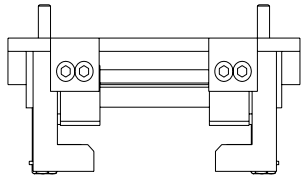
REMARKS:

REMARKS:

*BELT IDLER ROLLER ASSEMBLY*

 ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769	DATE:	NOV-19-2002	SCALE:	1 : 4	
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SP-2.1	
	CHECKED BY:		DRAWING SIZE:	A	
	ASSEMBLY DWG.:	436404	JOB No.:	12812	DRAWING No.:





9	SPRING	013995	2		
8	FLAT WASHER	012221	4		
7	SOCKET CAP SCREW	017398	2		
6	SOCKET CAP SCREW	014254	2		
5	HEX CAP SCREW	018276	4		
4	SPACER	434102	4		
3	SAFETY LOCK	430031	1		
2	SLIDE BEARING	439161	4		
1	CARRIAGE ATTACHMENT BACK PLATE	430028	1		
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT

REMARKS:

REMARKS:

### CARRIAGE ATTACHMENT ASSEMBLY

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

ASSEMBLY DWG.:  
4300011

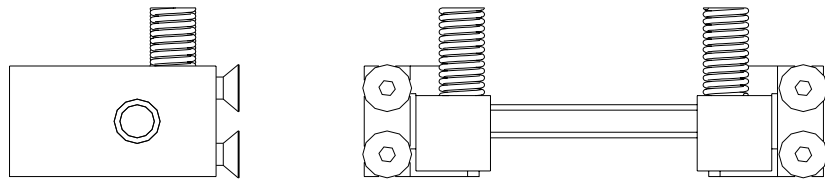
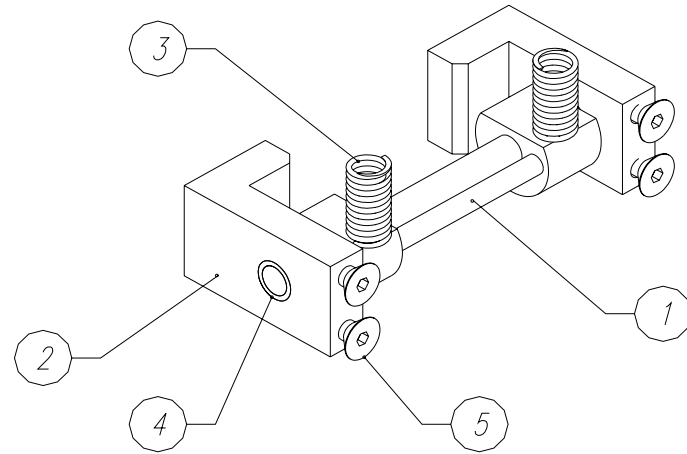
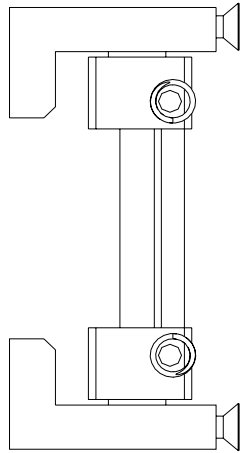
DATE: MAR-25-2002  
 DRAWN BY: ROGER F.

CHECKED BY:

JOB No.: 11295

SCALE: 1 : 2.5  
 MACHINE TYPE: SPECTRA  
 DRAWING SIZE: B

DRAWING No.: 430020M




5	FLAT HEAD SCREW	017399	2	
4	FLANGE BRONZE BUSHING	017500	2	
3	SPRING	013995	2	
2	EXCENTRIC BRACKET	430033	2	
1	LOCKING EXCENTRIC	434101	1	

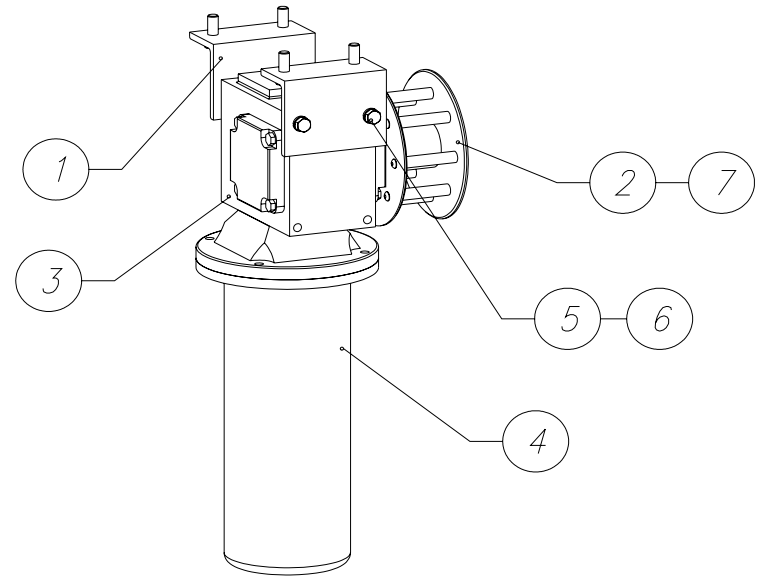
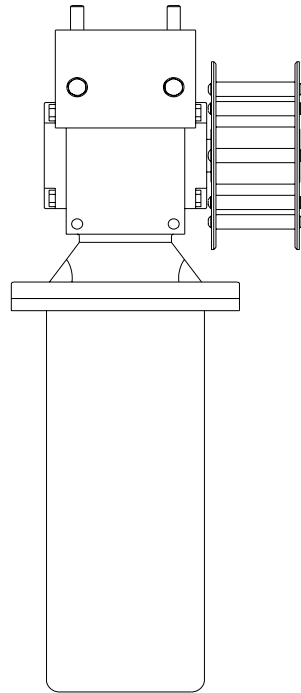
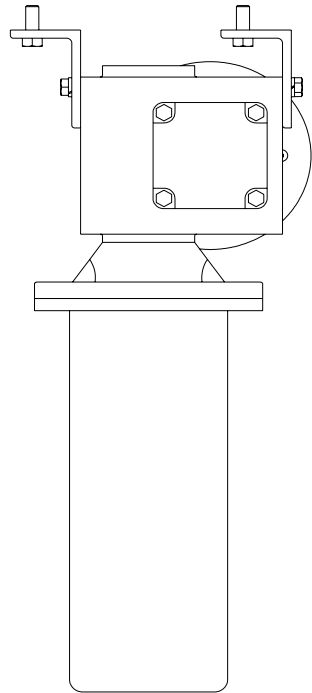
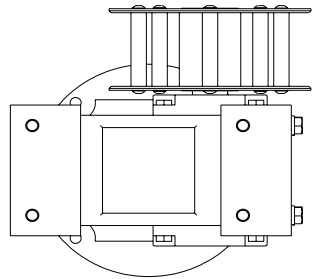
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
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REMARKS:

