

**You have downloaded
the manual for our
PIPE NOTCHER GRINDER
MODELS**

AL100U-01

AL100U-02

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**for more information
on these machines.**



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MODELS
AL100U-01
AL100U-02
PIPE NOTCHER
GRINDER

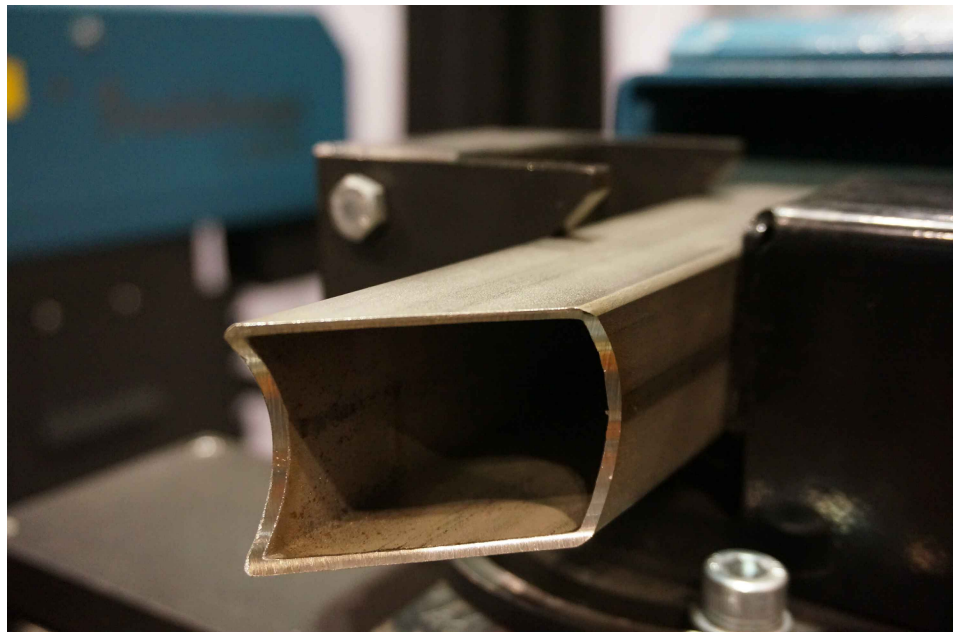
VERSION 4 - AUGUST 2024

Below are some examples of what these Pipe Notch Grinders can do:

ROUND TUBING



SQUARE TUBING



**Please visit
www.scotchman.com
for more information.**

MODEL - AL100U-01

AL100U-01 (2) Hand Lever Feed Handles



MODEL - AL100U-02

AL100U-02 (2) Handwheels & Feed Handle



NOTE: The larger hand wheel and it's spindle must be removed to use the handle.

TUBE & PIPE GRINDER NOTCHERS

Create a perfect notch in seconds using Scotchman's line of tube and pipe notching equipment. These notchers are ideal for steel and stainless steel (consult factory) tube and pipe construction, hand railings, gates and fences, race car frames and roll cages, marine arches, railing, furniture frames, and stainless plumbing for restaurant or dairy.

Scotchman's notching equipment requires no costly dies, hole saws, grinding wheels or torch flame cutting.

Thank You for your purchase of Scotchman products - We appreciate your business!!

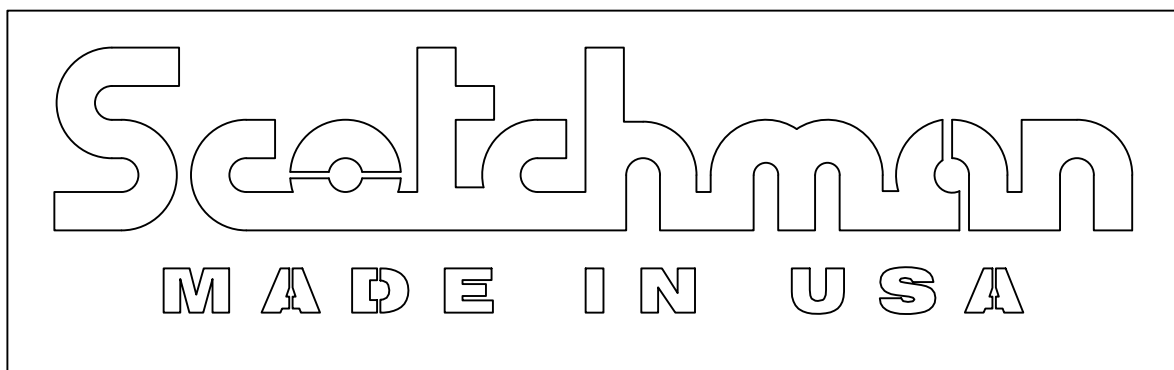


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1.0 INTRODUCTION

Tube & Pipe Notch Grinders

Scotchman Tube & Pipe Grinder/Notchers are strong, accurate machines that operate at high speeds. Stainless-steel sections and pipes can be machined problem free, at high speed without grinding burrs or heat discoloration. The grinding rollers can be changed without tools in just seconds, saving time and money! The grinding belt can also be changed easily from one side of the machine. Once the sections and pipes have been ground, they can be deburred using the handy deburring table on top of the machine.

Scotchman machines with lever operation are suitable for left and right-handed operators. The pipe grinder/notchers offer trouble-free, accurate, quick and efficient machining of tubes and pipes for many years; and are backed by a 3-year warranty.

FEATURES:

Fast, strong and accurate

Ideally suited for grinding stainless quickly

Fitted with grinding rollers that can be changed in seconds

Equipped with a handy deburring table

Suitable for both left & right-handed operation

Grinds tube and pipe at every angle between 30 degrees and 90 degrees

3-Year Warranty

OPTIONAL BACK GAUGE - SEE PAGE 49

2.0 SAFETY PRECAUTIONS

- 1. The operators of this machine must be qualified and well trained in the operation of the machine. The operators must be aware of the capacities of the machine and the proper use of the holding device and the guards provided with the machine. This manual is not intended to teach untrained personnel how to operate machinery.**
- 2. All of the guards, and awareness barriers must be installed on the machine and kept in good working order. Promptly replace worn or damaged parts with the correct authorized parts.**
- 3. Never place any part of your body into any of the machine's moving parts or hold devices.**
- 4. Wear the appropriate personal protective equipment. This machine grinds metal and creates abrasive and metallic particles so Safety Glasses are required at all times!! Whether operating, setting up or observing this machine in operation, Safety Glasses are a requirement.**
- 5. Since pieces of metal with sharp edges are processed on this machine, the operator should also wear steel-toed shoes and leather gloves.**
- 6. Strictly comply with all warning labels and decals on the machine. Never remove any of the labels and replace worn or damaged labels promptly.**
- 7. Always disconnect and lock out the power when performing maintenance work or repairs on this machine.**
- 8. Replace sanding belt when needed. Never operate this machine with a sanding belt that is worn out. The excessive pressure required to notch a tube with a worn out sanding belt can damage roller and cut the sanding belt.**

8. **Practice good housekeeping. Keep the area around the machine clear and well lit. Do not obstruct the operator's position by placing anything around the machine that would impede the operator's access to the machine.**
9. **Never modify this machine in any way without the written permission of the manufacturer.**
10. **Never leave this machine running unattended.**
11. **Never operate any of the work stations from a sitting or kneeling position.**
12. **Always be aware of what others around you are doing at all times.**
13. **Set up a program of routine inspections and maintenance for this machine. Make all repairs and adjustments in accordance with the manufacturer's instructions.**

2.1 WARRANTY

Scotchman Industries, Inc. will, within three (3) years of the date of purchase, replace F.O.B. the factory or refund the purchase price for any goods which are defective in materials or workmanship, provided the buyer returns the warranty registration card within thirty (30) days of the purchase date and, at the seller's option, returns the defective goods freight and delivery prepaid to the seller, which shall be the buyer's sole and exclusive remedy for defective goods.

Hydraulic and electrical components are subject to their respective manufacturer's warranties.

This warranty does not apply to machines and/or components which have been altered, changed or modified in any way or subjected to abuse and abnormal use, inadequate maintenance and lubrication or subjected to use beyond the seller's recommended capacities and specifications.

In no event shall the seller be liable for labor cost expended on such goods or consequential damages.

The seller shall not be liable to the purchaser or any other person for loss or damage directly or indirectly arising from the use of the goods or from any other cause. No officer, employee or agent of the seller is authorized to make any oral representations or warranty of fitness or to waive any of the foregoing terms of sale and none shall be binding on the seller.

Any electrical changes made to the standard machine due to local electrical code variation must be paid by purchaser. As we constantly strive to improve our products, we reserve the right to make changes without notification.

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by ALMI

3.0 MACHINE DECALS

Item	Qty	Part #	Description
1	1	A050.00024	Safety Sticker 8.5 x 8cm
2	1	A050.00025	Sticker Door 13 x 5cm
3	1	N/A	Belt Size Decal
4	1	N/A	CE Sticker

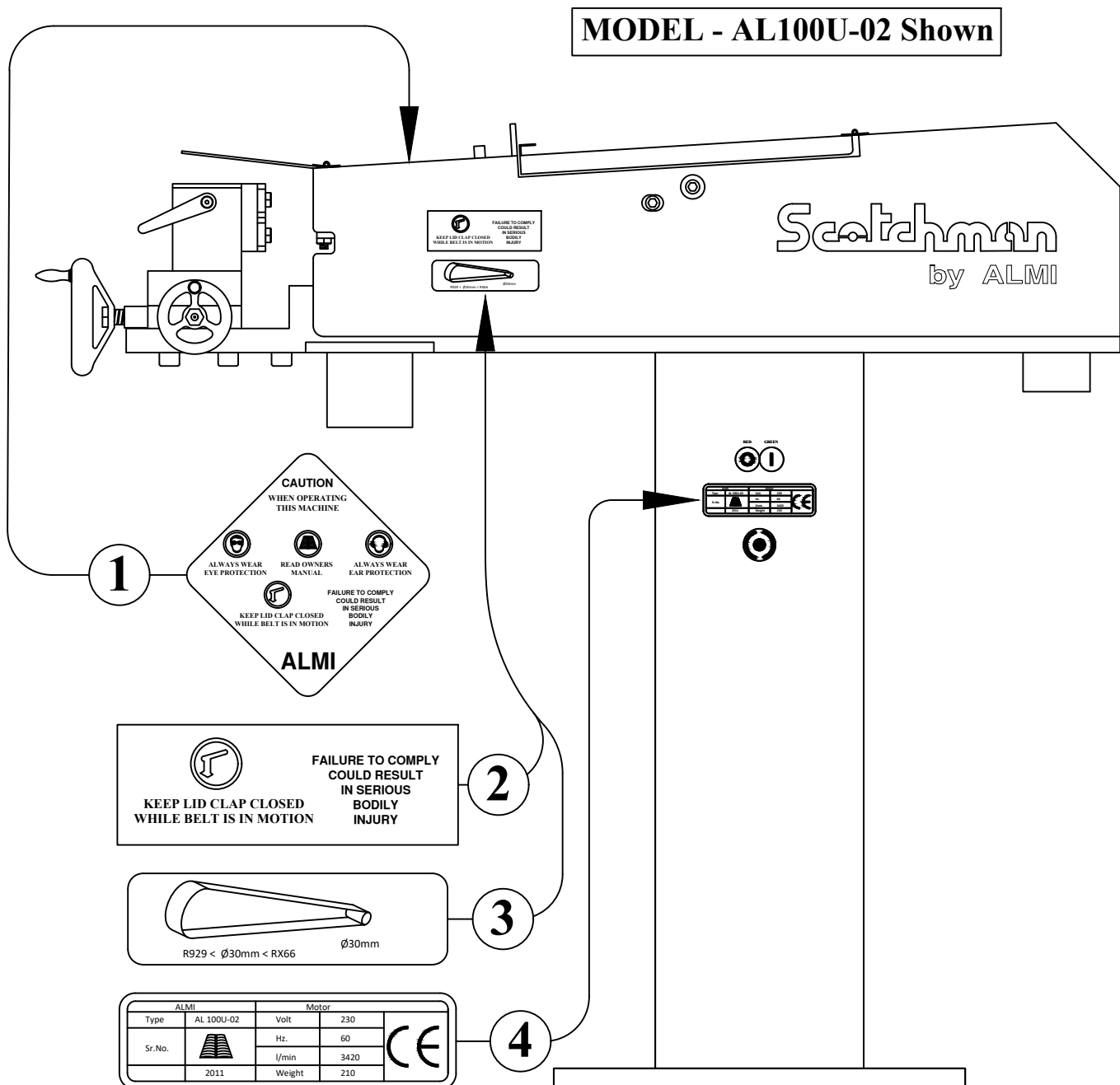


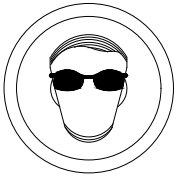
FIGURE 1

3.1 WARNING SYMBOLS

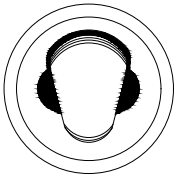
BEFORE OPERATING THIS MACHINE



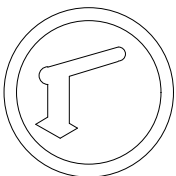
**PICTOGRAM 1:
READ OWNERS MANUAL FIRST!!**



**PICTOGRAM 2:
USE OF EYE PROTECTION REQUIRED!!**



**PICTOGRAM 3:
USE OF HEARING PROTECTION REQUIRED!!**



**PICTOGRAM 4:
KEEP LID CLAP CLOSED
WHILE BELT IS IN MOTION!!**

Strictly comply with all warning labels and decals on the machine. Never remove any of the labels and replace worn or damaged labels promptly!!

4.0 INSTALLATION AND SET UP

► **CAUTION:** THIS SECTION (4.0 to 5.0) DISCUSSES INSTALLATION AND SET-UP PROCEDURES. PLEASE READ THOROUGHLY BEFORE OPERATING THIS MACHINE.

4.1 PHYSICAL DIMENSIONS

► **SEE FIGURE 2** ◀

ITEM	DESCRIPTION	INCHES	CM
1	Machine Height	45-1/4	114.9
2	Length	50-3/4	128.9
3	Width	26-1/8	66.4
4	Base Length	19-1/4	48.9
5	Base Width	19-1/4	48.9
6	Base Height	34-1/2	87.6
7	Front from Base	24-1/4	61.6
8	Rear from Base	7-1/4	18.4
9	Weight	460 LBS.	209 KG.

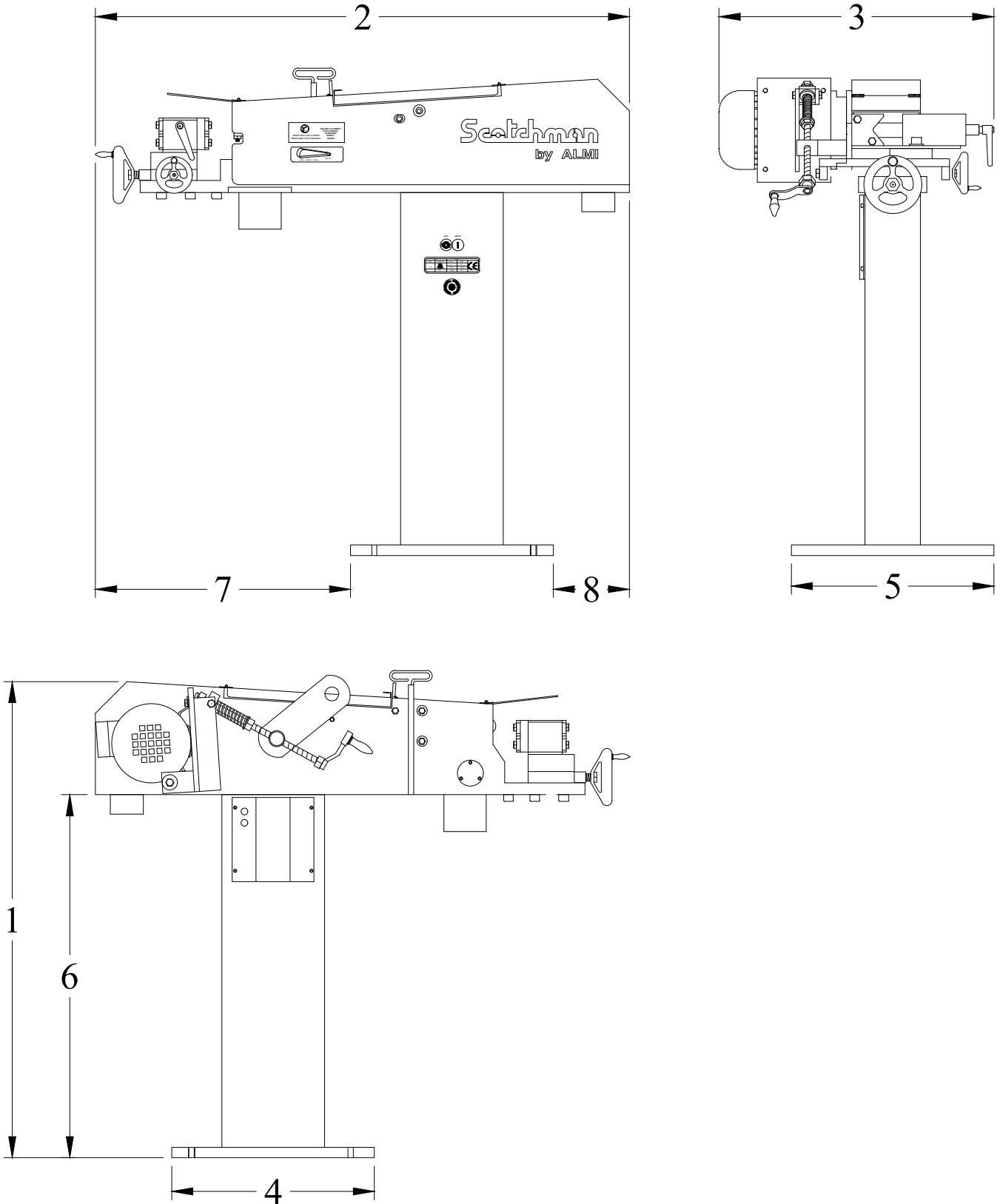


FIGURE 2

4.2 ASSEMBLING MACHINE & MOVING

ASSEMBLING OVERVIEW

This grinder/notcher machine is shipped unassembled in a wooden crate. There are basically four parts. See FIGURE 3 on the next page.

