

**TIE-OUT STATION**

# Semi-Automatic Manual

(800) 854-0137 Info@TieOutStation.com



(800) 854-0137  
www.TieOutStation.com

A QUALITY PRODUCT OF  
**PLAS-TIES**  
TUSTIN, CALIFORNIA

14272 Chambers Road

Tustin, CA

92780

# SEMI AUTO TIE-OUT SERVICE MANUAL

## OPERATING INSTRUCTIONS

### Check list for first time operation.

1. 120 vac is plugged into the machine.
2. Check that the two power switches are “on”.
  - A. Main rear power switch that turns on 120 vac to the 24vdc power supply.
  - B. The Control panel switch that allows operating power for the machine. The Red LED on the panel switch is “on” and the larger Red LED on the left side of the electronics box is “on” (Viewable from front when the front cover is up).
3. The Air supply is on and regulated to 70 psi. (The blue slide valve on the right side of the regulator on the control panel is in the “up” position.)
4. The Test Switch on the control panel is in the “out” position (down).
5. The Tie-cycle can be tested by pushing the Test Switch on the control panel to the “in” position (up), which pulls the hanger receiver “in” and then actuates the hanger pusher and then runs the Tie-cycle. Then the Test Switch can be returned to the “out” position (down), which is the normal operating position. Actuating the foot switch on the Semi Auto units can also test the Tie-cycle. **(It is preferable to test the Tie-Cycle before the ribbon is loaded into the machine).**
6. ***NOTICE: If the Tie-cycle is tested with the ribbon loaded and no hangers are used. Remove the twisted ribbon from the twister using a needle nose pliers AFTER you have raised the front cover to deactivate the limit switches. This is a must do!***
7. The Brake energizing Switch is in the “Down” position. (Note! This switch is located on the lower left side of the “E” Box and can be seen with the front cover opened)
8. The Ribbon Feed System is correct. **(See Ribbon Feed System Page 3 and Figures 1 & 2)**
9. The Front Cover is down actuating the Limit Switches to allow normal operation.
10. Front Cover should “**ALWAYS**” be raised before reaching into the machine or when servicing the machine. This deactivates the limit switches that allow normal operation.

# DAILY OPERATING INSTRUCTIONS

## Check list for daily start-up and shut-down

1. Check that the Control panel switch (at the lower left of the Control Panel) is “Off” The Red LED on the switch should be “OFF”.
2. Turn the system “ON”.
3. Turn the Control panel switch “ON” (at the lower left of the Control Panel) The Red LED on the switch should be “ON”. **THIS NEEDS TO BE DONE IN THIS ORDER TO AVOID STARTUP CYCLE CAUSING MACHINE TO ACTIVATE WITHOUT CLOTHES BEING PRESENT AND LEAVING TIE IN TWISTER.**
4. Check that there are no tied ribbons in the twister **ALWAYS RAISE FRONT COVER WHICH DEACTIVATES THE SAFETY SWITCHES BEFORE REMOVING TIE MATERIAL OR SERVICING MACHINE.** (Use needle nose pliers to remove any twisted ribbon in the twister).
5. The Tie-cycle can be tested by pushing the Test Switch on the control panel to the “in” position (up), which pulls the hanger receiver “in” and then actuates the hanger pusher and then runs the Tie-cycle. Then the Test Switch can be returned to the “out” position (down), which is the normal operating position. Actuating the foot switch on the Semi Auto units can also test the Tie-cycle. (It is preferable to test the Tie-Cycle before the ribbon is loaded into the machine).
6. **NOTICE: *If the Tie-cycle is tested with the ribbon loaded and no hangers used, remove the twisted ribbon from the twister using a needle nose pliers. ALWAYS RAISE FRONT COVER, WHICH DEACTIVATES THE SAFETY SWITCHES BEFORE REMOVING TIE MATERIAL OR SERVICING MACHINE.***
7. The Ribbon Spool is loaded correctly. (See figure 1) This is a must for the machine to function properly.

## RIBBON FEED SYSTEM OPERATIONAL CHECK LIST

<b><u>The Ribbon Spool is loaded correctly. (See Figure 1)</u></b>	
1. The spool is loaded so <b><u>the wire feeds to the rear</u></b> then around the pulley and into the machine.	
2. The <b><u>Wire Side</u></b> of the ribbon is always <b><u>to the right</u></b> when looking from the rear	
3. <b><u>Less than one twist</u></b> of the ribbon from the spool to the machine	
<b><u>The Ribbon Feed Path through the machine is correct. (See Figure 2)</u></b>	
1. <b><u>.312-.375 inch max</u></b> from front edge of <b><u>Knife Anvil</u></b> to front edge of <b><u>Input Chute. (See Figure 2.)</u></b>	
2. Scissor Arm Chutes are <b><u>inline</u></b> to receive Ribbon coming from the Knife Anvil	
3. The <b><u>Knife Anvil</u></b> is adjusted to the <b><u>Knife</u></b> so that there is a <b><u>clean cut and knife returns easily.</u></b> Use a <b><u>.003 Feeler Gauge</u></b> to make this adjustment.	
<b><u>The two tails of the ribbon are equal when tying 10 hangers</u></b>	

