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**MODEL
AL150
PIPE NOTCHER
GRINDER**

VERSION 2 - OCTOBER 2020

MODEL AL150 PIPE NOTCHER GRINDER



TUBE & PIPE GRINDER NOTCHERS

The AL150 produces gap-free fits ready for welding, with minimal vibrations. This grinder/notcher is capable of notching from a straight 90° to 20° in tube/pipe from 3/4" to 4-1/2" diameter in seconds. It is equipped with an easily accessible, top-mounted deburring table to increase productivity. 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. The AL150 can be operated with two hand-wheels or one hand wheel and a provided lever. The feed hand wheel can be replaced with a lever. The machine is equipped with both options. 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.

The compound slide and carriage with rotatable clamp are continually adjustable, which means the machine can grind all pipe sections at every required angle between 90° (straight) to 20°.

And this machine is backed by a 3-year warranty.

FEATURES:

Fast, strong and accurate

Can be used to grind square, rectangular and round pipes

Fitted with grinding rollers that can be changed in seconds

Equipped with a deburring table

Tool Free Belt and Mandrel Change Over

Grinds tube and pipe at every angle between 90° (straight) to 20° degrees

3-Year Warranty

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.

Scotchman[®]
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	CE Sticker

MODEL - AL150

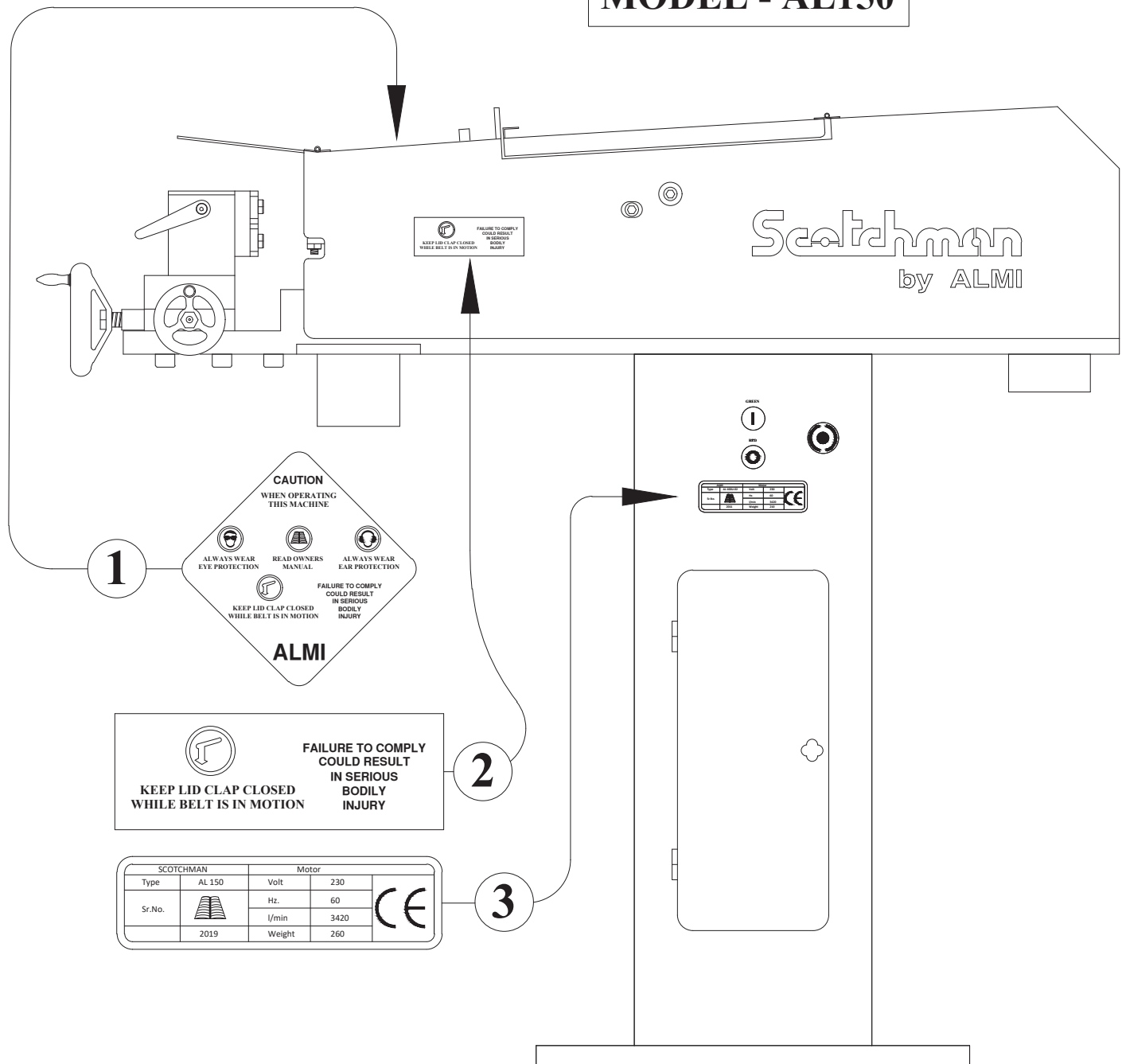


FIGURE 1

3.1 WARNING SYMBOLS

BEFORE OPERATING THIS MACHINE



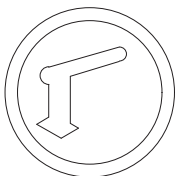
**PICTOGRAM 1:
READ OWNERS MANUAL FIRST!!**



**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.**

SEE FIGURE 2 on the next page

4.1 PHYSICAL DIMENSIONS

ITEM	DESCRIPTION	INCHES	CM
1	Machine Height	50	127
2	Length	53	134.6
3	Width	31	78.7
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	22-3/4	57.8
8	Rear from Base	11	27.9
9	Weight	600 LBS.	272 KG.

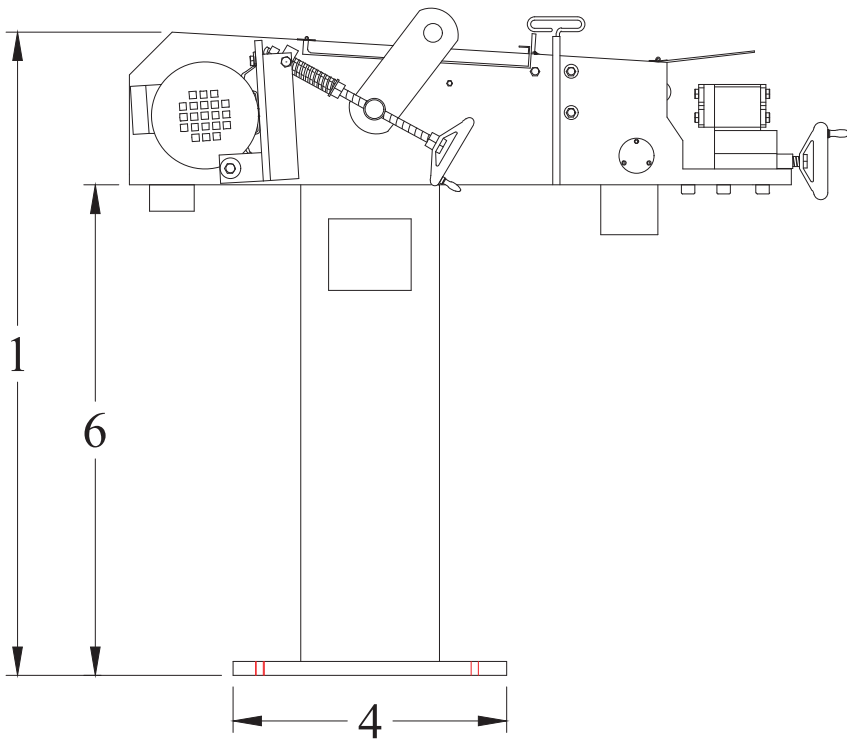
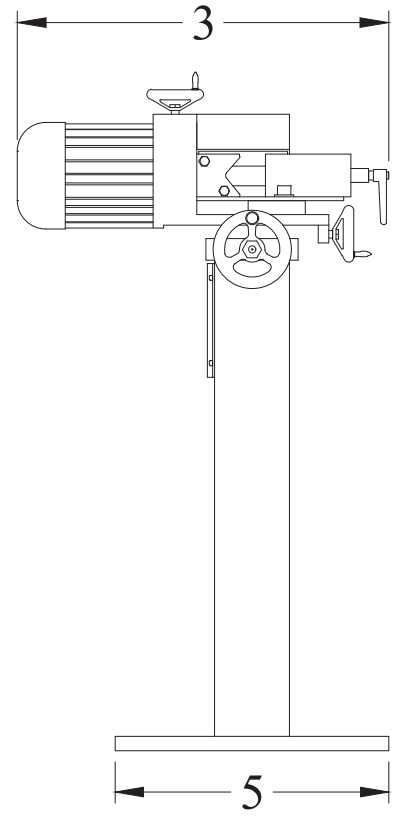
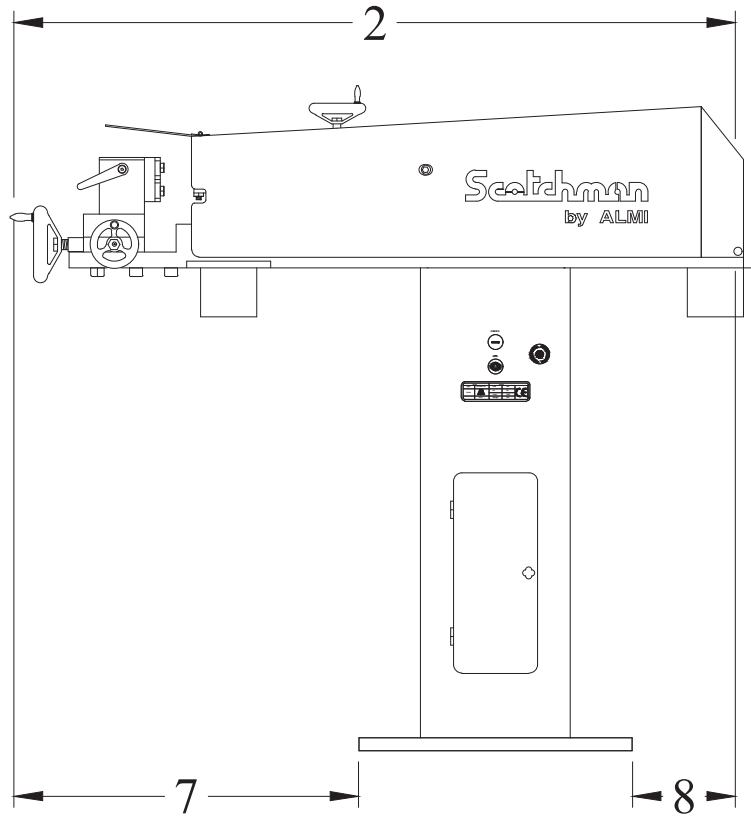


FIGURE 2

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.

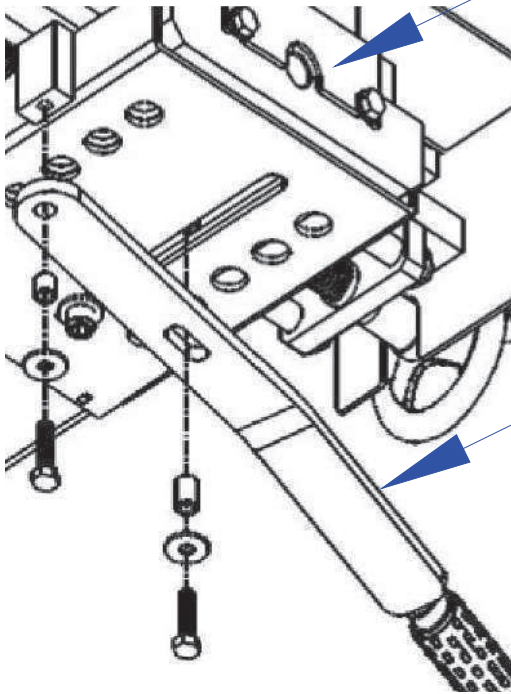
ASSEMBLY & MOVING BOTH MODELS

- **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 ALU150 is operated with (2) round aluminum hand-wheels. However, a Feed Lever is supplied with this machine that mounts under the cross support. The larger in-feed wheel and it's spindle must be removed in order to use it.

FEED LEVER

FRONT OF AL150 MACHINE
 looking up at the front underside
 of the machine.

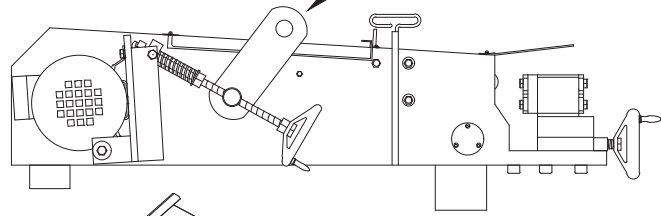


The larger (front)
 Feed Handwheel
 and Spindle must be
 removed (as shown)
 to use Feed Lever.

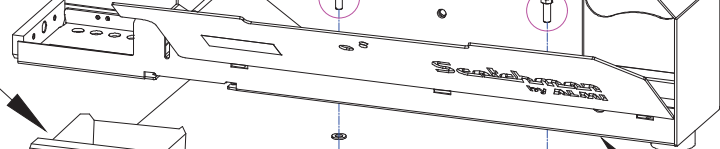
MACHINE IS TOP HEAVY!!
 Use Only LIFTING EYE to move machine
 Use Extreme Caution when moving

Feed Lever

LIFTING EYE
 (Motor-Side of Machine)



**WASTE
 CONTAINER**



(2) Bolts and
 Washers go thru on
 the inside of Grinder

GRINDER

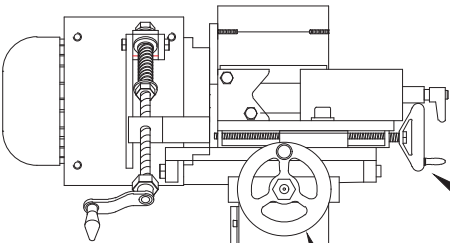
PLATE

**SUPPORT
 PILLAR**

**FOOT
 PLATE**

Bolts and Washers
 go thru on the
 inside of Pillar

**FRONT OF
 MACHINE**



**SMALL
 ALUMINUM
 HAND-WHEEL
 (side)**

**LARGE
 ALUMINUM
 HAND-WHEEL
 (front)**


FIGURE 3

4.3 MACHINE IDENTIFICATION

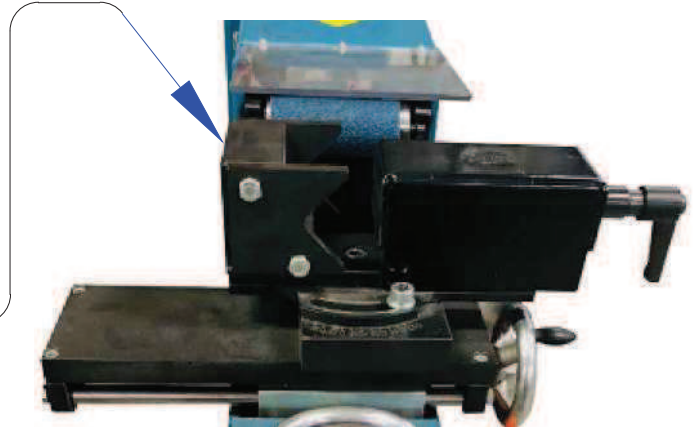
These machines have a white "CE" Decal on them that Identifies the machine and has other important information such as machine Voltage, Hz, RPM, Weight & Year of Manufacture.

