

# **KWM**<sup>®</sup> Gutterman<sup>INC.</sup>

## OPERATING AND MAINTENANCE TROUBLE SHOOTING GUIDE



 **IRON MAN 5"**



 **IRON MAN 6"**



 **IRON MAN 5/6"**

Manufactured by:  
**KWM GUTTERMAN, INC.**

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# SECTION 1

## IRONMAN 5" AND 6" GUTTER MACHINE SPECIFICATIONS

- POWER
- 3/4HP.,110 V.,60 HTZ SINGLE PHASE TEFC MOTOR, 13.6 AMP.
  - 3/4HP.,110 V.,50 HTZ SINGLE PHASE TEFC MOTOR, 13.6 AMP.
  - 3/4HP.,220 V.,50 HTZ SINGLE PHASE TEFC MOTOR, 6.8 AMP.

- DIMENSIONS
- 5" LENGTH - 98 1/2" (250.2cm)
  - 6" & COMBO - LENGTH - 122" (309.88cm)
  - HEIGHT - 48" (122.0cm)
  - WIDTH - 24" (61cm)

- WEIGHT
- 5" APPROX. 1100 LBS. (499. kilograms)
  - 6" APPROX. 1300 LBS. (589.7 kilograms)
  - Combo APPROX. 1400 LBS. (635. kilograms)

- DRIVE
- POWERED POLYURETHANE DRIVE ROLLERS VIA CHAIN AND SPROCKETS.

- SHEAR
- FRONT PULL GUILLOTINE STYLE SHEAR.

- SPEED
- APPROXIMATELY 35 FT. PER MINUTE.

- CONTROLS
- PUSH BUTTON ENTRY AND EXIT END MANUAL CONTROLS WITH "JOG" FEATURE AND POWER INTERRUPTION SAFETY WIRING.

### MATERIALS FORMED

5" GUTTER MACHINE 11 3/4" TO 12"

6" GUTTER MACHINE 15"

- PAINTED STEEL MAX 24 GAUGE
- GALVANIZED STEEL MAX 24 GAUGE
- ALUMINIZED STEEL MAX 24 GAUGE
- TERNECOAT STEEL MAX 24 GAUGE
- ALUMINUM MAX .040 THK.
- COPPER 16 OZ. 1/2 HARD

## **SECTION 2**

### **SAFETY AND GENERAL MAINTENANCE**

1. Read the entire manual prior to operation of this machine.
2. Always keep covers and lids on during transportation, operation and storage. The covers are for the operators safety. Not only will this protect the operator against injury, the covers protect the machine from outside elements.
3. Do not transport or store machine with gutter coil in the machine. The forming rollers have adequate spacing which will not allow them to come in contact with each other. The polyurethane drive rollers do not need to be protected from each other.
4. Read all warning labels on machine.
5. Disconnect the machine from power source prior to cleaning, or performing any maintenance.
6. Perform a daily inspection for debris, loose nuts, and or bolts. With a clean machine you can expect longer life from your machine and a better finished product.
7. Lubricate guillotine and chains weekly using a waterproof synthetic grease.
8. **OUTSIDE STORAGE.** If machine must be stored outside on an open trailer, tarp machine loosely providing good ventilation to prevent condensation.
9. Gear box oil level should be inspected annually. The gear oil level should be even with the bottom of the inspection hole.
10. **BE SURE** the operator is trained in the operating procedures of this equipment, and all local and national safety codes concerning the operation and the lifting of coils.

## **SECTION 3**

### **MOUNTING MACHINE**

#### **Mounting machine in truck and or trailer.**

1. When choosing a vehicle or trailer for your machine consider the gross machine weight including coil.
2. Check mounting surface for its integrity and make any repairs necessary prior to installation.
3. Bolt machine to the bed of the vehicle using 3/8" dia. bolts grade 5 four places. Do not draw machine down to an un-flat surface, shim as needed to insure four place mounting.

## SECTION 4

### 5" GUTTER MACHINE ORIENTATION

For communication purposes in the manual. Machine orientation is as follows:  
(SEE PG. 5)

#### A. Entrance

The entrance is where the forming process begins, where the material is fed.

#### B. Exit

The exit is where the forming process is complete and the finished gutter exits the machine.

#### C. Right Side

The right side of the machine is determined when facing entrance end of the machine. The right side of the machine is O.G. or face side of gutter.

Components on Right Side:

1. O.G. Face Guide Shoe (Right Shoe)
2. O.G. Face Guide Bar Assembly
3. O.G. Face Forming Box Assembly
4. O.G. Face Lip forming Box Assembly
5. O.G. Face Bell Roller

#### D. Left Side

The left side of the machine is determined when facing the entrance end. This is where the back of the gutter is formed.

Components on Left Side:

6. Left Guide Shoe
7. Back Guide Bar Assembly
8. Motor and Gear Box
9. Exit Back Bell Roller
10. Bead Roller Assembly

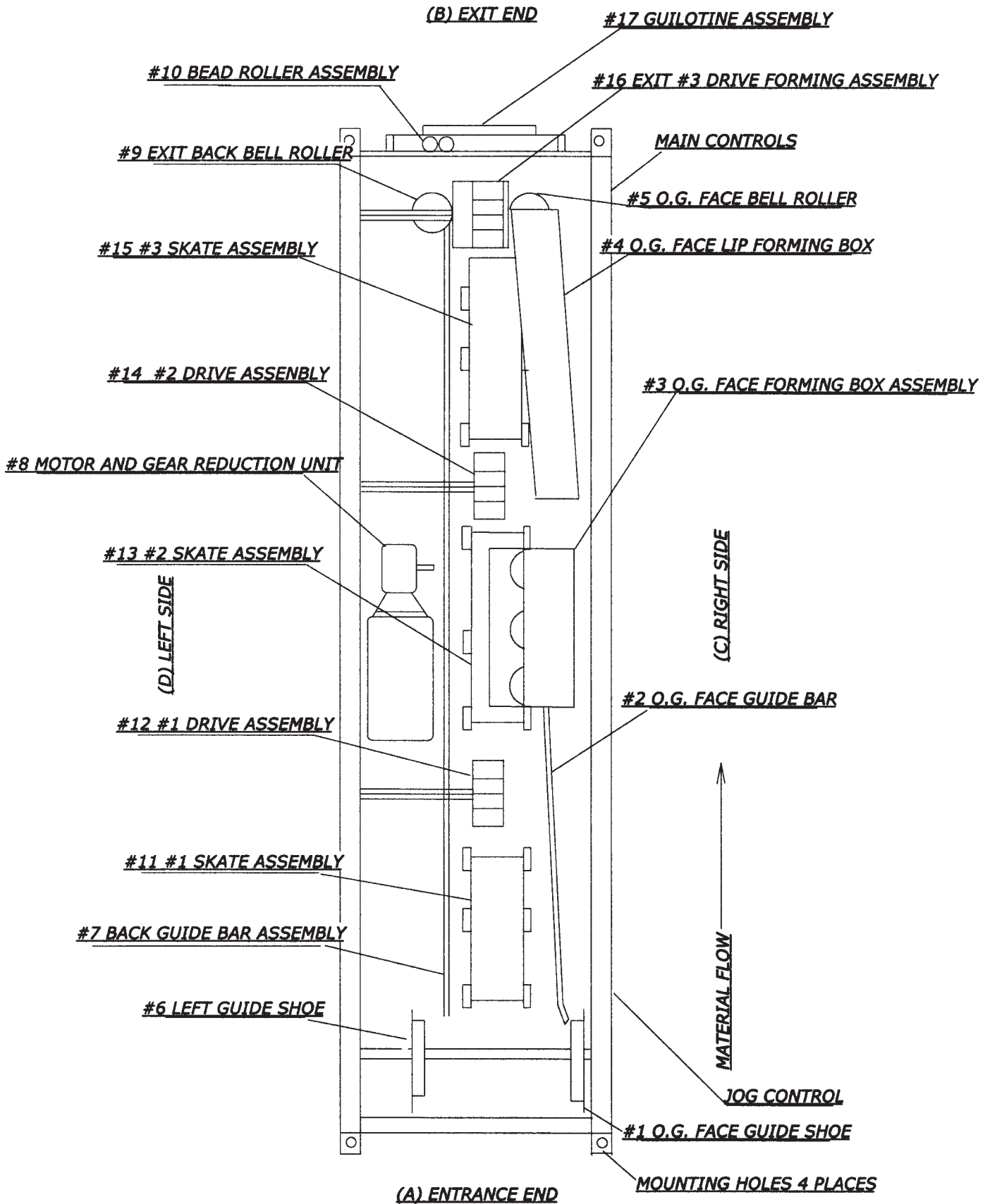
#### E. Center of Machine

The center of machine forms bottom section of gutter, drive assembly.

Components in Center of Machine:

11. #1 Skate Assembly
12. #1 Drive Assembly
13. #2 Skate
14. #2 Drive
15. #3 Skate Assembly
16. #3 Top and Bottom Drive Forming Station
17. Guillotine Cut Off

# IRONMAN 5" GUTTER MACHINE



## **SECTION 4-A**

### **6" GUTTER MACHINE ORIENTATION**

For communication purposes in the manual. Machine orientation is as follows:  
(SEE PG. 7)

#### **A. Entrance**

The entrance is where the forming process begins, where the material is fed.

#### **B. Exit**

The exit is where the forming process is complete and the finished gutter exits the machine.

#### **C. Right Side**

The right side of the machine is determined when facing entrance end of the machine. The right side of the machine is O.G. or face side of gutter.

Components on Right Side:

1. O.G. Face Guide Shoe (Right Shoe)
2. O.G. Face Guide Bar Assembly
3. O.G. Face Forming Box Assembly
4. O.G. Face Lip forming Box Assembly
5. O.G. Face Bell Roller

#### **D. Left Side**

The left side of the machine is determined when facing the entrance end. This is where the back of the gutter is formed.

Components on Left Side:

6. Left Guide Shoe
7. Back Guide Bar Assembly
8. Motor and Gear Box
9. Exit Back Bell Roller
10. Bead Roller Assembly

#### **E. Center of Machine**

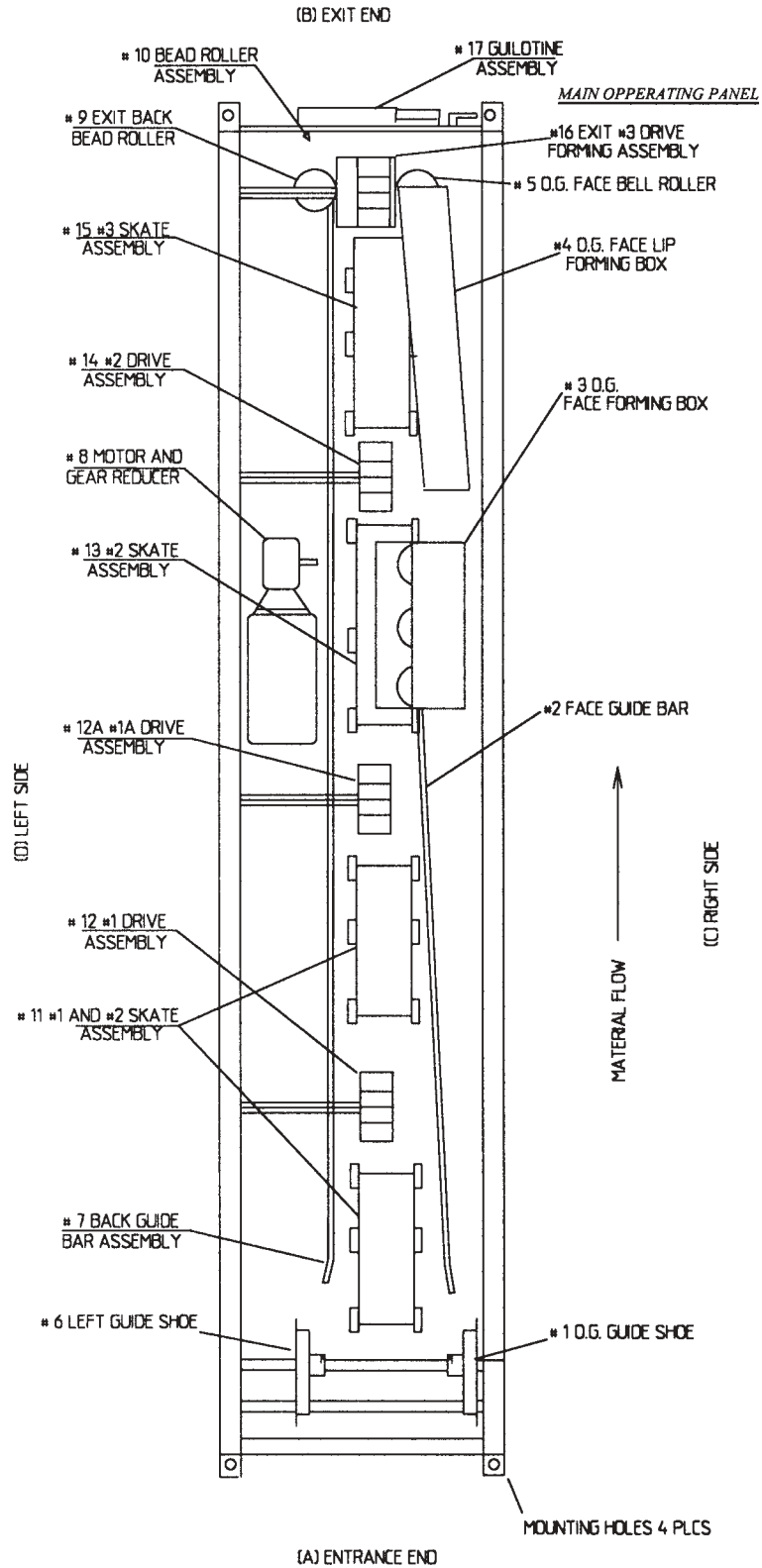
The center of machine forms bottom section of gutter, drive assembly.

Components in Center of Machine:

11. #1 Skate Assembly
12. #1 Drive Assembly
- 11A. #1A Skate Assembly
- 12A. #1A Drive Assembly
13. #2 Skate
14. #2 Drive
15. #3 Skate Assembly
16. #3 Top and Bottom Drive Forming Station
17. Guillotine Cut Off

# IRONMAN 6" GUTTER MACHINE

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**SECTION 5**  
**Electrical system and control locations**  
**Basic daily operation**

**1E. Main operators panel.** (right side exit end) (see pg.10)

The main operators panel is located on the O.G. face side of the machine, at the exit end.

The main operators panel consists of:

- Selector switch. (jog-run) (for-rev)
- Push buttons. (Start - stop)
- Duplex receptacle. (accessory power supply)

**2E. Entry operators panel.** (right side entry end) (see pg.11)

The entry operators panel is located on the O.G. face side of the machine, at the entrance end.

