

ATTENTION:

VERY IMPORTANT

Before unloading and unpacking the machine, read section 5 of this manual for unloading and unpacking instructions.

Failure to do so may result in the forfeiture of the warranty.

ORION PACKAGING INC.

NOTICE

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

- 1) Serial Number
- 2) Model Number
- 3) Subassembly-Part Location

h555

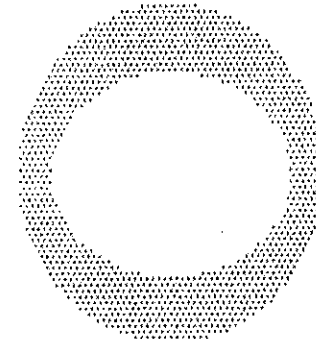
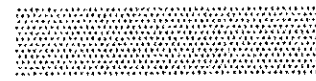
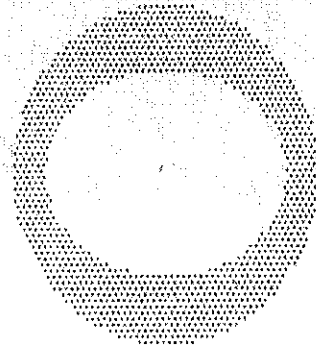
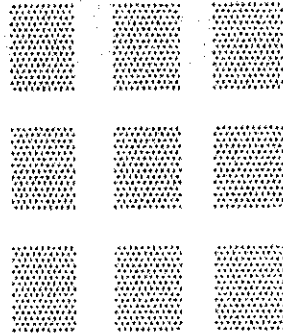
OWNER'S
MANUAL

Orion Packaging Inc.
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Tel.: 514-937-6642

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ORION PACKAGING SYSTEMS, INC.
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ORION MODEL H-55

Spiral Semi-Automatic Heavy Duty High Profile

Maximum Load Size	55"W x 55"L x 80"H (Recommended) 60"W x 60"L x 84"H (Theoretical)*
Weight Capacity	6,000 lbs. dynamic, 20,000 lbs. static
Utilities	115/1/60 20 Amp Electrical Service
Turntable	52" x 52" Formed 3/8" Steel Plate 4 Support Casters 6" x 2-1/2" Steel Precision Tapered Caster Bearings 13-1/2" Height to Top of Turntable
Turntable Drive	0-12 RPM Variable Turntable Speed 1/2 HP DC Drive Motor #50 Roller Chain Drive with Tensioner Electronic Soft Start Positive Alignment Feature
Control Features	Electronic Film Force Control Separate Top and Bottom Wrap Selectors Variable Speed Film Carriage Control Auto-Height Photocell w/On/Off Switch Film Carriage Raise/Lower Switch Turntable Jog Pushbutton Spiral Up or Up/Down Cycles Current Overload Protection NEMA 12 Electrical Enclosure
Film Delivery	20" Orion MultiStretch Power Prestretch Electronic Film Tension Control End of Cycle Film Force Release Full Authority Film Dancer Bar Timing Gear/Belt Stretch Ratio Control 1/2 HP DC/SCR Film Drive
Film Carriage Drive	#50 Roller Chain Carriage Lift 1/2 HP Elevator Drive Motor Variable Speed SCR Control Structural "H" Channel Guidance Precision Cam Follower Tracking
Structural Features	Heavy Structural Steel Tubing Design Forklift Portable Base Design Film Roping Bar 8" x 31 lb./ft. "H" Channel Mast
Est. Shipping Weight	1,800 lbs.

*Theoretical is based upon removal of roping bar, and reflects maximum film web height attainable

ADDITIONAL FEATURES:

ORION PACKAGING INC.
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SEMI-AUTOMATIC MACHINE OPTIONS

PNEUMATIC TOP PLATENS

36" circular platen with 24" stroke.....
36" circular platen with 36" stroke.....

48" x 48" square platen with homing.....
device, and 36" stroke
48" x 48" square platen with homing.....
device, and 48" stroke

TRANSFORMER

To accept 430/60 or 575/60.....
For each additional conveyor section.....

DUAL TURNTABLE OPTION

L66.....
H66.....
L55/44.....
H55/44.....
L55S/44S.....

NOTE: Dual Turntable options includes second
turntable with all drive components &
controls, second auto-height photocell,
and table selector switch.

NOTE: When a ring gear/pinion gear turntable
drive is required, the cost of 2 ring
gear options must be added to the dual
turntable option price.

RING GEAR/PINION GEAR TURNTABLE DRIVE

H66....(20" DIA.).....
H55....(25" DIA.).....
H44....(33" DIA.).....

Central lubrication point for ring gear.....

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SEMI-AUTOMATIC MACHINE OPTIONS

PROGRAMMABLE LOGIC CONTROLLER OPTIONS

66/55 Series - Allen Bradley SLC-100.....
44 Series - Allen Bradley SLC-150.....
EEPROM ordered with machine.....
EEPROM ordered after shipping of the machine.....

CYCLE COUNTER (inside control panel).....

TURNTABLE OPTIONS

0-12 RPM Variable Speed Turntable Drive for.....
L/H 77 Models
0-12 RPM Variable Speed Turntable Drive with.....
Positive Alignment Feature for L/H 77 Models
10,000 lb Capacity (H55/44).....
8,000 lb Capacity (L55/44).....
10,000 lb Capacity (L55/44).....
Anti-Skid Surface.....
72" dia. round, 3/8" with 4" skirt (H55/44).....
72" dia. round, 1/2" (L44/44S, L55/55S).....
72" dia. round, 1/2" (L66).....
72" dia. round, 3/8" (L66).....
60" dia. round, 1/2" (L66/55/44).....
Reinforced Concentric Rings.....
Remote Pull Switch.....
Filler Plate (H77/66).....
Filler Plate (H55/44).....

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SEMI-AUTOMATIC MACHINE OPTIONS

COLD TEMPERATURE OPTIONS (-20 F)

Heated Control Enclosure, Silicon Rubber Wiring.....
and Special Lubricant in Reducers

CONVEYOR OPTIONS

IDLER ROLLER (NON-DRIVEN)

72" Dia. idler roller turntable for H66/55/44.....
(On H-66, requires ring gear option and
max. wt. 2,500 lbs) Rollers are 3.5" Dia.
on 4.5" centers, with manual brake.

72" Dia. idler roller turntable for L55S/44S.....
Rollers are 3.5" Dia. on 4.5" centers, with
manual brake.

Pneumatic Roller Brake for "L" Series.....

Pneumatic Roller Brake for "H" Series.....

5' Length CONTOURED Idler Roller Conveyor,.....
3.5" Dia. Rollers on 4.5" Centers, 50" Wide
Roller Face.

5' Length STRAIGHT Idler Roller Conveyor,.....
3.5" dia. rollers on 4.5" centers,
50" wide roller face.