## ELECTRONIC TROUBLE SHOOT

### Unit will not start (hanger receiver will not pull in)

1. Is **120 vac** plugged into the machine?
2. Check that the **two power switches** are “on”.
  - A. **Rear Power Switch** that turns on 120 Volt A.C. to the 24 Volt D.C. Power Supply.
  - B. **Control Panel Switch** that allows operating power for the machine. The **Red LED** on the panel switch should be “on” ( FIG. 4 ) and the larger **Red LED** on the left side of the electronics box should be “on”. (Viewable from front of when the front cover is up. )
3. Cover is closed and cover-switches **L.S. 1**, **L.S. 2** and, **L.S. 3** are actuated.
4. Check that the **Air Pressure is set to 70 psi** and the **Blue Slider Valve** is in the **up position**. (NOTE: If you can push the hanger guide in by hand the air is **not on**).
5. Check that the **Foot-Switch is plugged into the Control Panel**. Actuate the foot switch. If the foot switch is suspect, the foot switch connector can be removed from the control panel and the 2 horizontal pins on the panel can be shorted with a jumper and the unit should operate.
6. Push the **Test Switch** on the control panel to the “in” position (up), which pulls the hanger receiver “in” and then actuates the hanger pusher air solenoid and then runs the **Tie-cycle**. Then the **Test Switch** can be returned to the “out” position (down), which is the normal operating position which will return everything back to home position.
7. If none of the above solves the problem then it is probably in the wiring. Go to the “Start Hanger in” schematic and follow the connections from **The “Remote” Connector** thru “**B**” Connector to **Solenoid 1 (1 shot) Timing Relay** and back thru Connector “**B**” thru Cover Switch (**LS1**) to the Solenoid 1 connector. (NOTE: supplying +24Volt D.C. to the topside of the connector actuates the valve). You can also check the wiring by jumping a lead from **Pin 2** (+24Volt D.C.) to **Pin 6** of the **Solenoid 1 (1 shot) Timing Relay**. (NOTE: The outside Cover Switch **LS1** must be activated for the **Timing Relay 1-shot signal** to reach the solenoid). This is the left relay on top of the “E” Box viewing from the front of the machine.  
**(CAUTION! Be very careful of hanger receiver “actuating in” when the cover is open or off)**

## TIE-CYCLE WILL NOT OPERATE

1. Check **Unit will not start (hanger receiver will not pull in)** per page 4.
2. CAUTION! For the following tests, **turn the air supply off** at the machine by pushing the blue slider valve on the right side of the regulator on the control panel **down**. Check that the air is off by **pushing in the hanger receiver by hand**-It should move freely. It is also suggested to **remove the ribbon from the** unit so that twisted ribbon need not be removed from the twister while testing.
3. Open the front cover and actuate the top Tie-cycle switch (LS7) by hand, while holding the inside cover switch (LS3). The Tie-cycle should operate.
4. A quick method of checking if the trigger is the problem is to actuate the motor M1 brake switch to the “up” position. This switch is on the left of the “E” Box and is normally down for normal machine operation. When the switch is in the “UP” position the power is off the motor but the BRAKE is energized which allows the motor to be turned by hand. By hand turn the partial gear about  $\frac{1}{2}$  turn, which is  $\frac{1}{2}$  of the Tie-cycle. Remove your hands from the mechanism and actuate the motor M1 brake switch back to the “DOWN” position. This should complete the Tie-Cycle and return the unit to the “HOME” position.
5. If this happens it is likely the problem is in the trigger switch (LS7). Go to the Tie-Cycle schematic and check the wiring.

