



MODEL H77-17
SERIAL # 2004-8899999

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



INSTRUCTION **MANUAL**

**FOR ALL INQUIRIES
PLEASE CONTACT
OUR LOCAL DISTRIBUTOR**

**FOR NORTH AMERICA ONLY
1-800-333-6556**

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

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

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

Notice:

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

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

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

SAFETY:

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

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

ORION PACKAGING INC.

ORION PACKAGING SYSTEMS INC.
SEMI-AUTOMATIC SPECIFICATIONS - EFFECTIVE SEPTEMBER 1st, 2000
REVISED APRIL 2001

ORION EPIC[®] SERIES MODEL H-77

Spiral Semi-Automatic Medium Duty High Profile

Maximum Load Size	55"W x 55"L x 82"H
Weight Capacity	4,000 lbs. Dynamic, 8,000 lbs. Static
Utilities	115/1/60 15 Amp Service
Turntable	48"x48" Structural Steel Plate Turntable with Welded Steel Skirt Dura-Glide™ Turntable Support System Quiet in Operation, Maintenance Free
Turntable Drive	0-12 RPM Variable Turntable Speed Variable Speed Drive Motor Electronically Adjustable Acceleration/Deceleration (Soft Start) Direct Heavy Duty Chain & Sprocket Drive Positive Alignment Feature
Control Features	CSA Approved, NEMA 12 Control Panel State-of-the-Art Logic Control User Friendly Microprocessor with Micro-Switch Keypad Revo-Logic™ Exact Wrap Counting Technology 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) Photocell for Automatic Load Height Detection Turntable Jog Pushbutton
Film Delivery	20" Insta-Thread LT Powered Pre-Stretch Film Delivery System 200% Pre-Stretch Ratio Easy & Safe to Operate Self-Threading Carriage Design Electronic Film Tension Control Adjustment on the Panel Variable Speed Film Output (Non-Wearing Sensor) Heavy Duty 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 Multi-Point UHMW Precision Carriage Guidance System
Structural Features	100% Structural Steel Construction 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	1,100 lbs.

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

MACHINE UNLOADING INSPECTION & INSTALLATION

UNLOADING

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

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

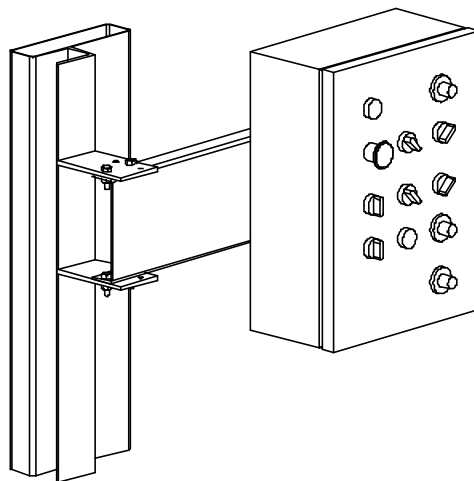
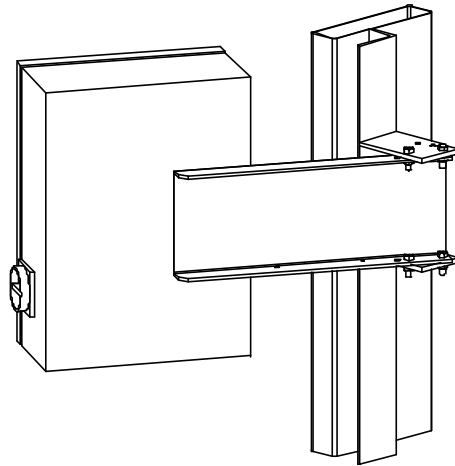
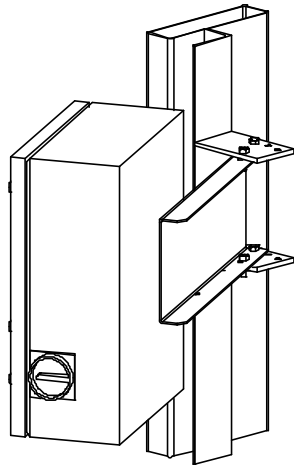
The wrapper mainframe section **must be bolted to the floor by the 1/2" concrete floor anchors** (leg & shield or expandable type).

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').

CONTROL PANEL

In the case of the free standing panel (console) place it adjacent to the system and anchor firmly to the floor. Connect the liquid tight (rigid conduit) to the main junction box located on the wrapper main frame next to the tower.

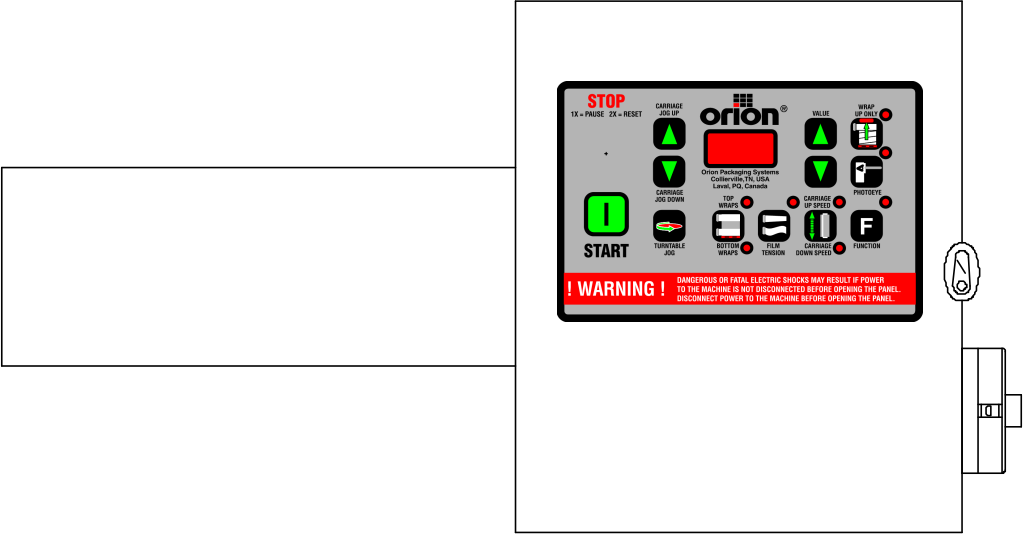


*In order to facilitate access and manipulation
the control panel can be mounted in several
alternating positions.*