The entry operators panel consists of:

- Jog button. (push button control)
- Emergency stop button. (power shut off)

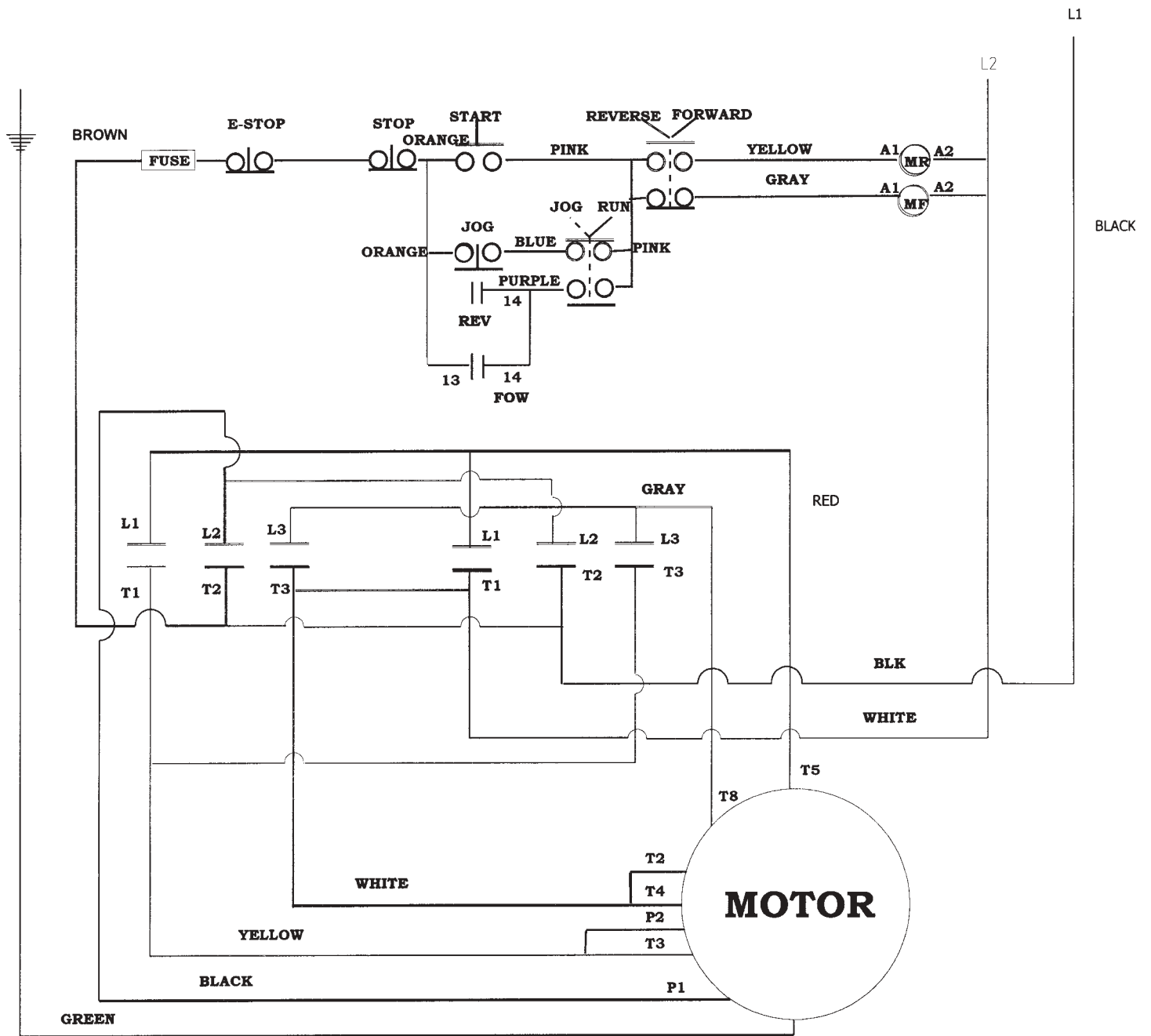
**3E. Power source plug.** (exit end on lower portion of face plate) (see pg.10)

Daily operation:

Feeding Machine

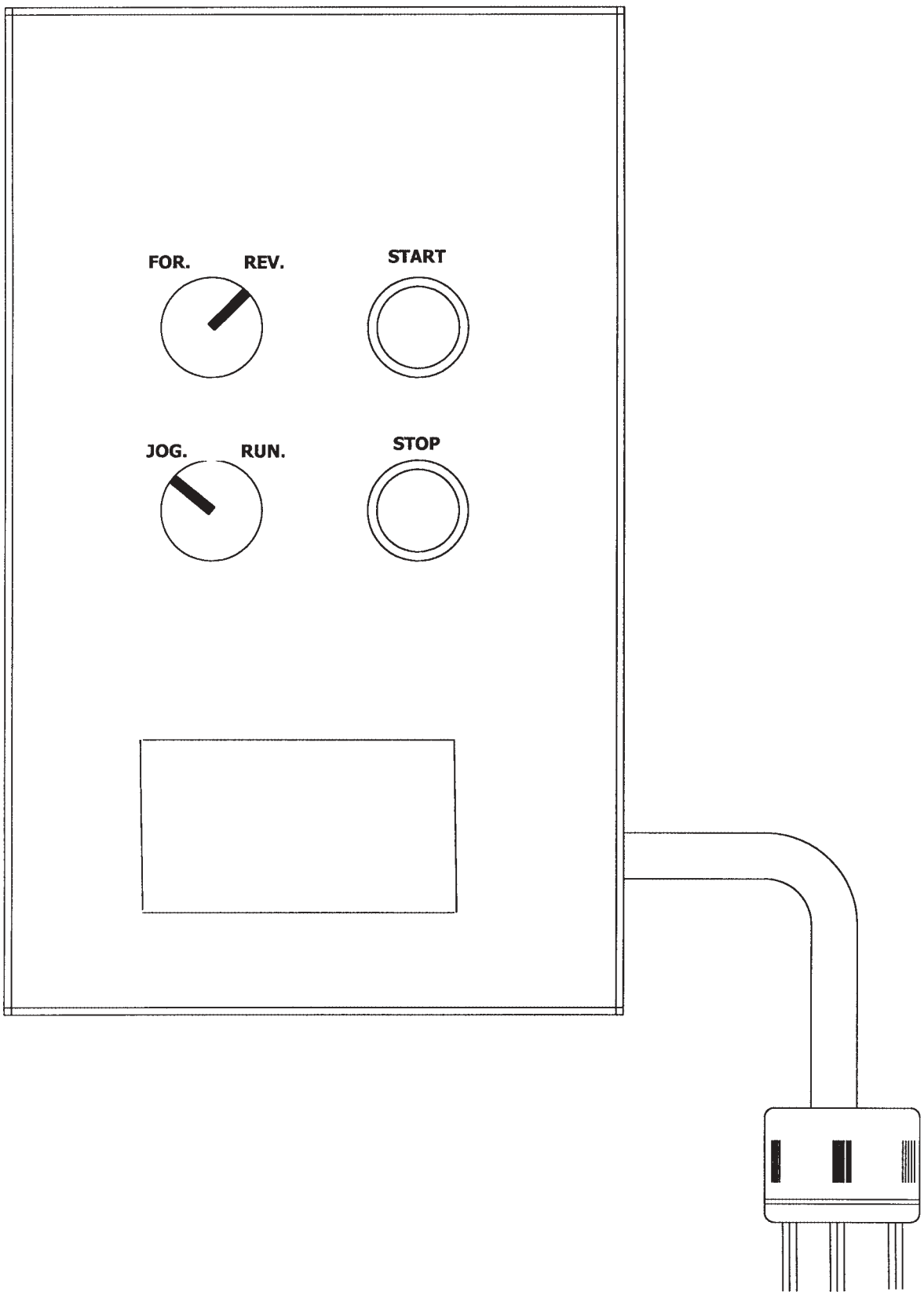
1. Position selector switch to jog.(see pg.10)
2. Position selector switch to forward position.(see pg.10)
3. Remove spool retaining pins (see pg.15)
4. Trim corners of coil 3" X 3" of corner
5. Standing at entrance of machine, position material thru entrance guides to #1 drive assembly. (see pg.11)
6. Activate jog button using your right hand at the same time using your left hand to push material so as to engage with #1 drive assembly, Jog material approximately two feet. Release jog button.(see pg.11)
7. Position selector switch to the run position.
8. Jog material thru guillotine using start push button.

# PUSH BUTTON WIRING DIAGRAM

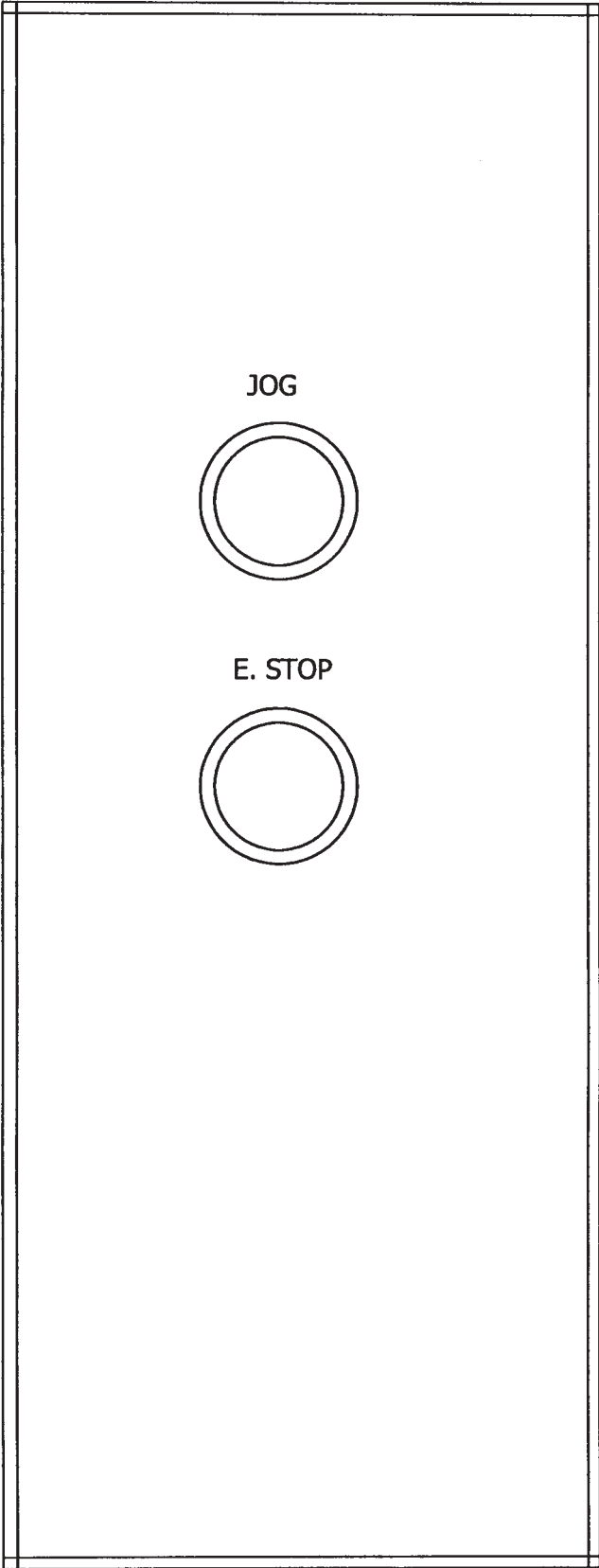


# MAIN OPERATORS PANEL

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# ENTRY JOG OPERATORS PANEL



## SECTION 6

### ELECTRICAL CORD REQUIREMENTS

It is important that the motor manufactures minimum wire gage be adhered to in order to maintain the warranty on motor.

0 - 25 '	12 ga
----------	-------

25 - 50'	10 ga
----------	-------

50 - 100'	7 ga
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## SECTION 7

### SPOOL UPRIGHT SUPPORTS AND TURNSTYLE

The IRONMAN upright is a modular turnstyle support. Your machine may have one to three uprights. One turnstyle upright consists of: (see pg. 15)

1. Base support plate.
2. Sub-base support plate.
3. Coil Tension Safety Lock.
4. Lower locator block.
5. Thumb Screw.
6. Left and right spool retaining pin #6.
7. Locking pin #8.

Rotating turnstyle for two sided coil.

Remove locking pin #8, rotate turnstyle 180 degrees, reinstall locking pin. (see pg. 15)

## SECTION 8

### SPOOL ASSEMBLY AND LOADING COIL

#### SPOOL ASSEMBLY CONSISTS OF:

(see pg. 15)

- Fixed spool half.
- Movable spool half.
- 1 5/16 spool bar.
- Socket set screw (fixed side)
- Socket cap screw (movable side)

#### LOADING COIL

Prior to loading or unloading coil, make sure that the Coil Tension Brake / Spool Safety Lock and the Thumb Screw are in the open position. Remove coil spool from the turnstyle upright. With the spool on the ground or a flat surface remove the 5/16" quick release pin from the spool half. Remove spool half from the spool assembly. Insert spool half and the 1 5/16" spool bar thru coil to be loaded. Reinstall spool half and 5/16" quick release pin.