POWERED ROLLER

55 STYLE (Powered Roller Turntable)

76" Dia. powered roller TURNTABLE, Rollers.....
rollers 3.5" dia. on 4.5" centers, all full
length driven. Includes 1/2 hp AC drive,
adjustable speed. Wall tubing 1/8"
(H55/44 only - requires ring gear option)

SEMI-AUTOMATIC MACHINE OPTIONS

44 STYLE (Powered Roller Turntable)

76" Dia. Powered Roller TURNTABLE, Rollers.....
3.5" Dia. on 4.5" Centers, All Full Length
Driven. Includes 1/2 hp DC Drive, Adjust-
able Speed. Wall Tubing 3/16", Cast Iron
Pillow Blocks. (NOTE: H55/44 only, requires
RING GEAR OPTION)

55 STYLE (CONTOURED Powered Roller Conveyor)

5' Length CONTOURED Powered Roller Conveyor,.....
3.5" Dia. Rollers on 4.5" Centers, 50"
Effective Width, All Full Length Rollers
Driven. Includes 1/2 hp AC Drive, Non-
Reversing. Wall tubing 1/8"

44 STYLE (CONTOURED Powered Roller Conveyor)

5' Length CONTOURED Powered Roller Conveyor,.....
3.5" Dia. Rollers on 4.5" Centers, 52"
Effective Width, All Full Length Rollers
Driven, Cast Iron Pillow Blocks.
Includes 1/2 hp DC Drive, Variable
Speed, with Soft Start.

Automatic Sequencing, Logic and Photocell.....
For Powered Conveyor (Per Section) - Includes
Photocell PLC Input and Output/Program.

Turntable Mechanical Home Position Lock.....
(Pneumatic, Positive Lock)

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SEMI-AUTOMATIC MACHINE OPTIONS

FILM CARRIAGE OPTIONS

- Double #60 Chain Carriage Lift.....
- 20" Multistretch Retrofit Carriage.....
(For Installation on Existing Machines)
- 30" Multistretch Retrofit Carriage.....
(For Installation on Existing Machines)
- 30" Multistretch Carriage Upgrade from 20".....
on H66/55/44 and L66/55/66.
- 30" Multistretch Carriage Upgrade from 20".....
on M66/55/44.
- 30" Econostretch Carriage Upgrade on 77
Series from 20".

ELECTRONIC SCALE PACKAGE OPTION

Includes Heavy Duty Load Cells Incorporated.....
into the Machine or Conveyor Frame, Protected
from Lateral Shock, and a Digital Display of
Load Weight, with RS-232C Port, Gross, Net
Tare, Zero.

NOTE: On L-77 and L-66 models, scale option
reduces machine capacity to 2500 lbs.,
unless base reinforcement option is
ordered.

Base Reinforcement on L-77 or L-66 models,.....
when 4000 lbs capacity is desired with
scale package.

10092	Knob	3
10093	Reducer	1
10095	Elevator motor (1/2 hp, 1750 rpm)	1
10123	Limit switch	3
10288	1/4-20 UNC x 1/2 SHCS	2
10289	Limit switch screw	6
10290	Channel screw (1/4-20 UNC x 1/2 SHCS)	2
10291	Transmission screw (3/8-16 UNC x 1 Hex bolt)	4
10292	Chain tensioner pin	2
10293	3/8-16 UNC x 3/4 Hex bolt	2
10294	Cover screw (1/4-20 UNC x 1/2 SHCS)	3
10295	3/16 inch square key	1

4.1 Tower Parts List

The exploded assembly drawing of the Standard Tower is shown on drawing number 200 99. Table 1 has the parts listed in order of part number. Note: the names given to the parts are generic.

TABLE 1

Tower Parts List

Part Number	Description	Quantity
10008	Idler sprocket	1
10009	#50 chain	1
10010	Cam follower (1 3/8 inch O.D.)	6
10018	Left carriage holder	1
10019	Right carriage holder	1
10063	Tower	1
10067	Cam follower (1/2 inch O.D.)	4
10069	Chain tensioner	1
10070	Chain tensioning screw	2
10071	Limit switch actuator	1
10074	Drive sprocket	1
10076	Limit switch channel	1
10081	Chain cover	1
10087	Limit switch bracket	3
10091	Channel guide	3

4.2 CARRIAGE PARTS LIST

The exploded assembly drawing of the Standard carriage is shown on drawing number 200 100. Table 2 has the parts listed in order of part number. Note: the names given to the parts are generic.

TABLE 2

Carriage Parts List

Part Number	Description	Quantity
10010	Cam follower (1 3/8 inch O.D.)	1
10015	20" Carriage frame	1
10016	30" Carriage frame	1
10017	Roller bracket	1
10020	Multistretch mechanism cover	1
10021	Spacer	1
10022	Belt tensioner	1
10023	30" Pressure roller	1
10024	20" Pressure roller	1
10026	30" Center dancer roller	1
10027	30" Roller	1
10030	Top dancer lever	1
10031	Bottom dancer lever	1
10033	20" Center dancer roller	1
10034	20" Roller	1
10037	30" x 3" dia. rubber roller	1
10038	30" x 4" dia. rubber roller	1
10039	20" x 3" dia. rubber roller	1

10040	20" x 4" dia. rubber roller	1
10042	3/4" flanged bearing unit	2
10043	1" Fillow block	1
10044	Prestretch driver pulley	1
10045	Potentiometer coupling	1
10046	Potentiometer bracket	1
10047	Film tension spring	2
10048	Spring adjustment screw	2
10049	Brake pad	2
10050	Film spool mandrel	1
10051	Top mandrel	1
10052	1" Collar	6
10054	Bottom mandrel	1
10058	Bronze bushing	2
10061	Prestretch transmission (5:1 worm & gear)	1
10068	Cover bracket	2
10091	Channel guide	1
10092	Knob	1
10118	Photoswitch	1
10121	Channel bracket	1
10122	30" Channel	1
10133	Prestretch driven pulley	1
10146	Timing belt	1
10155	20" Channel	1
10156	Photoswitch bracket	1
10157	3/4 inch pillow block	1
10227	3/16 inch square key	1



10296	Channel screw	2
10297	3/16 inch square key	1
10298	3/8-16 UNC x 1 long hex bolt	2
10299	Multistretch cover screw	3
10300	3/8-16 UNC x 2 long SHCS	1
10301	5/16-18 UNC x 2 1/2 long Hex bolt	4
10302	8-32 UNC x 1/2 long BHCS	8
10303	Bumper	2
10304	10-24 UNC x 3/4 long SHCS	2
10305	5/16-18 UNC x 3/4 long SHCS	2
10306	1/4-20 UNC x 3/4 long CHCS	2
10307	Feedback potentiometer	1
10308	10-24 UNC x 1/2 long SHCS	2
10309	1/4" square key	1
10310	10-24 UNC x 1 long SHCS	2
10368	3/8-16 UNC x 1 long hex bolt	4
10425	3/4" collar	1
30095	Prestretch motor (1/2 hp, 1750 rpm)	1



