AZIMUTH

CLINCHING PRESS SERIES

Punch presses manufacturer since 1975

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Warning

This instruction manual is issued for Azimuth's Clinching press servo series. If you have any others types of press, please call Azimuth Machinery technical support for more information.

Do not operate this machine until you read and understand the following safety precautions. Not complying with these precautions may result in death or serious injuries.

- ⚠ **Never operate this machine until you've read & understood that this machine is dangerous. Placing your hands or any part of your body in this machine could result in the loss of finger, limbs or even death.**
- ⚠ **Never operate this machine without the use of a guard or safety device that will always protect you from injuries**
- ⚠ **Never work on this machine unless power is off and lock**

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Warranty plan on GEN E clinching presses models

5 Years servo, drive & Gear-head, PLC & electrical components warranty

Azimuth machinery warrants to the original purchaser, to repair or, at AZIMUTH MACHINERY'S sole option, replace any major servo failure, servo drive & gear head & ALL Electrical components (greaser, oiler, motor, main controller, sensors or buttons) after examination by AZIMUTH MACHINERY's properly authorized representative, to be defective in material or workmanship under normal use within five (5) years or, if sooner, ***5,000,000 strokes*** after the original date of shipment from the AZIMUTH MACHINERY plant.

Does not include labor[1] or diagnostic work. The original purchaser will be responsible for travel costs and expenses.

3 Years mechanical parts warranty (Frame, mechanical components)

Azimuth machinery warrants to the original purchaser, to repair or, at AZIMUTH MACHINERY'S sole option, replace any parts that are found defective (Ball-screw, pitman(s), crankshaft(s), slide, GIBS, RAM, after examination by AZIMUTH MACHINERY's properly authorized representative, to be defective in material or workmanship under normal use within three years or, if sooner, ***3,000,000 strokes*** after the original date of shipment from the AZIMUTH MACHINERY plant.

Does not include labor[2] or di agnostic work. The original purchaser will be responsible for travel costs and expenses.

∞ Lifetime support over phone & online videos

Azimuth machinery offers lifetime support to all its end-users. This means free support over phone & access to online videos for technical support & maintenance tips on new machine.

[1] 150$/hour + traveling expense.

Clinching press

Figure 1 - Overall components of the H612 GEN E

Start-up

Prior using the machine, make sure the shut height is properly adjusted to your material thickness.

SEE RELATED VIDEO FOR THICKNESS ADJUSTMENT.

https://www.youtube.com/watch?v=4Ud5x6pkO-I&list=PLupJx01Jew-qqf-75vhVl7qWl8I2YBjD7&index=1

This machine is rated for 120VAC/60Hz.

Prior to using the machine with material, try to cycle it 5 times to make sure nothing has been damaged during transport (guarding system, pitman enclosure, etc.).

BEFORE OPERATING THE MACHINE, MAKE SURE TO HOME THE MACHINE. MAKE SURE THE MACHINE IS AT TDC (0 DEGREES) BEFORE HOMING.

Machine Overview and Controls

The clinching press has 3 main modes of operation:

- **Full Stroke**: The press completes a full stroke with each press on the pedal.
- **Pendulum Auto:** The press oscillates repeatedly between 120° and 240° and wait 500ms between each punch. One press of the pedal triggers the entire sequence. At the end of the sequence, the press goes up.
- **Pendulum**: The press moves back and forth in a pendulum motion between 120 and 240 degrees, allowing for higher operation speed and increased safety. At any time, you can press the Go Up button to return to the top position.

Control Panel

Alarm Reset Button

Used to reset any triggered alarms. If an alarm is active, the light on the Alarm Reset button will be illuminated. Press this button after addressing the cause of the alarm to clear it.

Emergency Stop (E-Stop) Button

Stops the machine immediately in case of emergency.

Homing Button

Calibrates the home position of the press. This ensures that the machine knows its starting point for accurate operations.

Mode Selector

Has three positions: Jog Reverse, Auto, and Jog Forward.

Jog Reverse

Moves the press in reverse for manual adjustments.

Auto

Puts the machine in automatic mode for normal operation.

Jog Forward

Moves the press forward for manual adjustments.

Operation Selector

Allows you to choose between Pendulum, pendulum auto and Full Stroke Mode.

Operating the Machine

1. Ensure the machine is properly connected to a 120V power supply.
2. Select the desired mode of operation using the Operation Selector.
3. When starting the press for the first time, **press the Homing button once** to calibrate the home position.

Recalibrating

- If the press oscillates strangely, the full stroke does not return to the 0-degree position, or if the pendulum is uneven, you will need to recalibrate.
- To recalibrate, jog the press to the 0-degree position and press the Homing button once.

Automatic Operation

1. Put the machine in Auto mode using the Mode Selector.
2. Use the foot pedal to start the press cycle.

Changing Parameters

Drive Settings

Adjusting drive parameters should only be done by a professional or someone knowledgeable and experienced. Improper adjustments can lead to malfunctions or safety hazards.

