



## 5.0 Set-Up and Adjustments

### CONNECTING TO ELECTRIC POWER

Check correct voltage and phasing prior to connecting the electrical power. Connect the power and check motor for correct rotation. Rotation is shown by the arrow located on the Feed Roll Wheel in the center of the machine. If rotation is incorrect on the 3 Phase Machine reverse wires T1 and T2 to change the direction of rotation.

Single Phase is preset at factory.

Adjustments are in sequential order, the adjustment of a machine should begin with the first setup and continue in order until the last adjustment.

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## MANDREL SPACER INSTALLATION

The spacer bars are specially made for each given size box and are installed in the locations shown. There are two (2) lower Spacer bars (0075400), one front and one rear. The Compression Chamber Bar (0075300) is located at the rear of the machine. When a box size change is necessary the new Spacer Bars and a mandrel are required.

1. 0075400 BAR, REAR MANDREL SPREADER
2. 0075300 BAR, REAR COMPRESSION SPREADER

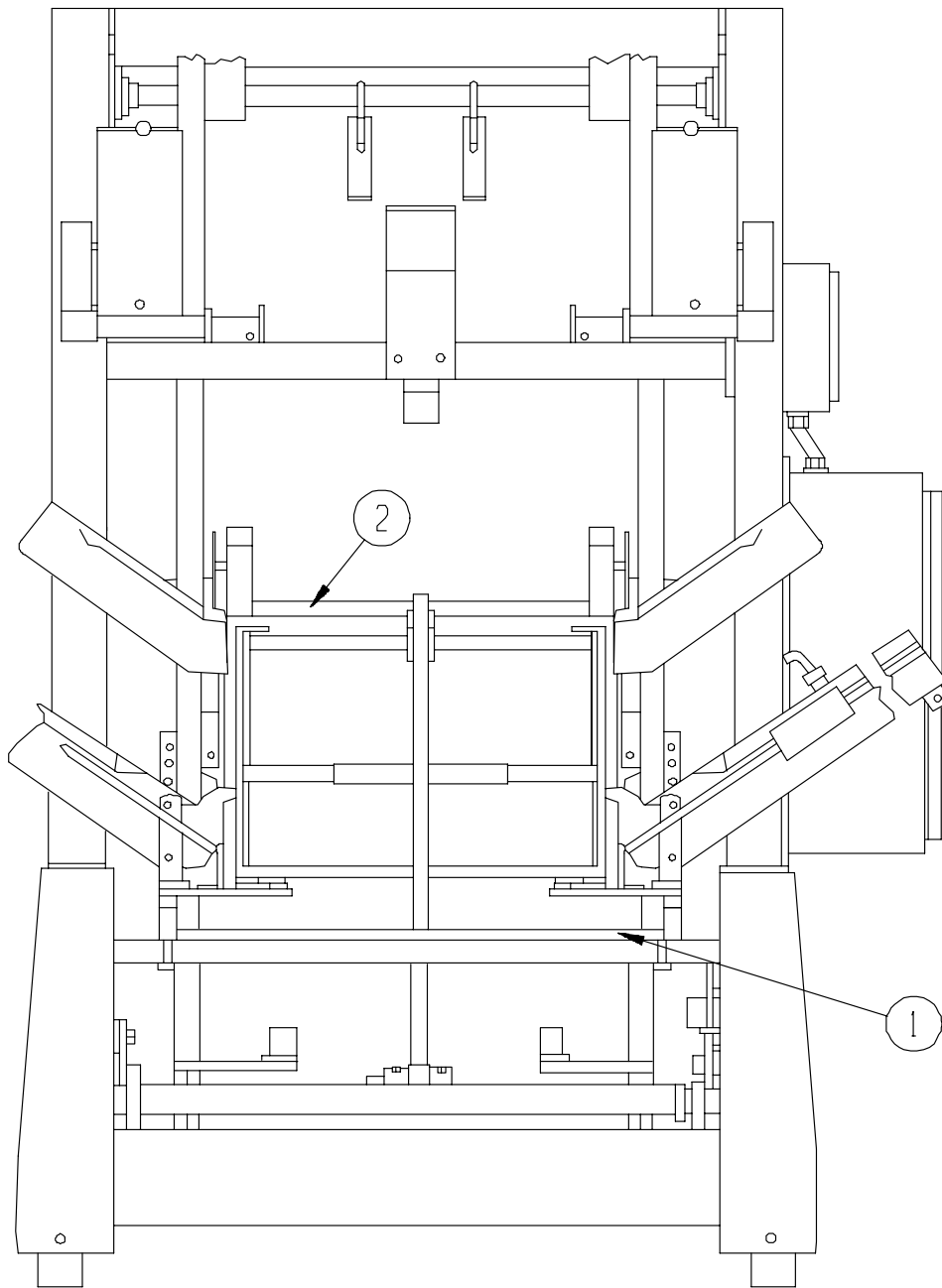


Figure 5-1: Mandrel Spacer Installation

## FORMING MANDREL END PICK ADJUSTMENT

The adjustment of the Forming Mandrel End Pick is done most efficiently before the Forming Mandrel is installed. Adjust them so the bliss end is 1/32 inch extended beyond the end of the Mandrel (0074800 R/L). Due to variations in corrugated. It is recommended to adjust the End Picks by measurement making certain the knife edge of the End Picks are buried into the bliss end. There are three (3) different size End Picks being used, they are illustrated in Figure 5-2. The Box Support Bars (00172xx) must also match the corresponding End Picks.

End Picks Used		Support Bars
0011901:	For A,B and C Flute Ends	0017201 and 0017101
0011902:	For double wall end (1/4" Thick)	0017202 and 0017102
0011903:	For double wall end (5/16" Thick)	0017203 and 0017103

This adjustment assures that the bliss end is driven to the bottom of the blank when the box is being formed.

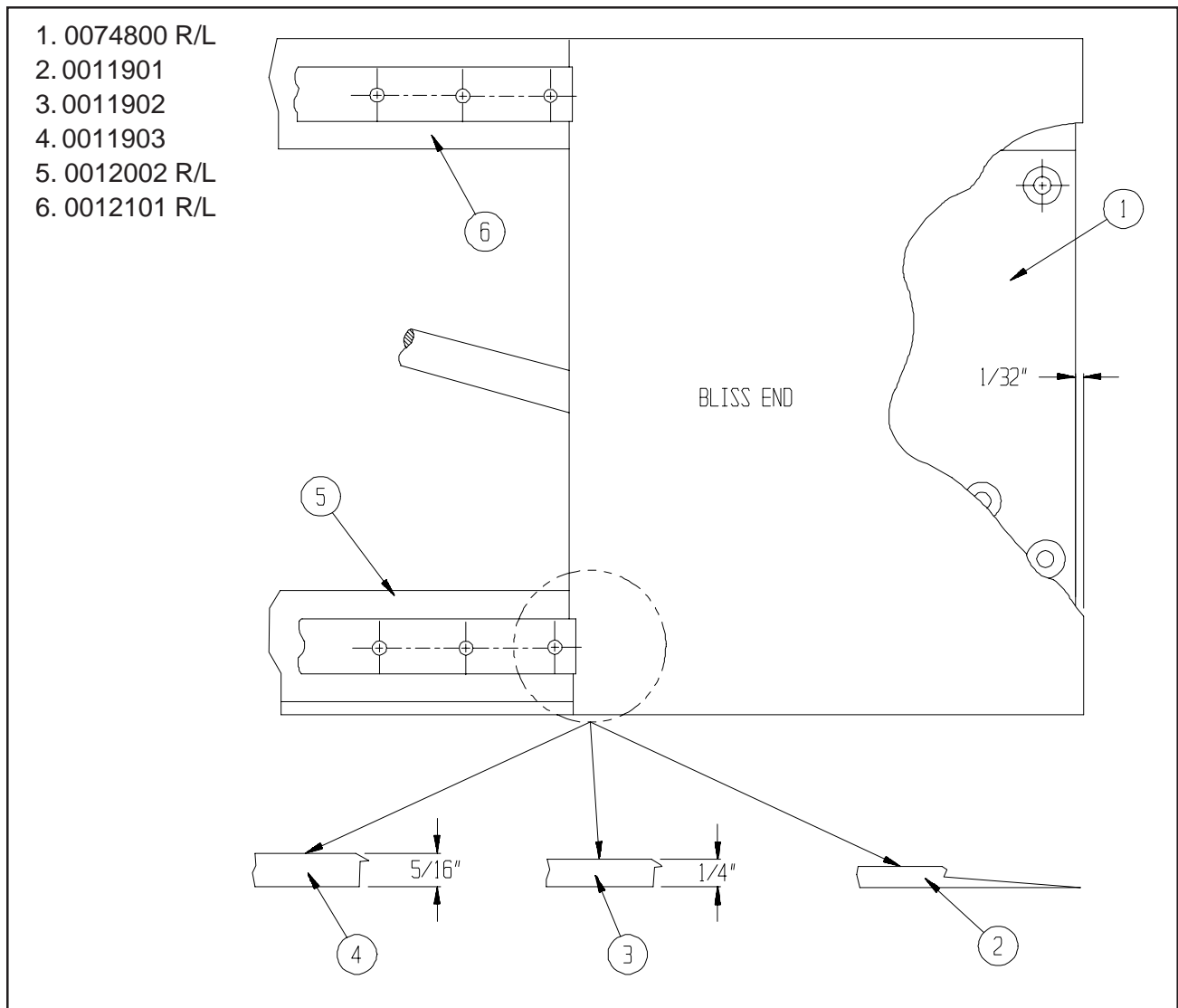


Figure 5-2: Forming Mandrel End Pick Adjustment

## FORMING MANDREL INSTALLATION

Loosen eight (8) 1/4" x 1 1/4" Flat Head Bolts in the Forming Mandrel Rail Guide Caps (0012400 R/L). Slide the Forming Mandrel through the Compression Chamber into the Forming Mandrel Rail Guides (0012300). Center the Forming Mandrel by adjusting the Rail Guides (0012300) to zero clearance with the Mandrel Rails (0012002 R/L). With the Mandrel in the return stroke position, measure the distance from the inside edge of the Mandrel Rails (0012002 R/L) to the inside edge of the Mandrel Support Plate (0012201 R/L). This measurement should be the same on both sides. Now move to the rear of the Mandrel and measure from the edge of the Vertical Guide Bars (0017904) to the edge of the Mandrel as shown. This measurement should be the same on both sides.