# FIGURE 1

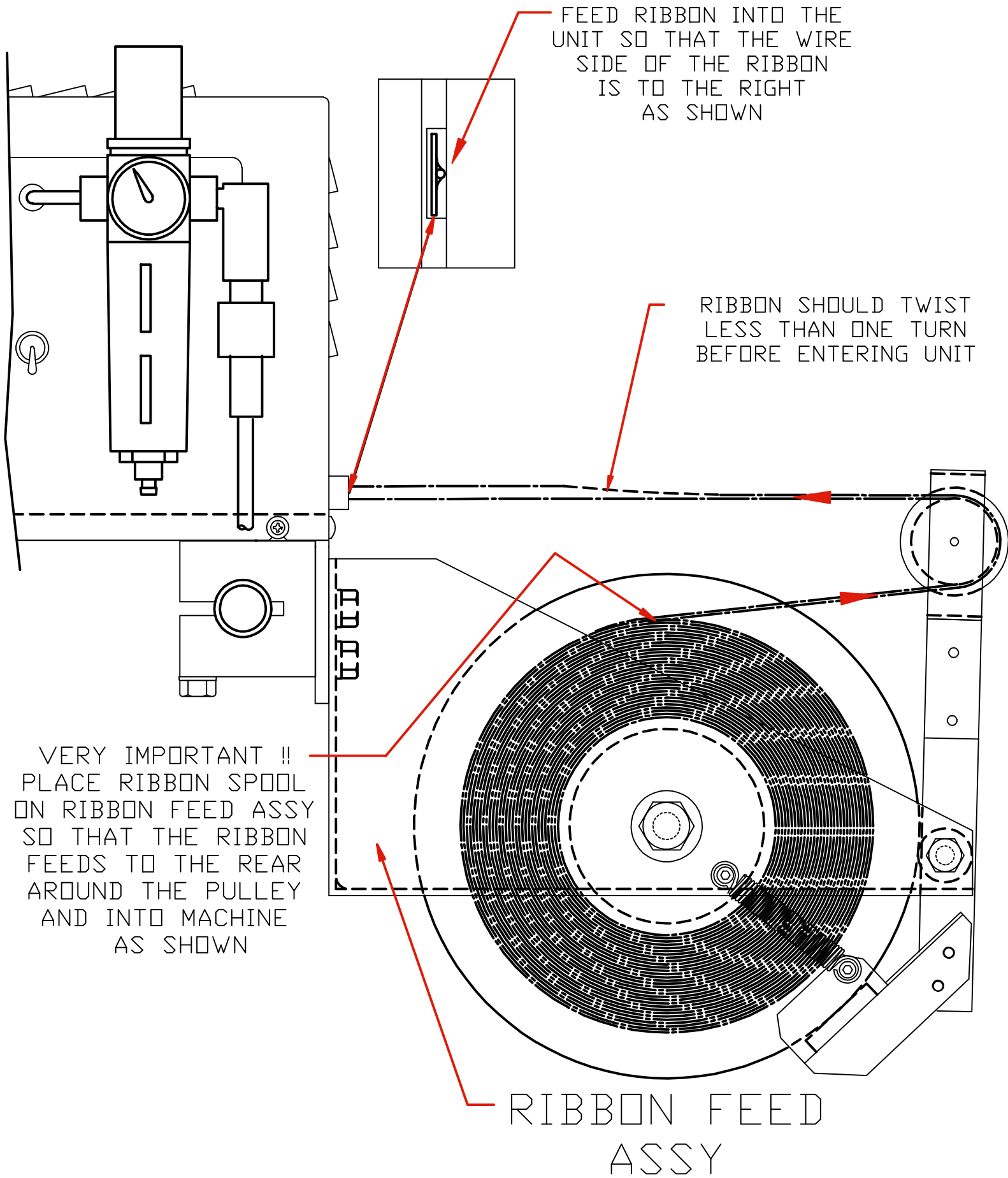
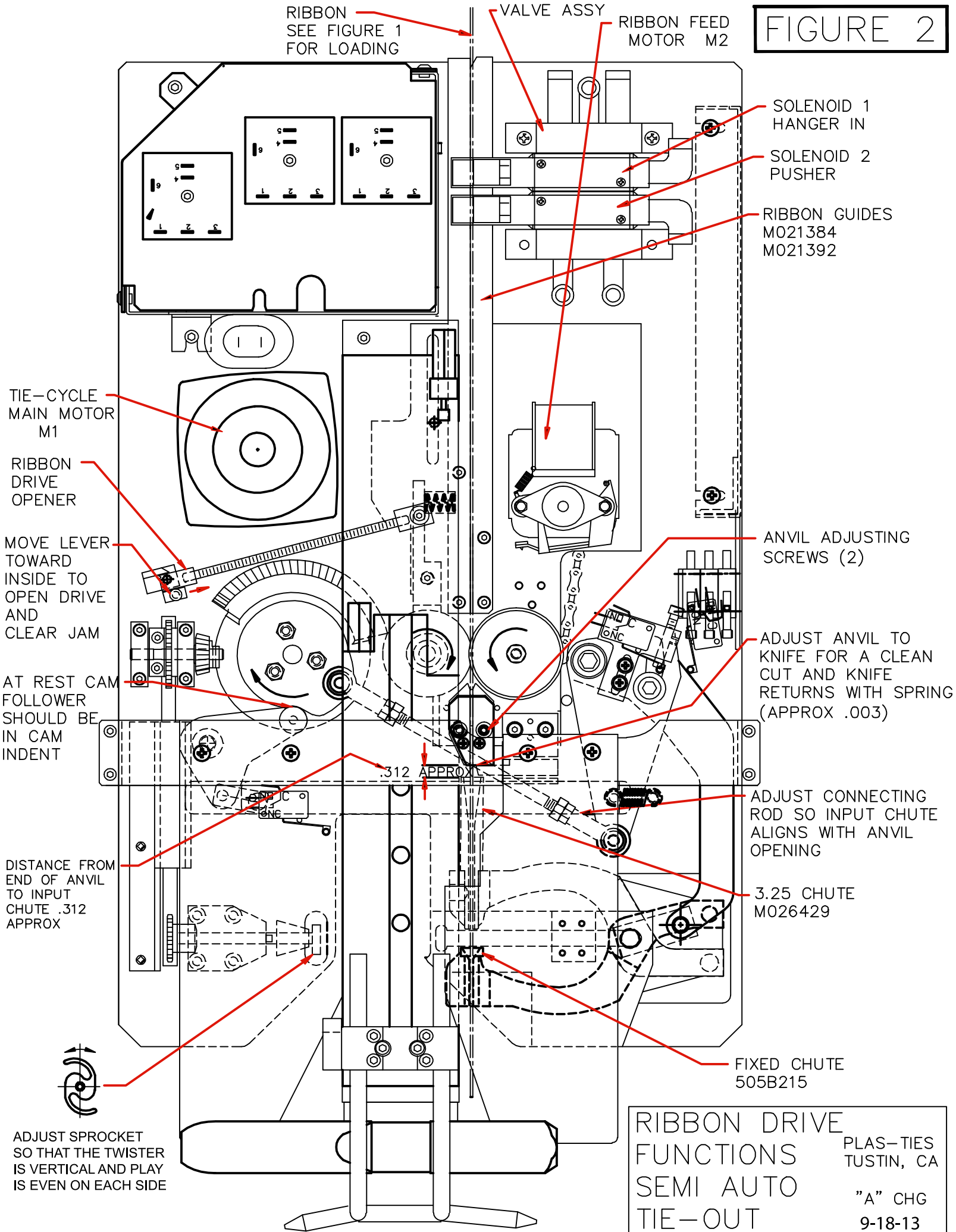


FIGURE 2



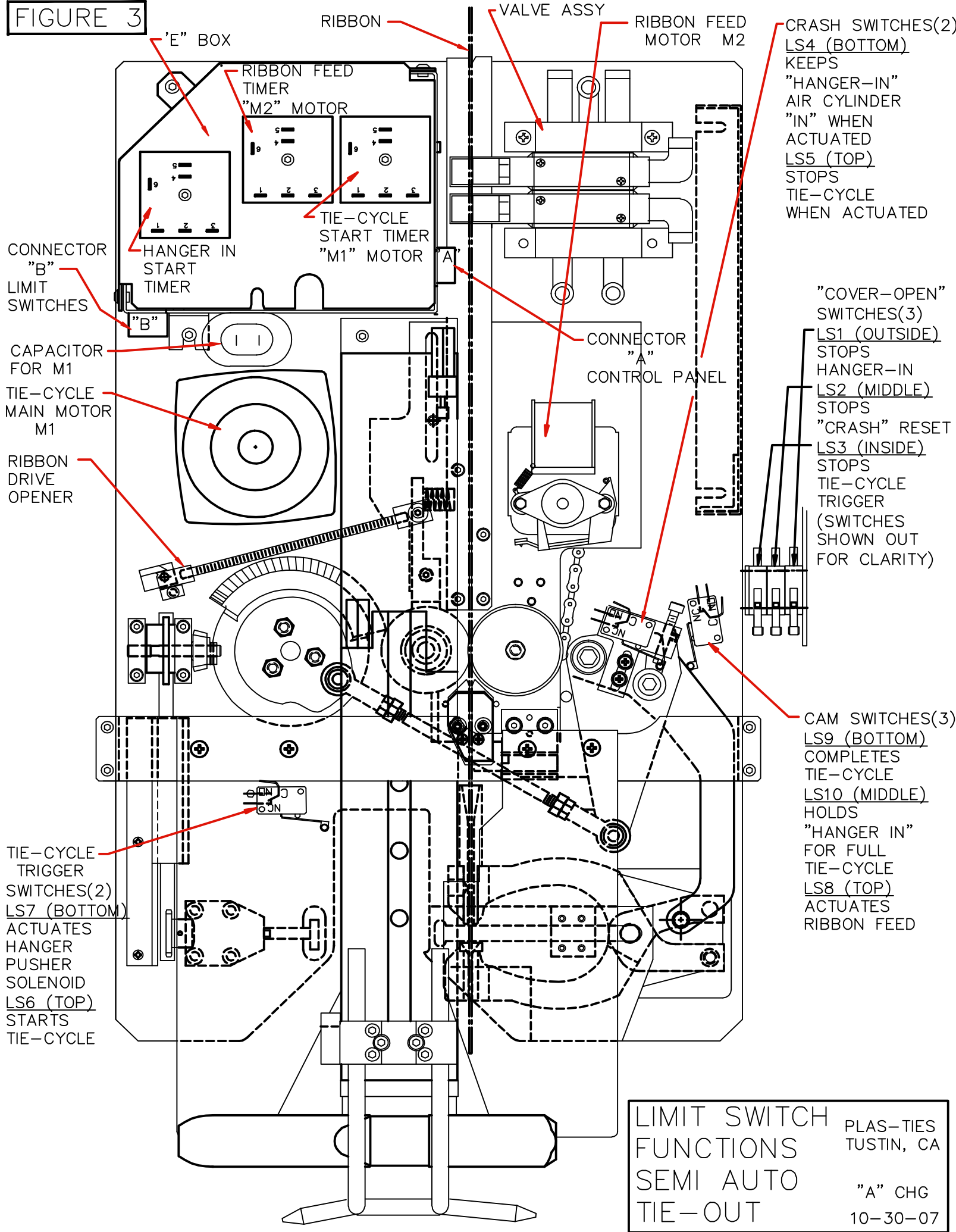
RIBBON DRIVE  
FUNCTIONS  
SEMI AUTO  
TIE-OUT