Changing Opening Angles in Pendulum Mode:

PARAMETERS	DESCRIPTION	FACTORY VALUE
P4.005	JOG SPEED. Degrees per second	100
P6.045 & P6.069	OPENING ANGLES LOW (MUST BE IDENTICAL VALUE). DEGREES X 1000	120000 (120 degrees)
P6.053 & P6.065	OPENING ANGLES HIGH (MUST BE IDENTICAL VALUE) DEGREES X 1000	240000(240 degrees)
P5.055	NUMBER OF PUNCHES IN AUTOMATIC MODE BEFORE TOP STOP	8
P5.042	WAIT TIMER BEFORE PUNCH IN AUTOMATIC MODE	200

To edit these values, enter the menu by pressing the M button on the drive. Select the corresponding register and modify the value **only if you ARE SURE of what you're doing**, then press S to set it.

WARNING: Changing any other setting of the drive could result in **dangerous** and unpredicted behavior. The machine could also stop working.

Troubleshooting

- If the press does not move, follow these steps:
    1. Ensure the press is properly homed.
    2. Check that the Emergency Stop button is disengaged.
    3. Make sure the drive is not in an alarm state. If it is, reset the alarm and check for any obstructions or issues that may have caused it.
    4. Verify that the press is correctly powered up.
    5. If the problem persists, consult our other videos or the manual for further troubleshooting steps.

For more advanced troubleshooting, please check our other videos on adjusting the shut height, addressing mechanical issues, and resolving electrical problems.

Alarms	***Possible Problems***	***Solution***
Press not moving in pendulum mode	Press not properly HOME AL.237	Make sure to home press at every startup
	Alarm from Drive	Choose the proper material as per the chart on the machine.
	E-STOP PRESSED AL.500	Make sure to depressed E-STOP & Reset safety of machine. CHECK WIRING if the safety is not resetting.
AL500	E-STOP IS PRESSED	Make sure to depressed E-STOP & Reset safety of machine. CHECK WIRING if the safety is not resetting.
AL.237	Press not properly HOME AL.237	Make sure to home press at every startup

Re-adjusting machine for new thickness

When changing the material thickness, make sure to adjust the machine button diameter on your Azimuth's clinching press. The Table 1 - Button diameter vs material thickness show the different button diameter in relation with the material thickness.

Table 1 - Button diameter vs material thickness

Thickness of 1 part	Button diameter
0.012"	0.240" ±0.005"
0.015"	0.250" ±0.003"
0.018"	0.260" ±0.003"
0.021"	0.270" ±0.003"
0.027"	0.275" ±0.003"
0.034"	0.285" ±0.003"
0.040"	0.285" ±0.003"
0.052"	0.290" ±0.003"
0.063"	0.295" ±0.003"

The button diameter represents the measure of the bottom part of the two metal sheets you are clinching (***die side***).

Joint quality (***strength***) is monitored by measurement of the button diameter. Button diameter is controlled by adjusting the ball screw on your Azimuth's clinching press. See below how to adjust the ball screw on the ram. The **Figure 3 - How to measure button diameter w/ a caliper** shows how to measure the button diameter.

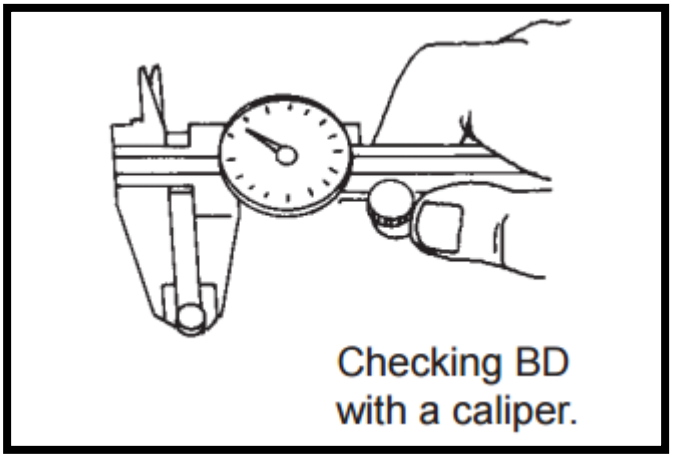


Figure 2 - How to measure button diameter w/ a caliper

Minimum distance requirement with Azimuth's tooling

The figure below shows the important dimensions to follow when clinching two parts together, Table 1 - Button diameter vs material thickness gives the values related to the figure below. The dimension shown are for reference to get a proper joint size with the Azimuth's Clinching press.