REMARKS:

### SAFETY LOCK


 ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769	DATE:	JAN-23-2003	SCALE:	1 : 2.5	
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SPRECTRA	
	CHECKED BY:		DRAWING SIZE:	A	
	ASSEMBLY DWG.:	430020	JOB No.:	11295	DRAWING No.:

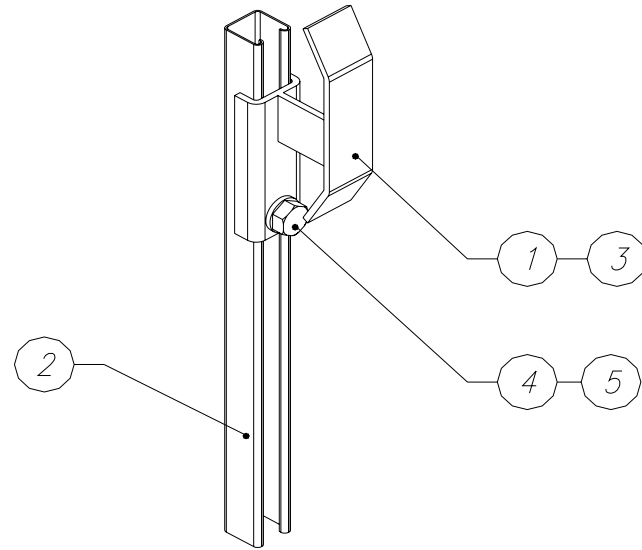
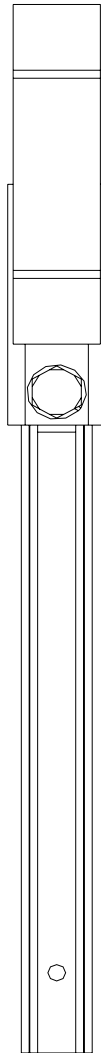
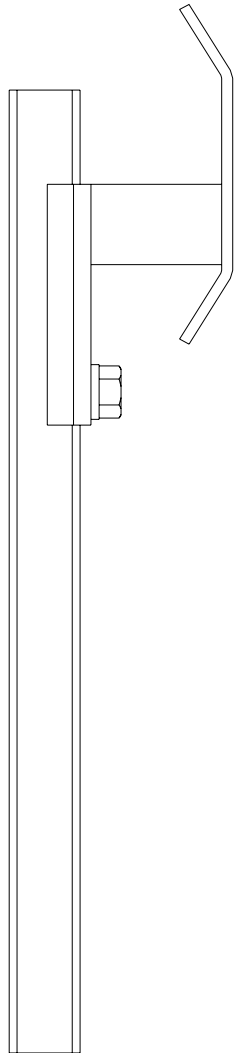
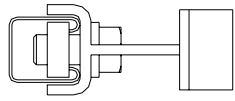



7	KEY	012295	1	
6	LOCK WASHER	012724	4	
5	HEX SCREW	010316	4	
4	EL. MOTOR	010036	1	
3	REDUCER	010986	1	
2	BELT WHEEL	430024	1	
1	REDUCER BRACKET	436439	2	