PLAS-TIES  
TUSTIN, CA

"A" CHG  
9-18-13



**FIGURE 3**



'E' BOX

RIBBON

VALVE ASSY

RIBBON FEED MOTOR M2

CRASH SWITCHES(2)  
 LS4 (BOTTOM) KEEPS "HANGER-IN" AIR CYLINDER "IN" WHEN ACTUATED  
 LS5 (TOP) STOPS TIE-CYCLE WHEN ACTUATED

RIBBON FEED TIMER "M2" MOTOR

TIE-CYCLE START TIMER "M1" MOTOR

CONNECTOR "B" LIMIT SWITCHES

HANGER IN START TIMER

CAPACITOR FOR M1

TIE-CYCLE MAIN MOTOR M1

RIBBON DRIVE OPENER

CONNECTOR "A" CONTROL PANEL

"COVER-OPEN" SWITCHES(3)  
 LS1 (OUTSIDE) STOPS HANGER-IN  
 LS2 (MIDDLE) STOPS "CRASH" RESET  
 LS3 (INSIDE) STOPS TIE-CYCLE TRIGGER (SWITCHES SHOWN OUT FOR CLARITY)

CAM SWITCHES(3)  
 LS9 (BOTTOM) COMPLETES TIE-CYCLE  
 LS10 (MIDDLE) HOLDS "HANGER IN" FOR FULL TIE-CYCLE  
 LS8 (TOP) ACTUATES RIBBON FEED