10220	Turntable	1
10221	Driver sprocket (H44)	1
10222	Driver sprocket (H55)	1
10225	Drive console	1
10311	1/2-13 UNC x 1 long hex bolt	4
10312	3/8-16 UNC x 1 1/2 long hex bolt	4
10313	3/8-16 UNC x 1 long hex bolt	4
10314	Roping bar	1
10315	3/8-16 UNC x 1 long hex bolt	2
10316	5/16-18 UNC x 1 long hex bolt	6
10317	Cotter pin	4
10318	5/16-18 UNC x 1 long hex bolt	4
10319	3/8-16 UNC x 1 1/2 long SHCS	4
10320	Roping bar stand	2

4.3 Base And Turntable Parts List

The exploded assembly drawing of the Standard, High Profile base is shown on drawing number 200 101. Table 3 has the parts listed in order of part number. Note: the names given to the parts are generic.

TABLE 3
Base And Turntable Parts List

Part Number	Description	Quantity
10006	Turntable sprocket	1
10007	Center bearing unit	1
10009	#50 chain	1
10032	3/4 hp DC motor (H44)	1
10035	Reducer	1
10036	1/2 hp DC motor (H55)	1
10091	Channel guide	1
10092	Knob	1
10116	Proximity switch	1
10196	Tapered roller bearing	8
10197	Caster	4
10198	Caster shaft	4
10199	Caster washer	12
10200	Caster shaft nut	4
10201	Channel stand	1
10202	Proximity switch channel	1
10203	Proximity switch bracket	1
10219	Base	1

5. MACHINE INSPECTION AND INSTALLATION

5.1 Inspection Upon Arrival

CAUTION: When unloading the stretchwrapper, care must be taken not to lift it by the turntable. The forks of the forklift should be inserted in the 10 x 4 structural tube steel members in the base to lift the machine.

Before inspection, all packing and restraining blocks must be removed; these may include the blocks under the carriage and the restraining bar over the table.

CAUTION: When cutting the stretchwrap material covering the machine, care must be taken not to cut any of the electrical lines.

A visual inspection of all the electrical connections should be performed after unpacking the machine to check for loosened joints or broken connections. Any suspected shipping damage must be reported immediately to the freight carrier.

Items that are vulnerable to damage and must be inspected are the motor and transmission housings and connections under the turntable, at the base of the tower, and on the carriage. Also vulnerable are the roping bar and roping bar stands, and the photocell on the carriage.

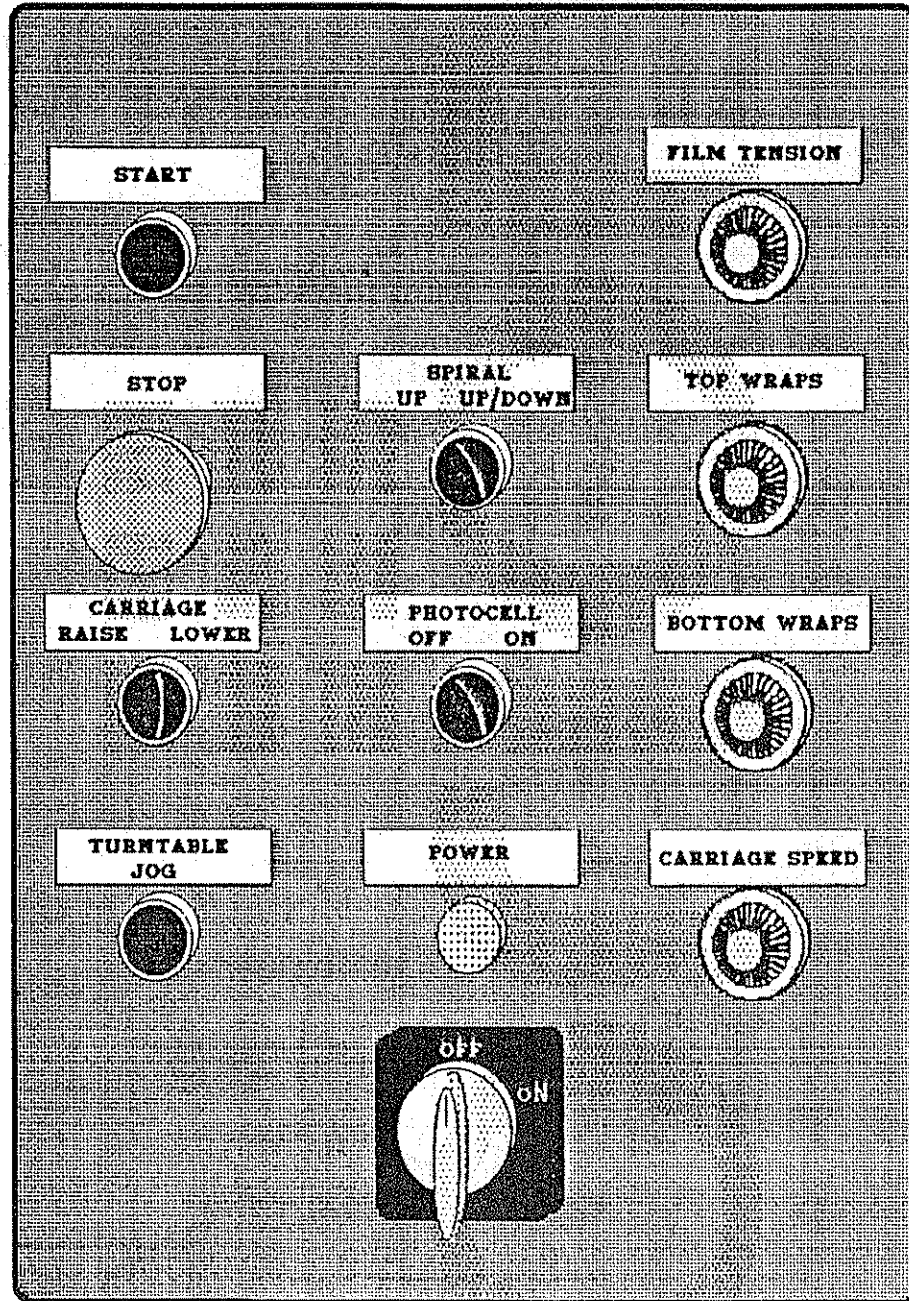
5.2 Machine Installation

After the visual inspection has been performed, the customer is required to provide the electrical power requirements as outlined in the specifications (sections 1, 2, and 3 of this manual).

An electrical diagram is provided in the panel box. Only a qualified electrical technician or an Orion representative should effect any repairs on the machines.