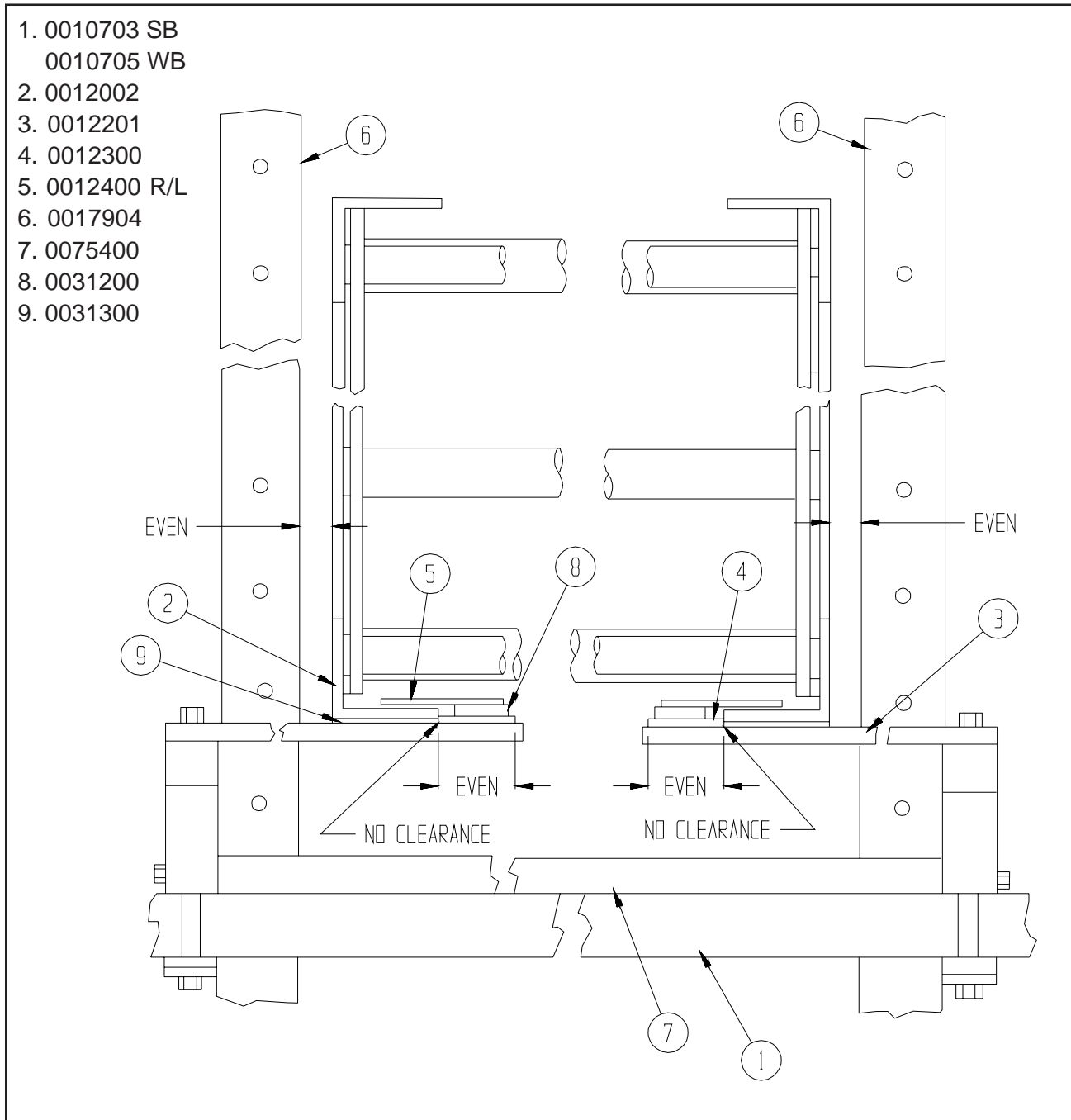


Figure 5-3: Forming Mandrel Installation

## SPACING OF VERTICAL GUIDES TO HORIZONTAL BARS

Depending on the flange size, the various setups are necessary. Blank Guide Bar Spacer (0029100) is 1/4" thick and is used as follows:

Figure 5-4A: For 1 1/2" Flanges

Figure 5-4B: For 1 3/4" Flanges

Figure 5-4C: For 2" and above Flanges

Spacers are stacked on the outside of the bar as shown (Figure 5-4C) when not in use. There are also spacers of different thickness which can be used in combination to satisfy intermediate flange size specifications.

Sizes available: 0029105: 1/16" Thick, 0029101: 1/8" Thick and 0029102: 3/16" Thick

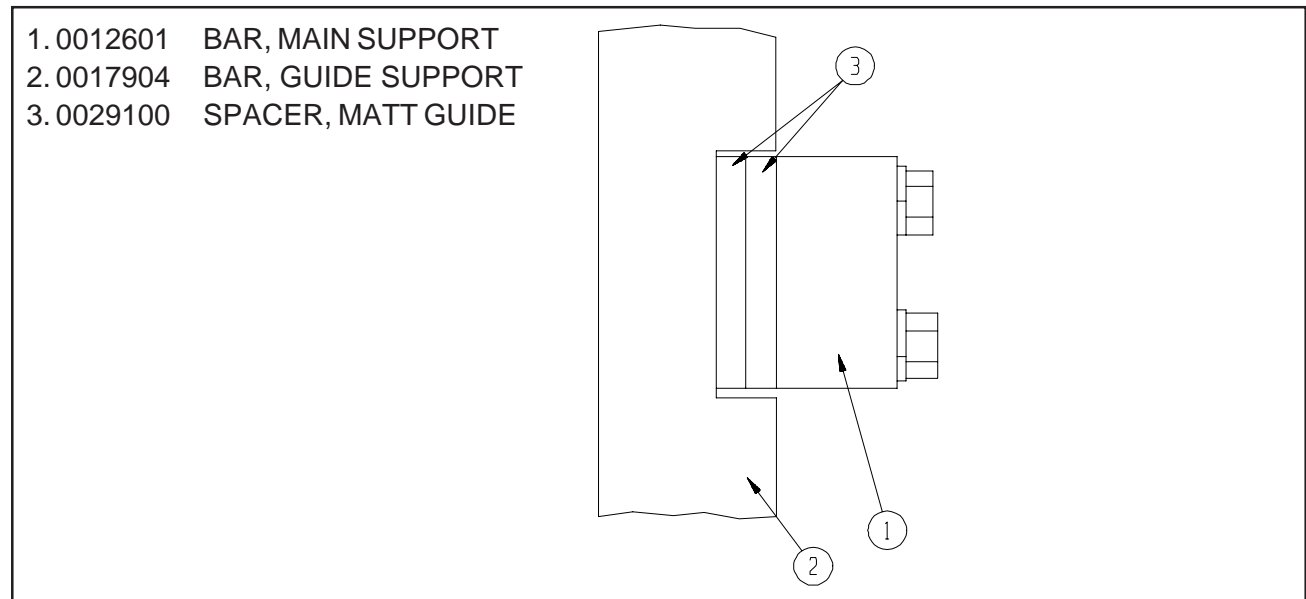


Figure 5-4A: Spacing of Vertical Guides

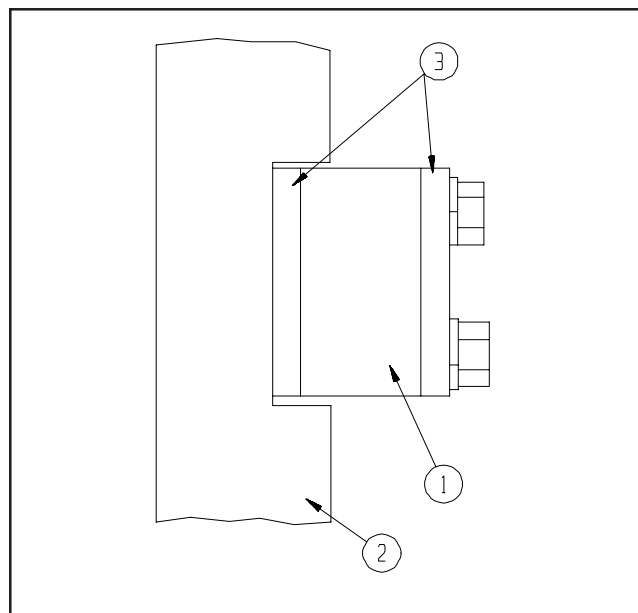


Figure 5-4B: Spacing of Vertical Guides

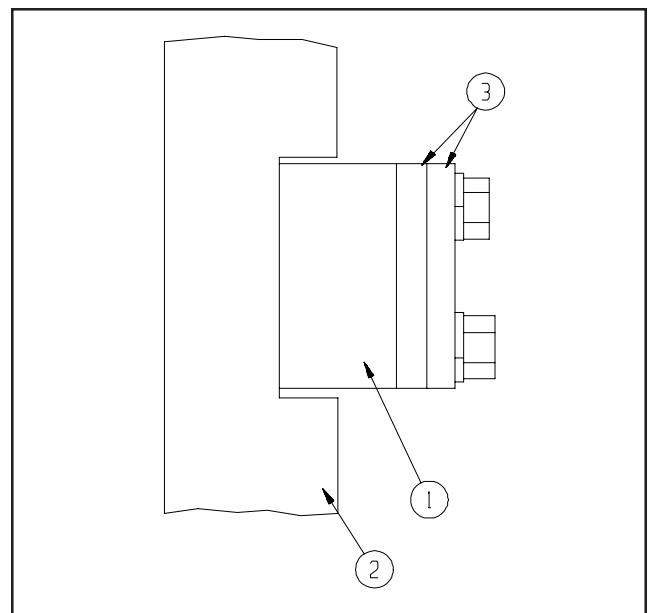


Figure 5-4C: Spacing of Vertical Guides

## ADJUST BLANK FEED ROLL ASSEMBLY

Adjust the Blank Feed Wheel so there is a minimum distance between the bottom of the Blank Feed Idle Roller and the top of the Blank. The following conditions exist and pertain to one of the figures.

Figure 5-5A

1. 1/4" minimum dimension is used when the Blank Rebound Stop is not used (0012701).

To make this adjustment the Feed Chain Idle Sprocket Assembly should be loosened and free to slide on its mounts. Loosen the 5/16" bolts on the Melt Pot Clamp (0019700 R/L) located on the Vertical Guide Bars (0017904) and slide the pots up. Remove the Blank Feed Roll Mounting Bar bolts (4) and move the Feed Roll Assembly to fit the minimum dimension requirements. (Refer to Figure 5-5A for detail). Next slide the pot down until the Glue Pot Support Stud (0031100) rests on the Blank Feed Idle Roller Mount Bar (0020504, Standard Base.....0020505, Wide Base). Tighten bolts and readjust the Chain Idle Assembly taking up all the slack.