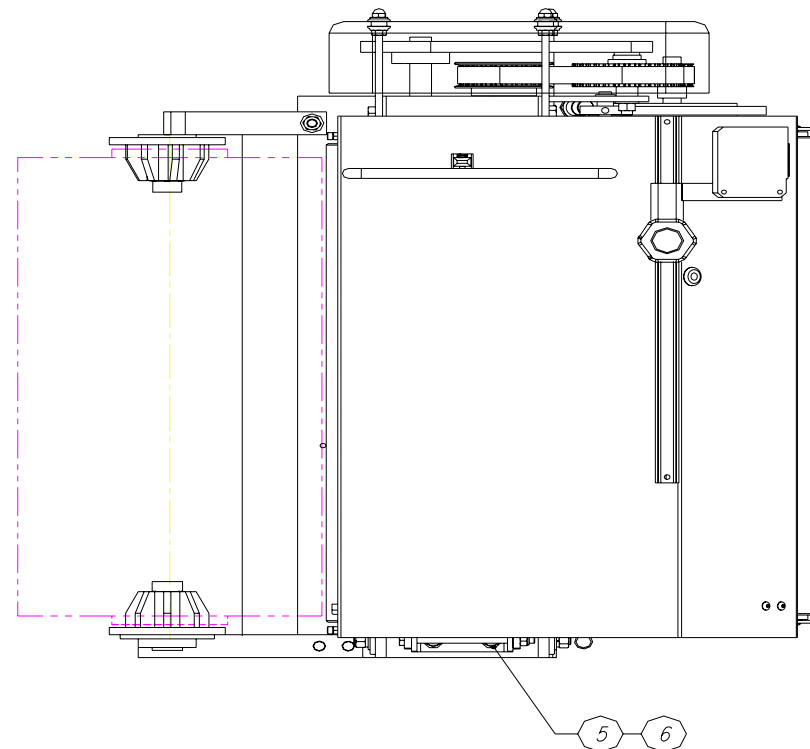
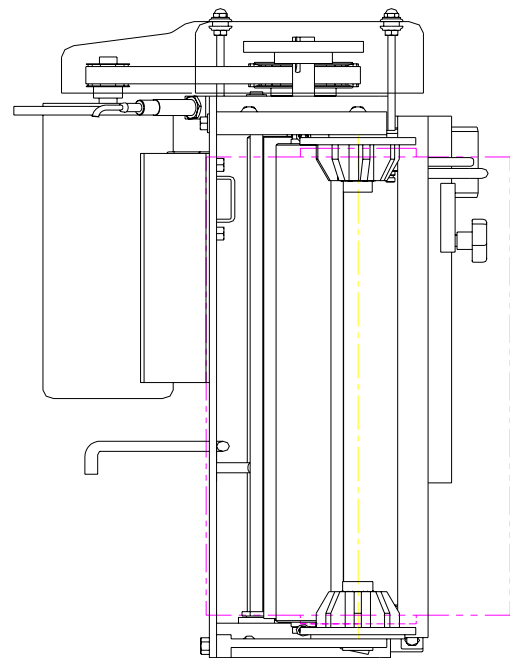
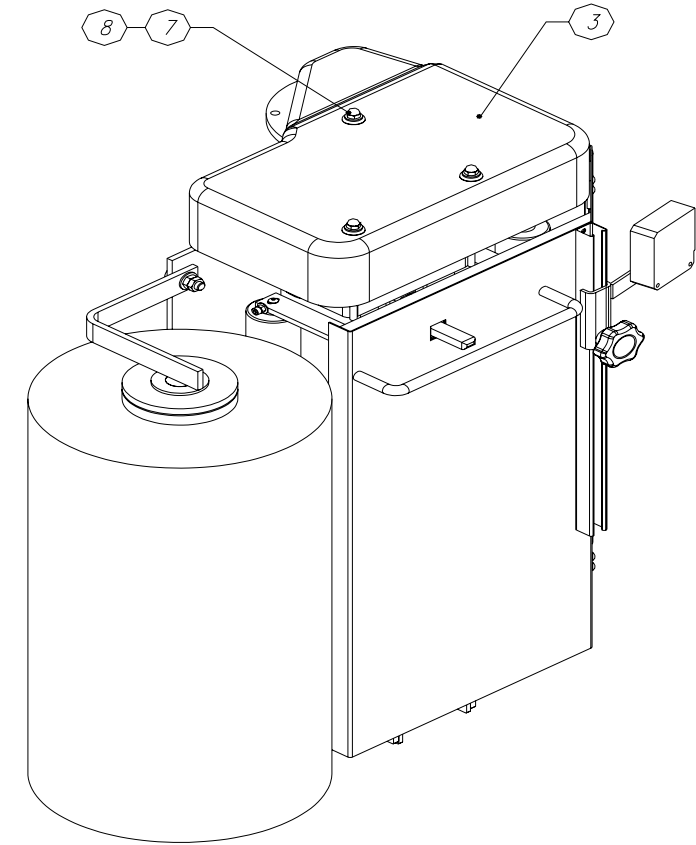
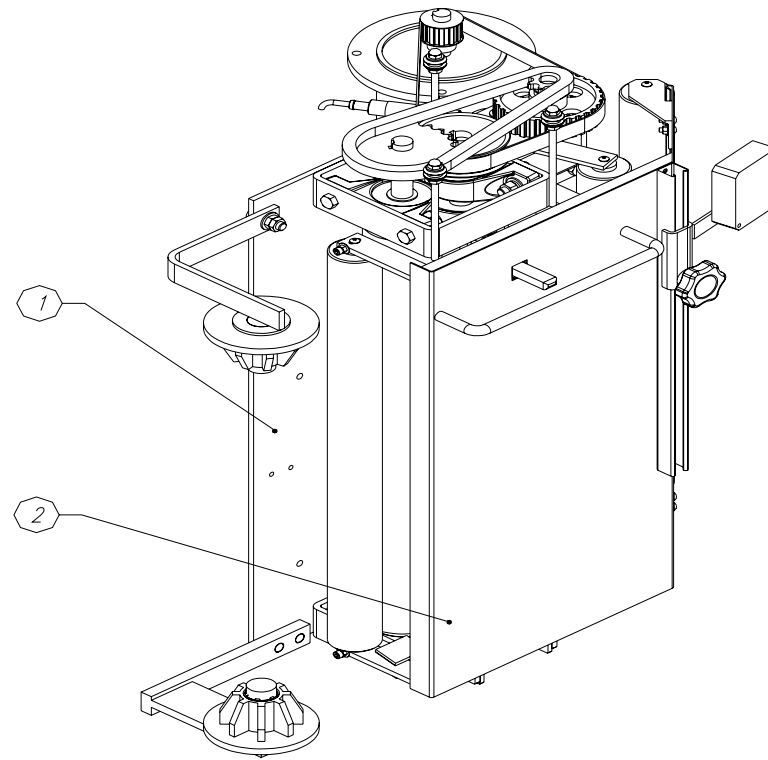
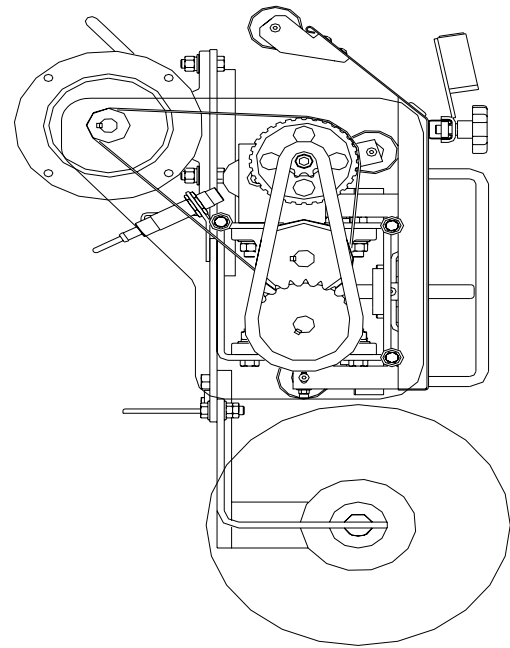
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
REMARKS:					
REMARKS:					