This Decal is located next to 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:

SCOTCHMAN		Motor		CE
Type	AL 150	Volt	230	
Sr.No.		Hz.	60	
		l/min	3420	
2019	Weight	260		

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 AL150 is available 230V and 460V Three Phase and 230V 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: CANTONI 3SIEK112M2

MOTOR VOLTAGE

230

460

230 (Single phase)

Motor power rating: Approx. 4.75hp

KVA power rating:

Starting Current:

FULL LOAD AMPS

13.0 Amps

7.5 Amps

22.5 Amps

Motor rpm: 3500

4.6 KVA at 60 Hz

210% Full Load

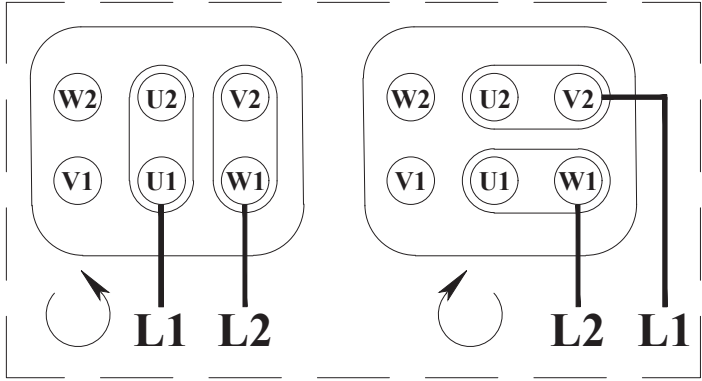
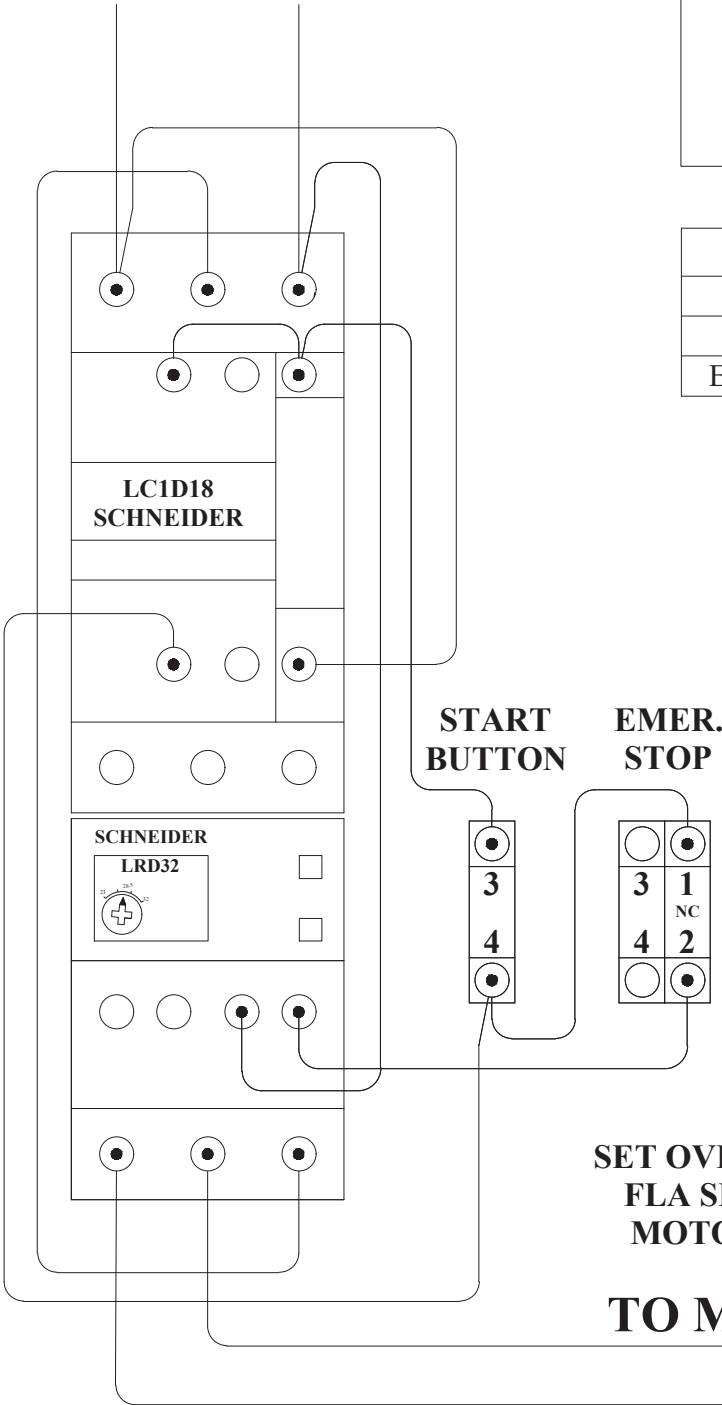
4.5 WIRING DIAGRAMS

(Contactors, Overloads & Motors)

LINE POWER

AL-150
230V Single Phase

PART #	DESCRIPTION
011436	CONTACTOR WITH COIL 230V 1PH.
011435	OVERLOAD 230V
E030.00006	MOTOR 230V 1PHASE 60HZ 3KW



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

SET OVERLOAD TO FLA SHOWN ON MOTOR PLATE TO MOTOR*

FIGURE 4

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

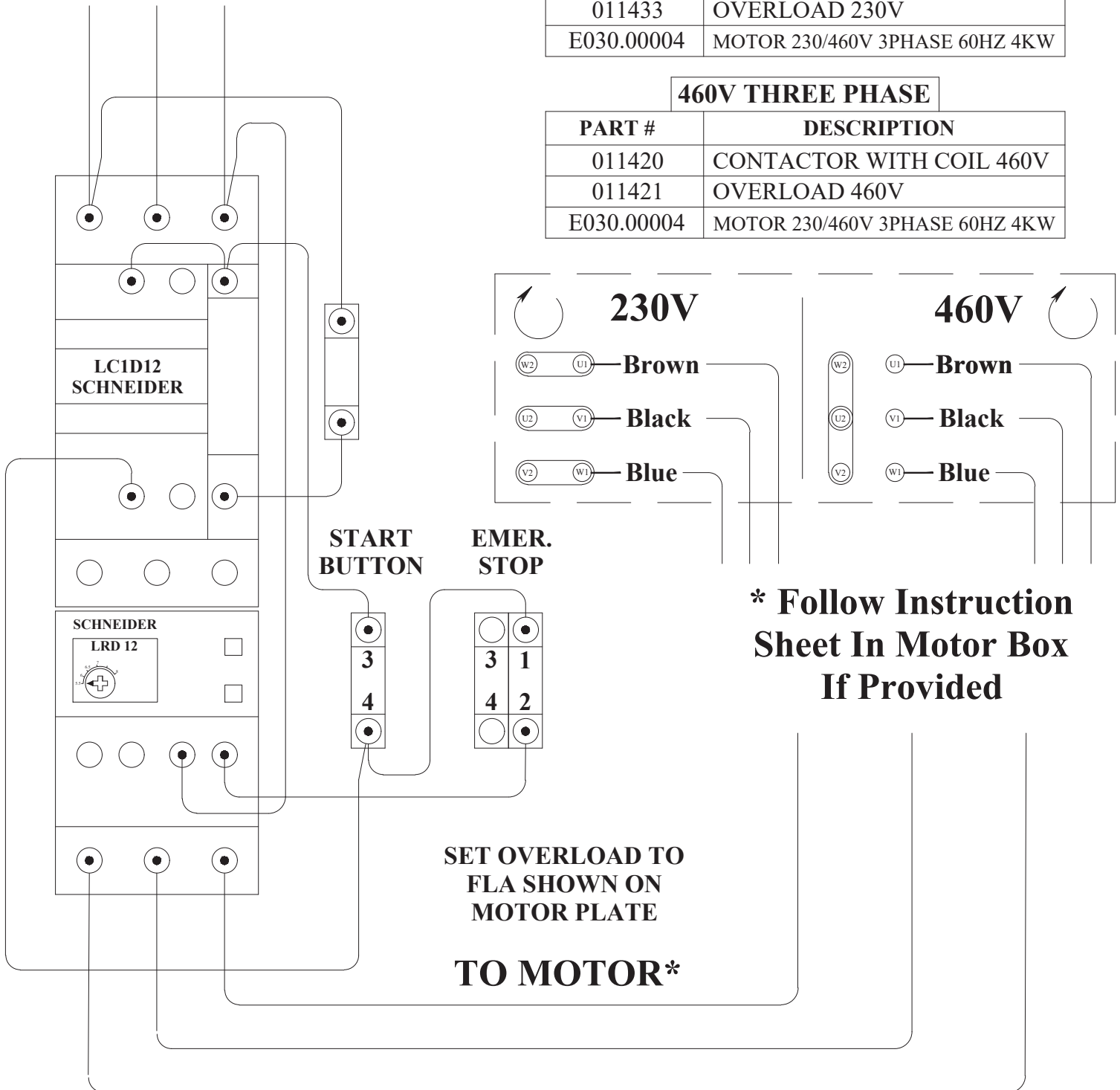
230V THREE PHASE

PART #	DESCRIPTION
011432	CONTACTOR WITH COIL 230V
011433	OVERLOAD 230V
E030.00004	MOTOR 230/460V 3PHASE 60HZ 4KW

460V THREE PHASE

PART #	DESCRIPTION
011420	CONTACTOR WITH COIL 460V
011421	OVERLOAD 460V
E030.00004	MOTOR 230/460V 3PHASE 60HZ 4KW

LINE POWER



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

FIGURE 5

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. Next to 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.

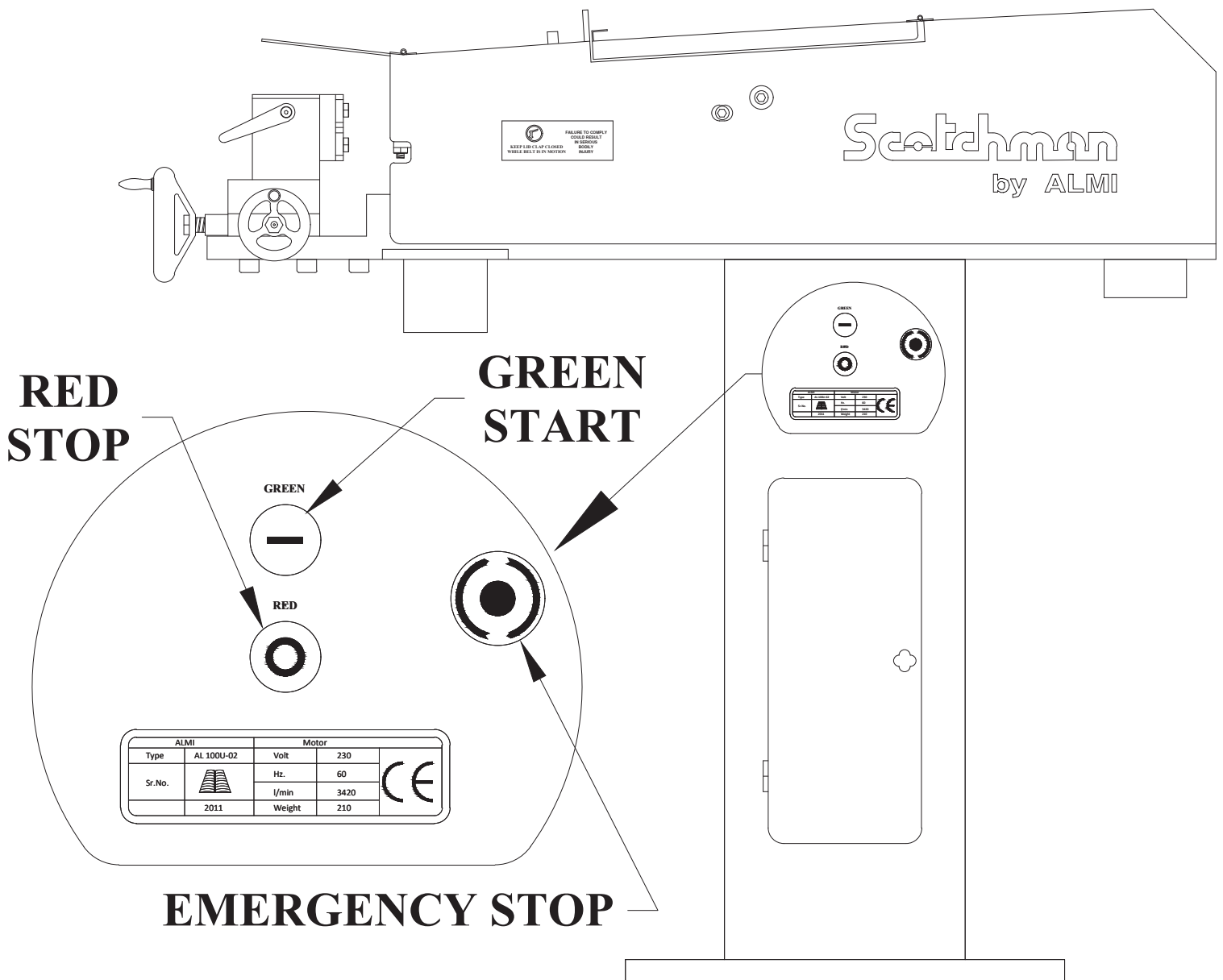


FIGURE 6

5.1 MACHINE CONTROLS & ADJUSTMENTS

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 to adjust grinding belt tracking. Use key with handle (1).**
- 4. Hand Wheel for adjusting tubing clamp into and away from grinding roller. There is a handle (not shown here) provided that can be used instead of this hand wheel. This hand wheel and it's spindle must be removed to use the handle.**

See **FIGURE 3** in **SECTION 4.2** for Lower Handle mounting instructions.