 **Note: Part (0015601 R/L) must be loosened when the Glue Pots are moved into position.**

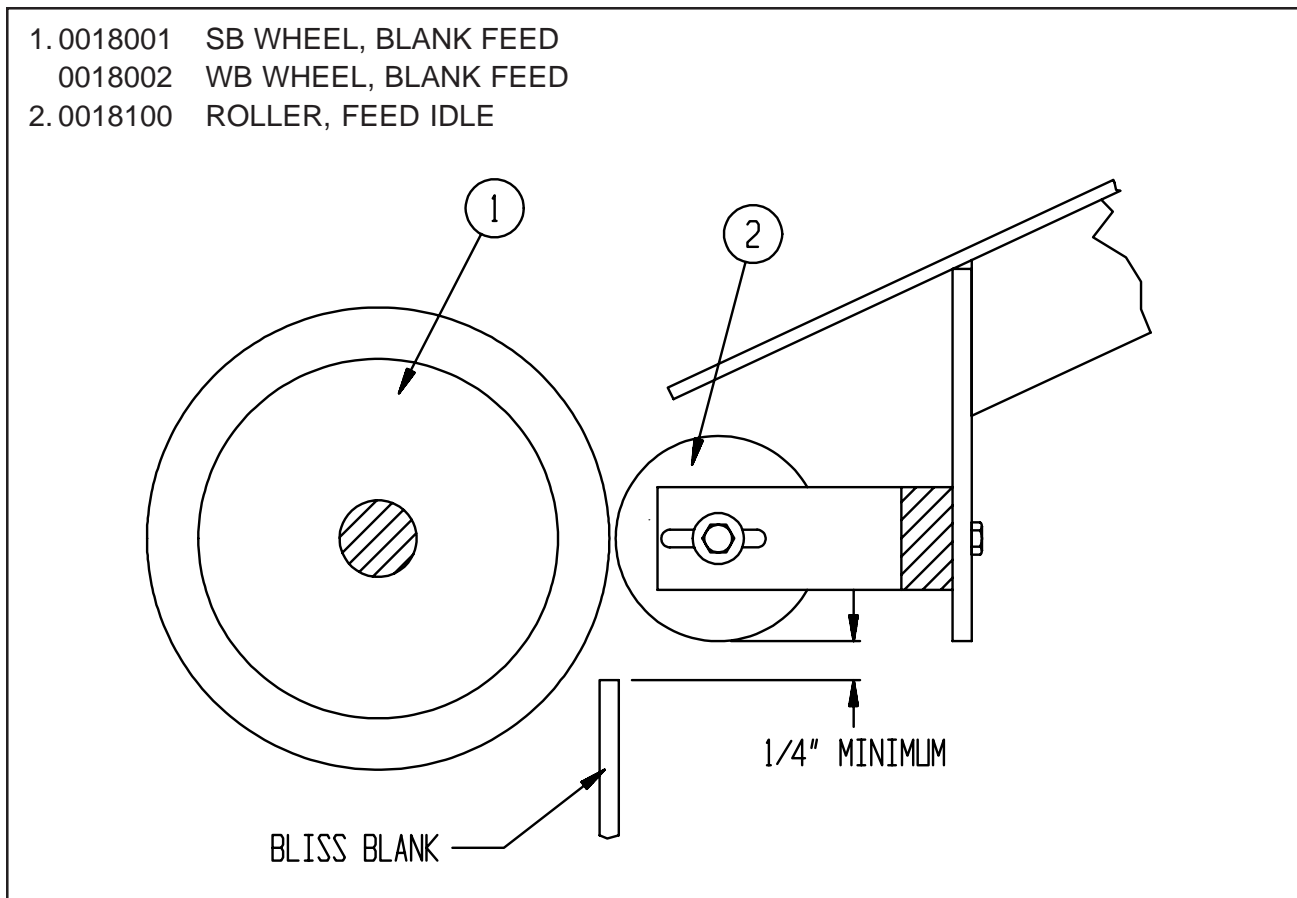


Figure 5-5A: Adjust Blank Feed Roll Assembly

- 1. 0017706 PLATE, SB
- 0017707 PLATE, WB
- 2. 0017904 BAR, GUIDE SUPPORT
- 3. 0019700 MOUNT, MELT POT (R/L)
- 4. 0020504 SB BAR, BLANK FEED ROLL MOUNT
- 0020505 WB BAR, BLANK FEED ROLL MOUNT
- 5. 2001600 BACKUP ROLLER GLUE (R/L)
- 6. 0031100 STUD, GLUE PUMP SUPPORT

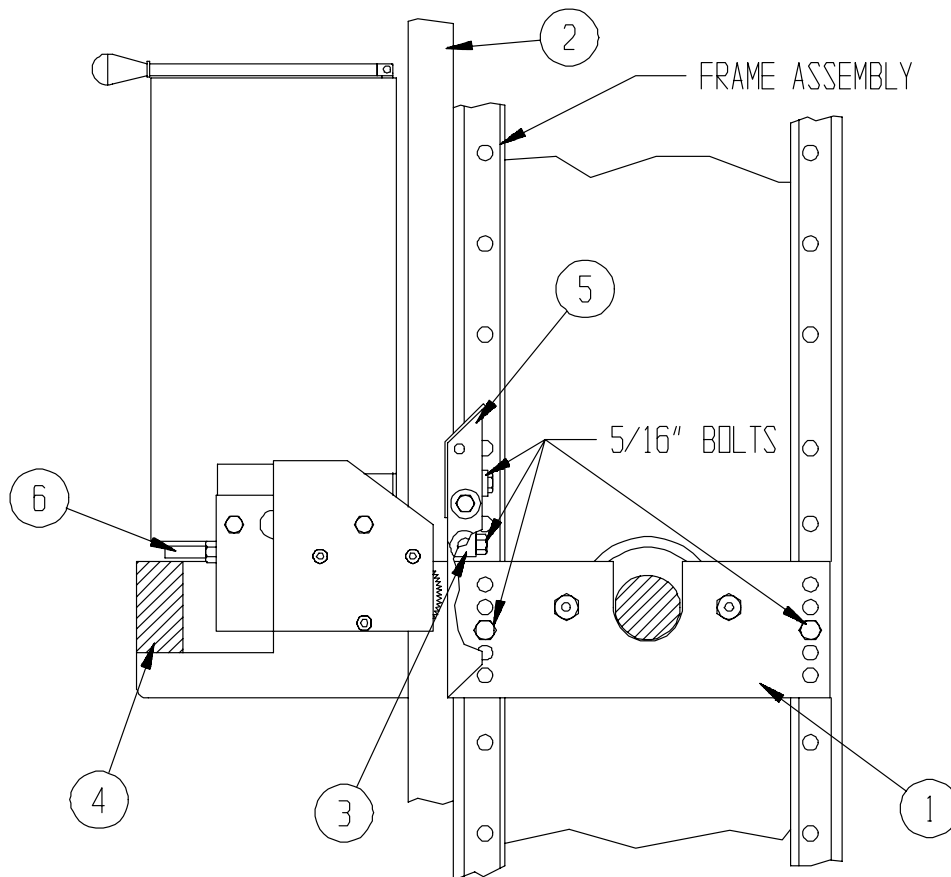


Figure 5-5B: Adjust Blank Feed Roll Assembly

## ADJUST QUICK CHANGE BOTTOM STOPS AND VERTICAL GUIDE BARS

Move the Forming Mandrel to the end of its return stroke. Place a Blank in forming end of Mandrel, and loosen the Bottom Stops using the set screw located in the Set Collar (0100200) on the Quick Change Adjusting Arm (0050200). Slide the stop up or down on the Vertical Guide Bar (0017904) so that the Blank scores are even at the top and bottom of the Mandrel. The Vertical Guide Bars (0017904) have one bolt at the top of the machine. To adjust the Vertical Guide Bars, measure the overall width of the Blank and add 1/8 inch; this establishes the distance between the bars. See Figure 5-3. Run a Blank down the Vertical Guide bars to check clearances set.

Example:

Tray Blank Overall Dimension	18 13/16"
Vertical Guide Bar Clearance	+ 1/8"
Distance between Vertical Guide Bar	<u>18 15/16"</u>
Divide by 2	9 15/32"

This dimension equals X.



1. 0017904 BAR, GUIDE SUPPORT
2. 0050200 ARM, KWIK CHANGE ADJUSTMENT
3. 0100200 SET COLLAR

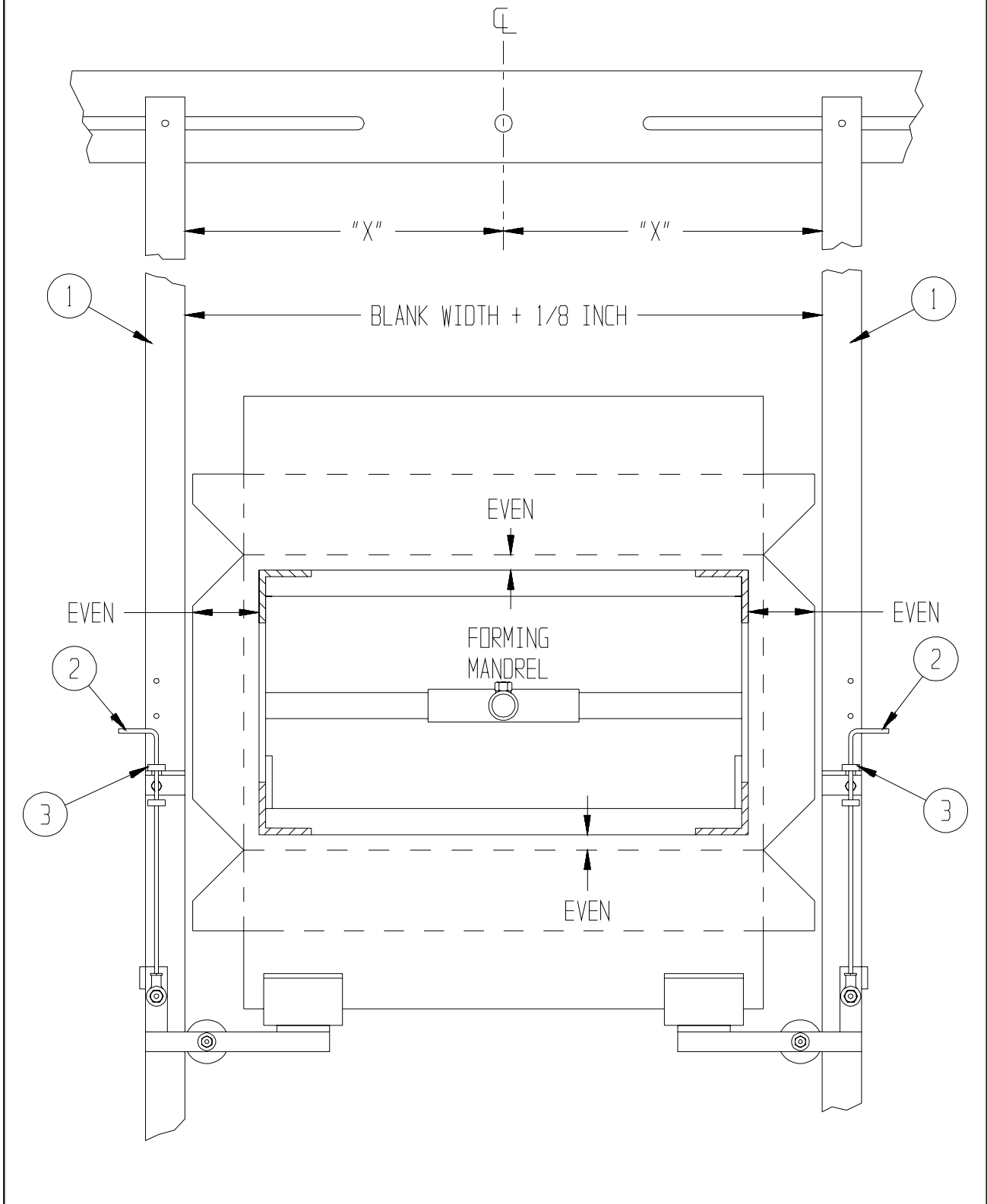


Figure 5-6: Adjust Quick Change Bottom Stops and Vertical Guide Bars

## ADJUST BLANK REBOUND STOP

The Blank Rebound Stop (0012701) which is located on the right hand Vertical Guide Bar (0017904) is adjusted by loosening the 5/16 bolt on the rear side and moving it up or down until 1/8 inch clearance is obtained between the Blank and the Rebound Stop. When the correct adjustment is made, retighten the Rebound Stop bolt.