FOOT PLATE: This is a 1 inch thick by 19-1/2 inch square metal plate that sits on the floor.

SUPPORT PILLAR: This is the rectangular "box" that mounts to the Base with 4 bolts and washers.

PLATE: This is a flat rectangle shaped plate that mounts on top of the Column.

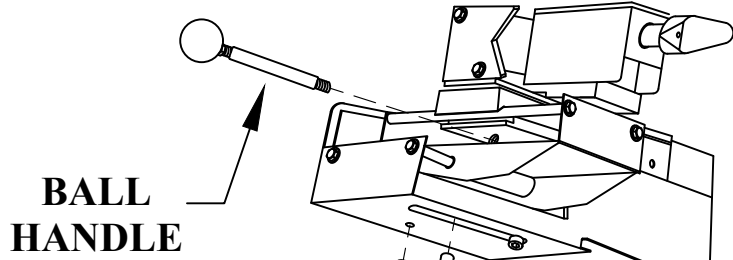
GRINDER: This is the main part of the machine. It mounts on top of the Column and Plate with two bolts and washers. It has a "Lifting Eye" that is used for moving it.

ASSEMBLY & MOVING BOTH MODELS

- **Remove loose components from the packaging. Inside the support pillar you will find a box with any ordered grinding belts and grinding rollers, the grinding waste container, the ball handle, the handle, and the attachment hardware.**
- **Remove the two attachment bolts with which the universal pipe notcher is attached to the bottom plate of the packaging.**
- **Remove the wood screws with which the support pillar and foot plate are attached to the crate.**
- **Remove the support pillar from the packaging and bolt them together with (4) bolts and washers.**
- **Remove the machine from the packaging. To do so, use the Lifting Eye Shown in FIGURE 3. Use the proper lifting equipment as this machine weighs 200 kg (440 lbs).**
- **Open the side cover of the machine and attach the machine to the support pillar - with the plate in between them - using two M12 hex bolts.**
- **Slide the grinding waste container under the machine.**
- **Install the included ball handle on the front of the cross support.**
- **Install the included lower handle under the cross support.**

NOTE: The ALU100-02 is operated with (2) round aluminum hand-wheels. However, the lower handle for under the cross support is supplied with this machine. The larger in feed wheel and it's spindle must be removed in order to use it.

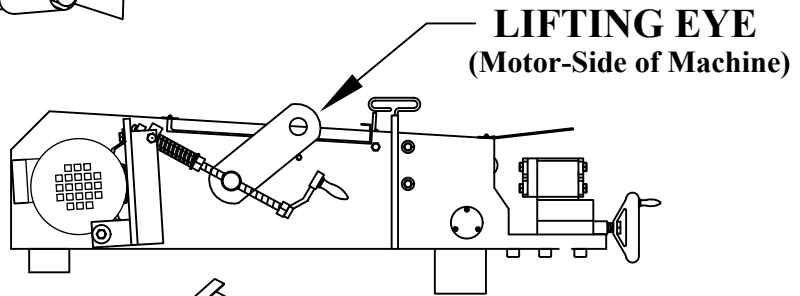
FRONT OF AL100U-01 MACHINE



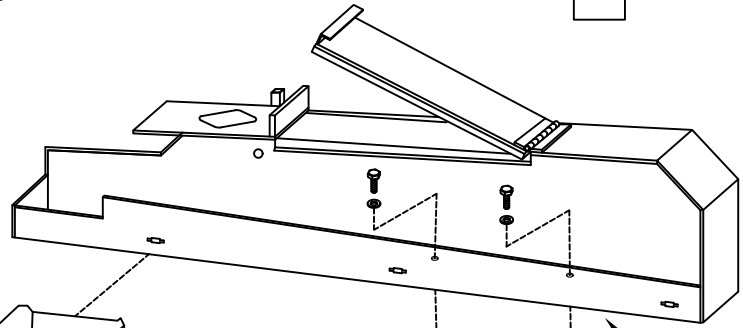
NOTE:
Longer
Spacer is
for Slots

AL100U-02
NOTE: The larger hand
wheel and it's spindle must
be removed to use this
in-feed handle.

MACHINE IS TOP HEAVY!!
Use Only **LIFTING EYE** to move machine
Use Extreme Caution when moving



**WASTE
CONTAINER**



GRINDER

PLATE

**SUPPORT
PILLAR**

**FOOT
PLATE**

**FRONT OF AL100U-02
MACHINE**

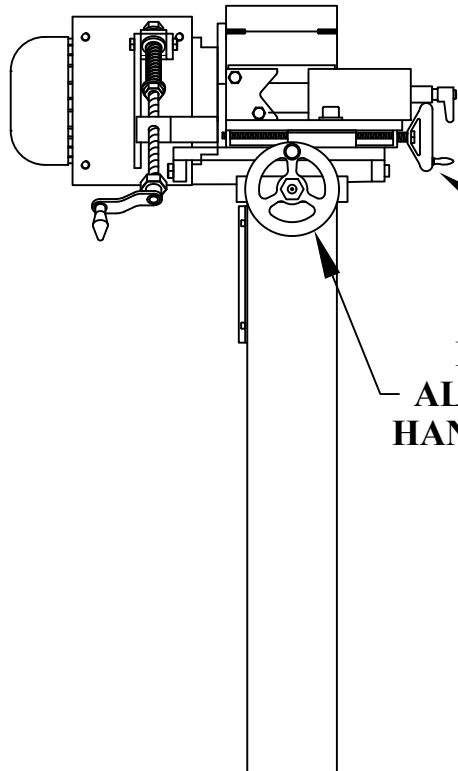



FIGURE 3

4.3 MACHINE IDENTIFICATION

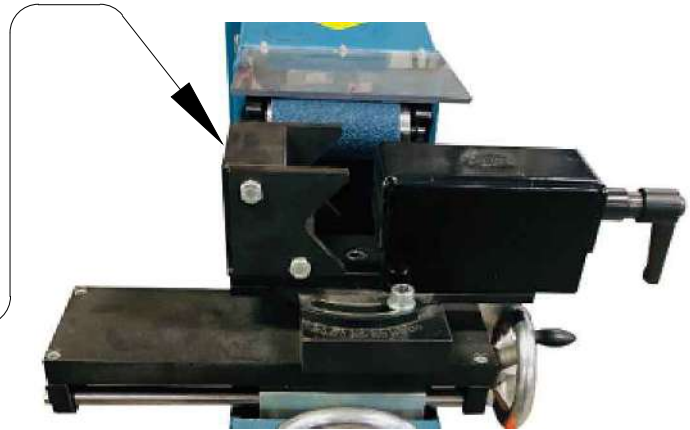
These machines have a white "CE" Decal on them that Identifies the machine and has other important information such as machine Voltage, Hz, RPM, Weight & Year of Manufacture.

This Decal is located between the START STOP buttons and EMERGENCY STOP button on the Support Pillar of the machine. Sect. 3.0 Figure 1 details the location. You will need this information for ordering parts or service for the machine.

An example of what the CE Decal looks like below:

ALMI		Motor		CE
Type	AL 100U-02	Volt	230	
Sr.No.		Hz.	60	
		l/min	3420	
	2011	Weight	210	

Additionally, the machine serial number is located on top of the tube clamp on the left side.



4.4 ELECTRICAL REQUIREMENTS

CAUTION: TO PREVENT DAMAGE TO THE MOTOR AND DANGER TO THE OPERATOR, ALL ELECTRICAL CONNECTIONS MUST BE MADE BY A LICENSED ELECTRICIAN.

The AL100U-01 and AL100U-02 are available 240V and 440V Three Phase and 240V Single Phase. To insure satisfactory machine performance, the supply voltage should be +/- 10% of the motor voltage rating. Check the motor data tag for full load current requirements. The electrical diagram for the motor is inside the cover of the motor box.

For electrical supply lines ten feet (3 m) or shorter, we recommend at least 12 and preferably, 10 gauge wire. For longer supply lines, use at least 10 gauge and preferably, 8 gauge. We do not recommend supply lines longer than twenty five feet (7.5 m).

POWER REQUIREMENTS:

Motor frame: 100L

MOTOR VOLTAGE

230
460
230 (Single phase)

Motor power rating: Approx. 4hp
KVA power rating:
Starting Current:

FULL LOAD AMPS

10.6 Amps
6.1 Amps
17.8 Amps

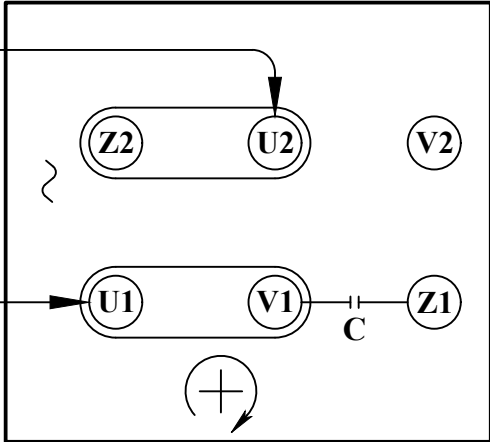
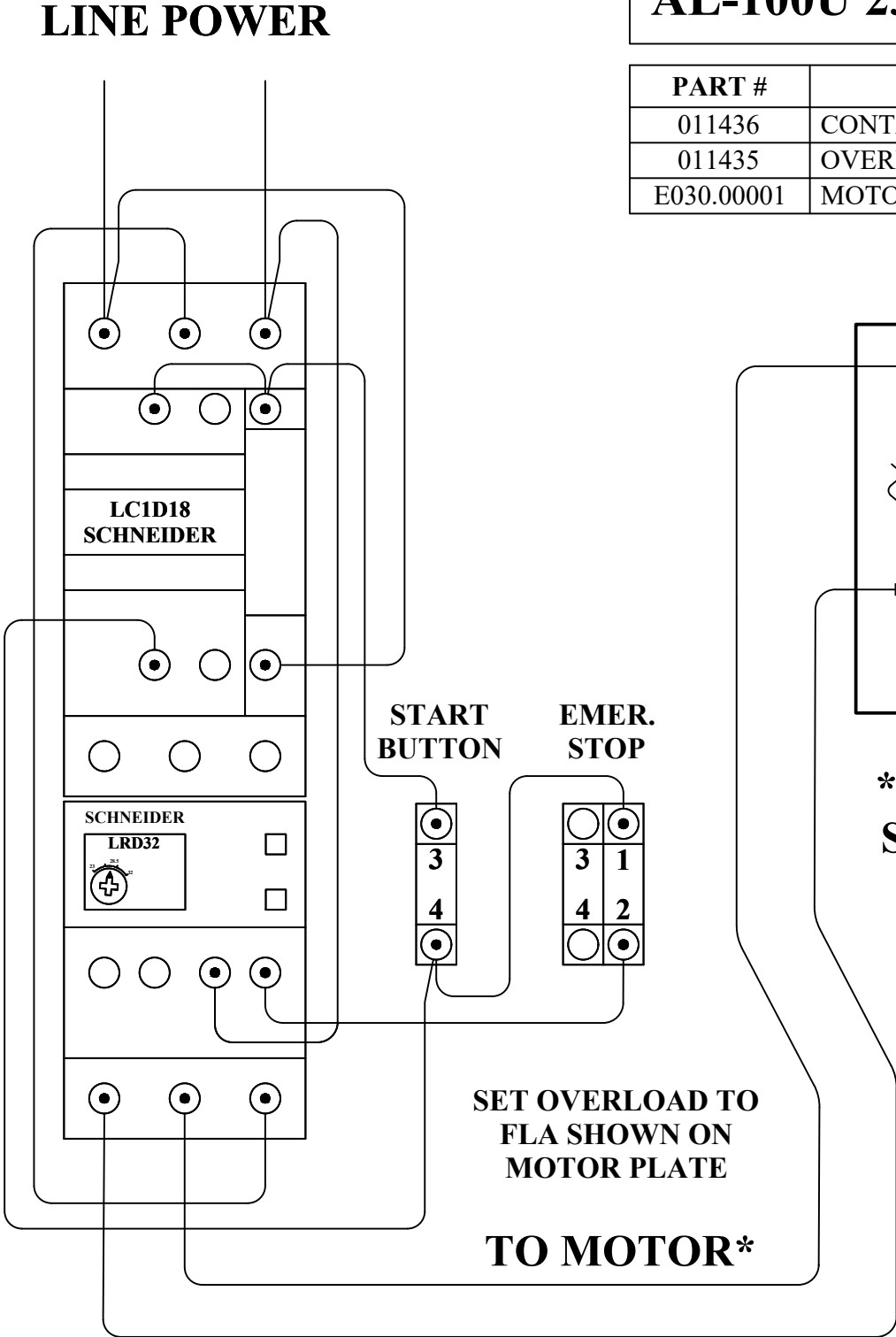
Speed: 3500 RPM
3.4 KVA at 60 HZ.
210% Full Load

4.5 WIRING DIAGRAMS

(Contactors, Overloads & Motors)

AL-100U 230V Single Phase

PART #	DESCRIPTION
011436	CONTACTOR WITH COIL 230V 1PH.
011435	OVERLOAD 230V
E030.00001	MOTOR 230V 1PHASE 60HZ 3KW



*** Follow Instruction Sheet In Motor Box If Provided**

NOTE: Viewed from fan end, motor should turn clockwise

FIGURE 4

AL-100U Three Phase

NOTE: Swap (2) Incoming Power Wires to change Rotation

230V THREE PHASE

PART #	DESCRIPTION
011432	CONTACTOR WITH COIL 230V
011433	OVERLOAD 230V
E030.00002	MOTOR 230/460V 3PHASE 60HZ 3KW

460V THREE PHASE

PART #	DESCRIPTION
011420	CONTACTOR WITH COIL 460V
011421	OVERLOAD 460V
E030.00002	MOTOR 230/460V 3PHASE 60HZ 3KW

LINE POWER

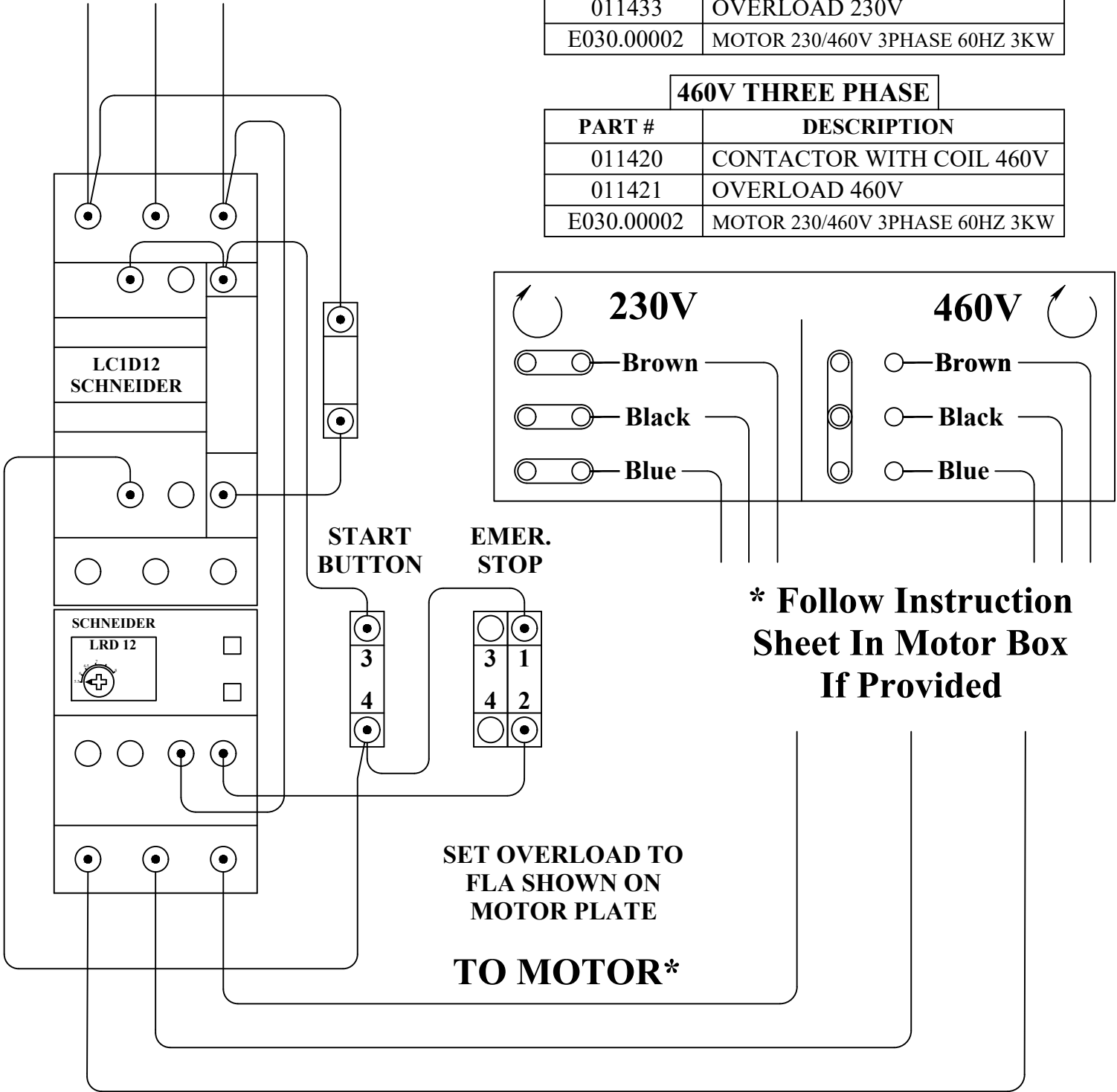


FIGURE 4A

5.0 MACHINE START-UP

This machine is equipped with (3) switches located on the right side of the Support Pillar. The Green is the START Button and next to it is the Red STOP Button. Below them is the larger EMERGENCY STOP Button.