- 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).**

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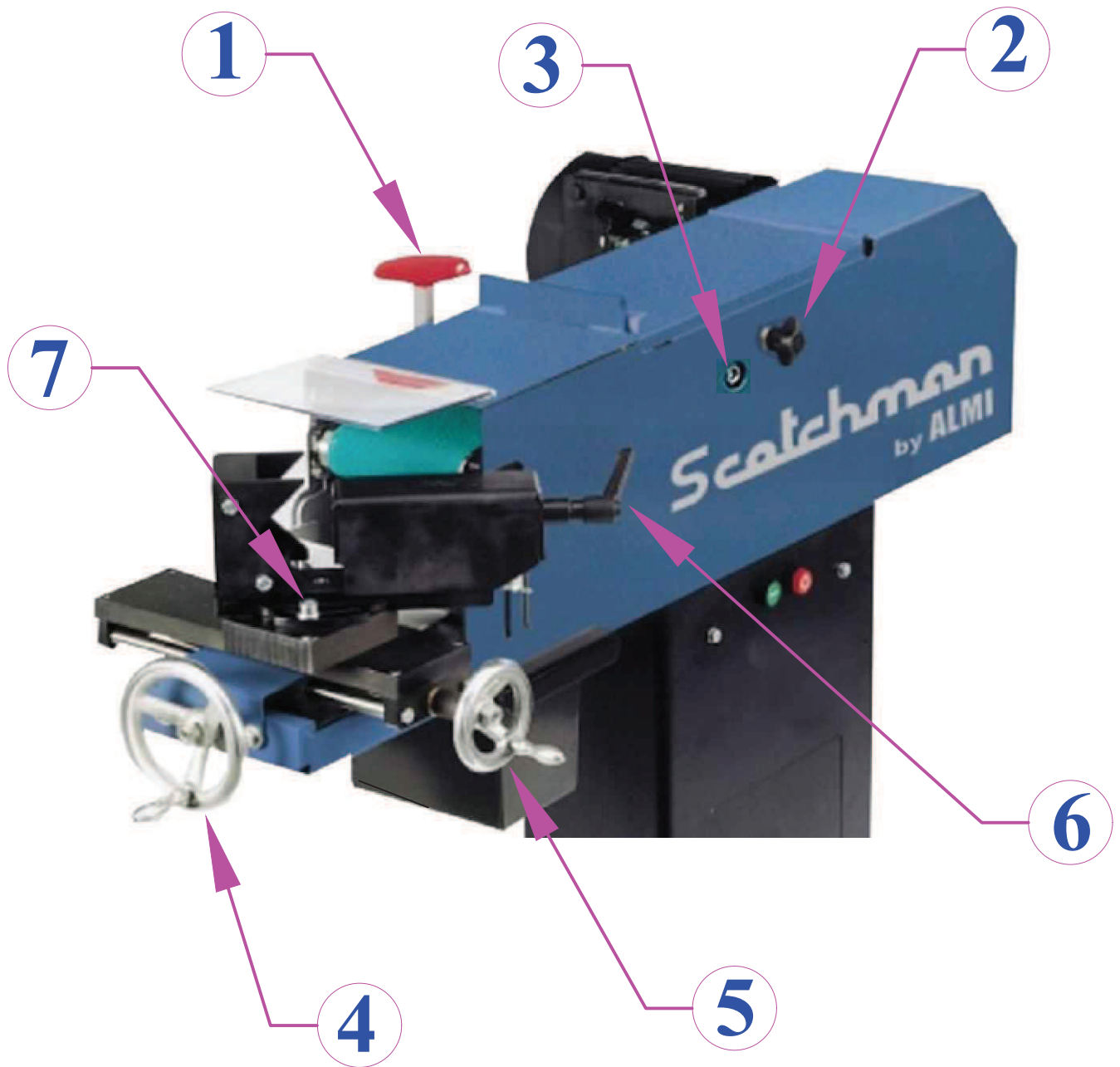


FIGURE 7

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 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 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 8 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.

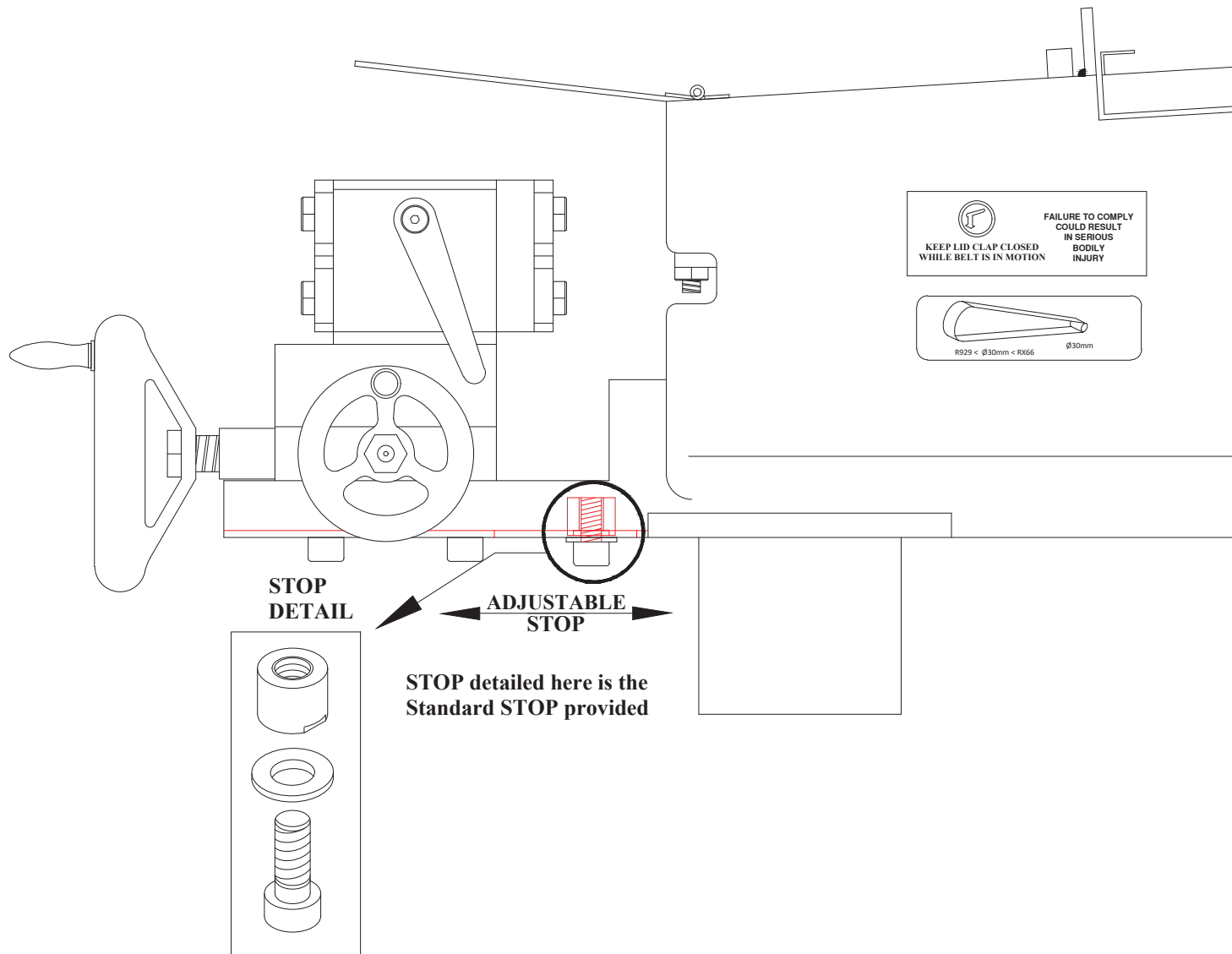


FIGURE 8

6.6 LENGTH STOP

On the flat side (left side) of the tubing clamp there are (2) M8 threaded bolt holes.

See FIGURE 9 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 and must be fabricated by the user.

**NOTE: SCOTCHMAN INDS. HAS A OPTIONAL BACK GAUGE AVAILABLE FOR THIS MACHINE
SEE PAGE 48 - P/N 04.00931**

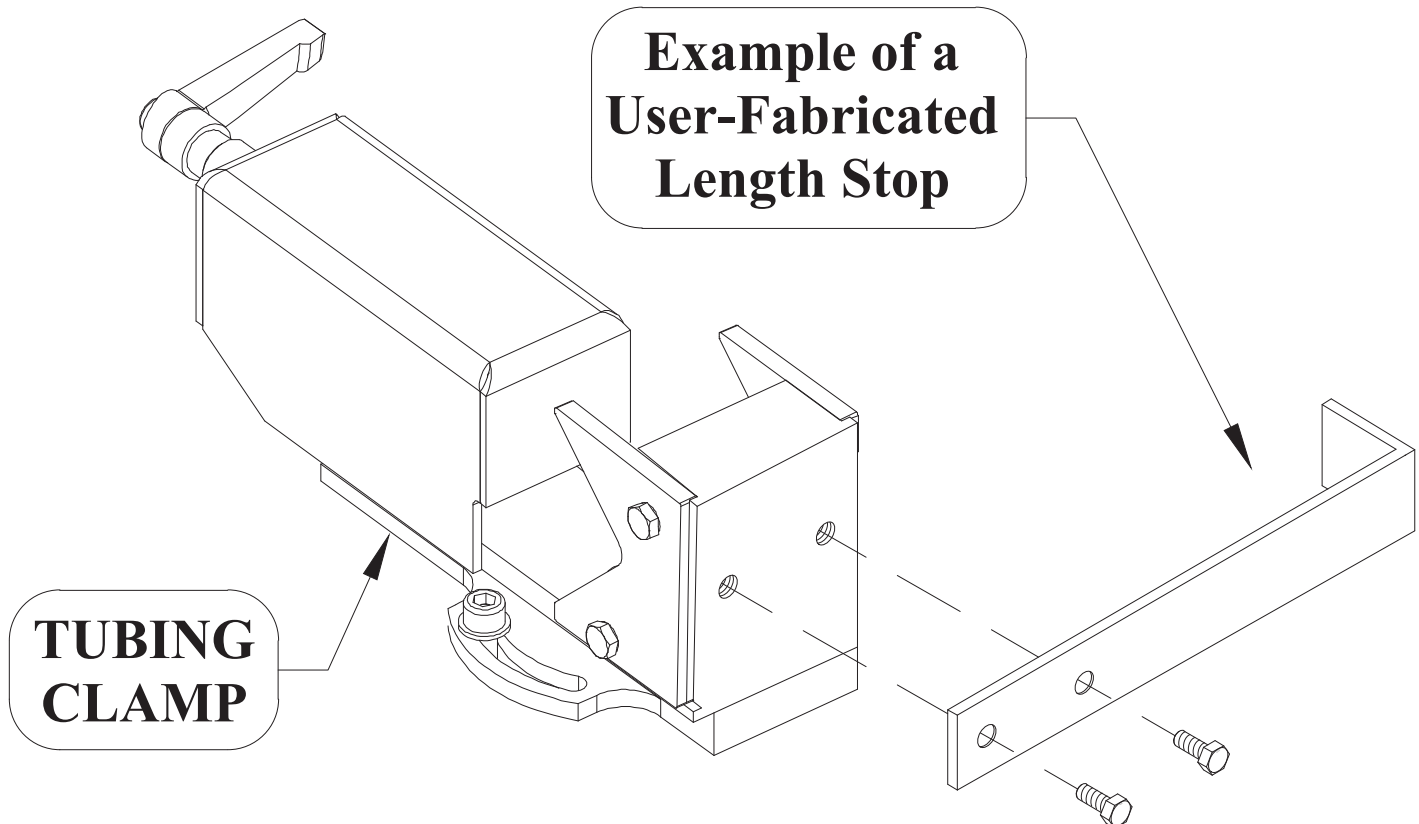


FIGURE 9

6.7 NOTCHING THE TUBING

MODEL AL150

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 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 on the roller. Otherwise, the tube would contact the roller itself. SEE FIGURE 16 - PAGE 30

There is a Feed Lever (shown in SECT. 4.2, FIGURE 3) provided that can be used instead of this (4) Hand Wheel. This hand wheel and it's spindle must be removed to use this 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 10 on the next page.