CONTROL PANEL POSITIONS

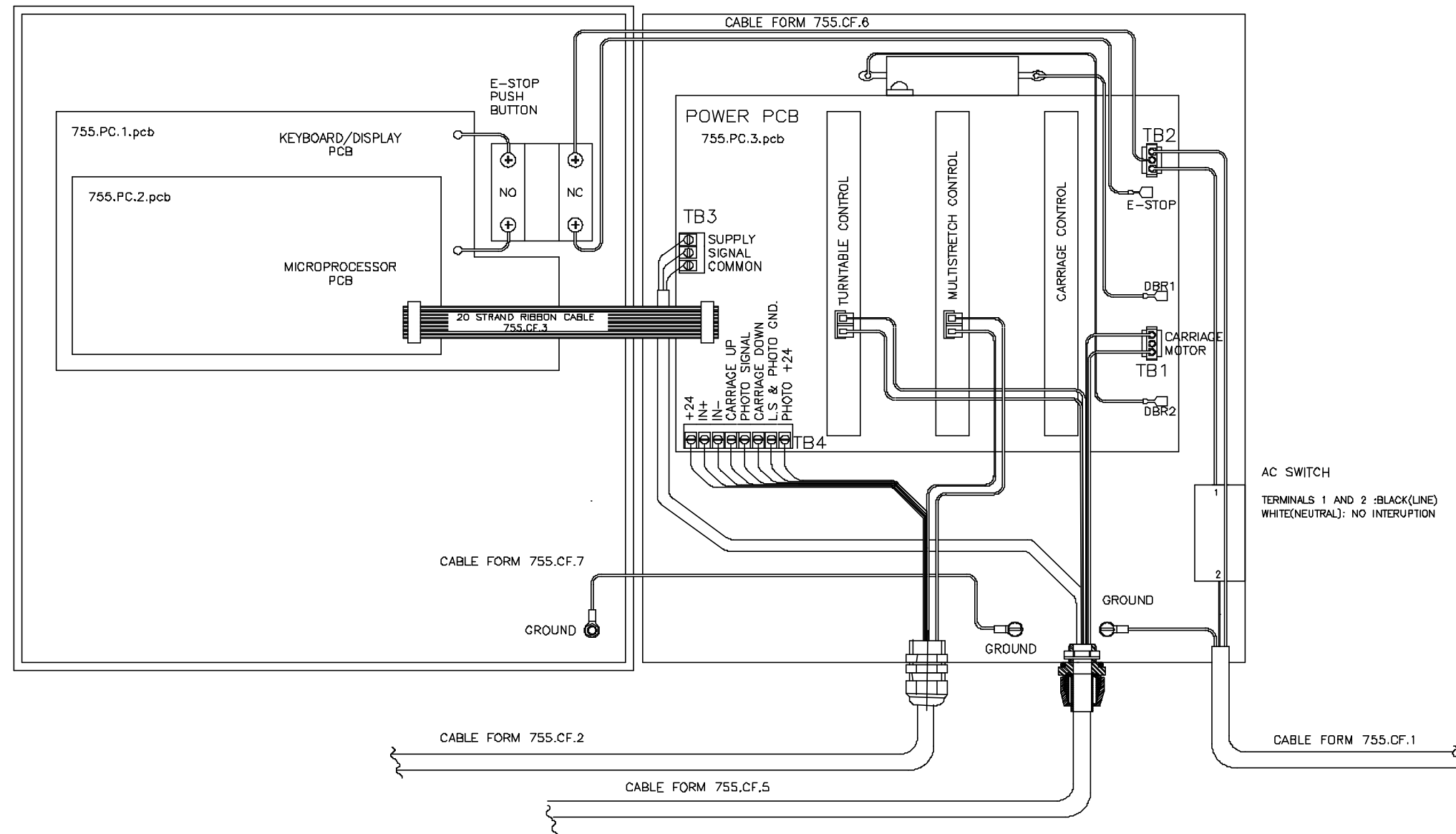
STD


DWG. # 435217



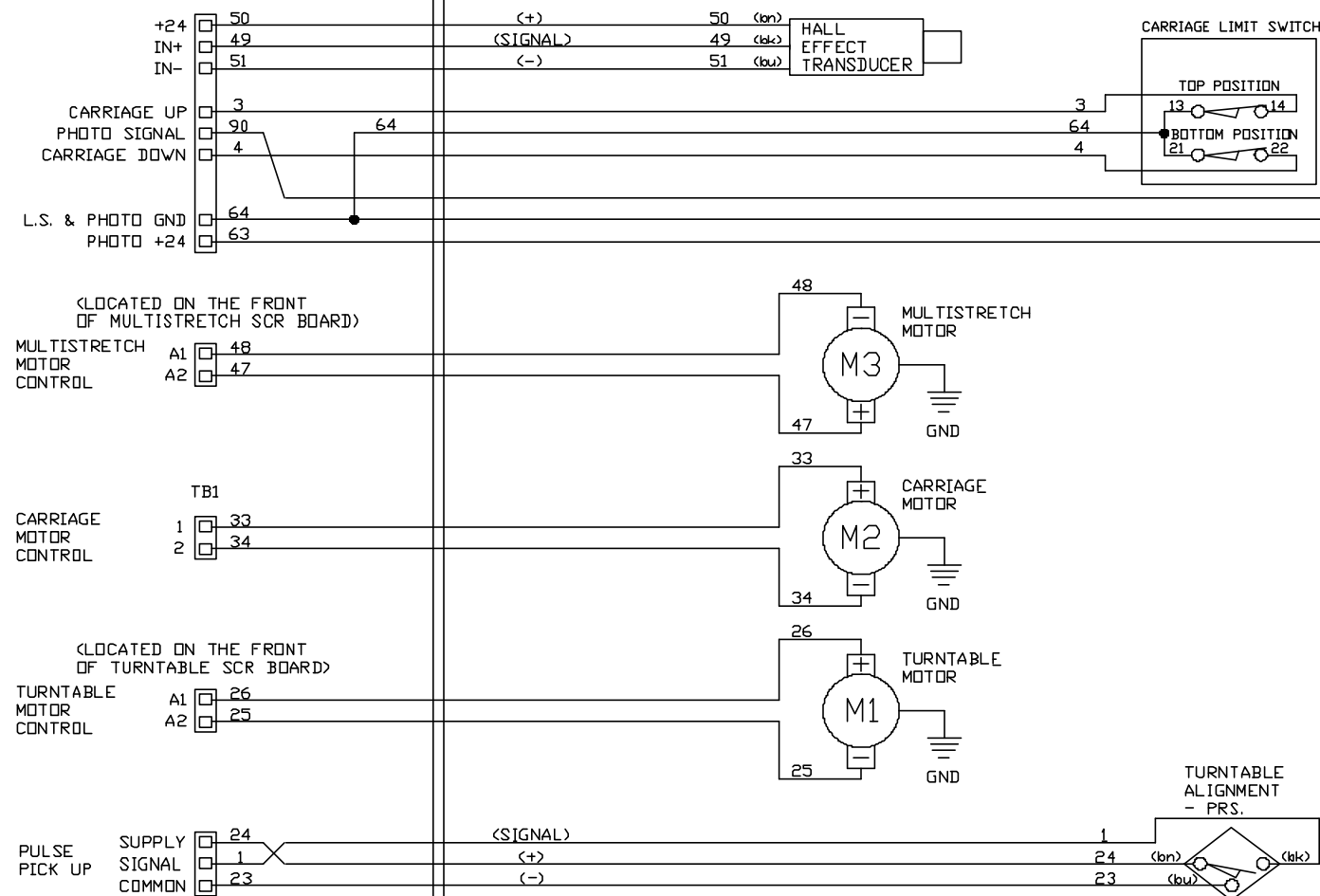
5412 ESCH121006
PANEL SIZE 12 X 10 X 06

		ORION PACKAGING INC.	
2270 INDUSTRIEL BOUL. L'AVAL, QUEBEC, CANADA H7S 1P8 TEL: (438) 987-9799		SCALE: 1:2	
APPR. BY: J.B.S.		DRAWN BY: J. ALEXANDER	
TITLE: HL77-17		"STANDARD"	
SIZE: C	DOCUMENT NO: 302 445/L	REV: 1	
DATE: MAY-22-2002	SHEET: 1 OF 1		
FILENAME: HL77-17.DWG	BASE:		



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	APPR. BY: J.B.S. DRAWN BY: J. ALEXANDER		
	TITLE: HL77-17		"STANDARD"
	SIZE: D	DOCUMENT NO: 302 452	REV: 2
JOB # 510			
DATE: MAY-17-2002		SHEET: 1 OF 1	
FILENAME: HL77-17EXCH-BLWNG	BASE:		

TYPE 755 CONTROL PANEL



CONTROL PANEL REQUIREMENTS

- 120VAC
- 3 Ph
- 60 Hz
- 15 Amp



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SIZE: C DOCUMENT NO: 302 453	REV: 2
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FILENAME: HL77-17-ELECTR-ADWD	BASE:

STOP

1X = PAUSE 2X = RESET

+



START

CARRIAGE
JOG UP



CARRIAGE
JOG DOWN



TURNTABLE
JOG



Orion Packaging Systems
Collierville, TN, USA
Laval, PQ, Canada

VALUE



WRAP
UP ONLY



PHOTOEYE

TOP
WRAPS



BOTTOM
WRAPS



FILM
TENSION

CARRIAGE
UP SPEED



CARRIAGE
DOWN SPEED



FUNCTION

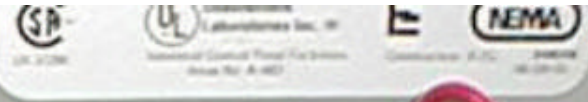
! WARNING !

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.

Fig. 1 Keyboard/Display



Fig. 2



Turntable
Momentary
Position Sensor

Carriage
Run

Carriage
Down

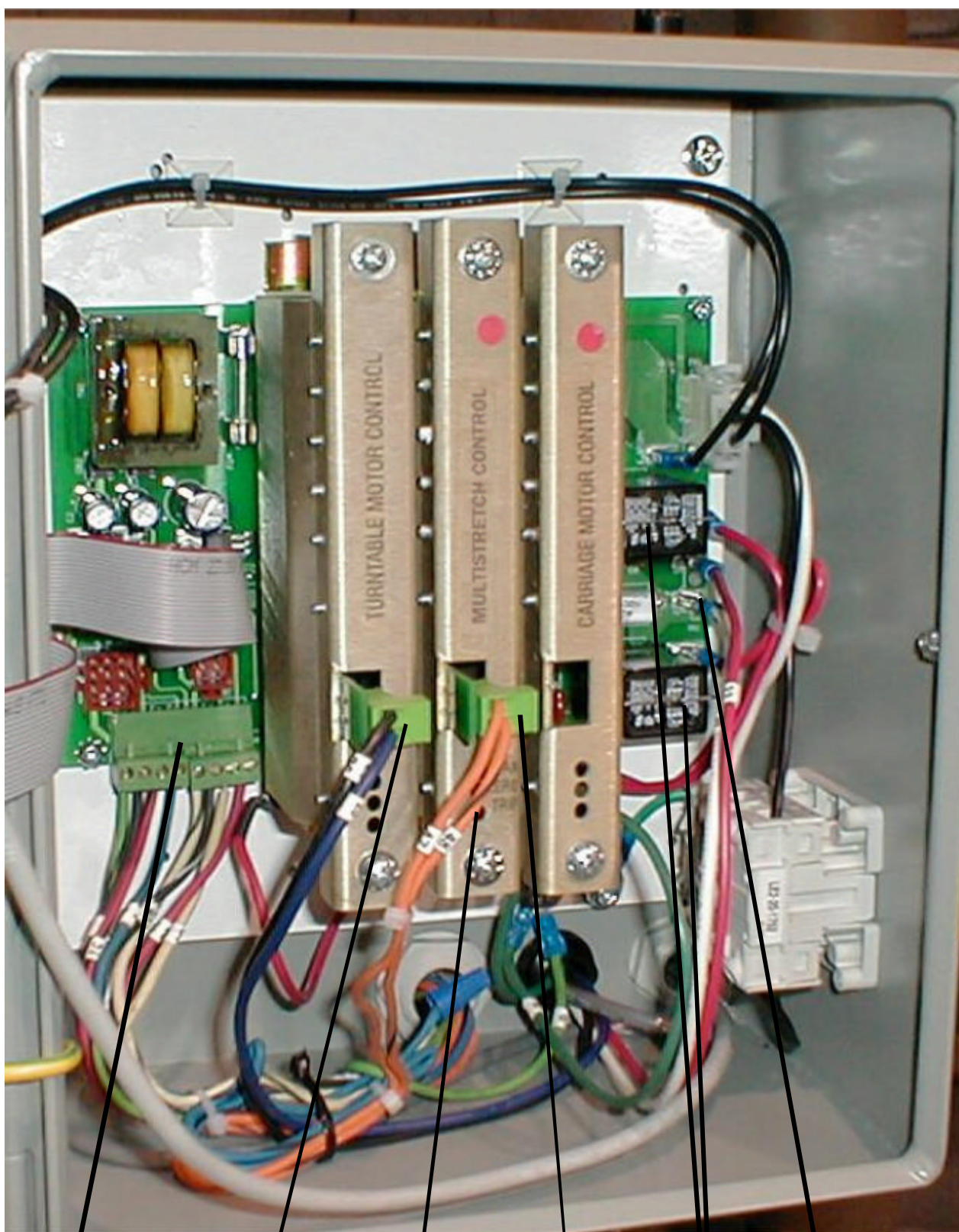
Carriage
Up

TT Start Stop

Photocell

Ribbon Cable

Fig. 3 MCIA Connections



TB 4
Main Interconnect
Terminals

Turntable Motor
Armature
Connection

Multistretch
(Film Delivery
Control)

