



# ORION

ANYTHING LESS IS A GAMBLE



**MODEL SW66-17**

**SERIAL # 2006-8899999**

2270 Industrial boul. , Montreal (Laval), Canada, H7S 1P9

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 **2006-8899999**

3)Subassembly ( see PART LIST )

**SAFETY:**

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

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

**ORION PACKAGING INC.**

# ORION PACKAGING SYSTEMS INC. SEMI-AUTOMATIC SPECIFICATIONS

## ORION SUITCASE WRAPPER MODEL SW66

Overall dimensions	32.56" W x 70.06" L x 49.56" H
Maximum load size	61" dia. x 28" H
Weight capacity	150 Lbs dynamic
Utilities	12 VDC Battery Operated with Fully Automatic Battery Charger
Turntable	6" x 19.5" Rectangular Ball Bearing Support Casters for portability
Turntable Drive	0-22 RPM Variable Turntable Speed Chain Drive with Tensioner Electronic Soft Start Positive Alignment Feature Direct Heavy Duty ANSI # 40 Chain & Sprocket Drive
Control Features	Allen Bradley Programmable Logic Control Friendly Controls with non-proprietary Pushbuttons and Switches Wrap Mode Selector
Film Delivery	30" Orion Power Prestretch Film Distributor Fully Authority Film Dancer Bar with Variable Speed Output Heavy Duty ANSI # 40 Chain & Sprocket Ratio Control Maximum Available Pre-Stretch Ratio of 305% (Standard Setting of 170%) DC Variable Speed Drive Motor
Structural Features	Rigid Steel Frame Steel Enclosure Easy Access to All Components Open Mechanical Design for Ease of Maintenance

Visit our Distributor Support Website at [www.support.orionpackaging.com](http://www.support.orionpackaging.com)

# MACHINE UNLOADING & INSPECTION

## UNLOADING & INSPECTION

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.

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. Check the turntable assembly to ensure that there is no crippling of the movable parts i.e. casters, center axle or drive assembly. Verify all the dials and knobs on the control panel for smooth action.

## MACHINE OPERATION

### Before Starting Machine Operation

Verify that the machine is properly connected to the electrical source. For this information, please see the machine electrical diagram provided with the machine operation manual. The control panel layout for the machine is shown on the drawing.

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

### POWER SWITCH

The key operated switch has 3 positions:

OFF - disconnects the power source  
PRGM - working position.  
RUN - working position

### E-STOP SWITCH

In case of emergency, the push-pull E-STOP button interrupts all the machine electrical circuits. To continue the cycle the E-STOP push button should be turned & pulled out.

### START SWITCH

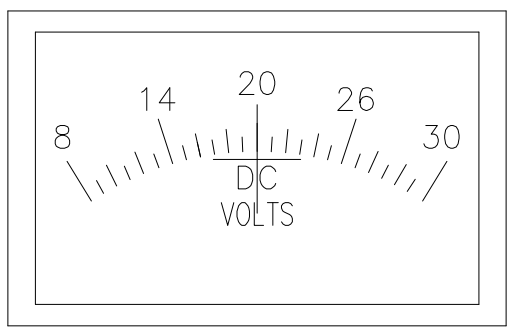
The START switch is used to start the cycle once the load is on the turntable. The green light indicates that machine is in operating process. Flashing light tells that machine is in pause for changing load position on the turntable stand. When it is done press START button again.

### 1,2,3,4 - WRAP PATTERN SELECTOR SWITCH

These are pre-programmed settings.

1. 5 wraps
2. 4 wraps, then pause (START button green light flashing) and 3 wraps.
3. 5 wraps, then pause (START button green light flashing) and 5 wraps
4. not used..

BATTERY

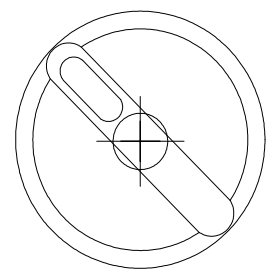


2

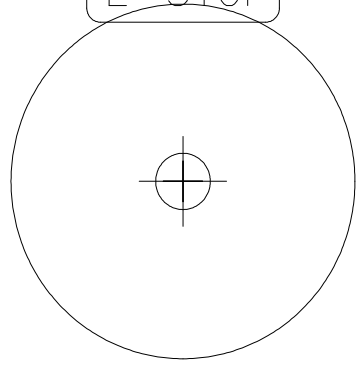
3

E-STOP

1



4

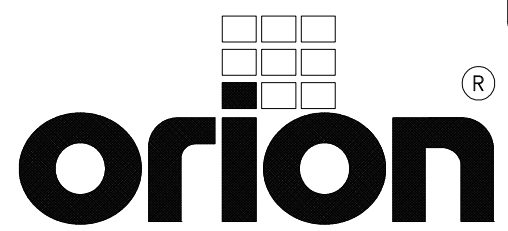
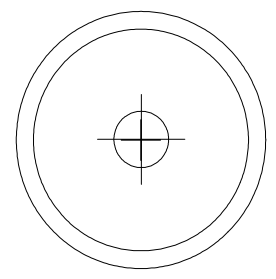
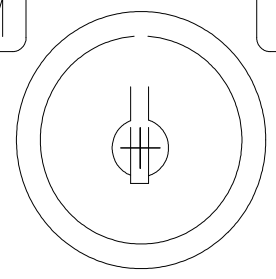