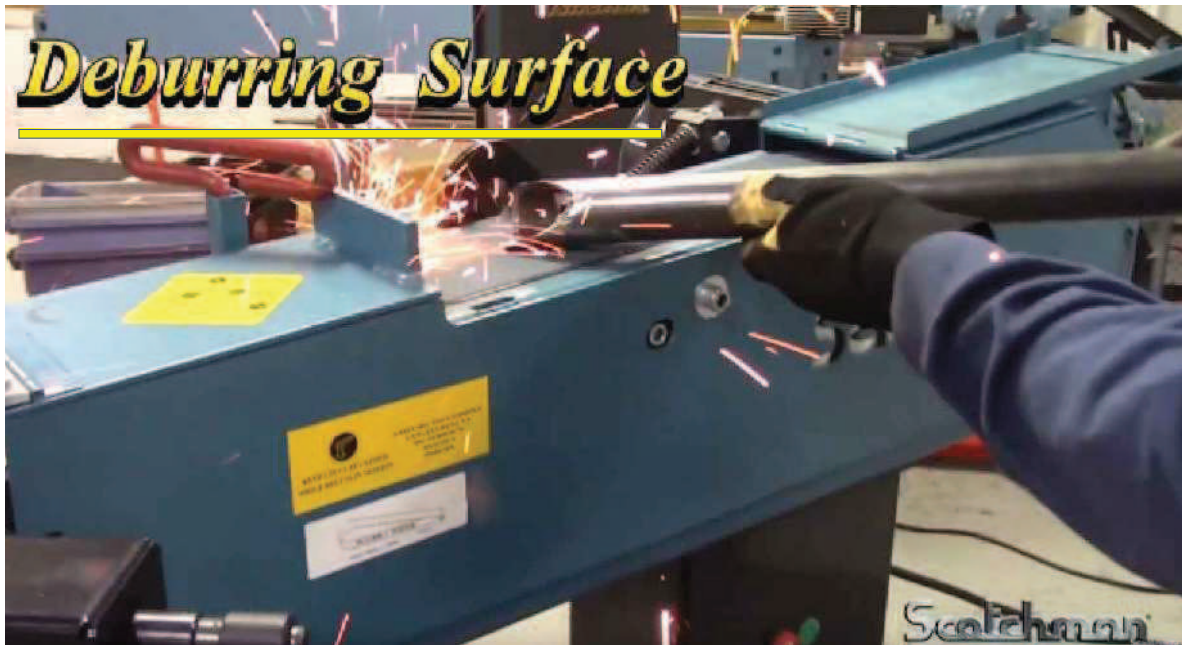
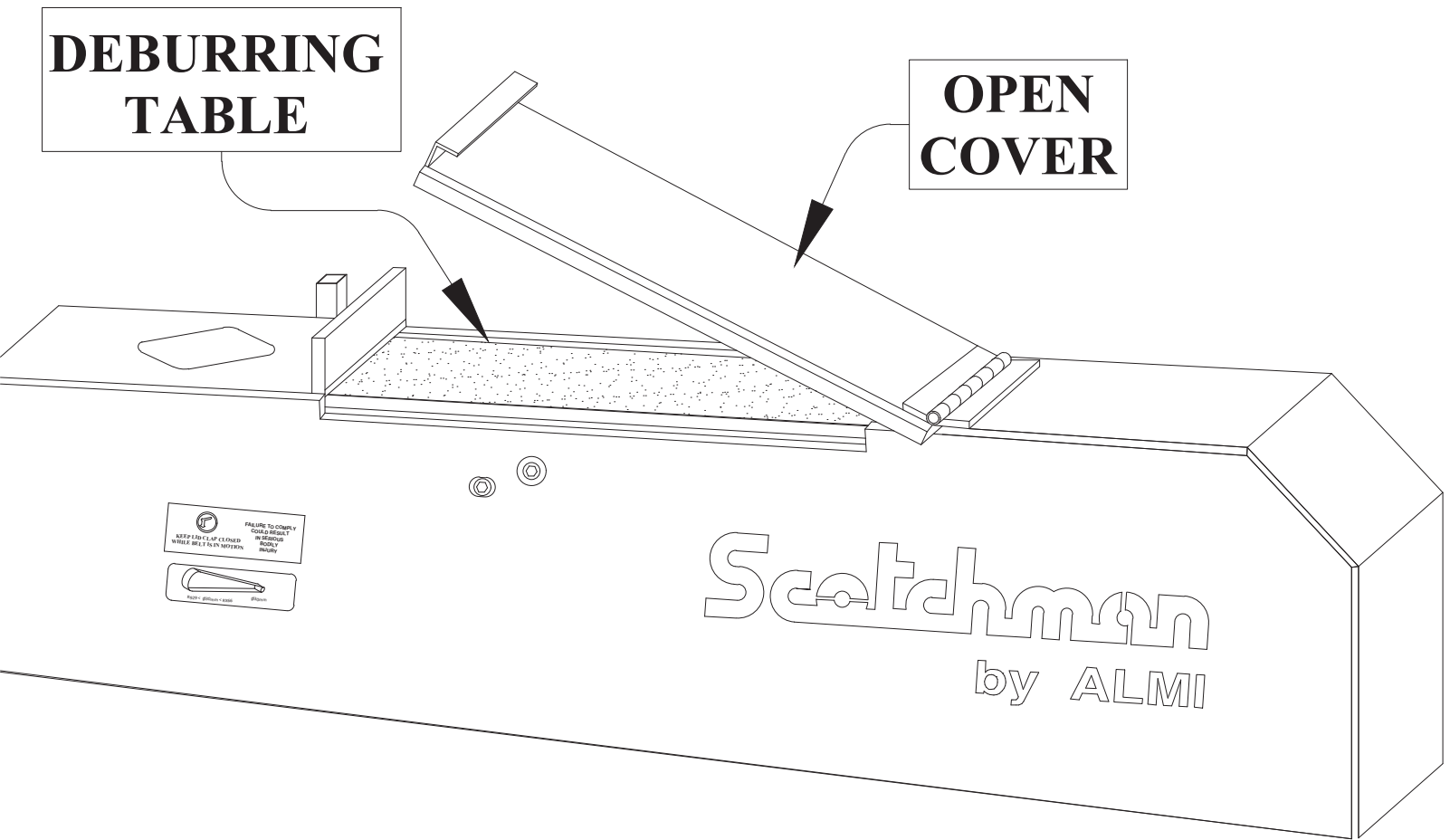


FIGURE 10

7.0 NOTCHING CAPACITIES

SEE FIGURE 11

The capacity of the AL150 machine is 1/2" to 4-1/2" O.D. (12.7mm to 114mm).
Machine is supplied with (2) belts and (2) pipe mandrels (1-1/4" & 1-1/2").
There are 17 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 20°



GRINDING ROLLER

ROLLERS WITH BEARINGS



BELTS SOLD IN BOXES OF 10

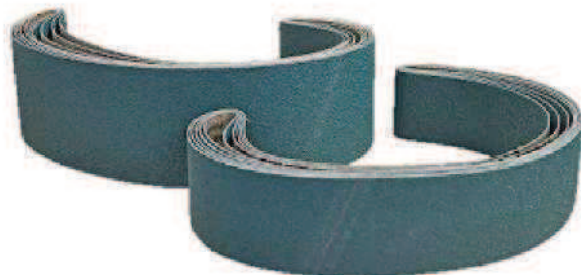


FIGURE 11

7.1 ANGLED NOTCHING CAPACITY

SEE FIGURE 12

Below shows the capacities for the AL150 Grinder/Notcher when grinding tubes at an angle. The tube size must be reduced as the angle is increased.

ANGLE RANGE: STRAIGHT=90° TO 20°

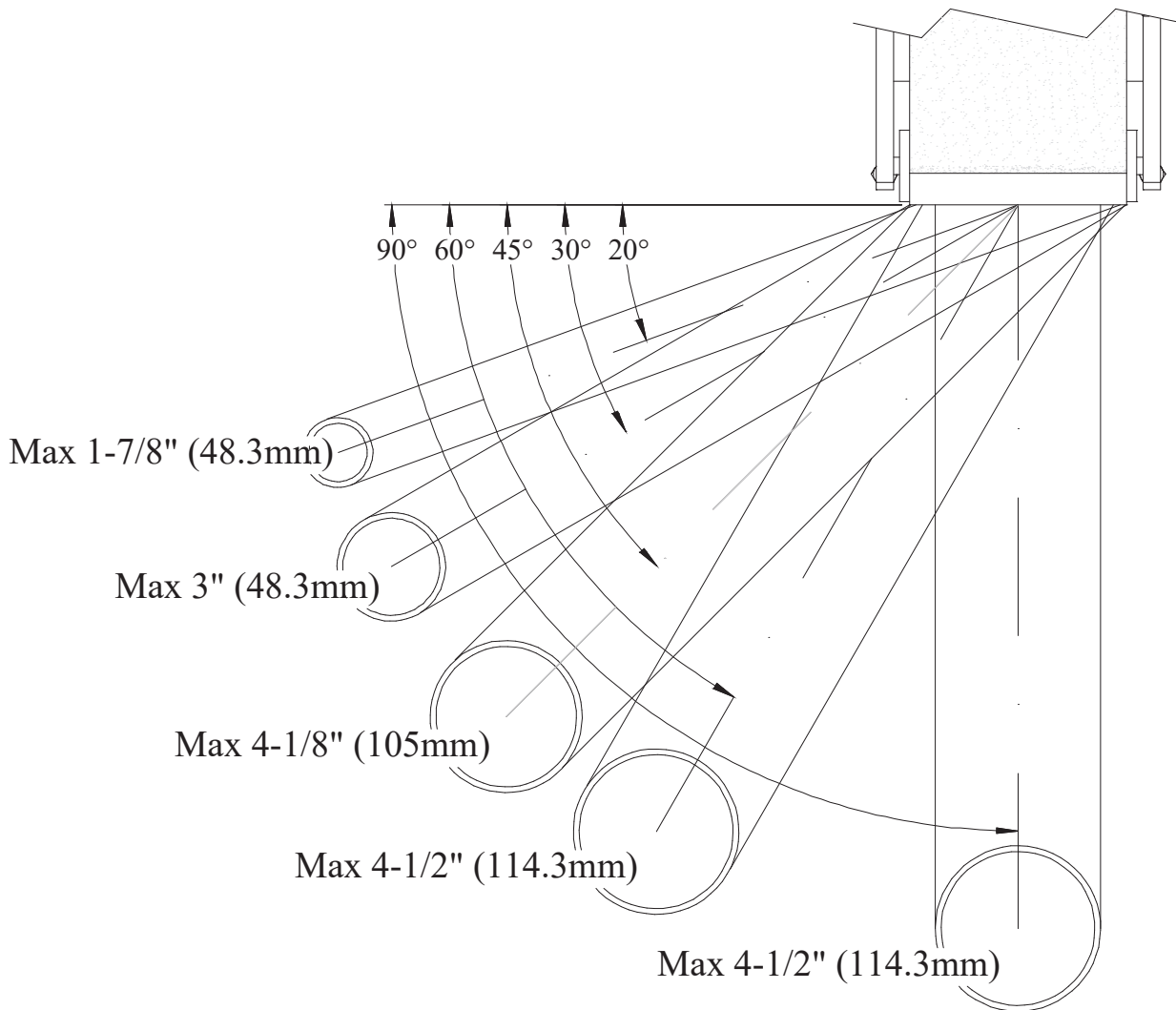


FIGURE 12

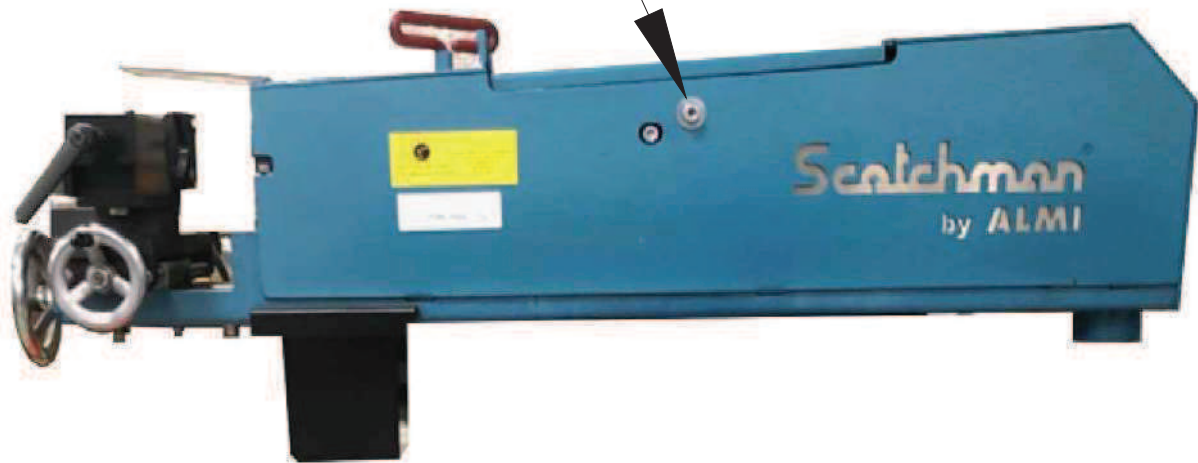
8.0 CHANGING ROLLERS AND BELT

SEE FIGURE 13

 **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.

SIDE-COVER RELEASE



BOTH COVERS OPENED

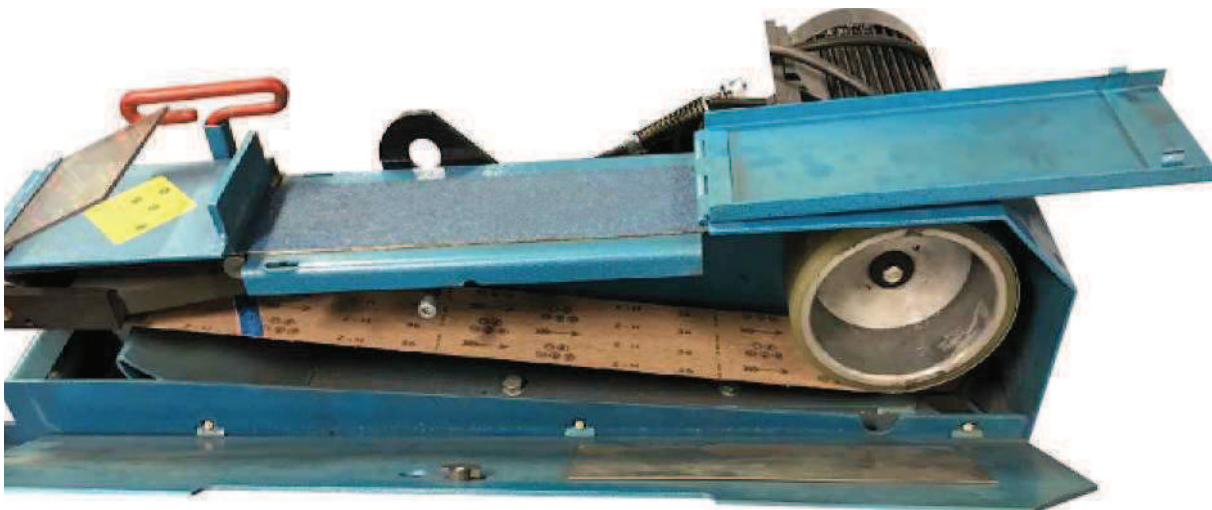


FIGURE 13

8.1 BELT TENSION

SEE FIGURE 14

After the power has been disconnected and the covers are opened, grinding belt tension is adjusted by using the hand wheel 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 if it's reinstalled it turns in the same direction.