REFER TO FIGURE 6 BELOW

To start the machine the EMERGENCY STOP Button must be pulled out. Push the Green START Button to start the machine. Push the Red STOP button to stop the machine. The EMERGENCY STOP Button can also be used to stop the machine, but must be pulled back out in order to restart the machine.

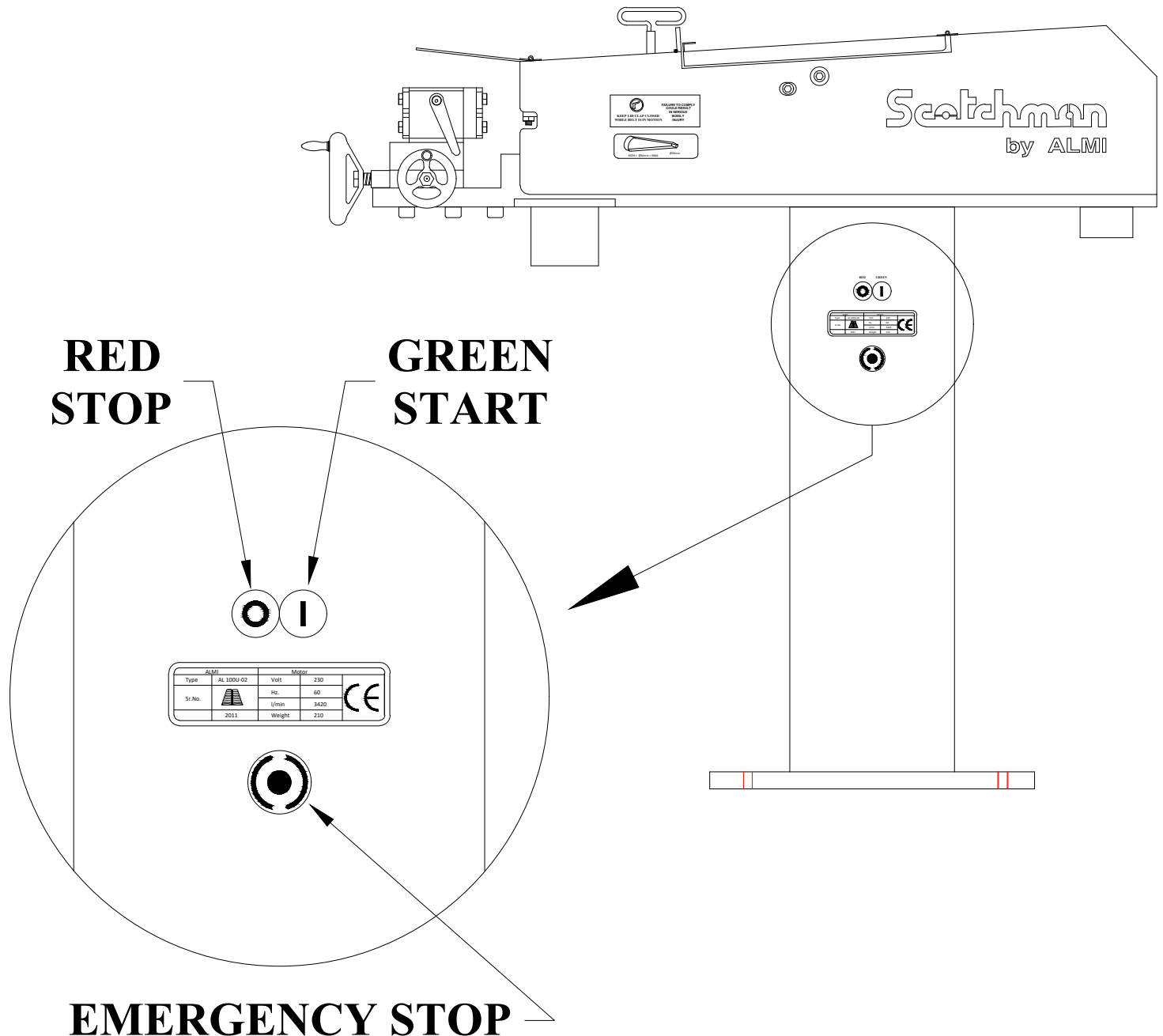


FIGURE 6

5.1 MACHINE CONTROLS & ADJUSTMENTS

MODEL - AL100U-01

REFER TO FIGURE 7

- 1. Allen key, 8mm, with handle; for securing rotatable tubing clamp, for securing standard stopper, and for adjustment of grinding belt.**
- 2. Allen bolt (may be a knob) for opening and closing side cover. Use key with handle (1).**
- 3. Allen bolt for securing grinding belt. Use key with handle (1).**
- 4. Ball Handle for adjusting tubing clamp into and away from grinding roller.**
- 5. Handle for adjusting tubing clamp side to side to grinding roller.**
- 6. Handle for clamping work-piece in tubing clamp.**
- 7. Allen bolt for securing rotatable clamp. There is another bolt (not shown) in the center of the clamp that also must be loosened & tightened to adjust the clamp. Use key with handle (1).**

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MODEL - AL100U-01

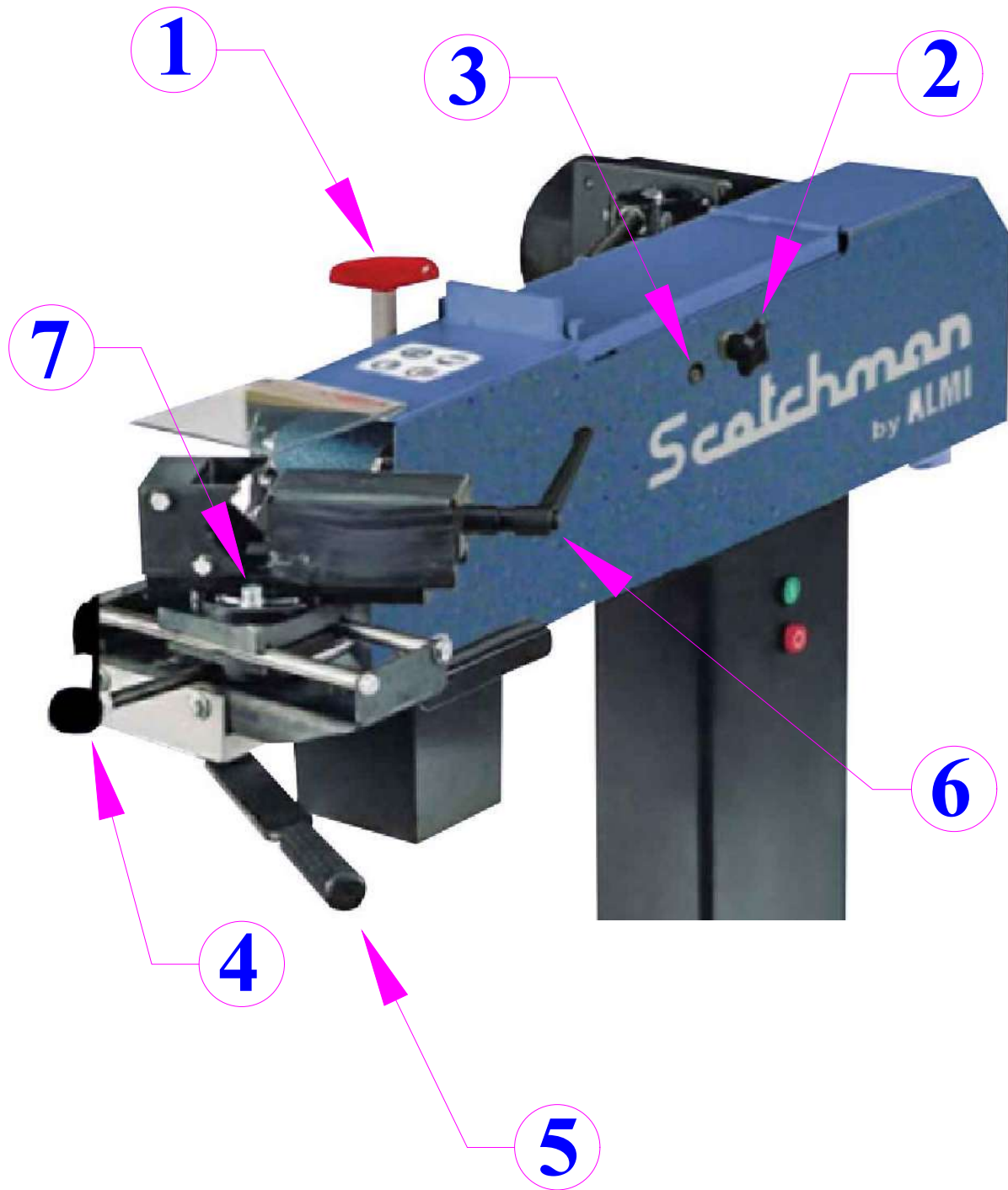


FIGURE 7

MODEL - AL100U-02

REFER TO FIGURE 8

1. Allen key, 8mm, with handle; for securing rotatable tubing clamp, for securing standard stopper, and for adjustment of grinding belt.
2. Allen bolt (may be a knob) for opening and closing side cover. Use key with handle (1).
3. Allen bolt for securing grinding belt. Use key with handle (1).
4. Hand Wheel for adjusting tubing clamp into and away from grinding roller.
5. Hand Wheel for adjusting tubing clamp side to side to grinding roller.
6. Handle for clamping work-piece in tubing clamp.
7. Allen bolt for securing rotatable clamp. There is another bolt (not shown) in the center of the clamp that also must be loosened & tightened to adjust the clamp. Use key with handle (1).
8. A handle for moving tubing clamp side to side to grinding roller is provided.

NOTE: The larger hand wheel and it's spindle must be removed to use the handle.

See FIGURE 3 in Sect. 4.2 for Lower Handle mounting instructions.

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by **ALMI**

MODEL - AL100U-02

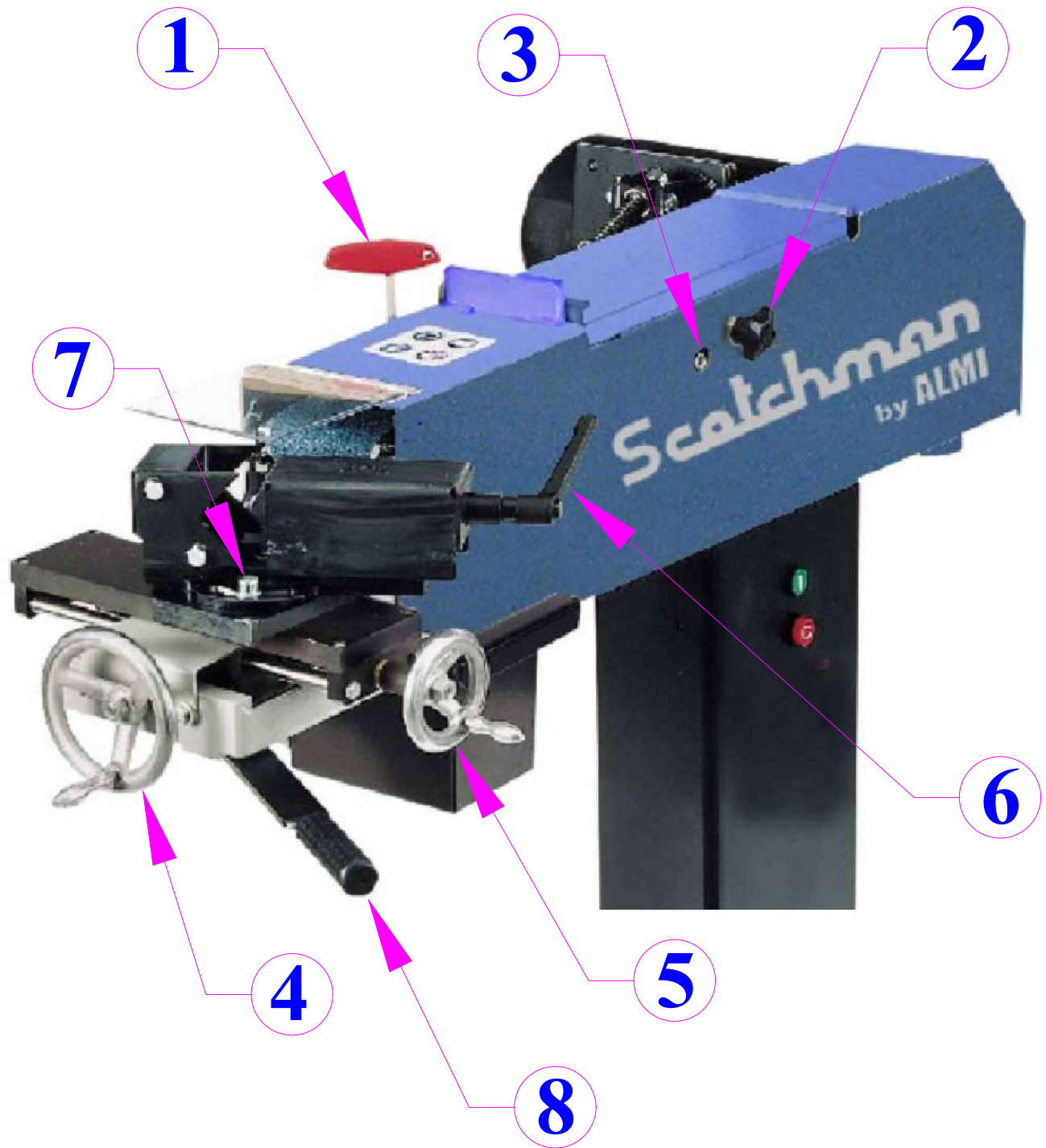


FIGURE 8

6.0 MACHINE OPERATION

CAUTION: MAKE SURE ALL COVERS ARE CLOSED

6.1 STARTING AND STOPPING BELT

The switches are located on the right side of the Support Pillar.

To START the machine, push the GREEN button.

To STOP the machine, push the RED button.

REFER TO SECT. 5 SEE FIGURE 6

6.2 DRIVE FOR THE GRINDING BELT

A pulley with a rubber coating is mounted on the motor shaft. The rubber coating, in combination with the correct belt tension, ensures the required grip of the grinding belt to the pulley.

The direction of rotation is indicated on the pulley. When starting the machine, make sure the pulley turns in the right direction. If not, see NOTE at the top of FIGURE 5.

The direction of rotation is also indicated on the inside of the grinding belt. This must match the arrow on the pulley.

6.3 SECURING A TUBING SECTION

The clamp for the tubing has V-shaped side plates on the left side and is suitable for clamping tubing with a diameter of 18 - 76 mm (3/4 - 3 in).