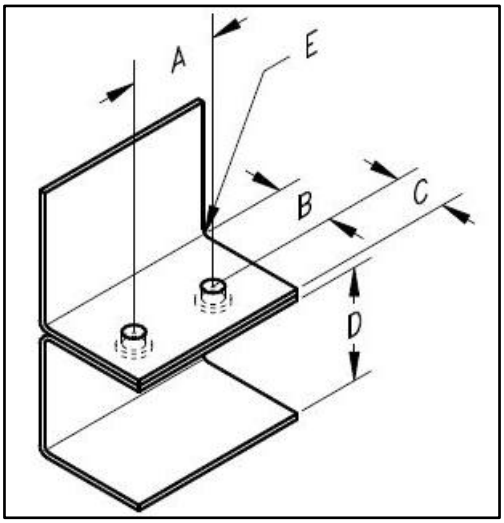


Figure 3 - Important dimensions of a clinching joint

Table 2 - Important values of a clinching joint

A	B	C	D	E
0.580'' (14.73mm)	0.320'' (8.1mm)	0.180'' (4.6mm)	Depends of the machine	0.03'' (0.8mm)

Shut height adjustment

The figure below shows how to raise or descend the punch (adjust the shut height of the machine).

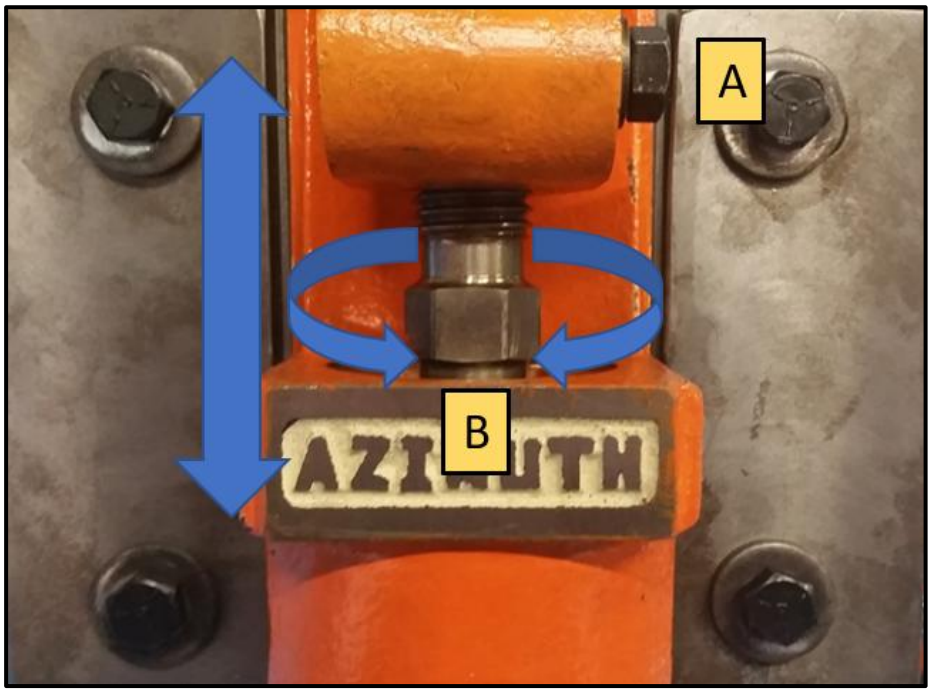


Figure 4 - Adjustment of the shut height

Raising the punch (turning the screw left to right) will result in a ***smaller button diameter*** while descending (turning the screw right to left) the punch will result in a ***bigger button diameter***.

1. Press on the E-Stop or preferably lockout the power to the machine.
2. Raise the front guard by loosening the two screws, one on each side
3. Loosen bolt **A** (see figure above), not need to remove it entirely, just until it's loose.
4. Rotate the ball screw **B** with a ¼ turn or less in the desired direction.
5. Tighten the locking bolt **A** on the side of the pitman.
6. Put the power back on, or reset the securities, and test by using two pieces of material.
7. Verify that button diameter (***die side***) matches the recommended dimension.
8. Continue the procedure lines 1 to 6 until you have the right button diameter.

****** ALWAYS BRING THE BALL SCREW TO THE HIGHEST POSITION WHEN YOU ARE CHANGING THICKNESSES OR INSTALLING A NEW PUNCH ******

Improper clinching joint

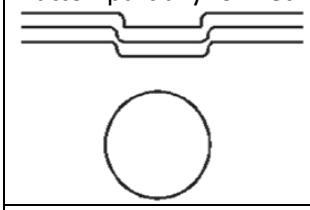
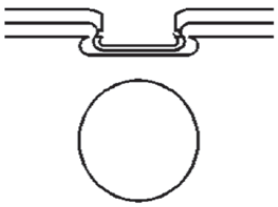
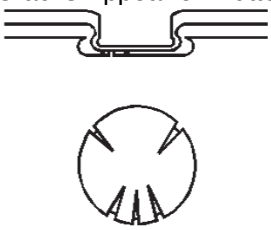
Depending on your material thickness, there is a small adjustment require on the RAM. The table below shows a problem relative to the button diameter.