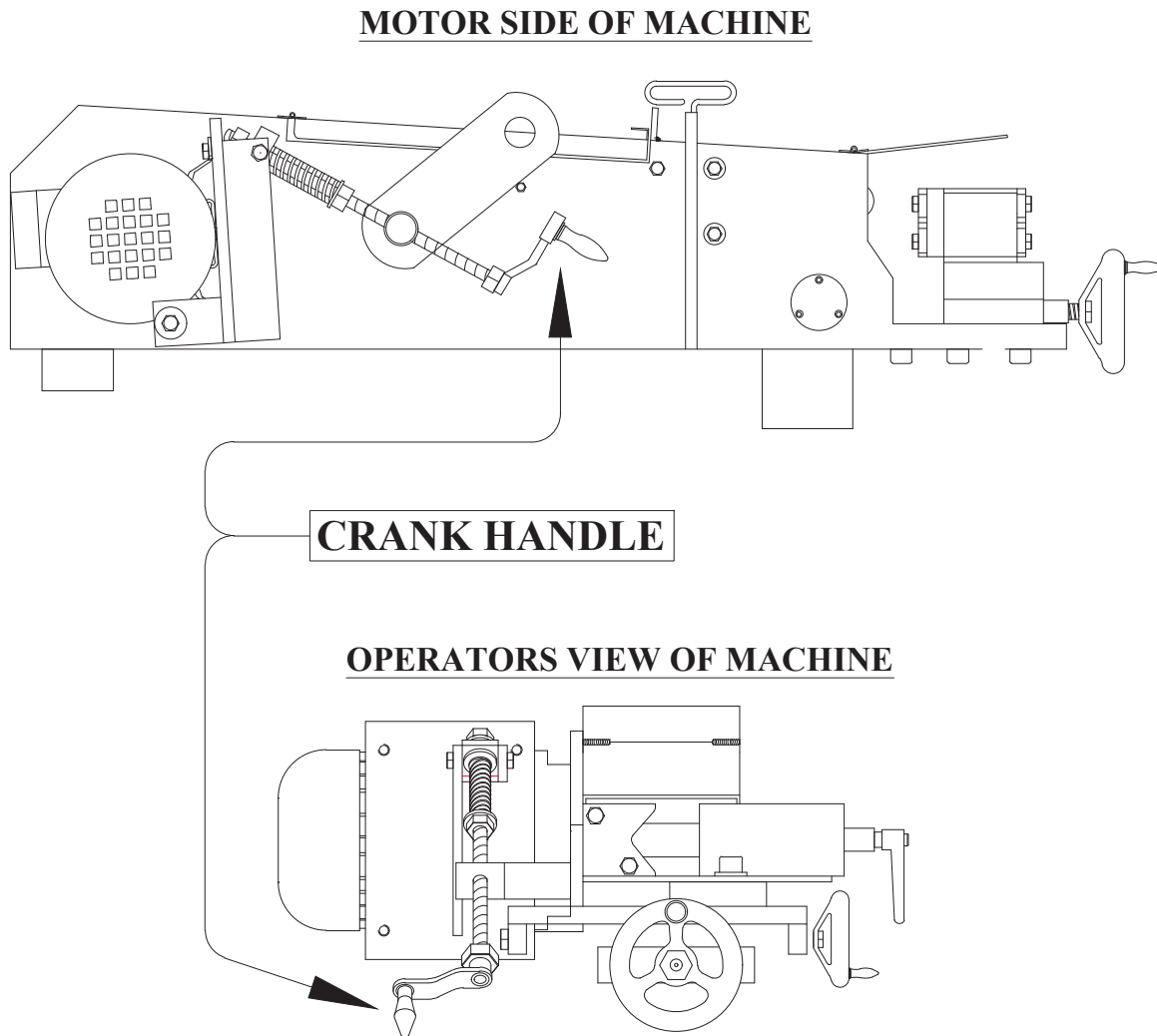


FIGURE 14

8.2 NOTCHER ROLLER SUPPORT

SEE FIGURE 15 BELOW

Before the grinding belt can be removed, the roller support on the notcher end of the machine must be loosened and one end of it disconnected. It is held in place by wing-nut type fasteners.

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 it can be reinstalled in the same way.

NOTCHER ROLLER SUPPORT

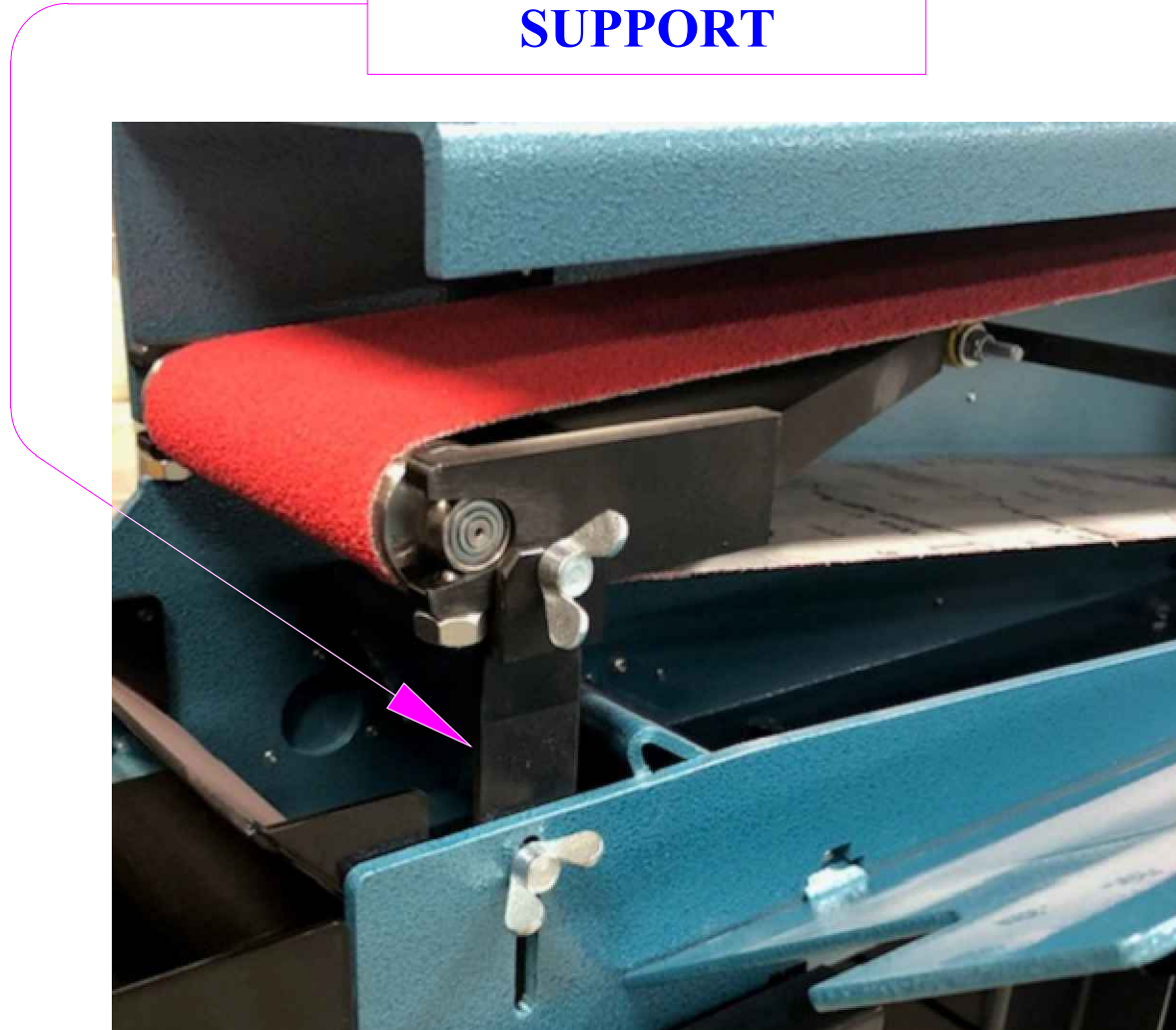


FIGURE 15

8.3 CHANGING THE ROLLER

SEE FIGURE 16 BELOW

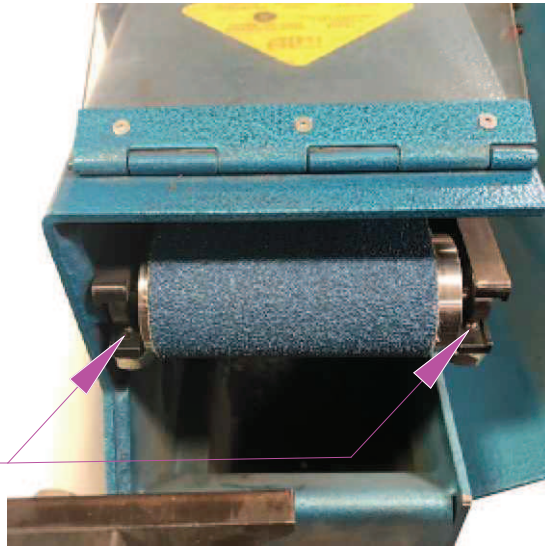
After the grinding belt is removed, the roller can be changed.



**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.

(2) RETAINERS



(2) BEARINGS



FIGURE 16

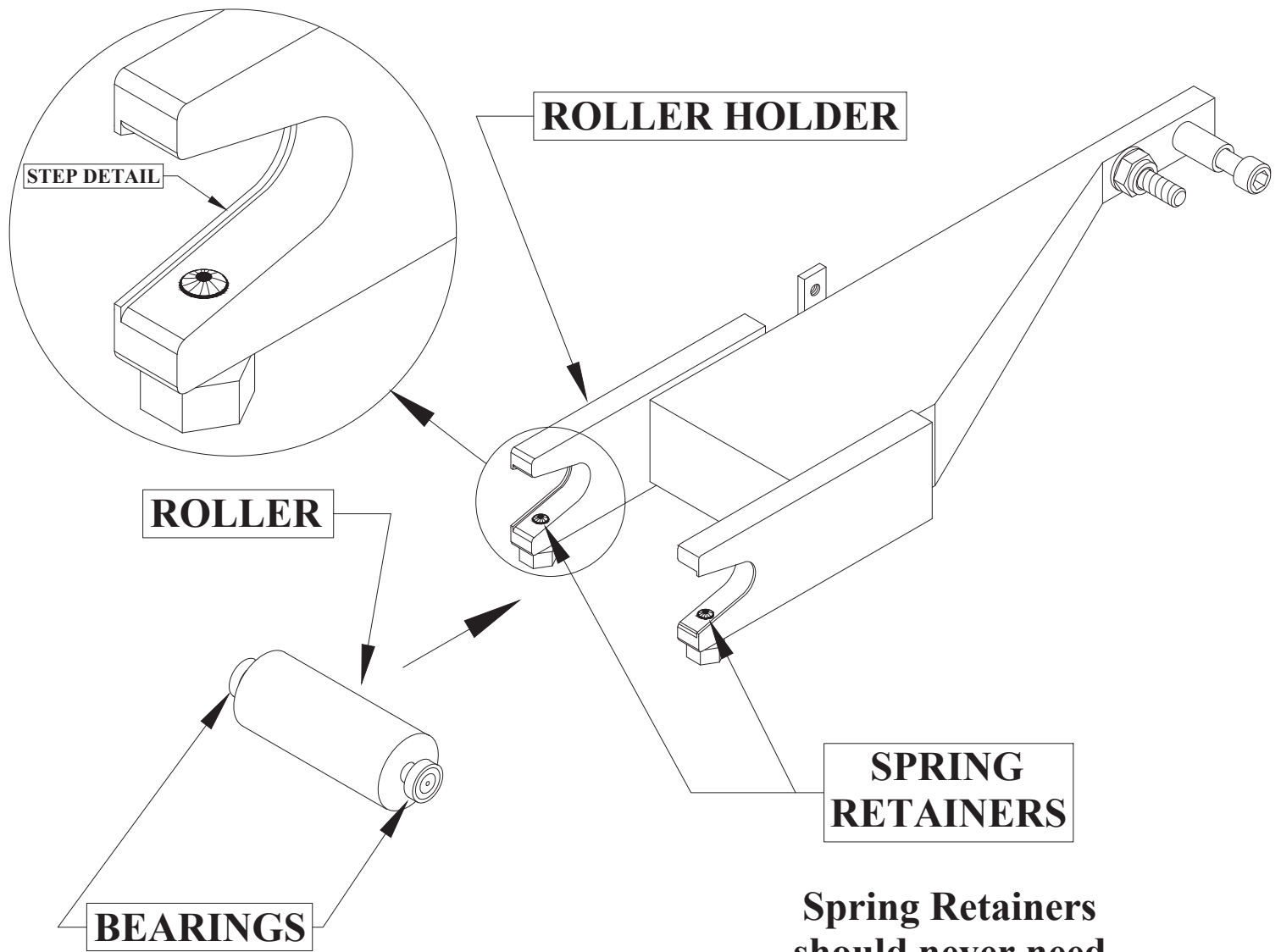
SEE FIGURE 17

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

8.4 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.

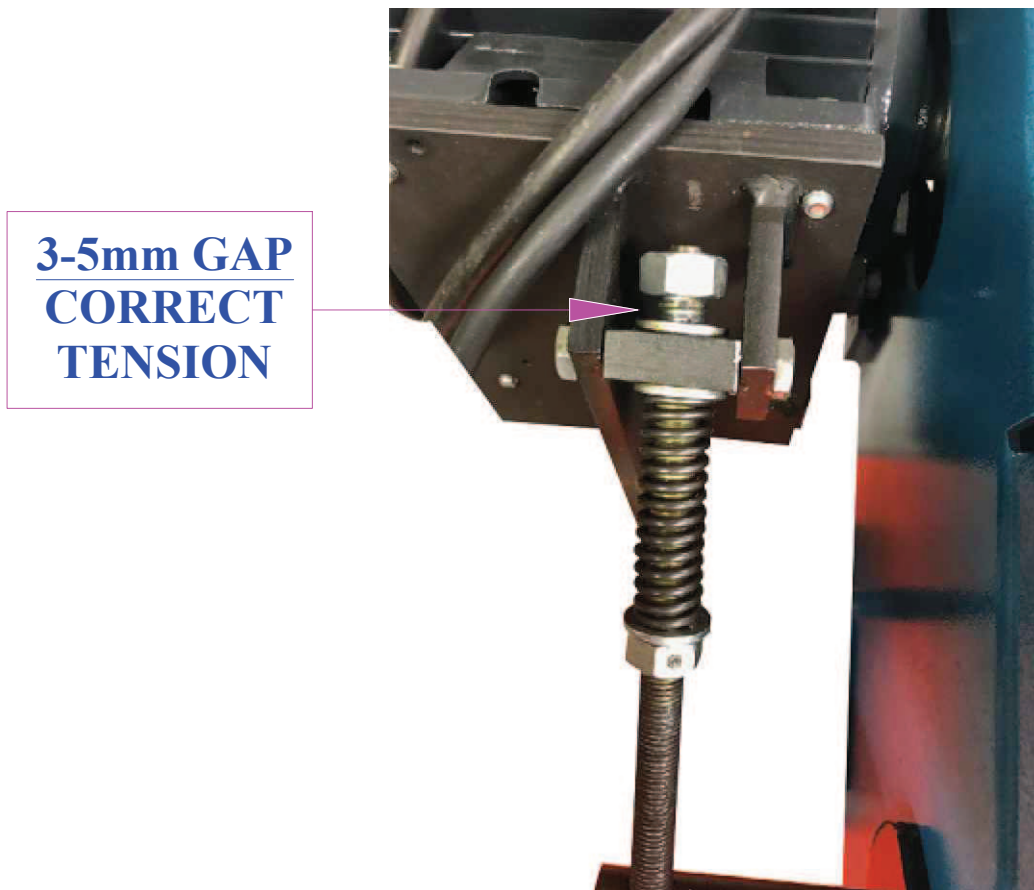


FIGURE 18

8.5 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

8.6 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.