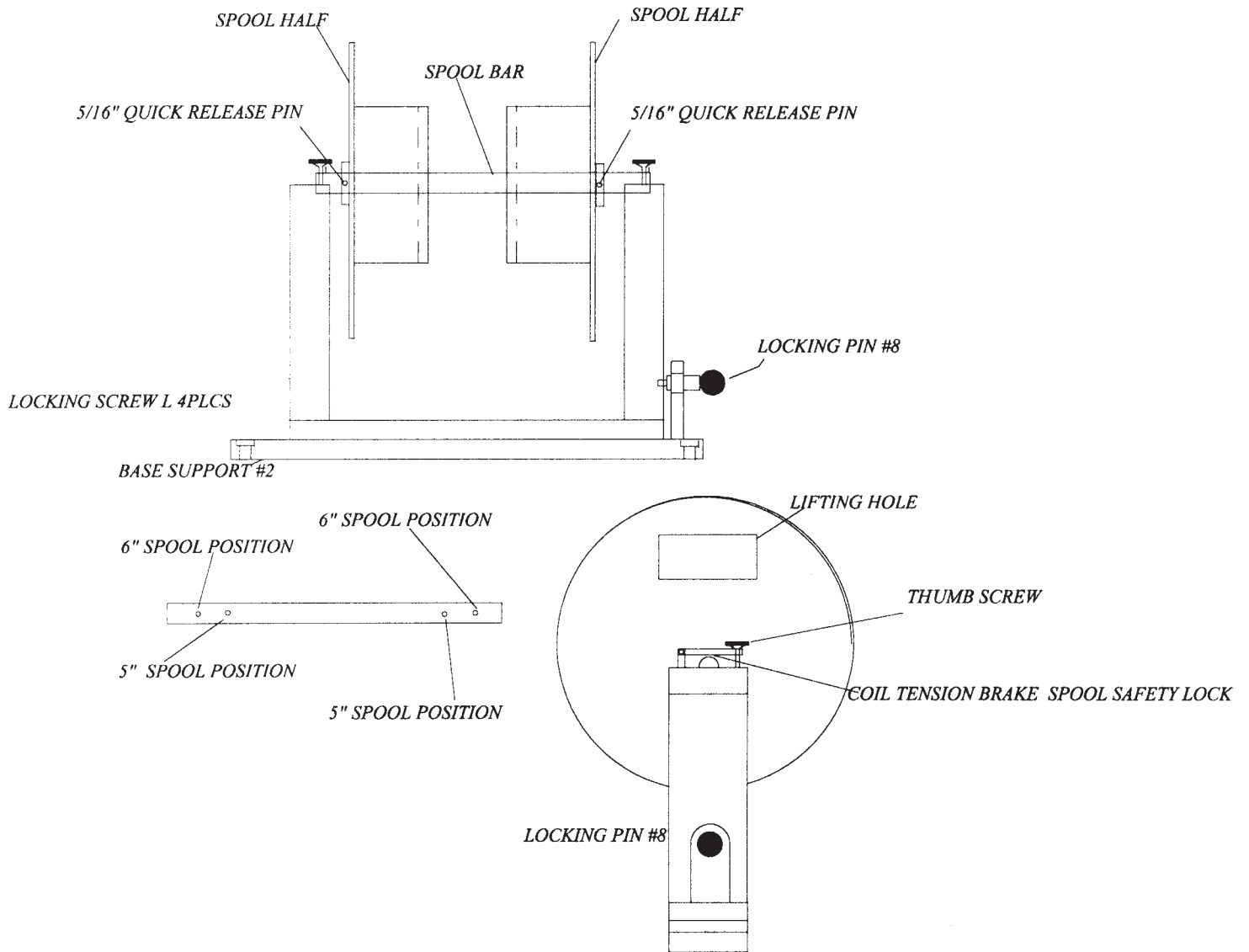
The spool assembly is moveable to and from 5" and 6" position. The upright assembly also must be positioned for 5" or 6" coil. (Combo only) (see pg. 15)

With the spool and coil assembled and ready for loading, attach an approved lifting device to lifting hole. Before loading coil onto turnstyle make sure locking pin #8 is securely in place and spool safety lock and thumb screw are in the open position. (see pg. 15)

#### PRECAUTIONS:

- a. Never load spool without locking pin #8 securely installed
- b. Make sure loading area is clean and clear of debris.
- c. Never operate machine without first checking spool retaining pins, pins must be in the outward position.
- d. Never transport machine without reinstalling spool retaining pins #6.
- e. Always wear protective footwear when handling coils.
- f. Make sure the spool half is in the proper divot and or position and that the upright base is also correct. These precautions are for operator safety and to prevent damaging your machine.

# SPOOL AND UPRIGHT ASSEMBLY



## SECTION 9

### ENTRANCE GUIDE SYSTEM

#### 1. Entrance guide consists of:

- A. Right entrance guide shoe.
- B. Left entrance guide shoe.
- C. Right locking bolt.
- D. Left locking bolt.
- E. Right locking collars (5" and 6" positioning stops).
- F. Left locking collars (5" and 6" positioning stops).  
(see pg. 18)

#### 2. Purpose and precautions of the entrance guide system.

The entrance guide system is a very important part of this machine. Not only is it used to position material being fed into the machine, it also controls the lateral relationship of the material to the forming stations.

#### 3. Entry guide adjustment.

The Right entry guide (A) controls the amount of material that is fed into the Face rollers and Box assemblies. It should be moved only to increase, or decrease the amount of lip turned under. If an adjustment is made on the Right entry guide (A), an adjustment must be made on the Left entry guide (B), using coil as a guide. There should be no visible play between the entry guides and the coil. The guide should also not be so tight so as to cause the gutter material to bind in the entry guide assembly.

Before moving the right entry guide (A), always take a measurement from the inside edge of the entry guide (where the coil will ride) to the inside edge of the frame. This will give you a reference point to measure and move from. You can also easily return to your original location if you move the guide in the wrong direction.

To move the guides, first loosen the bolt on locking collars (C or D), move guide, re-tighten cap screw .

**To INCREASE THE AMOUNT OF LIP TURNED UNDER;** move the guides toward the right side (face side) of the machine.

**To DECREASE THE AMOUNT OF LIP TURNED UNDER;** move the guides toward the left side (back side) of the machine.

#### **4. Entry Guide Operation.**

When feeding material from the spools on the top of the machine or from a remote station. Feed the material straight into the entry guides. DO NOT FORCE. Continue pushing material into the machine until it stops. The material can now be jogged through the machine. If the drive roller does not pull the material into the machine, give the material a little push from the entry end while continuing to jog the material into the machine.

### **ADJUSTMENT FOR COMBO MACHINE ENTRANCE GUIDES**

#### **5. Changing entrance guides from 5" to 6".**

To move right guide loosen locking bolt C, move guide to the right stopping at 6" collar re-tighten bolt C.

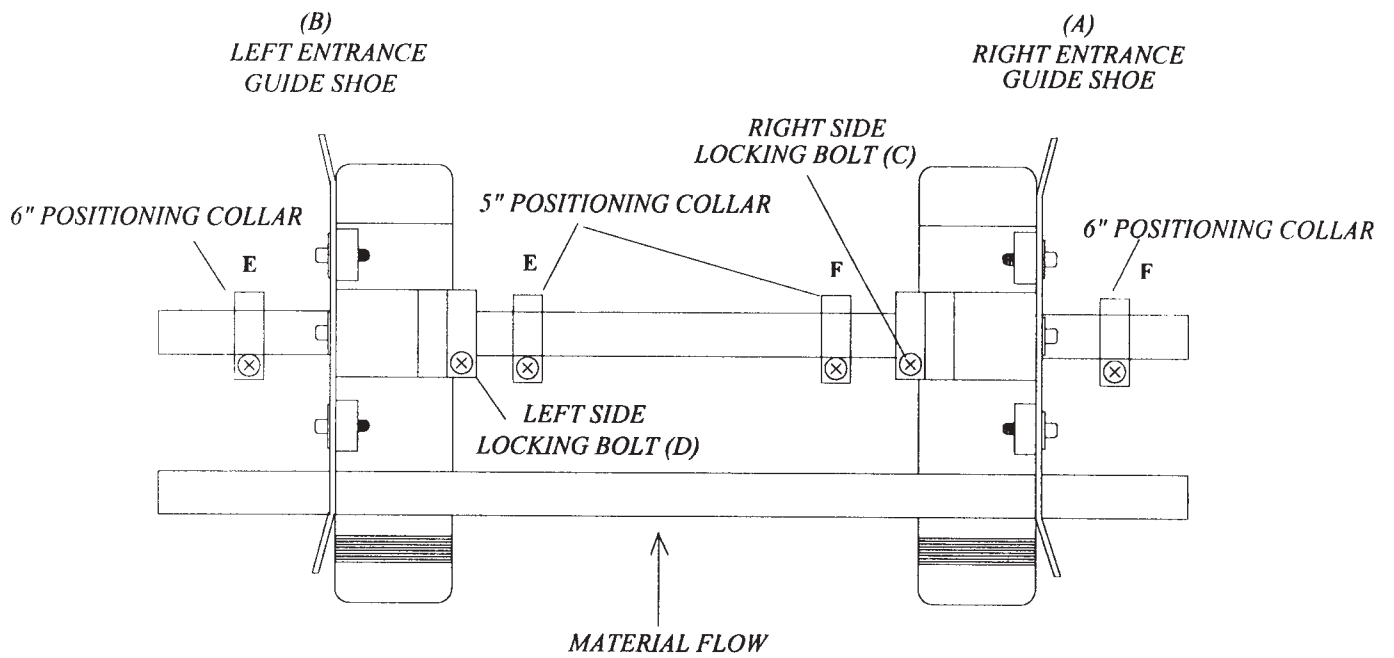
To move left guide loosen locking bolt D, move guide to the left stopping at 6" collar re-tighten bolt D.

#### **6. Changing entrance guides from 6" to 5".**

To move right guide loosen locking bolt C, move guide to the left stopping at 5" collar re-tighten bolt C.

To move left guide loosen locking bolt D, move guide to the right stopping at 5" collar re-tighten bolt D.

# ENTRANCE GUIDE ASSEMBLY



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## SECTION 10

### POLYURETHANE DRIVE SYSTEM

Caution do not over tighten drive rollers. The factory setting for the rollers is 1/4 turn past the point of contact. Maximum amount of drive pressure recommended is 1/4 turn past factory setting.

**COMPONENT LOCATIONS:** (see pg.5 for 5") (see pg.7 for 6")

The drive train of this machine is in most circumstances maintenance free. If a material traction problem arises or a roller is replaced, the top roller is adjustable up and down.

Cleaning of polyurethane, clean the outer surface of rollers using soap and water to remove any dirt or debris from roller.

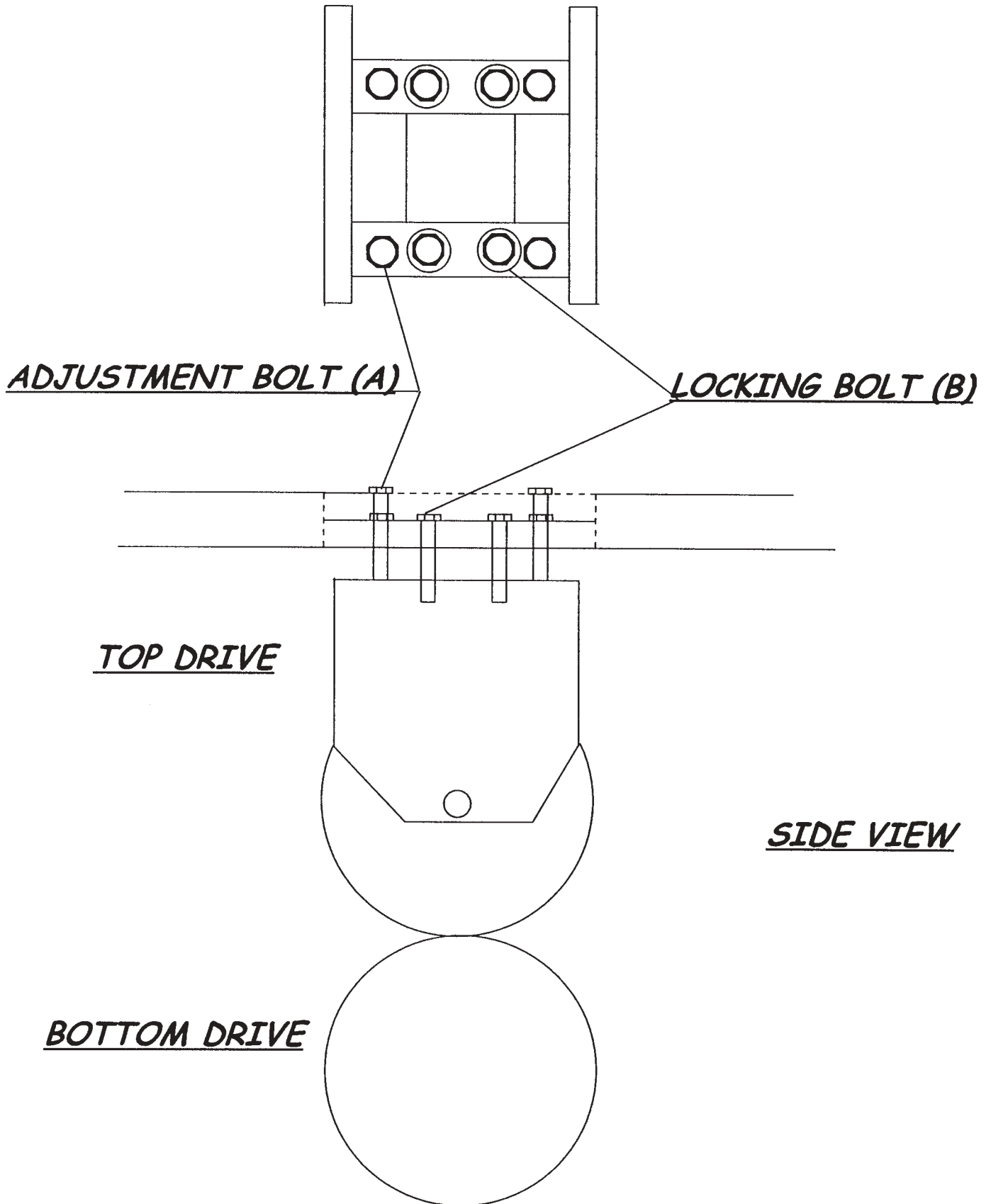
**ADJUSTING DRIVE SYSTEM:** (see pg. 20)

To add traction, start with top #1 drive assembly. Turn locking nut counter clockwise (loosen) on locking bolt (A) 4 places. Turn locking bolt (B) counter clockwise (loosen) 4 places 1/4 turn to just enough to break them free. Turn adjustment bolt (A) clockwise 1/16 of a turn. re-tighten locking bolt (B) 4 places. Re-tighten locking nuts.

Run machine forward if more traction is needed, repeat the above procedure on top #2 drive assembly. Run the machine forward if more traction is needed, repeat above procedure on both #1 and #2 drive assemblies.

**NOTE: If material slippage occurs after material leaves the #2 drive assembly while clearing machine. Add pressure to the #3 drive forming assembly (see pg.28).**

# DRIVE ASSEMBLY



## **SECTION 11**

### **FORMING COMPONENTS AND ASSEMBLIES**

#### **GUIDE BAR COMPONENTS.**

The guide bars are in a fixed position relative to the forming stations. The guide bars are not adjustable components on standard 5" or 6" machines. Combo machine; the back guide bar is moved in for 5" and out for 6".

#### **ADJUSTMENT FOR THE 5" OR 6" GUIDE BAR**

Move the guide bar towards center of the machine completely for 5" gutter. Move the guide bar away from the center of the machine completely for 6" gutter. The back guide bar supports the back portion of material thru the complete forming process and bends the back bottom corner of the gutter. The back guide bar is in contact with the material at all times.

The face guide bar supports the face portion of material guiding it into the face forming box assembly (face guide bar is not move in the combo machine).

#### **MAINTENANCE:**

Check guide bars for any marks, burrs, or build up that could cause a mark or scratch on the gutter. Cleaning guide bars, lightly sand guide bar with a fine grit emery cloth, then polish out any remaining marks with Scotch Brite.

#### **FACE FORMING BOX ASSEMBLY.**

This assembly consists of two forming planes, four forming roller per plane. This assembly's sole purpose is forming the face of the gutter, it does not do any driving of material. The unique design of this assembly requires no adjustment for alignment of rollers. The spacing of the roller and the position of the assembly are factory set and should not be altered.

#### **MAINTENANCE:**

The forming rollers are machined from stainless steel to eliminate corrosion. Check rollers for marks, burrs or build up, if a roller becomes marked use fine grit emery cloth to remove the mark. Then polish out any remaining marks or scratches with Scotch Brite.