OFF

START

PRGM

RUN

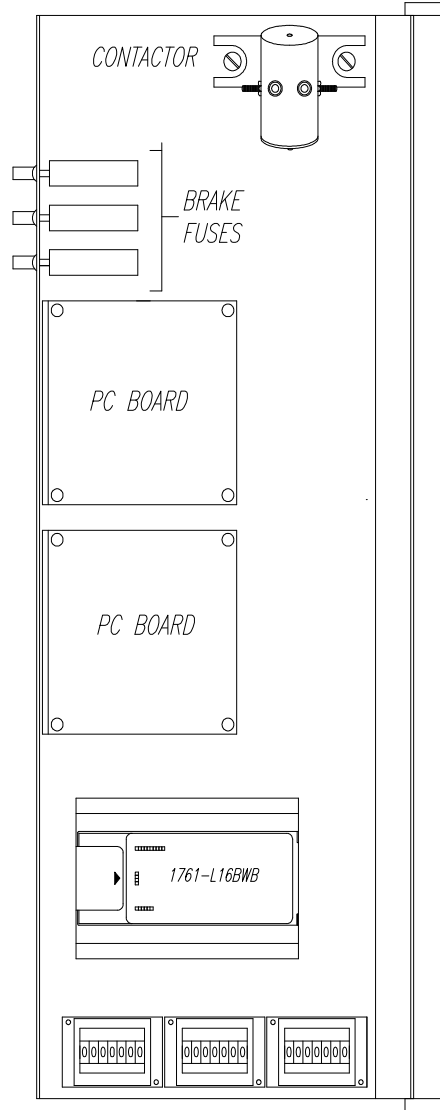
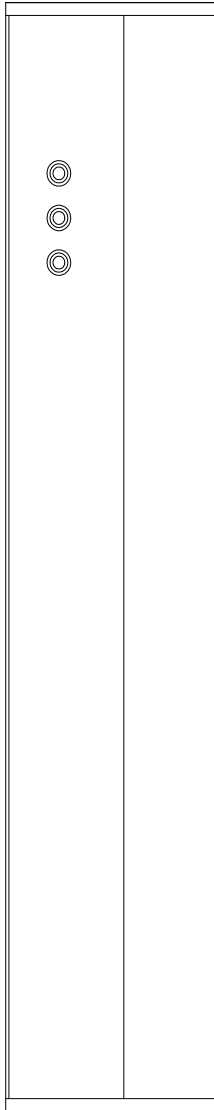


PACKAGING INC. MONTREAL, CANADA

SW66/12  
PN-500 062



<b>ORION PACKAGING INC.</b>			
2270 INDUSTRIEL BLVD LAVAL, QUE., CANADA H7S 1P9		SCALE:	1:1
TEL: (514) 667-9769	FAX: (514) 667-6320		
APPR. BY: J.B.S.	DRAWN BY: J. ALEXANDER		
TITLE: SUITCASE WRAPPER STICKER			
SIZE: B	DOCUMENT NO: PN-500 062	REV: 1	
DATE: OCT-12-1999	SHEET: 1 OF 1		
FILENAME: 500062-(CE).DC	BASE:		



**ORION PACKAGING INC.**

2270 INDUSTRIEL BLVD LAVAL, QUE., CANADA H7S 1P9  
 TEL: (514) 667-9769 FAX: (514) 667-6320  
 APPR. BY: J.B.S. DRAWN BY: J. ALEXANDER

SCALE: 1:2

TITLE: SW66-13 "STANDARD"

SIZE: C DOCUMENT NO: 301 956/L REV: 1  
 JOB # STD

DATE: OCT-12-1999 SHEET: 1 OF 1

FILENAME: SW66-STD(CE).DWG BASE:

## MACHINE WRAPPING TEST

Place the load (suitcase, box, etc.) on load support stand. Secure its position with load guides by lifting slightly up the pole and moving inward or outward and fixed on place by the pins underneath the horizontal arm. Put the key operated power switch in RUN position.

Turn the Pattern Selector Switch knob to select 1,2 or 3 wrapping pattern. Press START button to begin wrapping. In 2 and 3 wrapping modes wait for flashing green light on START button to rotate load on the support stand, then press START button again.

When finished, cut the film using the film cutter located on left side on the machine cover.

## LOADING THE FILM

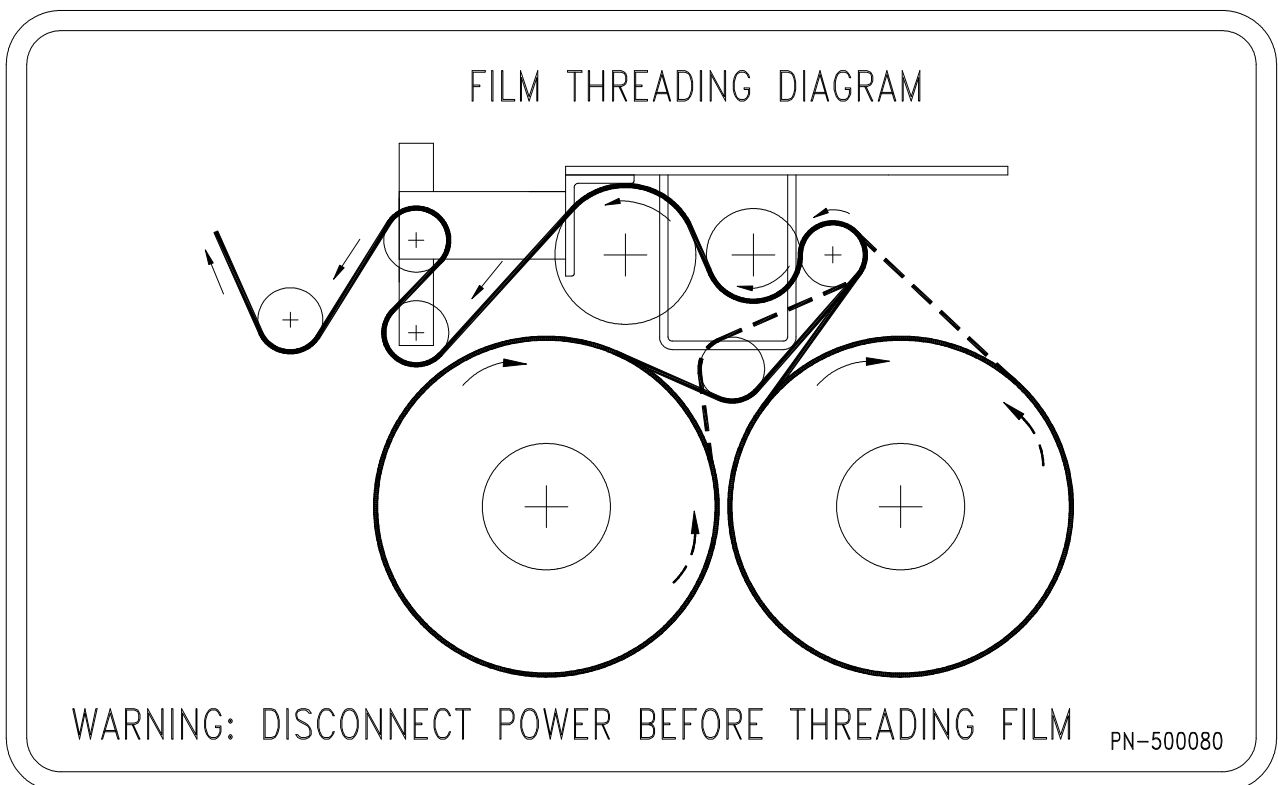
There are two film mandrels for one being used and the other at the ready without the need of switching places. The film roll can be loaded on the carriage mandrel from either end of the roll. When using tacky film, please verify that the inward tacky surface of the film is inward on the load.

