orion
PACKAGING INC.
MONTREAL

# ATTENTION:

## VERY IMPORTANT

**Before unloading and unpacking the stretchwrapper read carefully 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.

## H-44

## OWNER'S MANUAL

ORION PACKAGING INC.
2270 Industrial
Laval, Quebec
H7S-1P9

Telephone: (514) 667-9769
Fax: (514) 667-6320

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

ORION PACKAGING SYSTEMS, INC.
DISTRIBUTOR PRICE LIST - EFFECTIVE NOVEMBER 1, 1989

103122

ORION MODEL H-44

Deluxe Spiral Semi-Automatic Heavy Duty High Profile

| | |
|---|---|
| Maximum Load Size | 55"W x 55"L x 80"H (Recommended)<br>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<br>4 Support Casters 6" x 2-1/2" Steel<br>Precision Tapered Caster Bearings<br>13-1/2" Height to Top of Turntable |
| Turntable Drive | 0-16 RPM Variable Turntable Speed<br>3/4 HP DC Drive Motor<br>#50 Roller Chain Drive<br>Electronic Soft Start<br>Positive Alignment Feature |
| Control Features | Electronic Film Force Control<br>Separate Top and Bottom Wrap Selectors<br>Variable Speed Film Carriage Control<br>Auto-Height Photocell w/On/Off Switch<br>Film Carriage Raise/Lower Switch<br>Turntable Jog/Reinforce Wrap Selector<br>Spiral Up or Up/Down Cycles<br>Circuit Breaker Electrical Protection<br>NEMA 12 Electrical Enclosure<br>High/Low Turntable Speed Selection |
| Film Delivery | 20" Orion MultiStretch Power Prestretch<br>Electronic Film Tension Control<br>End of Cycle Film Force Release<br>Full Authority Film Dancer Bar<br>Chain & Sprocket Stretch Ratio Control<br>1/2 HP DC/SCR Film Drive |
| Film Carriage Drive | #50 Roller Chain Carriage Lift<br>1/2 HP Elevator Drive Motor<br>Variable Speed SCR Control<br>Precision Cam Follower Tracking |
| Structural Features | Heavy Structural Steel Tubing Design<br>Forklift Portable Base Design<br>Film Roping Bar<br>8" x 31 lb./ft. "H" Channel Mast |
| Est. Shipping Weight | 2,000 lbs. |

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

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## SEMI-AUTOMATIC MACHINE OPTIONS

### AUTO-HEIGHT PHOTOCELL

77 series.....

### LOADING RAMPS FOR LOW PROFILES

L77/66.....
L55S/44S.....
L55/44.....
L66-72.....

### MACHINE BASE EXTENSIONS (MAX. 3 FT)

H77/66 (per foot).....
L77/66 (per foot).....

H55/44 (per foot).....
L55/44 (per foot).....
L55S/44S (per foot).....

### MACHINE MAST EXTENSIONS (MAX. 3 FT)

All Series (Except "M") (first foot).....
(each additional foot).....

M77/67/66 (per foot).....
M57/55 (per foot).....
M44 (per foot).....

### HINGED TOWER (FOR TRANSPORT IN LOW TRUCKS)

All Series (Except "M").....

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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.

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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

### 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 aqcept 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

### 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)

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## 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, Adjustable 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.

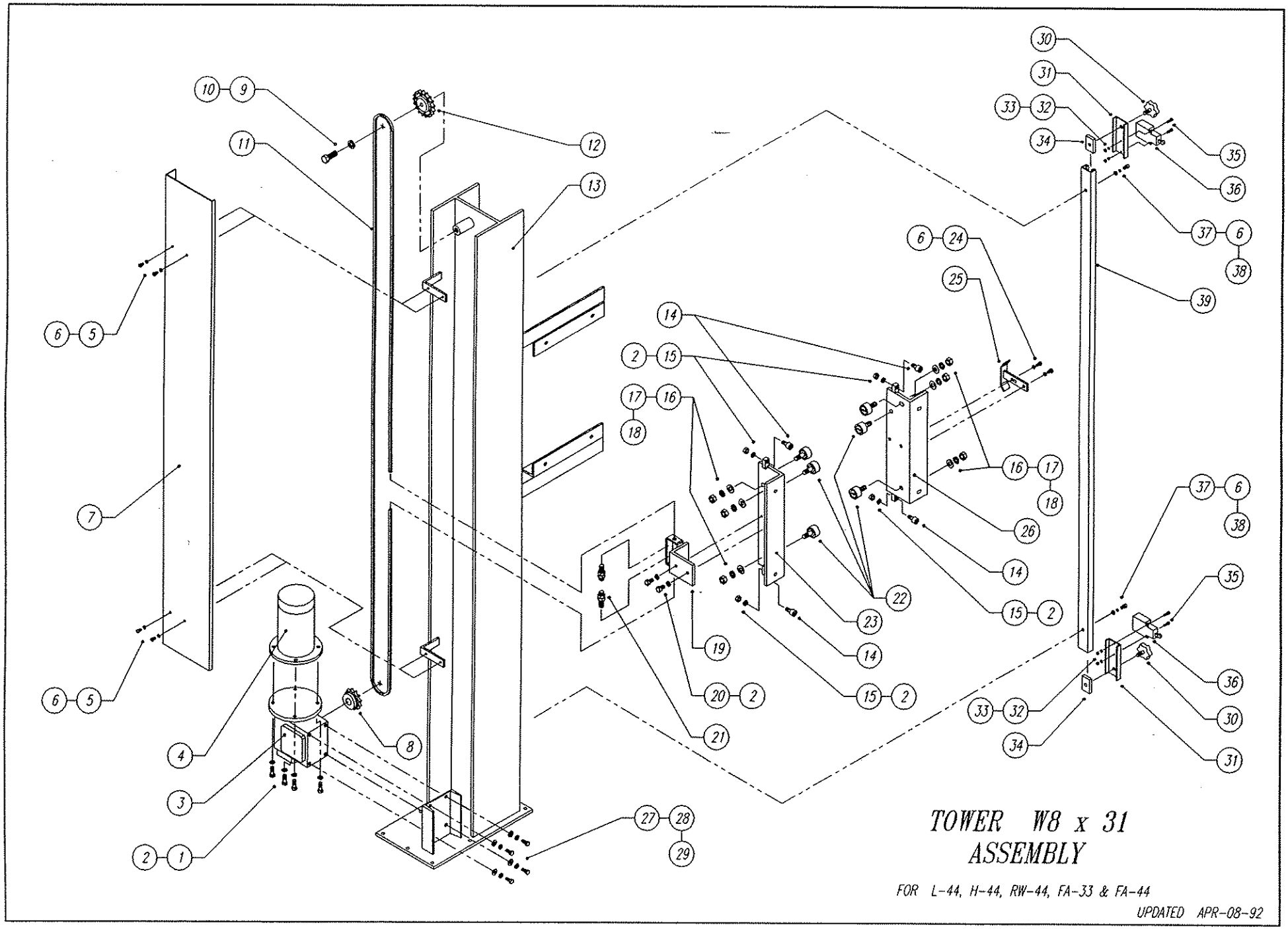
Automatic Sequencing, Logic and Photocell.....
For Powered Conveyor (Per Section) - Includes Photocell PLC Input and Output/Program.

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

FOR TOWER W8 x 31 ASSEMBLY

updated April-07-92

| NO. | ORION PART NO. | DESCRIPTION | Q-TY |
|---|---|---|---|
| 1. | 010293 | HEX HEAD SCREW | 4 |
| 2. | 011390 | SPRING WASHER | 16 |
| 3. | 010344 | REDUCER | 1 |
| 4. | 010036 | ELECTR. MOTOR | 1 |
| 5. | 012049 | PAN PHILL | 3 |
| 6. | 011393 | SPRING WASHER | 7 |
| 7. | 012734 | TOWER CHAIN COVER | 1 |
| 8. | 010235 | SPROCKET | 1 |
| 9. | 010329 | HEX HEAD SCREW | 1 |
| 10. | 012721 | SPRING WASHER | 1 |
| 11. | 010009 | CHAIN | 1 |
| 12. | 010008 | IDLER SPROCKET | 1 |
| 13. | 012736 | TOWER | 1 |
| 14. | 010067 | CAM FOLLOWER | 4 |
| 15. | 012582 | HEX NUT | 4 |
| 16. | 012587 | HEX NUT | 6 |
| 17. | 012583 | SPRING WASHER | 6 |
| 18. | 012584 | FLAT WASHER | 6 |
| 19. | 012744 | CHAIN TENSIONER | 1 |
| 20. | 012474 | HEX HEAD SCREW | 2 |
| 21. | 010387 | CHAIN TENSION SCREW | 2 |
| 22. | 010010 | CAM FOLLOWER | 6 |
| 23. | 010018 | LEFT CARRIAGE HOLDER | 1 |
| 24. | 012722 | HEX HEAD SCREW | 2 |
| 25. | 012739 | LIMIT SWITCH ACTUATOR | 1 |
| 26. | 010019 | RIGHT CARRIAGE HOLDER | 1 |
| 27. | 012723 | HEX HEAD SCREW | 4 |
| 28. | 012724 | SPRING WASHER | 4 |
| 29. | 012725 | FLAT WASHER | 4 |
| 30. | 010092 | KNOB | 2 |
| 31. | 010087 | LIMIT SWITCH HOLDER | 2 |
| 32. | 012726 | HEX NUT | 2 |
| 33. | 012743 | SPRING WASHER | 4 |
| 34. | 011153 | CHANNEL GUIDE | 2 |
| 35. | 012690 | PAN PHILL | 4 |
| 36. | 010123 | LIMIT SWITCH | 2 |
| 37. | 010257 | SOCKET HEAD CAP SCREW | 4 |
| 38. | 012221 | FLAT WASHER | 2 |
| 39. | 010335 | LIMIT SWITCH CHANNEL | 1 |