## **ADJUSTING FACE BOX ROLLERS FOR COMBO MACHINE**

Changing from 5" to 6". Remove the three retaining pins raise all three top rollers stations to the 6" position reinstall retaining pins. For best results raise each station independently.

Changing from 6" to 5". Remove the three retaining pins lower all three top rollers stations to the 5" position reinstall retaining pins. For best results lower each station independently.

## SECTION 12

### LIP FORMING BOX (FORMS THE TOP PORTION OF THE GUTTER)

The forming box consists of seven stations #1 being the entrance #7 being the exit and three color coded adjustment areas.

The forming rollers in this assembly are also machined from stainless steel. The roller maintenance is the same procedure as the face forming rollers.(see pg.25)

#### **COLOR CODED ADJUSTMENTS.**

Black: Entrance box mount

Green: Exit box mount

Blue: Swing shaft assembly

(see pg. 25)

#### **ADJUSTING BOX ASSEMBLY:**

The entrance box mount has two primary purposes aligning the entrance of the forming box with the exit of the face forming box. Looking thru the guillotine you will see that the forming rollers of both boxes are in line.(lateral alignment) THIS LOCATION IS FACTORY SET AND SHOULD NOT BE ALTERED. The vertical or height adjustment is used to line up the inside radius of the box rollers with the last (top) bend coming out of face rollers. 1 3/8" on 5" gutter 1 5/8" on 6" gutter. (see pg.42)

#### **ADJUSTING ENTRANCE BOX MOUNT. VERTICALLY(see pg. 25)**

Loosen locking nuts on adjustment bolt (C) 2 places. To raise the station turn locking bolt (B) counter clockwise, turn adjustment bolt (C) clockwise to desired height 2 places equally. To lower the station turn adjustment bolt (C) counter clockwise 2 places equally. Re-tighten locking nuts (C) 2 places and locking bolt (B). Run metal completely thru machine, back metal up 6" to 10" check for double track prior to the lip box. If necessary repeat to raise or lower.

#### **EXIT BOX MOUNT: (see pg.25)**

The vertical exit box mount adjustment is used to control the up and down hill on the face side of the bottom. The lateral adjustment is used to control the width across the opening of the gutter. To adjust the exit end of the box up or down, loosen the locking bolt (G), to raise the box turn adjustment bolt (H) clockwise. To lower exit end of the box turn adjustment bolt (H) counter clockwise. Per thread movement = .017 per revolution.

Lateral adjustment or side to side adjustment. Loosen locking nut on adjustment bolt (I), loosen locking bolt (J) 2 places. Turn adjustment bolt (I) counter clockwise to allow the box to move away from the back. Turn adjustment bolt (I) clockwise to move the box towards the back. After completing adjustment hold adjustment bolt (I) tighten locking nut on (I). Tighten locking bolts (J) 2 places.

### **SWING SHAFT ASSEMBLY**

The #6 station in the box is known as the swing shaft or the blue station. The primary use of this assembly is to control the top lip of the gutter. Adding pressure to the this assembly will cause the top lip of the gutter to run into the fascia. Relieving pressure will cause the top lip of the gutter to run away from the fascia. To add relieve pressure to the swing shaft, loosen bolt (E) 2 places to allow swing shaft to assembly to slide, to add pressure turn adjustment bolt (F) clockwise to relieve pressure turn adjustment bolt (F) counter clockwise.

### **COMBO MACHINE: ADJUSTING LIP FORMING BOX FROM 5" TO 6"**

Remove retaining pins from outside box roller raise rollers individually to the 6" position reinstall retaining pins. Remove the 6" inside roller bar from the storage position on the gearbox. Remove the 5" inside roller bar from the lip box by loosening the red set screws. Install 5" inside roller bar in the lip forming box. Store the 6" inside roller back to the storage position.

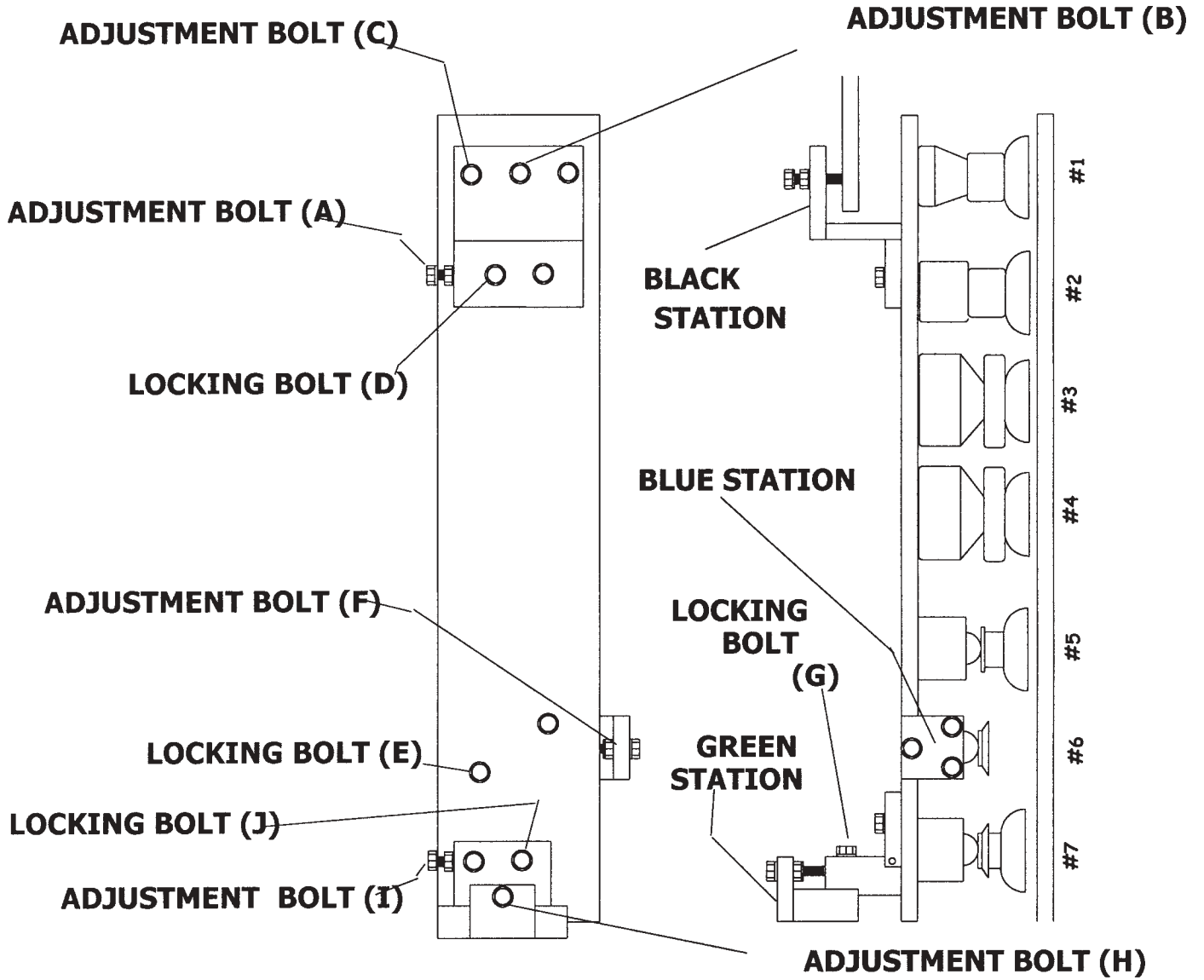
### **COMBO MACHNE: ADJUSTING LIP FORMING BOX FROM 6" TO 5"**

Remove retaining pins from outside box roller lower rollers individually to the 5" position reinstall retaining pins. Remove the 5" inside roller bar from the storage position on the gearbox. Remove the 6" inside roller bar from the lip box by loosening the red set screws. Install 5" inside roller bar in the lip forming box. Store the 6" inside roller back to the storage position.

### **PRECAUTION:**

**THE FORMING BOX IS A CRITICAL PART OF THIS MACHINE WHEN ADJUSTING IN THIS AREA MOVE ADJUSTMENTS INCREMENTALLY 1/8 OF A TURN AT A TIME. ALWAYS RETURN TO ORIGINAL POSITION BEFORE TRYING A DIFFERENT ADJUSTMENT. DO NOT OVER ADJUST THIS ASSEMBLY. MOVING THE SWING SHAFT PAST ITS RANGE WILL CAUSE THE OPPOSITE AFFECT TO THE GUTTER.**

# BOX ASSEMBLY



## SECTION 13

### EXIT END FORMING AND DRIVE ASSEMBLY

This assembly is a very important part of the machine, not only does it finish the forming process, this assembly drives the material out of the machine.

IMPORTANT THE #3 SKATE AND THE EXIT END FORMING DRIVE STATION ARE BOLTED TOGETHER BY BOLT (K) TO INSURE THE DRIVE ROLLER STAYS SQUARE TO THE SKATE. BEFORE MAKING ANY ADJUSTMENT TO THIS ASSEMBLY YOU MUST LOOSEN BOLT (K) 2 PLACES (see pg.28)

CAUTION SEE SECTION 20 FOR SPECIFIC GUTTER CONDITIONS  
Always make sure bolt (K) is re-tighten after adjustment 2 places.

#### **FACE SIDE OF TOP EXIT ROLLER ADJUSTMENT:**

This area will control into the house and also up and downhill on the face side bottom of the gutter.

Adjusting this area, loosen lock nut on adjustment bolt (J), loosen bolt (H), loosen lock nut on adjustment bolt (I). To add pressure turn adjustment bolt (I) clockwise, to relieve pressure turn adjustment bolt (I) counter clockwise. This station is very responsive, make small incremental adjustments of less than 1/32 of a turn.

#### **BACK SIDE OF TOP EXIT ROLLER ADJUSTMENT:**

Adjusting this area, loosen locknut on adjustment bolt (J), loosen locknut on adjustment bolt (I), loosen locking bolt (H).

Turn adjustment bolt (I) clockwise to add pressure, counter clockwise to relieve pressure. Re-tighten all locking nuts and locking bolt (G). (see pg. 28)

#### **COMBO MACHINE: ADJUSTMENT FOR 5" OR 6" TOP #3**

Remove set screw Z 2 places on the back side top #3 roller, remove the roller rotate 180 degrees side for side reinstall. Replace set screws and tighten. The top #3 roller will be installed in the recessed position for 5" and flush mounted for 6". The back bell needs to be removed prior to rotating the top #3 roller. The bell wheel is then installed in the 6" position.

## **ADDING PRESSURE TO EXIT POLYURETHANE DRIVE ROLLER**

The top exit roller is very responsive to adjustment, make all adjustments in very small increments.

To add pressure to top exit drive assembly, loosen locking nuts on adjustment bolts (J),(H),(I), loosen locking bolts (J) 1/16 of a turn counter clockwise. Tighten adjustment bolt (I) 1/64 of turn clockwise adding pressure equally to both sides. Re-tighten all locking nuts and locking bolts (J) and (H).

DO NOT EXCEED 1/32 OF A TURN PAST FACTORY SETTING.

## **FACE BELL ROLLER AND BACK BELL ROLLER**

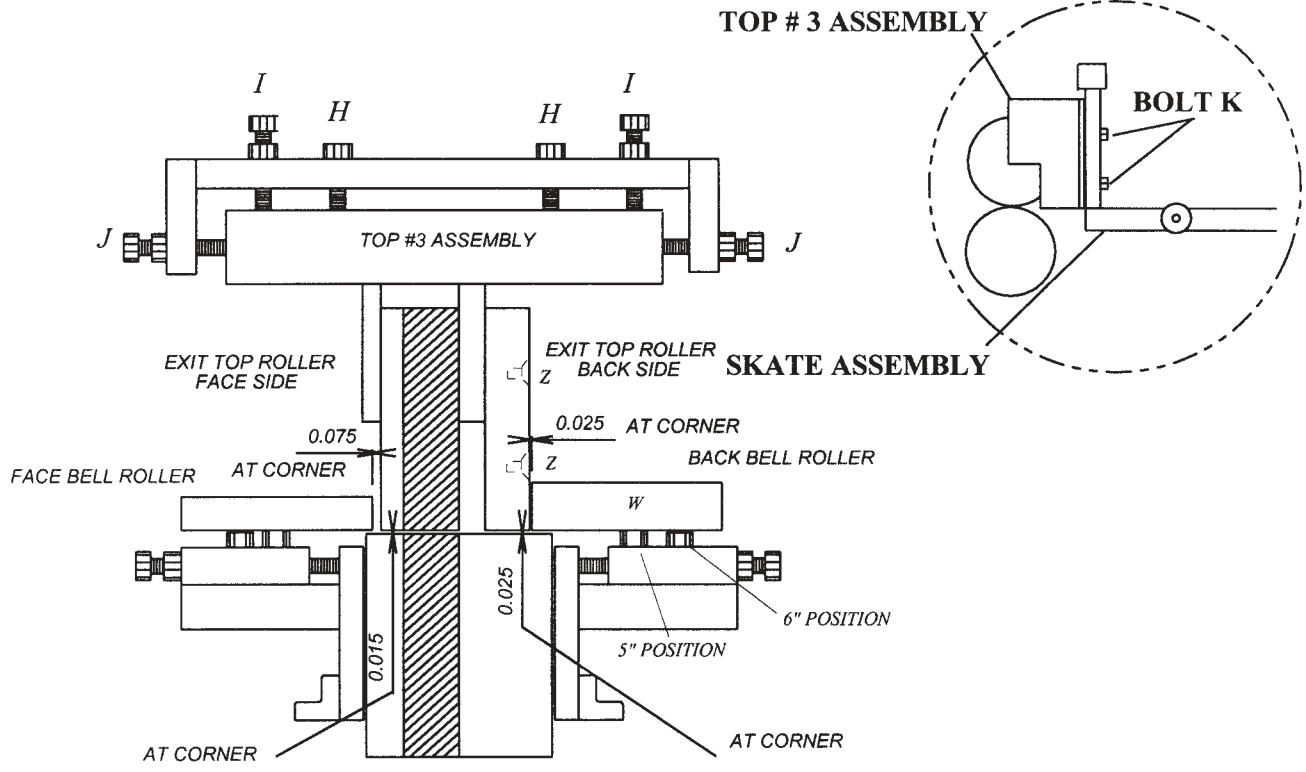
Adjusting bell rollers will control the squaring of the bottom corners of the gutter; INTO THE HOUSE and AWAY FROM THE HOUSE.

Adjusting this area, loosen pivot bolt, loosen locking bolt, loosen locking nut on adjustment bolt. Turn adjustment bolt counter clockwise this will allow bell wheel to move towards top roller. Turn adjustment bolt clockwise to move bell wheel away from top roller to desired clearance.

## **COMBO MACHINE: ADJUSTMENT FOR 5" OR 6" BELL WHEEL**

The back bell wheel needs to be moved towards the center of the machine for 5". Move the back bell wheel away from the center for 6" operation. Remove bolt W remove bell wheel (turn top #3 around) position bell wheel in proper position reinstall bolt W.