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. Pass the roped tail of the film between the shafts of all rollers (as shown on the drawing) and pull to pass it around all the rollers (pressure roller and both rubber rollers & 3 aluminum rollers).
6. When the film feeding is completed - turn the power switch on
7. Peel off the first few winds of the film (multistretch will run due to displacement of the dancer roller) and fix the film end onto the load.

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

### FILM THREADING PATTERN

### SUITCASE WRAPPER MULTISTRETCH CARRIAGE, FRL



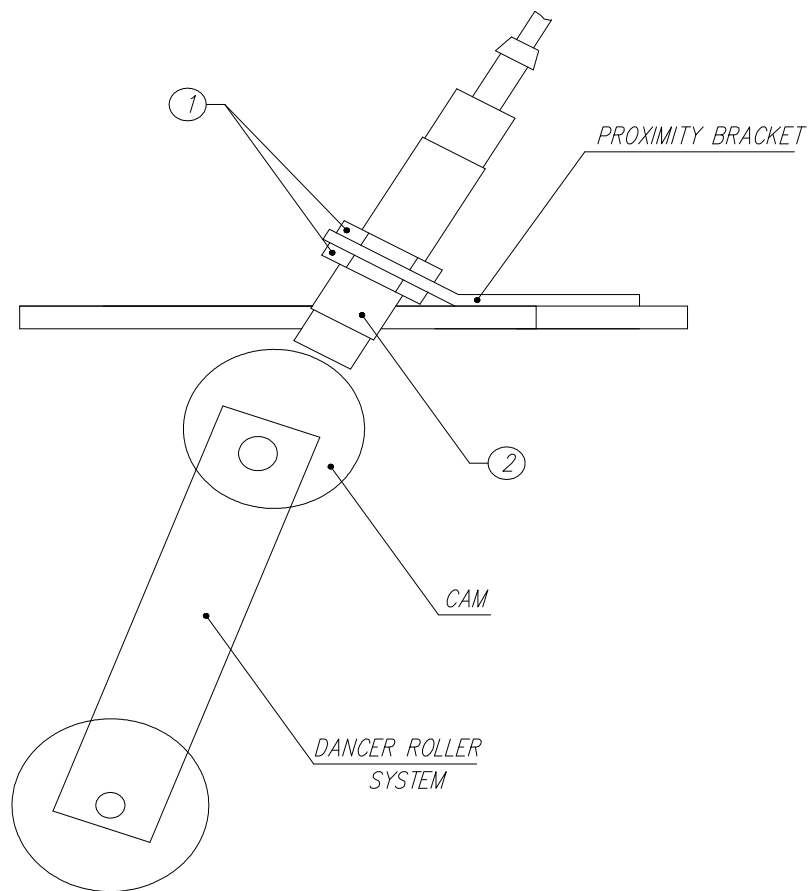


# PROXIMITY SENSOR ADJUSTMENT

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*

# 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 15 RPM of turntable. 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

## **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.

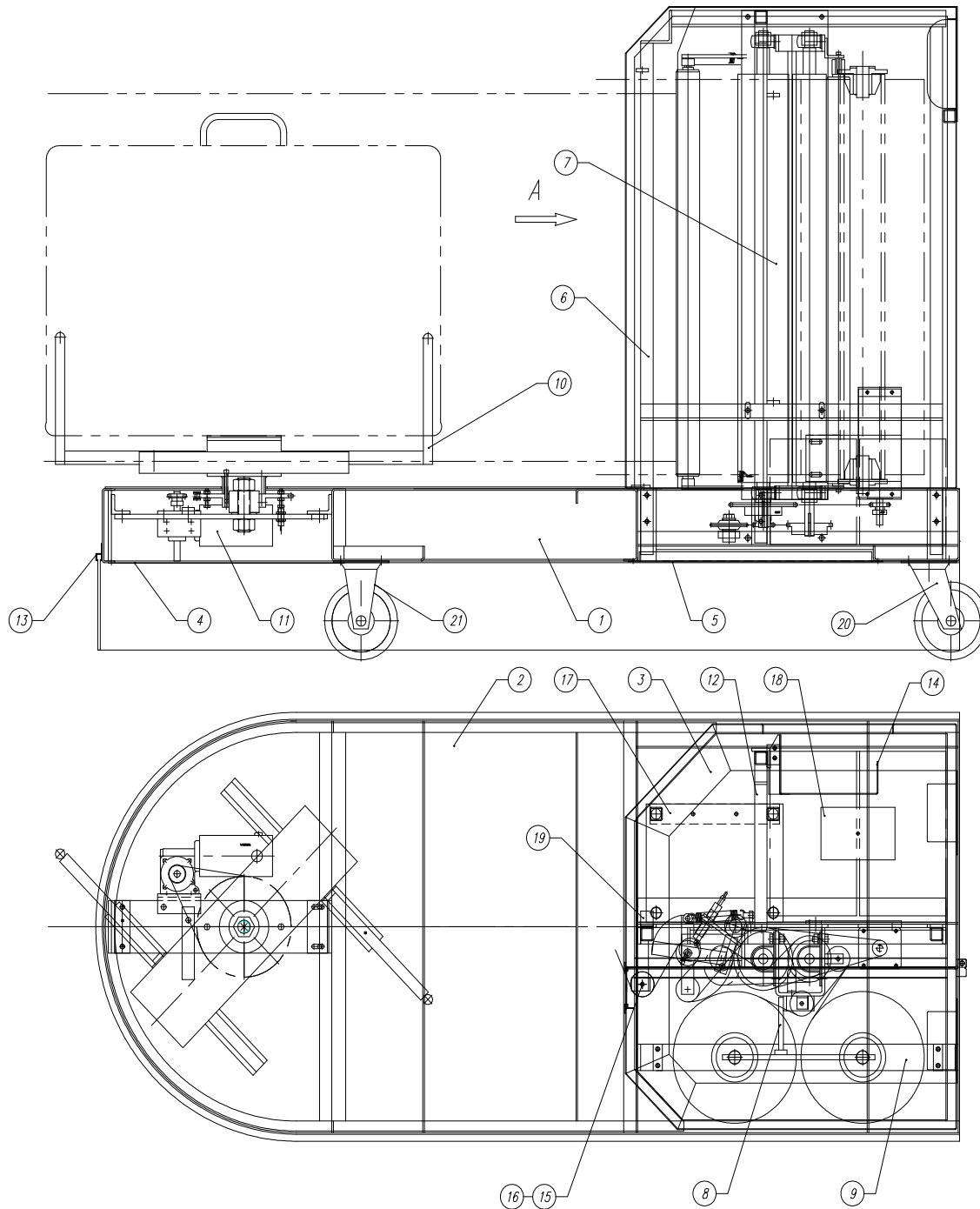
NOTICE: Chain tension first adjustment must be done after the first two weeks of machine usage.