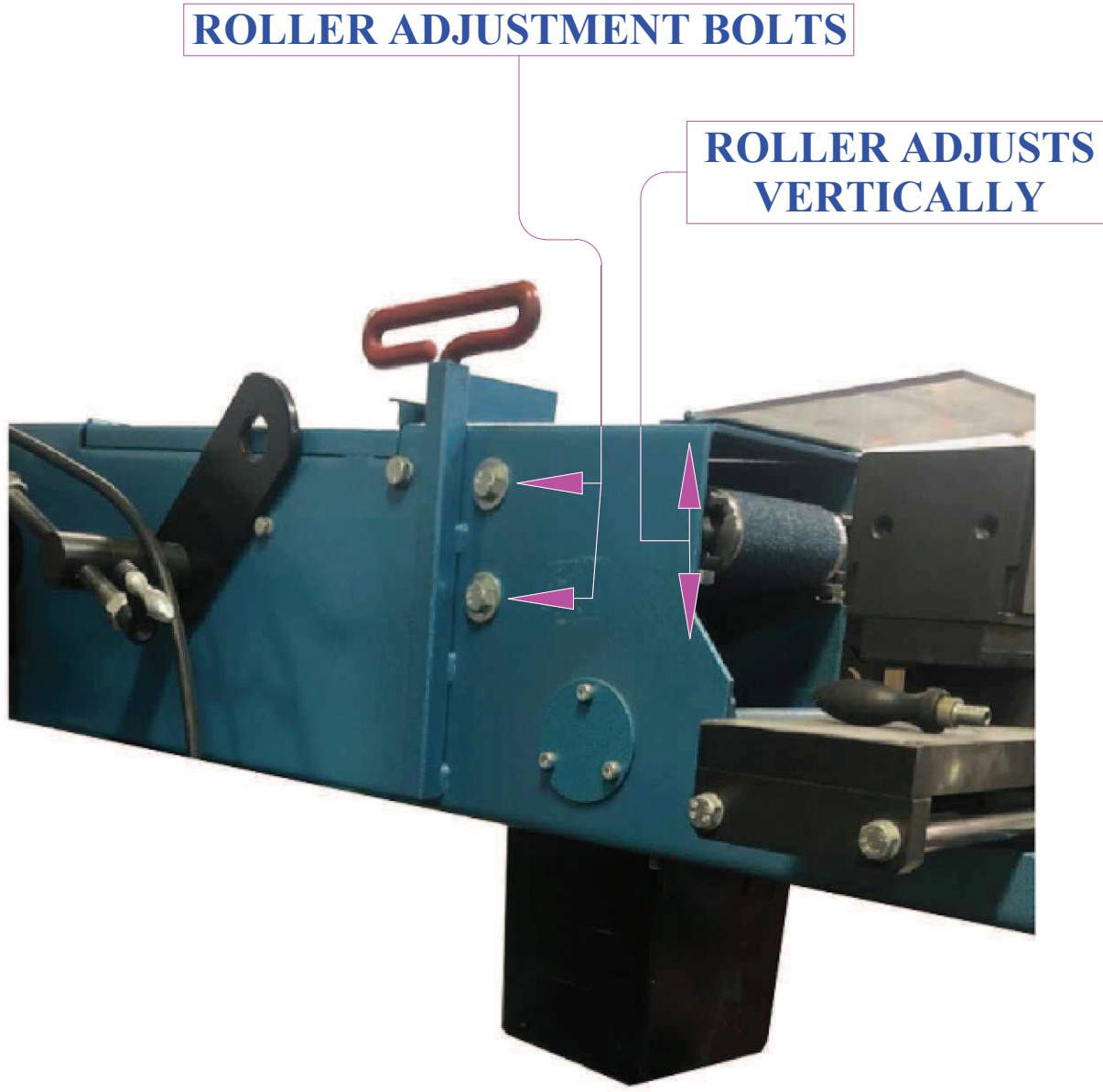


FIGURE 20

9.0 AVAILABLE OPTIONS

This section will show some optional equipment that is available for the AL150 grinder.

9.1 ROLLER SUPPORT KIT

SEE FIGURE 21

Below is an image of P/N 04.00316 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 (table shown in FIGURE 10) on top of the machine. The reason for the Roller Support Kit is that the smaller grinding roller diameters allows the belt to rub the Support Axis more. The roller reduces heat and wear with the smaller diameters.

To install this kit (4) countersunk holes are on the top of the machine underneath the grinding belt. Please see the next pages for a detailed explanation.



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.

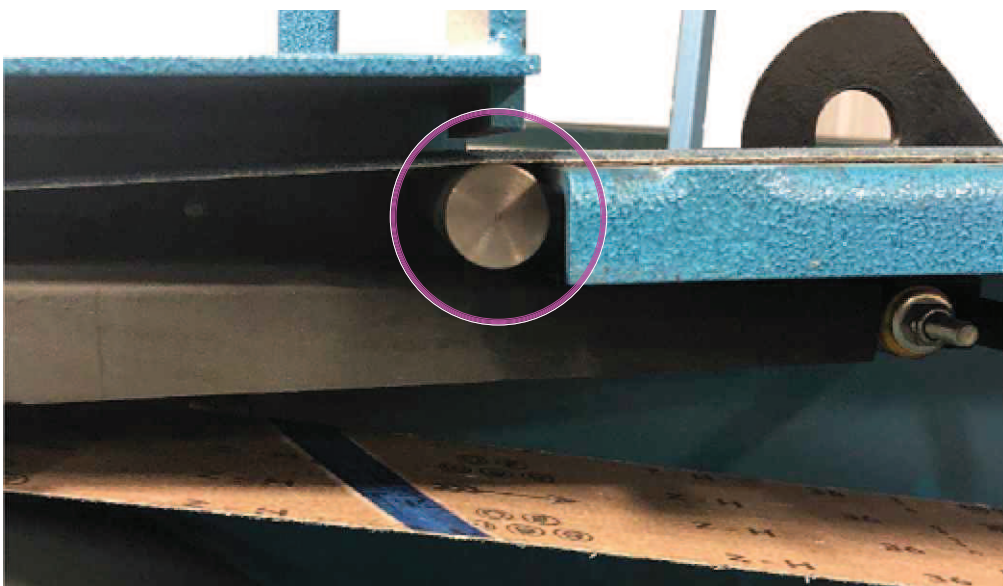
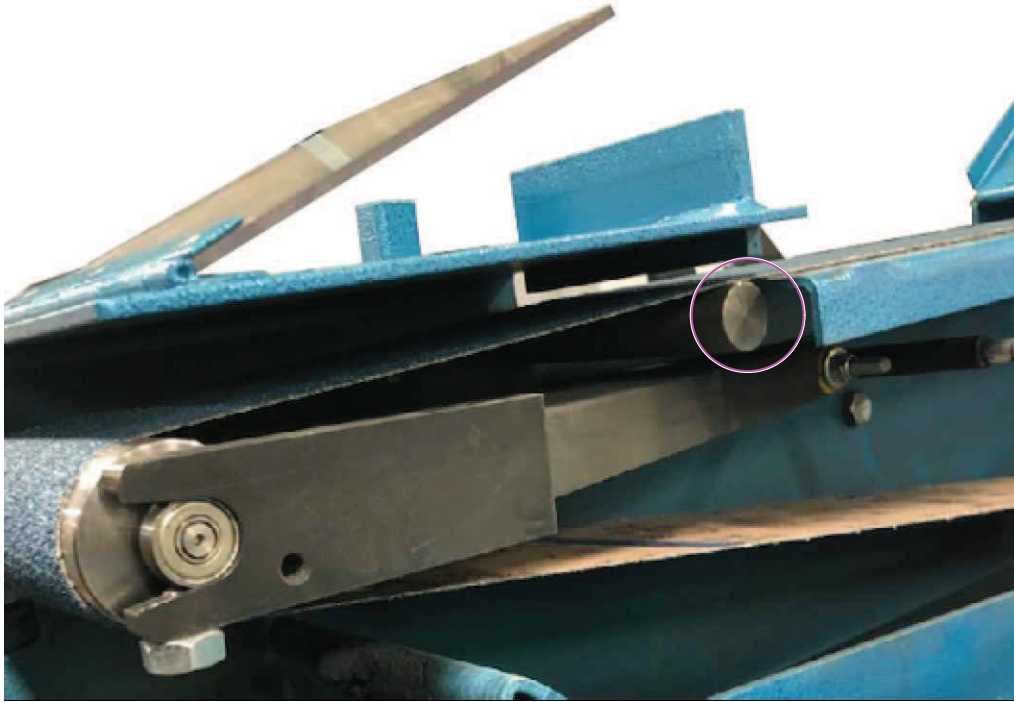


FIGURE 22

9.3 ROLLER SUPPORT KIT INSTALLATION

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

SEE FIGURE 23

Follow the instructions below and reinstall the grinding belt.

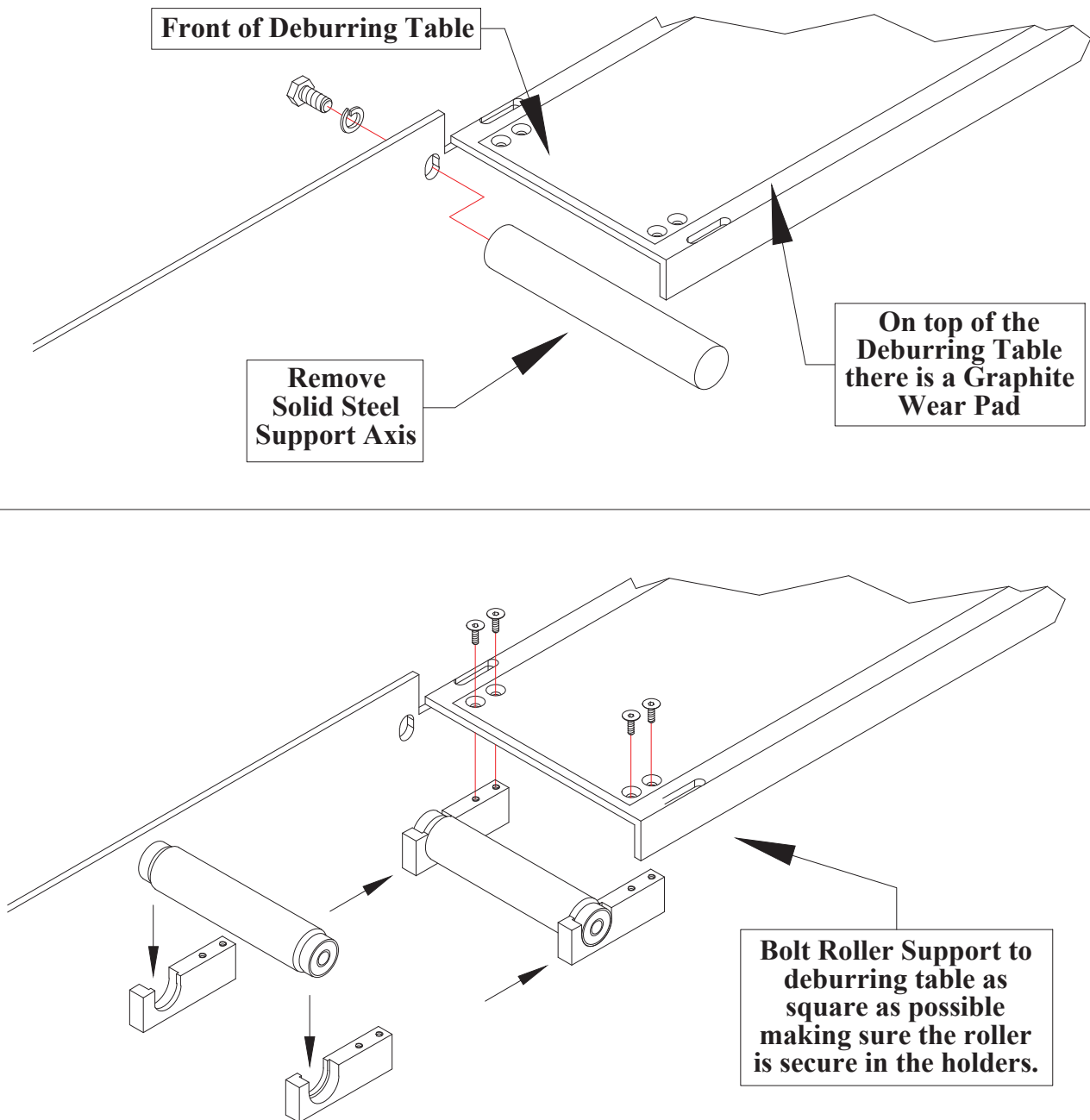


FIGURE 23

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 04.00303 - Roller Holder available for the AL150 Grinder Notcher. This is a sheet metal part that attaches to the front of the machine. There are (2) slots in the front on the column of the AL150 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 24 below & FIGURE 25 on the next page.