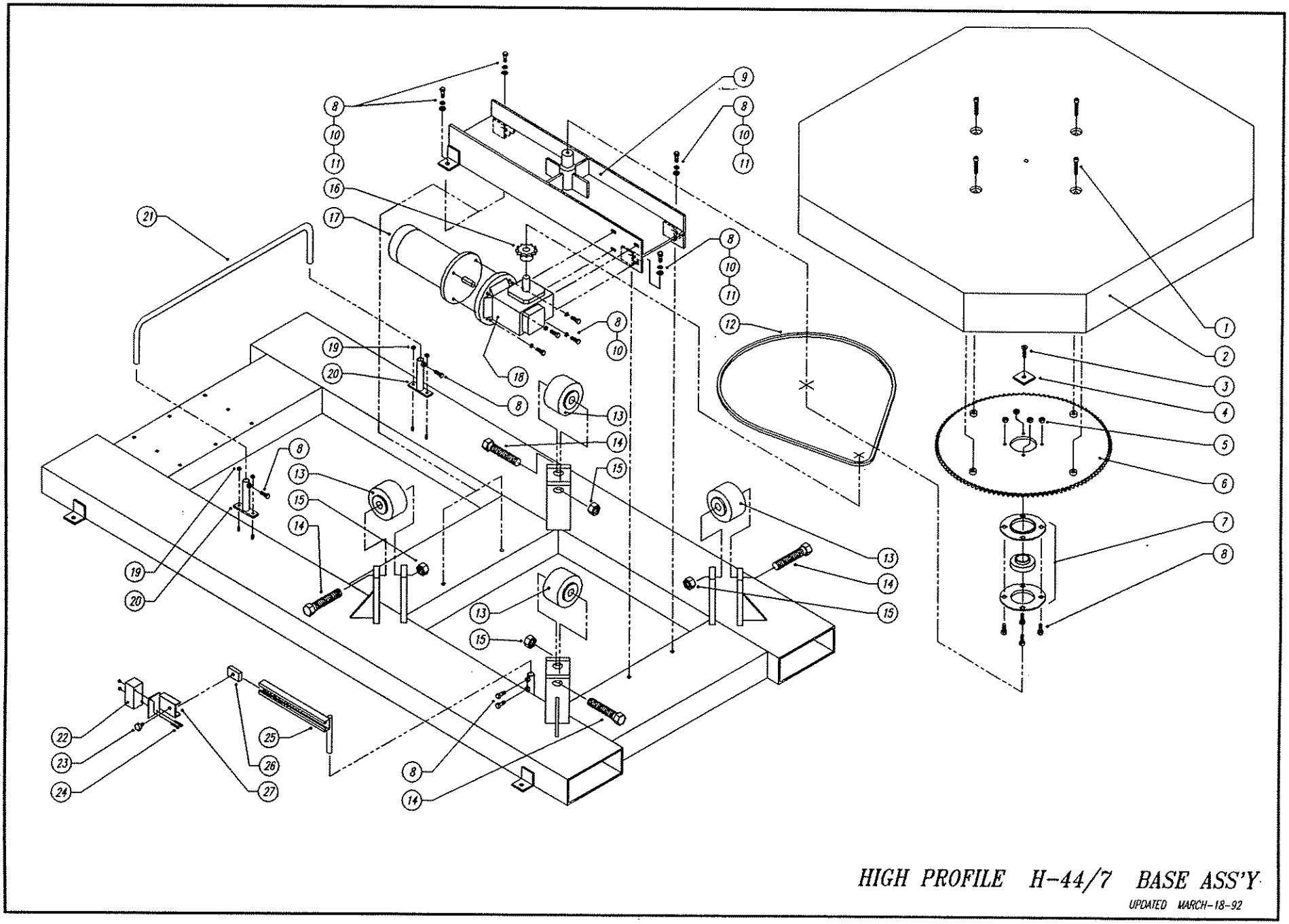

TOWER W8 x 31
ASSEMBLY
FOR L-44, H-44, RW-44, FA-33 & FA-44
UPDATED APR-08-92

# PART LIST

## FOR HIGH PROFILE H-44/7 BASE ASS'Y

updated March-18-92

| NO. | ORION PART NO. | DESCRIPTION | Q-TY |
|---|---|---|---|
| 1. | 012686 | SOCKET HEAD CAP SCREW | 4 |
| 2. | 010220 | TURNTABLE | 1 |
| 3. | 012591 | FLAT SOCKET CAP SCREW | 1 |
| 4. | 010898 | PLATE | 1 |
| 5. | 012477 | HEX NUT | 4 |
| 6. | 010006 | SPROCKET | 1 |
| 7. | 010007 | CENTRAL BEARING UNIT | 1 |
| 8. | 010293 | HEX HEAD SCREW | 14 |
| 9. | 010225 | CENTER SHAFT SUPPORT BEAM | 1 |
| 10. | 011390 | SPRING WASHER | 8 |
| 11. | 012672 | FLAT WASHER | 4 |
| 12. | 010009 | CHAIN | 1 |
| 13. | 012560 | STEEL CASTER | 4 |
| 14. | 012687 | HEX HEAD SCREW | 4 |
| 15. | 012688 | HEX NUT | 4 |
| 16. | 011218 | SPROCKET | 1 |
| 17. | 010032 | ELECTR. MOTOR | 1 |
| 18. | 010035 | REDUCER | 1 |
| 19. | 012689 | HEX NUT | 4 |
| 20. | 010389 | ROPING BAR STAND | 2 |
| 21. | 010367 | ROPING BAR | 1 |
| 22. | 010739 | PROXIMITY SWITCH | 1 |
| 23. | 010092 | KNOB | 1 |
| 24. | 012690 | PAN PHILL & NUT | 2 |
| 25. | 012691 | PROXIMITY SWITCH CHANNEL | 1 |
| 26. | 010091 | CHANNEL GUIDE | 1 |
| 27. | 010203 | PROXIMITY SWITCH HOLDER | 1 |