TIE-CYCLE TRIGGER SWITCHES(2)  
 LS7 (BOTTOM) ACTUATES HANGER PUSHER SOLENOID  
 LS6 (TOP) STARTS TIE-CYCLE

LIMIT SWITCH FUNCTIONS  
 SEMI AUTO  
 TIE-OUT

PLAS-TIES  
 TUSTIN, CA  
 "A" CHG  
 10-30-07

FIGURE 4

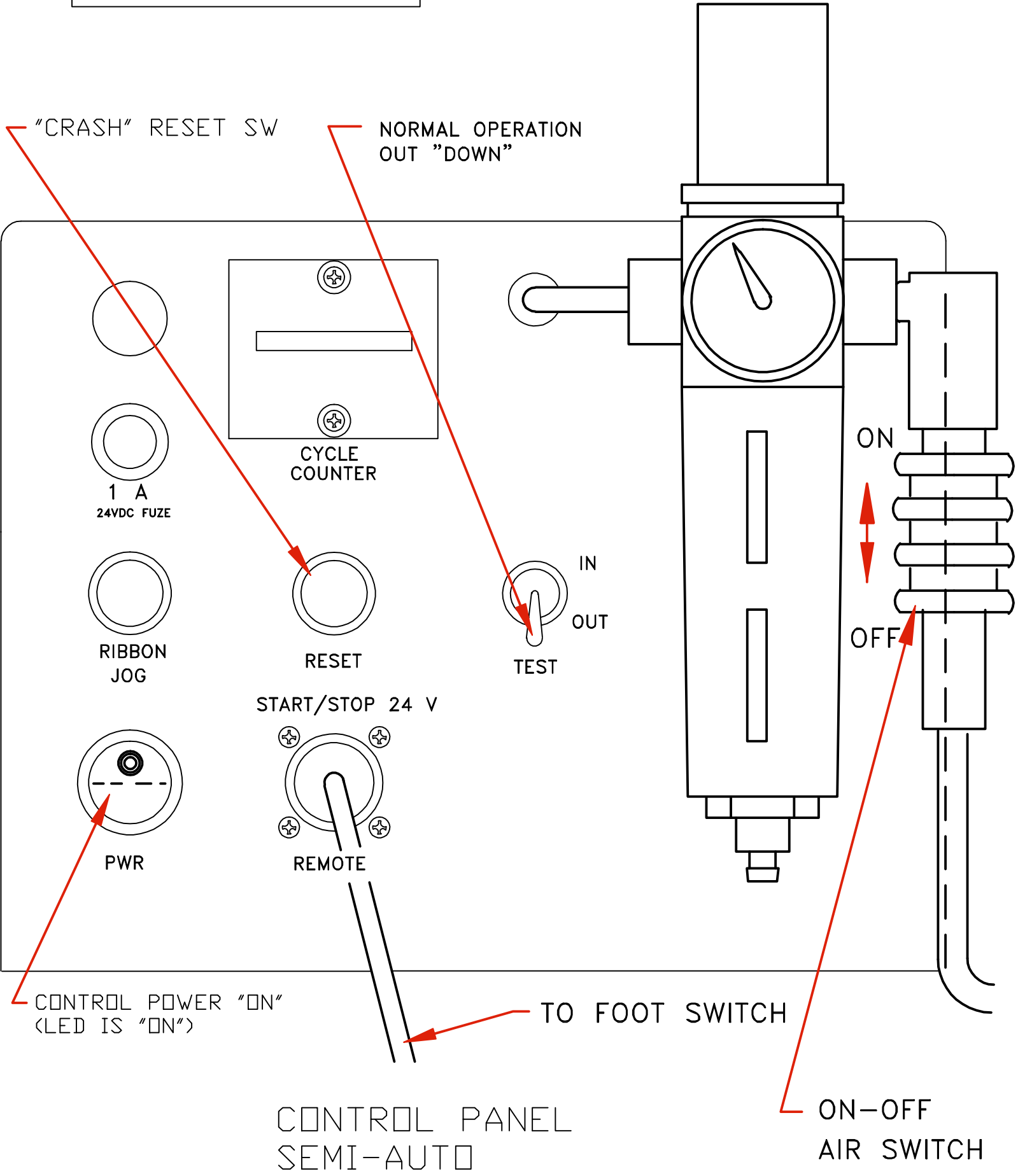
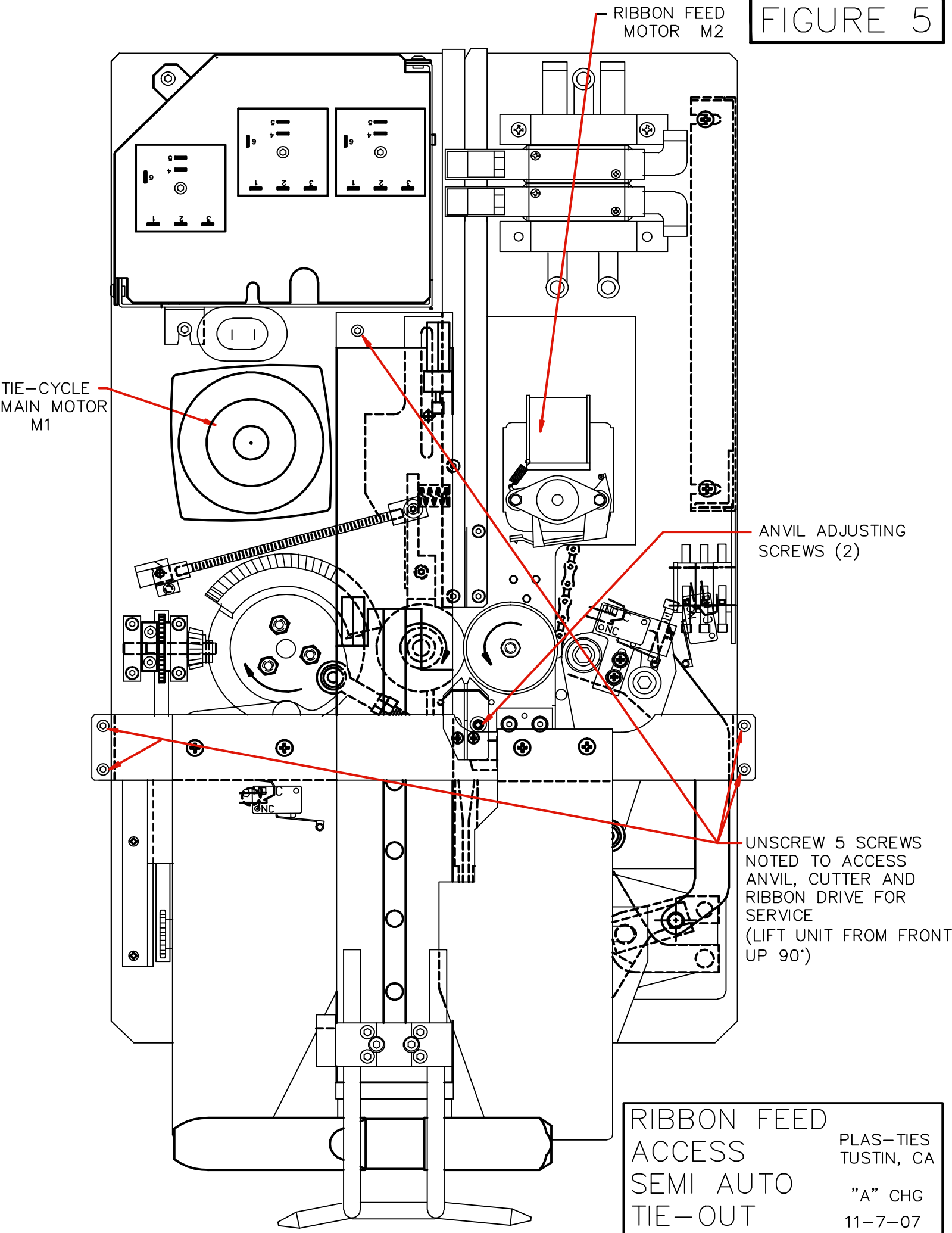