Table 3 - Button diameter problem

Possible Problems	*Solution*
Lower/Higher of the button's Diameter	Change your die assembly to the proper die Readjust the ram when you change thicknesses (bring the RAM higher for thicker material, lower for thinner material).

The table below shows different problems related to the button of the joint. The symbol at left represents a properly formed clinching joint, viewed from the button (die) side and in section. Clinching tools can commonly produce more than 200,000 good joints. Problems can however occur. The illustrations below represent possible problem variations of the joint.

Table 4 - Trouble-shooting guide to a bad joint quality

Problem	*Cause*	*Solution*
Button partially formed 	Metal not of specified thickness	Use Specified Metals or Change to Appropriate Tooling
	Die Elastomer or Die Spring Broken	Replace Elastomer or Spring
	Incorrect Tooling for Metals	Verify Joint Data / Change Tooling if Necessary
	Incorrect Shut Height	Adjust Shut Height for Correct BD
Piercing or cracking of Punch Side Sheet Metal 	Metals Not of Specified Thickness regarding shut height	Re-adjust the shut height
	Incorrect Tooling for Metals	Verify the tooling matches the specified thickness.
	Weak or Broken Stripper Springs	Verify stripper spring inside the tooling assembly
	Punch and Die Not Concentric	Re-adjust the concentricity of the punch & die.
Cracks Appear on Button 	Metals Not of Specified Thickness or Hardness	Verify the punch & die matches the specify thickness.
	BD Too Large, Tooling Over Adjusted	Raise machine shut height
	Incorrect Tooling for Metals	Change tooling
	Punch and Die Not Concentric	Verify concentricity of punch & die

Oiling system

Azimuth presses are equipped with an centralized lubrication system for main bearing, bushing & gibs. The table below gives the important information relative to the oiling system.

Manually PUMP Once a Day before operating.

Procedures

SEE OUR CHANNEL ONLINE FOR MORE DETAILLED VIDEOS OF MAINTENANCE & TIPS.

YOUTUBE CHANNEL: AZIMUTH MACHINERY

See procedure in the HMI

Adjustment of the timing belt

This procedure will help you tighten the timing belt at the right pressure. The figure below illustrates how to check the tension in the belt. To verify the belt tension, you will need to:

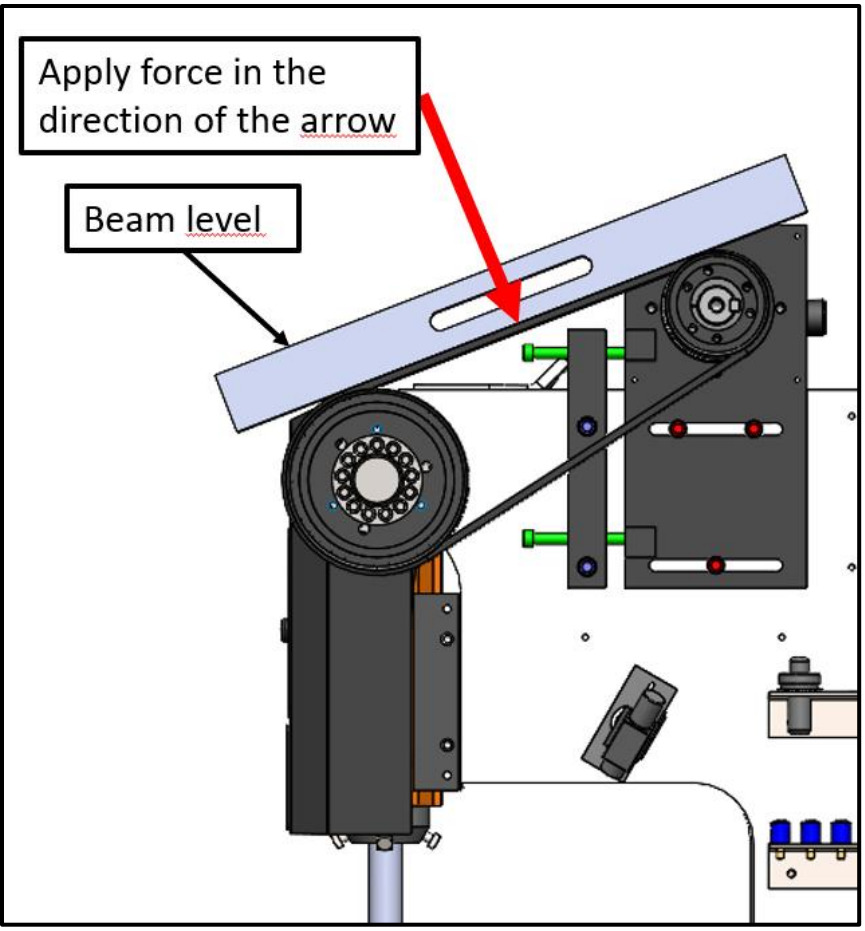


Figure 5 - Adjusting belt tension

1. Remove the timing belt and pulleys guard
2. Put a beam level on the belt and timing pulleys
3. Apply a downward force on the belt
4. Measure the distance between the level and the lowest point of the belt

a. If you measure less than a ¼'' you do not need to adjust the belt tension

b. If you measure more than a ¼'' you need to adjust the belt tension

If you have measure a deflexion of a ¼'' or more, this is what you need to do :