*HIGH PROFILE H-44/7 BASE ASS'Y*

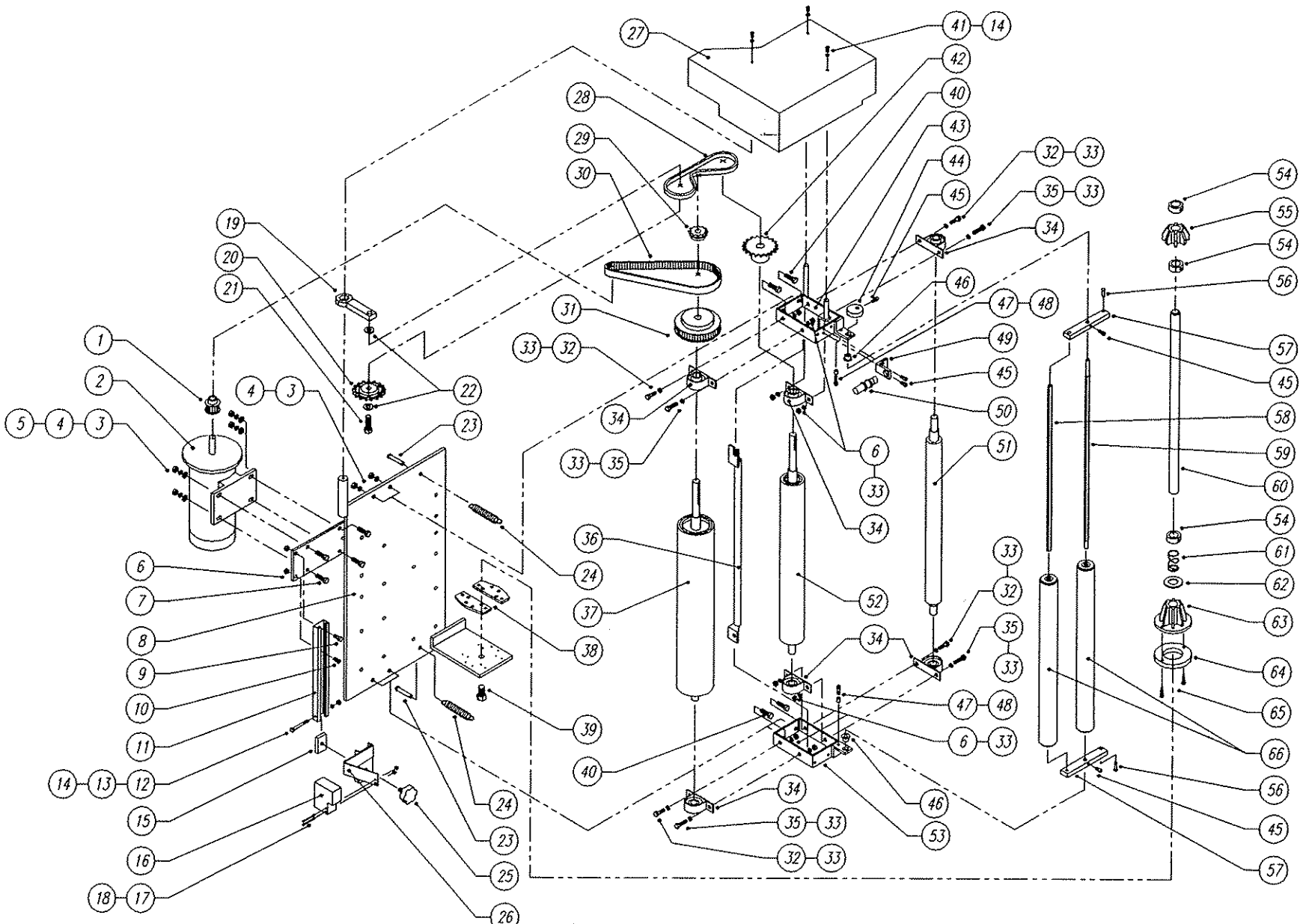
UPDATED MARCH-18-92

# STANDARD CARRIAGE ASS'Y - PART LIST

updated May-28-92

| NO. | ORION PART NO. | DESCRIPTION | Q-TY |
|---|---|---|---|
| 1. | 011283 | TIMING BELT PULLEY | 1 |
| 2. | 010059 | ELECTR. MOTOR, FOR H,L-66 | 1 |
| | 010036 | ELECTR. MOTOR, FOR H,L-55,44 | 1 |
| 3. | 011128 | HEX NUT | 8 |
| 4. | 011390 | SPRING WASHER | 8 |
| 5. | 010948 | FLAT WASHER | 4 |
| 6. | 012751 | HEX NUT | 10 |
| 7. | 012752 | HEX HEAD SCREW | 4 |
| 8. | 010825 | BACK PLATE F/20" FILM | 1 |
| | 011430 | BACK PLATE F/30" FILM | 1 |
| 9. | 010382 | HEX HEAD SCREW | 1 |
| 10. | 012693 | FLAT SOCKET CAP SCREW | 1 |
| 11. | 011152 | PHOTOCELL CHANNEL F/20" FILM | 1 |
| | 011432 | PHOTOCELL CHANNEL F/30" FILM | 1 |
| 12. | 012753 | HEX HEAD SHOULDER SCREW | 1 |
| 13. | 012689 | HEX NUT | 1 |
| 14. | 011393 | SPRING WASHER | 4 |
| 15. | 011153 | CHANNEL GUIDE | 1 |
| 16. | 011495 | PHOTOCELL | 1 |
| 17. | 012754 | PAN PHILL SCREW | 2 |
| 18. | 012726 | HEX NUT | 2 |
| 19. | 011142 | CHAIN TENSIONER | 1 |
| 20. | 011297 | IDLER SPROCKET | 1 |
| 21. | 012482 | HEX HEAD SCREW | 1 |
| 22. | 012584 | FLAT WASHER | 2 |
| 23. | 012755 | CLEVIS PIN | 2 |
| 24. | 010047 | TENSION SPRING | 2 |
| 25. | 010092 | KNOB | 1 |
| 26. | 012090 | PHOTOCELL BRACKET | 1 |
| | 012091 | PHOTOCELL BRACKET F/R.H. ASS'Y | 1 |
| 27. | 011755 | CARRIAGE COVER | 1 |
| 28. | 010583 | CHAIN | 1 |
| 29. | 010975 | DRIVE SPROCKET | 1 |
| 30. | 011151 | TIMING BELT | 1 |
| 31. | 011003 | PULLEY | 1 |
| 32. | 012723 | HEX HEAD SCREW | 4 |
| 33. | 012725 | FLAT WASHER | 16 |
| 34. | 010157 | PILLOW BLOCK BEARING | 6 |
| 35. | 012757 | HEX HEAD SCREW | 4 |
| 36. | 011412 | SAFETY BAR F/20" FILM | 1 |
| | 011413 | SAFETY BAR F/30" FILM | 1 |
| 37. | 011406 | RUBBER ROLLER 4" DIA. F/20" FILM | 1 |
| | 011407 | RUBBER ROLLER 4" DIA. F/30" FILM | 1 |
| 38. | 010049 | BRAKE PADS | 2 |
| 39. | 012758 | HEX HEAD SCREW | 1 |
| 40. | 010293 | HEX HEAD SCREW | 4 |

| | | | |
|---|---|---|---|
| 41. | 012049 | PAN PHILL SCREW | 3 |
| 42. | 011454 | DRIVE SPROCKET | 1 |
| 43. | 011369 | TOP BRACKET | 1 |
| 44. | 011477 | PROXIMITY SENSOR CAM | 1 |
| 45. | 010257 | SOCKET HEAD CAP SCREW | 5 |
| 46. | 010058 | BRONZE BUSHING | 2 |
| 47. | 010286 | SOCKET HEAD SHOULDER CAP SCREW | 2 |
| 48. | 010946 | PLASTIC HOSE | 2 |
| 49. | 011476 | PROXIMITY SENSOR BRACKET | 1 |
| 50. | 011470 | PROXIMITY SENSOR | 1 |
| 51. | 011410 | PRESSURE ROLLER F/20" FILM | 1 |
| | 011411 | PRESSURE ROLLER F/30" FILM | 1 |
| 52. | 011408 | RUBBER ROLLER 2.66"DIA. F/20"FILM | 1 |
| | 011409 | RUBBER ROLLER 2.66"DIA. F/30"FILM | 1 |
| 53. | 011416 | BOTTOM BRACKET | 1 |
| 54. | 010052 | COLLAR | 3 |
| 55. | 010051 | TOP SPOOL | 1 |
| 56. | 012756 | CLEVIS PIN | 2 |
| 57. | 011370 | LEVER | 2 |
| 58. | 011419 | SHORT SHAFT F/20" FILM | 1 |
| | 011420 | SHORT SHAFT F/30" FILM | 1 |
| 59. | 011421 | LONG SHAFT F/20" FILM | 1 |
| | 011422 | LONG SHAFT F/30" FILM | 1 |
| 60. | 010050 | MANDREL SHAFT F/20" FILM | 1 |
| | 011436 | MANDREL SHAFT F/30" FILM | 1 |
| 61. | 010891 | COMPRESSION SPRING | 1 |
| 62. | 010199 | FLAT WASHER | 1 |
| 63. | 010838 | BOTTOM SPOOL | 1 |
| 64. | 010887 | MANDREL BRAKE DISK | 1 |
| 65. | 010886 | SPIKE | 2 |
| 66. | 011371 | DANCER ROLLER F/20" FILM | 2 |
| | 011431 | DANCER ROLLER F/30" FILM | 2 |

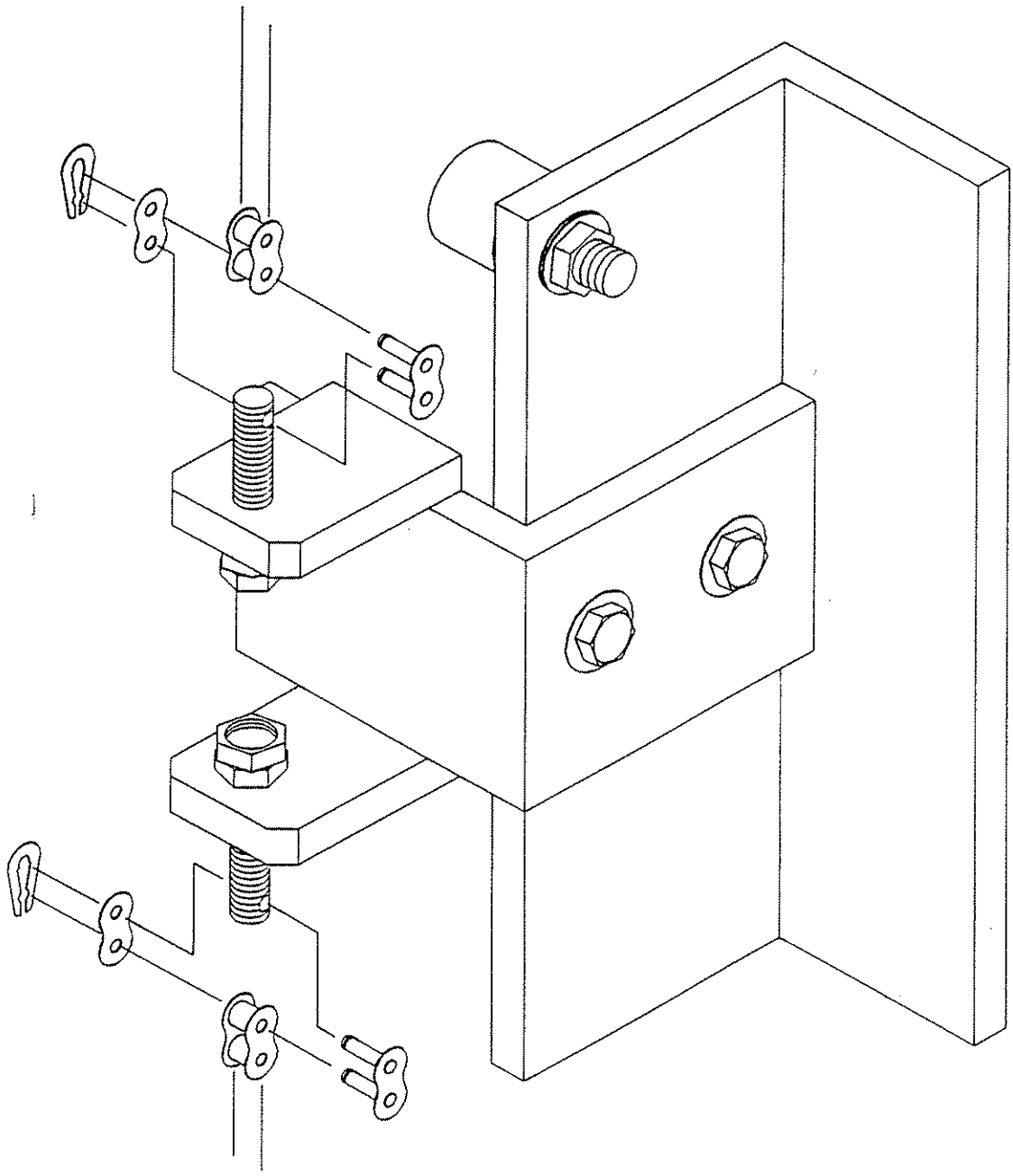


# STD. CARRIAGE ASSEMBLY

UPDATED MAY-29-92

*ATTENTION:*

*WHEN MOUNTING THE CARRIAGE LIFT CHAIN, PLEASE MAKE SURE, THAT THE CONNECTING LINK'S PIN IS INSERTED FROM THE TOWER SIDE*