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

**Note :**

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

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



21	FIXE CASTER - 6" DIA	013757	2	
20	SWIVEL CASTER - 6" DIA	013758	2	
19	CHARGER SECURE ANGLE	412952	1	
18	BATTERY SECURE PLATE	412951	1	
17	CHARGER BRACKET	412950	1	
16	IDLE ROLLER SHAFT	407120	1	
15	ALUMINIUM ROLLER	402875	1	
14	ELECTRIC PANEL	411221	1	
13	SURROUNDING BRUSH	411237	1	
12	ELECTRIC PANEL BRACKET	411922	1	
11	TURNTABLE DRIVE	410947	1	
10	SUITCASE SUPPORT ASSEMBLY	410949	1	
9	BOTTOM MANDREL	411918	1	
8	TOP MANDREL	411917	1	
7	FILM DISTRIBUTOR	411915	1	
6	FILM DISTRIBUTOR BRACKET	411914	1	
5	BOTOM (PRESTRETCH) COVER	411913	1	
4	TURNTABLE DRIVE GUARD	411912	1	
3	VERTICAL BOX	411909	1	
2	DECK	411908	1	
1	MAIN FRAME (WELDING)	411904	1	

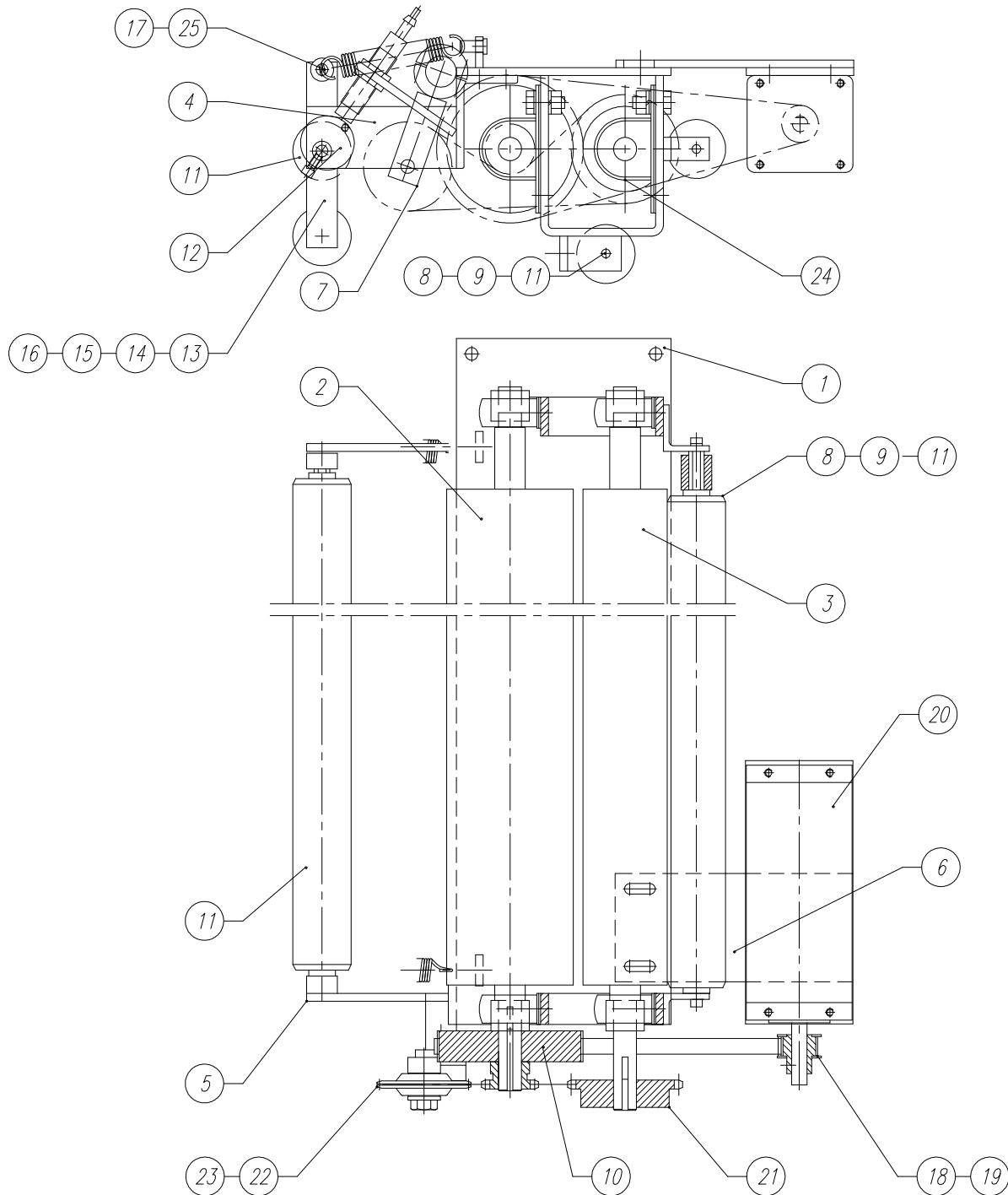
No.	WEIGHT	DESCRIPTION	DWG. SIZE	PART No.	Q'ty	WEIGHT
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REMARKS:

REMARKS:

### SW-66/10 SUITCASE WRAPPER

<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769</p>	DATE:	JUL-30-1995	SCALE:	1 : 6	
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SW66/10	
	CHECKED BY:		DRAWING SIZE:	C	
ASSEMBLY DWG.:	LAYOUT	JOB No.:	-	DRAWING No.:	412949M



25	CLEVIS PIN	401375	2	
24	PILLOW BLOCK	010427	4	
23	CHAIN	010583	1	
22	IDLE SPROCKET	011297	1	
21	SPROCKET	010968	1	
20	EL. MOTOR	013974	1	
19	TIMING BELT	014222	1	
18	PULLEY	014223	1	
17	DANCER ROLLER SPRING	403118	2	
16	DANCER LEVER SHAFT	402879	1	
15	DANCER ROLLER SHAFT	402878	1	
14	DANCER ROLLER LEVER (L.H. & R.H)	401358	2	
13	SNUB ROLLER SHAFT	402880	1	
12	PROXIMITY SENSOR CAM	230648	1	
11	ALUMINIUM ROLLER	402875	4	
10	SPROCKET-PULLEY ASS'Y	403494	1	
9	PRESSURE ROLLER SPACER	410476	2	
8	PRESSURE ROLLER SHAFT	410475	2	
7	CHAIN TENSIONER	410472	1	
6	MOTOR BRACKET	410471	1	
5	DANCER ROLLER BOTTOM BRACKET	410470	1	
4	DANCER ROLLER TOP BRACKET	410469	1	
3	ROLLER - 2	410468	1	
2	ROLLER - 1	410467	1	
1	BACK PLATE	411916	1	

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

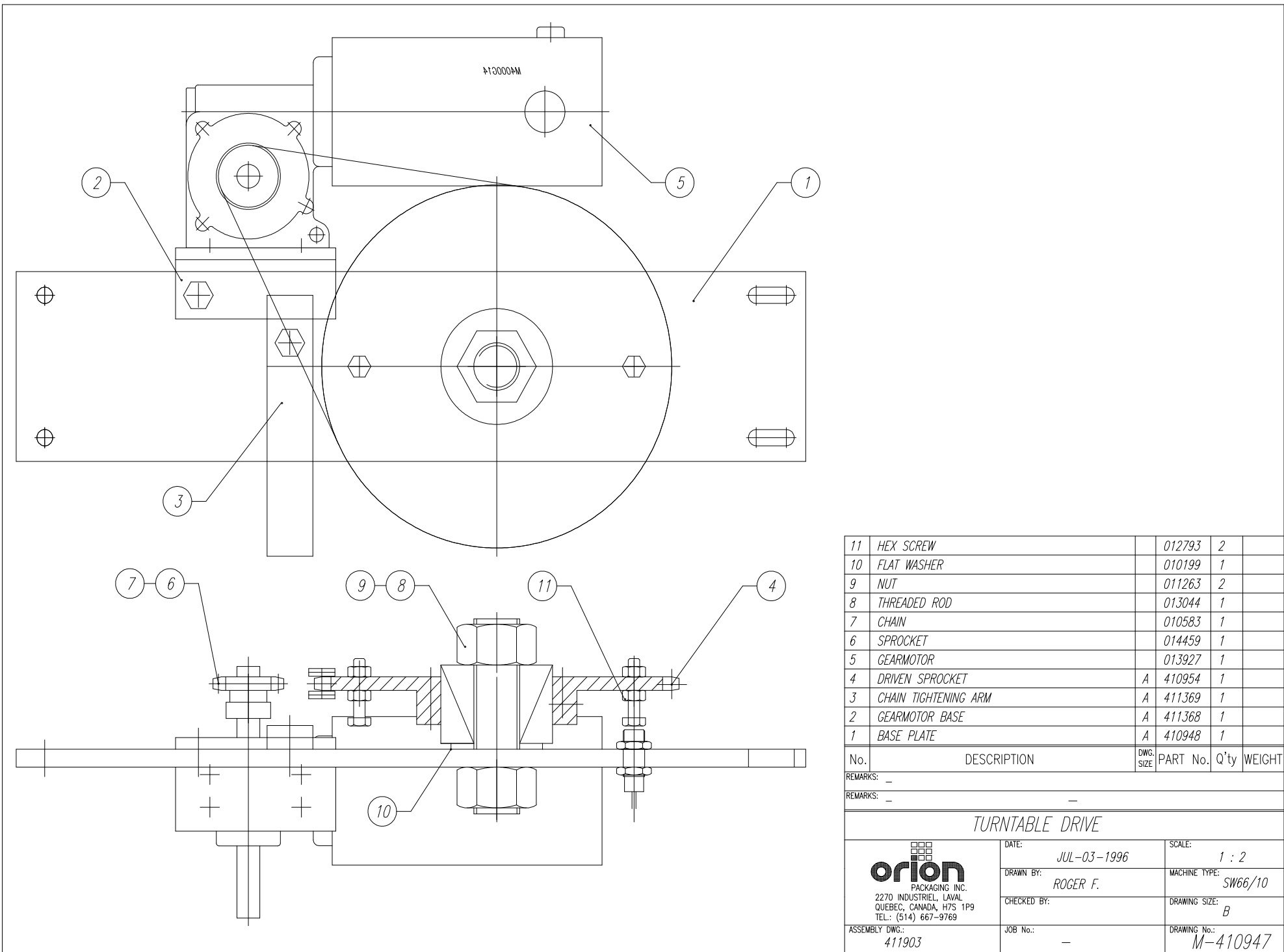
REMARKS:

### 30" FILM DISTRIBUTOR

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

DATE:	APR-28-1997	SCALE:	1 : 4
DRAWN BY:	ROGER F.	MACHINE TYPE:	SW66/10
CHECKED BY:		DRAWING SIZE:	B

ASSEMBLY DWG.:	411903	JOB No.:	STD	DRAWING No.:	411915M
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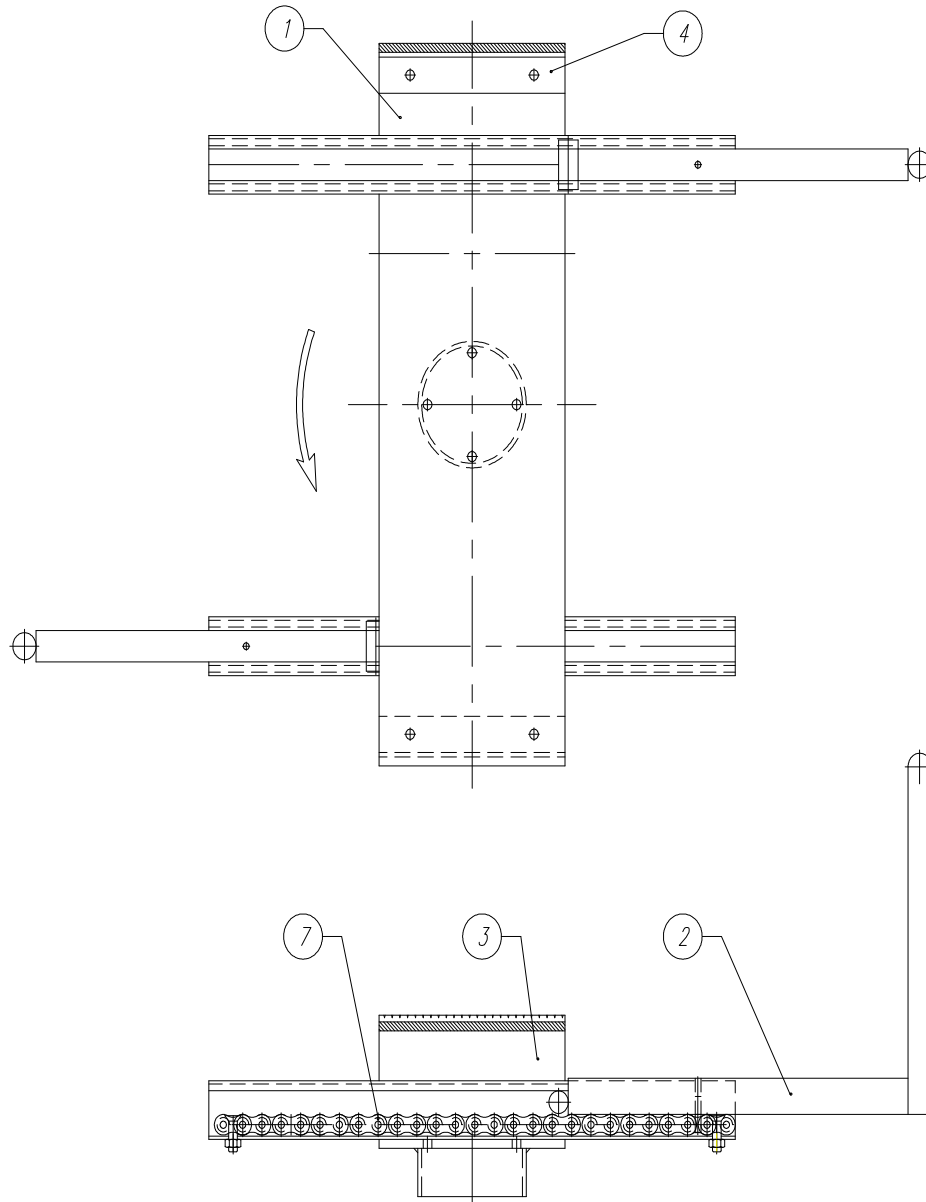
11	HEX SCREW		012793	2	
10	FLAT WASHER		010199	1	
9	NUT		011263	2	
8	THREADED ROD		013044	1	
7	CHAIN		010583	1	
6	SPROCKET		014459	1	
5	GEARMOTOR		013927	1	
4	DRIVEN SPROCKET	A	410954	1	
3	CHAIN TIGHTENING ARM	A	411369	1	
2	GEARMOTOR BASE	A	411368	1	
1	BASE PLATE	A	410948	1	

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

*TURNTABLE DRIVE*

<p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769</p>	DATE:	JUL-03-1996	SCALE:	1 : 2	
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SW66/10	
	CHECKED BY:		DRAWING SIZE:	B	
	ASSEMBLY DWG.:	411903	JOB No.:	-	DRAWING No.:



5	ROLLER CHAIN	010277	2	
4	JOIN ANGLE	410953	2	
3	LOAD SUPPORT	410952	1	
2	LOAD GUIDE	410951	2	
1	TURNTABLE	410950	1	

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

REMARKS:

### SUITCASE SUPPORT ASSEMBLY

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

DATE: JUL-03-1996

SCALE: 1 : 4

DRAWN BY: ROGER F.

MACHINE TYPE: SW66/10

CHECKED BY:

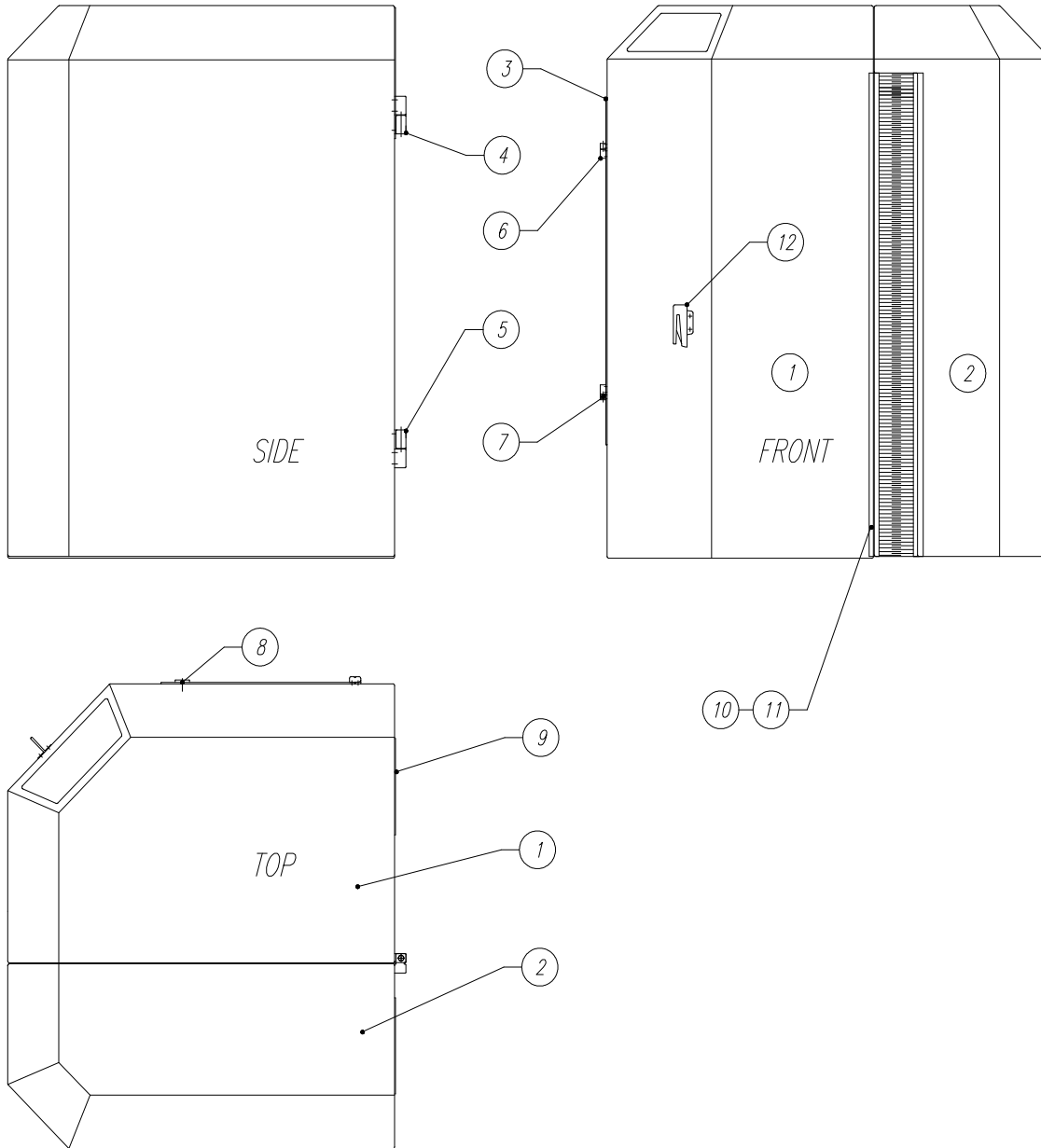
DRAWING SIZE: B

ASSEMBLY DWG.: 411903

JOB No.: -

DRAWING No.: 410949M






12	FILM CUTTER	014315	1	
11	BRUSH	-	2	
10	BRUSH HOLDER	-	2	
9	CABINET HANDLE	-	2	
8	LATCH	-	1	
7	HINGE	-	1	
6	HINGE	-	1	
5	HINGE	-	1	
4	HINGE	-	1	
3	ELECTRIC PANEL DOOR	411921	1	
2	SWING COVER	411911	1	
1	STATIONARY COVER	411910	1	

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

REMARKS:

### VERTICAL BOX

 <p>ORION PACKAGING INC. 2270 INDUSTRIEL, LAVAL QUEBEC, CANADA, H7S 1P9 TEL.: (514) 667-9769</p>	DATE:	OCT-10-1996	SCALE:	1 : 8
	DRAWN BY:	ROGER F.	MACHINE TYPE:	SW66/10
	CHECKED BY:		DRAWING SIZE:	B
ASSEMBLY DWG.:	JOB No.:		DRAWING No.:	411909M
412949	-			

# APPENDIX

# CALIBRATION AND SETUP GUIDE FOR ORION 860-9 24-VOLT SCR BOARD

## DESCRIPTION

ORION'S 860 boards are used primarily in our portable suitcase wrappers. This guide is designed for this application. Refer to Orion drawing # for use with this guide.

The 860 board is a dual application board. Depending on it's setup, it can be used for either the multistretch drive or the turntable drive. The 860 board is a 24 vdc SCR and **NEVER** should be used in a 120 vac application.

## LAYOUT

### JUMPER PINS

The heart of the board are the eight jumper pin pairs located on the front edge of the board. These jumpers determine if the board will be used for the turntable or multistretch. Each pin pair has either an **S** or a **T.T.** under it. Placing the supplied plastic jumpers on the **T.T.** pins sets the board for turntable operation and placing the jumpers on the **S** pins sets the board for multistretch.

### SPADE CONNECTIONS

The spade connectors are located on the outer edge of the board and are used to connect to other components in the machine.

1. *COM.* -24vdc negative input. (power supply)
2. *DC+.* -24vdc positive input. (power supply)
3. *A2*-----24vdc common hot output (has power as long as DC+ is energized)
4. *A1*-----24vdc switched hot output (power is switched internally)
5. "3"-----Board activation trigger (board will not operate if not powered)
6. "4"-----24vdc supply for pin 3 trigger (supplies power for pin 3 via external contacts)
7. *+12*—connection for Brown hall effect wire
8. *12 in*--connection for Black hall effect wire
9. *GND*- connection for Blue hall effect wire
10. *NOC*—Normally open contact pin for film break alarm relay
11. *C*-----Common hot in for film break alarm relay
12. *NCC*---Normally closed contact pin for film break alarm relay

### TRIMPOTS

There are two types of trimpots located on the board. Pots with a small, metal, slit and are mounted on the edge are *twenty* turn pots and allow for very precise adjustment. Pots that have a larger, plastic slit and are face mounted are  $\frac{3}{4}$  turn pots, and allow for standard adjustment.

1. *Gain*-----Master sensitivity for film payout. (Multistretch mode only)
2. *T.T. SP.*—Turntable speed adjustment. (Turntable mode only)
3. *TENSION / ZERO*- Internal bias adjustment. (Multistretch mode only)
4. *DROP OUT*- Current Sensing Relay threshold adjustment. (Film break sensor for Multistretch, Turntable fault for turntable)
5. *I / L*—Current limit adjustment. (For protection of both boards)

## SETUP INSTRUCTIONS

**Special Note....CHECK! supply voltage for 24 vdc. Low voltage will result in high amperage draw and could possibly damage certain electrical components.**

*To allow power to the boards during setup it will be necessary to tape a washer or other small piece of metal to the loading door magnetic switch. This will fool the machine into thinking the door is closed. Be sure to keep fingers, clothing etc. away from moving parts for safety's sake.*