1. Loosen the 3 red machine screws
2. Tighten the 2 green machine screws
3. Tighten the 3 red machine screws
4. Check the belt tension as explained earlier
5. Repeat until you have a deflexion of less than a ¼''
6. Put back the belt and pulleys guard on the machine

Re-adjusting material thickness (WITHOUT THICKNESS DIGITAL READOUT) - hmi

The figure below shows how to raise or descend the punch (adjust the shut height of the machine).

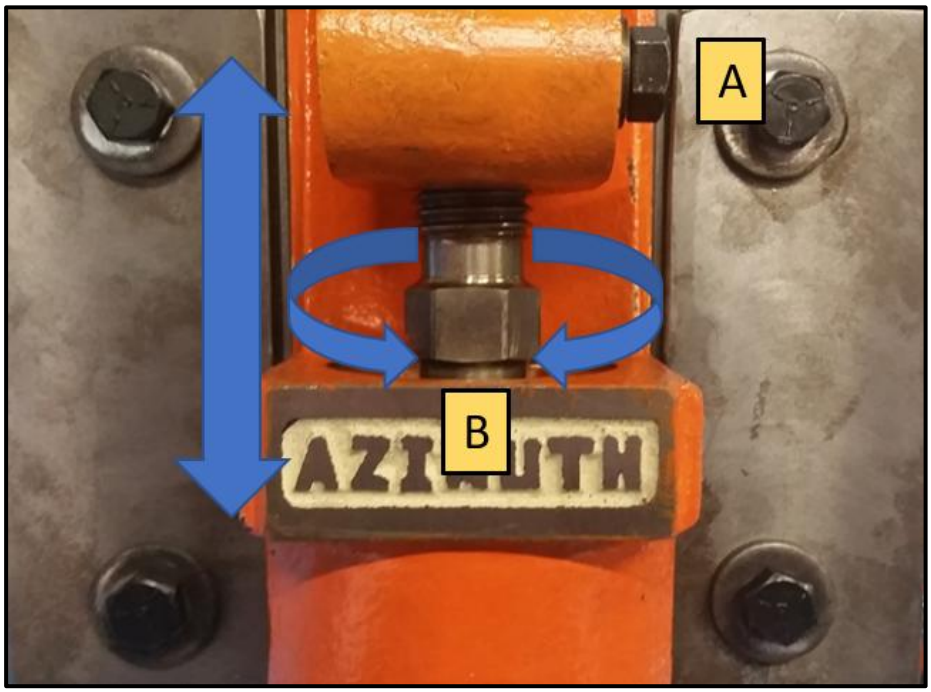


Figure 6 – Adjusting material thickness

Raising the punch (rotating the ball screw counter-clockwise) will result in a ***smaller button diameter*** while descending (rotating the ball screw clockwise) the punch will result in a ***bigger button diameter***.

1. Turn the motor OFF and wait until the inertia wheel has completely stopped.
2. Remove the front guard enclosure of the machine.
3. Loosen bolt (A) on the side of the pitman (see figure above).
4. Rotate the ball screw (B) with a ¼ turn or less (clockwise for a bigger diameter, counter-clockwise for a smaller diameter)
5. Tighten the locking bolt (A) on the side of the pitman.
6. Turn the motor ON & clinch two parts of material together.
7. Verify that button diameter (***die side***) matches the dimension recommended.
8. Continue the procedure lines 1 to 6 until you have the right button diameter.

****** ALWAYS BRING THE BALL SCREW TO THE HIGHEST POSITION WHEN YOU ARE CHANGING THICKNESSES OR INSTALLING A NEW PUNCH ******

Verifying cup-ball adjustments

The cup-ball adjustment might get loose after several cycle.

Simply verify the cup-ball adjustment by pushing the RAM up. There should **NOT** be any loose. If there is some loose, see procedure online to readjust the cup-ball adjustment. The figure below illustrates how to verify the cup-ball. There shouldn't be more than 0.002'' of loose within the ball-cup & the ball screw.