*CHAIN TENSIONER ASS'Y*

# 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.

## 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.

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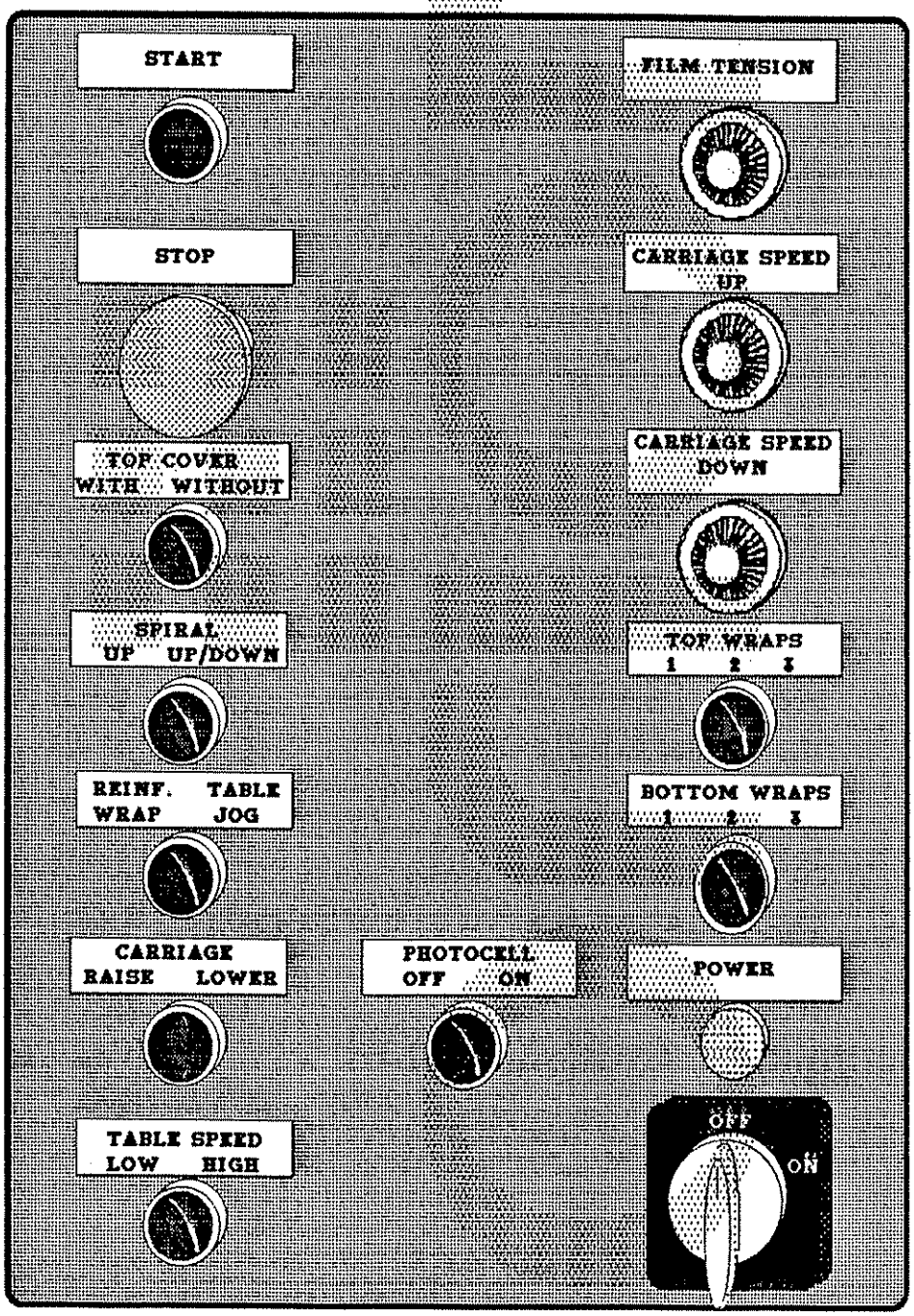
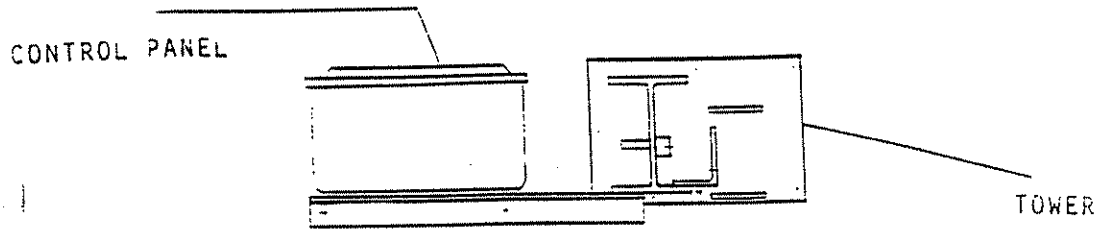
# 6. MACHINE CONTROLS



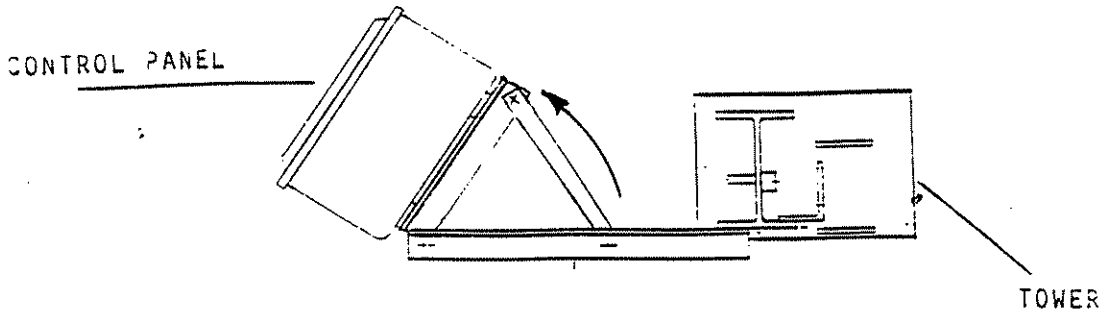
## NEW.TWO POSITION CONTROL PANEL MOUNT

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

1.-On the angle brackets aligned to the Tower.




2.-With the position bar (installed between upper angles),Control Panel can be rotated forward/ to the side.
(additional screw attached to the tower's foot).



## 6.1 Power Switch

The Power Switch has two settings,

ON - Connects a 110 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 must be returned back to their home positions before restarting the cycle.

## 6.3 Top Cover Switch

The Top Cover switch has two positions,

WITH - In the WITH position the cycle will stop after one top wrap is completed, allowing the placement of a top sheet on the load, after which the start button may be pressed to resume wrapping.

WITHOUT - In the WITHOUT position the cycle will not pause for the placement of a top cover.

## 6.4 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.

## 6.5 Reinf. Wrap/Table Jog Switch

This switch has three positions,

middle position - in this position the switch is inactive and the machine will operate normally.

Reinf. Wrap - when the switch is held in this position during operation the carriage will stop rising or descending in order to increase the number of wraps around the chosen section.

Table Jog - when the switch is held in this position the turntable will turn in a clockwise direction as viewed from the top. The table jog is inoperative during the wrap cycle.

## 6.6 Carriage Control Switch

The Carriage Control switch is a monostable three positon 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 carriage has reached the top of the load.

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.

## 6.7 Table Speed Control Switch

The Table Speed Control switch has two settings,

LOW - The LOW setting may be used for wrapping unstable or very heavy loads that tend to fall apart when wrapped at higher speeds.

HIGH - The HIGH setting may be used for wrapping more stable loads. Once the up wrap has been wrapped on the low speed setting, unstable loads may also be wrapped on the high speed setting by switching from LOW to HIGH after the top wraps are done.

## 6.8 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 photoswitch'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.

# 7. 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: Lighter 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 prestretch 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 has positions going from 1 to 10 corresponding to the number of wraps which may be applied at the top or bottom of the load.

These 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+233 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 HIGH speed of the turntable.

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

PRESET 3 - The preset 3 controls the LOW speed of the turntable.

DN 1 - The DN 1 adjustment regulates the rate of deceleration of the turntable for when it reaches the end of the cycle at the HIGH speed.

DN 3 - The DN 3 adjustment regulates the rate of deceleration of the turntable for when it reaches the end of the cycle at the LOW speed.

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-S |
| 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 Maintenace

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 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 neccessary to clean and relubricate the chains more often.

With time, chain 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 must be cleaned and regreased every 300 hours of operation. If the machine operates in a dusty or corrosive environment, the tower should be cleaned and 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 casters should be relubricated 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 sould 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 | Gear Teeth Oil |
|---|---|---|
| BF | Energrease LS 2 | Energol WRL |
| Castrol | Spheerol 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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# APPENDIX C

NEUTR
LINE
SW
A
57
58
NEUTRAL

REQUIREMENTS:

- 120V
- 1PH
- 60HZ
- 20A

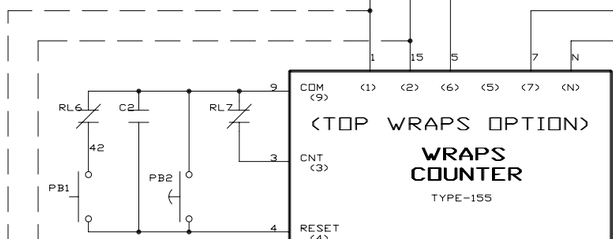
RL1 RL2 RL3 RL4 RL5 RL6 C1 RL7 RL8 RL9 PH1 RL10 C2

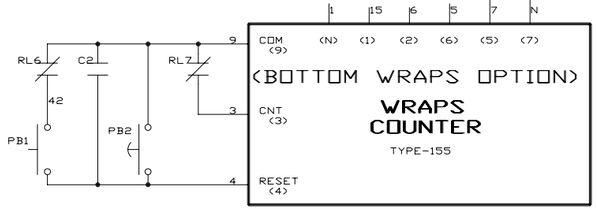
TURNTABLE
MOTOR-3/4HP,90VDC

AC1
COM
A1
JOG (35)
SCR-1
TYPE 750MX
LOW (30)
HIGH (62)
A2
AC2
M-1
31
32

SW1 SW2 SW3 SW4 SW5 SW6
PB1 PB2
PRS
LS1 LS2

FU-1 GGC-1A
FU-2 MDL-8A
FU-3 MDL-8A
FU-4 MDL-6.25A




MULTISTRETCH
MOTOR-1/2HP,90VDC
SCR-3
TYPE 336-6
+IN BLACK
+12 BROWN
-IN BLUE
HALL EFFECT DEVICE
FILM TENSION ADJUST P-10k
M-3

CARRIAGE
MOTOR-1/2HP,90VDC
SCR-2
TYPE 168-4
CONTROL (1)
M-2

NEUTRAL

## LEGEND

RL1 AUTOCYCLE START
RL2 CARRIAGE UP
RL3 FIRST COUNT FROM COUNTER
RL4 CARRIAGE DOWN
RL5 END OF CYCLE, BEGIN TURNTABLE DECELERATION
RL6 CARRIAGE DOWN
RL7 TURNTABLE PROXIMITY SWITCH
RL8 END OF CYCLE RECORDED
RL9 BOTTOM OF CARRIAGE TRAVEL LIMIT SWITCH
RL10 TOP OF CARRIAGE TRAVEL LIMIT SWITCH OR AUTO-HEIGHT PHOTOCELL

PH1 AUTOHEIGHT PHOTOCELL

C2 CARRIAGE DRIVER POWER
C1 REVERSE CONTACTOR

PB1 START PUSH BUTTON
PB2 STOP PUSH BUTTON

SW MAIN POWER
SW1 PAUSE FOR TOP-SHEET
SW2 WRAP UP OR UP/DOWN
SW3 TURNTABLE JOG OR REINFORCEMENT
SW4 CARRIAGE UP/DOWN
SW5 PHOTOCELL OFF/ON
SW6 TURNTABLE SLOW/FAST