1. 0012701 STOP, REBOUND
2. 0017904 BAR, GUIDE SUPPORT

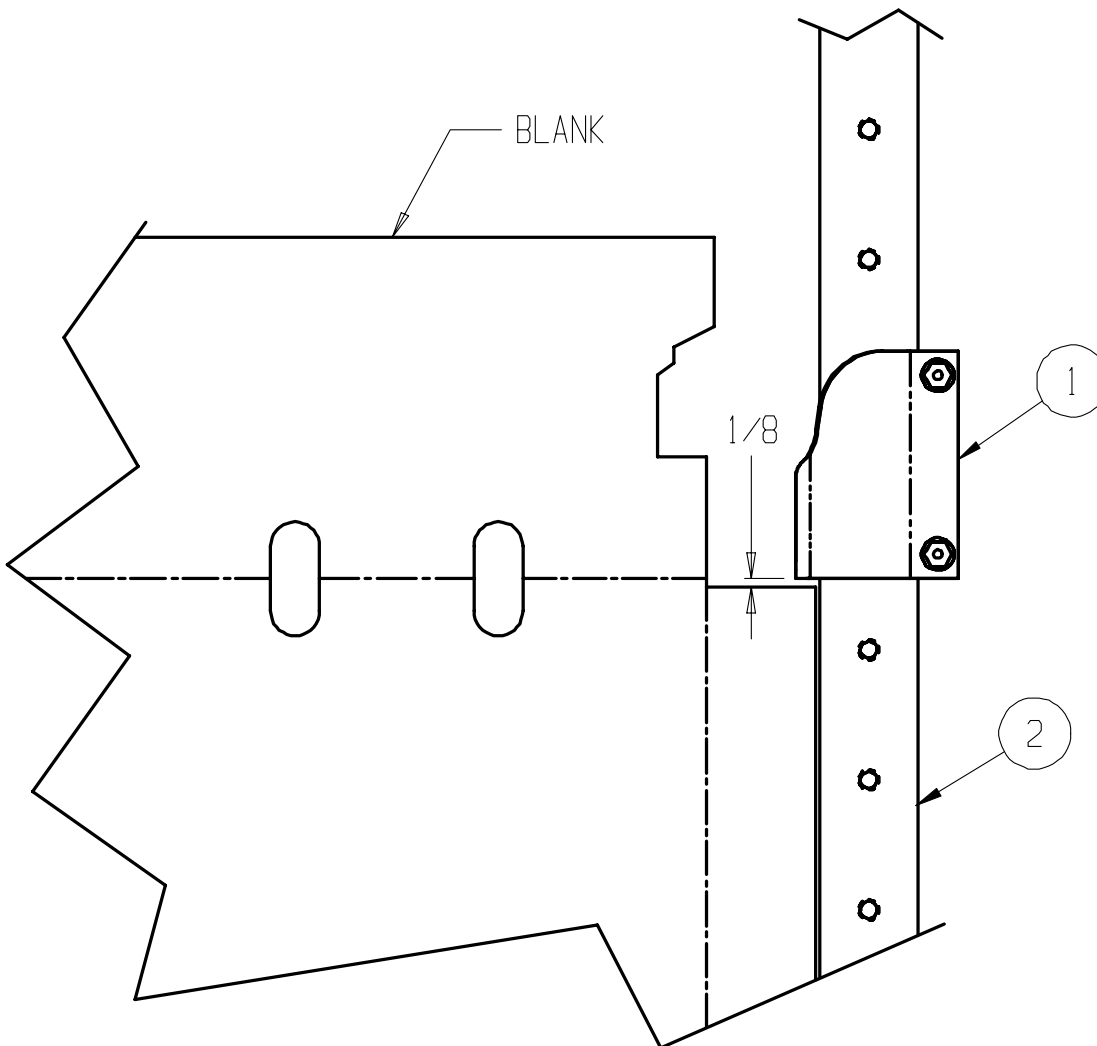


Figure 5-7: Adjust Blank Rebound Stop

## END HOPPER ADJUSTMENT

**Figure 5-8A** - With the Forming Mandrel adjusted properly (Figure 5-3), adjust the Box End Guide (0013401 R/L) up or down using the 1/4 inch pinch bolt until the distance between the hopper blade on the Box End Guide and the Mandrel Support Plate (0012201 R/L) is one End width plus 1/8 inch. Now by use of the 1/16 inch and 1/4 inch shims, as shown, adjust the distance between the hopper end and the Mandrel Rail to 1 1/2 ends thick. The bottom hopper is to be mounted in the correct hole corresponding to the sealing flange width. The spacer adjustment (0029100) is explained in Figure 5-4A, 5-4B and 5-4C.

**Figure 5-8B** - With the above adjustment completed, adjust the Box End Rear Hopper Stop (0013202 R/L) so that the tab is even with the Mandrel as shown. Now adjust the front Hopper Rail Mount Bracket (0013202) which is attached to the Box End Hopper Front Rail (0013302 R/L) so that the distance between (0013302 R/L) and 0013102 R/L is one end depth plus 1/8 inch.

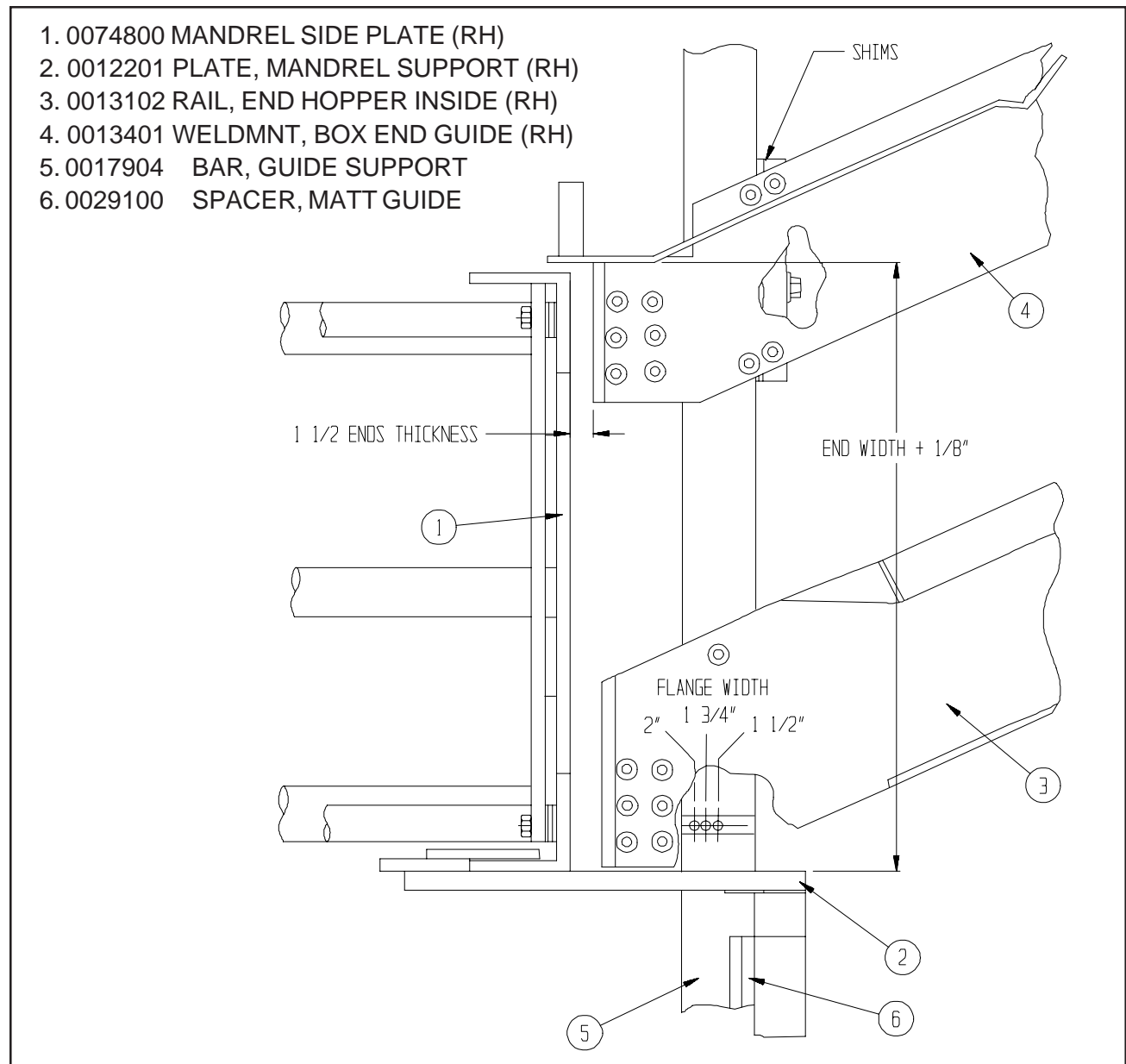


Figure 5-8A: End Hopper Adjustment

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- 1. 0012101 RAIL, UPPER MANDREL (R/L)
- 2. 0013102 RAIL, END HOPPER INSIDE (R/L)
- 3. 0013202 WELDMNT, END HOPPER MOUNT BRACKET (R/L)
- 4. 0013302 RAIL, HOPPER OUTSIDE (R/L)