******Please note that you might need to readjust the machine thickness after readjusting the cup-ball adjustment******

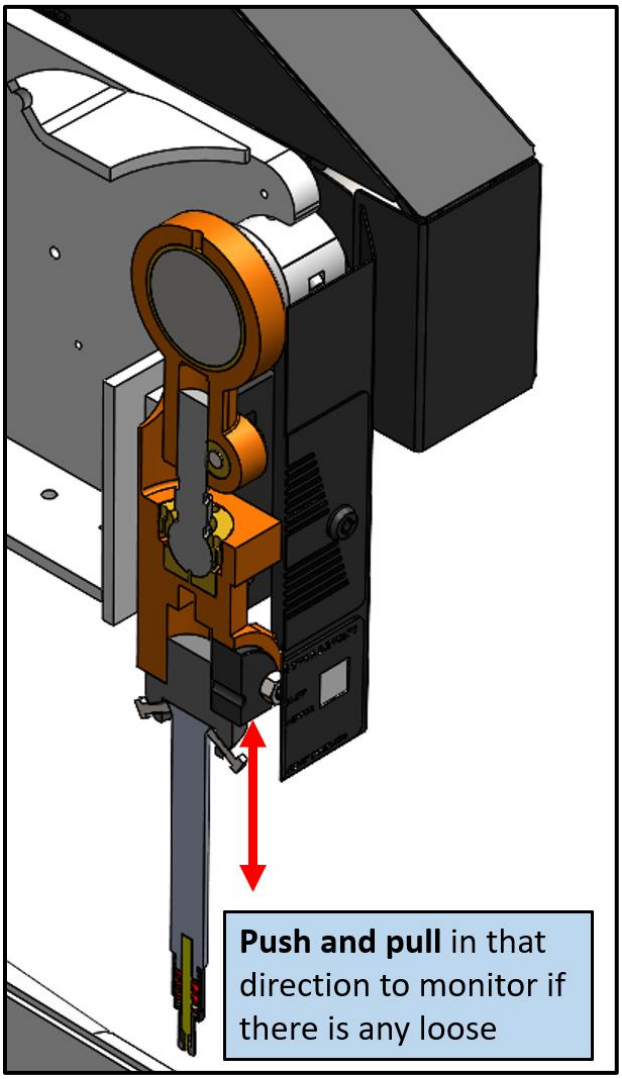


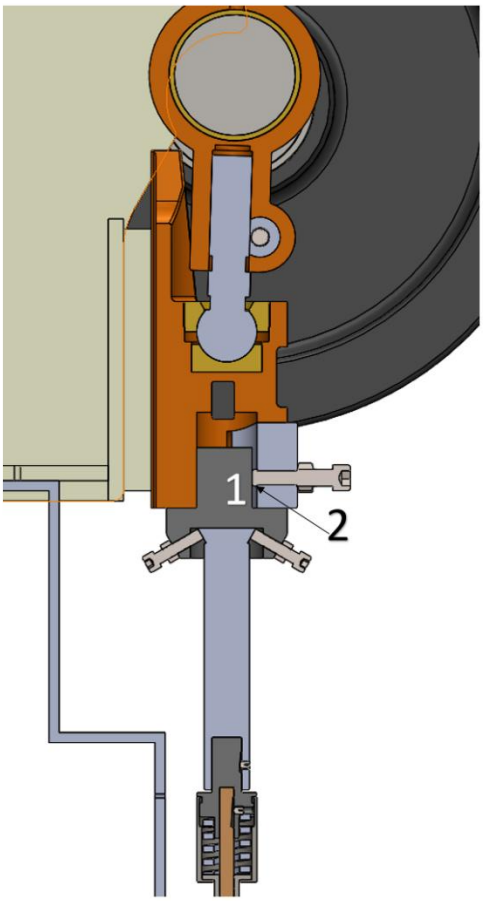
Figure 7 - Cup-ball verification

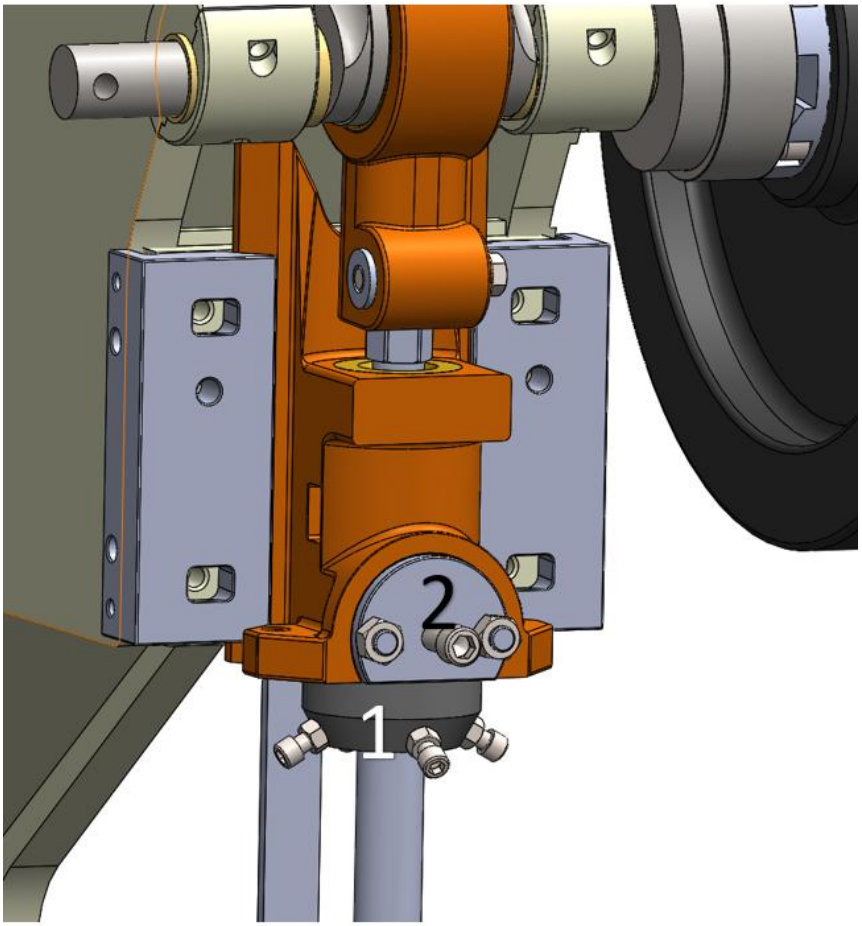
Installing Rectangular tooling on existing machine