LS1 TOP LIMIT SWITCH
LS2 BOTTOM LIMIT SWITCH

PRS PROXIMITY SWITCH

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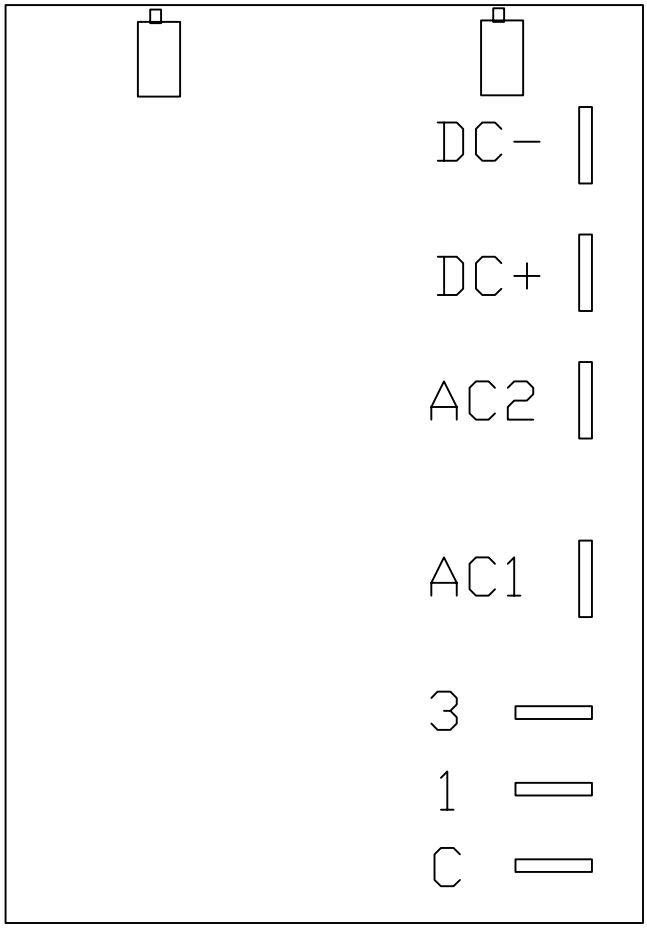
ORION PACKAGING INC.
2270 INDUSTRIEL BD LAVAL,QUE.,CANADA H7S 1P9
TEL.:(514)-667-9769 FAX:(514)-667-6320
APPR. BY:J.B.S. DRAWN BY:OrCAD'-SOFTWARE

TITLE H&L44-7 WITH OPTION TO WRAP TOP OF LOAD FIRST

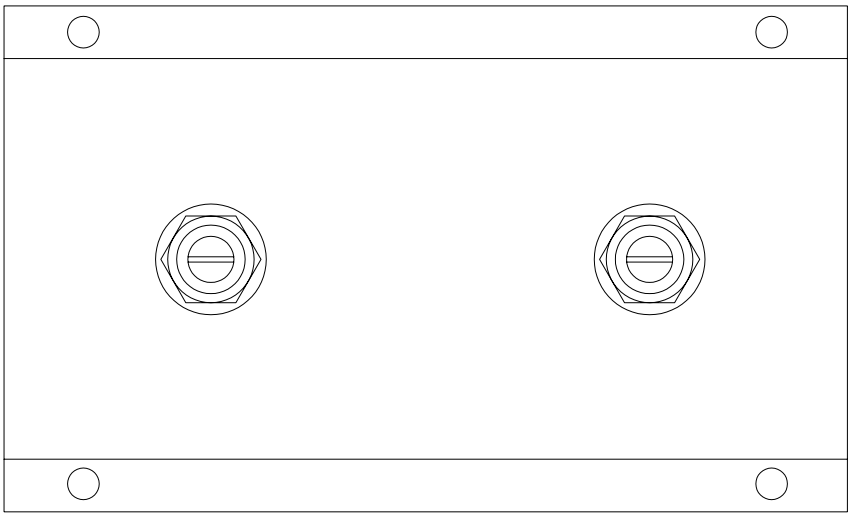
| SIZE | DOCUMENT NO. | REV |
|---|---|---|
| C | JOB # STANDARD 300 363 | 0 |

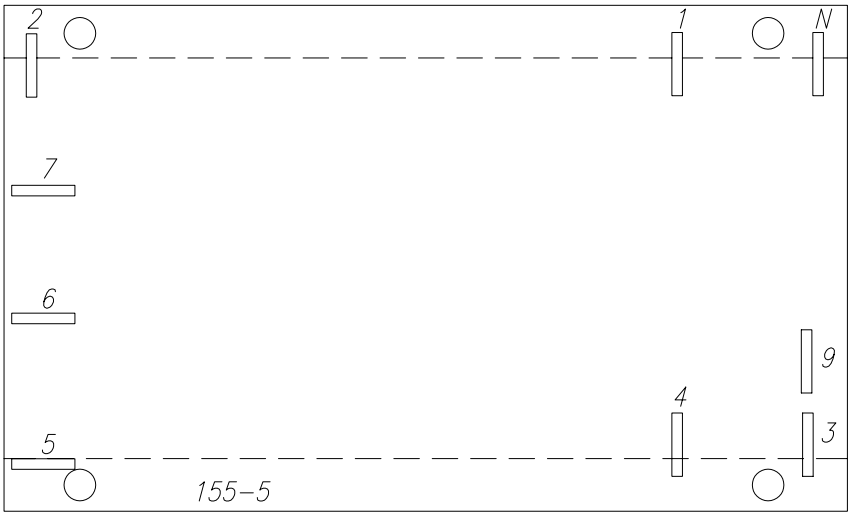
DATE: JANUARY-01-1992 SHEET 1 OF 1
FILENAME: HL-44-7.SCH BASE:




DC - OUT
DC + OUT
AC2 IN
AC1 IN ( NEUTRAL )
1 CARRIAGE UP SPEED SIGNAL
C COMMON ( NEUTRAL )
3 3rd TECH. SPEED IN SIGNAL

# 168-5 CARRIAGE UP/DN 3 SPEED BOARD






1: AC INPUT
2: AC INPUT
3: COUNT
4: RESET
5: OUTPUT PULSE AFTER 1-ST COUNT
6: OUTPUT T/W
7: OUTPUT B/W
8: N/A
9: COMMON
N: NEUTRAL

# 155-5
# COUNTER BOARD

# MULTISTRETCH 336-6/7/9 MOTOR CONTROL BOARD CALIBRATION INSTRUCTIONS

**Bias:** (RV3) The **RV3** pot controls the system bias.

This control injects an offset voltage that adds or subtracts from the voltage reference defined by the external tension adjustment (film tension potentiometer); this will allow extremes of adjustment to be set to levels consistent with proper operation. Typically, the bias will be used to center the operation range in the linear portion of its characteristics.

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

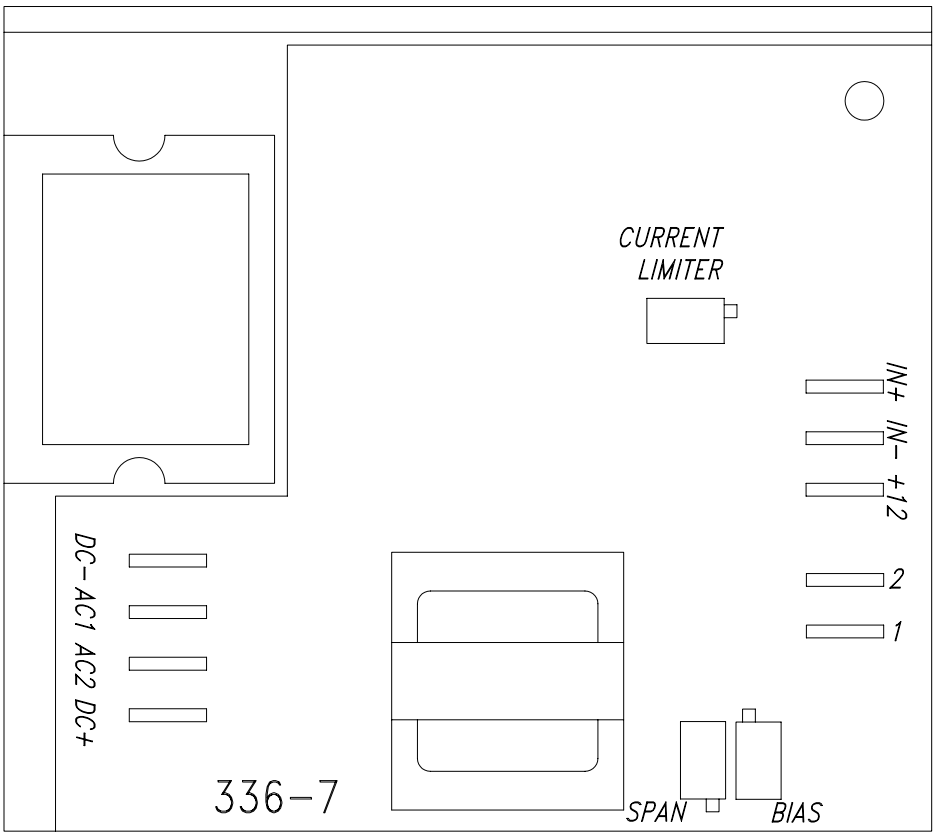
**Span:** (RV1) The **RV1** pot controls the systems loop gain.

The system loop gain may be adjusted if the motor continues to be energized when the dancer roller is unloaded and at rest. With the machine stopped, the pot should be adjusted to ensure that the motor is de-energized in this condition, and so that a light pull on the free end of the film causes the film to feed freely. Counter clockwise (CCW) adjustment of this pot will increase the response time, in effect softening the motor tension response plus decreasing the maximum motor speed attainable. Clockwise (CW) adjustment will decrease the response time, in effect sharpening the motor response time plus increasing the maximum motor speed attainable.

**Current Limit:** (RV4) The **RV4** pot controls the torque (amperage) that the 336 board will allow to the motor.

To protect the unit against damage should the motor stall, jam, or current demands exceed its rating, a current limiting circuit is included which keeps motor current at a safe level regardless of motor load or input from the Hall effect proximity switch.

This pot is factory pre-set to suit ½ HP motors. Should changes be required in the field, proceed as follows: Monitor the motor current. Turn the current limit **RV4** to minimum (full CCW). Stall the motor. Advance the pot slowly until the desired current is achieved. This should not exceed 125% of the motor nameplate rating.
Do not stall the motor for more than a few seconds, or damage may occur.