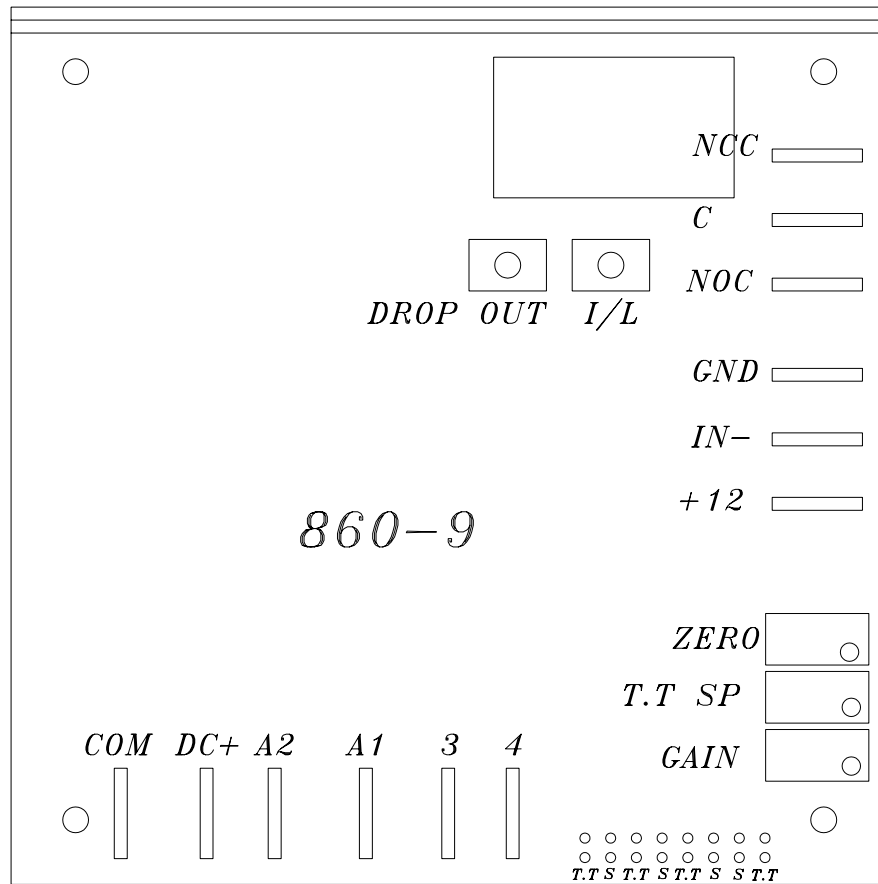
### **TURNTABLE SETUP:**

1. Place plastic jumpers on **T.T.** pin pairs only.
2. Check that wire connections are correct as indicated on your particular machine's schematic print. *Note: On the Multistretch board, rotate the "Drop Out" pot fully counterclockwise so that the film break alarm will not shut down the machine during the turntable setup.*
3. With the power "key" switch in the run position, verify power to the board between "COM" and "DC+" spade terminals, 24vdc is optimal.
4. With a small flat head screwdriver, rotate the "I/L" pot clockwise to it's physical stop.
5. With screwdriver, rotate "Drop Out" pot *counterclockwise* to it's physical stop.
6. With no load on the turntable, press the green "Start" button on the control panel. The turntable should be running at this time. The turntable will run only for a short time and then stop. This is part of it's counting program.
7. As the turntable is running, adjust the "T.T. SP" pot so the turntable is running at 12-16 RPM.
8. With the turntable running, rotate the "Drop Out" pot clockwise until the green start button begins to flash. Then rotate it *counterclockwise* about 10 degrees. This sets up the turntable NOT RUNNING alarm.
9. With 40-60lb load on the turntable, and the turntable running, rotate the "I/L" pot *counterclockwise* until the turntable begins to slow down. This sets up the CURRENT LIMIT alarm.

### **MULTISTRETCH SETUP**

1. Place plastic jumpers on the **S.** pin pairs only.
2. Check that wire connections are correct as indicated on your particular machine's schematic print.
3. With the power "key" switch in the run position, verify power to the board between "COM" and "DC+" spade terminals, 24vdc is optimal.
4. Rotate "Drop Out" pot *counterclockwise* to it's physical stop.
5. Rotate "I/L" pot clockwise to it's physical stop.
6. Rotate the "Tension / Zero" pot *counterclockwise* 20 turns, or until it clicks. Then rotate it clockwise five revolutions.
7. Press the green "Start" button—with the turntable running, adjust the "Gain" pot clockwise until the stretch rollers begin to turn. Adjust the "Gain" pot *counterclockwise* until the rollers stop turning. This sets up the Multistretch's initial sensitivity.
8. Place film roll on to the lower mandrel and close the top mandrel. Only 80 gauge film or lower. A higher gauge film will cause too much strain on the system.

9. Thread film through the rubber stretch rollers and dancer bar assembly.
10. Attach film to a load on the turntable.
11. Press the "Start" button and check that film is feeding smoothly. If the film is too tight, rotate the "Tension / Zero" pot *counterclockwise*. If the film is too loose rotate it clockwise.
12. As the machine is running, rotate "I/L" pot *counterclockwise* so that the film just barely begins to slow down. Then rotate it clockwise  $\frac{1}{2}$  turn. This sets the current limit for the multistretch.
13. Remove material from door switch and close door before running machine after setup.



*JUMPERS FOR SELECTION BETWEEN TURNTABLE OR MULTISTRETCH*

*DC+: 24VCD POSITIVE INPUT*

*COM: 24VDC NEG. INPUT*

*A2: DC OUTPUT*

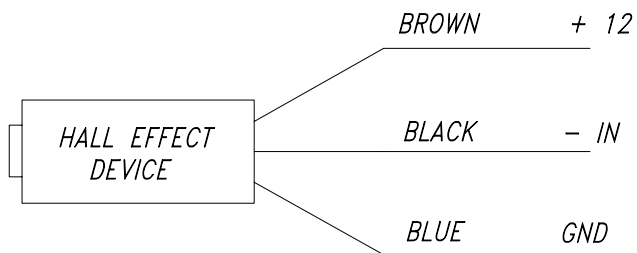
*A1: DC OUTPUT*

*3: INTERFACE OUTPUT*

*4: INTERFACE OUTPUT*

*GND, IN-, +12: HALL EFFECT CONNECTION*

*NOC, C, NCC: INTERFACE INPUT*



## *860-9 SINGLE SPEED 24VDC MOTOR CONTROL BOARD*