Remove every source of power (electricity, air) going to the machine before starting installing the tooling.

Step 1 – Install tooling adapter (1) inside the shank

Make sure that the set-screw is properly aligned with the flat on the tooling adapter. Tighten the screw so the tooling adapter won't move.





Step 2 – Install Lance-N-Loc Die-Block.

Install the Lance-N-Loc die block (1) with the lance-n-loc die body
It is important to verify that the punch is properly parallel with the die body.

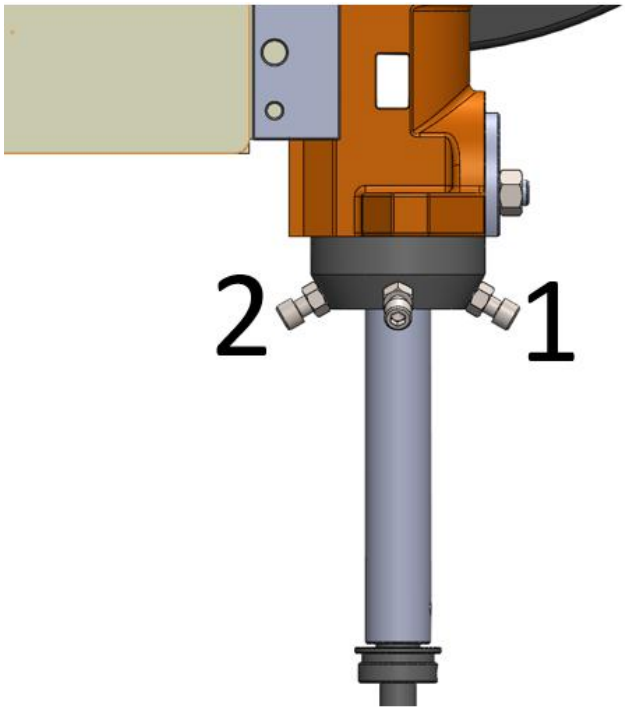
Step 3 – Verify punch alignment & adjustment

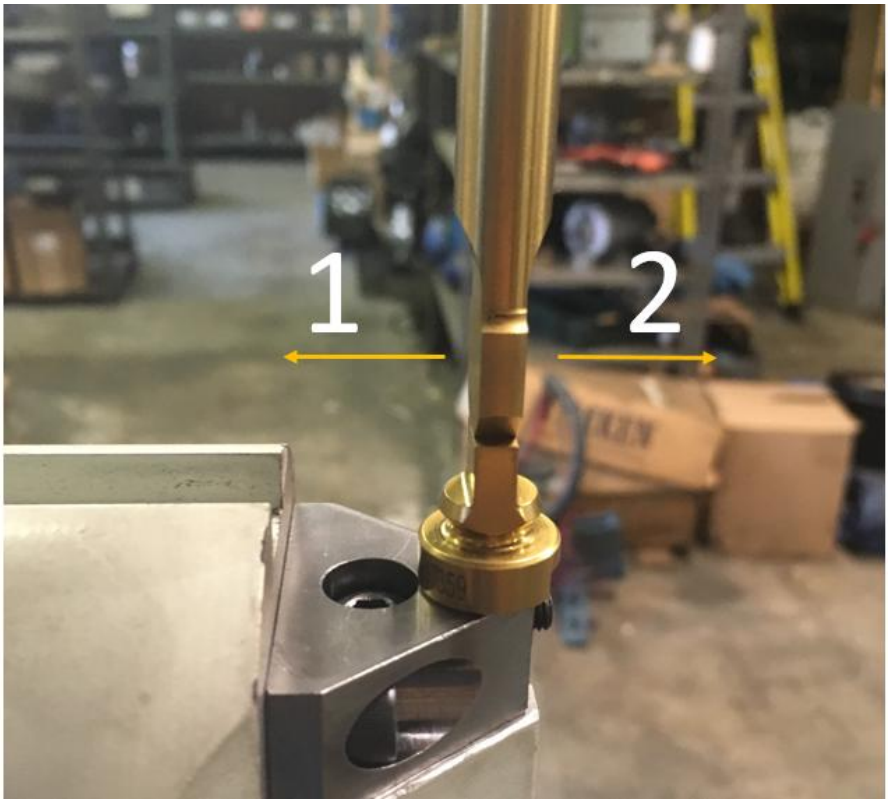
Verify that the punch is properly aligned with the die-body. Side #1 & Side #2 must be parallel with the respective face of the die-body.