ITEM 6 in FIGURE 7 and in FIGURE 8 is the handle to operate the tubing clamp.

When the V-shaped side plates are removed, the tubing clamp can also be used to secure rectangular and square tubing. In the case of rectangular and square tubing, the center of the tubing profile must be at the same height as the center of the grinding roller. To achieve the correct height of the tubing profile, a fill block can be used under the tubing section.

6.4 ANGLE ADJUSTMENT

ITEM 7 in FIGURE 7 and in FIGURE 8 shows an allen bolt that is used to set the angle of tubing clamp. There is also another bolt (not shown) in the center of the clamp.

6.5 DEPTH STOP

Pipe Notcher is provided with a Depth Stop. There is a slot under the front of the machine and the Depth Stop is located there.

The Depth Stop works to stop the movement of the support toward the grinding roller. This Stop is secured with an Allen bolt and the 8mm Allen key can be used for adjustment.

The Depth Stop is designed to ensure that a series of tubing sections with the same dimensions are all notched to the same depth.

FIGURE 9 below shows where the Depth Stop is located and what it looks like. Loosen the bolt and move the Depth Stop along the slot to where you need it and tighten the bolt.

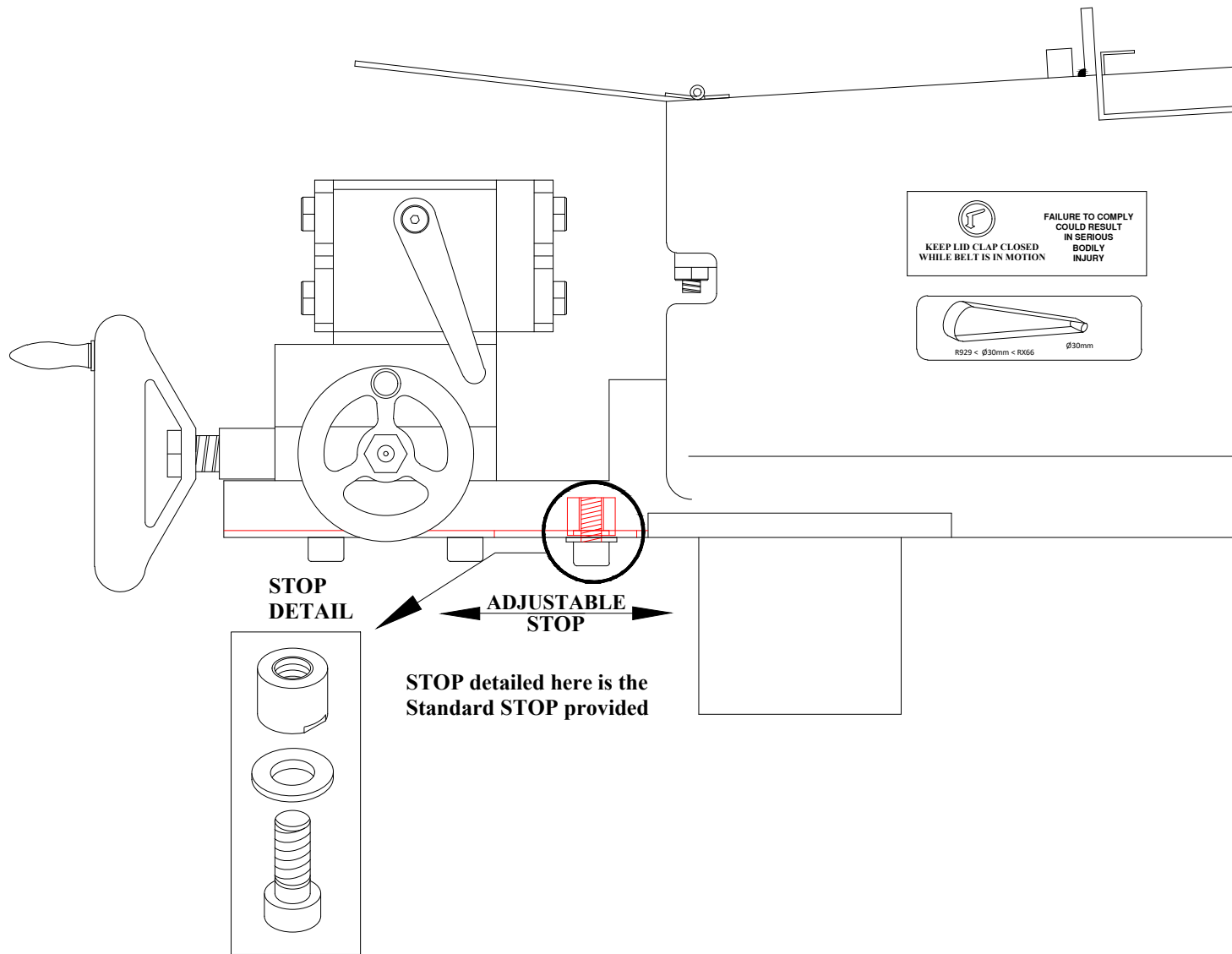


FIGURE 9

6.6 LENGTH STOP

On the flat side (left side) of the tubing clamp there are (2) threaded bolt holes.

See FIGURE 10 below.

A Length Stop can be fabricated and attached with these bolt holes.

In doing a run of same-sized tubing, a Length Stop would insure that each piece of tubing is clamped in the tubing clamp the same.

A Length Stop used in conjunction with the Depth Stop will make for grinding an easily repeatable and very consistent notch into the same length of tubing.

Again, a Length Stop is NOT included with the machine. One may be fabricated by the user as shown in Figure 10, or the optional back gauge may be purchased - see below.

**NOTE: SCOTCHMAN INDS. HAS A OPTIONAL BACK GAUGE AVAILABLE FOR THIS MACHINE
SEE PAGE 49 - P/N 04.00931**

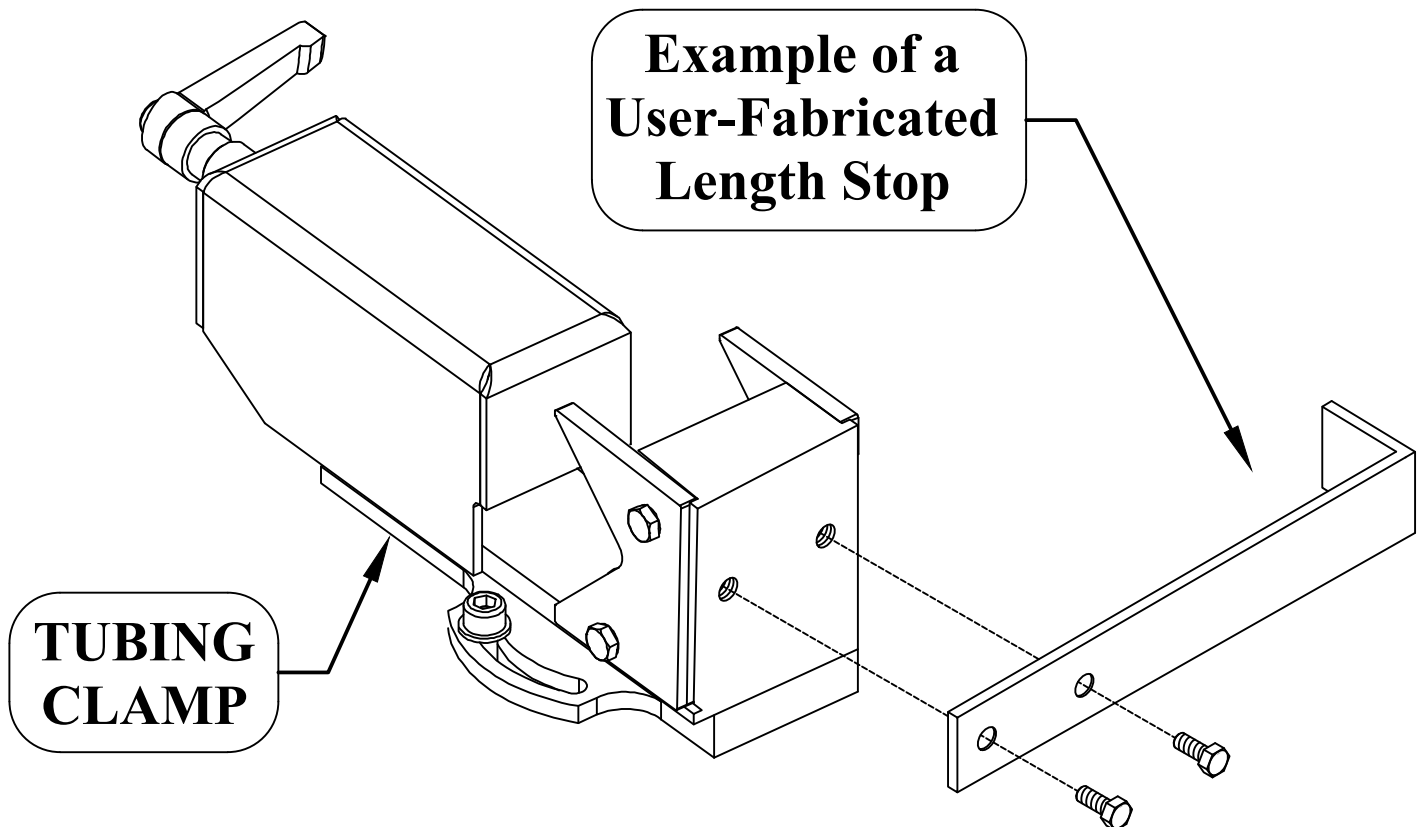


FIGURE 10

6.7 NOTCHING THE TUBING

MODEL AL100U-01

SEE FIGURE 7

After adjusting to the correct angle (7) and the Stops (if desired) have been set up, clamp a piece of tubing into the tubing clamp using the handle (6).

The slide with ball handle (4) moves tubing clamp side to side. It must be positioned so the piece of tubing that is to be notched is moved toward the center of the grinding roller. Handle (5) moves tubing clamp into and away from the grinding roller. By moving the tubing clamp into the grinding roller, the tubing section can be notched.

Care must be given to ensure that the width of the notch does not exceed the width of the grinding belt.

MODEL AL100U-02

SEE FIGURE 8

After adjusting to the correct angle (7) and the Stops (if desired) have been set up, clamp a piece of tubing into the tubing clamp using the handle (6).

The side with hand wheel (5) moves tubing clamp side to side. It must be positioned so the piece of tubing that is to be notched is moved toward the center of the grinding roller. Hand wheel (4) moves tubing clamp into and away from the grinding roller. By moving the tubing clamp into the grinding roller, the tubing section can be notched.

Care must be given to ensure that the width of the notch does not exceed the width of the grinding belt.

The handle (8) can be installed and used in conjunction with the hand wheel (4). See upper left drawing in FIGURE 3 to install handle.

6.8 DEBURRING

The top of the machine is equipped with a deburring table for deburring the notched tubing section. There is a cover on top of the machine that must be opened to access the deburring table.

See FIGURE 11 on the next page.

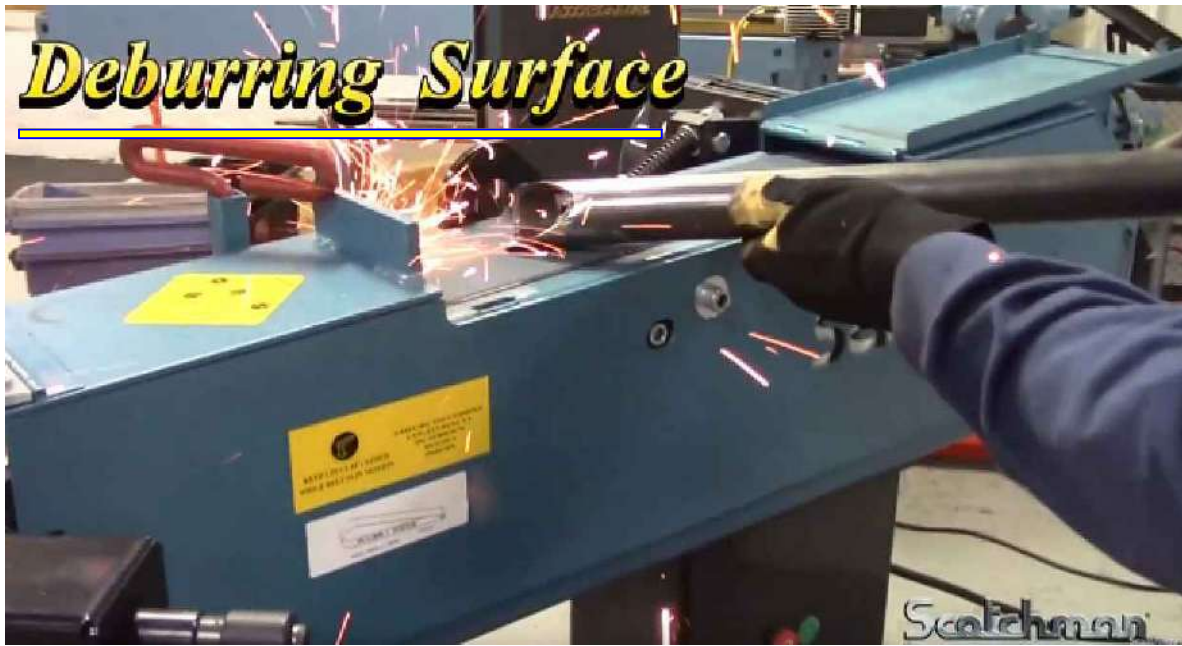
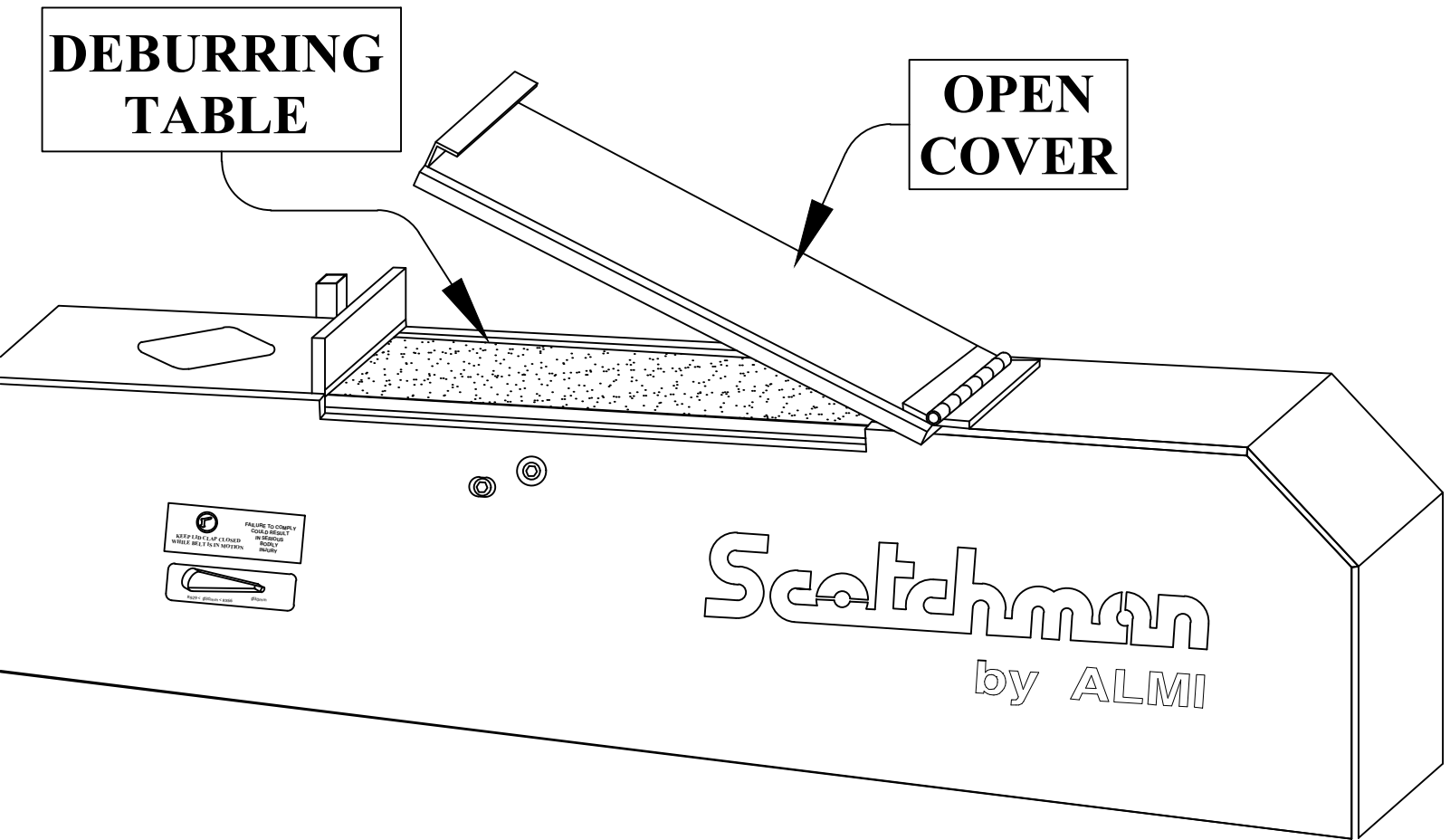


FIGURE 11

7.0 NOTCHING CAPACITIES

SEE FIGURE 12

The capacities of the AL100U machines are 1/2" to 3" O.D. (12.7mm to 76mm).
Machine is supplied with (2) belts and (2) pipe mandrels (1-1/4" & 1-1/2").
There are 13 mandrels available to ensure correct gap-free fits.
The grinding rollers (mandrels) and belt can be changed tool-free in seconds.
The size of the notch is changed by exchanging the grinding roller in front of the machine.
The Angle Range is 90° (straight) to 30°



FIGURE 12

7.1 ANGLED NOTCHING CAPACITY

SEE FIGURE 13

Below shows the capacities for the AL100U Grinder/Notchers when grinding tubes at an angle. The tube size must be reduced as the angle is increased.