TAB - SLOT ATTACHMENT DETAIL

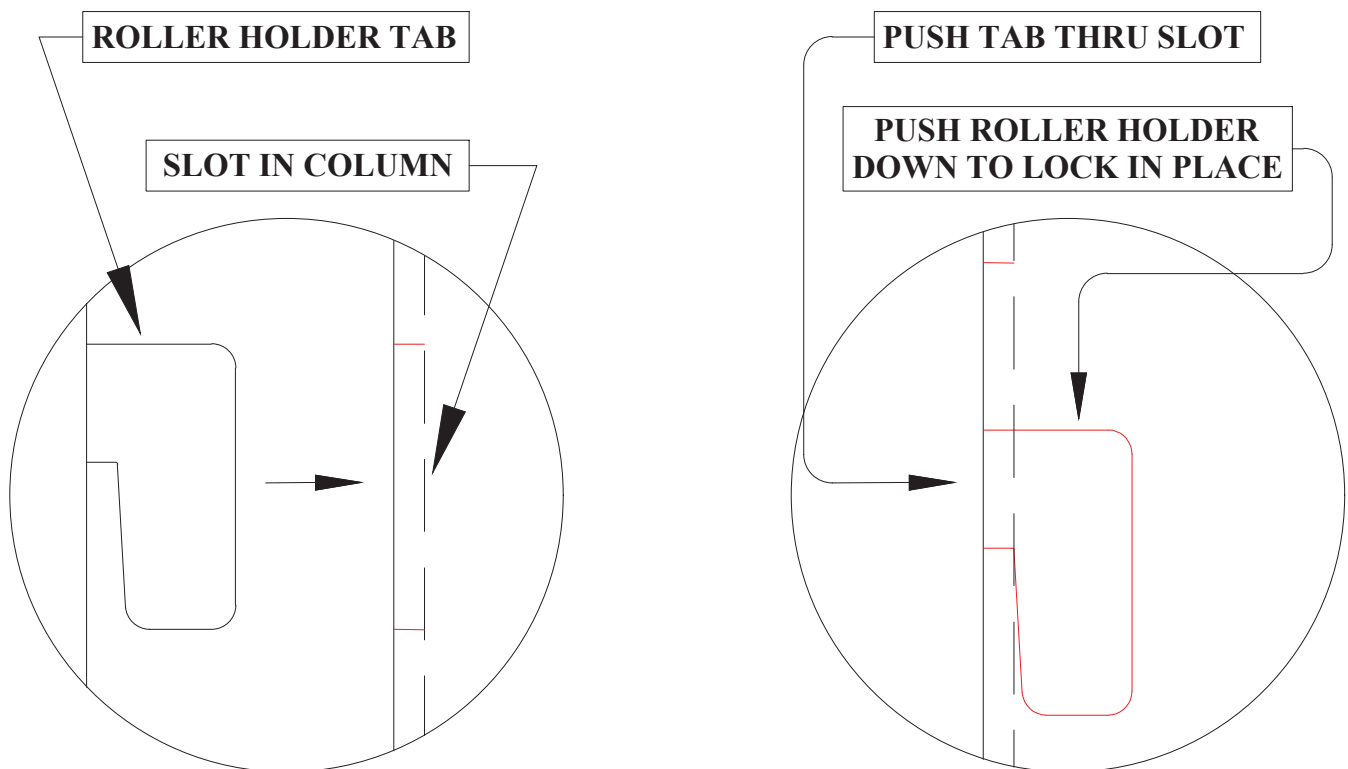


FIGURE 24

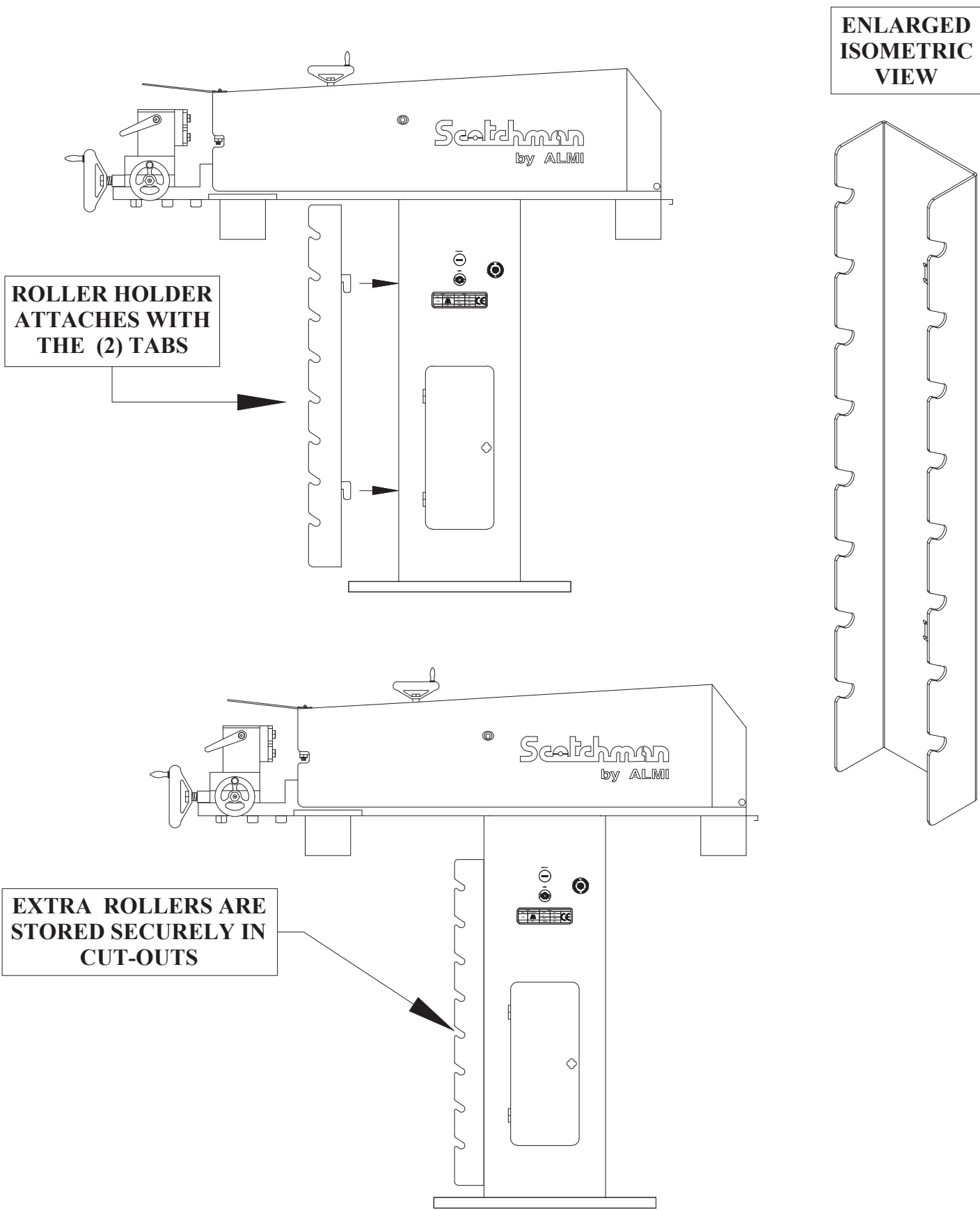


FIGURE 25

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>
1/2"	A043.21.3
3/4"	A043.26.9
1"	A043.33.7
1-1/4	A043.42.4
1-1/2"	A043.48.3
2"	A043.60.3
2-1/2"	A043.73.1
3"	A043.88.9
3-1/2"	A043.101.6
4"	A043.114.3

<u>TUBE</u>	<u>PART NUMBER</u>
1.00"	A043.26
1.25"	A043.32
1.50"	A043.38
1.75"	A043.44
2.00"	A043.50
2.50"	A043.65.3
3.00"	A043.76.1
3.50"	A043.88.9

11.0 AVAILABLE GRINDING BELTS

<u>Item</u>	<u>Length / Grit</u>	<u>Part number</u>	<u>Packaging</u>
Standard Belts	6" x 78-3/4" / 36	A044.00002	1 box (10 belts)
Flex Belts	6" x 77-1/2" / 36	A044.00004	1 box (10 belts)

12.0 AL150 PARTS LIST & EXPLODED VIEWS

All parts shown below are for the AL 150.

Item	Qty	DESCRIPTION	Part Number
1	3	Hex socket head M10x20 e.g. 8.8	07160.M10x20
2	5	Plain washer M10 e.g.	38130.M10
3	1	Clamp (asm)	04.00152
4	1	Baseplate clamp (asm)	04.00240
5	1	Cover plate	04.00211
6	1	Block	04.00157
7	1	Stern nut	04.00159
8	1	Spindle	04.00163
9	1	Plain bearing	04.00003
10	2	Ring	04.00004
11	2	Hex nut M12 e.g. 8	01300.M12
12	1	Handwheel DIN950-AL-140-M12-D	M010.00003
13	1	Spindle	04.00164
14	1	Plain bearing	04.00170
15	1	Block	04.00158
16	1	Spacer	04.00178
17	1	Cover plate	04.00176
18	1	Handwheel DIN950-AL-100-M12-D	M010.00001
19	3	Hex stud bolt M8x40 e.g. 8.8	01210.M8x40
20	9	Plain washer M8 e.g. h.d.	38430.M8
21	2	Shim 0,3mm 8x14	38583.8x14
22	2	Guide shaft	04.00155
23	7	Hex stud bolt M8x20 e.g. 8.8	01210.M8x20
24	1	Cross support (asm)	04.00238
25	2	Guide shaft	04.00156
26	5	Hex stud bolt M8x25 e.g. 8.8	01210.M8x25
27	1	Pivot lever	04.00175
28	1	Bush	04.00172
29	1	Lever (asm)	04.00241
30	1	Guide bush DIN179A-8x10	G140.00001
31	1	Guide bush DIN179A-8x16	G140.00002
32	2	Plain washer M8 e.g. d2=3xd1	38210.M8

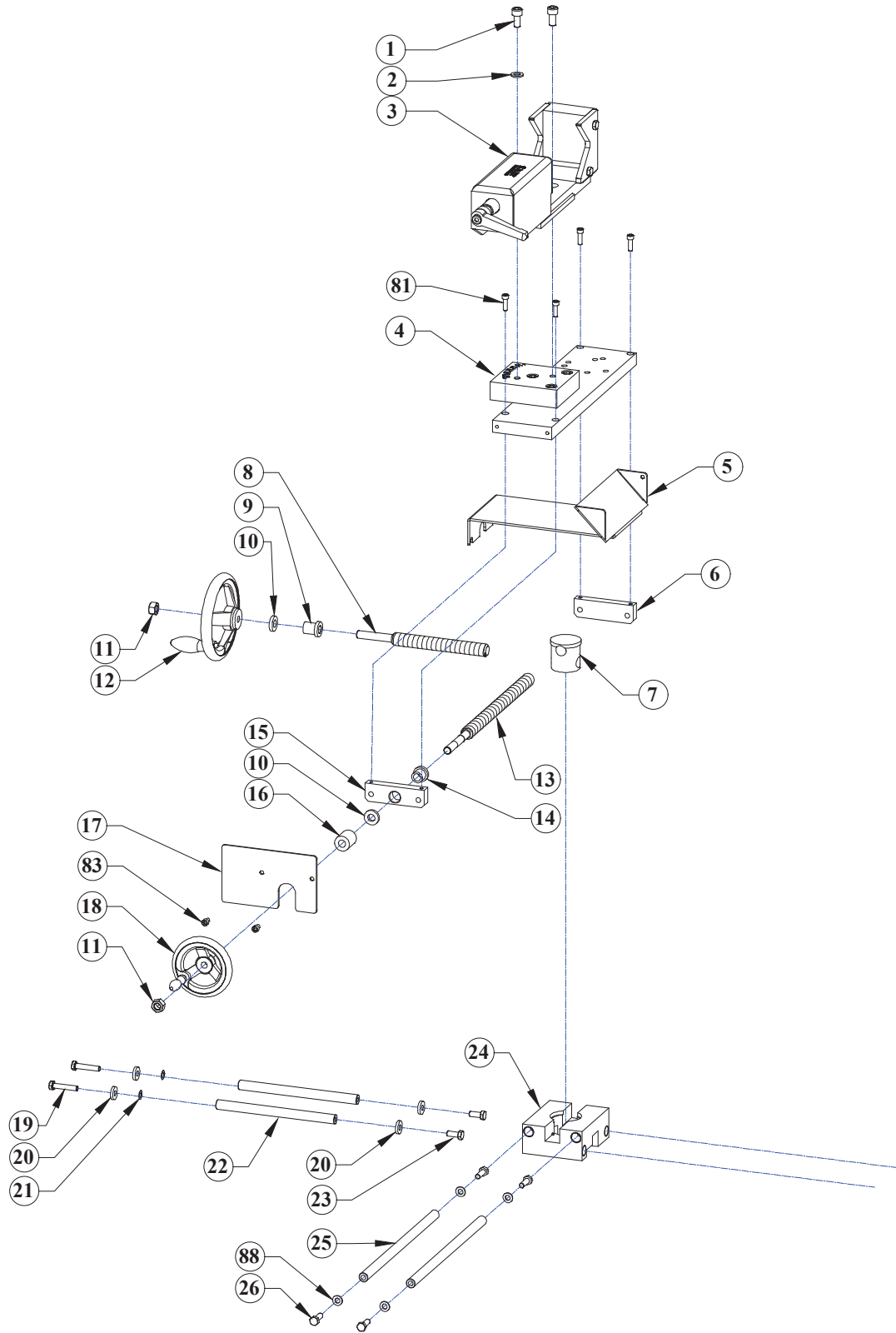
All parts shown below are for the AL 150.