# SET UP DIMENSIONS EXIT DRIVE FORMING ASSEMBLY



P33-CAD

## **SECTION 14**

### **BEAD ROLLER ASSEMBLY**

Purpose: The BEAD ROLLER is used to give the back section of the gutter some form and structure. The amount of pressure will also control up and down hill on the back of the gutter.

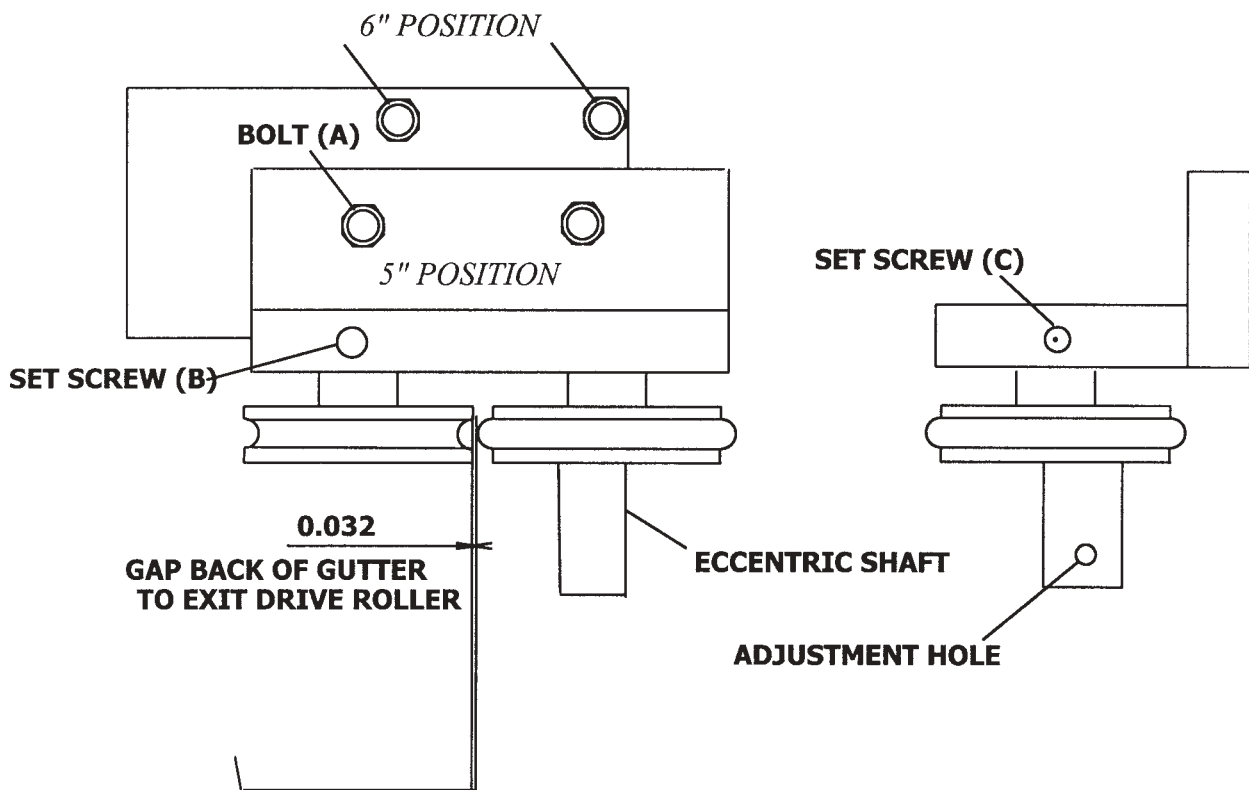
Factory setting for vertical height of bead roller is 3/8" down from the top of the back of the gutter. The horizontal position is a 1/32" gap between the material being formed and the back side of the top exit roller. Loosen bolts (A) 2 places to align bead roller assembly, re-tighten after alignment is made. To add pressure to bead itself loosen set screw (B) turn eccentric shaft using a 3/16 Allen wrench to desired spacing. Adding too much pressure to the bead will cause the back of the gutter to run up hill, if this happens simply relieve pressure from bead and re-tighten set screw (B). (see pg. 30)

#### **COMBO MACHINE: ADJUSTMENT FOR 5" OR 6" BEAD ROLLER**

Loosen locking bolt (A) 2 places raise complete bead roller to the 6" position tighten bolt (A) 2 places.

Loosen locking bolt (A) 2 places lower complete bead roller to the 5" position tighten bolt (A) 2 places. (Empty machine of coil prior to altering bead roller position.)

# BEAD ROLLER ASSEMBLY



## **SECTION 15**

### **GUILLOTINE AND FACE PLATE ASSEMBLY**

The guillotine assembly is machined to very tight tolerance, requiring that it be maintained on a regular basis. If the guillotine assembly is kept clean, lubricated and all hardware tight, you can expect trouble free performance for years to come.

#### **WEEKLY MAINTENANCE:**

Lubricate GUILLOTINE blade using 20 or 30 weight oil. Check and tighten if needed bolt (D) 4 places and set screws on coupling.

#### **ADJUSTING GUILLOTINE POSITION.** (see pg. 32)

The guillotine is moveable in all directions. To move guillotine up or down, loosen bolt (C) 6 places, loosen locking nut on adjustment bolt (B) 2 places. Turn adjustment bolt (B) 2 places clockwise to raise and counter clockwise to lower. To move guillotine side to side loosen bolt (A) as well as (C). The guillotine now is free to move in all directions. After desired position is acquired, re-tighten bolt (C) 6 places, locking nut on (B) 2 places. Re-tighten (A) 4 places.

#### **COMBO MACHINE: ADJUSTMENT FOR 5" OR 6" GUILLOTINE**

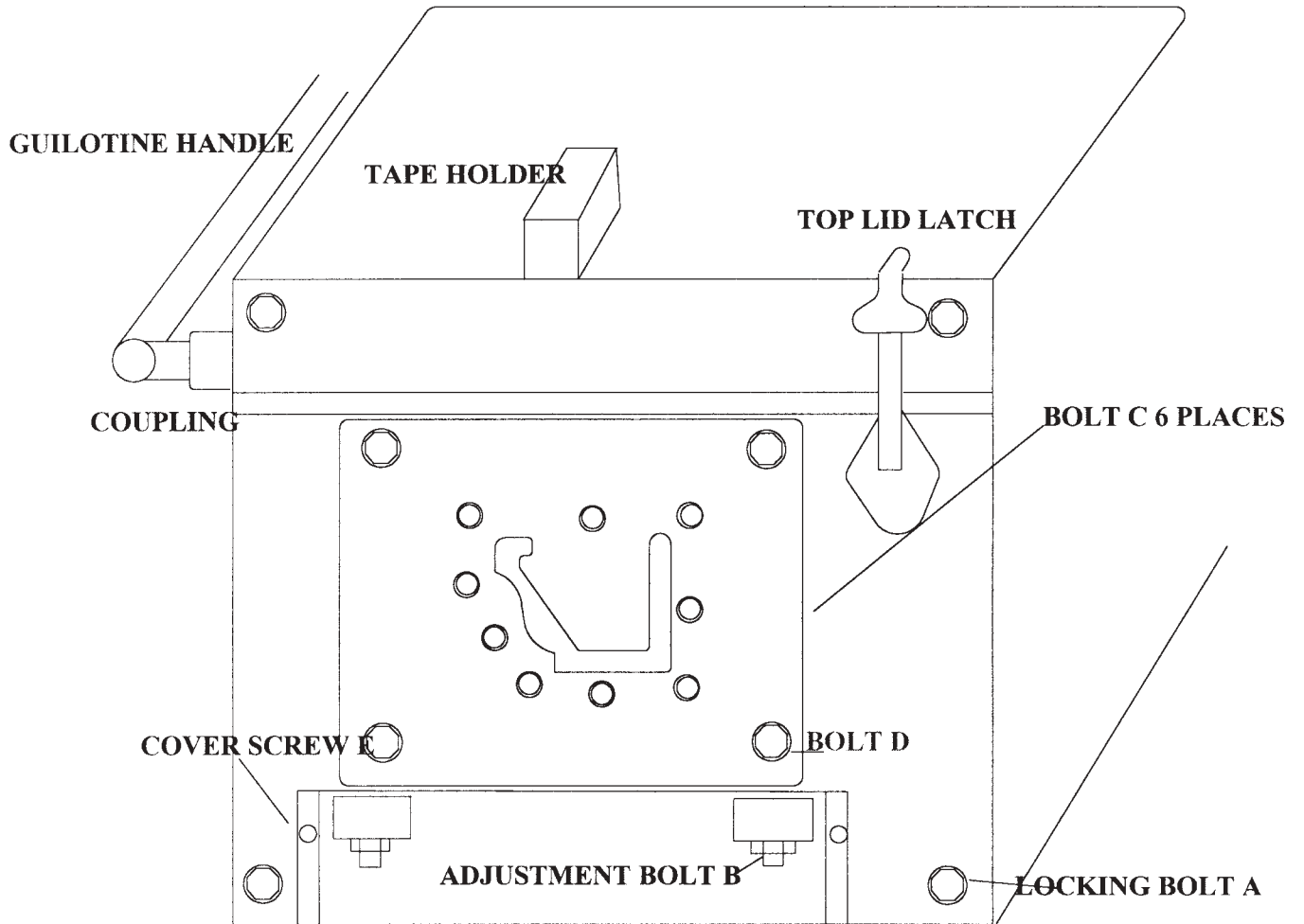
The 5" - 6" Ironman combination gutter machine comes equipped with both a 5" guillotine and a 6".

#### **CHANGE OVER FROM 5" TO 6"**

Remove the 6" guillotine from the remote storage position (left side of the machine). Remove bolt (A) 4 places (see pg 32) from mounting rail of guillotine, remove 5" guillotine as a complete assembly. Place 5" guillotine in the guillotine storage position. Install 6" guillotine replace and tighten bolt (A) 4 places.

#### **CHANGE OVER FROM 6" TO 5"**

Remove the 5" guillotine from the remote storage position (left side of the machine). Remove bolt (A) 4 places (see pg 32) from mounting rail of guillotine, remove 6" guillotine as a complete assembly. Place 6" guillotine in the guillotine storage position. Install 5" guillotine replace and tighten bolt (A) 4 places.



## SECTION 16

### BASIC MACHINE SETUP AND DIMENSIONS

The factory starting position for all components are in relation to a reference line. The reference line is 30# fishing line strung between two 5/16"-18 x 2" setscrews. The string must be secured to the inside of the set screws approximately 5/16" off the inside wall of the machine frame on the face side two inches up from the bottom (see pg.35).

#### (1) ENTRY GUIDES

This dimension labeled as (1) on pg. 35 is measured from the inside edge of the entry guide (were the coil will ride) to the inside edge of the frame. Set the right shoe first then bring the left shoe to the right snug enough to support the material without binding.

##### (1) RIGHT ENTRANCE GUIDE DIMENSION

IRONMAN 5" 1 1/2"

IRONMAN COMBINATION 5" 1 5/8"

IRONMAN 6" 5/16"

IRONMAN COMBINATION 6" 1/2"

#### (2)-(3) LIP FORMING BOX HORIZONTAL PLACEMENT

The dimension labeled as (2) and (3) on pg. 35 is the horizontal position of the lip forming box. This measurement is from the outside of skate vertical posts to the inner edge of the bottom box plate.

##### (2)LIP BOX ENTRANCE DIMENSION

IRONMAN 5" (2) 5 3/8"

IRONMAN COMBINATION 5" (2) 5 3/8"

IRONMAN 6" (2) 5 13/16"

IRONMAN COMBINATION 6" (2) 5 13/16"

##### (3) LIP BOX EXIT DIMENSION

IRONMAN 5" (3) 5"

IRONMAN COMBINATION 5" (3) 5"

IRONMAN 6" (3) 5 7/16"

IRONMAN COMBINATION 6" (3) 5 7/16"

#### (4) SWING SHAFT ASSEMBLY BOX STATION #6 (BLUE STATION)

The dimension labeled as (4) on pg. 35 is the position of the inside edge of the blue half inch adjustment block station #6 to the outside edge of the box top plate.

IRONMAN 5" 11/16"

IRONMAN COMBINATION 5" 11/16"

IRONMAN 6" 11/16"

IRONMAN COMBINATION 6" 11/16"

### **(5)-(6) LIP FORMING BOX VERTICAL PLACEMENT**

The dimension labeled as (5) and (6) on pg. 35 is the vertical position of the lip forming box. This measurement is from the top of the skate rail to the top edge of the box.

#### **(5) LIP BOX ENTRANCE DIMENSION**

IRONMAN 5" (5)	3 9/16"	IRONMAN COMBINATION 5" (5)	3 9/16"
IRONMAN 6" (5)	4 5/8"	IRONMAN COMBINATION 6" (5)	4 5/8"

#### **(6) LIP BOX EXIT DIMENSION**

IRONMAN 5" (6)	3 3/4"	IRONMAN COMBINATION 5" (6)	3 3/4"
IRONMAN 6" (6)	4 7/8"	IRONMAN COMBINATION 6" (6)	4 7/8"

### **TOP #3 EXIT DRIVE FORMING ROLLER**

See drawing pg. 28.