6

MACHINE CONTROLS



6.1 Power Switch

The Power Switch has two settings,

ON - Connects a 115 VAC power source to the machine,

OFF - Disconnects the power source.

Turning the power switch on causes the POWER light to turn on.

6.2 Start And Stop Switches

The Start switch is used to start the cycle once the load is on the turntable. At this point the cycle may be stopped at any time by pressing the Stop button.

NOTE: if the Stop button is pressed in the middle of the cycle, the carriage and turntable can be returned back to their home positions by using the jog buttons.

6.3 Spiral Wrap Switch

The Spiral Wrap switch has two positions,

UP - In the UP position the cycle will end after completing the specified number of top wraps, therefore, the machine will only wrap the load once, going up.

UP/DOWN - In the UP/DOWN position the cycle is complete after the load is wrapped in both the up and down directions.

6.4 Table Jog Switch

The table jog switch is a pushbutton switch that turns the turntable in a clockwise direction (as viewed from the top) when held depressed.

The turntable jog switch is inoperative during the wrap cycle.

6.5 Carriage Control Switch

The Carriage Control switch is a monostable three position switch with the following settings,

RAISE - Raises the carriage until the top limit switch on the tower is activated or until the photoswitch senses that the top of the load has been reached.

LOWER - Lowers the carriage until the bottom limit switch on the tower is activated.

The switch is normally in the middle position where the carriage remains stationary. Turning the switch to the RAISE or LOWER position will activate the carriage to move in its respective direction.

6.6 Photocell Switch

The Photocell switch has two settings,

ON - When turned ON, the photocell senses whether or not the carriage has reached the top of the load. The carriage will stop and begin the top wraps sequence once the top of the load is reached. The carriage will always stop at the top of the load regardless of its height. The photocell's position on the track can be adjusted in order to make the carriage pass the top of the load and overlap the top.

OFF - When turned OFF, the photocell is inoperative and the carriage will stop only once the top limit switch has been activated.

CYCLE CONTROLS

7.1 Film Tension

The film tension may be adjusted through the film tension control potentiometer. The pot has a range of tension from 0 to 10, 10 being the highest tension rating. This pot may be adjusted during the cycle.

CAUTION: Light loads may require lower tension settings than heavier loads.

The film tension is controlled through the dancer bar system. Occasionally the feedback potentiometer may need some adjustment. The adjustment of the feedback potentiometer can be performed while there is no film on the carriage. The bottom screw on the potentiometer coupling must first be loosened. Once the screw is loosened the potentiometer shaft must be turned until the presetch motor just begins to hum but does not rotate, at which point the screw can be tightened. NOTE: the condition in which the motor hums but doesn't turn must be maintained even after the screw is tightened. If not, the adjustment procedure must be repeated.

7.2 Carriage Speed

There are two carriage speed controls on the panel,

CARRIAGE SPEED UP,
CARRIAGE SPEED DOWN.

The carriage speed controls can be used to control the amount of overlap the film will have on itself during a wrap. It is recommended to start with a RAPID upward wrap in order to stabilize the load early in the cycle.

The control potentiometers have settings from 0 to 10, the higher settings being the fastest. High settings will mean less film overlap because of faster carriage speed, and low settings will mean more film overlap because of lower carriage speeds.

7.3 Top And Bottom Wraps

There are two multi-position switches which control the number of wraps that may be put at the top and bottom of the load. Each switch is numbered from 0 to 10, but the effective range is only from 1 to 6, corresponding to the number of wraps which may be applied at the top or bottom of a load.

The top and bottom wrap switches may be set before the cycle begins.

7.4 Turntable Speed Adjustments

The turntable speed may be changed by adjusting the controls on the 750 or 850 board inside the panel. The controls on the board regulate the steady-state speed, the jog speed, and the acceleration and deceleration of the turntable. The controls are labeled on the board and listed below:

ZERO - The zero adjustment controls the deadband voltage for the turntable motor; it should be adjusted so that the motor just begins to hum but does not turn.

PRESET 1 - The preset 1 controls the wrapping speed of the turntable.

PRESET 2 - The preset 2 controls the jog speed of the turntable.

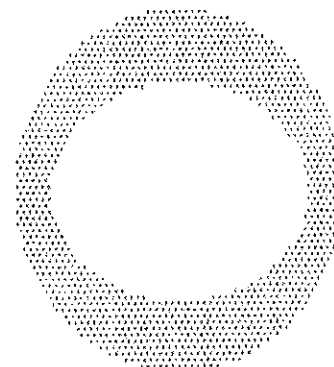
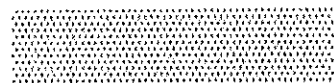
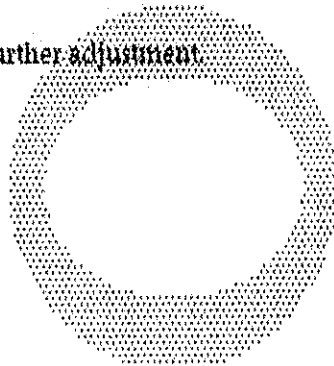
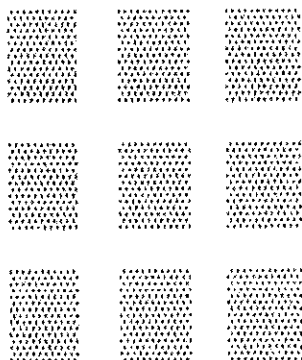
DN - The DN adjustment regulates the rate of deceleration of the turntable for when it reaches the end

of the cycle.

UP - The UP adjustment regulates the rate of acceleration of the turntable for the beginning of the cycle.

IRC - The IRC needs only adjustment if there is a very large range of load weight; for most applications it will not need to be adjusted but if adjustment is necessary, contact your Orion representative.

CL - The CL is factory set and needs no further adjustment.



8.

MACHINE MAINTENANCE

8.1 Speed Reducer Maintenance

On the reducing transmission, after the first week, all external cap screws and plugs should be checked for tightness. It is recommended to change the oil every six months or every 2500 hours of operation, whichever comes first. When adding oil the transmission should never be filled above the oil level mark indicated because leakage and overheating may occur. Below is a list of the type of lubricant that should be used.

Manufacturer	Lubricant
American Oil Co.	American Cyl. Oil No. 196-L
Cities Service Oil Co.	Citgo Cyl. Oil 180-5
Gulf Oil Corp.	Gulf Senate 155
Mobile Oil Corp.	Mobil 600 W Super Cyl. Oil
Phillips Oil Co.	Andes S 180
Texaco Inc.	624-650T Cyl. Oil
Shell Oil Co.	Valvata Oil J82
Union Oil Of Cal.	Red Line Worm Gear Lube 140

Reducing transmissions are found under the turntable, on the carriage, and at the base of the tower.