FIGURE 5



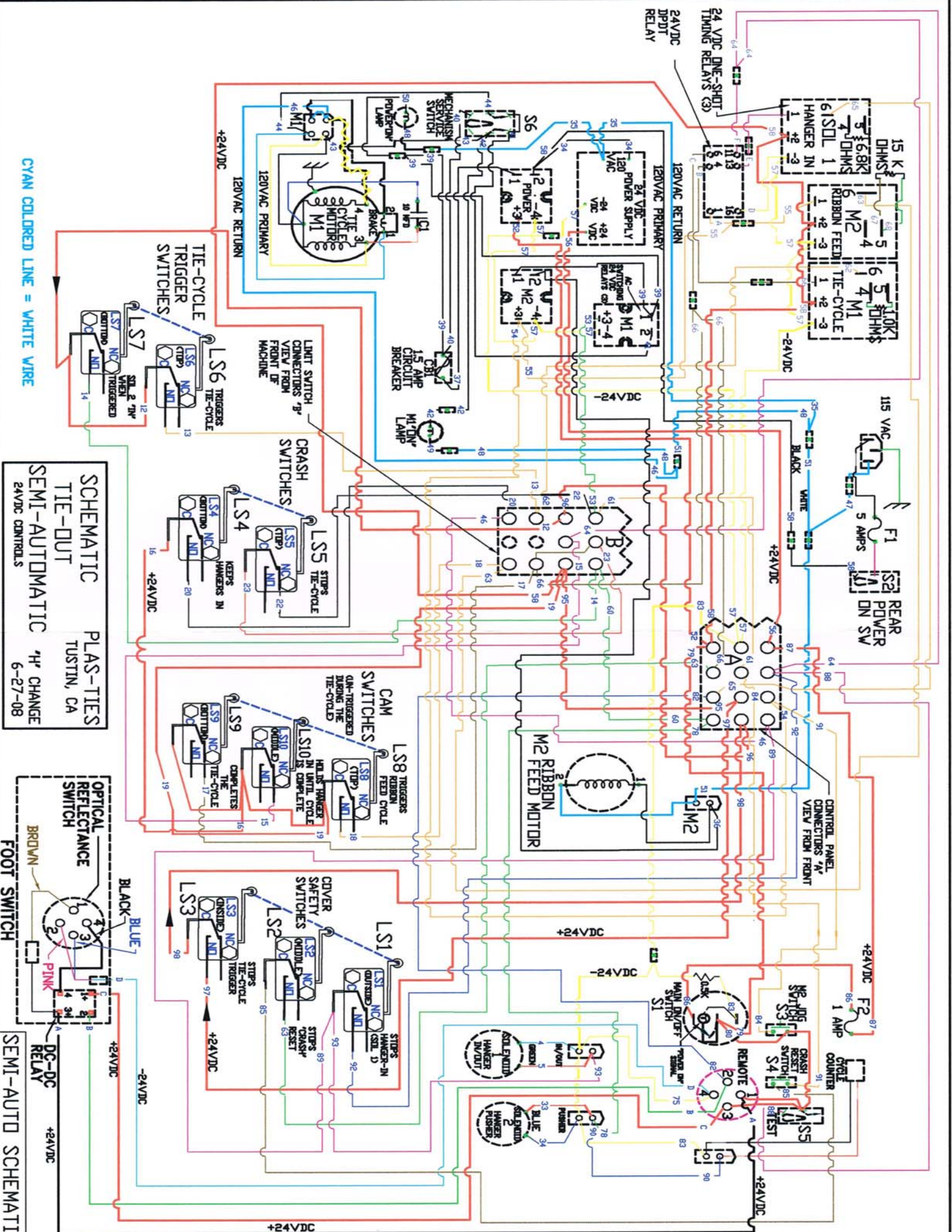
TIE-CYCLE  
MAIN MOTOR  
M1

RIBBON FEED  
MOTOR M2

ANVIL ADJUSTING  
SCREWS (2)

UNSCREW 5 SCREWS  
NOTED TO ACCESS  
ANVIL, CUTTER AND  
RIBBON DRIVE FOR  
SERVICE  
(LIFT UNIT FROM FRONT  
UP 90°)

RIBBON FEED ACCESS SEMI AUTO TIE-OUT	PLAS-TIES TUSTIN, CA "A" CHG 11-7-07
---	---



CYAN COLORED LINE = WHITE WIRE

SCHEMATIC TIE-DUT PLAS-TIES  
 TUSTIN, CA  
 SEMI-AUTOMATIC 4<sup>th</sup> CHANGE  
 6-27-08

OPTICAL REFLECTANCE SWITCH  
 BROWN  
 FOOT SWITCH

DC-DC RELAY  
 SEMI-AUTO SCHEMATIC

## Standard Tie Out Station Spare Parts Kit Part# K004880

- (1) Gear Segment & Cam Assy: - A202030
- (6) ¼-20 X ¼ Set screws for sprocket – P004367
- (1) Wavy Washer – P002046
  
- (4) Micro Switches - 16907
  
- (8) O rings - 56602
  
- (1) Fixed Chute – M021364
- (1) 3-1/4" Chute – M026429
  
- (1) Pinion Gear 505B015
  
- (1) Sprocket Driver Twister (big) – M021367
- (1) Clamp, Sprocket – M021950
- (2) 10-32X5/8 fine socket head cap 5CR Plain – P002400
- (1) Driver Twister Sprocket (small) - M021366
- (1) Chain #25 –56302
- (1) Chain connecting link #25 –56400
- (1) Key 3/32 –M021368
- (2) 10-32 X 3/16 fine socket set scr cup –56731
- (1) 260 X .500 X .005 Chim –P001730
  
- (1) Main Motor –56959
  
- (5) Fuses 5 amp – 56909
- (5) Fuses 1 amp – P004153



Á

**Questions? Call (800) 854-0137 ext. 230 or send e-mail to [jgarcia@plasties.com](mailto:jgarcia@plasties.com).**  
Visit our website at [www.TieOutStation.com](http://www.TieOutStation.com)