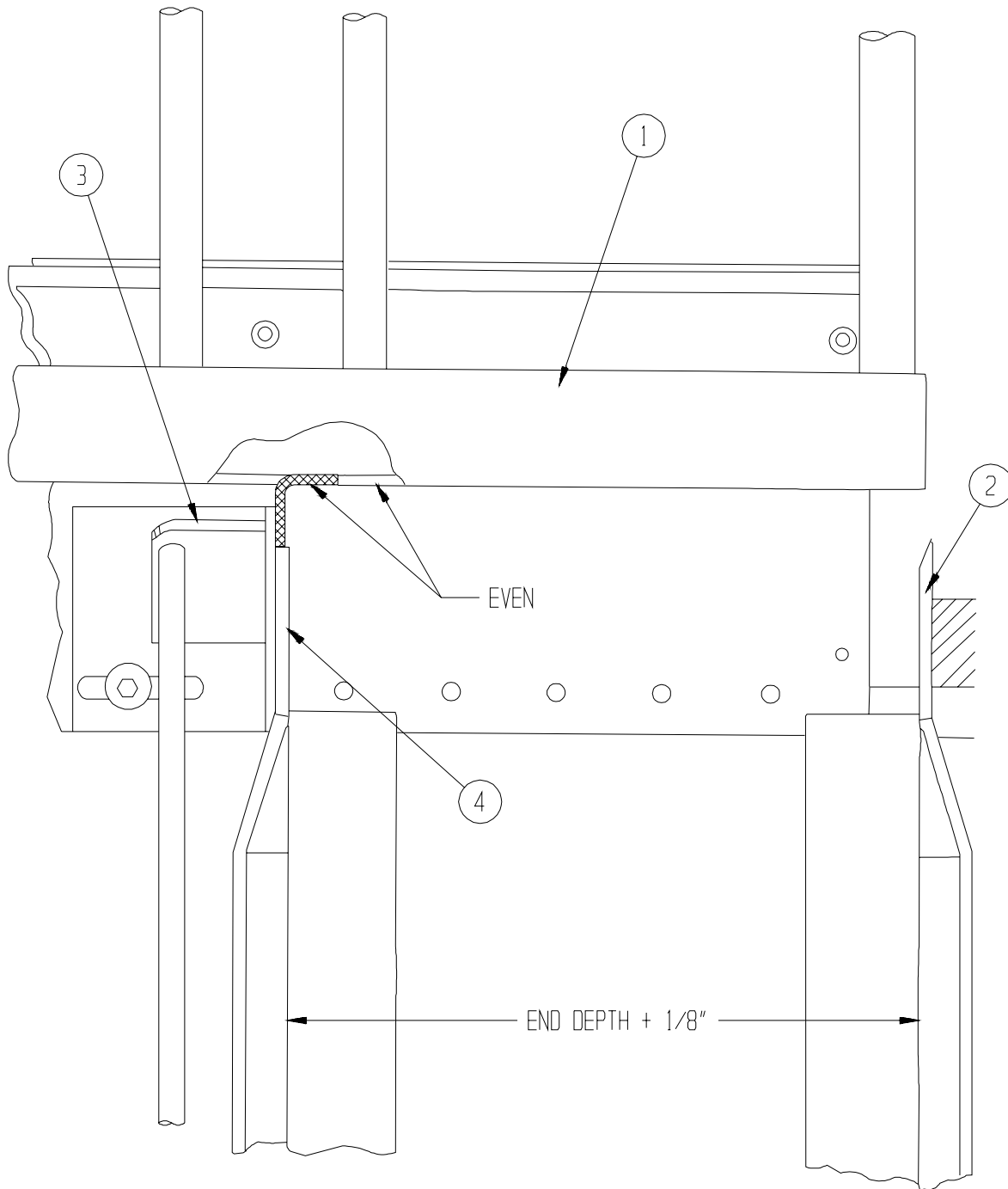


Figure 5-8B: End Hopper Adjustment

## ADJUST MANDREL STROKE

**Figure 5-9A** - The first adjustment is done with a box in the compression. At the end of the forming stroke the box should clear the compression plate by approximately 3/8 inch. This measurement is made by adjusting the Mandrel Con Rod (0035600) and set the collar (0100600) to these specs.

**Figure 5-9B** - With the Mandrel at the end of the return stroke, shown, adjust the Con Rod on the Mandrel Feed Post (0042200) so that the End Picks clear the bliss end in the hopper by no more than 1/2 inch. (See Page 5-14)



**Note:** These two adjustments are made at the same time and may require a few tries before adjustments are correct.

1. 0100600 SET COLLAR
2. 0035600 WELDMNT, CON ROD END

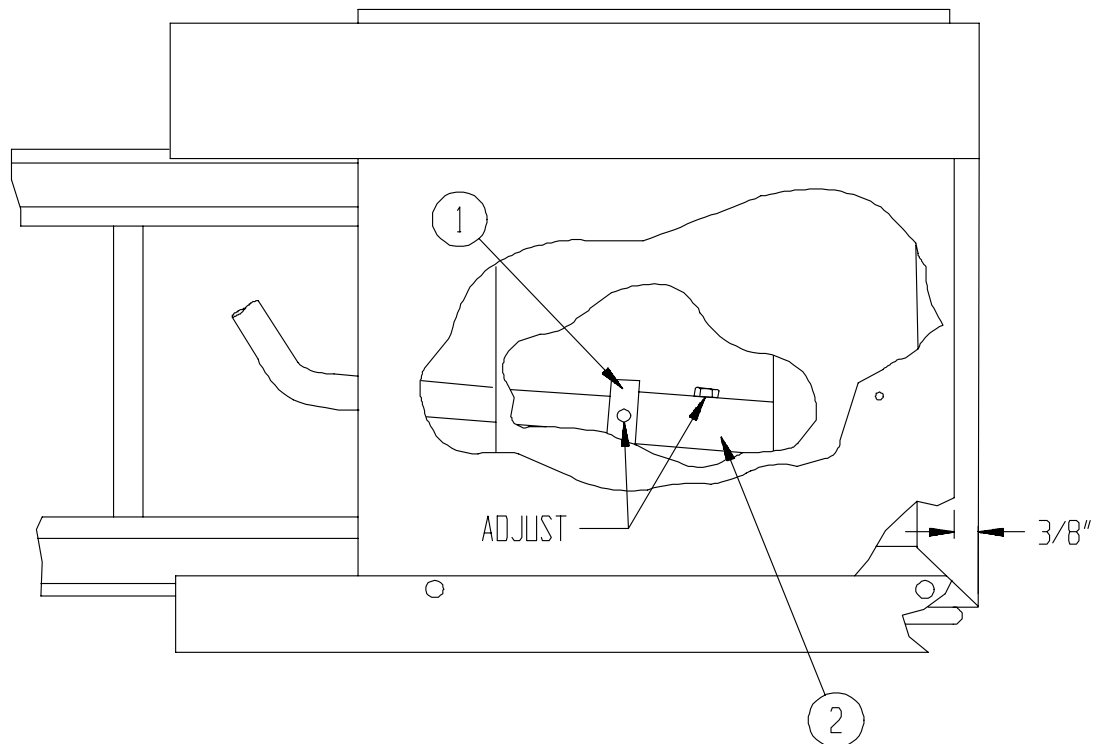


Figure 5-9A: Adjust Mandrel Stroke

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1.0042200 POST, MANDREL FEED

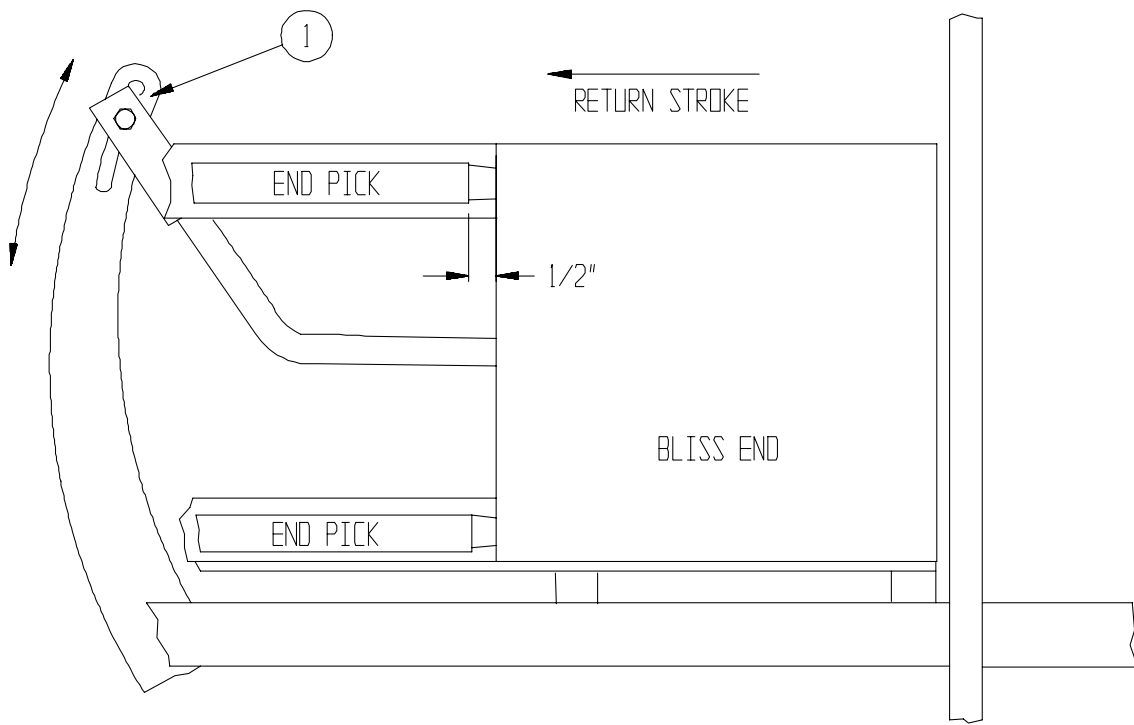


Figure 5-9B: Adjust Mandrel Stroke

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## ADJUST BOX COMPRESSION ARM

The adjustment of the Box Compression Arm is done as follows. First be sure that the Cam Roller (0500700) is on the low point of the Cam (0015400). With the cables not attached to the rear linkage at the Compression Plate & the Arm in place, adjust the Cable (00115xx) so that the threads are centered on the Lower Cable Bracket (0079206). Now Adjust the other end of the Cable (00115xx) so that the threads are centered on the Mounting Plate (0053000) and connect to the Toggle Shaft (0050700). See position of shaft on Diagram Below.

✔ **Note:** The adjustments in Figure 5-10A, 5-10B and 5-10C are to be made at the same time.

1. 00509xx COMPRESSION PLATE
2. 0501701 CAM ROLLER W/ STUD
3. 0019903 LINK, CAM PLATE
4. 00115xx CABLE, COMPRESSION
5. 0050600 BAR, LOWER MOUNT
6. 0053000 PLATE, CABLE MOUNTING
7. 0050700 BOX CLAMP, TOGGLE SHAFT
8. 0015400 CAM, CLAMP OPERATING
9. 0026202 ARM, COMPRESSION PIVOT
10. 0079206 BRACKET, LOWER CABLE
11. 0500700 CAM ROLLER

NOTE: COMPRESSION PLATES ARE SHOWN FULLY OPEN. AFTER THIS ADJUSTMENT IS MADE, ALL ADJUSTMENT IS DONE FROM THE REAR AT COMPRESSION PLATES.