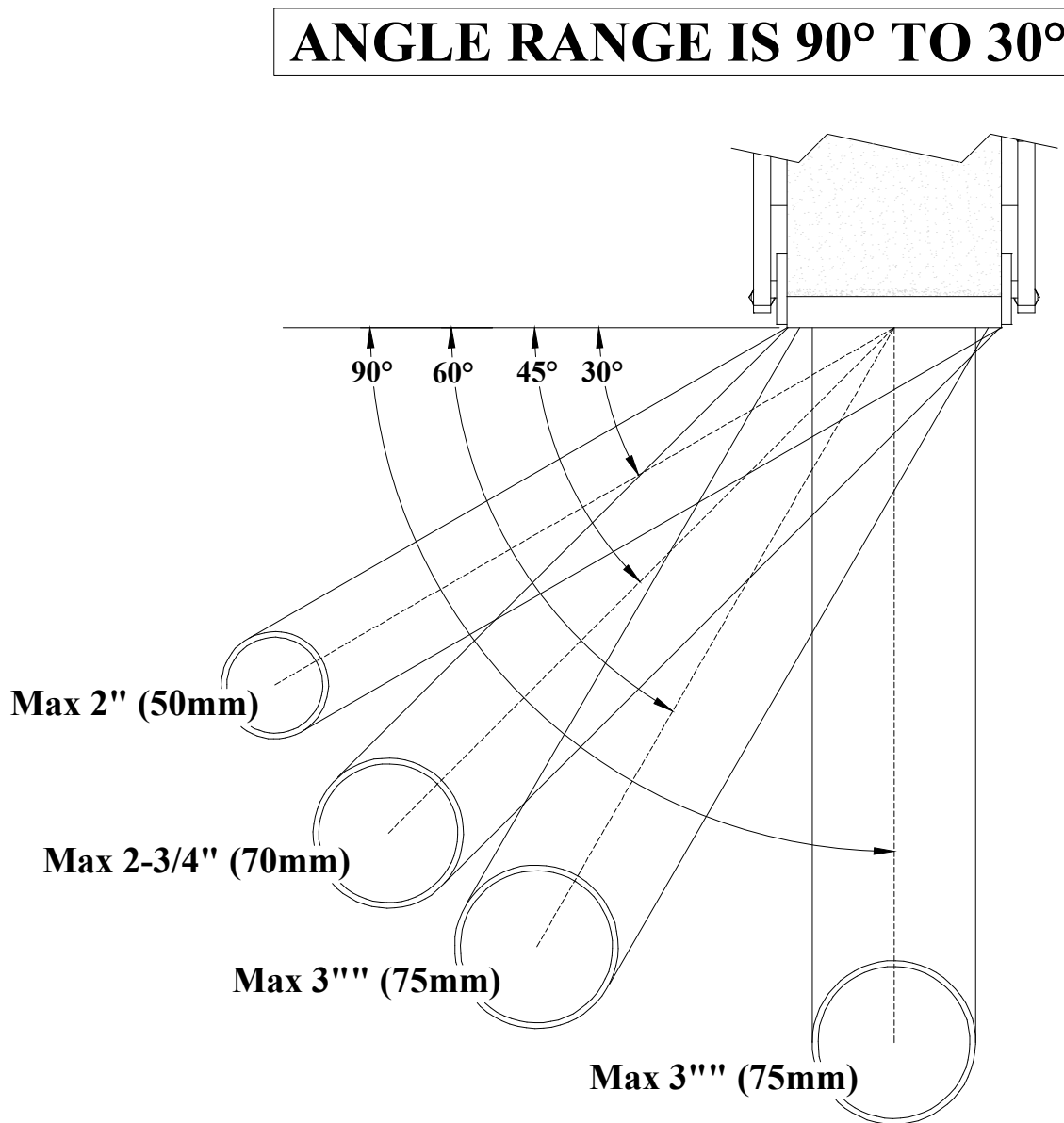


FIGURE 13

8.0 CHANGING ROLLERS AND BELT

SEE FIGURE 14

CAUTION: DISCONNECT POWER FROM MACHINE BEFORE PROCEEDING

To gain access to the grinding belt, the side cover and the top cover must be opened. The top cover is shown in Figure 11 and below along with the side cover. Use the Allen Key to turn the bolt indicated below to release the side cover. All covers are hinged.



BOTH COVERS OPENED

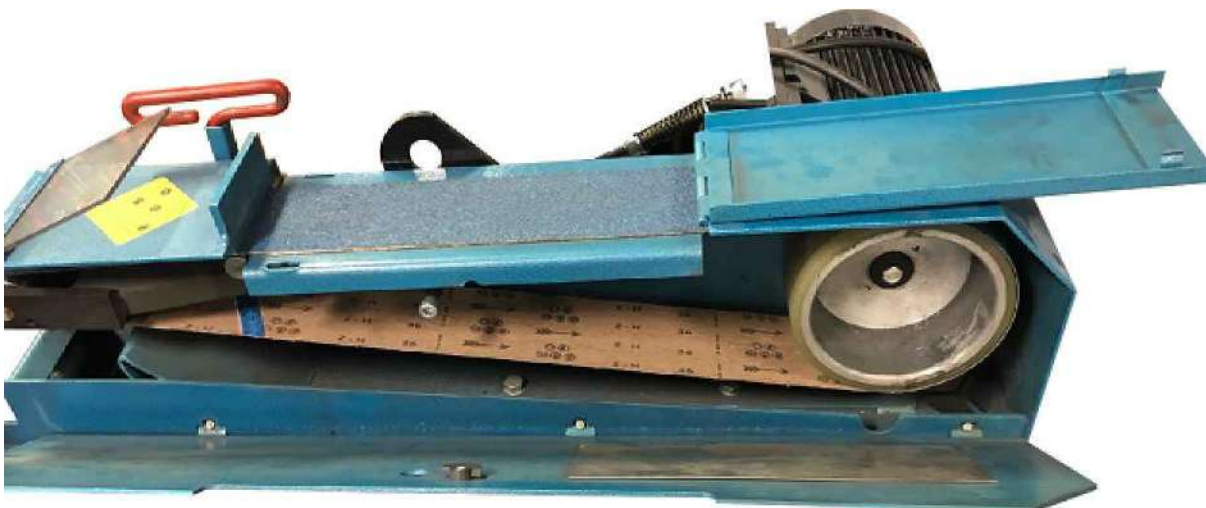


FIGURE 14

8.1 BELT TENSION

SEE FIGURE 15

After the power has been disconnected and the covers are opened, grinding belt tension is adjusted by using the handle located on the motor side of the machine. It's location is shown below. Spring tension is used to keep the belt tight.

Crank the handle enough to loosen the belt and then remove it.

NOTE: There should be a mark inside the grinding belt indicating the rotation. If not, make sure to note which way the belt was turning so when it is reinstalled it turns in the same direction.

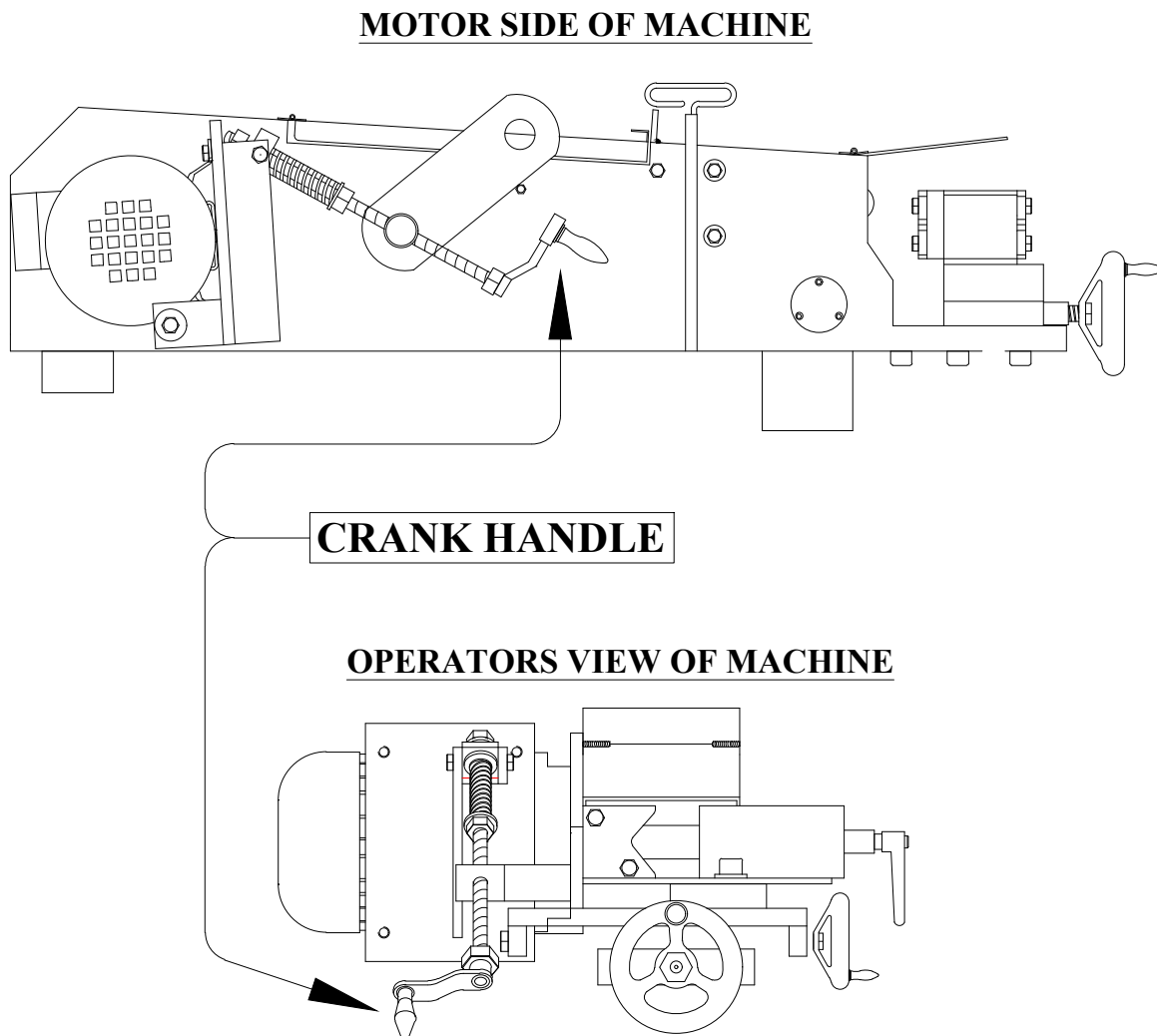


FIGURE 15

8.2 CHANGING THE ROLLER

SEE FIGURE 16

After the grinding belt is removed, the roller can be changed.

**CAUTION: WEAR SAFETY GLOVES!! WITH INTENSIVE USE
THE ROLLER CAN BECOME EXTREMELY HOT.**

Below are a couple of images that show how the roller mounts to the machine. Each roller has (2) bearings - One on each end. The roller is held in the holder with (2) spring pressure retainers. These retainers have been properly adjusted by the manufacturer and should never need adjustment. Please see FIGURE 17 on the next page for an exploded view.

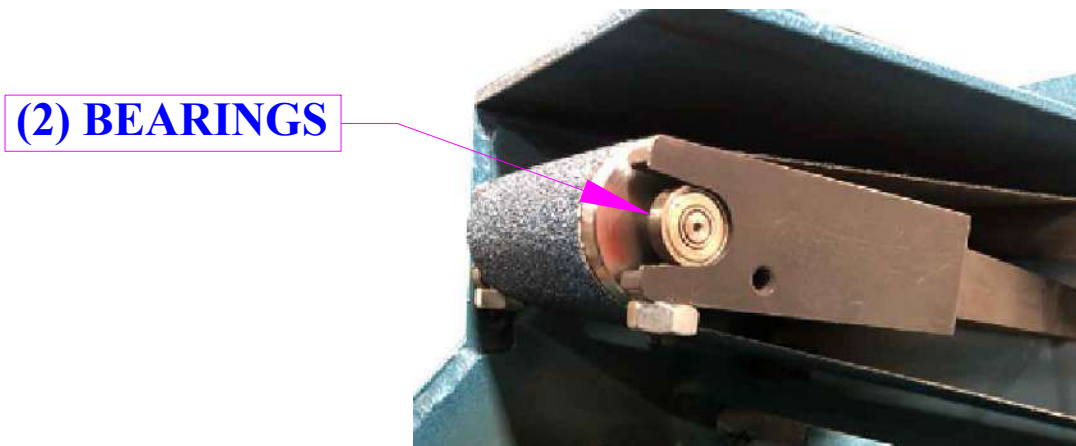
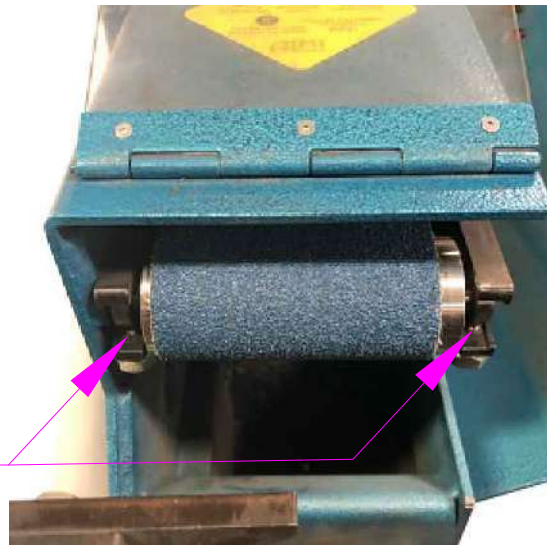


FIGURE 16

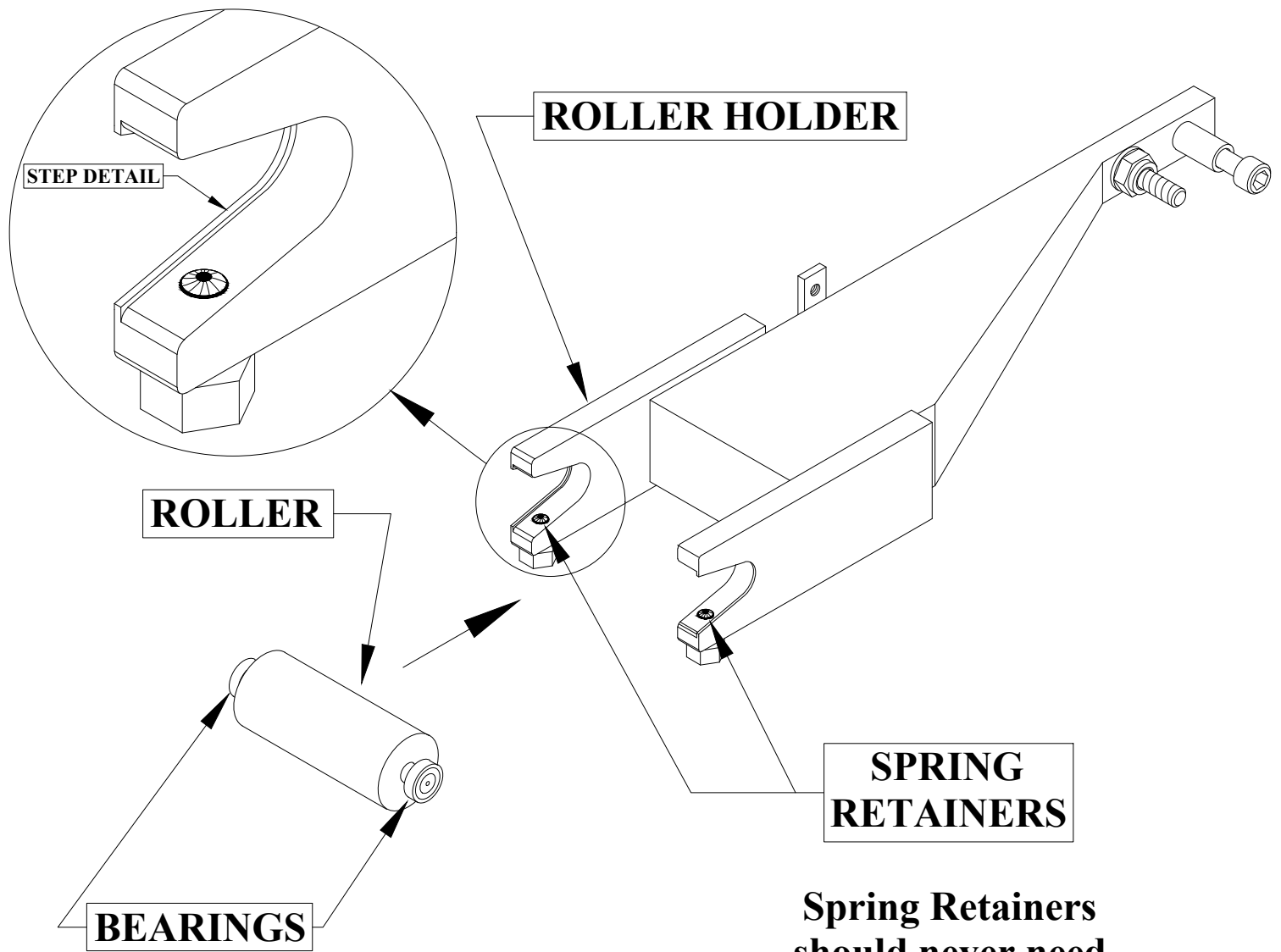
SEE FIGURE 17

Below is an exploded view of the roller and related parts.