### CARRIAGE BELT DRIVE

 ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769	DATE:	DEC-18-2002	SCALE:	1 : 6
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SP-2.1
	CHECKED BY:		DRAWING SIZE:	A
ASSEMBLY DWG.:	JOB No.:	DRAWING No.:		
436404	12812	436414M		



5	LOCK WASHER		011390	1	
4	HEX CAP SCREW		012474	1	
3	NUT FLAT SQUARE		017853	1	
2	STRIKER CHANNEL		436440	1	
1	LIMIT SWITCH STRIKER		436844	1	
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
REMARKS:					
REMARKS:					
<i>LIMIT SWITCH STRIKER ASSEMBLY</i>					
 <p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769</p>		DATE:	NOV-21-2002	SCALE:	1 : 2.5
		DRAWN BY:	ROGER F.	MACHINE TYPE:	SP-2.1
		CHECKED BY:		DRAWING SIZE:	A
ASSEMBLY DWG.:	436473	JOB No.:	—	DRAWING No.:	436843M



8	HEX NUT		012689	3	
7	FLAT WASHER		012221	3	
6	FLAT WASHER		012725	2	
5	HEX HEAD SCREW		017400	2	
3	INSTA-THREAD FIBERGLASS COVER-FLR		414854	1	
2	CRADLE ROLLER ASSEMBLY-FLR-20-SPECTRA		434007	1	
1	INSTA-THREAD-FLR-20-SPECTRA BACK PL. ASS'Y		435714	1	