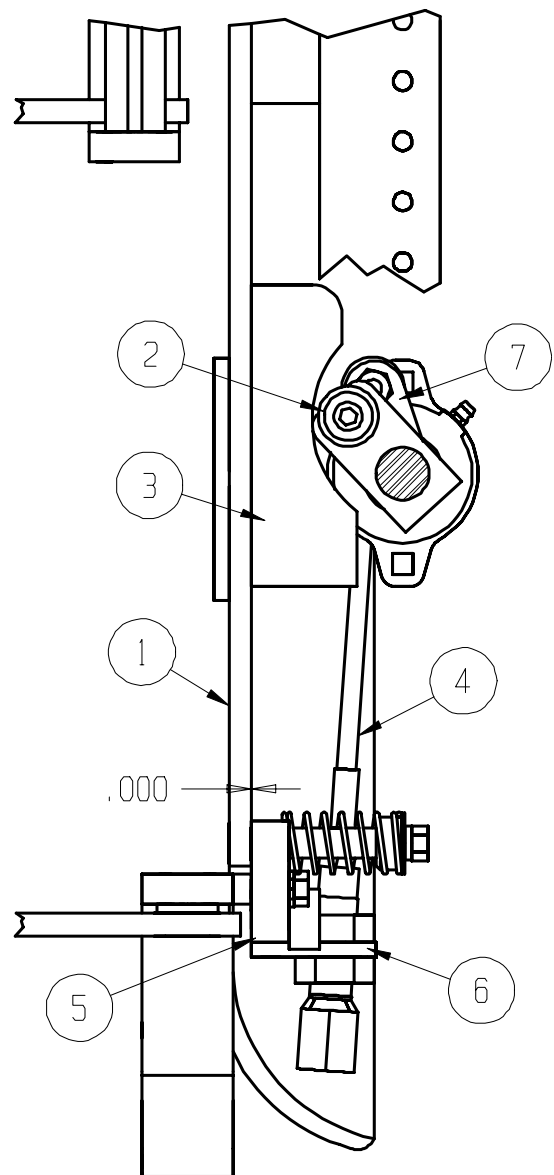
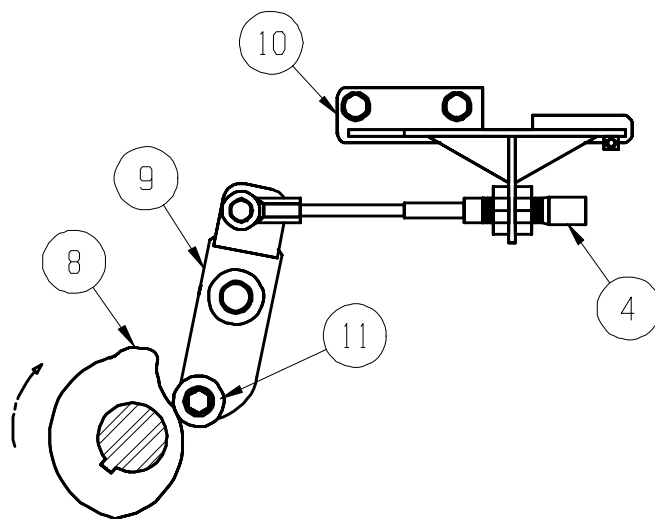


Figure 5-10A: Adjust Box Compression Arm

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## ADJUST COMPRESSION PLATE LINKAGE

First, be sure the Cam Roller (0500700) is on the high point of the Cam (0015400). The Compression Plate is adjusted with the hex nut adjustment on the Cable (00115xx) as shown. Loosen the hex nuts and turn in the direction that allows the Cam Roller (0501701) and the Link Cam Plate (0019903) to come in contact at the point shown. The Compression Plate (00509xx) should be set at 9/16" away from the Lower & Upper Mounting bars (0050600, \*0050501 Upper)\*Not Shown. See the 9/16" dimension in the diagram below. Tighten the hex nut adjustment on the Cable (00115xx). Always adjust both sides, never one side alone

✓ **Note:** If box ends pull out with mandrel or heavy indentation from the strippers, see Trouble Shooting Guide #11 and 12, page 6-4. If the problem is not resolved, adjust Cable (00115xx) until 9/16" dimension is achieved (Adjust both sides). Repeat is necessary. Do not over extend compression plates or cables. Make sure that the glue beads are flattened after making this adjustment.

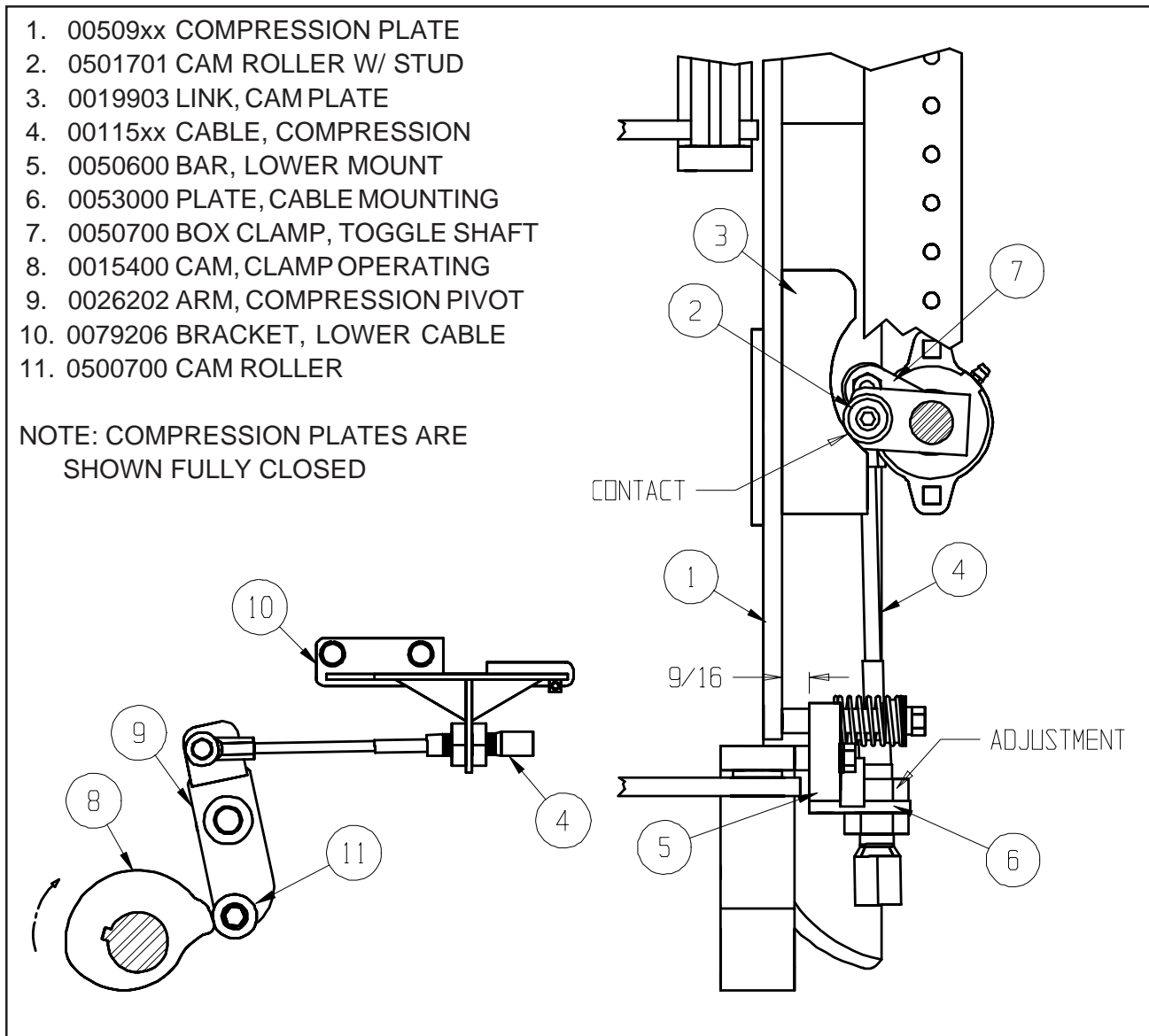


Figure 5-10B: Adjust Compression Plate Linkage



## ADJUST BOX CLAMP TOGGLE LEVER

First, be sure that the Cam Roller (0500700) is on the low point of the Cam (0015400) as shown in Figure 5-10A. With the set screw in the Box Clamp Toggle Lever (0020100) loose, position toggle lever to where the Lever Box Clamp (0020100) is 1/16" away from the Link Cam Plate (0019903) as shown in diagram below. Tighten the set screw for the Box Clamp Toggle Lever. Make sure the set screw is an oval point and is locked into the groove of the Box Clamp Toggle Shaft. This adjustment allows for ample play in the compression linkage.

1. 0501701 CAM ROLLER W/ STUD
2. 0019903 LINK, CAM PLATE
3. 0020100 LEVER, BOX CLAMP TOGGLE
4. 0050700 BOX CLAMP, TOGGLE SHAFT
5. 0050800 UPRIGHT, COMPRESSION
6. 00509xx COMPRESSION PLATE
7. 00115xx CABLE, COMPRESSION