To remove roller, grasp roller and pull it out of the holder.

Before the new grinding roller is installed, the recesses of the support for the grinding roller must be cleaned thoroughly!!

**To install roller, align the roller with the holder and push it in.
It should be straight and stay in place and be inside the step machined on each side of the holder.
See STEP DETAIL below.**



**Spring Retainers
should never need
adjustment**

**Bearings are included and
installed on all Rollers**

FIGURE 17

8.3 SETTING BELT TENSION

SEE FIGURE 18

After changing the roller the belt can be installed. Slide the grinding belt over the motor pulley and the grinding roller. Make sure it is installed so it rotates in the right direction.

NOTE: If a roller smaller than 30mm (1-3/16") diameter is being used, use a grinding belt that has been "broken in" meaning a belt that has been previously used on a roller with a larger diameter. A new grinding belt is very stiff and may break if used on a grinding roller with a small diameter.

After installing the new grinding belt, the belt must be tensioned properly. Turn the hand crank clockwise enough to tighten the belt. To set the correct tension the spring on the tensioning device should be compressed enough so there is a 3-5mm gap (.12 - .20") between the nut and washer as shown below in FIGURE 18.

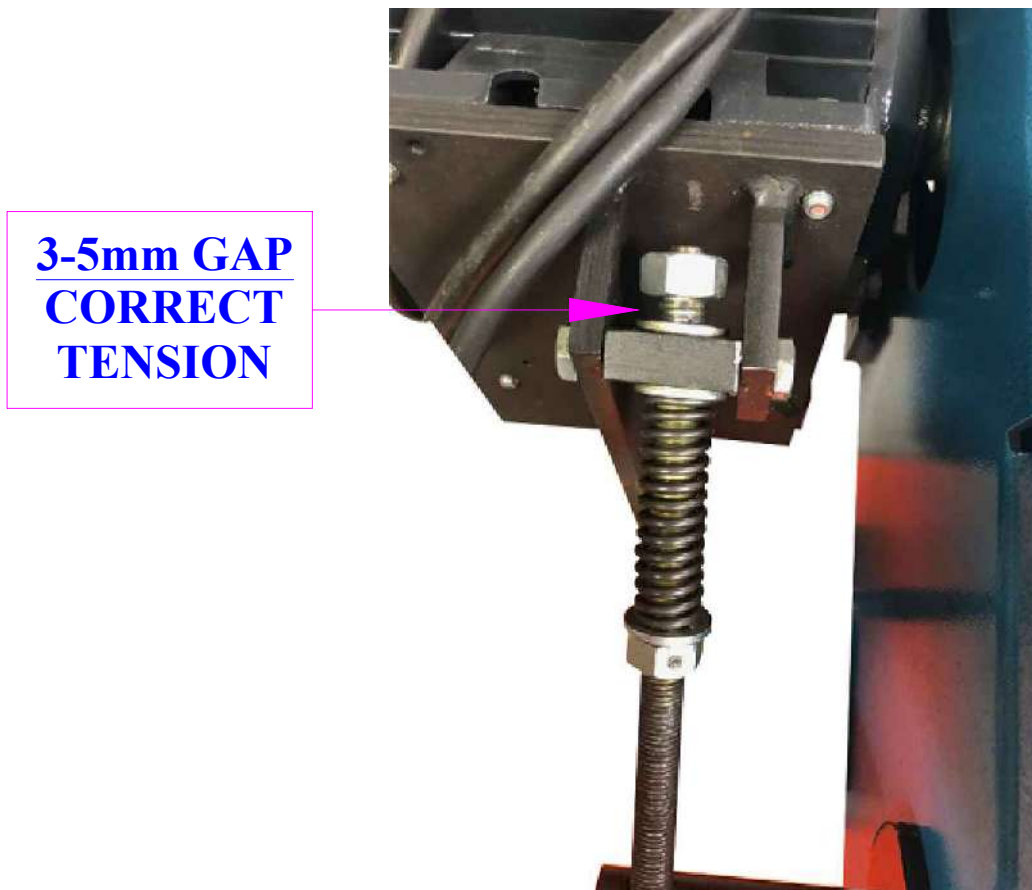


FIGURE 18

8.4 SETTING BELT TRACKING

After changing the roller and belt and tensioning it properly, The next thing is to check the tracking of the belt. You want the belt to run so it's as centered on the rollers as it can be.

To begin, make sure the machine is still Disconnected From Power.

Slowly roll the belt by hand in the right direction and see how it tracks.

If it stays on the rollers go ahead and close ALL the covers making sure they are properly locked shut. Make sure the clear cover on the front of the machine is flipped down.

Connect the power to the machine.

NOTE: Make sure you are wearing the proper safety equipment!!

At this point we're ready to start the machine. Be prepared to stop the machine in case any difficulties are encountered.

Once the machine is started and running, check the belt to see how it's tracking by watching the front roller. If it tracking off to one side or the other use the 8mm Allen key to adjust the tracking.

SEE FIGURE 19

Below shows where the tracking adjustment is made. There is a hole in the side-cover of the machine that allows access to the adjustment bolt.

CAUTION: Turn Tracking Adjustment Bolt Slowly!!

Watch the grinding belt closely while turning the tracking adjustment bolt.

Once the belt is centered and tracking good, let the machine run for a minute to make sure it stays. Machine is now ready for use.

TRACKING ADJUSTMENT



FIGURE 19

8.5 ADJUSTMENT OF GRINDING ROLLER

SEE FIGURE 20

The center of the grinding roller must be at the same height as the center of the tubing. This is set at the factory and generally doesn't need to be adjusted. If the center of the tubing isn't centered on the grinding roller it can be adjusted with the (2) bolts that are aligned vertically on the motor side of the machine - See Below.

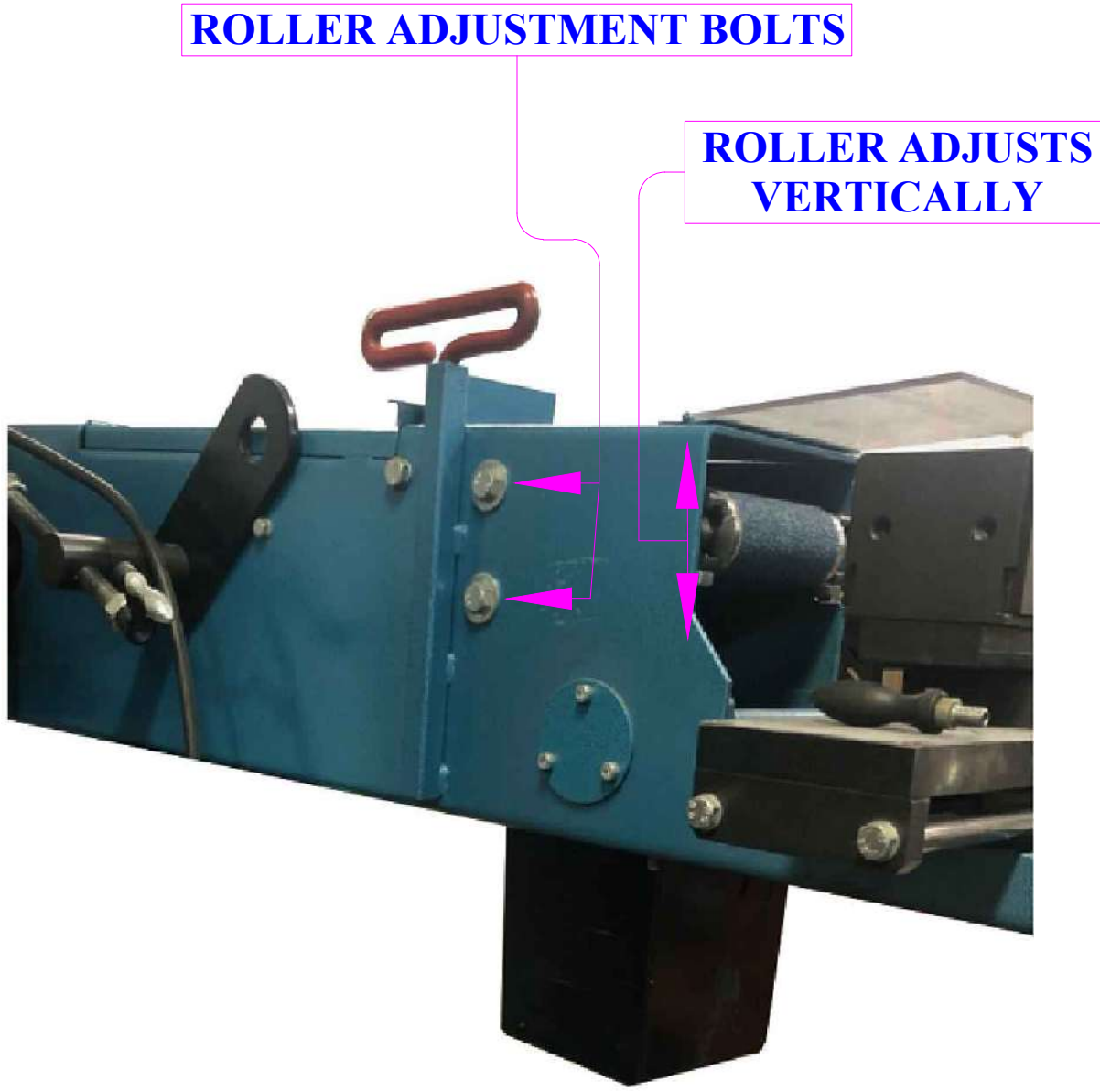


FIGURE 20

9.0 AVAILABLE OPTIONS

This section will show some optional equipment that is available for the AL100U grinders.

9.1 ROLLER SUPPORT KIT

SEE FIGURE 21

Below is an image of P/N 04.00318 Roller Support Kit.

When grinding diameters are almost always smaller than 60mm (2.36") and machine will be subject to heavy use, it is recommended that this kit is used. It replaces the "Support Axis" which is a solid metal bar located in front of the deburring table on top of the machine (Table shown in FIGURE 11). The reason for the Roller Support Kit is that the smaller diameter allows the belt to rub the Support Axis more. The roller reduces heat and wear with the smaller diameters.

To install this kit (4) holes need to be drilled and countersunk on the top of the machine underneath the grinding belt. Please see the next page for a detailed explanation.



04.00318
ROLLER SUPPORT KIT

FIGURE 21

9.2 ROLLER SUPPORT KIT LOCATION

SEE FIGURE 22

Below are (2) views that show where the "Support Axis" is located via the circles. It is held on by (1) bolt on the other side of the machine. The side cover must be opened to gain access to it.

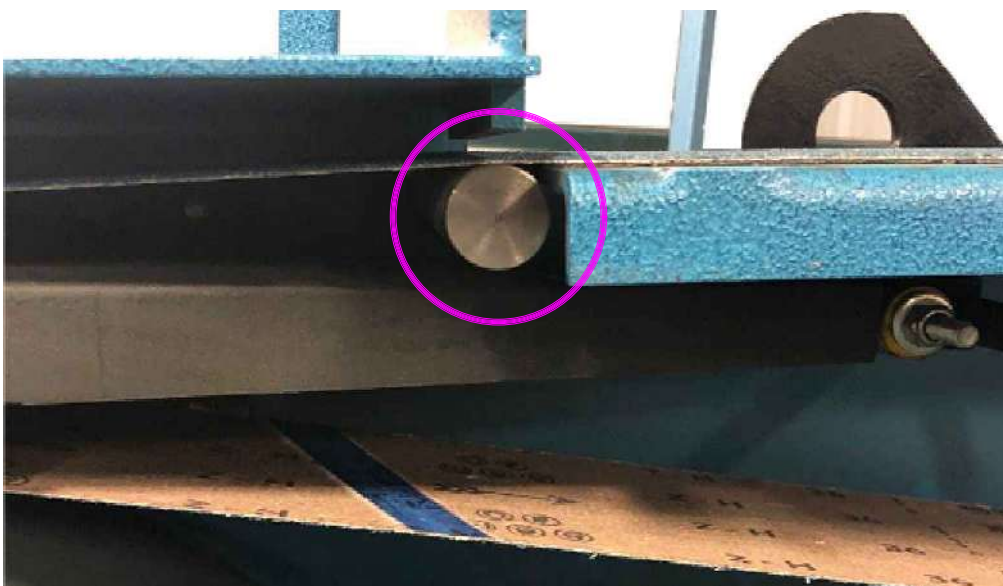


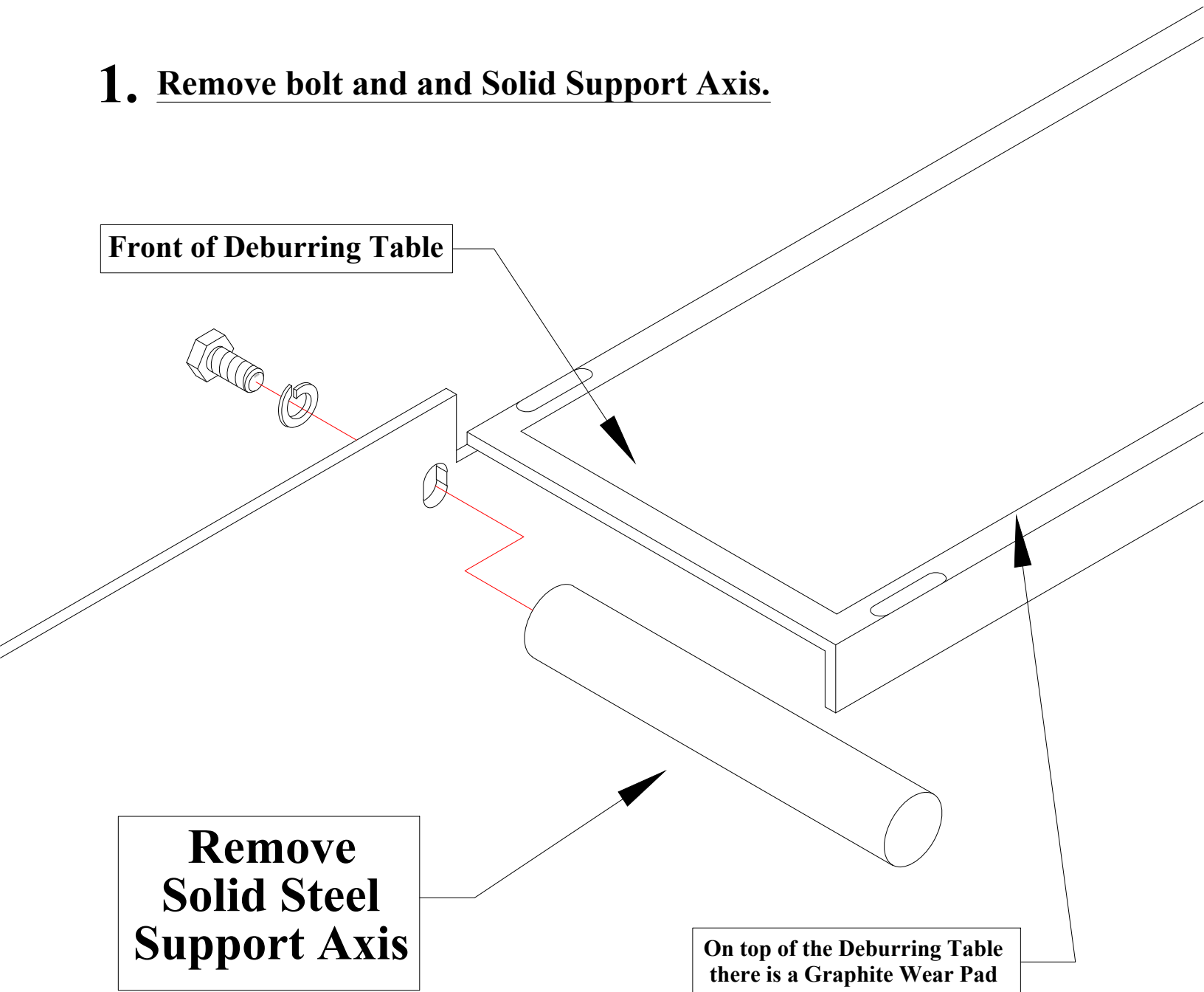
FIGURE 22

9.3 ROLLER SUPPORT KIT INSTALLATION

The first thing to do is open the covers and remove the belt.
See SECTION 8 for belt removal.