DC+: ARMATURE CONTROL

AC1: AC INPUT

AC2: AC INPUT

DC−: ARMATURE CONTROL

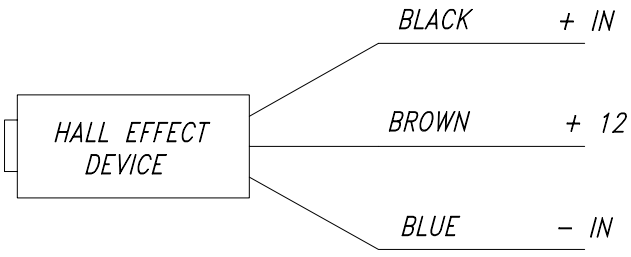
POTENTIOMETER

SPAN: HALL EFFECT SENSITIVITY CONTROL

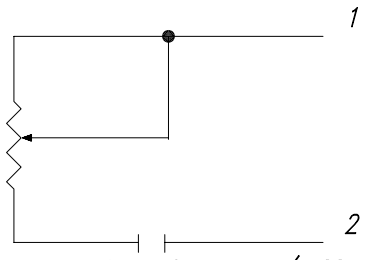
BIAS: SYSTEM BIAS (FACTORY SET)

TRIP: END OR BROKEN FILM SENSING CIRCUITRY. TRIP LEVEL (FACTORY SET)

CURRENT LIMITER: (FACTORY SET)




FILM TENSION ADJUSTMENT
REMOTE POTENTIOMETER




tension on/off
relay

# 336-7
# MULTISTRETCH BOARD

# MOTOR CONTROL BOARD CALIBRATION INSTRUCTIONS FOR THE 750MX 3 SPEED TURNTABLE/TOWER DRIVE SCR

The 750MX motor control board is a multi-purpose DC/SCR drive that is used in several different types of applications in Orion stretchwrapping equipment. The following calibration instructions apply to all possible types of machinery, but it will be important to note specific reference to your particular model of Orion machine for best calibration results. The instructions are in the suggested order of adjustment, and are intended to be made after installation of the board in the control enclosure. Please refer to the attached sketch of the board for identification of the adjustment points.

**Important Note: The** 750MX motor control board is a dual voltage capability board. It is imperative that you set the board for the voltage of your application prior to installation, calibration, or use. Set the 90V/180V jumper pin to the proper position for the motor that your Orion machine turntable/tower drive utilizes. Next, you must also set the 115V/230V jumper pins to the proper positions. If your turntable/tower drive motor is 90V, the proper position for the 115V/230V pins is on the 115V posts. Conversely, if your turntable/tower drive motor is 180V, the proper position for the 115V/230V pins is on the 230V posts.

**Zero Setting:** (Pot #4) The zero potentiometer establishes the "zero" point for many of the other settings on the board, and as such, it is very important that it be set first.

First, turn preset **2** (Jog Speed, Pot #2) fully counter-clockwise (CCW), until you hear the faint "clicking" sounds indicating that the pot is fully counter-clockwise. Next, turn the preset 2 pot one (1) turn clockwise (CW). Then, with power applied and the machine in "manual" (if applicable), activate the turntable/tower jog push-button or selector switch. While activating the jog switch, turn the zero pot CW until turntable/tower movement is detected. Next, turn the zero pot CCW until the movement stops.

**Note:** On fully automatic equipment, it will be necessary to remove power from the machine, and push the turntable/tower away from the home position slightly to allow activation of the jog speed.

**Acceleration:** (Pot #**5**) This pot controls the "soft start" feature of the turntable/tower drive.

For an initial setting, turn the accel pot fully CCW, and then ¼ turn CW. For a softer start of the turntable/tower, turn the accel pot further CW. For quicker acceleration of the turntable/tower, turn the accel pot CCW.

**Preset 1:** (Pot #**2**) This pot controls the turntable/tower low speed.

For best calibration results, it is recommended that you cause the machinery to stay in the low speed mode while you make the adjustment. On semi-automatic models with a control panel selector switch for High/Low turntable/tower speed, simply place the selector switch in the low speed position and start the machine, adjusting the speed while the machine is running. On fully automatic models, set the film carriage "up" speed control to the "0" (minimum) position and start a wrap cycle. This will prevent the film carriage from reaching the top of the load at which time the PLC would normally switch to high speed. Then, adjust the preset **1** pot to achieve the low speed that you desire for the turntable/tower, turning CW to increase the speed, or CCW to decrease the speed. The normal setting for low speed is 10 RPM.

**Preset 2:** (Pot #**1**) This pot controls the turntable/tower jog speed.

Simply activate the turntable/tower jog control, adjusting the jog speed as the turntable/tower rotates. The desired jog speed is 3 RPM. CW increases the jog speed, while CCW decreases the jog speed. (See note in "Zero setting" above)

**Preset 3:** (Pot #**3**) This pot controls the turntable/tower high speed.

For best calibration results, it is recommended that you cause the machine to remain in the highest speed mode while you make this adjustment. On semi-automatic models with a control panel selector switch for High/Low turntable/tower speed, simply place the selector switch in the high speed position, and start the machine, adjusting the speed while the machine is running. On fully automatic models, start a wrap cycle, and set the film carriage "down" speed control to the "0" (minimum) position after completion of the top wraps. This will prevent the film carriage from reaching the bottom limit switch at which

time the PLC would normally switch to deceleration. Then, adjust the preset **3** pot to achieve the high speed that you desire for the turntable/tower. Turning the pot CW will increase the speed. Turning the pot CCW will decrease the speed.

**Deceleration #1, 2:** (Pot #**6**) The deceleration **1,2** pot controls the transition time that the board provides when it is switched to jog speed at the end of a wrap cycle.

Start with the preset **1,2** 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 Dec **1,2** pot setting (CW) until the turntable/tower must only jog approximately 1/8 to 1/4 turn before reaching the home position.

**Important Note:** On high speed Orion models (30 RPM turntable/tower drives with brake), the deceleration control is not used, and must be set to the minimum, or fully CCW.

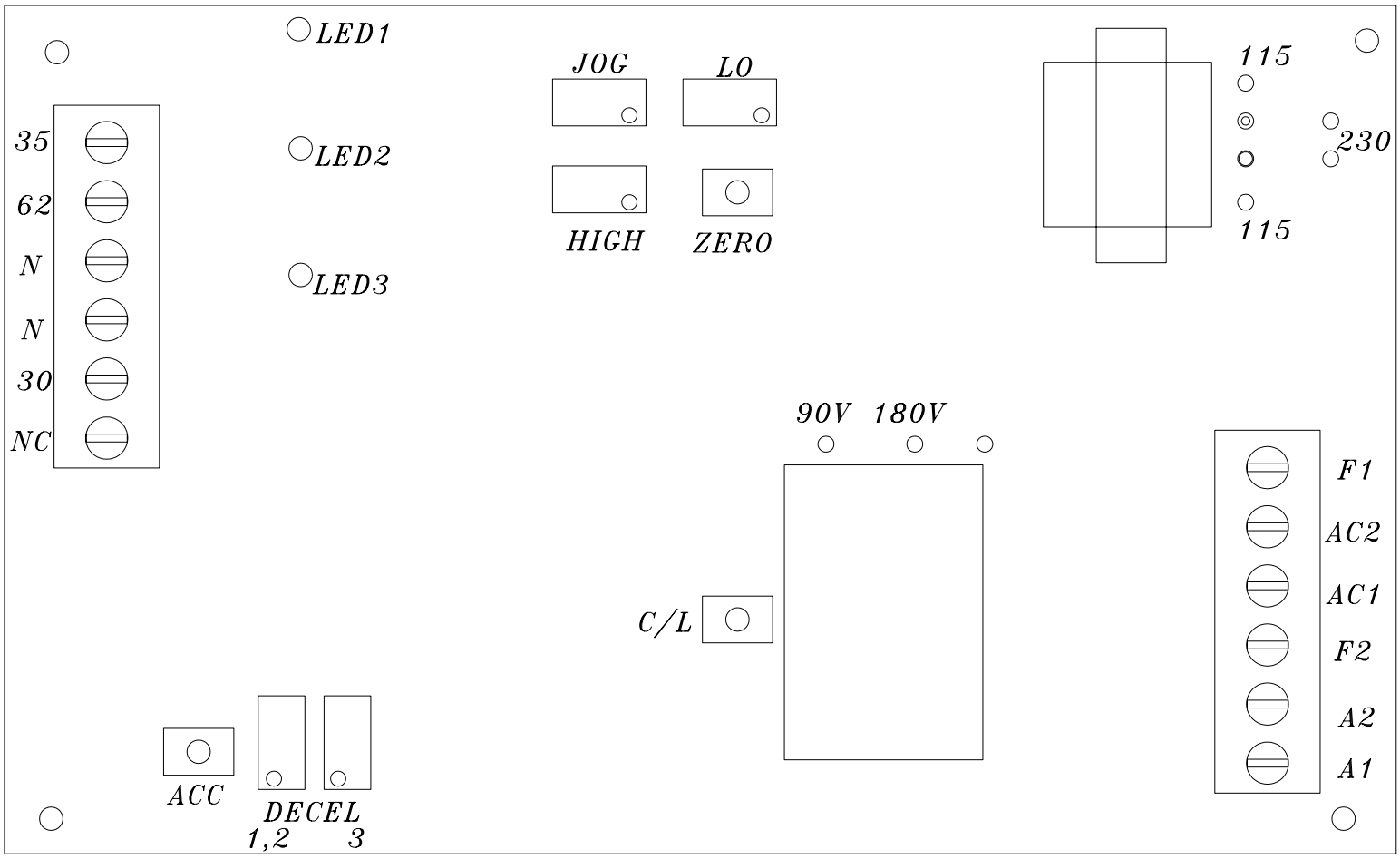
**Deceleration #3:** (Pot #**7**) The deceleration **3** pot controls the transition time when the board is switched from high speed to low speed at the end of a wrap cycle, on relay logic semi-automatic models only.

With the control panel turntable/tower high/low speed selector switch in the "High" position, cycle the machine, and adjust the Dec **3** pot as above, starting from minimum (fully CCW).

**Important Note:** On high speed Orion models (30 RPM turntable/tower drives with brake), the deceleration control is not used, and must be set to the minimum, or fully CCW.