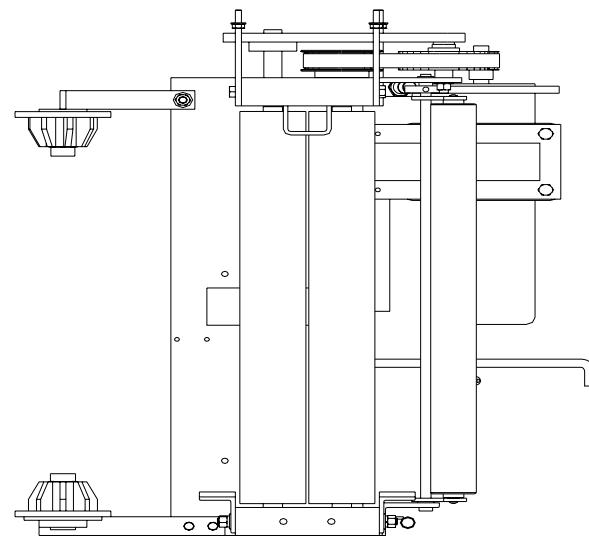
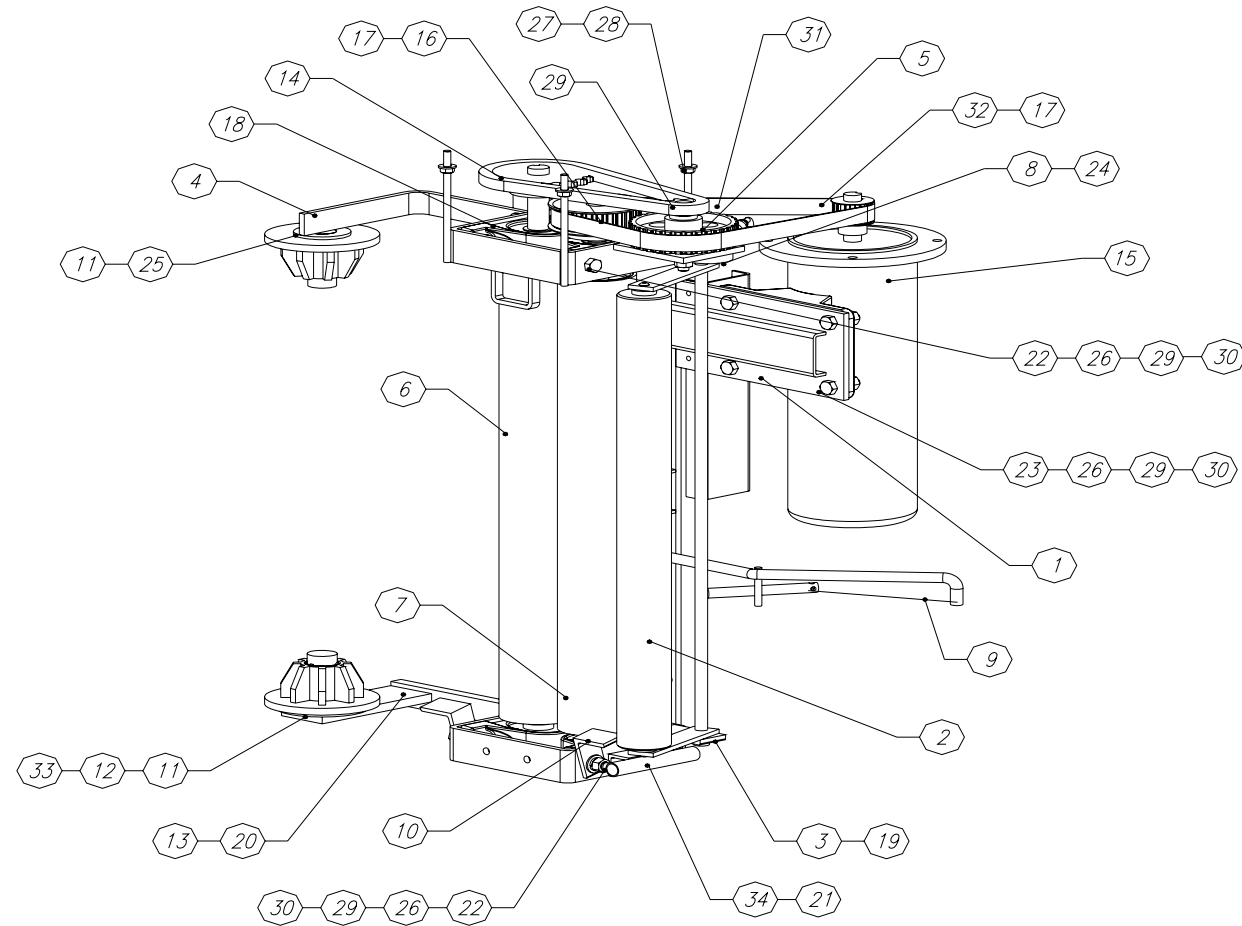
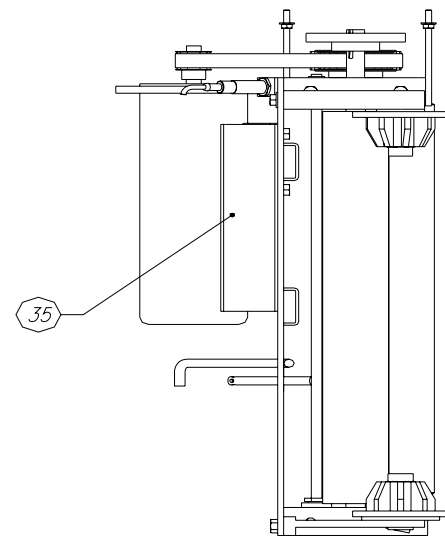
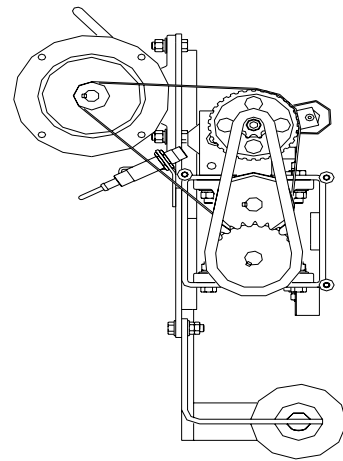
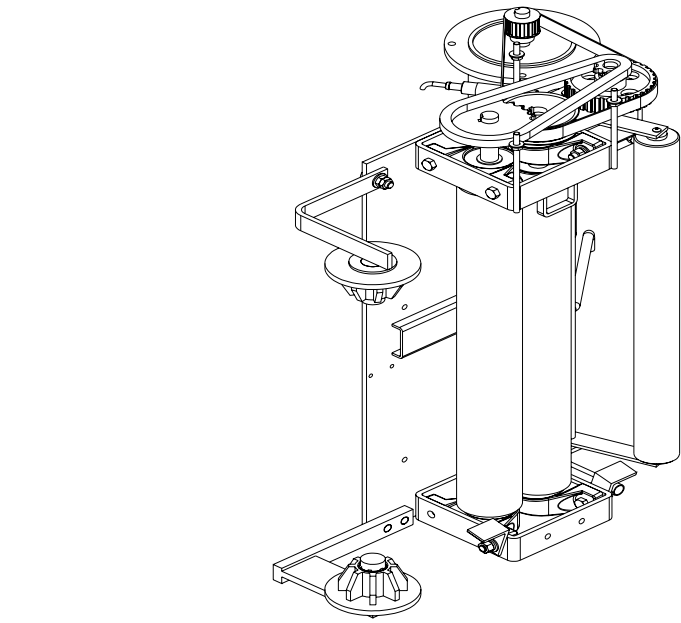
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
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REMARKS:

REMARKS:

### INSTA-THREAD -FLR-20-SPECTRA CARRIAGE

<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769</p>	DATE:	AUG-02-2002	SCALE:	1 : 5
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SP-2
	CHECKED BY:		DRAWING SIZE:	C
ASSEMBLY DWG.:	JOB No.:	-	DRAWING No.:	435713M
435681				



35	LIMIT SWITCH BRACKET	434410	1		
34	CABLE SUPPORT BRACKET	434409	1		
33	SELF SEATING RETAINING RING	013860	2		
32	GEARBELT PULLEY	011283	1		
31	GEARBELT	011151	1		
30	SPRING LOCK WASHER	011390	12		
29	HEX. NUT	011128	12		
28	HEX. NUT	012689	3		
27	FLAT WASHER	012221	3		
26	FLAT WASHER	010948	12		
25	FLAT WASHER	012323	1		
24	SOCKET CAP SCREW	010326	1		
23	HEX. HEAD CAP SCREW	012406	4		
22	HEX. HEAD CAP SCREW	012476	4		
21	PAN PHIL SCREW	012481	2		
20	FLAT HEAD	013363	2		
19	FL. BRONZE BUSHING	014247	2		
18	PILLOW BLOCK	011192	4		
17	SQ. KEY	010227	3		
16	GEARBELT PULLEY	431672	1		
15	ELECTRIC MOTOR	015240	1		
14	SPROCKET (260 %)	435715	1		
13	BOTTOM MANDREL-FLR	431737	1		
12	BOTTOM SPOOL	432323	2		
11	BOTTOM SPOOL WASHER	432322	2		
10	CRADLE ROLLER OPENING LOCK	409469	2		
9	TENSION SCREW ASSEMBLY	435261	1		
8	PROXIMITY SENSOR CAM	413744	1		
7	RUBBER ROLLER - 2 (20" FILM)	420917	1		
6	RUBBER ROLLER - 1 (20" FILM)	420916	1		
5	SPROCKET	434017	1		
4	TOP MANDREL FLR	434077	1		
3	DANCER ROLLER BRACKET FLR	414852	1		
2	DANCER ROLLER ASSEMBLY - 20 MIRROR	435540	1		
1	CARR. BACK PL. WELDING-FLR-20-SPECTRA-SP-2	435721	1		
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT

REMARKS:

REMARKS:

INSTA THREAD-FLR-20-SPECTRA BACK PL. ASS'Y

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

DATE: NOV-25-2002

SCALE: 1 : 1

DRAWN BY: ROGER F.