### **ENTRY SKATE #1 SKATE**

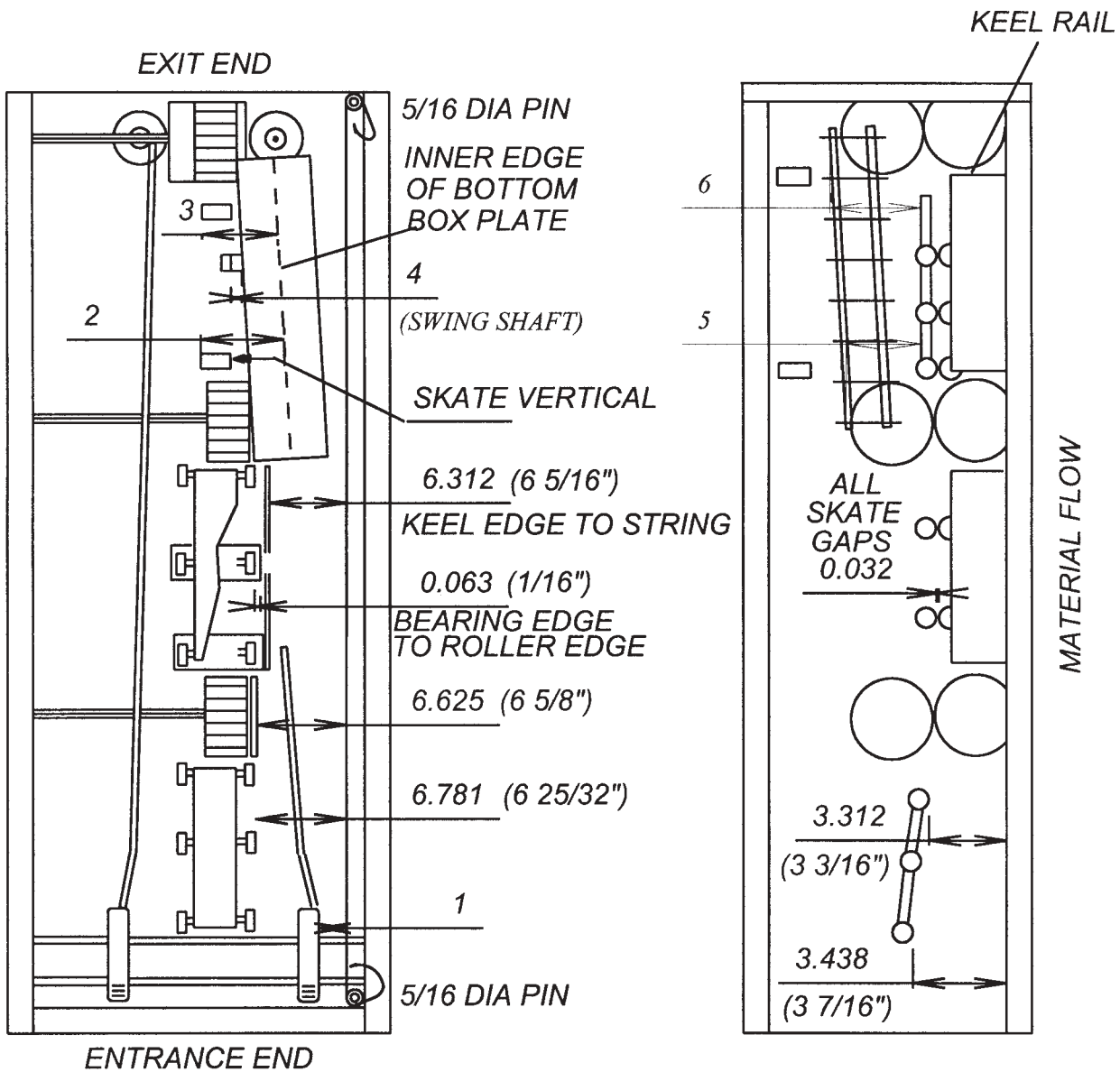
The dimensions on pg. 35 are from the top of the bottom frame rail to the bottom of the skate bearings.

### **BOTTOM KEEL RAILS**

The dimensions on pg. 35 for the bottom keel rails are from the edge of the keel to the string. As illustrated on pg.35

### **TOP SKATES**

The top skates are positioned an 1/16" inside of bottom rollers on the face side. As illustrated on pg.35



P34I.CAD	1	2	3	4	5	6
STANDARD 5" GUTTER	1 1/2"	5 3/8"	5"	11/16"	3 9/16"	3 3/4"
STANDARD 6" GUTTER	5/16"	5 13/16"	5 7/16"	11/16"	4 5/8"	4 7/8"
STANDARD 5" GUTTER	1 1/2"	5 3/8"	5"	11/16"	3 9/16"	3 3/4"
STANDARD 6" GUTTER	5/16"	5 13/16"	5 7/16"	11/16"	4 5/8"	4 7/8"

## **SECTION 17**

### **GUTTER TALK**

Common terms describing the condition of the gutter. (see pg. 59)

#### **INTO THE HOUSE**

This term describes a condition where the ends of the gutter are closer to the fascia board than the center. Looking from the machine the gutter has a right hand curve. Visually you will be looking down lines 6 and 7.

#### **AWAY FROM THE HOUSE**

This term describes a condition where the center of the gutter is closer to the fascia board than the ends. Looking from the machine the gutter has a left hand curve. Visually you will be looking down lines 6 and 7.

#### **UP HILL**

This term describes a condition where the ends of the gutter are bowing up. The center of the gutter is lower than the ends. Visually you will be looking down lines 6 and 7.

#### **DOWN HILL**

This term describes a condition where the ends of the gutter are bowing down. The center of the gutter is higher than the ends. Visually you will be looking down lines 6 and 7.

#### **TOP LIP INTO THE HOUSE**

This term describes a condition where the ends of the top lip are closer to the fascia board than the middle. Visually you will be looking down lines 3 and 4.

#### **TOP LIP AWAY FROM THE HOUSE**

This term describes a condition where the ends of the top lip are further away from the fascia than the middle. Visually you will be looking down lines 3 and 4.

## SECTION 18

### MACHINE OPERATION RECAP AND SUMMARY

This section is only a brief summary. Please read the entire manual prior to operating machine.

The order of operation.

1. Connect the machine to the proper power source using the proper extension cord.
2. Position the selector switches to the jog position and the forward position.
3. Remove spool retaining pins from the spool you have selected to run.
4. Trim both corners of the coil at a 45 degree angle approximately 3" in from edges. Insert trimmed coil into the entrance guide system making sure coil is snug to both sides, with free front to back movement, push coil to the #1 drive station. (see pg.35 on proper set up of entrance guides)
5. With the material positioned in the entrance guides. Grasp the material with one hand reach around to the right side of the machine, press the jog button while pushing the material until it engages the #1 drive assembly. With the material moving forward under its own power release jog button.
6. Using the green start button at the main operators panel advance the material thru guillotine approximately 12" then cut off the 12" section of gutter.
7. The selector switches can be used for forward / reverse and jog / run operation of the machine once machine is fed. Set the selector switch to run mode. By depressing start button machine will continuously, depress red button to stop machine. Jog gutter to desired length and cut off using guillotine. Run out support stands must be used to support gutter after 8'.
8. Prior to the completion of the last piece of gutter being produced, cut the coil stock before the entrance guides to clear machine. The IRONMAN MACHINE should be empty when transporting from job to job.

## SECTION 19

### ANALYZING GUTTER

#### Step #1

Feed machine with material thru entire machine.

#### Step #2

Run gutter thru guillotine approximately 12".

#### Step #3

Back gutter up 3" .

#### Step #4

Visually check points 6 and 7 for double track.(see pg. 59) A double track is a mis-alignment of stations with the gutter backed up it will show as two lines or a double line. Points 6 and 7 are formed by the skate assemblies.

A double track on point 4 is controlled by the vertical adjustment of the entrance end of the box. (Black station pg. 25)

#### Step #5

Measure the amount of material entering the forming box. This measurement is taken between the face rollers and the lip box. There should be 1 3/8" for 5" 1 5/8" for 6" (see pg.43).

#### Step #6

Measure top width of the gutter from point 3 to point 9. Correct measurement 5" for 5" gutter and 6" for 6" gutter + or - 1/8" . The width of the top of the gutter is controlled by the exit end of the box, the green station (and the bell rollers) (see pg. 25). Prior to measuring the top of the gutter make sure back of gutter is square to the bottom at point 7.

#### Step #7

Check point 5 for being square to the bottom.

#### Step #8

With no double tracks, Proper amount of metal in forming box and the correct width across the top of the gutter. You are now ready to make some corrective adjustments to the machine.

## **SECTION 20**

### **TROUBLE SHOOTING**

#### **ADJUSTING TOP LIP PORTION OF GUTTER.**

The TWO conditions listed below will be corrected using the SWING SHAFT (blue station).(see swing shaft assembly pg.25)

Top lip areas #3 and #4 are running DOWN AND AWAY FROM THE FASCIA.  
The bottom areas #6 and #7 are straight and parallel to the fascia board and are satisfactory.(see pg.59)

Top lip areas #3 and #4 are running UP AND INTO THE FASCIA. The bottom areas #6 and #7 are straight and parallel to the fascia board and are satisfactory.(see pg.59)

ADJUSTING FOR DOWN AND AWAY FROM THE FASCIA add pressure to the SWING SHAFT(blue station) Turn locking bolt E counter clockwise loosen 2 places, turn adjustment bolt F clockwise tighten 1/16 of a turn per adjustment. Re-tighten locking bolts E.(see pg.25)

ADJUSTING FOR UP AND INTO THE FASCIA relieve pressure from the SWING SHAFT(blue station) Turn locking bolt E counter clockwise loosen 2 places, turn adjustment bolt F counter clockwise loosen 1/16 of a turn per adjustment. Re-tighten locking bolt E.(see pg.25)

NOTE: AFTER ADJUSTMENT IS MADE RUN A 8' SECTION OF GUTTER TO INSPECT. IF MORE ADJUSTMENT IS NEEDED REPEAT PROCEDURE.

**CAUTION: OVER ADJUSTMENT WILL CAUSE OPPOSITE REACTION.**

**NOTE: ADJUSTING SWING SHAFT WILL NOT INCREASE OR DECREASE THE AMOUNT OF LIP. THE SWING SHAFT SHOULD NOT BE USED TO TRY AND CHANGE THE SIZE OF THE HANGER LIP.**

## **ADJUSTING THE BOTTOM PORTION OF THE GUTTER:**

The two conditions listed below will be corrected using the exit end box mount (green station). (see pg. 25.)

The top lip areas #3 and #4 are parallel to #6 and #7 of the bottom but the whole gutter is running UP AND INTO THE FASCIA BOARD.(see pg. 59)

The top lip areas #3 and #4 are parallel to #6 and #7 of the bottom but the whole gutter is running DOWN AND AWAY FROM THE FASCIA BOARD. (see pg. 59)

Adjusting for UP AND INTO THE FASCIA BOARD relieve pressure to exit box mount (green station) moving exit end of box up. Turn locking bolt G counter clockwise loosen, turn adjustment bolt H clockwise 1/16 of a turn per adjustment. Re-tighten locking bolt G.

Adjusting for DOWN AND AWAY FROM THE FASCIA BOARD add pressure to exit box mount (green station) moving exit end of box down. Turn locking bolt G counter clockwise loosen, turn adjustment bolt H counter clockwise 1/16 of a turn per adjustment. Re-tighten locking bolt G.

USING #3 DRIVE FORMING ROLLER AND SWING SHAFT ASSEMBLY AS A SECONDARY OPTION ACQUIRING THE SAME RESULTS.(see pg. 28)  
NOTE: LOOSEN LOCKING BOLT K PRIOR TO ADJUSTING THE TOP #3 DRIVE FORMING ASSEMBLY.

Adjusting for UP AND INTO THE FASCIA BOARD Relieve pressure from the face side of the top #3 drive forming roller. Turn locking nut on adjustment bolt I counter clockwise loosen, turn adjustment bolt I counter clockwise 1/64 of a turn. Also Relieve pressure from the swing shaft (blue station). Turn locking bolts E clockwise loosen, turn adjustment bolt F counter clockwise 1/64 of a turn . Re-tighten all locking bolts and nuts.

Adjusting for DOWN AND AWAY FROM THE FASCIA BOARD add pressure to the face side of the top #3 drive forming roller. Turn locking nut on bolt I counter clockwise loosen, turn adjustment bolt I clockwise 1/64 of a turn. Also add pressure to the swing shaft (blue station). Turn locking bolts E counter clockwise loosen, turn adjustment bolt F clockwise 1/64 of a turn. Re-tighten all locking bolts and nuts.

**NOTE: AFTER ADJUSTMENT IS MADE RUN A 8' SECTION OF GUTTER TO INSPECT. IF MORE ADJUSTMENT IS NEEDED REPEAT PROCEDURE.**

**CAUTION: OVER ADJUSTMENT WILL CAUSE OPPOSITE REACTION.**

**THE GUTTER IS TO WIDE OR NARROW BETWEEN POINT #3 AND #9.**  
(see pg. 59)

**ADJUSTING THE WIDTH OF THE GUTTER:** Check areas #6 and #7 for being at a 90 degree angle to the bottom. If a less than a 90 degree angle is present. Add pressure to the bell wheel, turn locking bolts A and B counter clockwise to loosen, turn adjustment bolt B clockwise 1/16 of a turn to add pressure.

If a more than 90 degree angle is present relieve pressure by turning adjustment bolt B counter clockwise.

AREAS #6 AND #7 ARE SQUARE TO THE BOTTOM AND THE GUTTER IS TO WIDE OR NARROW.

This condition will be corrected using the exit box mount (green station). Gutter is to wide loosen locking bolt J two places, turn adjustment bolt I clockwise 1/16 of a turn. Gutter is under 5" turn adjustment bolt I counter clockwise.

**NOTE: AFTER ADJUSTMENT IS MADE RUN A 8' SECTION OF GUTTER TO INSPECT. IF MORE ADJUSTMENT IS NEEDED REPEAT PROCEDURE.**

**CONTINUOUS MARK OR SCRATCHES:**

1. Check for interference with shear.
2. Inspect guide rods for imperfections.

## **MATERIAL SLIPPING (MACHINE NOT PULLING MATERIAL THRU)**

1. Check that the spool retaining pins are in the outward position.
2. Check that the entrance guides are not too tight and restricting the material.

If the guides are correct and the spools are unlocked. Add pressure to the #1 and #2 drive assemblies. (see pg.20, section #10)

When metal slippage occurs while clearing machine, after metal is past #2 drive.

Add equal pressure to the #3 drive forming roller.(see pg. 28)

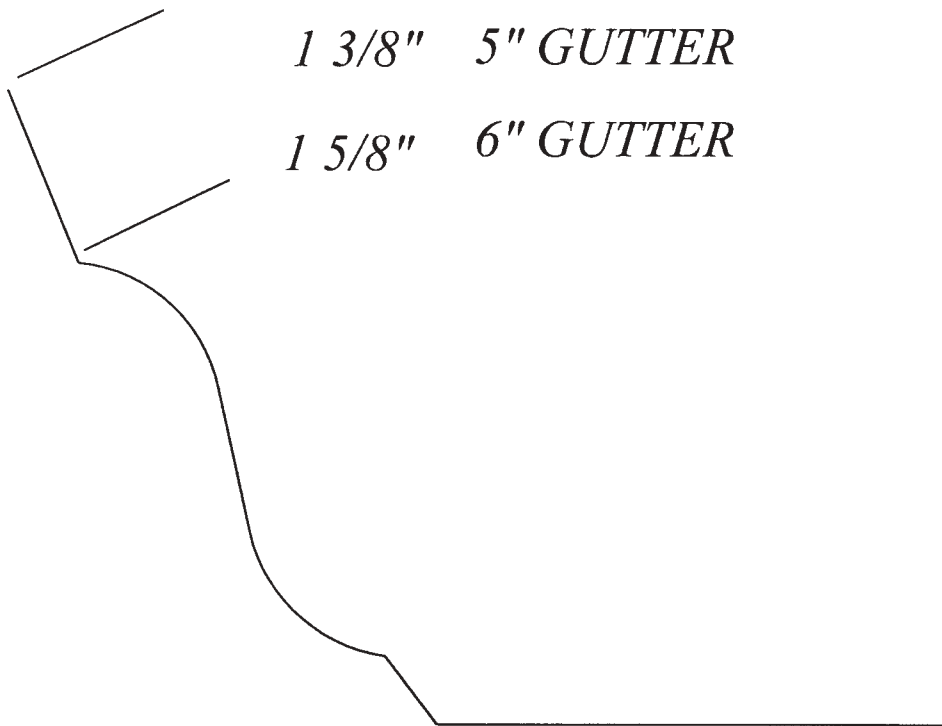
## **OIL CANNING OR RIPPLING ON BOTTOM.**

An imperfect bottom on the gutter is very uncommon from the IRONMAN.