Multistretch
Motor Armature
Connection

Reversing
Relays

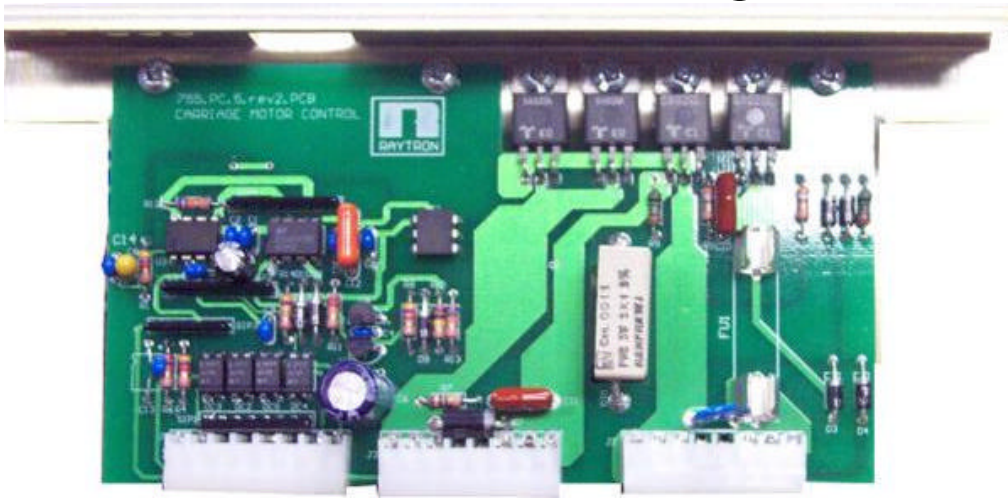
Carriage Motor
Armature
Connection

Fig. 4

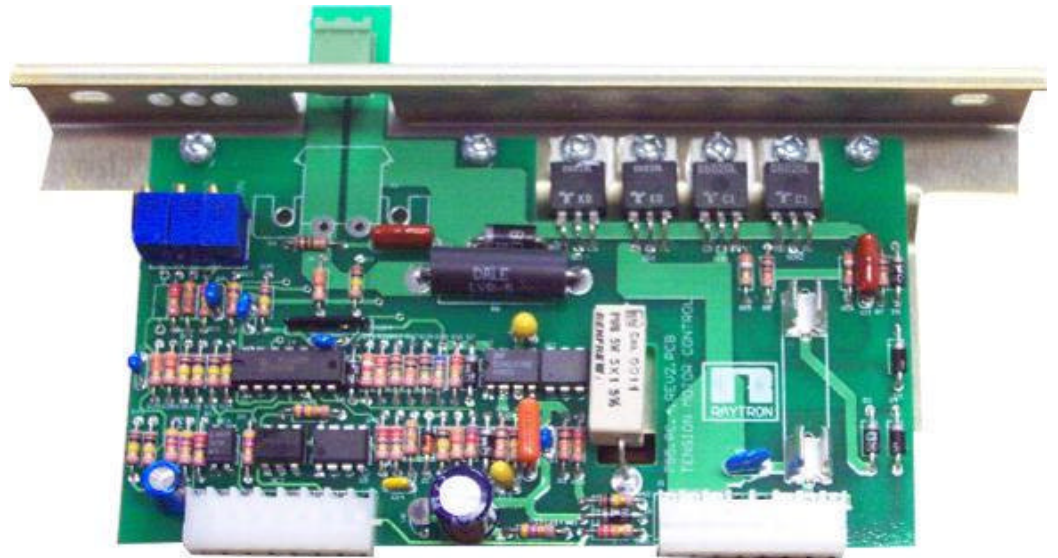


The Complete 755 Assembly

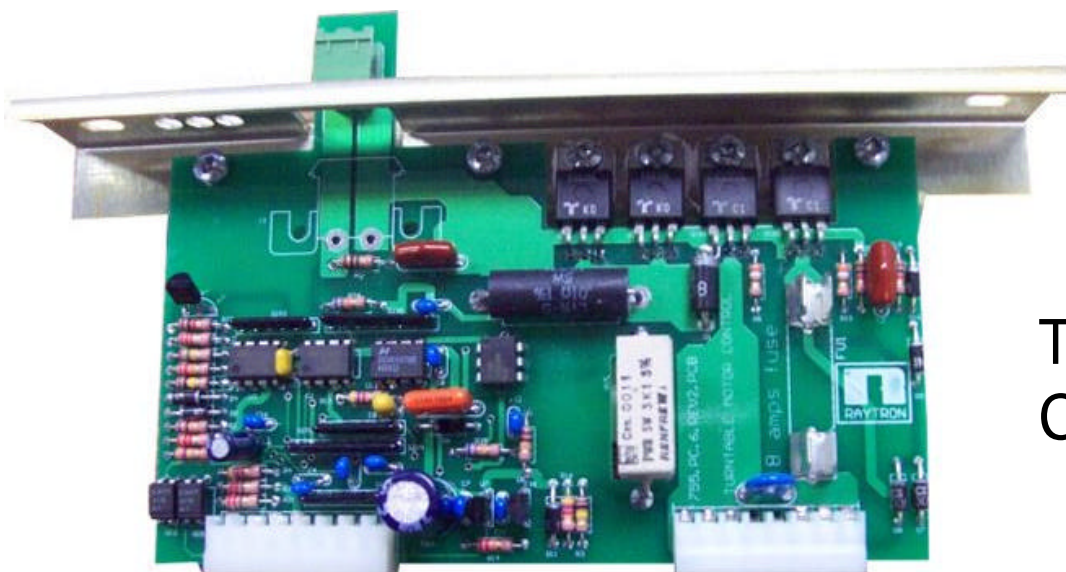
Fig 5



**Carriage
Control**



**Multistretch
Control**



**Turntable
Control**

755 Orion Integrated Digital Control Center

**OPERATING
INSTRUCTIONS**

HL77-17

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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 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. # 302 452 rev. 2

DWG. # 302 453 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, E²PROM 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 especially 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.

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

Used to set voltage level for “End or Broken Film Sensing Circuitry”.
This feature is not available on HL77-17 machines.

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 wrapping 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 authorised 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 reaches 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 modes 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” is 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 photo eye 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	02
Bottom wraps	From 1 to 10	02
Tension	From 0 to100	10
Carriage speed up	From 0 to100	65
Carriage speed down	From 0 to100	65

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.

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 to100	06
P02	Top Bottom Wraps First	0 " Top Wraps First" or 1 "Bottom Wraps First	0
P03	Not Implemented	0	N/A
P04	Table Acceleration Time	From 0 to100	10
P05	Table Deceleration Time	From 0 to 100	10
P06	Table Pulses Per Rotation		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 exit Function	N/A
P12	Get Default	When Selected we load 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 turned 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. Removing two securing screws and then unplugging can individually replace the THREE DC DRIVE controls. An on-board AGC-8 fuse, accessible when the drive control has been unplugged, protects each control.

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

LOADING THE FILM

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

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

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

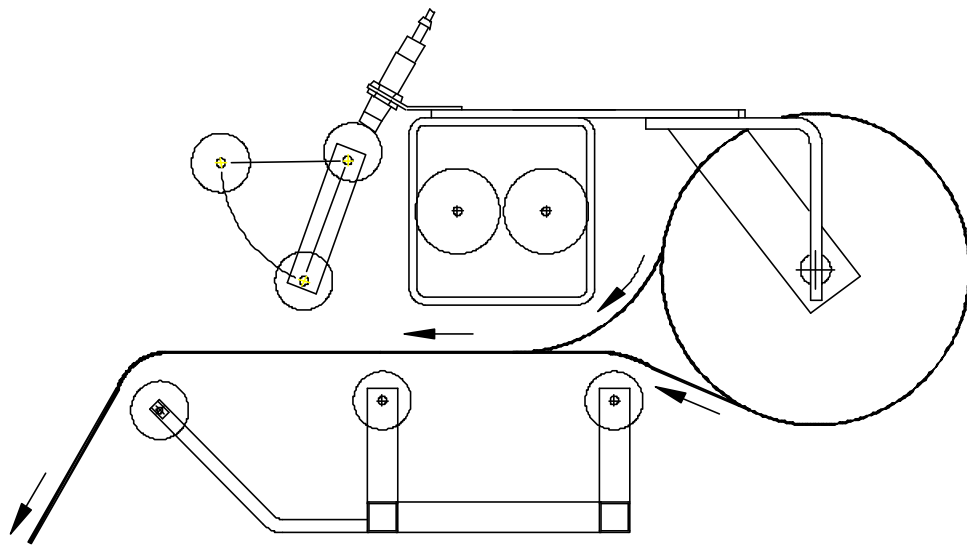


Fig. 1 OPEN CRADLE

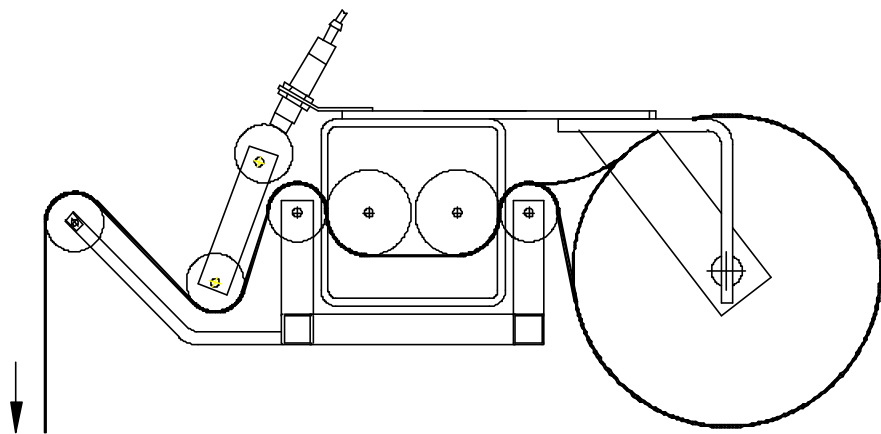


Fig. 2 CLOSED CRADLE

FILM QUICK THREADING

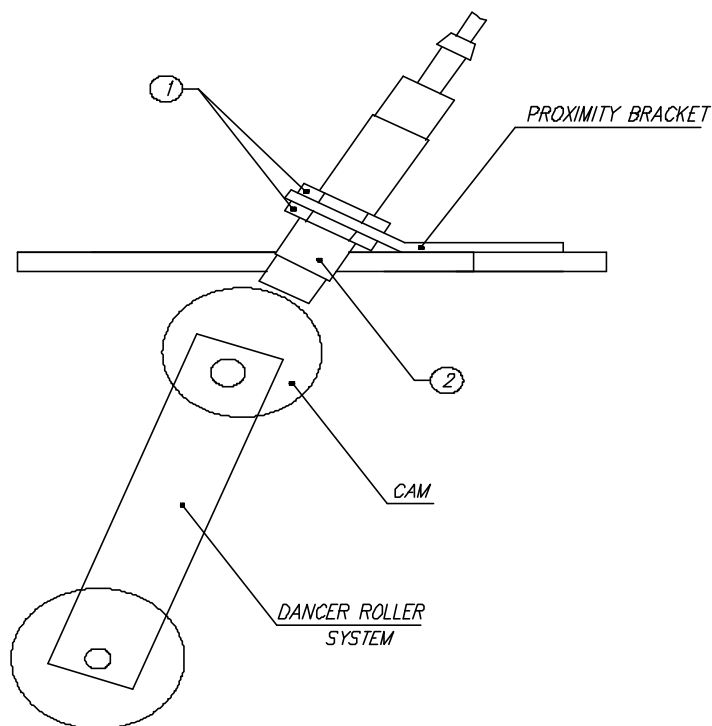
DWG # 418180

PROXIMITY SENSOR ADJUSTMENT

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

Adjustment instructions:

- Remove the carriage cover
- Unbolt the two nuts holding the proximity switch - item # 1
- Turn the Proximity sensor - (item # 2) to create the gap between the cam and the front side of proximity sensor about 1/8 "
- Tighten on the nuts securing the Proximity Sensor
- Turning the trim pot SPAN adjust the moment when motor starts to turn when dancer roller moved from its home position up to 1 1/2".



*PROXIMITY SENSOR
FEED BACK ADJUSTMENT*

DWG # 419139

MACHINE MAINTENANCE

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

MOTOR MAINTENANCE

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

Failure to properly seat the new brushes may cause commutator damage and rapid wear of the new brushes. If the commutator becomes rough, scored or out of shape, a competent motor shop should disassemble it and resurface the commutator.

With every third brush change, have a competent motor shop resurface the commutator and blow the carbon dust out of the motor.

REDUCER OIL CHANGE

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

List of recommended reducer oils

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

RING BEARING MAINTENANCE (when applicable)

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

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

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

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

List of recommended lubricants for the ring bearing lubrication

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

TOWER RACEWAYS MAINTENANCE

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

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

CHAIN MAINTENANCE

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

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

PNEUMATIC SYSTEM MAINTENANCE (when applicable)

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

CAM FOLLOWER MAINTENANCE (when applicable)

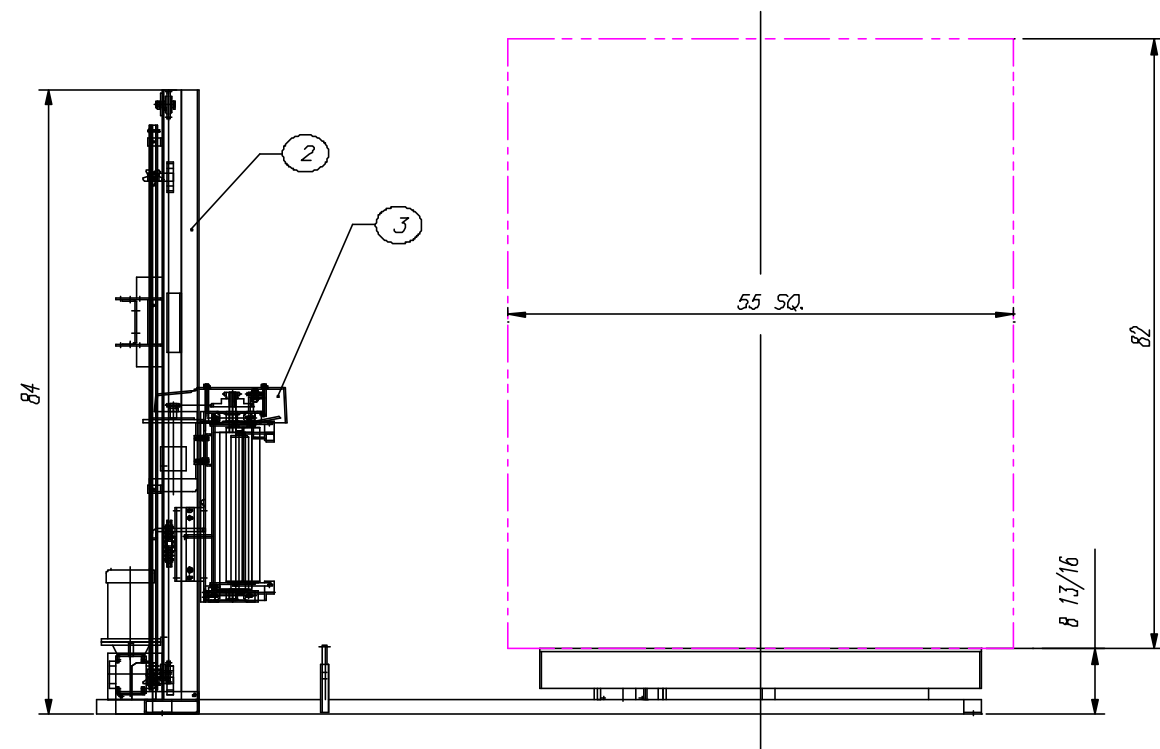
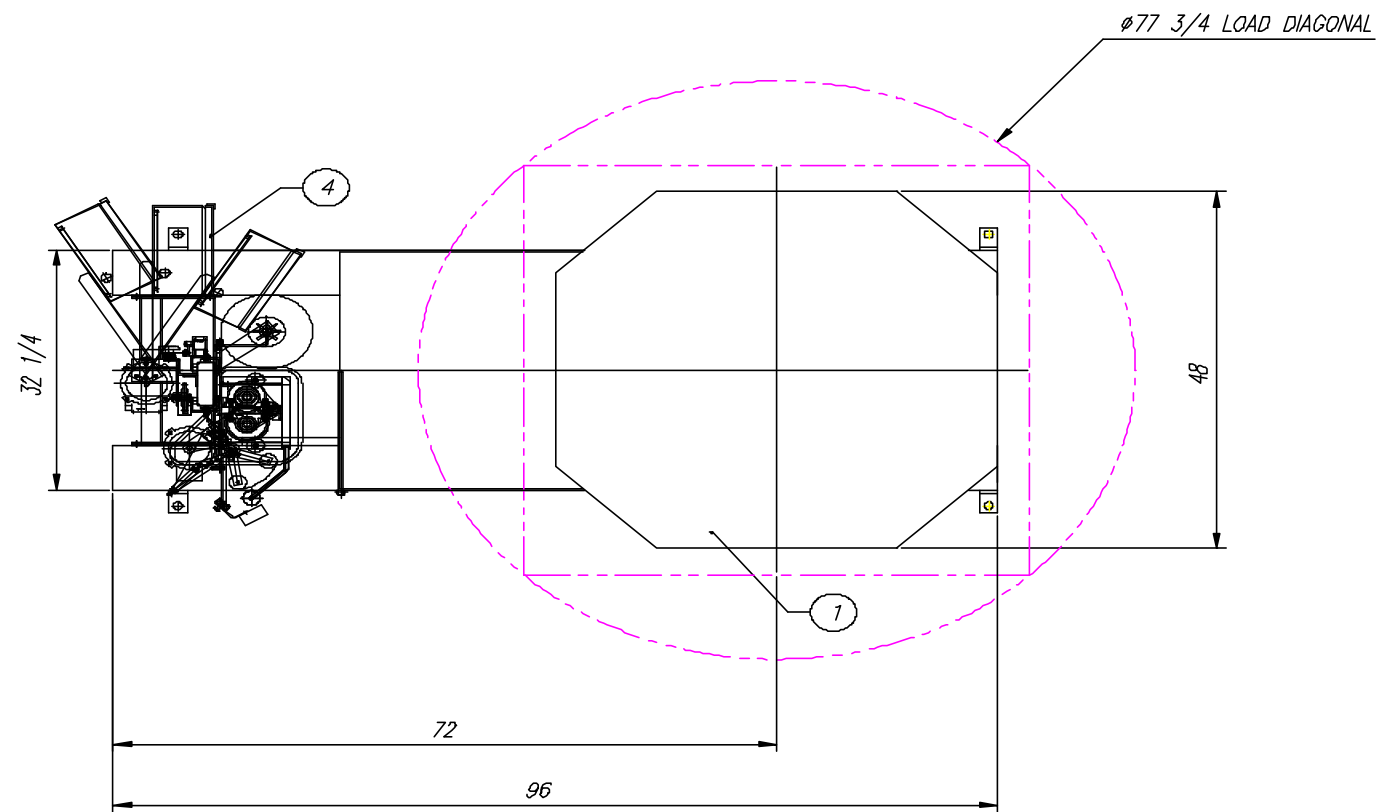
The cam followers have deep grease pockets and do not need frequent relubrication. The portion of the tower on which the cam followers run, should be cleaned and regreased every 300 hours of operation. If the machine operates in a dusty or corrosive environment the tower should be relubricated more often.