Follow the instructions below:

1. Remove bolt and Solid Support Axis.

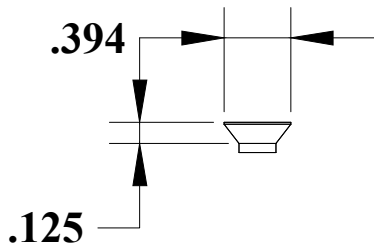


2. Drill Holes and Countersink Them - as Shown Below.

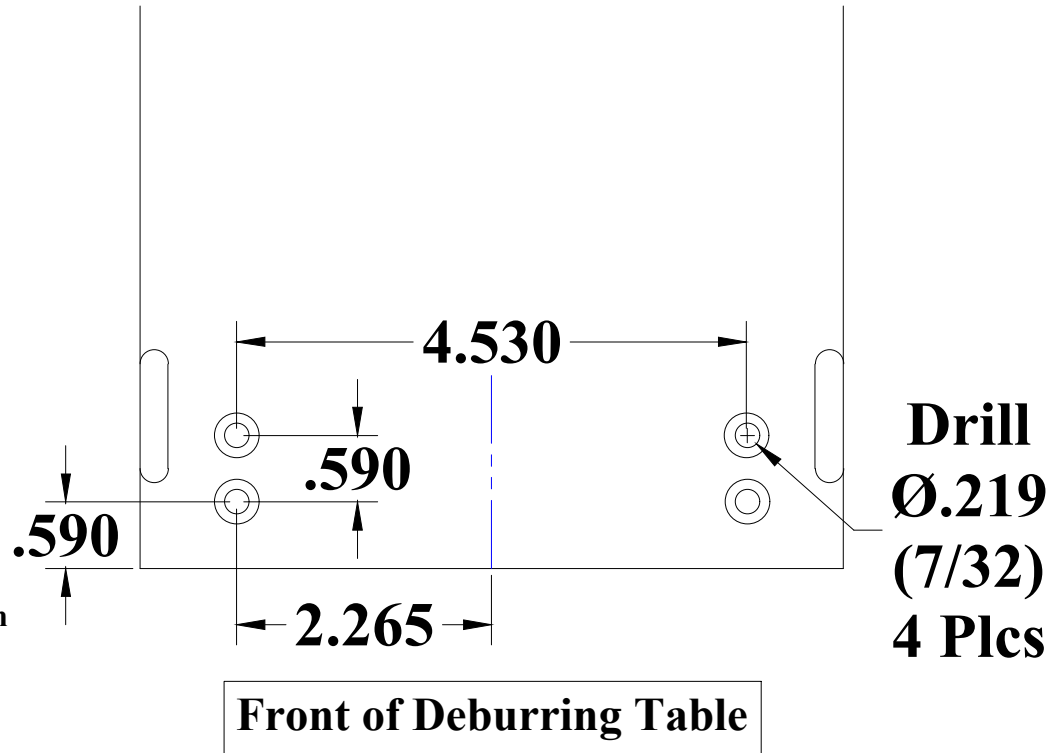
All dimensions are in inches.

DETAIL

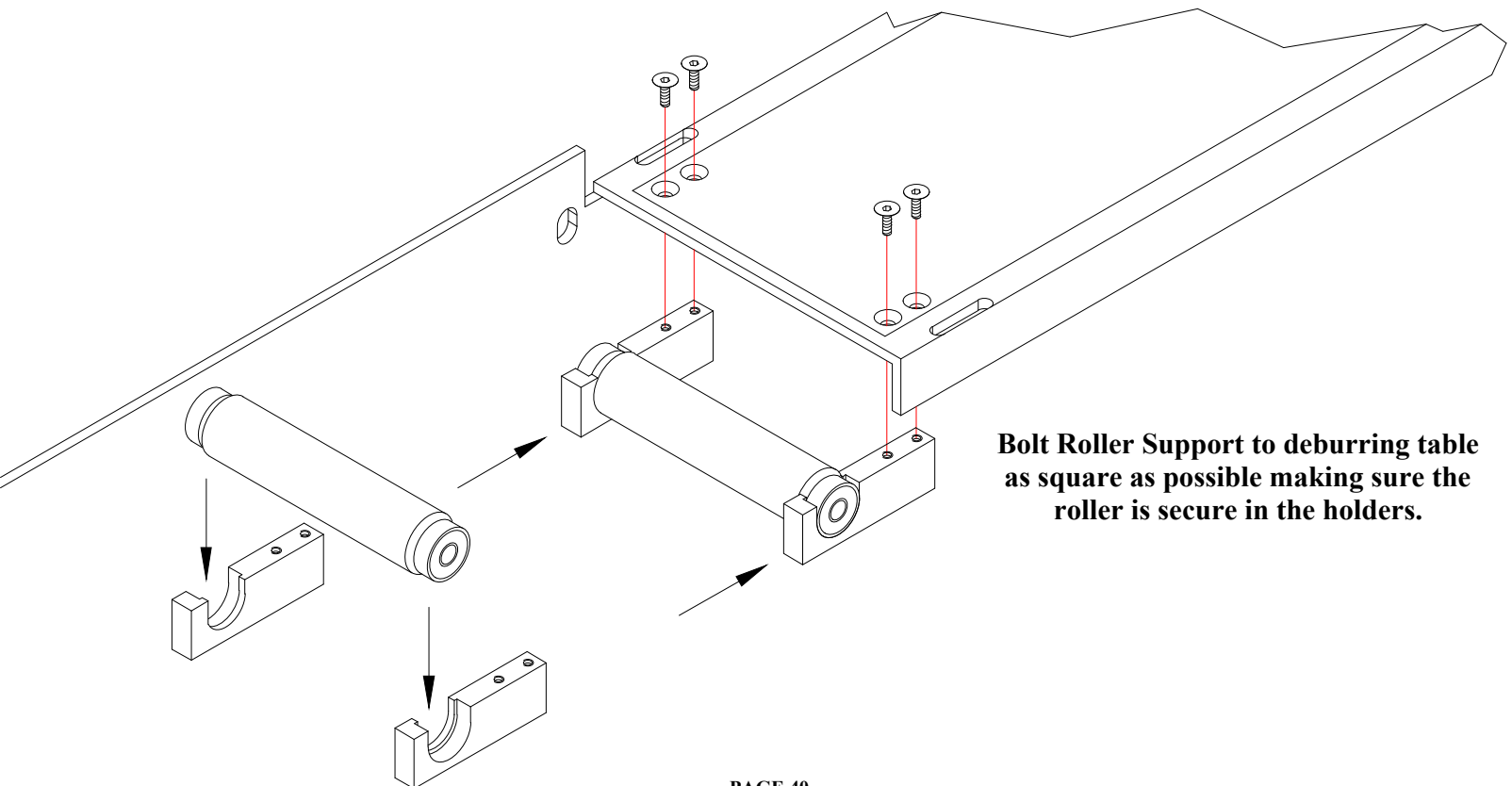
Countersink Holes



The bolt heads should be at least flush or slightly below the surface of the metal deburring table.
Make sure all burrs are removed.



3. Put Roller in Holders and Use the Enclosed (4) Screws to Attach Assembly to Machine.



9.4 ROLLER SUPPORT KIT START UP

Once the Roller Support Kit is bolted on securely, reinstall the grinding belt. See Section 8.0 for belt installation.

Once belt is tensioned and tracking properly, let the machine run for a minute to make sure everything stays and is working properly.

Machine is ready for use.

9.5 ROLLER HOLDER

There is a P/N 04.00302 - Roller Holder available for the AL100U Grinder Notchers. This is a sheetmetal part that attaches to the front of the machine. There are (2) slots in the front on the column of the AL100U and the Roller Holder has (2) angled tabs that fit thru these slots. Put the tabs thru the slots and push the Roller Holder down and that's all it takes to attach it to the machine. See FIGURE 23 below & FIGURE 24 on the next page.

TAB - SLOT ATTACHMENT DETAIL

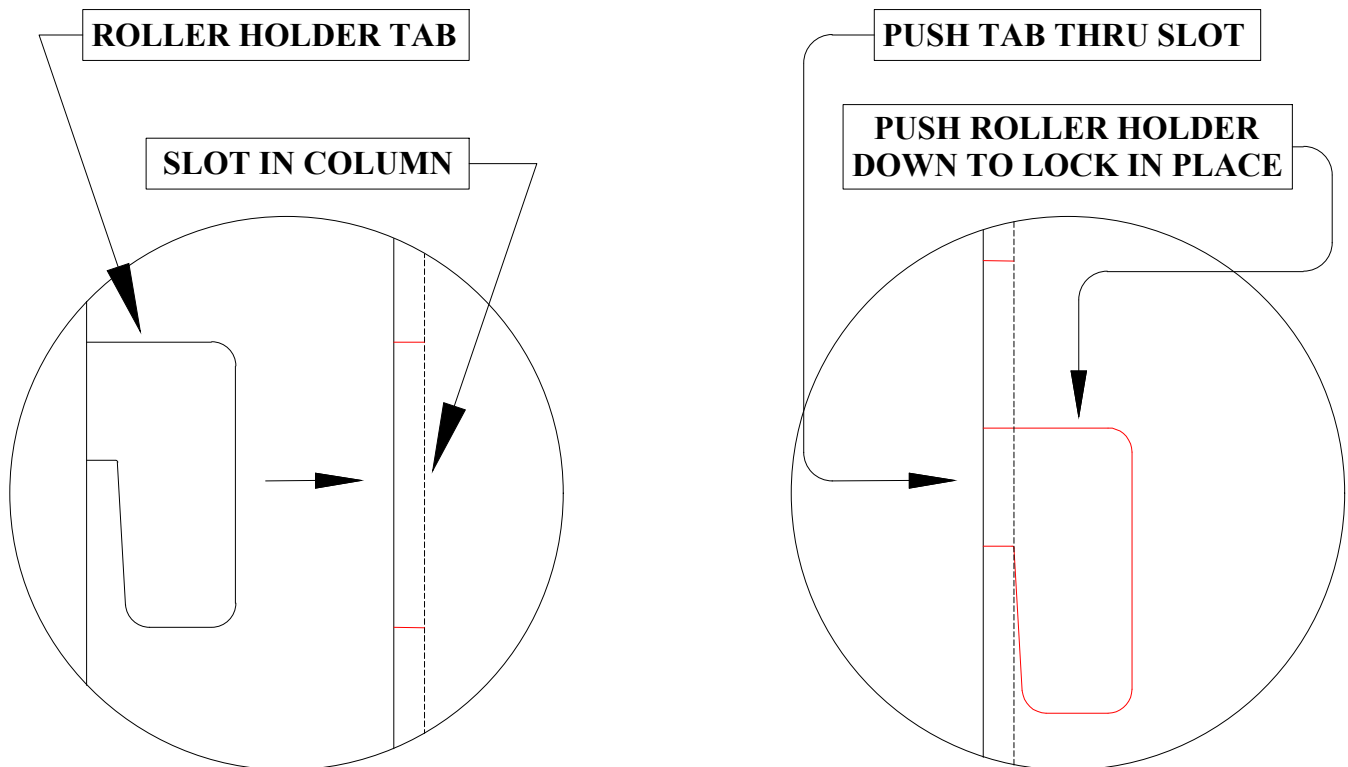


FIGURE 23

ROLLER HOLDER INSTALLATION

**ENLARGED
ISOMETRIC
VIEW**

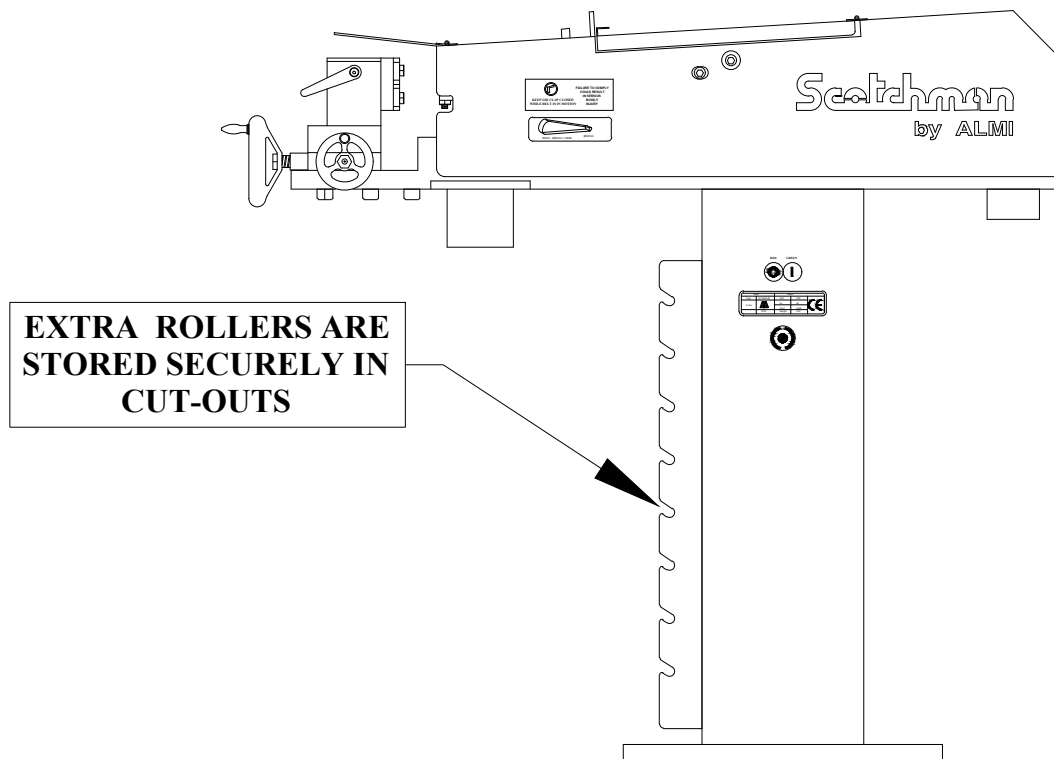
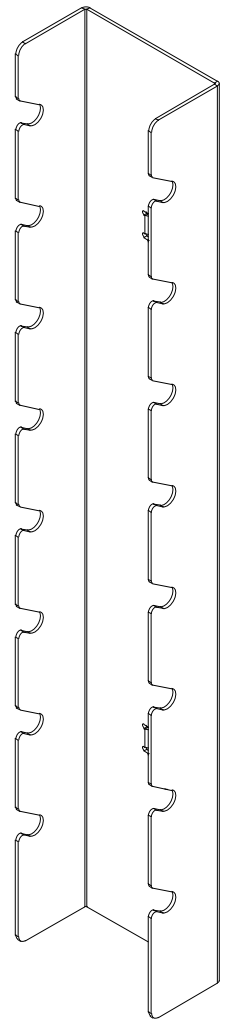
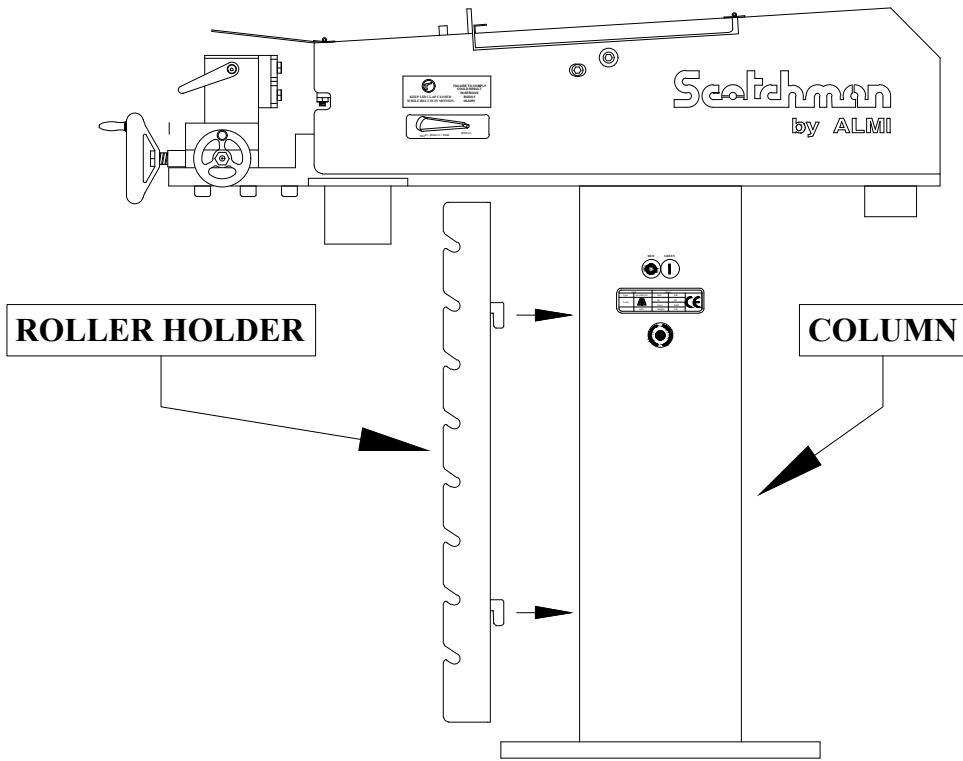


FIGURE 24

10.0 AVAILABLE ROLLERS

Below is a list of sizes and part numbers of the standard rollers we have for PIPE and TUBE. Intermediate sizes are also available.