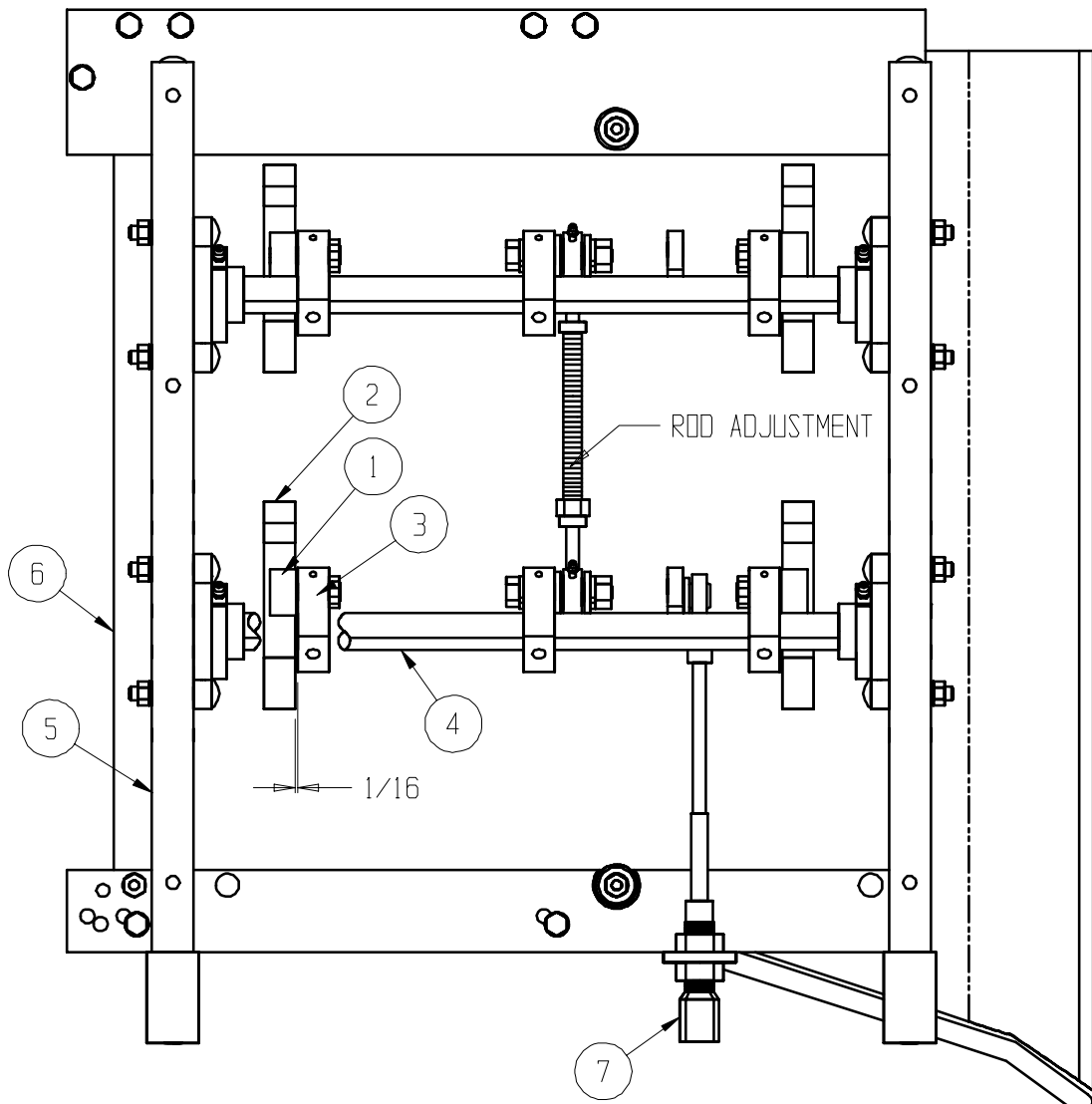


Figure 5-10C: Adjust Box Clamp Toggle Lever

## ADJUST TOP COMPRESSION

To adjust the top compression, place a box (body blanks and ends) without adhesive into the compression chamber. This adjustment is made by loosening the set screw as shown and moving the top compression up or down to obtain the proper clearance of 1/64 inch. In some cases, the rear edge of the compression is adjusted about 1/64 inch looser to allow the formed box to fall out easily when another box is formed in the compression.

- 1. 0063401 SHOE, UPPER BOX FORMING
- 2. 0018703 SHOE, LOWER BOX FORMING (R/L)

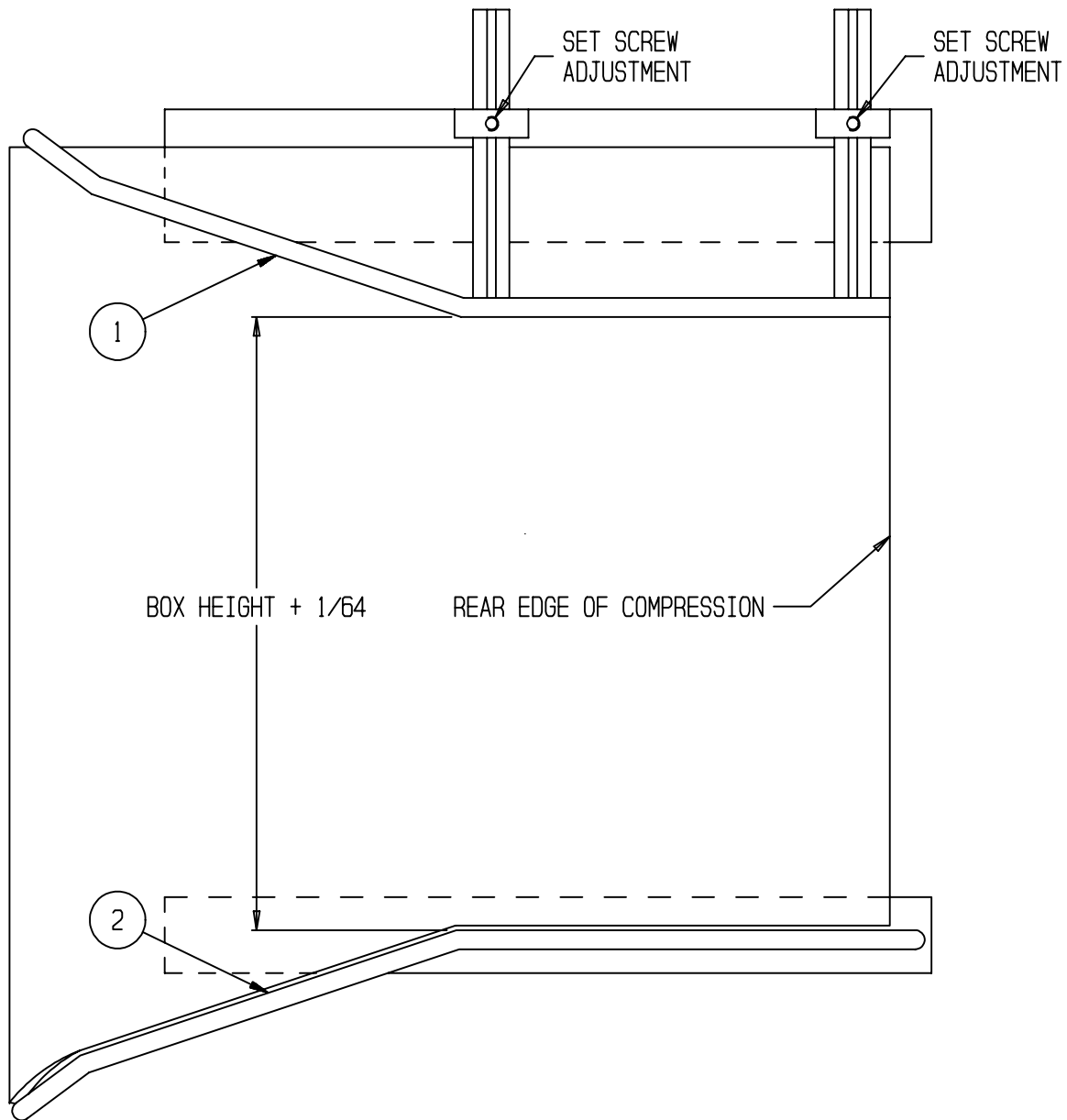


Figure 5-11: Adjust Top Compression

## ADJUST BLANK HOPPER BLADES

With the blank sitting at the bottom of the Blank Hopper Loading Support (0013602), adjust the Blank Hopper Side panel (0017802 R/L) up or down on the Vertical Guide Bar using the 5/16 inch clamp bolt. The adjustment should be such that the blank will not fall more than the 1/8 inch off the end of the Blank Hopper Loading Support (0013602). Make sure both Hoppers are set such that the blank is centered in the Vertical Guide Bars.

1. 0013602 BRACKET, HOPPER SUPPORT
2. 0017802 BLANK HOPPER (R/L)

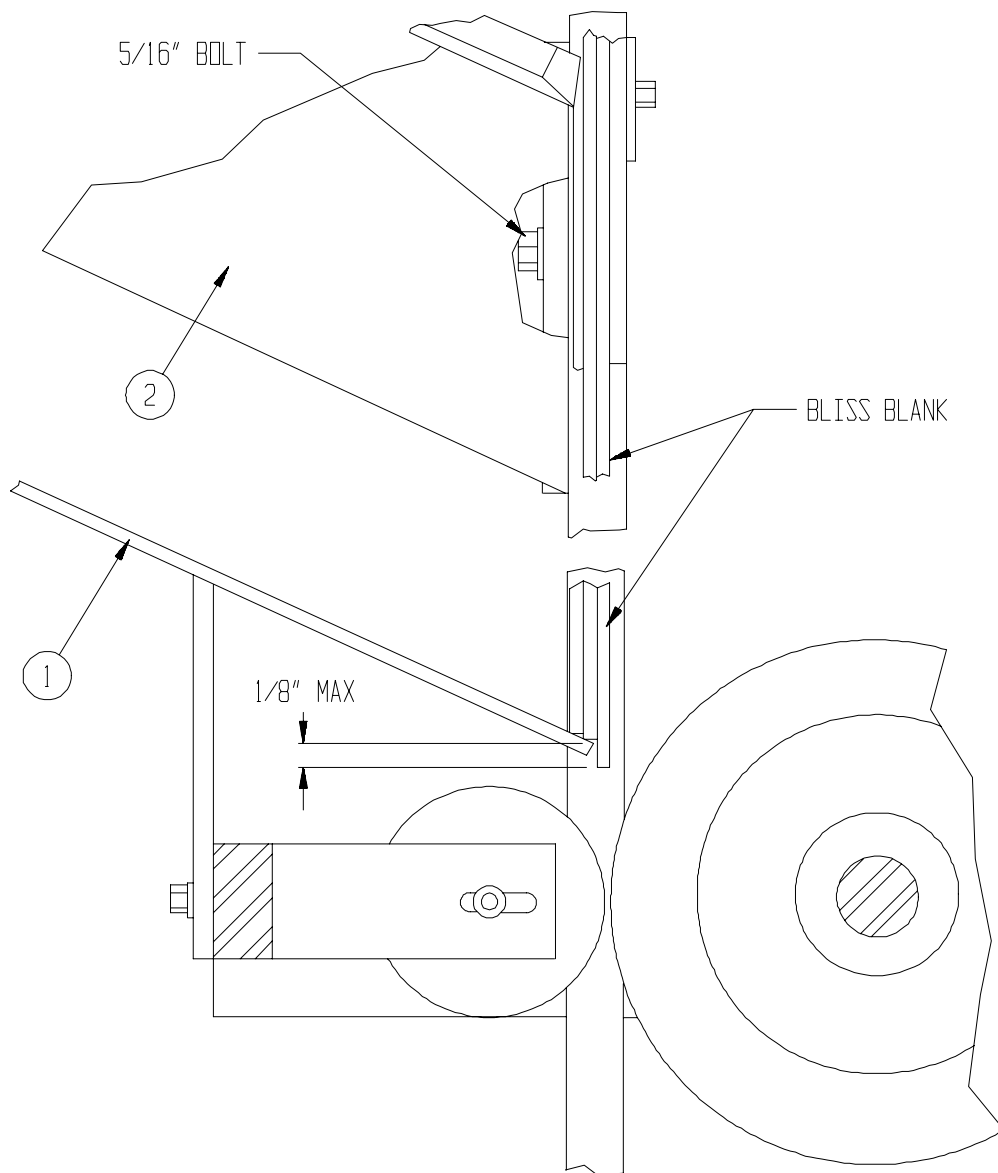


Figure 5-12: Adjust Blank Hopper Blades

## ADJUST BLANK FEED IDLE ROLLER

This adjustment varies with the thickness of the Blank. Loosen the two (2) 5/16 bolts holding the Blank Feed Idle Roller (0018100) to the Blank Feed Idle Roll Mount (0016400). Adjust the idle roller to the Blank Feed Wheel (0018001 SB & 0018002 WB) until the pressure between the two is great enough to feed the Blank down in front of the Mandrel without any slippage developing between Feed Roll and the Blank.