SEMI-AUTOMATIC STANDARD ASSEMBLY PART LIST

Note :


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

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



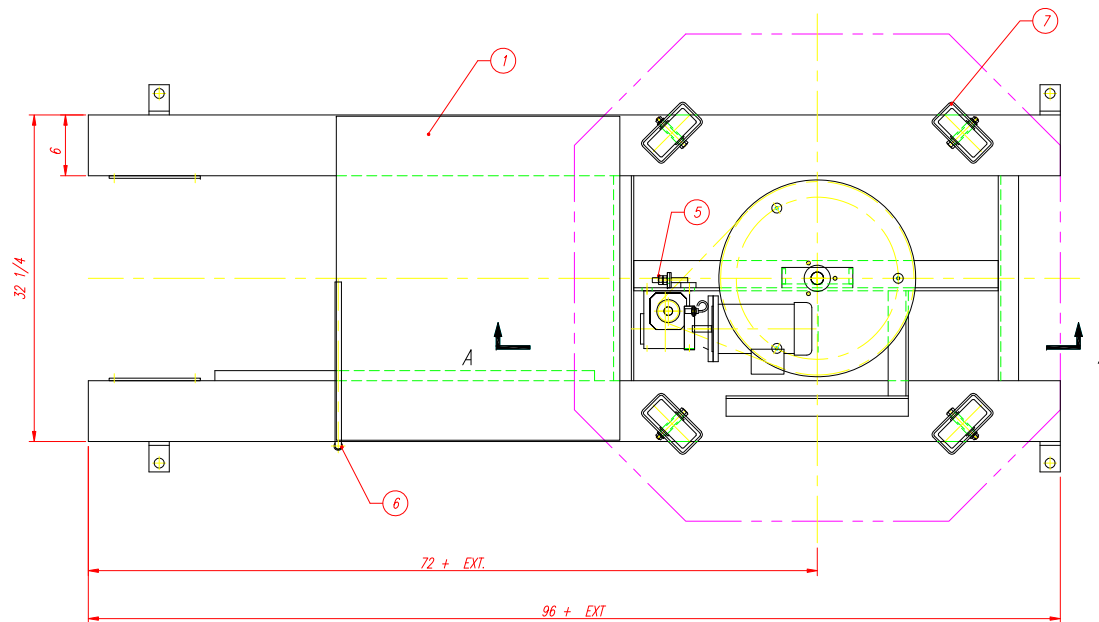
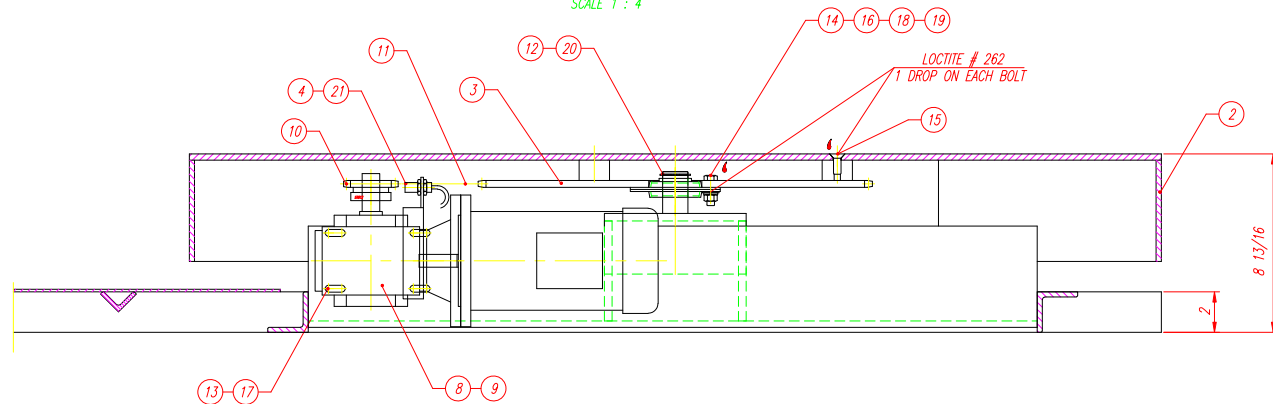
NOTE :

1. 0-12 RPM VARIABLE TURNTABLE SPEED
2. MAX LOAD SIZE: 55"W x 55"L x 82"H
3. WEIGHT CAPACITY: 4,000lbs
4. POWER REQUIREMENT : 115/1/60 15 AMP SERVICE
5. MACHINE COLOR: 2-TONE ORION STD GREY (PLATINUM GREY & DARK GREY)
6. INSTA-THREAD FILM CARRIAGE
7. 48" x 48" OCTAGONAL TURNTABLE WITH SKIRT

4	CONTROL PANEL 5412 ESCH 12 10 06			1	
3	INSTA-THREAD CARR. FOR H,L77/17			1	
2	HINGE TOWER 6 x 2 x .150 ASSEMBLY			1	
1	H-77/13B H BASE ASSEMBLY			1	
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
REMARKS:					
REMARKS:					
H77/17 LAYOUT					
 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769		DATE:	MAY-15-2002	SCALE:	1 : 16
		DRAWN BY:	S. KUBICKA	MACHINE TYPE:	H77/17
		CHECKED BY:		DRAWING SIZE:	C
		ASSEMBLY DWG.:	LAYOUT	JOB No.:	STD
				DRAWING No.:	434958M

SECTION A-A

SCALE 1 : 4



REQ'D - 1 pc.

REV. A, JUL-3-2003, JNB

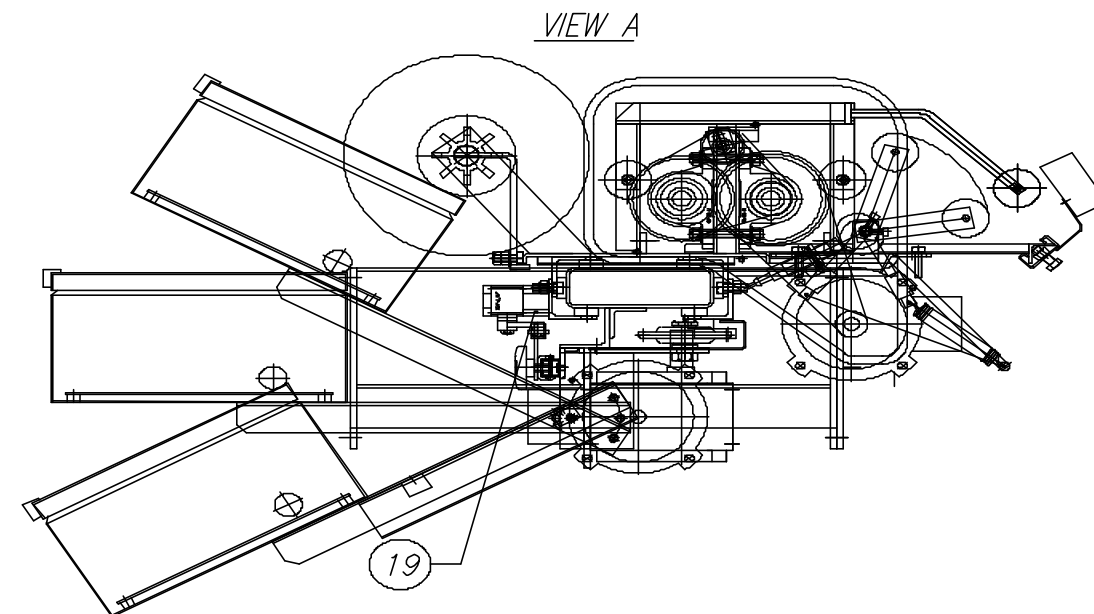
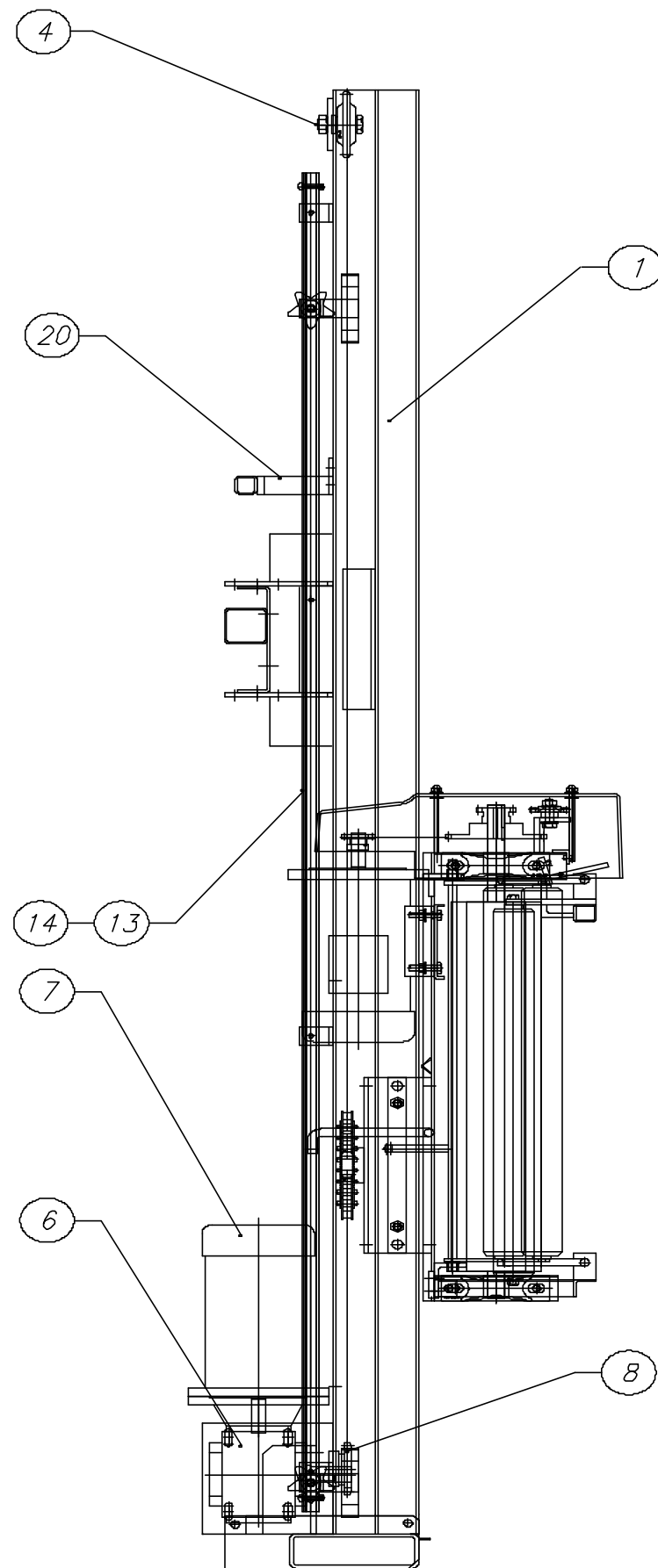
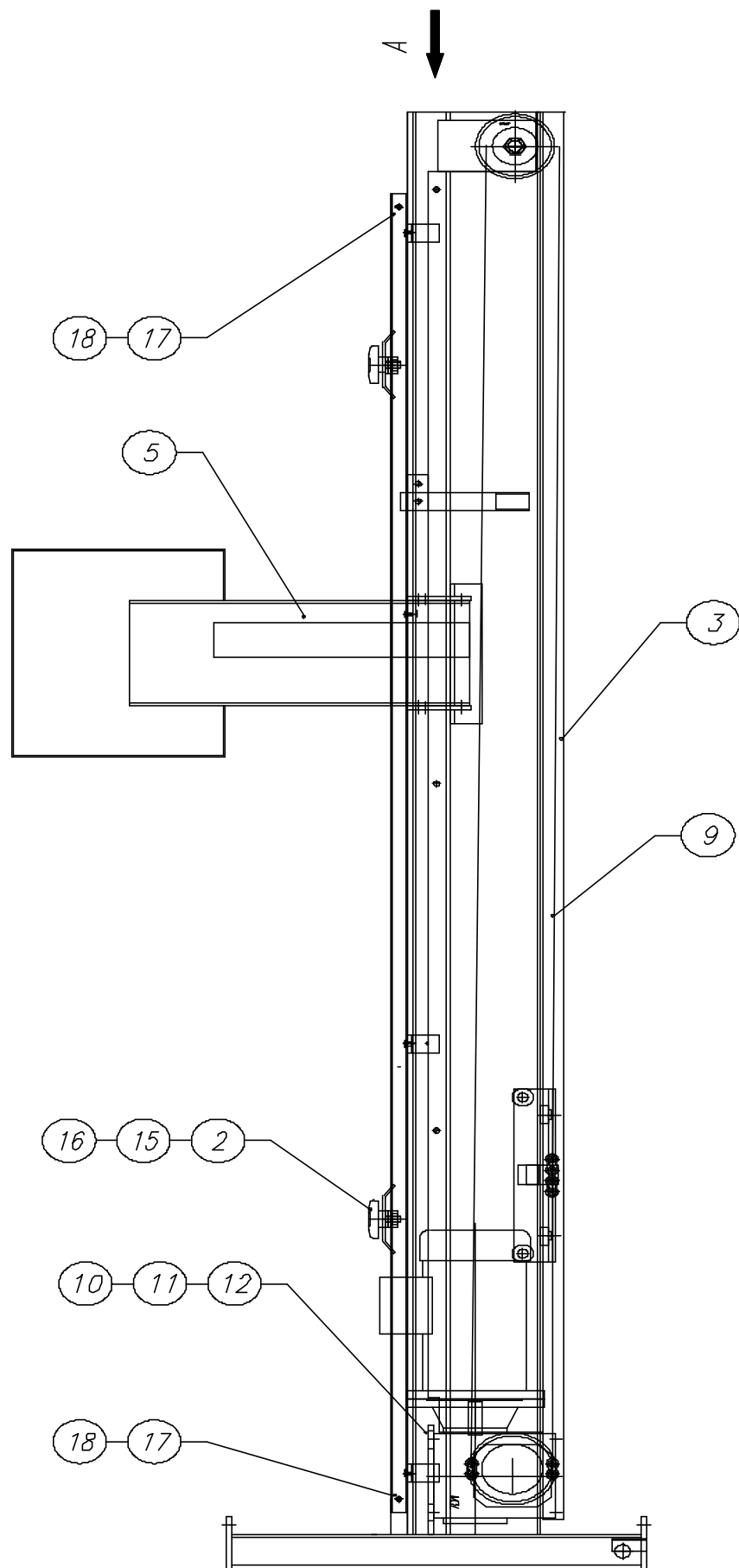
TOTAL WEIGHT: 535.7 Lbs