MACHINE TYPE: SP-2

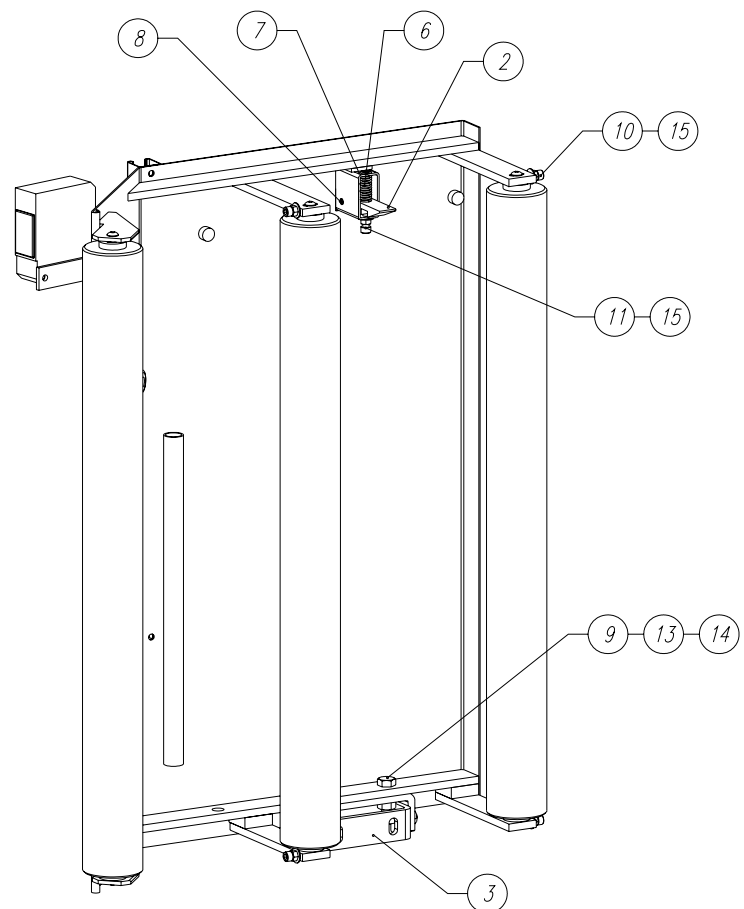
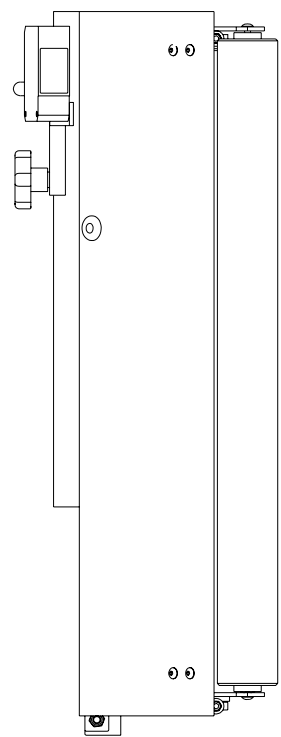
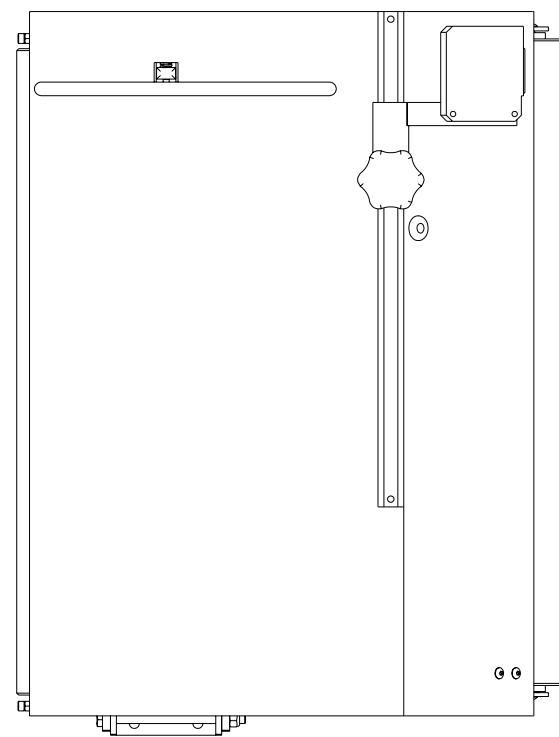
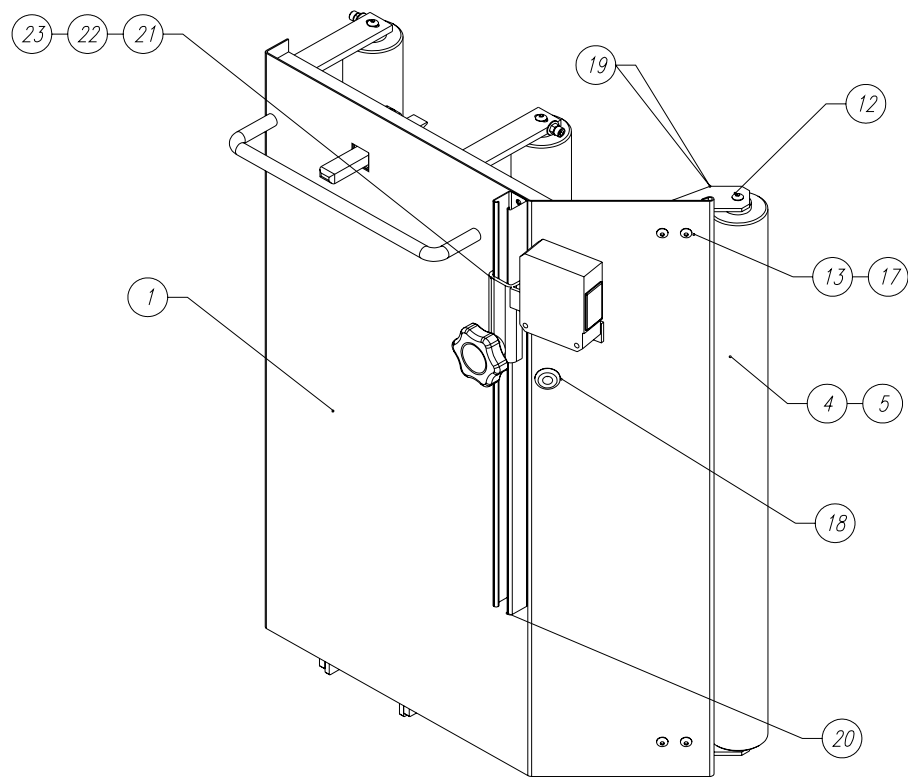
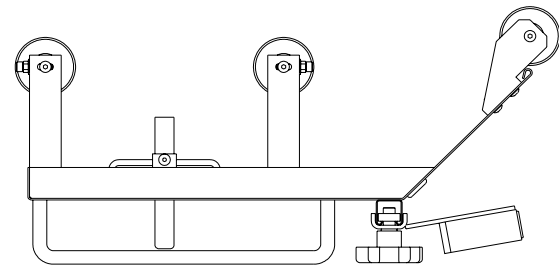
CHECKED BY:

DRAWING SIZE: C

ASSEMBLY DWG.: 435713

JOB No.: -

DRAWING No.: 435714M



23	BLACK KNOB	010092	1	
22	CHANNEL GUIDE	427690	1	
21	PHOTOCELL HIGH HOLDER	434412	2	
20	PHOTOCELL HIGH CHANNEL	434411	1	
19	EXIT ROLLER BRACKET	434319	2	
18	GROMMET	014502	1	
17	FLANGE HEX NUT	017401	4	
16	HEX NUT	013407	2	
15	HEX NUT	013451	5	
14	FLAT WASHER	012725	2	
13	BUTTON HEAD SCREW	014665	4	
12	BUTTON HEAD SCREW	012725	6	
11	HEX SOCKET CAP NUT	014209	1	
10	HEX SOCKET CAP NUT	015020	4	
9	HEX HEAD SCREW	017400	2	
8	SPRING PIN	014458	1	
7	POP RIVET	015534	1	
6	SPRING	013995	1	
5	IDLE ROLLER SHAFT	413249	3	
4	ALUMINIUM ROLLER	402789	3	
3	ROLLER CRADLE HINGE	430054	1	
2	LATCH	430053	1	
1	CRADLE ROLLER WELDING-FLR-20-SPECTRA	434011	1	

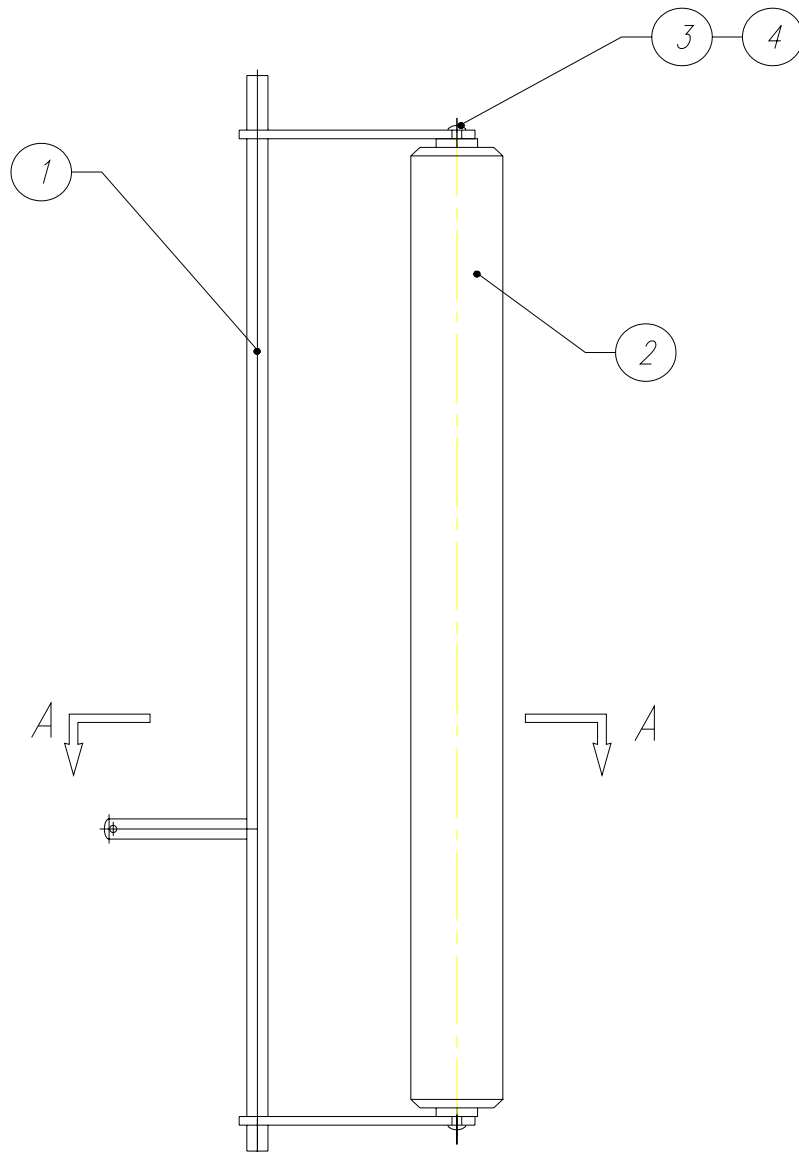
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
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REMARKS:

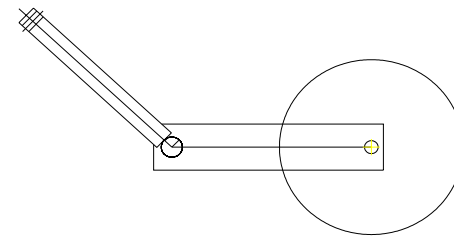
REMARKS:

CRADLE ROLLER ASSEMBLY CE-FLR-20

<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769</p>	DATE:	APR-02-2000	SCALE:	1 : 6	
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SPECTRA	
	CHECKED BY:		DRAWING SIZE:	B	
ASSEMBLY DWG.:	434005	JOB No.:	12237	DRAWING No.:	434007M



A - A



4	BUTTON HEAD SCREW	014665	2	
3	FLANGE NUT	014164	1	
2	ALUMINIUM ROLLER	402789	1	
1	DANCER ROLLER CRADLE - 20 (FLR)	435541	1	

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

REMARKS:

*DANCER ROLLER ASSEMBLY - 20 (FLR)*

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

DATE: *JAN-13-2003*

SCALE: *1 : 4*

DRAWN BY: *ROGER F.*

MACHINE TYPE: *SPECTRA*

CHECKED BY:

DRAWING SIZE: *A*

ASSEMBLY DWG.: *434006*

JOB No.: *12237*

DRAWING No.: *435540M*