<u>PIPE</u>	<u>PART NUMBER</u>	<u>TUBE</u>	<u>PART NUMBER</u>
1/2"	A042.21.3	1.00"	A042.26
3/4"	A042.26.9	1.25"	A042.32
1"	A042.33.7	1.50"	A042.38
1-1/4"	A042.42.4	1.75"	A042.44
1-1/2"	A042.48.3	2.00"	A042.50
2"	A042.60.3	2.50"	A042.65.3
2-1/2"	A042.73.1	3.00"	A042.76.1

11.0 AVAILABLE GRINDING BELTS

<u>Item</u>	<u>Length / Grit</u>	<u>Part number</u>	<u>Packaging</u>
Standard Belts	4" x 78-3/4" / 36	A044.00001	1 box (10 belts)
Flex Belts	4" x 77-1/2" / 36	A044.00003	1 box (10 belts)

12.0 AL100U-01 & COMMON PARTS LIST

All parts shown below are for the ALU100-01. The ALU100-01 & ALU100-02 share many parts. ITEM numbers with a * are different on the ALU100-02 and are shown in the next Section.

ITEM	QTY	PART #	DESCRIPTION
1*	8	01210.M8x20	Hex Stud Bolt M-8 x 20
2*	9	38430.M8	Plain Washer M-8 h.d.
3*	2	38583.8x14	Shim .3mm 8x14
4*	2	04.00033	Guide Shaft
5*	2	07160.10x30	Hex Socket Head M-10 x 30
6*	6	214012	M-10 Regular Washer
7*	1	04.00080	Clamp Assy.
7A	1	M030.00002	Adjustable Handle 12MM
8*	1	04.00232	Slide Support Assy.
9*	1	04.00234	Lever Assy.
10	2	G140.00002	Guide Bush DIN 179A-8x16
11	2	38210.M8	Plain Washer M-8 d2=3xd1
12*	1	01210.M8x25	Hex Stud Bolt M-8 x 25 8.8
13	3	01300.M3	Hex Nut M-3
14	3	38130.M3	Plain Washer M-3
15	3	07470.M3x10	Hex Socket Head 8.8
16	1	04.00059	Safety Screen
17	1	A050.00024	Safety Sticker 8.5 x 8cm
18	3	01210.M10x30	Hex Stud Bolt M-10 x 30 8.8
19	4	038210.M10	Plain Washer M-10
20	1	04.00235	Bearing Holder Assy.
21	1	01210.M8x100	Hex Stud Bolt M-8 x 100 8.8
22	1	38130.M8	Plain Washer M-8
23	1	01300.M8	Hex M-8
24	1	04.00185	Spacer
25	1	M090.00002	Die Spring 25 1/12, 5 x 38
26	1	12300.M8	Hex Lock Nut M-8
27	1	M130.00001	Allen Wrench T-Grip 8 x 100
28	1	04.00257	Cover Plate
29	1	04.00068	Graphite Belt 100mm
30	1	04.*****	Cover Assy.
31	1	04.00053	Hinge Shaft
32	1	04.00282	Hinge Shaft
33	1	04.00063	Lifting Plate
34	1	04.00306	Spindle Assy.
35	1	38210.M12	Plain Washer M-12
36	1	01210.M12x30	Hex Stud Bolt M-12 x 30 8.8
37	1	M090.00006	Spring d=3, 2 DM=20 LO=105

AL100U-01 & COMMON PARTS LIST CONTINUED

ITEM	QTY	PART #	DESCRIPTION
38	2	07840.M5x6	Hex Socket Head M-5 x 6
39	2	04.00064	Nut
40	1	04.00048	Tilt Block
41	1	G140.00001	Guide Bush DIN 179A-8x10
42*	1	01210.M8x30	Hex Stud Bolt M-8 x 30 8.8
43	1	04.00043	Stop
44	2	07150.M10x16	Hex Socket Head M-10 x 16 8.8
45	1	04.00056	Bolt
46	4	01210.M10x20	Hex Stud Bolt M-10 x 20 8.8
47	1	04.00062	Support Axis
48	1	A050.00025	Sticker Door 13 x 5cm
49	1	04.*****	Door Assembly
50	1	04.00045	Door Lock
51	3	01210.M12x35	Hex Stud Bolt M-12 x 35 8.8
52	2	38130.M12	Plain Washer M12
53	1	04.00313	Plate (asm)
54	1	04.*****	Switch (asm)
55	4	07160.M6x16	Hex Socket Head M-6 x 16 8.8
56	1	A050.00002	ALMI Sticker 14.8 x 4.6cm
57	1	04.00111	Column (asm)
58	1	04.00073	Base (asm)
59	1	04.00095	Motor Seat (asm)
60	2	04.00049	Washer
61	1	04.00281	Hinge Shaft
62	3	01210.M10x25	Hex Stud Bolt M-10 x 25 8.8
63	1	E030.00001	Motor 220V 1PHASE 60HZ 3kw
63A	1	E030.00002	Motor 220/440V 60Hz 3PH 3kw
64	1	01210.M10x40	Hex Stud Bolt M-10 x 40 8.8
65	1	37420.M10	Flat Washer M-10 o.t.
66*	1	04.00280	Ring - *may or may not use
67	1	04.00050	Pulley
68	1	A044.00001	Grinding Belt RX66 100x2000 P36
69	1	A044.00003	Grinding Belt R929 100x2000 P36
70	1	01300.M10	Hex Nut M-10
71	3	38130.M16	Plain Washer M-16
72	3	07160.M6x10	Hex Socket Head M-6 x 10 8.8
73	2	M050.00001	Ball Plunger
74	2	210012	M10 Jam Nut
99	2	G020.00006	608Z Bearing (22MM OD)
100**	2	000800	Adaptor For Roller Bearings (2 pcs)

****These adapt our 22MM bearings to the 35MM bearing retainer on the JANCY version.**

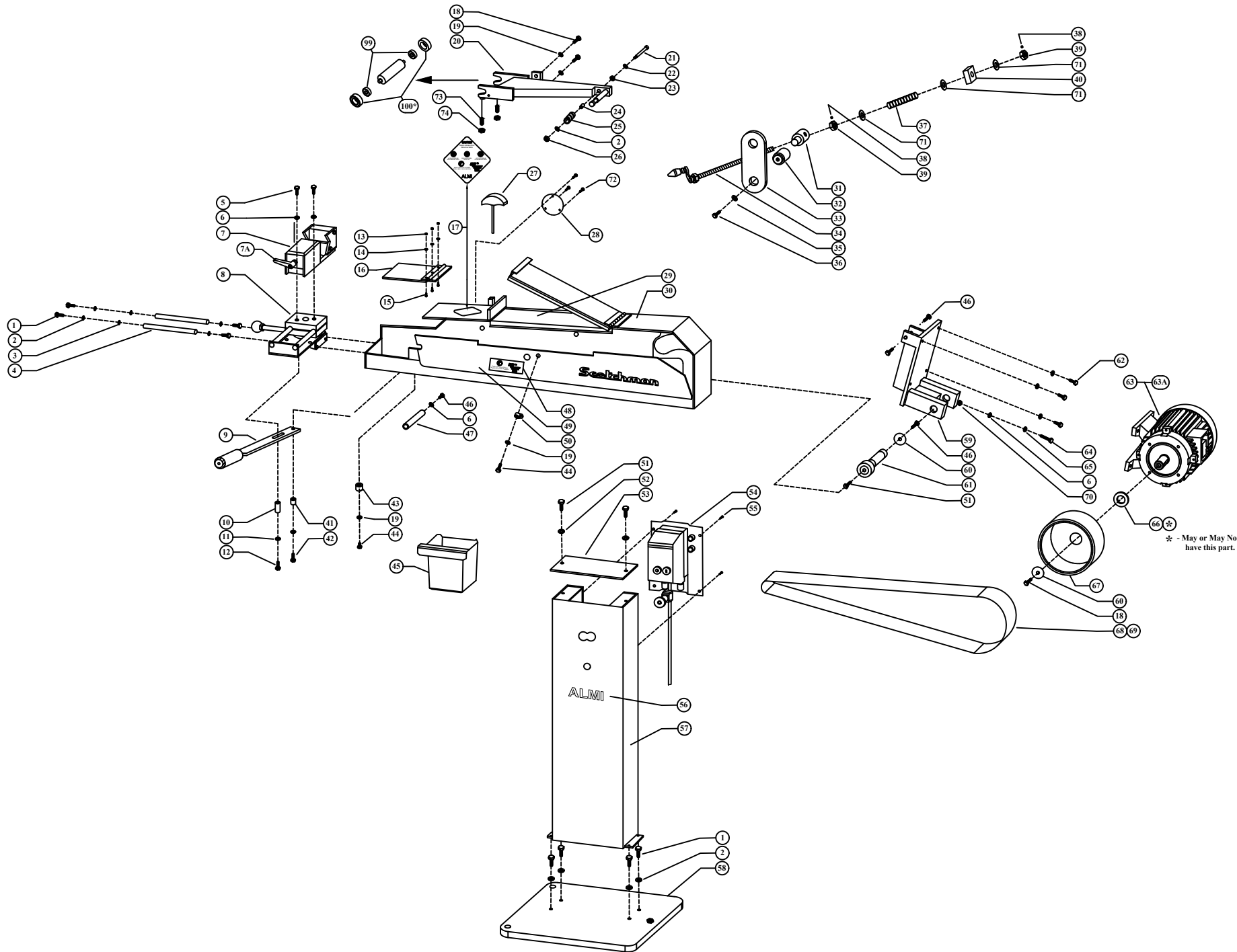


FIGURE 25

13.0 AL100U-02 PARTS LIST

Below parts are specific to the ALU100-02 machine. See Sect. 12 for common parts.

ITEM	QTY	PART #	DESCRIPTION
1	3	01210.M10x20	Hex Stud Bolt M-10 x 20 8.8
2	6	214012	M-10 Regular Washer
3	1	04.00080	Clamp Assy.
3A	1	M030.00002	Adjustable Handle 12MM
4	1	04.00237	Base Plate Clamp Assy.
5	1	04.00157	Block
6*	1	04.00159	Bushing - M20 x 4 - 1.850 Long (Course Thread)
6A*	1	04.00135	Bushing - M20 x 4 - 1.693 Long (Course Thread)
6B*	1	04.00535	Bushing - M20 x 2.5 - 1.693 Long (Fine Thread)
7	1	04.00120	Spindle
8	1	04.00003	Plain Bearing
9	2	04.00004	Ring
10	1	M010.00003	Handwheel
11	2	01300.M12	Hex Nut M12
12	1	0400121	Spindle
13	1	04.00170	Plain Bearing
14	1	04.00158	Block
15	1	M010.00001	Handwheel
16	3	01210.M8x35	Hex Stud Bolt M8x35
17	9	38430.M8	Plain Washer M8
18	2	38583.8x14	Passring 0.3mm 8x14
19	2	04.00033	Guide Shaft
20	8	01210.M8x20	Hex Stud Bolt M8x20 8.8
21	1	04.00238	Cross Support
22	2	04.00119	Guide Shaft
23	4	01210.M8x25	Hex Stud Bolt M8 x 25
24	1	04.00125	Spacer
25	1	04.00239	Lever Assy.
26	1	G140.00002	Guide Bush DIN 179A-8x16
27	2	38210.M8	Plain Washer M-8 d2=3xd1
28	1	G140.00001	Guide Bush DIN 179A-8x10

* Measure length of part and determine thread size before ordering.

Scotchman[®]
by **ALMI**

AL100U-02 CLAMP, HANDWHEELS AND RELATED PARTS

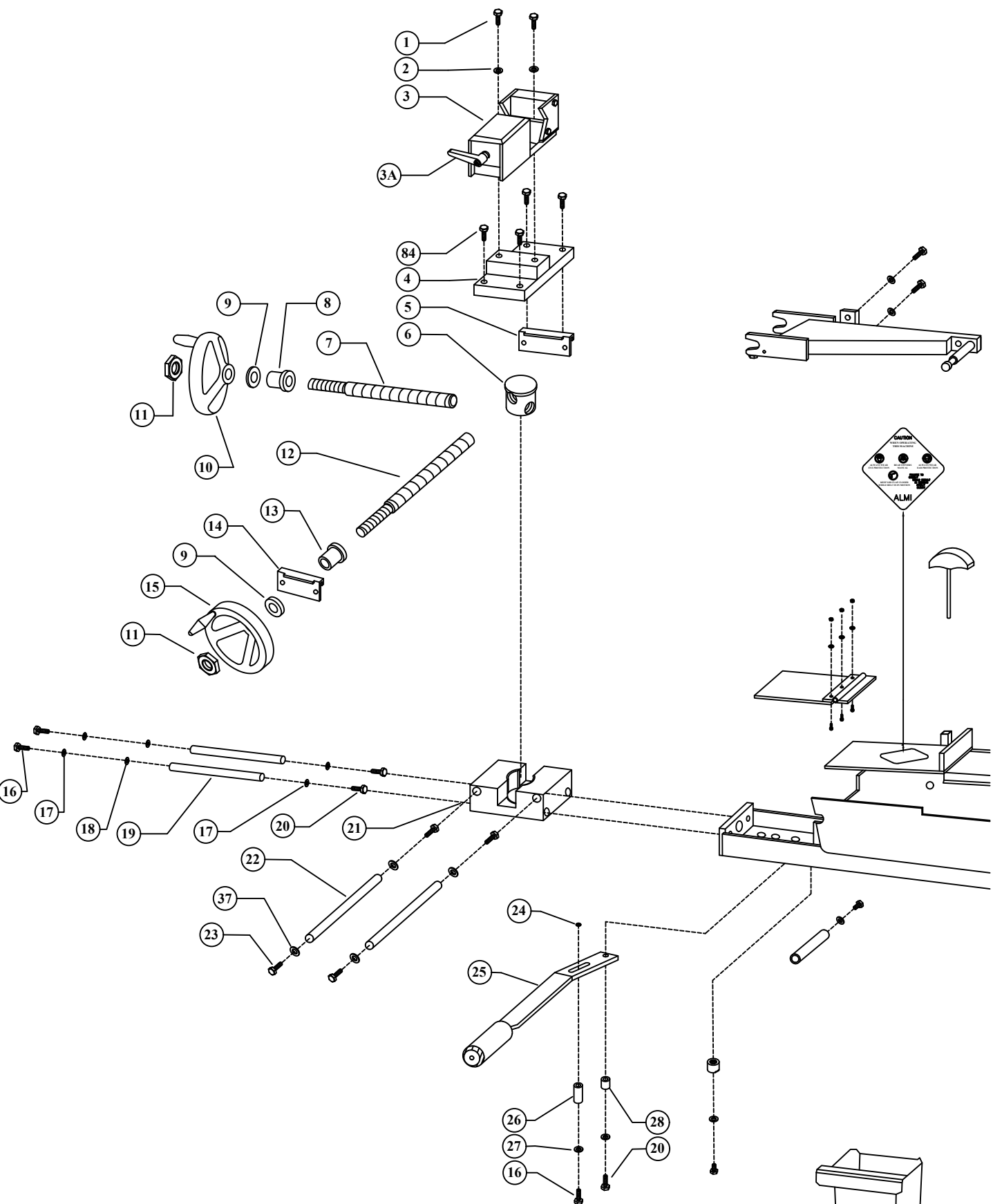


FIGURE 26

OPTIONAL BACK GAUGE

Scotchman's has Back Gauge available for our ALMI Grinder/Notcher machines. It mounts to the side of the tube clamp and is a real Time-Saver when you have many pieces of tubing that are the same length that need to be notched. Contact your Dealer or call us at 1-605-859-2542.