21	PROXIMITY SWITCH	019010	1	-
20	SNAP RING 1 1/4 SHAFT DIA	013655	1	-
19	HEX NUT 3/8-16 UNC	011128	3	-
18	SPRING WASHER 3/8" SIZE	011390	3	-
17	SPRING WASHER 5/16" SIZE	012724	4	-
16	FLAT WASHER 3/8" SIZE	010948	6	-
15	FLAT SOCKET CAP SCREW 3/8-24 UNF 3/4 LG	013363	3	-
14	HEX HEAD SCREW 3/8-16 UNC 1 1/4 LG	012406	3	-
13	HEX HEAD SCREW 5/16-18 UNC 1 LG	010291	4	-
12	STAMP HOUSING FLANGE BEARING SAPF 206-20	013654	1	1.4
11	CHAIN #50 68 1/8 LG (109 LINKS & 1 C/L)	010009	1	4.0
10	SPROCKET 50B10 x 7/8" BORE	010074	1	.4
9	EL. MOTOR 1/2 HP, 90 VDC, 1750 RPM Lesson	017851	1	25.0
8	REDUCER CFC-175, 15:1, ASS'Y-3	015191	1	25.0
7	SINGLE CASTER ASS'Y	B 425390	4	26.4
6	ROPING BAR	A 413868	1	2.1
5	CHAIN TIGHTENER (BQ-175)	A 412261	1	1.0
4	PROXIMITY SWITCH BRACKET	A 412316	1	.5
3	SPROCKET 50A96	A 406338	1	24.5
2	TURNTABLE - 48" OCTAGONAL	A 422298	1	206.1
1	H-77/13B H BASE (WELDING)	C 425344	1	219.3

No.	DESCRIPTION	QTY	PART No.	Q'ty	WEIGHT
REMARKS: 12 RPM TURNTABLE SPEED, 8 13/16" TURNTABLE HEIGHT					
REMARKS: _					

H-77/13B H BASE ASSEMBLY

<p>ORION PACKAGING INC. 2270 INDUSTRIEL LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769</p>	DATE:	OCT-04-1999	SCALE:	1 : 8
	DRAWN BY:	M. G. GOLA	MACHINE TYPE:	H77/13B
	CHECKED BY:		DRAWING SIZE:	C
	ASSEMBLY DWG.:	425340 B	JOB No.:	STD
			DRAWING No.:	425343