1. 0016400 MOUNT, BLANK FEED IDLE ROLLER
2. 0018001 SB WHEEL, BLANK FEED  
0018002 WB WHEEL, BLANK FEED
3. 0018100 ROLLER, FEED IDLE

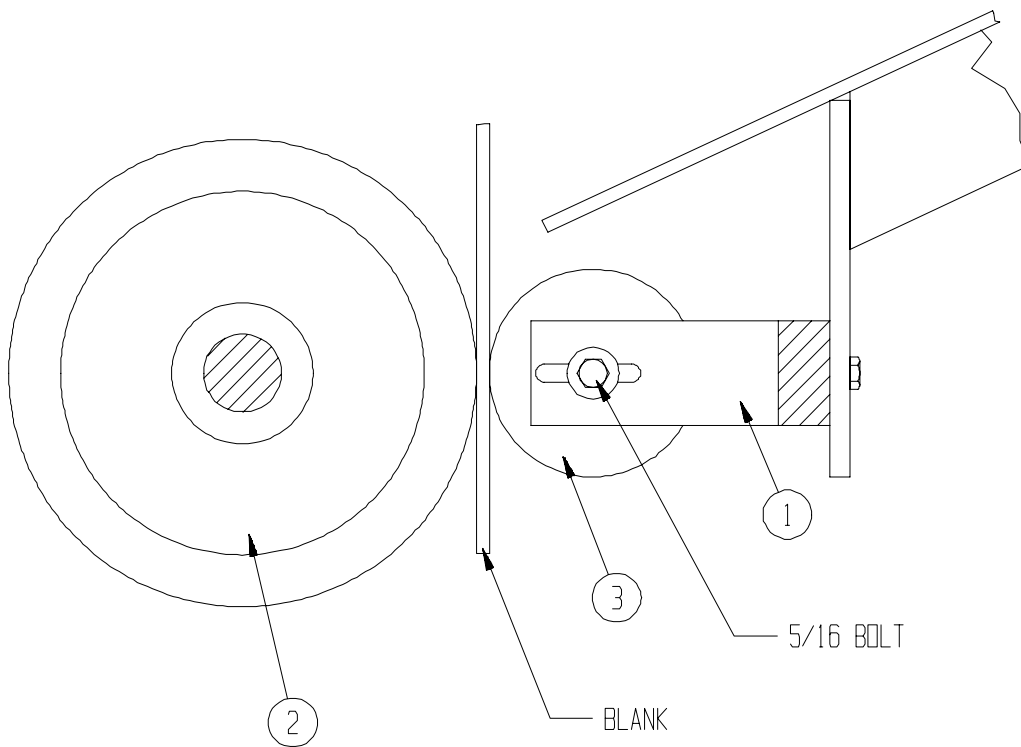


Figure 5-13: Adjust Blank Feed Idle Roller

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## BACKUP ROLLER ADJUSTMENT

Using the adjusting screw as shown, loosen both top and bottom allen cap screws and adjust the Adhesive Back Up Roller (0500500) to a clearance which leaves distinct teeth marks on the blank as it passes the Adhesive Pump Drive Wheel (0024400). The marks should be deep enough to turn the Adhesive Pump Drive Wheel and apply a consistent Adhesive pattern. If the marks are too shallow, an Inconsistent Adhesive pattern will be applied.

1. 0500500 ROLLER BEARING, ADHESIVE BACKUP
2. 0015601 ADHESIVE BACKUP BRACKET (R/L)
3. 0017904 BAR, GUIDE SUPPORT
4. 0024400 WHEEL, PUMP DRIVE

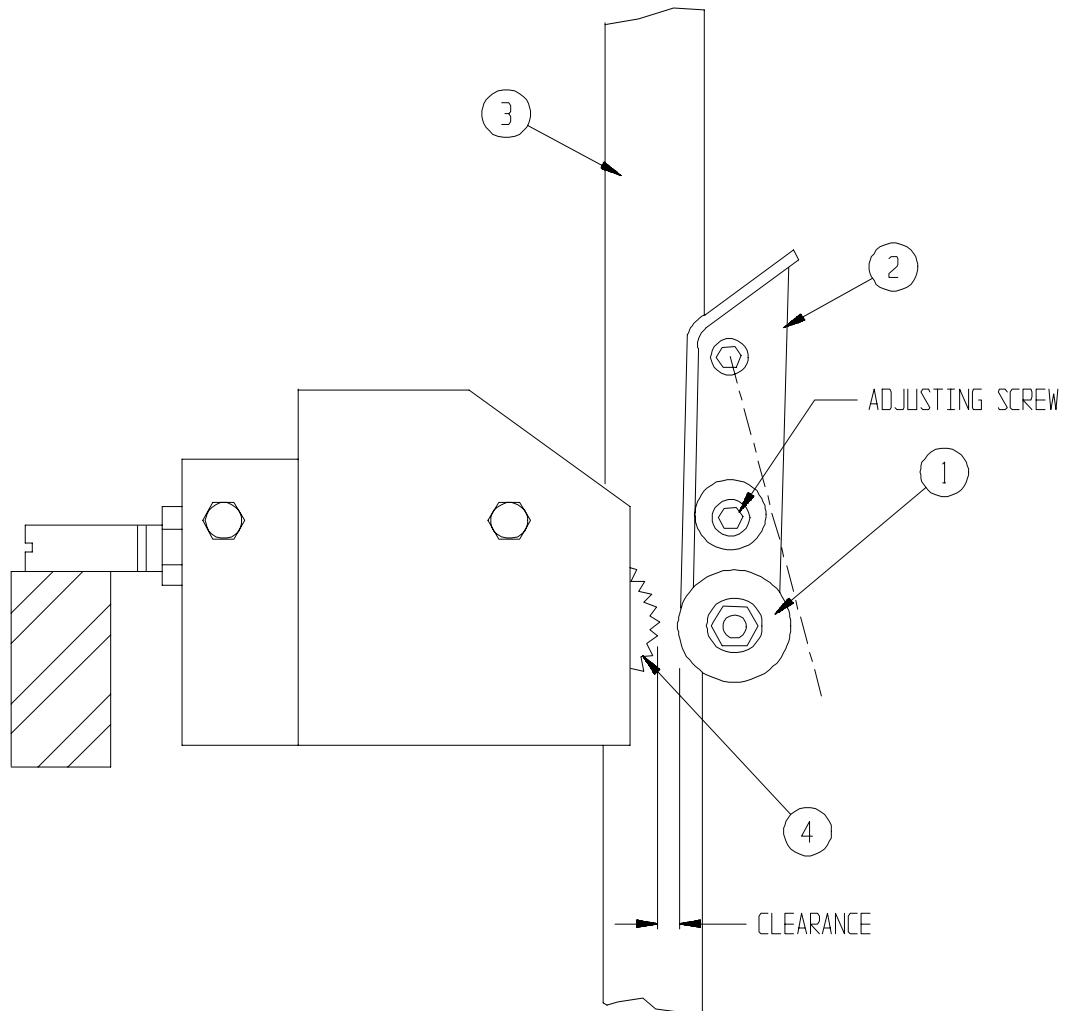
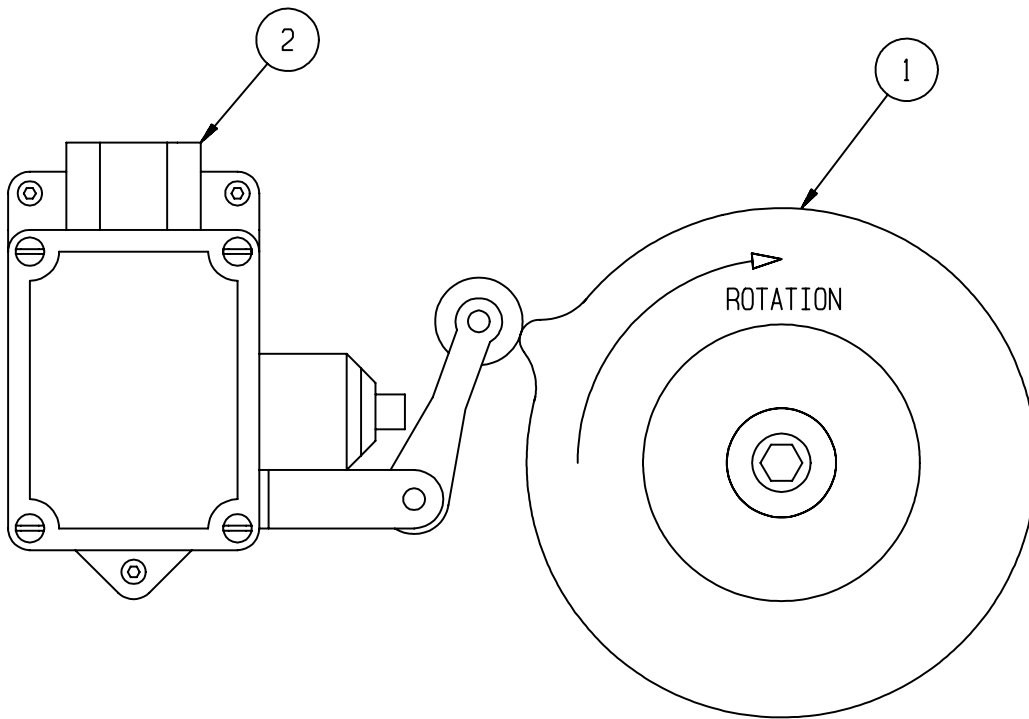


Figure 5-14: Backup Roller Adjustment

## ADJUST MACHINE STOP MICRO SWITCH CAM

The Micro Limit Switch Cam is located on the right hand end of the Transmission Gear Shaft (0011302 Standard Base....0011303 Wide Base) inside the access cover. With the Mandrel Operating Arm (0042200) at the end of its forming stroke, loosen the 1/2 inch flathead allen bolt holding the Machine Stop Micro Switch Cam (0028601) and rotate it until the Micro Switch Operating Arm (0400500) just travels onto the high point of the cam lobe. Retighten the 1/2 inch flathead allen screw. This will vary with speed of machine. This is to stop former at compression end of stroke when operating switch is turned to "OFF" position.

1. 0028601 CAM, CYCLE MICRO
2. 0400500 MICRO SWITCH CYCLE



**Figure 5-15: Adjust Machine Stop Micro Switch Cam**