8.2 Motor Maintenance

An occasional inspection of the brushes should be made in order to establish a wear rate. Replace-

ment 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 round, a competent motor shop should disassemble the motor 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.

8.3 Chain Maintenance

To clean and relubricate chains, wipe them with an oily cloth every month. If the environment is very dusty or damp, it may be necessary to clean and relubricate the chains more often.

With time the chains will tend to stretch. A loose elevator chain should be tightened at the chain tensioner as shown on drawing number 200 192. A loose turntable drive chain should be tightened at the drive console as shown on drawing number 200 97.

8.4 Cam Follower Maintenance

The cam followers behind the carriage, on the tower, have deep grease pockets and do not need frequent relubrication.

The portion of the tower on which the cam followers roll 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.

8.5 Caster Maintenance

The casters underneath the carriage must be relubricated every 200 hours of operation by injecting grease in the nipples and regreasing the surfaces of the casters. If the machine operates in a dusty or corrosive environment the tower should be regreased more often.

8.6 Ring Gear Maintenance

If the stretchwrapper has the optional ring gear turntable drive and support system, this maintenance routine must be performed.

The ring gear is located under the turntable and should be lubricated at fixed intervals. This should be carried out by injecting grease into all the lubrication nipples in succession until a collar of fresh grease appears around the perimeter of both sealing rings. The bearing should be rotated slowly during lubrication.

The relubrication interval depends on the operating conditions. For bearings exposed to an aggressive environment, relubrication should occur every 50 operating hours. Normally, relubrication should occur every 100 to 200 hours of operation. The gear teeth should also be relubricated. Lubricants of different manufacture recommended for the ring gear are shown below.

Manufacturer	Raceway Grease	Gearteeth Oil
BP	Energrease LS 2	Energol WRL
Castrol	Sphereol AP 2	Grippa 33 S
ESSO	Beacon 2	Surret Fluid 30
Gulf	Crown Grease No. 2	Lubcote No. 2
Mobil	Mobilux 2	Mobiltac E
SHELL	Alvania Grease R 2	Cardium Compound C/Fluid C