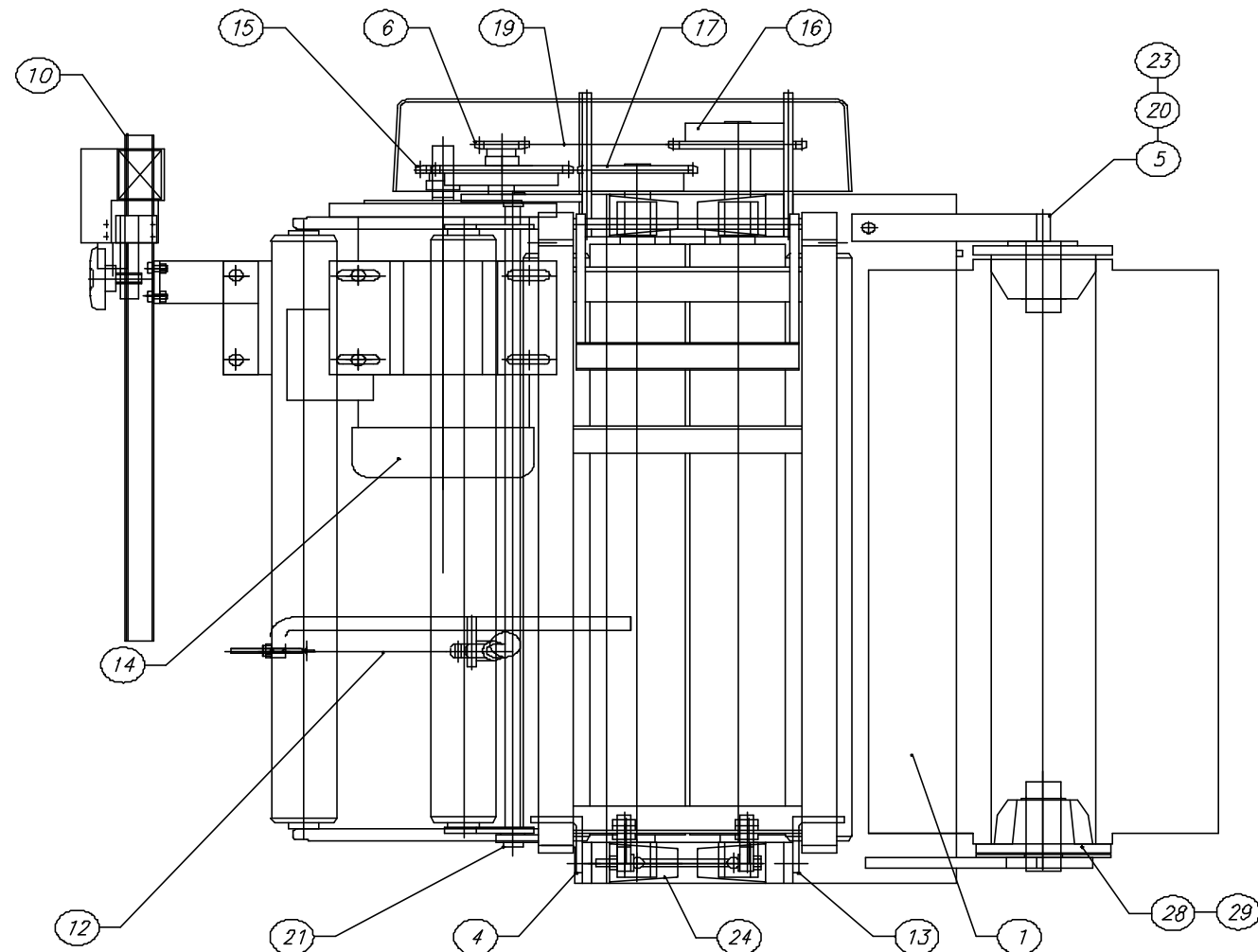
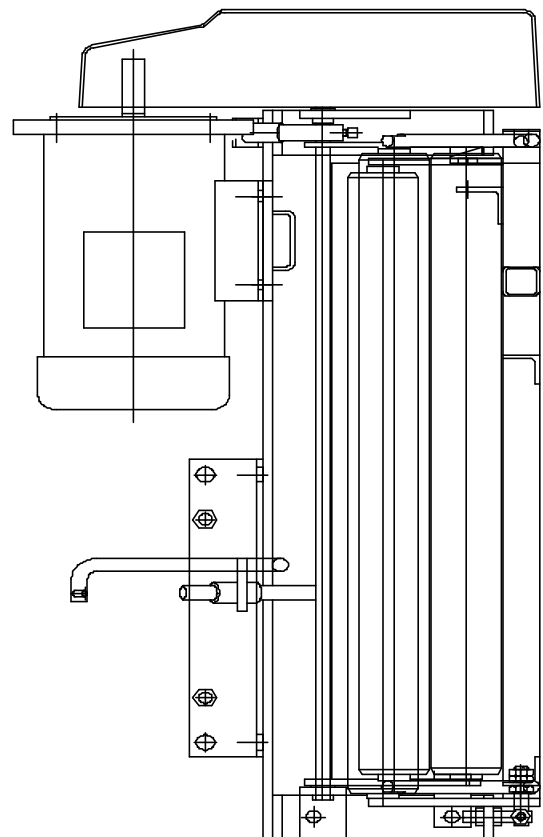
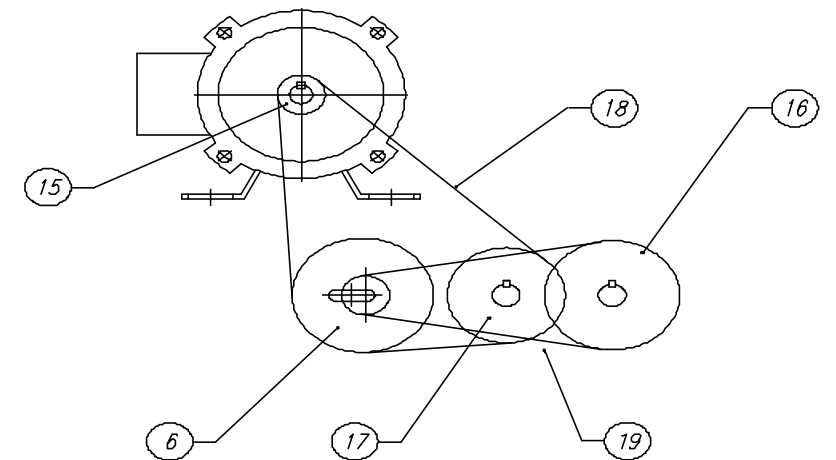
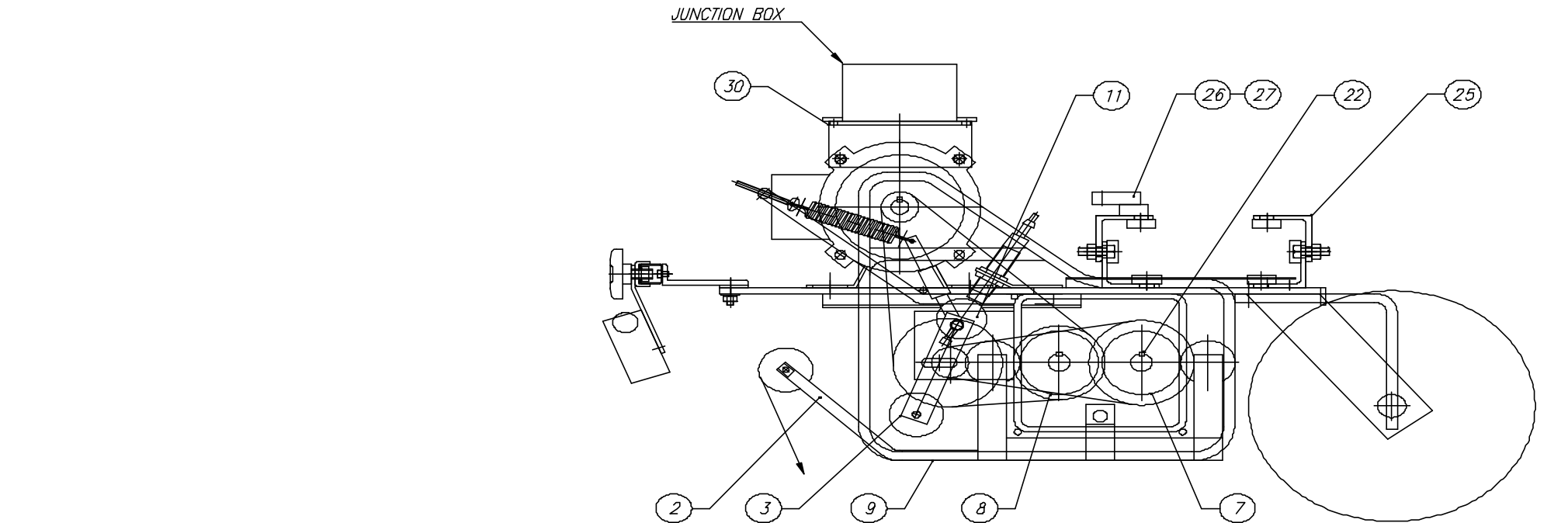
20	EXTENDED TOWER CABLE HOLDING BRACKET	440028		
19	LIMIT SWITCH SPACER	428981	2	
18	PAN PHILL SCREW	012690	2	
17	HEX. NUT	012726	2	
16	NUT FLAT SQUARE	017853	1	
15	BLACK KNOB	010092	2	
14	PAN PHILL SCREW	013463	4	
13	CHANNEL	428965	1	
12	WASHER	012725	4	
11	LOCK WASHER	012724	4	
10	HEX SCREW	010291	4	
9	CHAIN	010009	1	
8	SPROCKET	010235	1	
7	ELECTRIC MOTOR	017851	1	
6	REDUCER	015200	1	
5	CONTROL PANEL	—	1	
4	IDLER SPROCKET ASSEMBLY	420809	1	
3	CHAIN GUARD	428968	1	
2	STRIKER	427691	2	
1	HINGE TOWER 6 x 2 x .150 – WELDING	428979	1	

REMARKS:


REMARKS:

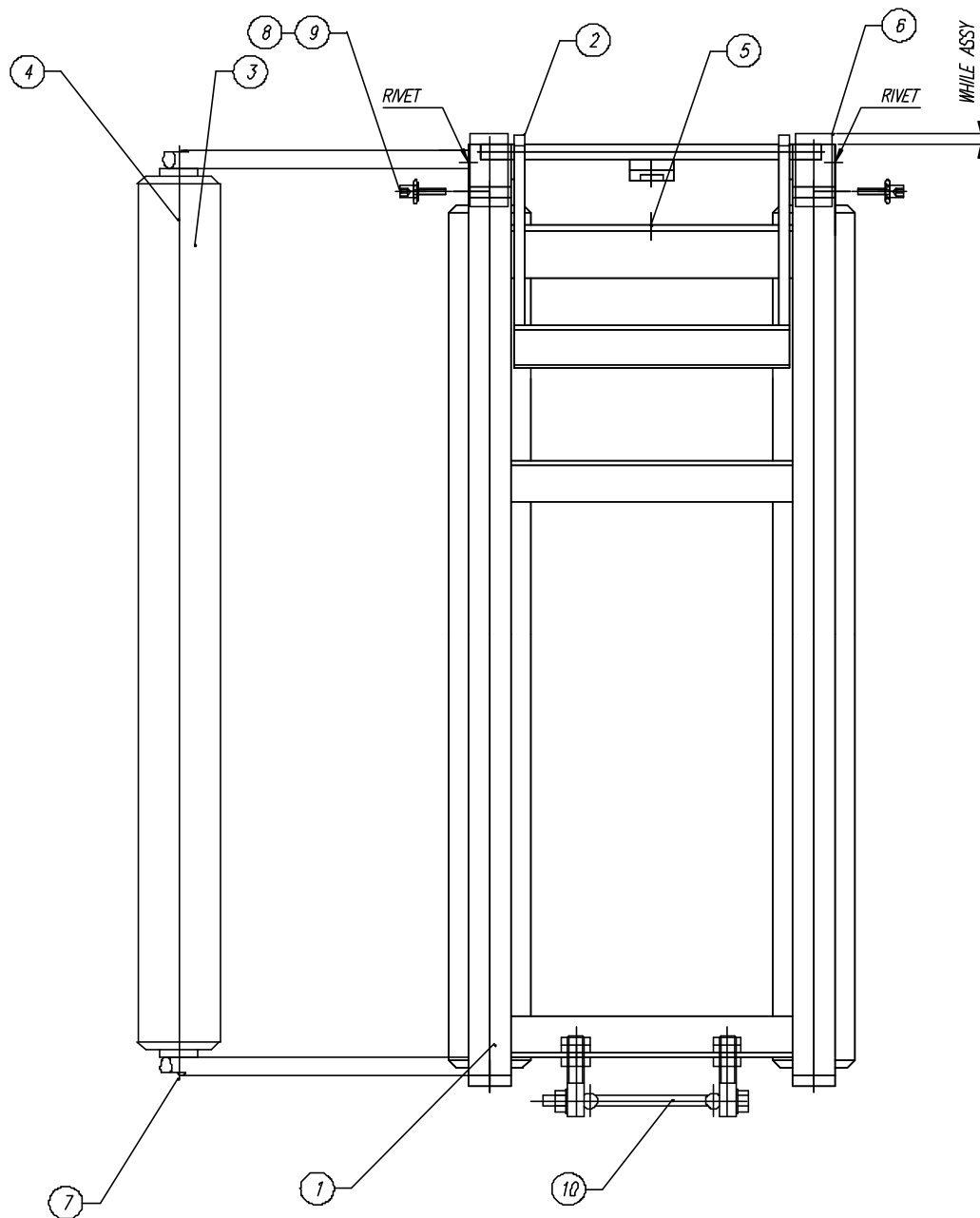
HINGE TOWER 6 x 2 x .150 - ASSEMBLY


 <p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769</p>	DATE:	AUG-29-2000	SCALE:	1 : 6
	DRAWN BY:	M. G. GOLA	MACHINE TYPE:	H,L77/14
	CHECKED BY:		DRAWING SIZE:	C
	ASSEMBLY DWG.:	428977 B	JOB No.:	STD
			DRAWING No.:	428978M