Item	Qty	DESCRIPTION	Part Number
33	6	Hex stud bolt M10x30 e.g. 8.8	01210.M10x30
34	5	Plain washer M10 e.g. d2=3xd1	38210.M10
35	1	Bearing holder (asm)	04.00242
36	3	Hex nut M3 e.g.8	01300.M3
37	3	Plain washer M3 e.g.	38130.M3
38	3	Hex socket head M3x10 e.g. 8.8	07470.M3x10
39	1	Safety screen	04.00206
40	1	Anti-vibration strip	04.00186
41	1	Stop	04.00171
42	1	Hex stud bolt M8x100 e.g. 8.8	01210.M8x100
43	1	Hex nut M8 e.g. 8	01300.M8
44	1	Bush	04.00185
45	1	Die spring 25/12,5x38	M090.00002
46	1	Hex locknut M8 e.g. 8	12300.M8
47	1	Cover plate	04.00257
48	1	Graphite belt 150mm	04.00214
49	1	Hinge shaft (sam)	04.00309
50	1	Lifting plate	04.00210
51	1	Spindle (asm)	04.00307
52	1	Plain washer M12 e.g. d2=3xd1	38210.M12
53	1	Hex stud bolt M12x30 e.g. 8.8	01210.M12x30
54	2	Hex socket head M5x6 45H	07840.M5x6
55	2	Nut	04.00064
56	1	Tilt block	04.00048
57	1	Spring d=4 DM=21,5 LO=80	M090.00007
58	3	Hex stud bolt M10x20 e.g. 8.8	01210.M10x20
59	1	Support axis	04.00209
60	1	Bin	04.00202
61	1	Door lock	04.00187
62	1	Lobe knob 13345	M040.00003
63	1	Door lock	04.00045
64	1	Hex socket head M10x16 e.g. 8.8	07160.M10x16

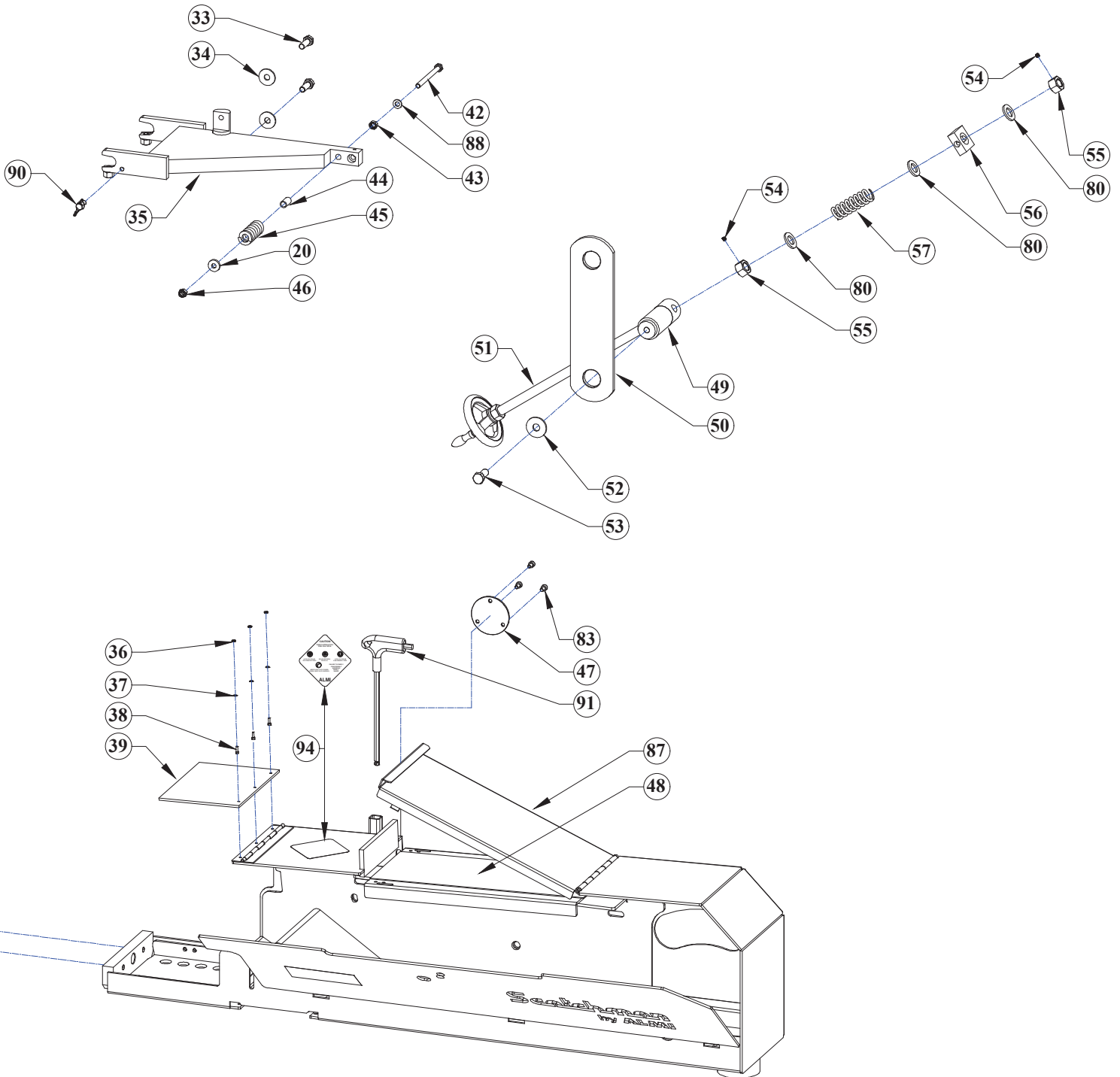
All parts shown below are for the AL 150.

Item	Qty	DESCRIPTION	Part Number
65	1	Door (asm)	04.00545
66	2	Hex stud bolt M12x35 e.g. 8.8	01210.M12x35
67	2	Plain washer M12 e.g.	38130.M12
68	1	Plate (asm)	04.00314
69	1	Column (asm)	04.002221
70	4	Hex button head M6x16 e.g. 10.8	07141.M6x16
71	1	Motor seat (asm)	04.00188
72	1	Washer	04.00264
73	1	Hinge shaft (sam)	04.00188
74	1	Hex socket head M16x40 e.g. 8.8	07160.M16x40
75	1	Pulley	04.00193
76	1	Washer	04.00049
77	1	Hex stud bolt M10x40 e.g. 8.8	01210.M10x40
78	1	Flat washer M10 e.g. o.t.	37420.M10
79	1	Grinding belt R929 150x2000 P36	A044.00004
80	3	Plain washer. M16 e.g.	38130.M16
81	4	Hex socket head M6x20 e.g. 8.8	07160.M6x20
82	1	Hex nut M10 e.g. 8	01300.M10
83	5	Hex socket head M6x10 e.g. 8.8	07160.M6x10
84	1	Switch (asm)	04.00319
85	1	Motor 230/460V 3Ph 60HZ 4kW	E030.00004
85A	1	Motor 230V-60Hz 1 Phase 4kW	E030.00006
86	1	Base (asm)	04.000732
87	1	Cover Scotchman (asm)	04.00548
88	5	Plain Washer M8 e.g.	38130.M8
89	2	Hex Stud Bolt M6x16 e.g. 8.8	01210.M6x16
90	2	Wing Screw M8x16 e.g. DIN 316	16210.M8x16
91	1	Allen Wrench T-Grip 8x100	M130.00003
92	1	Grinding belt RX66 150x2000 P36	A044.00002
93	1	Hex Stud Bolt M10x20 e.g. 8.8	01210.M10x20
94	1	Sticker Caution USA	A050.00018
95	1	Sticker Yellow Lid Cover	A050.00028

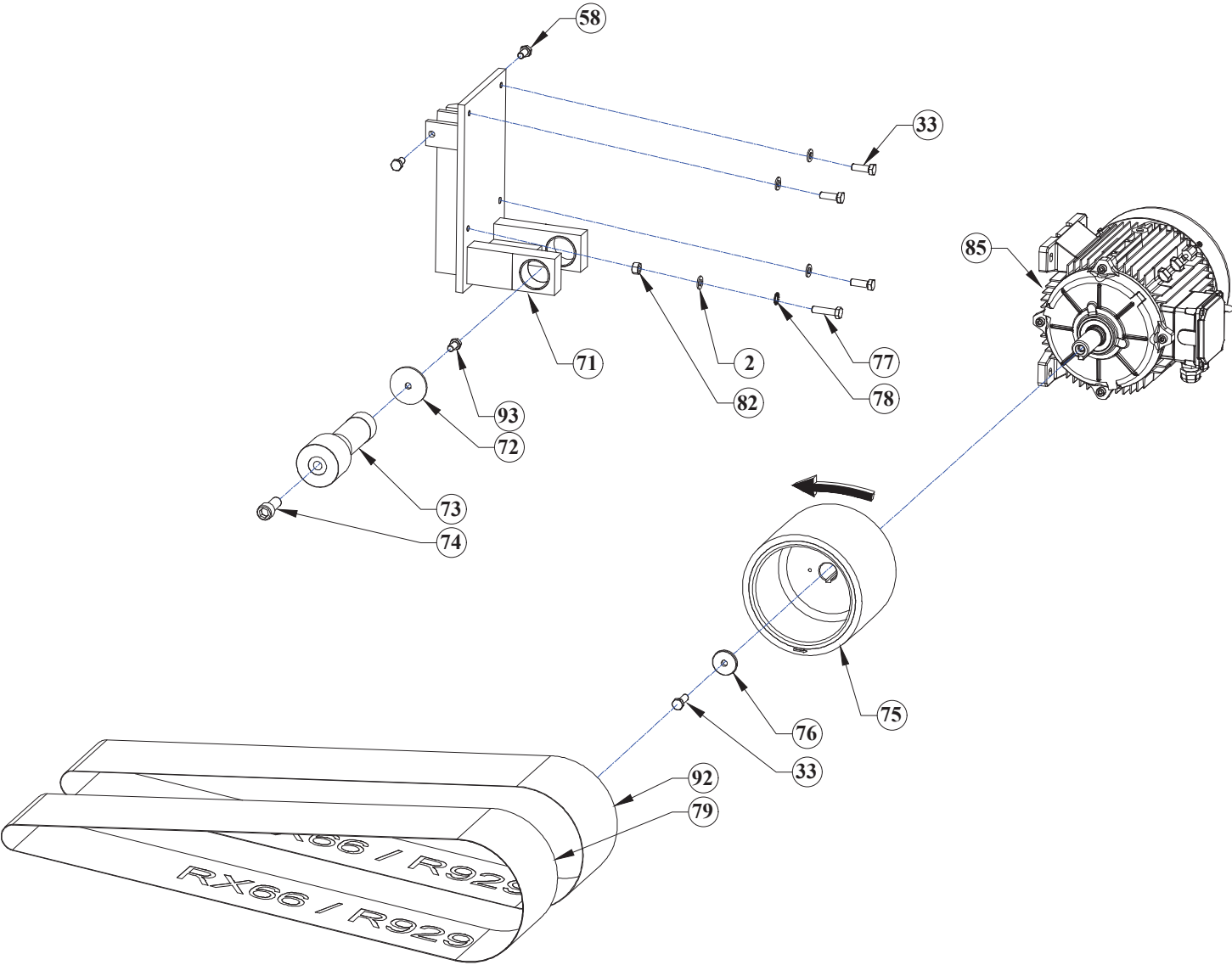
AL150 MOVEABLE CLAMP PARTS



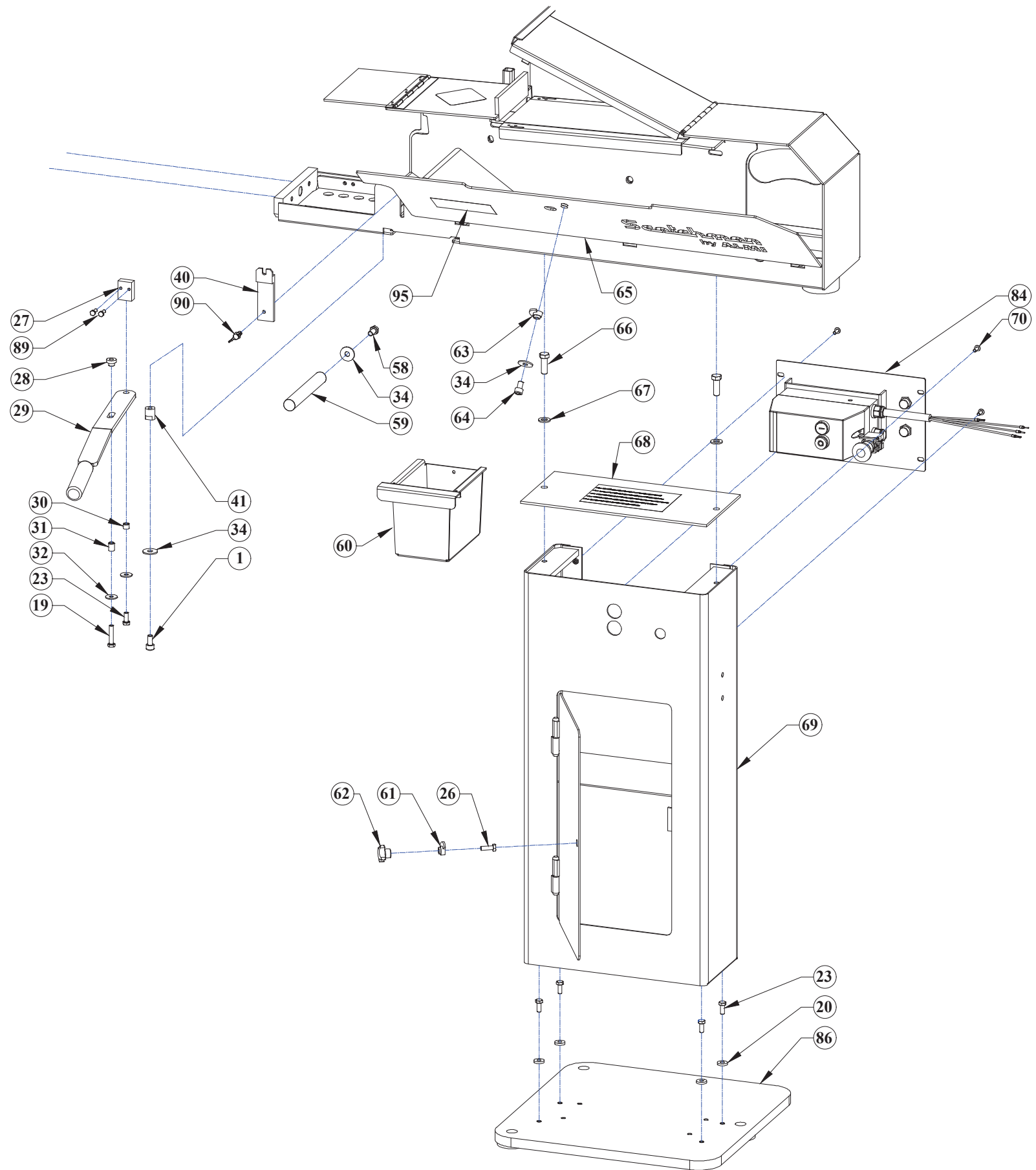
AL150 BELT ROLLER, TENSIONING & GUARD ASSEMBLIES



AL150 MOTOR, PULLEY, BELT AND PIVOT ASSEMBLY



AL150 GRINDER, PILLAR AND BASE ASSEMBLY



OPTIONAL BACK GAUGE

Scotchmans 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.