Texaco

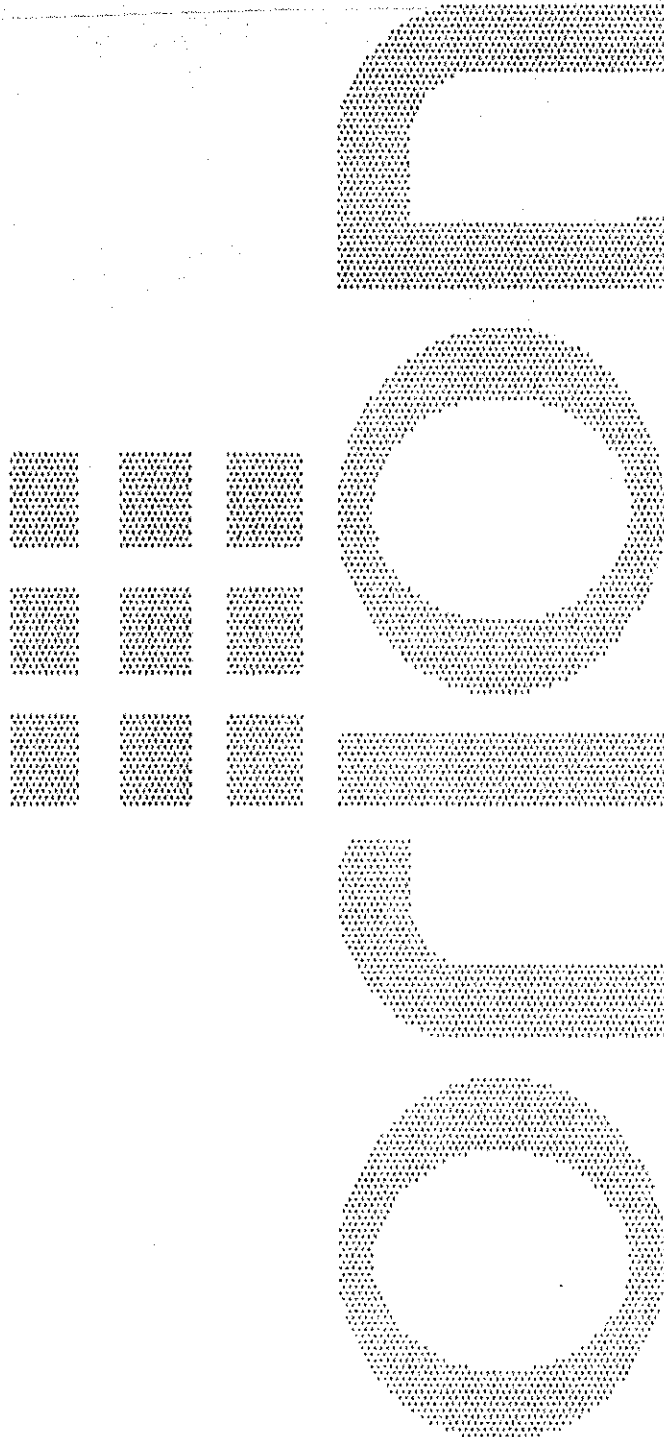
Glissando FT 2

Crater 2 X Fluid

Valvoline

LB-2

FGC



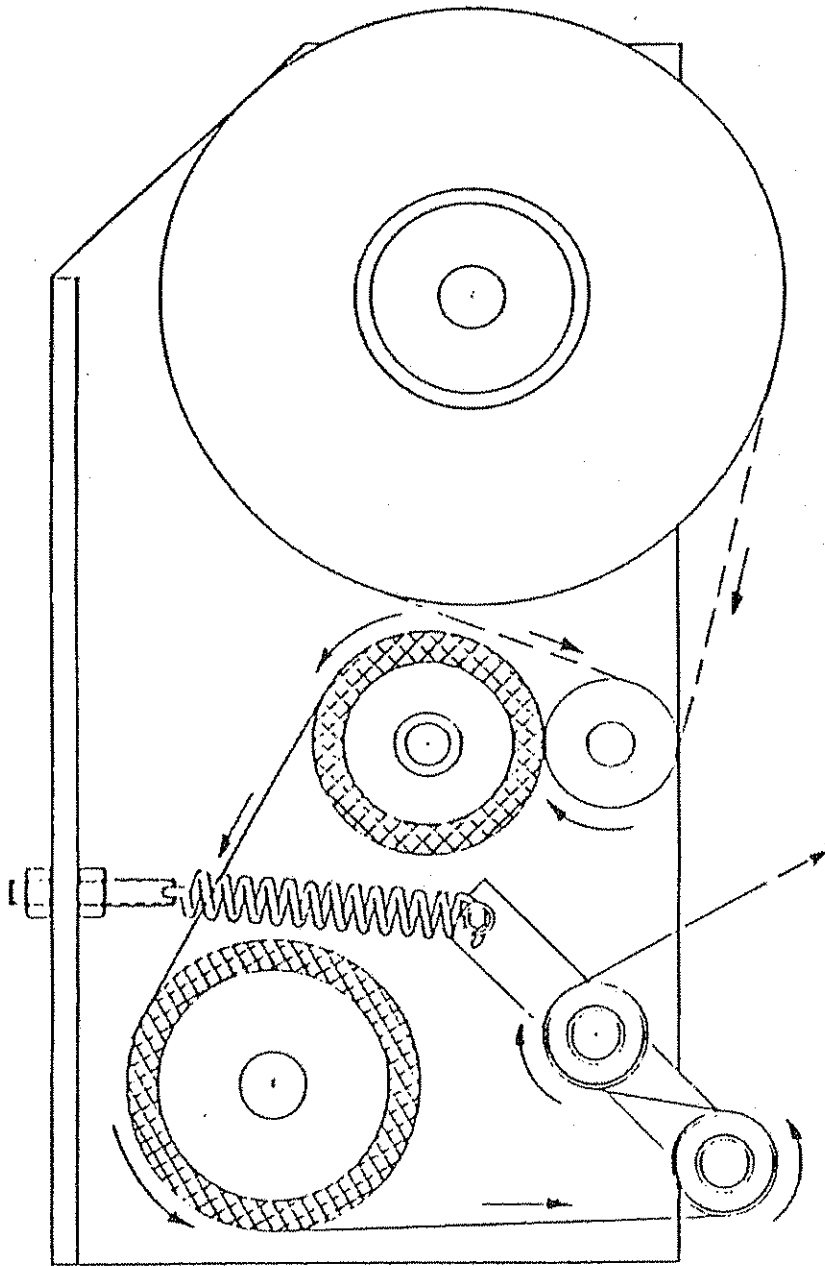
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ORION PACKAGING INC.

NOTICE

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

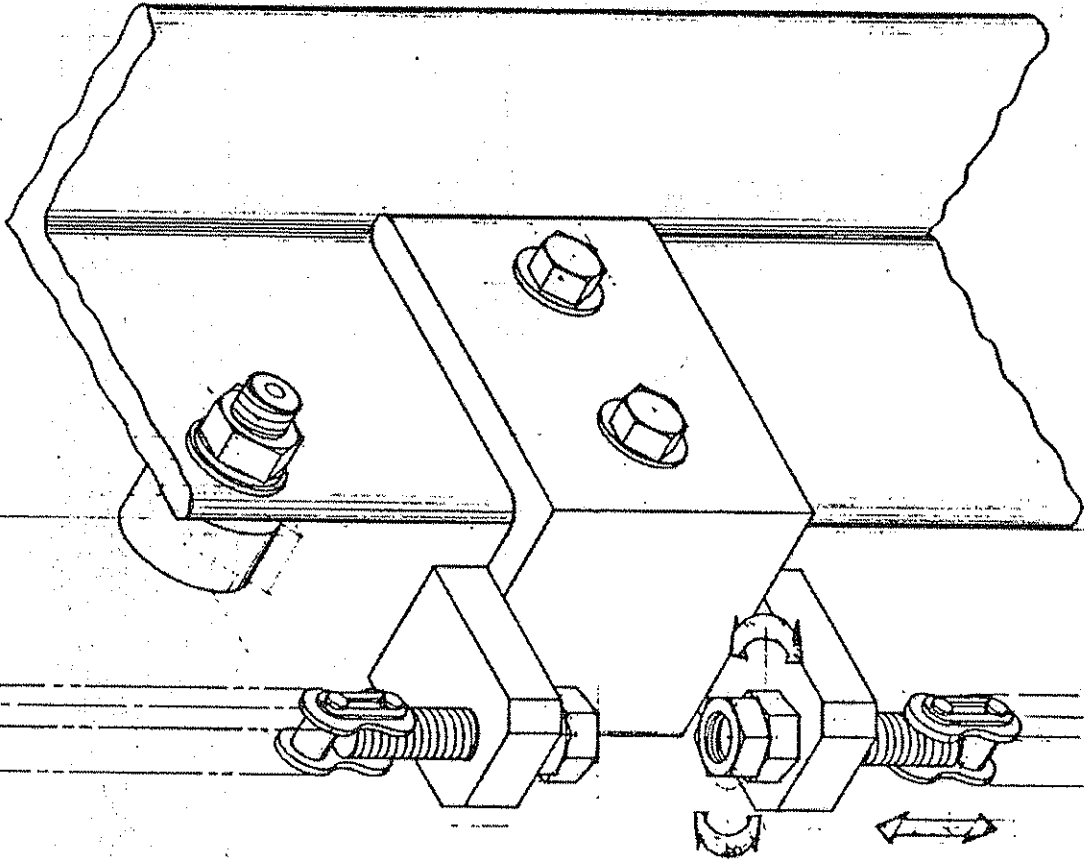
ORION
MULTISTRETCH



DISCONNECT POWER BEFORE FEEDING

Electrical Boards' Chart for ORION Stretchwrappers

	168-4	168-A	236	336	750+	750M-240v	850M	850C	155-3A
MLH 44 Processor	X		X		X				
MLH 44	X		X		X				X
MLH 55		X		X			X		X
MLH 66		X		X			X		X
MLH 77		X							X
PA 33	X			X	X				
FA 33	X			X		X		X	
MA 33	X			X		X		X	
MA 44	X			X	X			X	
MA 55	X			X			X	X	



CHAIN TENSION
ADJUSTMENT

ORION PACKAGING		DESIGNED BY (NAME/INITIAL)
DATE: N.T.S.	APPROVED BY:	DRAWN:
NO: 10 - 7 - 85		
CHAIN TENSIONER ASS'Y		REVISED BY:
		NO: 200 - 192

TURNTABLE & TOWER MOTOR CONTROL BOARD ADJUSTMENTS

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

INTRODUCTION

The 850M and 850 DM Motor Control Boards are DC/SCR drives that are used in 66 & 55 series Orion stretch wrapping equipment. The following calibration instructions apply to all 66 & 55 series turntable and rotary tower type machinery, but it will be important to note specific reference to your particular Orion model for best calibration results.

The 850M and 850DM boards feature two selectable pre-set speeds (1 & 2), and four potentiometers (marked 1,2,A and D).

The instructions are in the suggested order of adjustment, and intended to be made after installation of the board in the control enclosure. Please refer to the attached sketch of the board for identification of the adjustment points.

INSTALLATION

This unit is equipped with an aluminum chassis, which serves as a heatsink. This should be oriented with the printed circuit board in a vertical plane for optimum convection cooling.

Connectors are to .250" quick-disconnect terminals. Standard units require 120 VAC supply. AC line attaches to terminals **AC1**, **AC2**. Motor Armature attaches to terminals **DC+**, **DC-**. The standard unit is suitable for permanent magnet shunt style DC motors with 90 V armature rating.