## Tie Out Station Master Spare Parts Kit Part# K004885

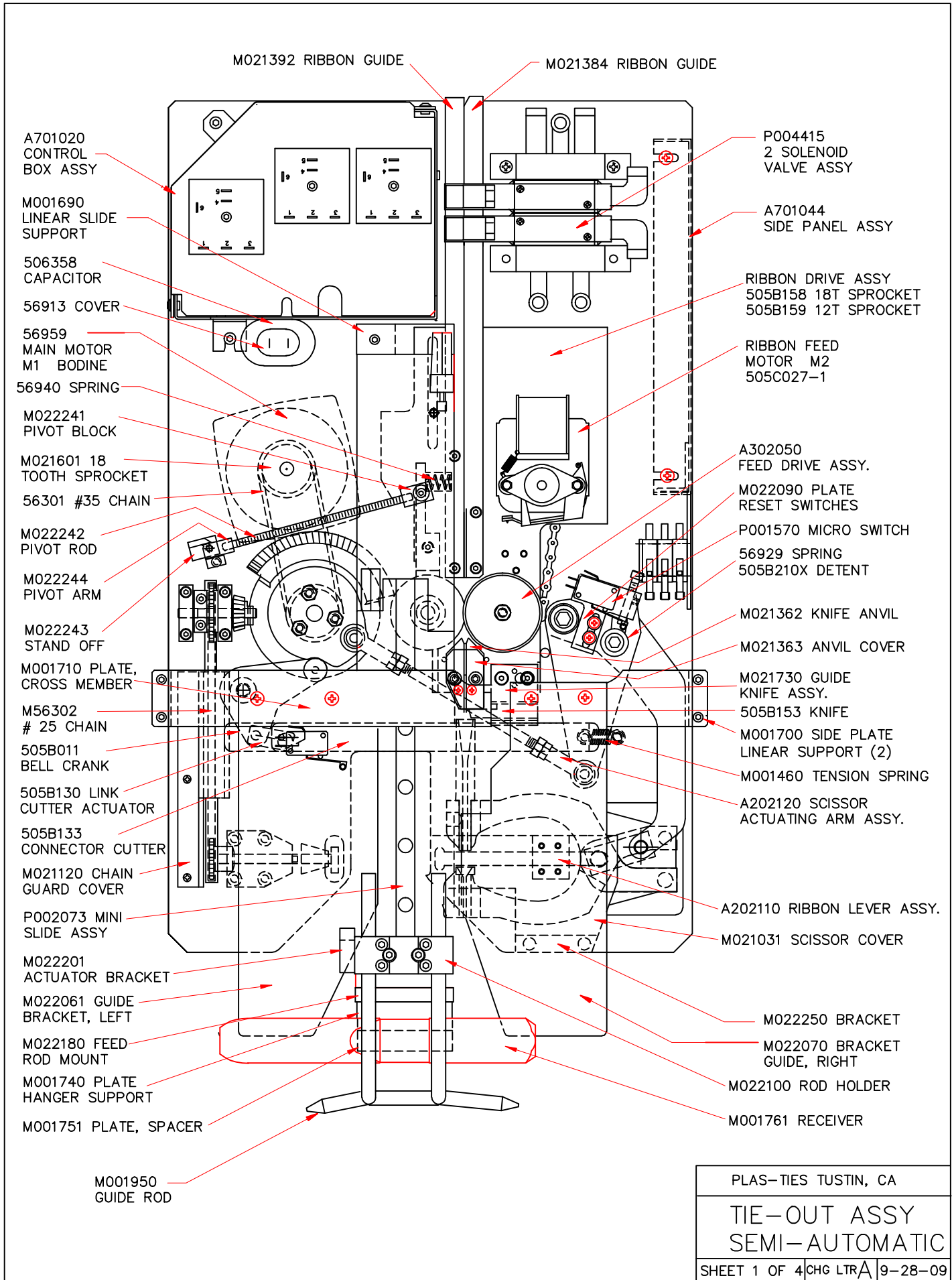
- (1) Gear Segment & Cam Assy: - A202030
- (6) 1/4-20 X 1/4 Set screws for sprocket – P004367
- (1) Wavy Washer – P002046
  
- (4) Micro Switches - 16907
  
- (8) O rings - 56602
  
- (1) Fixed Chute – M021364
- (1) 3-1/4" Chute – M026429
  
- (1) Pinion Gear 505B015
  
- (1) Sprocket Driver Twister (big) – M021367
- (1) Clamp, Sprocket – M021950
- (2) 10-32X5/8 fine socket head cap 5CR Plain – P002400
- (1) Driver Twister Sprocket (small) - M021366
- (1) Chain #25 –56302
- (1) Chain connecting link #25 –56400
- (1) Key 3/32 –M021368
- (2) 10-32 X 3/16 fine socket set scr cup –56731
- (1) 260 X .500 X .005 Chim –P001730
  
- (1) Main Motor –56959
  
- (5) Fuses 5 amp – 56909
- (5) Fuses 1 amp – P004153
  
- (1) Wheel Pressure Ribbon Drive – 505B198
- (1) Wheel Ribbon Drive – 505B197
  
- (1) Electrical Control Box – A701020
  
- (1) Wire Harness – A701050
- (1) Panel Assembly – A701042

Á

**Questions? Call (800) 854-0137 ext. 230 or send e-mail to [jgarcia@plasties.com](mailto:jgarcia@plasties.com).**  
Visit our website at [www.TieOutStation.com](http://www.TieOutStation.com)



**TIE-OUT STATION ASSEMBLY  
SEMI-AUTOMATIC  
PARTS LIST**





M021367 SPROCKET  
M021950 CLAMP

505B019 TWISTER  
DRIVE ASSY. (2)

M001492 PIVOT  
SHAFT ASSY.  
M021411 12 T  
SPROCKET

505C127 GEAR  
SEGMENT

505B012M  
ACTUATOR CAM

A302060 RIBBON  
FORMING WHEEL

M001880 CONE

M021366  
SPROCKET

505B189  
TWISTER SHAFT

505B018 TWISTER  
BLOCK ASSY.