Check all bottom rollers, drive rollers and skate rollers for tape debris or buildup.

Make sure top drive roller pressure is not past factory tolerance.

**GUTTER PROFILE  
VIEWED BETWEEN THE FACE BOX  
AND THE LIP BOX**



## SECTION 22

### COMBO CONVERSION INSTRUCTIONS

**NOTE: PLEASE MAKE SURE THAT THE MACHINE HAS BEEN DISCONNECTED FROM THE POWER SOURCE BEFORE STARTING THE CONVERSION.**

The process to change from the 5" gutter profile to the 6" profile and back again is considerably simplified by using locking pins with two secured positions that provide an easy change for either profile. A tool kit is provided with every combo machine. The tool kit is located inside the left side cover at the exit end of the machine.

When converting from one profile to the other, it is important to follow the instructions in order. Much time can be lost if instructions are not followed exactly. The order to convert 5" to 6" is not the same as converting 6" to 5". Follow the instructions carefully.

#### 5" TO 6" CONVERSION

##### **STEP I. Remove Covers.**

(See pg.45 For lid details.)

(See pg.45 For Tool Kit location.)

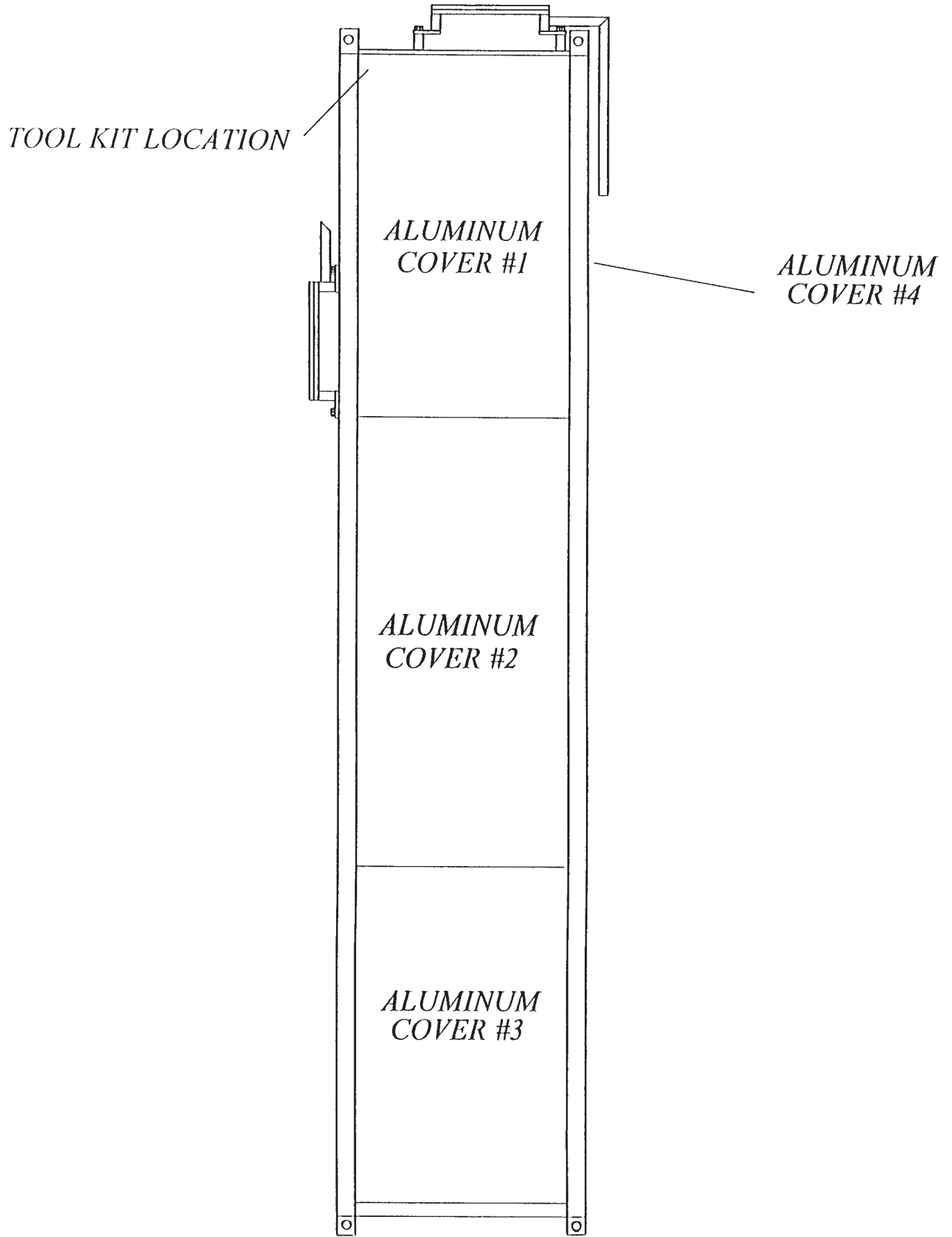
The lids that need to be removed are fastened in place with quarter turn screws. To remove aluminum lids #1 - #4, use a flat head screwdriver, turn screws counter clockwise one quarter turn.

##### **STEP II. Remove Guillotine.**

(See pg.47 For guillotine location)

Remove the guillotine with the 4 (four) A screw that attach the guillotine to the machine frame and set the guillotine aside.

*GUILLOTINE ASSEMBLY*



### **STEP III. Move Bead Assembly.**

(See pg.47)

Loosen the 2 (two) E bolts and slide the bead assembly up for the 6" position. The positions are marked on the mounting block for easy placement. Re-tighten the E bolts.

### **STEP IV. Remove Back Bell Roller.**

(See pg.47)

Remove the back bell roller using the bolt (C) that holds the center shaft in place. Set the back bell roller aside.

### **STEP V. Move Back Guide Bar.**

(See pg.47)

Loosen the 5 (five) bolts on the back guide bar, move it away from the skate as far as possible. Re-tighten the 5 bolts.

### **STEP VI. Remove Exit Upper #3 Roller Back Side.**

(See pg.47)

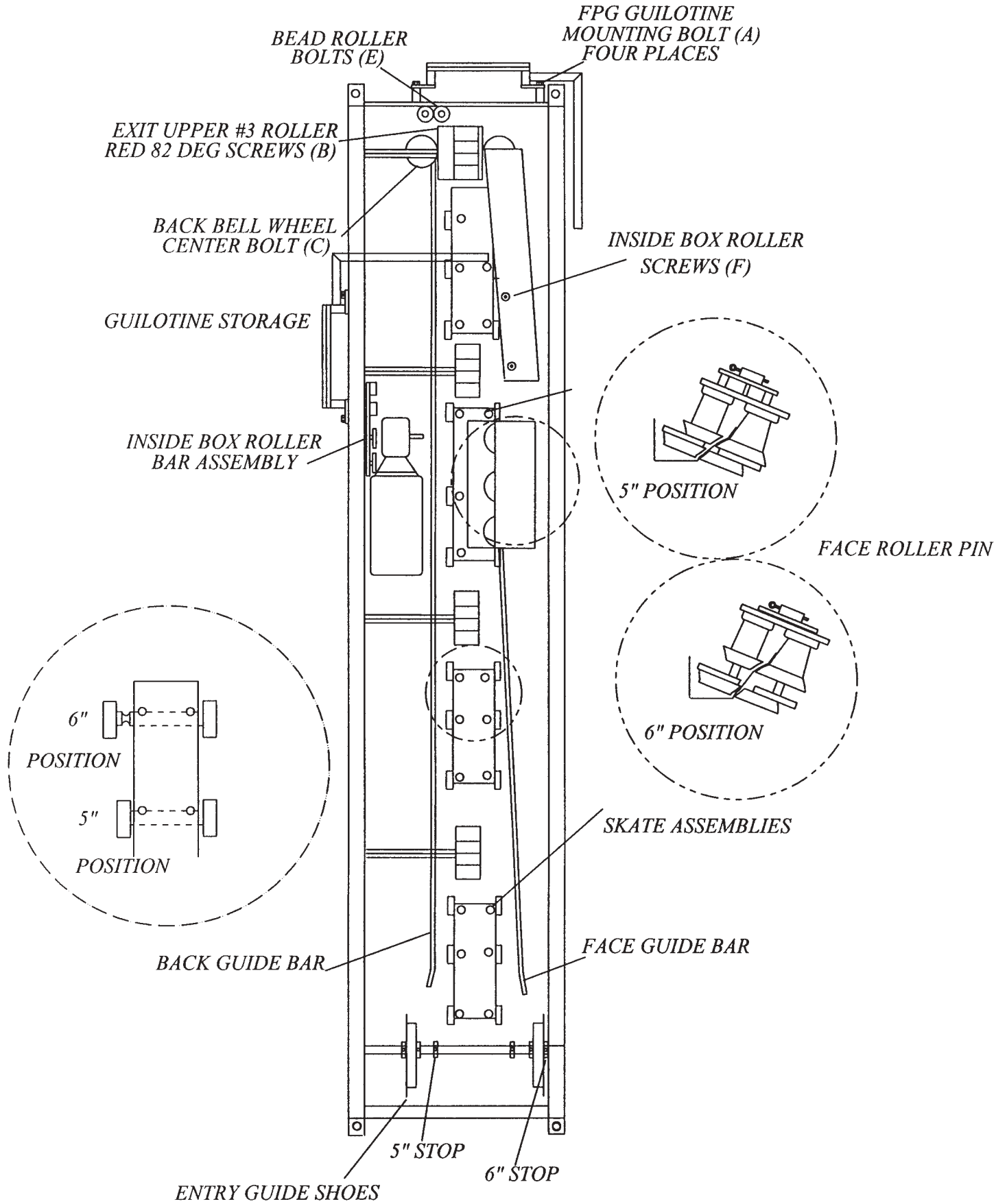
Remove the back side exit top roller by removing the "red" (B) 1/4-20 x 1/2" flush head cap screw located in the center of the roller. Turn the roller end for end and replace it back onto the shaft by aligning the threaded holes in the shaft with the clearance holes on the exit upper #3 top roller backside. Failure to align the roller properly will cause damage.

### **STEP VII. Re-install The Back Bell Roller.**

(See pg.47)

The back bell roller is replace into the new position labeled 6".

# IRONMAN COMBO



### **STEP VIII. Install Guillotine.**

(See pg.47)

Remove the 6" guillotine from the side of the machine and install it on the frame with the 4 (four) (A) screws. The guillotine is factory preset and should not need adjustment.

### **STEP IX. Store 5" Guillotine.**

(See pg.47)

Store the 5" guillotine on the side of the machine.

### **STEP X. Move Skate Rollers.**

(See pg.47)

There are 4 (four) center skates in the combo machine. Each of these skates have retractable rear skate forming rollers that expand between the 5" and 6" profile. To change, pull the adjusting pin up at each skate bearing until the pin disengages from the retractable skate shaft. Move the forming roller to the 6" position and push the adjusting pin back into place. Repeat this process for all 13 (thirteen) rear skate forming rollers.

### **STEP XI. Move Entry Guide Shoes.**

(See pg.47)

There are 2 (two) split collars used as stops on the entrance guide shaft to locate each entrance guide shoe for the 5" and 6" gutter position. To position the entrance guide shoes from the 5" to the 6" profile, slide the entrance guides shoes against the outer most collars on the shaft.

**STEP XII. Move Face Box Assembly Stations.**

(See pg.50)

To move the 3 (three) face box roller assemblies, pull the quick release pin that is located at the top of each assembly. Pull the face roller assembly up to the 6" gutter position and replace the pin back completely through the hole. Repeat this step for all the face box assemblies.

**STEP XIII. Move Lip Box Assembly.**

(See pg.50)

Loosen the 2 (two) bolts (G) at the exit end of lip box and the 2 (two) bolts (H) at the entrance end, and move the lip box up and out on the box mounts. Re-tighten bolts (G) and (H).

**STEP XIV. Remove 5" Inside Box Roller Bar Assembly.**

(See pg.50)

To remove the 5" inside box roller bar assembly, remove the 2 (two) "red" (F) screws on the top of the box. Place this assembly to the side.

**STEP XV. Move Outside Box Rollers.**

(See pg.50)

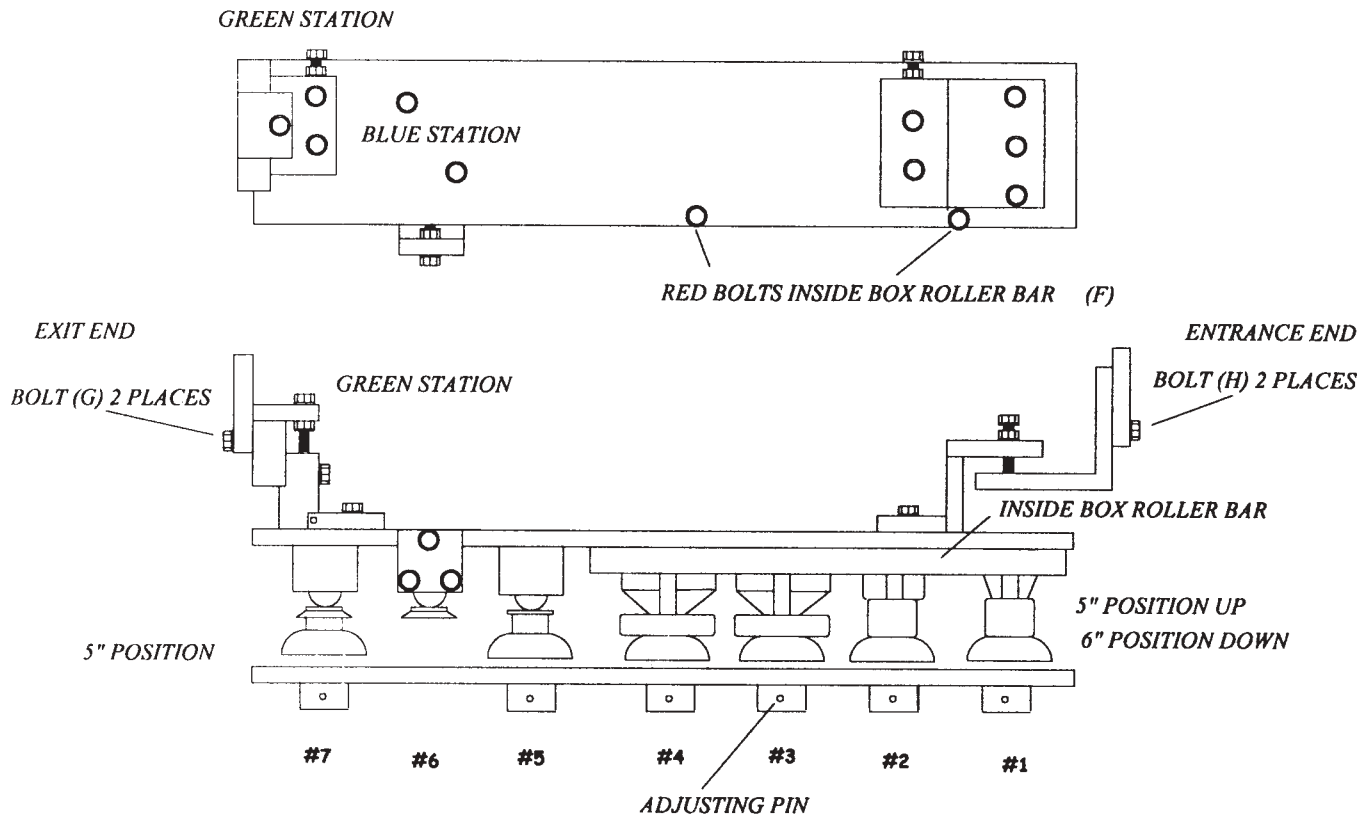
There are 6 (six) quick release pins at the bottom of the box. Remove the pin and move the bottom portion of the outside roller down to the 6" position. Replace the quick release pin back through the hole.