ADJUSTMENTS

Acceleration: (RV3) The pot marked **A** is the control for the acceleration or electronic soft start feature.

For an initial setting, turn the **A** pot fully counter-clockwise (CCW) until a faint “clicking” sound is heard, then approximately 2 turns (or revolutions) clockwise (CW). CW adjustment of this potentiometer softens the start and lengthens the time required for the turntable/tower to reach its preset speed.

Speed Control: (RV1) The pot marked **1** controls the turntable/tower jog speed¹.

Simply activate the turntable/tower jog function, adjusting the jog speed (pot 1) as the turntable/tower rotates. This should be set for approximately 2 to 3 RPM. Please note that this setting should be made with a load on the turntable (turntable type models only). A CW turn increases the jog speed, while CCW decreases jog speed.

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

This speed can be as high as 12 RPM. However, you should note that if it is set too high, you may see chopping of the current to the turntable/tower drive motor which will cause pulsating, half-speed operation of the turntable/tower drive itself. If this is seen, please decrease the setting of pot **2**, until it is no longer in effect.

For best calibration results, it is recommended that you make this adjustment while the machine is in cycle. After starting a wrap cycle, set the film carriage speed control to the “0” (minimum) position. This will prevent the film carriage from rising and completing its cycle. Then simply adjust the high speed (pot **2**) as the turntable/tower rotates. A CW turn increases speed, a CCW turn decreases speed.

- 1** Speed Control 1 = Turntable/Tower Jog Speed
Selected by a 120 VAC signal applied from terminal (1) to (C)
- 2** Speed Control 2 = Turntable/Tower High Speed
Selected by a 120 VAC signal applied from terminal (2) to (C)

Deceleration: (RV4) The pot marked **D** is the deceleration control. Functionally, it is the opposite of acceleration, except that it is a more critical setting, in that our machine logic requires that we decelerate from speed 2 to speed 1 during the course of the final revolution of the turntable/tower before shutoff.

For an initial setting, start with the **D** pot set fully CCW. Then, cycling the machine; observe the transition to jog speed at the end of the cycle, prior to the stop of the turntable/tower at the home position. Gradually increase the **D** pot setting (CW) until the turntable/tower only jogs approximately 1/8 to 1/4 revolution before reaching home position. CW adjustment of this potentiometer quickens the stop and shortens the deceleration time required for the turntable/tower to settle to its preset jog speed. CCW softens the stop and lengthens the time required for the turntable/tower to settle to its preset jog speed.

Thus, the deceleration control is important in that if the deceleration time is too short, we will prematurely reach jog speed and jog an excessive amount of time to the home position before shutoff.

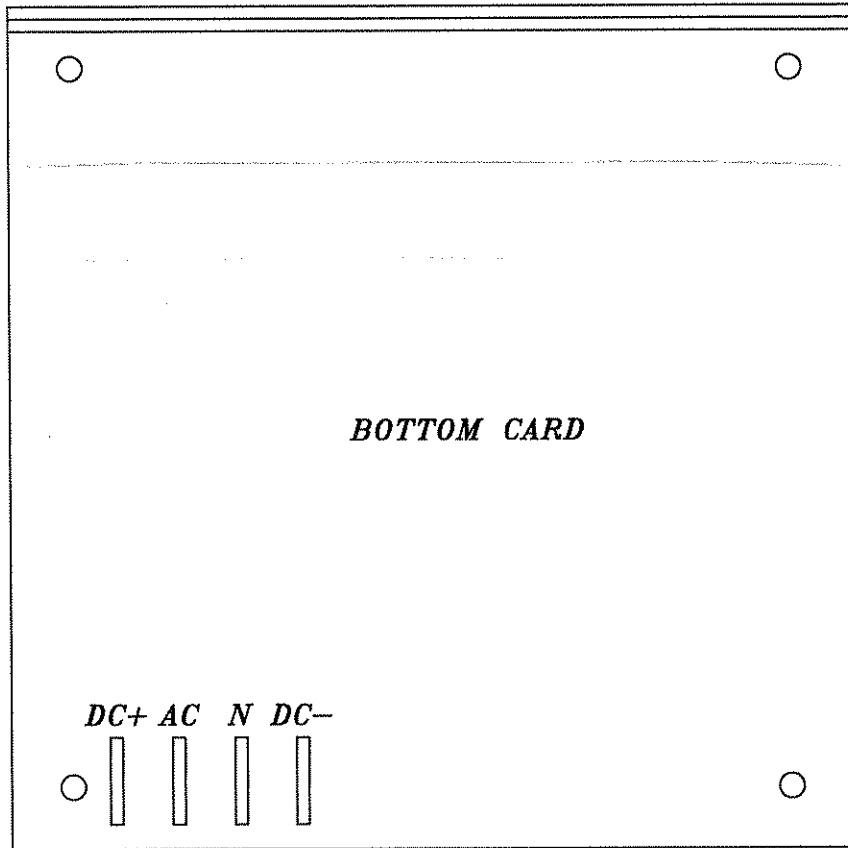
Conversely, if the deceleration time is set too long, the turntable/tower will not settle to the jog speed and thus will be going too fast to align properly and the momentum will take the turntable/tower beyond the start position. As you can imagine, any time the wrap speed is changed, you will need to make a corresponding change in the setting of the pot marked **D** (for deceleration).

Note: The 850DM requires a jumper from the **W** pin to the **CW** pin for speed 2 to operate.

TROUBLE SHOOTING & REPAIR

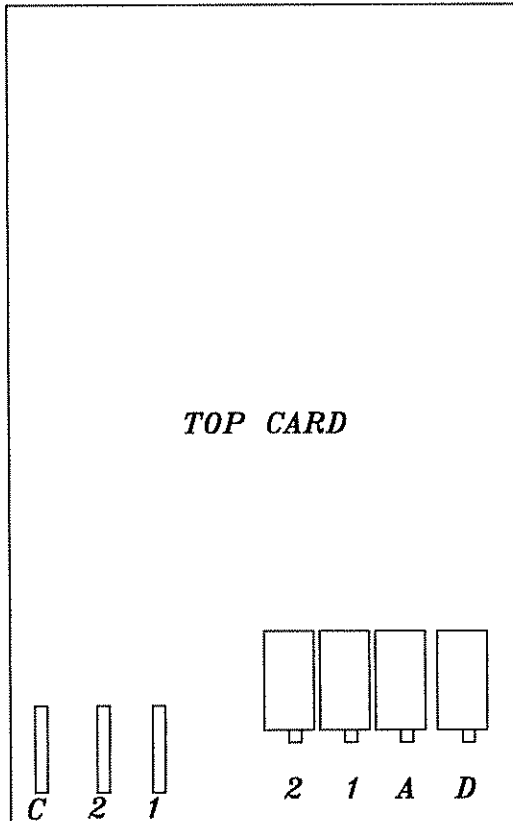
In most cases, repair will require parts replacement. If user intends to, and is equipped to perform repairs, spare parts are available from Orion Parts & Service.