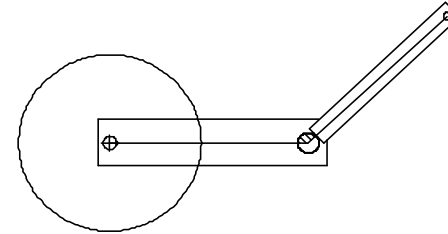
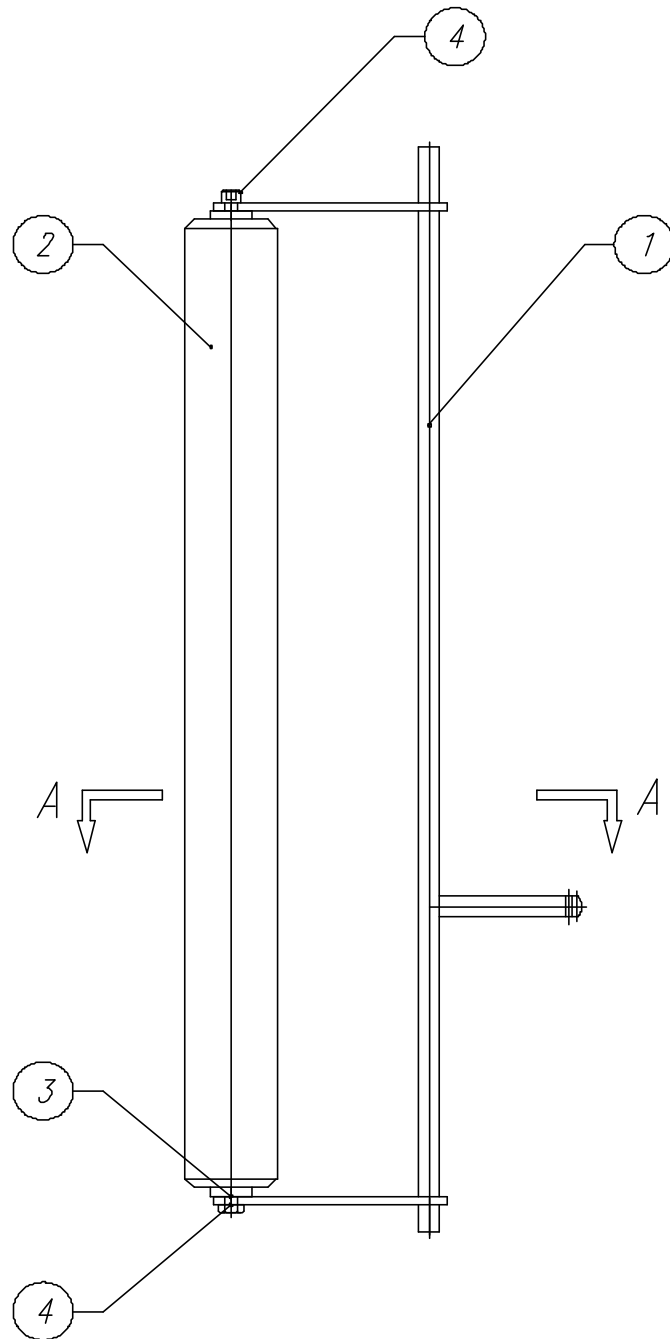


30	JUNCTION BOX BRACKET	426059	1	
29	BOTTOM SPOOL WASHER	432322	1	
28	BOTTOM SPOOL	432323	2	
27	SLIDE BOTTON	427058	12	
26	CARRIAGE CHAIN ATTACH. ANGLE	420000	1	
25	CARRIAGE ATTACHMENT ANGLE	419999	1	
24	PILLOW BLOCK	011192	4	
23	FLAT WASHER	012323	1	
22	SQ. KEY	010227	3	
21	FLANGE BRONZE BUSHING	014247	2	
20	SELF SEATING RETAINING RING	013860	2	
19	CHAIN	013397	1	
18	CHAIN	013397	1	
17	SPROCKET	011454	1	
16	SPROCKET (200 %)	011454	1	
15	SPROCKET	415109	1	
14	EL. MOTOR	015240	1	
13	CRADLE ROLLER OPENING LOCK	409469	2	
12	TENSION SPRING ASS'Y	433628	1	
11	PROXIMITY SENSOR CAM	413744	1	
10	PHOTOCELL ASS'Y 20, 30" CARRAGE FRL	436361	1	
9	FIBERGLASS COVER - CW ROT'N	414305	1	
8	20" ECONOMY RUBBER ROLLER #2	433904	1	
7	20" ECONOMY RUBBER ROLLER #1	433903	1	
6	DOUBLE SPROCKET	414546	1	
5	TOP MANDREL FRL	414193	1	
4	DANCER ROLLER BRACKET	413745	1	
3	DANCER ROLLER ASSEMBLY - 20 (FRL)	434200	1	
2	CRADLE ROLLER ASSEMBLY - 20 (FRL)	434199	1	
1	20" BACK-PLATE - FRL	433854	1	


No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
REMARKS:					
REMARKS:					
20" INSTA-THREAD CARR. "E" ASS'Y (FRL) FOR H,L,77					
 ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769		DATE:	JULY-02-03	SCALE:	1 : 4
		DRAWN BY:	S. KUBICKA	MACHINE TYPE:	H,L77/17
		CHECKED BY:	-	DRAWING SIZE:	C
		ASSEMBLY DWG.:	-	DRAWING No.:	438647M

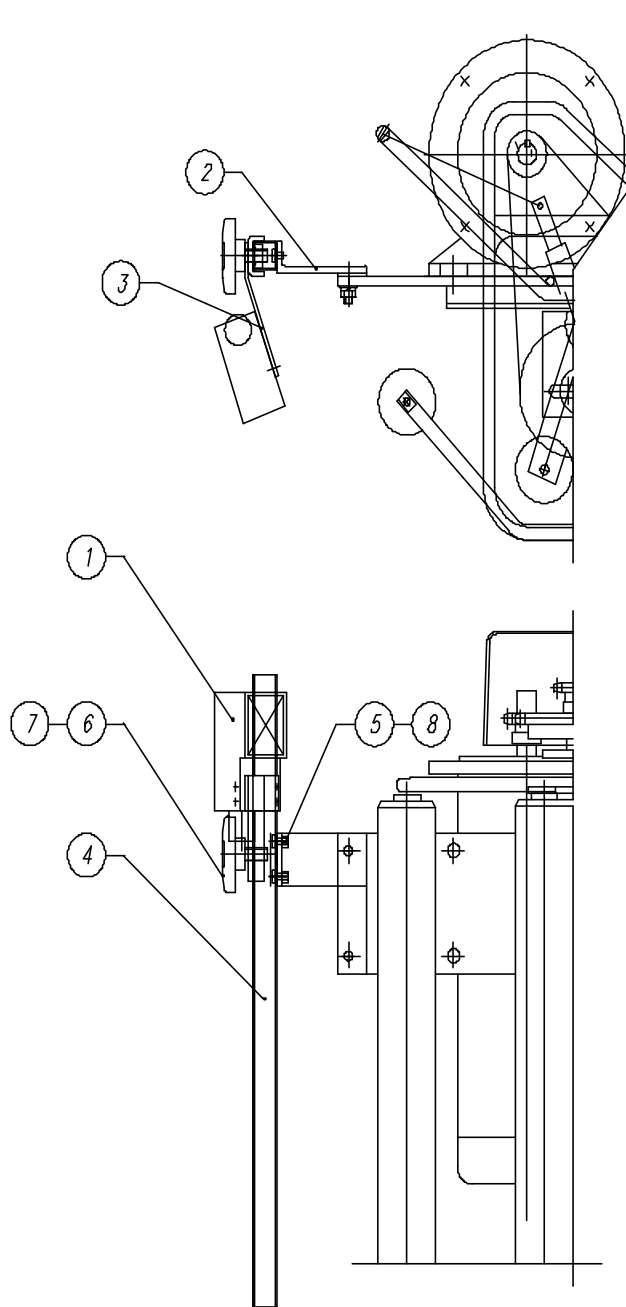


10	CRADLE HINGE ASS'Y		426200	1	
9	HEX NUT		013451	4	
8	SOCKET HEAD CAP SCREW		014002	4	
7	BUTTON SOCKET CAP SCREW		015133	6	
6	POLYETHYLENE		431158	2	
5	SPRING		013994	1	
4	IDLE ROLLER SHAFT		413249	3	
3	ALUMINUM ECONOMY ROLLERS		015185	3	
2	LOCK		412542	1	
1	CRADLE ROLLER FRAME - 20" (FRL)		422328	1	
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
REMARKS:					
REMARKS: -					
CRADLE ROLLER ASS'Y - 20" (FRL) "ECONO"					
 PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL: (438) 667-8769		DATE:	MAR-8-2002	SCALE:	1 : 2
		DRAWN BY:	J-NICOLAS BACON	MACHINE TYPE:	H, L77/17
		CHECKED BY:	-	DRAWING SIZE:	C
		JOB No.:	STD	DRAWING No.:	434199M
ASSEMBLY DWG.: 433853C					



SECTION A - A

4	HEX HEAD SCREW		012475	1	
3	FLANGE NUT		014164	2	
2	ALUMINUM ECONOMY ROLLER		015185	1	
1	DANCER ROLLER CRADLE - 20" (FRL)		414195	1	
No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
REMARKS:					
REMARKS:					
DANCER ROLLER ASS'Y - 20" (FRL) "ECONO"					
 PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769		DATE:	MAR-8-2002	SCALE:	1 : 4
		DRAWN BY:	J-NICOLAS BACON	MACHINE TYPE:	H, L77/17
		CHECKED BY:	-	DRAWING SIZE:	A
ASSEMBLY DWG.: 433853C		JOB No.: STD		DRAWING No.: 434200M	




8	HEX. NUT	012726	2	
7	CHANNEL GUIDE	427690	1	
6	BLACK KNOB	010092	2	
5	PAN PHILL SCREW	012481	2	
4	PHOTOCELL CHANNEL	429285	1	
3	PHOTOCELL HOLDER FRL, FLR	436362	1	
2	PHOTOCELL CHANNEL BRACKET FRL	429653	1	
1	PHOTOCELL	-	1	

No.	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
-----	-------------	-----------	----------	------	--------

REMARKS: FOR INSTA-THREAD CARRIAGE

REMARKS:

PHOTOCELL ASS'Y - 20",30" CARRIAGE (FRL)

 PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (450) 667-9769	DATE:	OCT-09-02	SCALE:	1 : 4
			MACHINE TYPE:	H,L
			DRAWING SIZE:	B
	ASSEMBLY DWG.:	-	JOB No.:	STD
			DRAWING No.:	436361M

APPENDIX