505B212-4 TWISTER

P002073 MINI  
SLIDE ASSY

505B150 SUPPORT IDLER

56302 # 25 CHAIN

505B114 1/2-1 1/4  
SHOULDER BOLT

56825 3/8-2  
SHOULDER BOLT

505C209 SCISSOR ARM

M026429 3.25" CHUTE

A202170 SCISSOR  
ARM, RIGHT

505B010 DRAG LINK

M021052 CAM  
SCISSOR DRIVE

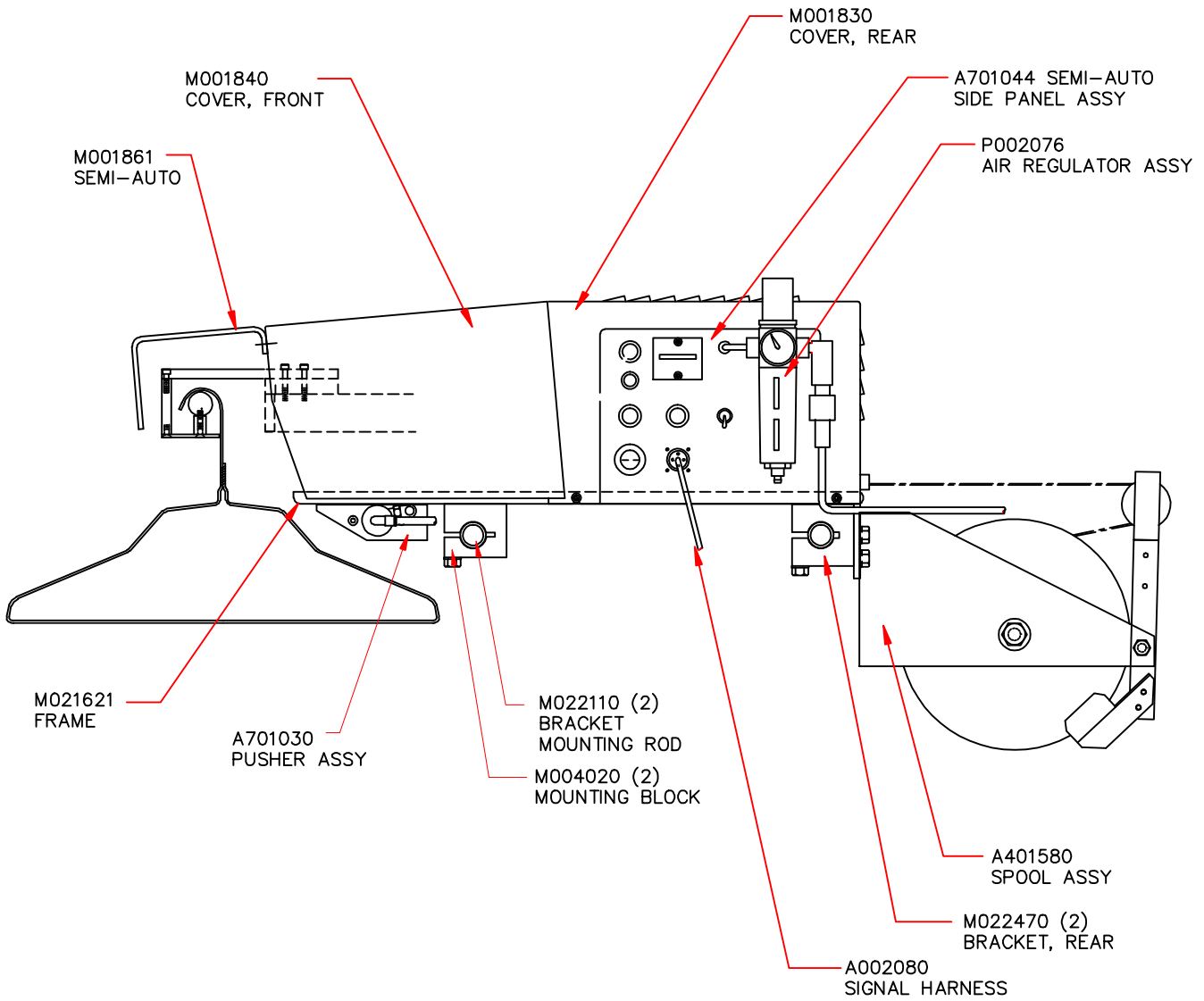
A202190 SCISSOR  
ARM, LEFT

505B215 FIXED CHUTE

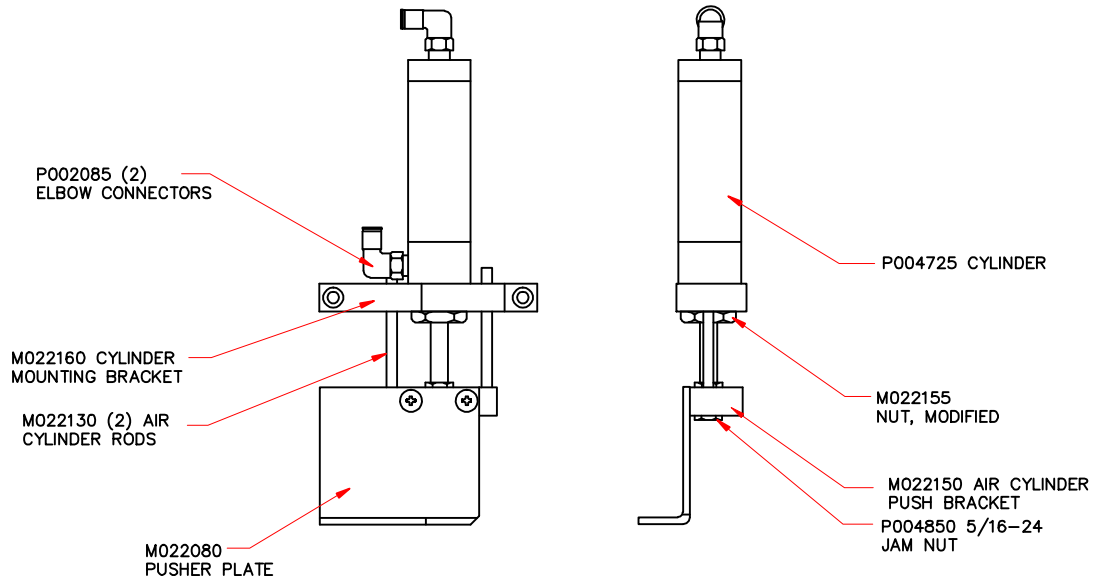
PLAS-TIES TUSTIN, CA

TIE-OUT ASSY  
SEMI-AUTOMATIC

SHEET 2 OF 3 CHG LTR A 9-28-09



PLAS-TIES TUSTIN, CA	
TIE-OUT ASSY SEMI-AUTOMATIC	
SHEET 3 OF 4	CHG LTR A 9-28-09



PUSHER ASSY  
A701030

PLAS-TIES TUSTIN, CA

TIE-OUT ASSY  
SEMI-AUTOMATIC

SHEET 4 OF 4 CHG LTR A 9-28-09