Damage is usually visually evident on the 850M board. Replacing the obviously damaged board frequently restores operation. However, if damage is not evidently visible, swapping boards will determine if the board is at fault.

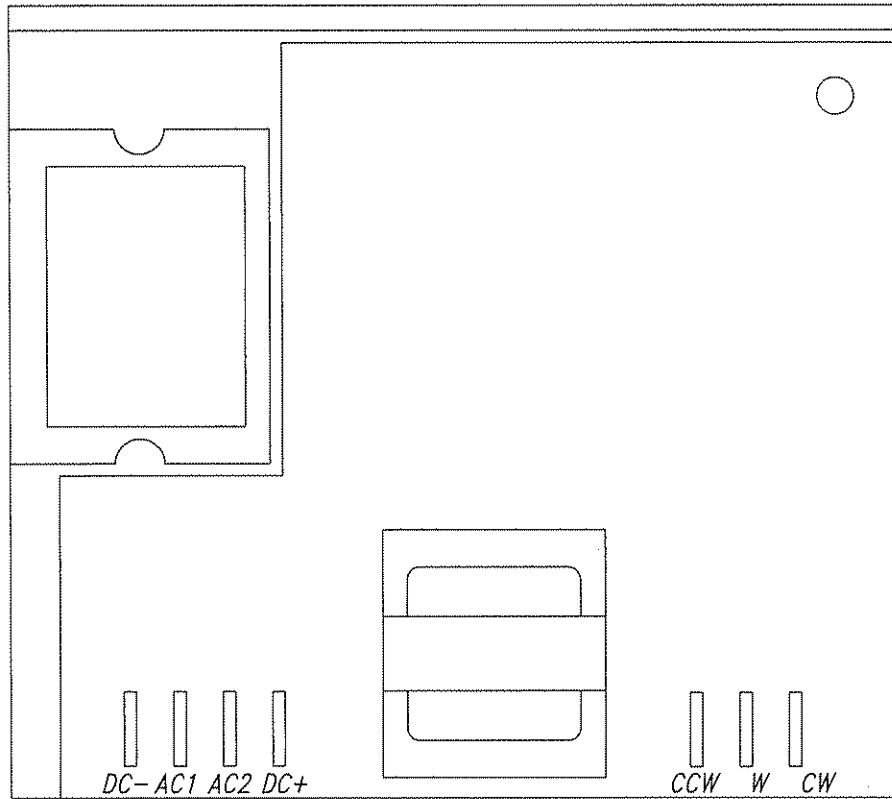


DC+: ARMATURE CONTROL.
AC: AC INPUT - LINE.
N: AC INPUT - NEUTRAL.
DC-: ARMATURE CONTROL.

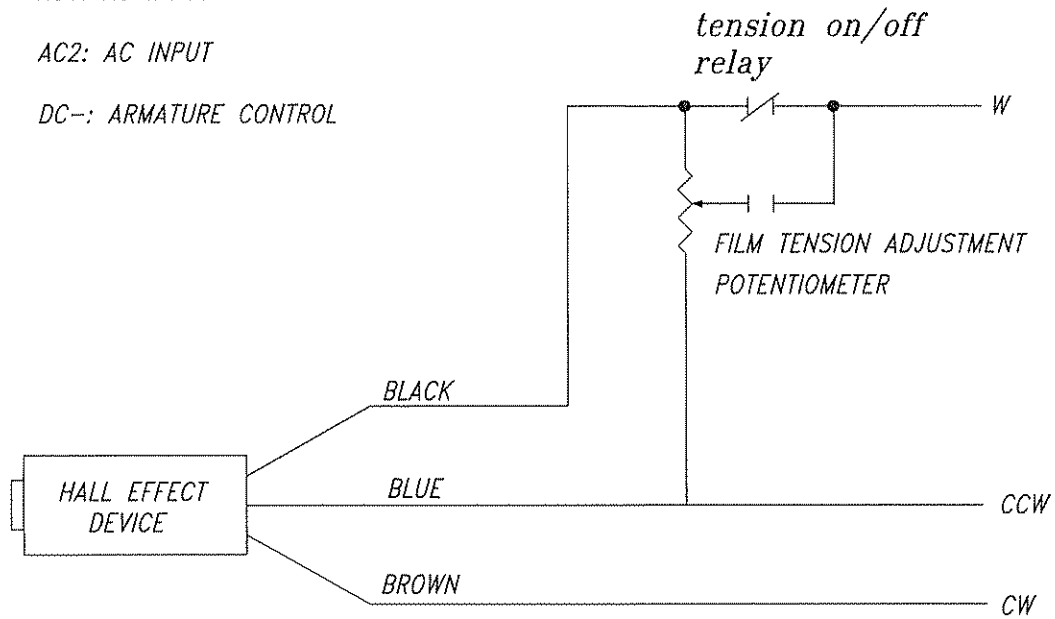
1: CONTROL - LINE. LOW SPEED
1: LOW SPEED ADJ.
2: CONTROL - LINE. HIGH SPEED
2: HIGH SPEED ADJ.
C: CONTROL - COMMON.
 (REQUIRES A JUMPER TO "N")



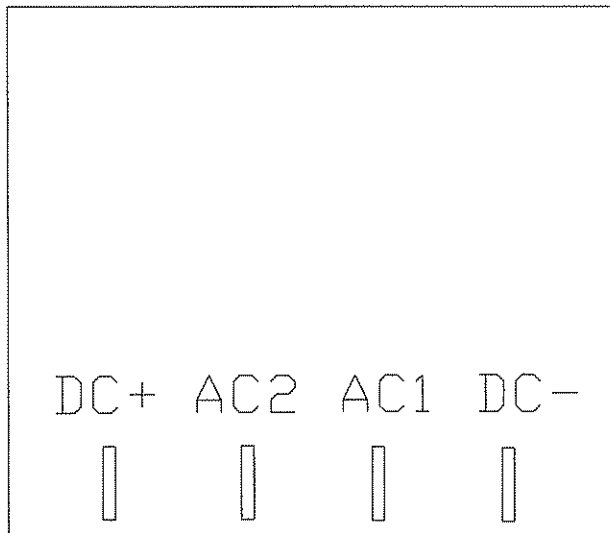
850M TWO SPEED 120VAC/90VDC MOTOR CONTROL BOARD



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



336-5
 MULTISTRETCH BOARD



DC - OUT

DC + OUT

AC2 IN

AC1 IN (NEUTRAL)

168-A CARRIAGE UP/DN
SINGLE SPEED BOARD