**STEP XVI. Install 6" Inside Box Roller Bar Assembly.**

(See pg.50)

Switch and install the 6" inside box roller bar assembly. This assembly is labeled as (6). The tall rollers locate in the #1 station and the #2 position. The short rollers locate in the #3 station and the #4 position. Replace the "red" station screws (F) and tighten.

# LIP FORMING BOX



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**STEP XVII. Store 5" Inside Box Roller Bar Assembly.**

See pg.47 for storage location for the box roller bar assembly.

**STEP XVIII. Replace Covers.**

(See pg.45)

Replace the lids #1,#2, and #3 on the top of the machine. Replace the side cover #4. Turn the cover screws one quarter turn clockwise to re-fasten.

**STEP XIX. Move Upright Baseplate.**

(See pg.52)

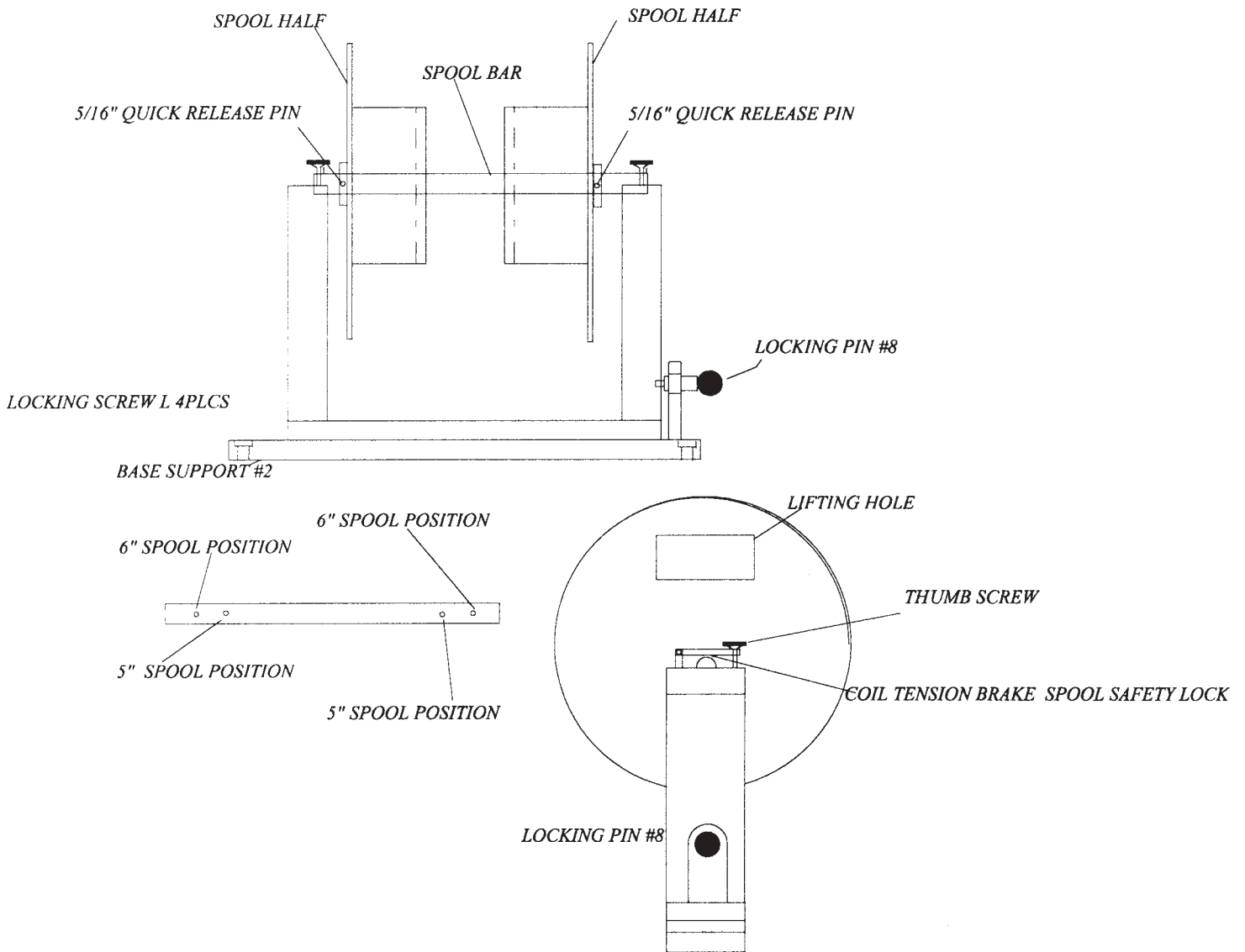
Loosen the four (L) screws as shown. Slide the upright baseplate to the 6" position. Re-tighten the screws. Rotate the upright to access the 2 (two) bolts on the face side.

**STEP XX. Move Spool Half.**

(See pg.52)

**NOTE: Pins must be reinstalled in holes stamped for the 6" position.**

# SPOOL AND UPRIGHT ASSEMBLY



## SECTION 23

### 6" TO 5" CONVERSION

#### **STEP I. Remove Covers.**

(See pg.45 For lid details.)

(See pg.45 For Tool Kit location.)

The lids that need to be removed are fastened in place with quarter turn screws. To remove lids, use a flat head screwdriver, turn screws counter clockwise one quarter turn.

#### **STEP II. Remove Guillotine.**

(See pg.47 For guillotine location.)

Remove the guillotine with the 4 (four) (A) screws that attach the guillotine to the machine frame and set the guillotine aside.

#### **STEP III. Remove Back Bell Roller.**

(See pg. 47)

Remove the back bell roller using the bolt (C) that holds the center shaft in place. Set the back bell roller aside.

#### **STEP IV. Remove Exit Upper #3 Roller Back Side.**

(See pg. 47)

Remove the back side exit top roller by removing the—"red" (B) 1/4-20 x 1/2" flush head cap screw located in the center of the roller. Turn the roller end for end and replace it back onto the shaft by aligning the threaded holes in the shaft with the clearance holes on the exit upper #3 top roller backside. Failure to align the roller properly will cause damage.

#### **STEP V. Re-install The Back Bell Roller.**

(See pg. 47)

The back bell roller is replaced into the new position labeled 5".

### **STEP VI. Move Bead Assembly.**

(See pg. 47)

Loosen the 2 (two) (E) bolts and slide the bead assembly up for the 5" position. The positions are marked on the mounting block for easy placement. Re-tightened the (E) bolts.

### **STEP VII. Install Guillotine.**

(See pg. 47)

Remove the 5" guillotine from the side of the machine and install it o the frame with the 4 (four) (A) screws. The guillotine is factory preset and should not need adjustment.

### **STEP VIII. Store 6" Guillotine.**

(See pg. 47)

Store the 6" guillotine on the side of the machine.

### **STEP IX. Move Skate Rollers.**

(See pg. 47)

There are 4 (four) center skates in the combo machine. Each of these skates have retractable rear skate forming rollers that expand between the 5" and 6" profile. To change, pull the adjusting pin up at each skate bearing until the pin disengages from the retractable skate shaft. Move the forming roller to the 5" position and push the adjusting pin back into place. Repeat this process for all 13 (thirteen) rear skate forming rollers.

### **STEP X. Move Back Guide Bar.**

(See pg. 47)

Loosen the 5 (five) bolts on the back guide bar, move it toward the skate as far as possible and re-tighten the 5 bolts.

### **STEP XI. Move Entry Guide Shoes.**

(See pg. 47)

There are 2 (two) split collars used as stops on the entrance guide shaft to locate each entrance guide shoe from the 5" and 6" gutter position. To position the entrance guide shoes from the 6" to the 5" profile, slide the entrance guide shoes against the inner most collars on the shaft.

### **STEP XII. Move Face Box Assembly Stations.**

(See pg. 50)

To move the 3 (three) face box roller assemblies, pull the quick release pin that is located at the top of each assembly. Pull the roller assembly down to the 5" gutter position and replace the pin back completely through the hole. Repeat this for all the face box assemblies.

### **STEP XIII. Remove 6" Inside Box Roller Bar Assembly.**

(See pg. 50)

To remove the 6" inside box roller bar assembly, remove the 2 (two) "red" (F) screws on the top of the box. Place this assembly to the side.

### **STEP XIV. Move Outside Box Rollers.**

(See pg. 50)

There are 6 (six) quick release pins at the bottom of the box. Remove the pin and move the bottom portion of the outside roller up to the 5" position. Replace the quick release pin back through the hole.

**STEP XV. Install 5" Inside Box Roller Bar Assembly.**

(See pg. 50)

Switch and install the 5" inside box roller bar assembly. This assembly is labeled as (5). The tall rollers locate in the #1 station and the #2 position. The short rollers locate in the #3 station and the #4 position. Replace the "red" station screws (F) and tighten.

**STEP XVI. Store 6" Inside Box Roller Bar Assembly.**

See pg. 47 for storage location for the box roller bar assembly.

**STEP XVII. Move Lip Box Assembly.**

(See pg. 50)

Loosen the 2 (two) (G) bolts at the exit end of the lip box and the 2 (two) (H) bolts at the entrance end, and move the lip box in and down on the box mounts. Re-tighten bolts (G) and (H).

**STEP XVIII. Replace Covers.**

(See pg. 45)

Replace the lids #1, #2, and #3 on the top of the machine. Replace the side cover #4. Turn the cover screws one quarter turn clockwise to re-fasten.

**STEP XIX. Move Upright Baseplate.**

(See pg. 52)

Loosen the 4 (four)(L) screws as shown. Slide the upright baseplate back to the 5" position. Re-tighten the screws.

**STEP XX. Move Spool Half.**

(See pg. 52)

**NOTE: Pins must be reinstalled in the holes stamped for the 5" position.**

**Caution: spool must line up with entrance guides.**

**SECTION 24**  
**5" TO 6" COMBO CHANGE OVER**

1. **UNPLUG MACHINE** - Eliminate electrical power source.
2. **REMOVE COVERS** - Remove covers containing quick release fasteners.
3. **REMOVE GUILLOTINE** - Remove 6" guillotine from machine.
4. **MOVE BACK GUIDE ROD** - Loosen guide rod bolts slide guide rod away from skate.
5. **REMOVE BACK BELL ROLLER** - Remove from 5" position set to the side.
6. **REMOVE TOP #3 EXIT DRIVE ROLLER** - Remove and re-install top #3 back drive roller in 6" position. Roller gets turned end for end and re-installed using the same 82 degree cap screws.
7. **RE-INSTALL BACK BELL WHEEL** - Re-install back bell wheel in the 6" position.
8. **INSTALL 6" GUILLOTINE** - Install 6" guillotine on machine.
9. **SECURE 5" GUILLOTINE** - Place 5" guillotine back to storage position.
10. **MOVE SKATE ROLLERS** - Pull release pins on skate rollers move outwards to 6" position.
11. **MOVE ENTRANCE GUIDES** - Loosen cap screw on both entrance guides move outwards to stop at 6" position.
12. **MOVE FACE BOX ROLLERS** - Remove pins and raise face box roller to 6" position.
13. **MOVE COMPLETE LIP BOX** - Move lip box to 6" position.
14. **REMOVE 5" INSIDE ROLLER BAR FROM BOX** - Remove red colored screws, remove roller bar and set to the side.
15. **MOVE LIP BOX ROLLERS** - Remove pins and lower bottom half of lip box roller to 6" position.
16. **INSTALL 6" INSIDE ROLLER BAR ASSEMBLY** - Remove 6" roller bar from storage position install in lip box.
17. **STORE 5" INSIDE ROLLER BAR** - Replace 6" inside roller bar from storage with 5".
18. **RE-INSTALL COVERS** - Re-fasten covers and lids to machine.
19. **MOVE COIL SPOOL HALVES** - Position spool halves for 15" coil.
20. **MOVE UPRIGHT ASSEMBLY**- Move upright assembly to the left (end of slot).

**SECTION 25**  
**6" TO 5" COMBO CHANGE OVER**

1. **UNPLUG MACHINE** - Eliminate electrical power source.
2. **REMOVE COVERS** - Remove covers containing quick release fasteners.
3. **REMOVE GUILLOTINE** - Remove 6" guillotine from machine.
4. **REMOVE BACK BELL ROLLER** - Remove from 5" position set to the side.
5. **REMOVE TOP #3 EXIT DRIVE ROLLER** - Remove and re-install top #3 back drive roller in 5" position. Roller gets turned end for end and re-installed using the same 82 degree cap screws.
6. **RE-INSTALL BACK BELL WHEEL** - Re-install back bell wheel in the 5" position.
7. **MOVE BACK GUIDE ROD** - Loosen guide rod bolts slide guide rod towards the skate.
8. **INSTALL 5" GUILLOTINE** - Install 5" guillotine on machine.
9. **SECURE 6" GUILLOTINE** - Place 6" guillotine back to storage position.
10. **MOVE SKATE ROLLERS** - Pull release pins on skate rollers move inward to 5" position.
11. **MOVE ENTRANCE GUIDES** - Loosen cap screw on both entrance guides move inwards to stop at 5" position.
12. **MOVE FACE BOX ROLLERS** - Remove pins and lower face box roller to 6" position.
13. **MOVE COMPLETE LIP BOX** - Move lip box to 5" position.
14. **REMOVE 6" INSIDE ROLLER BAR FROM BOX**- Remove red colored screws, remove roller bar and set to the side.
15. **MOVE LIP BOX ROLLERS** - Remove pins and raise bottom half of lip box roller to 5" position.
16. **INSTALL 5" INSIDE ROLLER BAR ASSEMBLY** - Remove 6" roller bar from storage position install in lip box.
17. **STORE 6" INSIDE ROLLER BAR** - Replace 5" inside roller bar from storage with 6".
18. **RE-INSTALL COVERS** - Re-fasten covers and lids to machine.
19. **MOVE COIL SPOOL HALVES** - Position spool halves for 12" coil.
20. **MOVE UPRIGHT ASSEMBLY** - Move upright assembly to the right (end of slot).