**Current Limit:** (Pot #**9**) The current limit pot controls the torque (amps) that the board allows to the motor.

This control should be set using an amprobe, to limit the amps flowing to the motor to the rating on the motor nameplate, under full load. However, the setting may be temporarily set approximately, using a 2 HP maximum as a guideline. Example – If the turntable/tower drive of your Orion machine is 1 HP, set the current limit pot to a ½ CW position.




A1: ARMATURE CONTROL.

AC1: AC INPUT

AC2: AC INPUT

A2: ARMATURE CONTROL.

F1: FIELD CONTROL

F2: FIELD CONTROL

N: 11VAC NEUTRAL

35: JOG SPEED

62: HIGH SPEED

30: LO SPEED

N/C: NOT USED

DECEL 1,2: DECEL ADJUSTMENT

DECEL 3: DECEL ADJUSTMENT

ACC: ACCELERATION ADJUSTMENT.

C/L: CURRENT LIMITER.
(FACTORY SET)

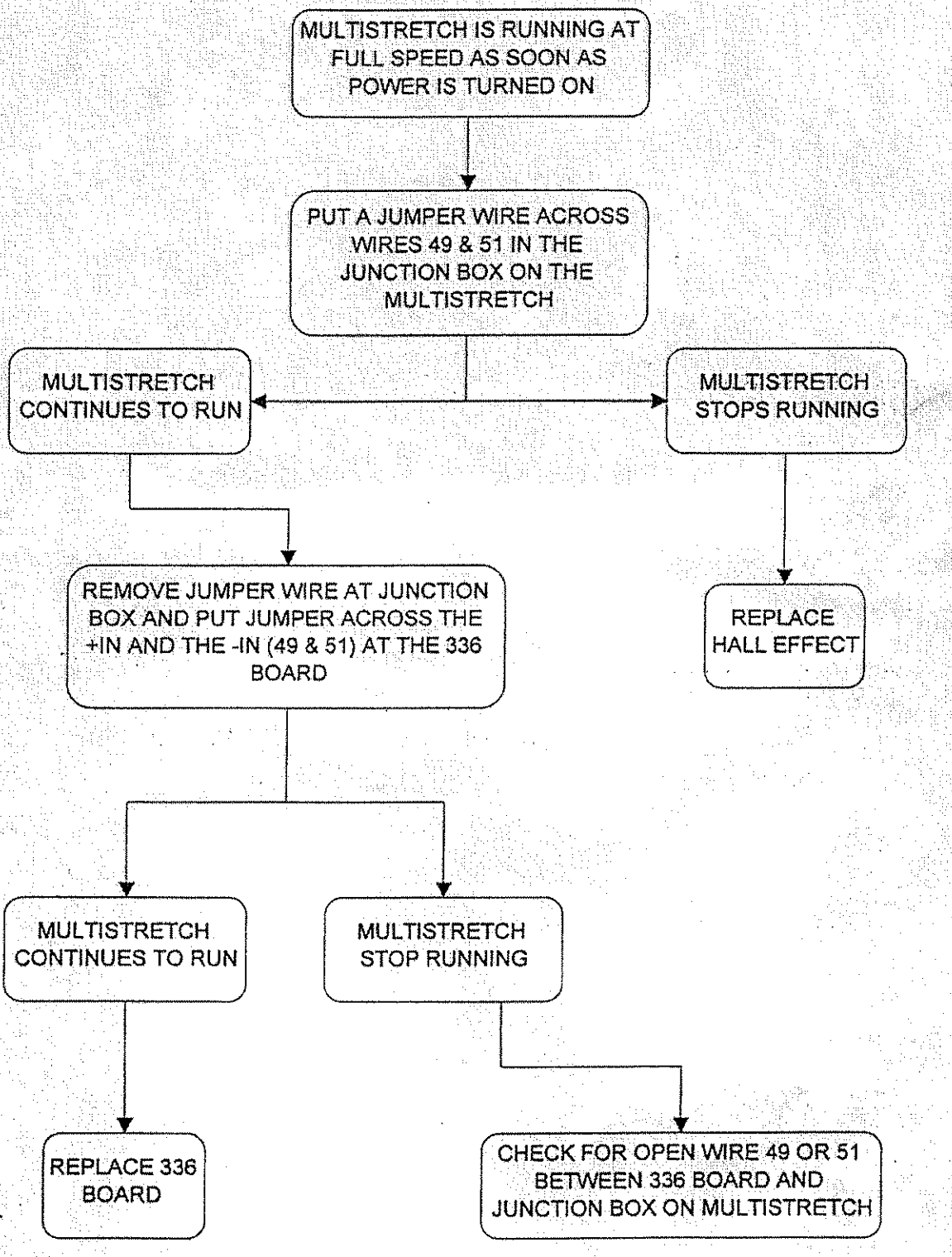
JOG: SPEED ADJUSTMENT

LO: SPEED ADJUSTMENT

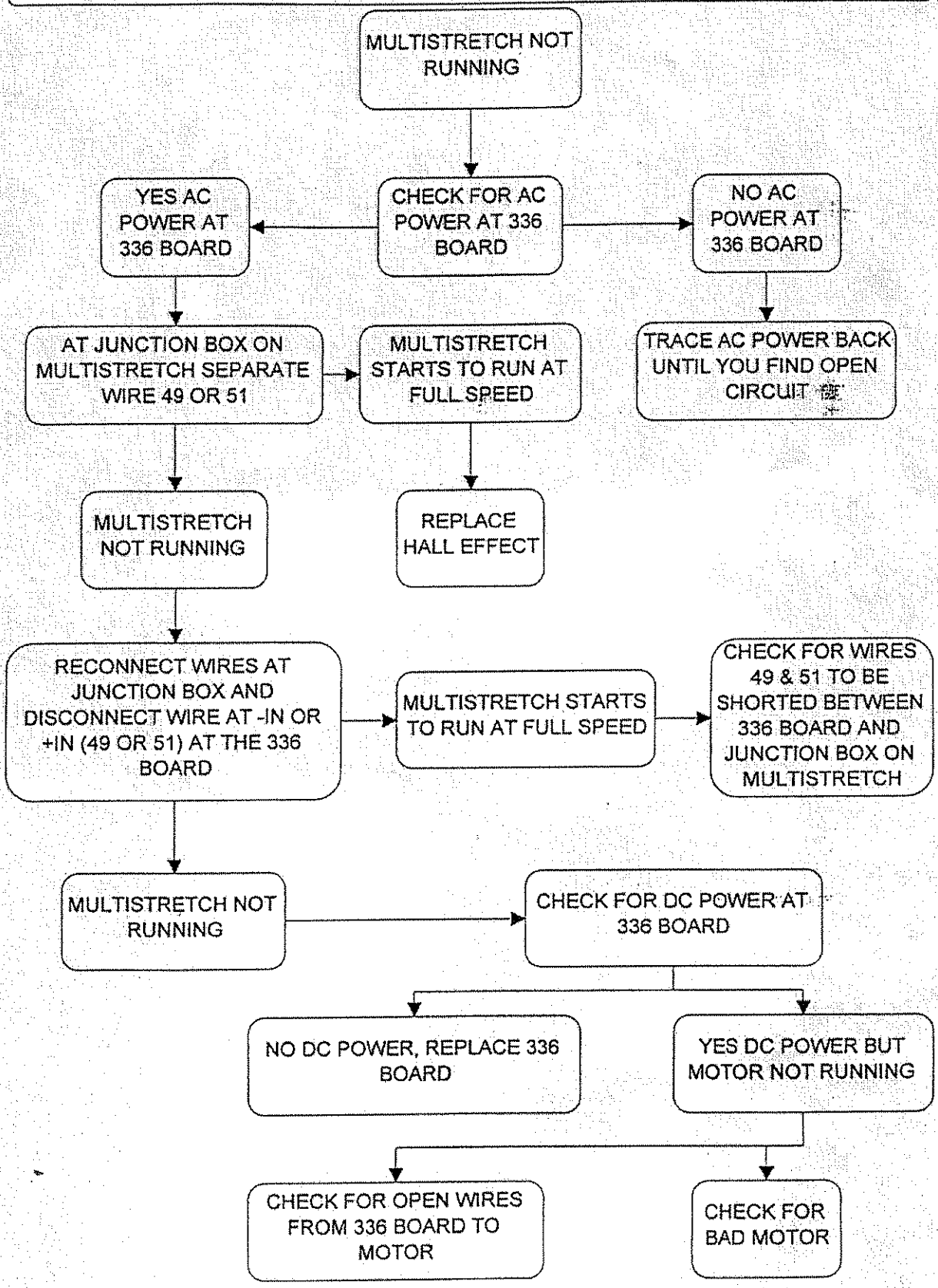
HIGH: SPEED ADJUSTMENT

# 750MX 3 SPEED 120/230VAC 90/180VDC MOTOR CONTROL BOARD

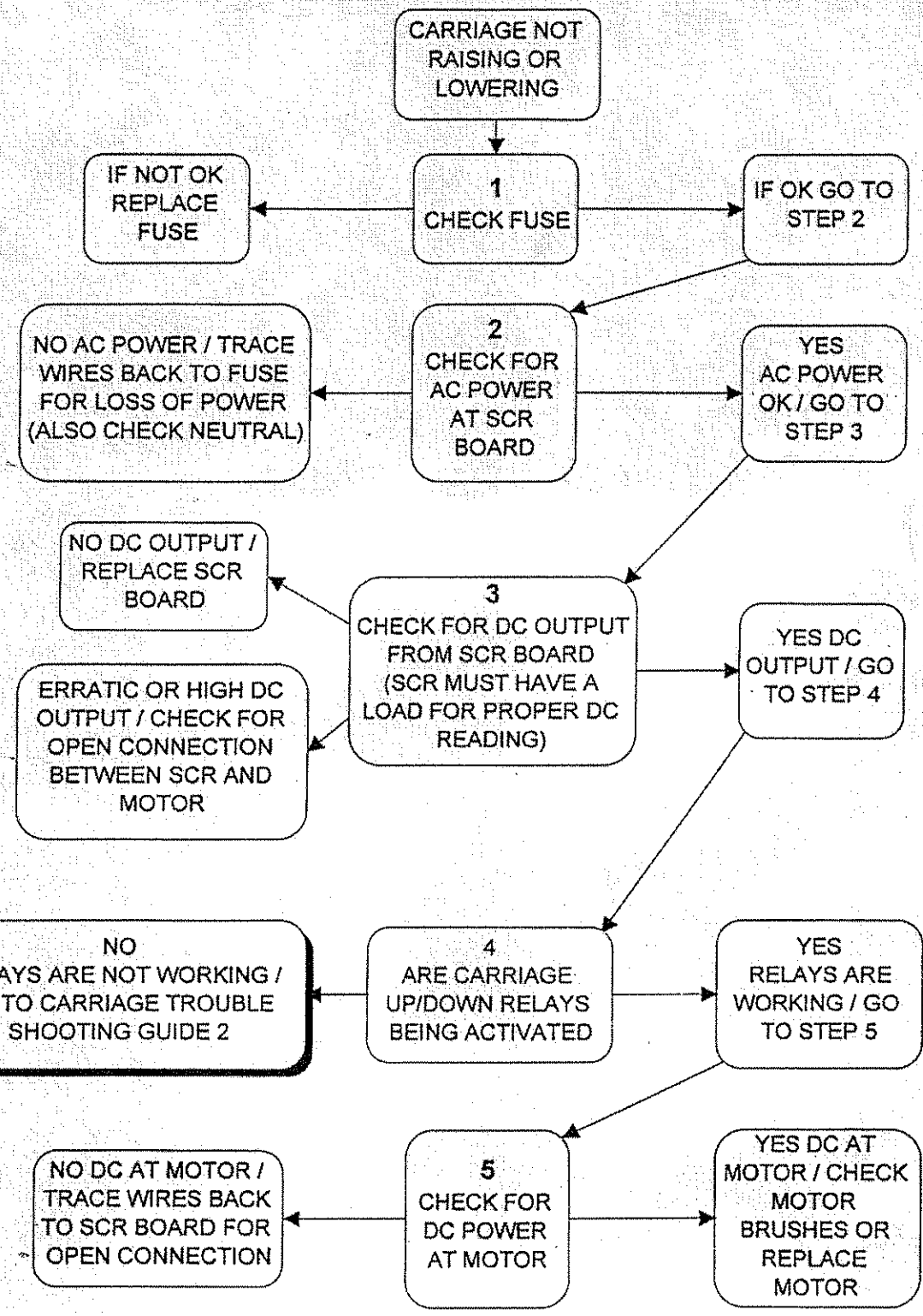
# MULTISTRETCH TROUBLE SHOOTING GUIDE 1



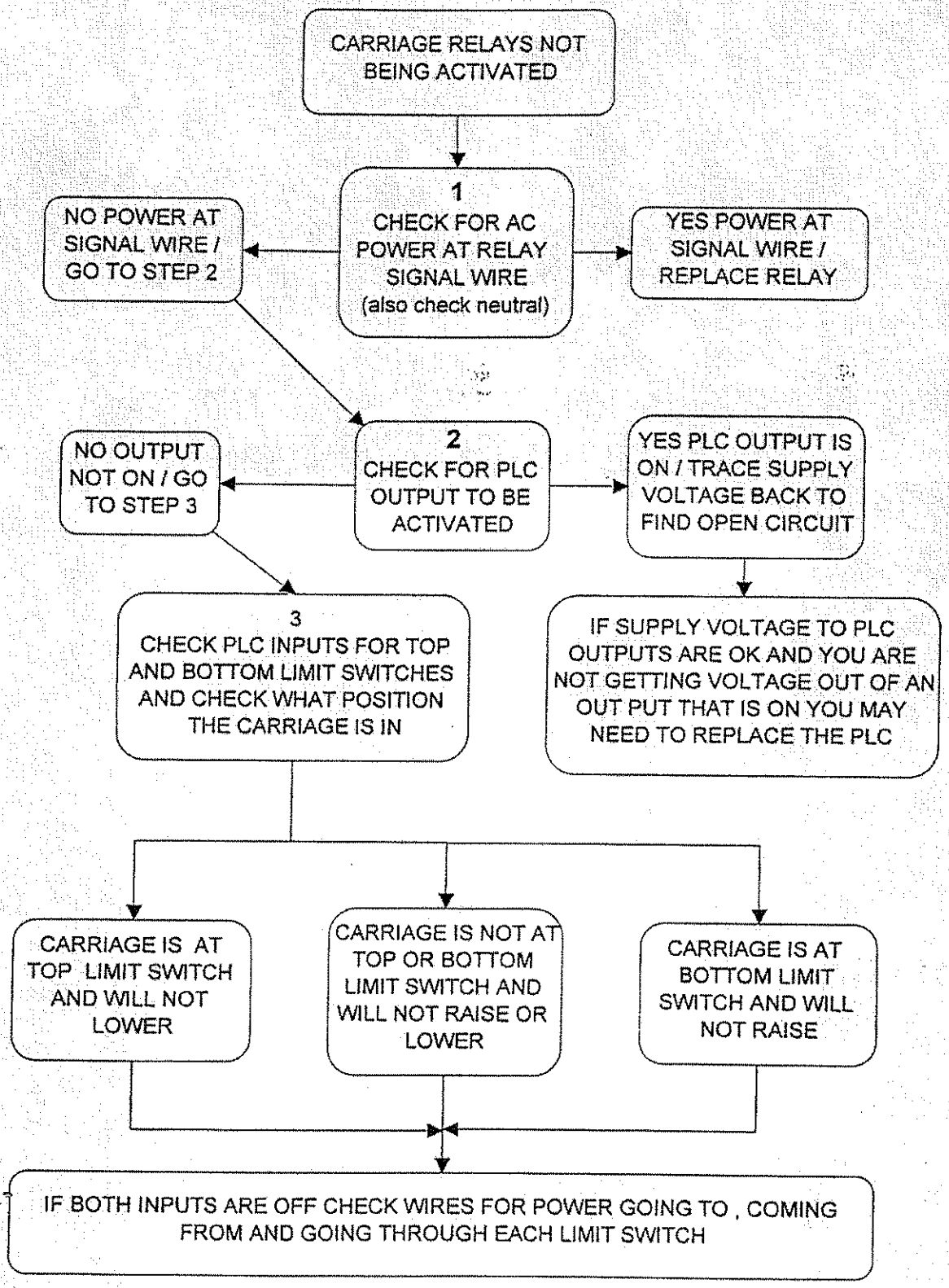
# MULTISTRETCH TROUBLE SHOOTING GUIDE 2



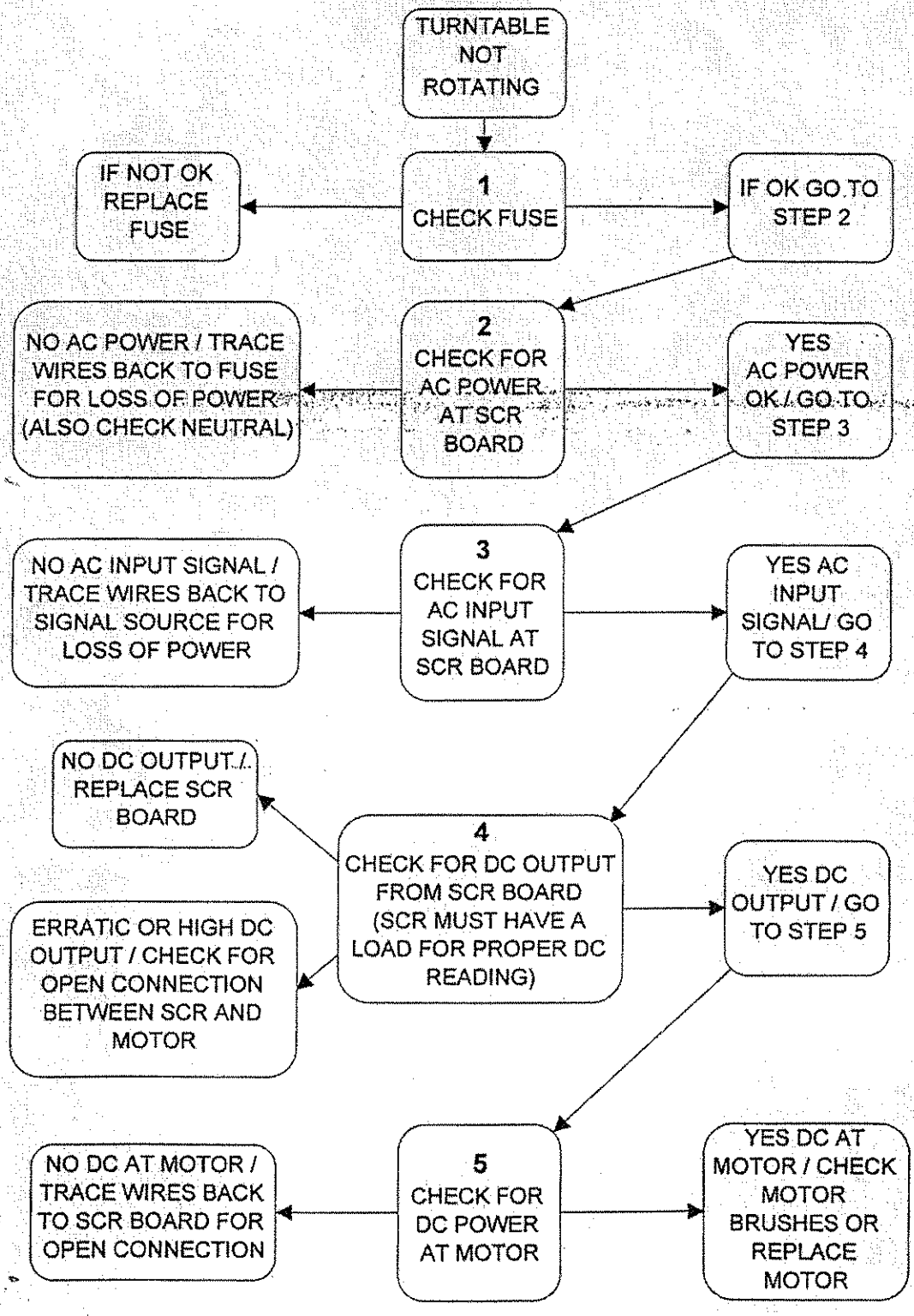
# 1
# BASIC CARRIAGE RAISE / LOWER TROUBLE SHOOTING GUIDE



# 2
# BASIC CARRIAGE RAISE / LOWER TROUBLE SHOOTING GUIDE



# BASIC TURNTABLE TROUBLE SHOOTING GUIDE




- IF TURNTABLE RUNS AS SOON AS POWER IS TURNED ON THE MOTOR MAY HAVE AN INTERNAL SHORT TO GROUND.