If those faces are not parallel, verify “Step 1 – Install tooling adapter (1) inside the shank”.

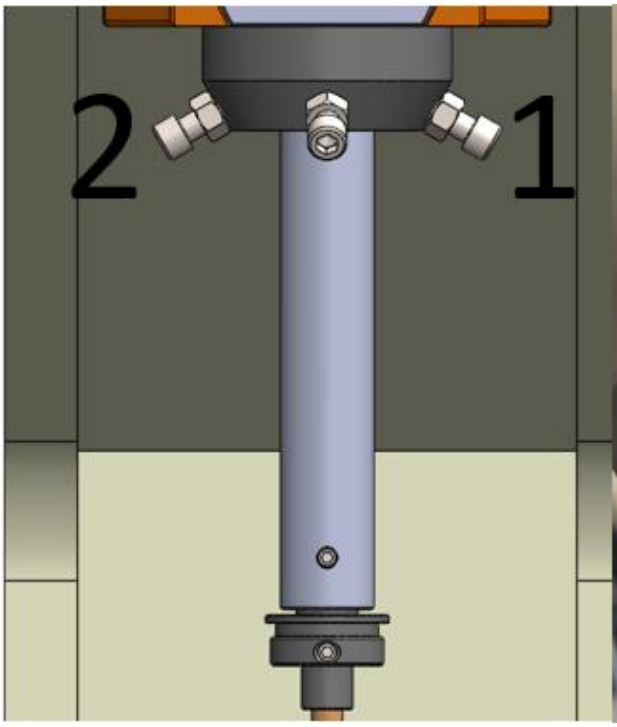
If the punch is not properly set (front to back – Left to right) go to step 4.

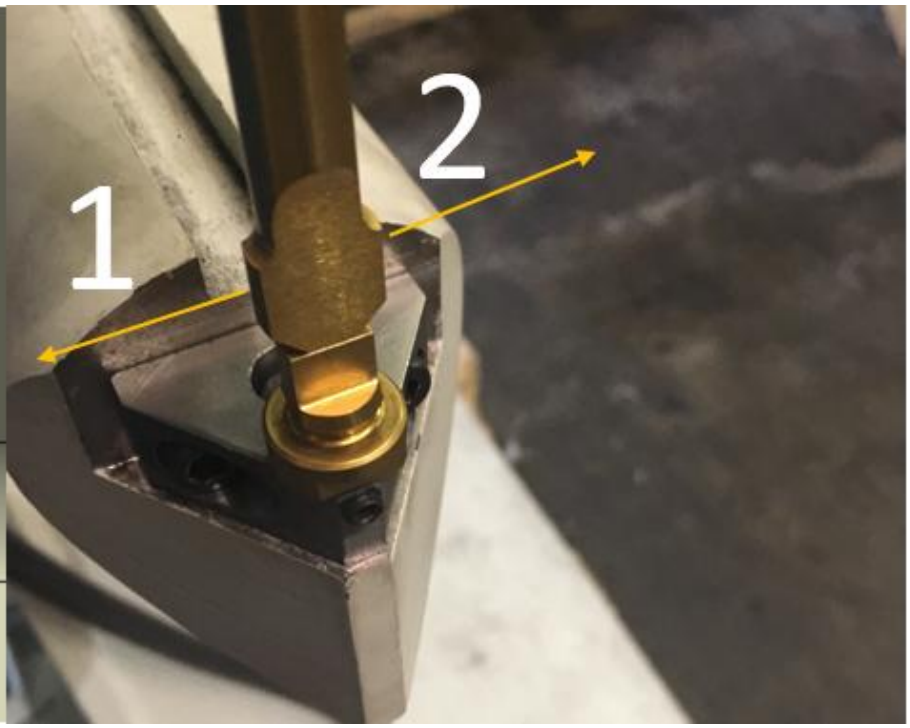
Step 4 – Punch alignment Front to back – Left to right





To align the punch perfectly with the Die-body, please refer to the picture above & below. Tightening the screw #1 will move the punch in direction #1 while tightening screw #2 will move the punch in direction #2.

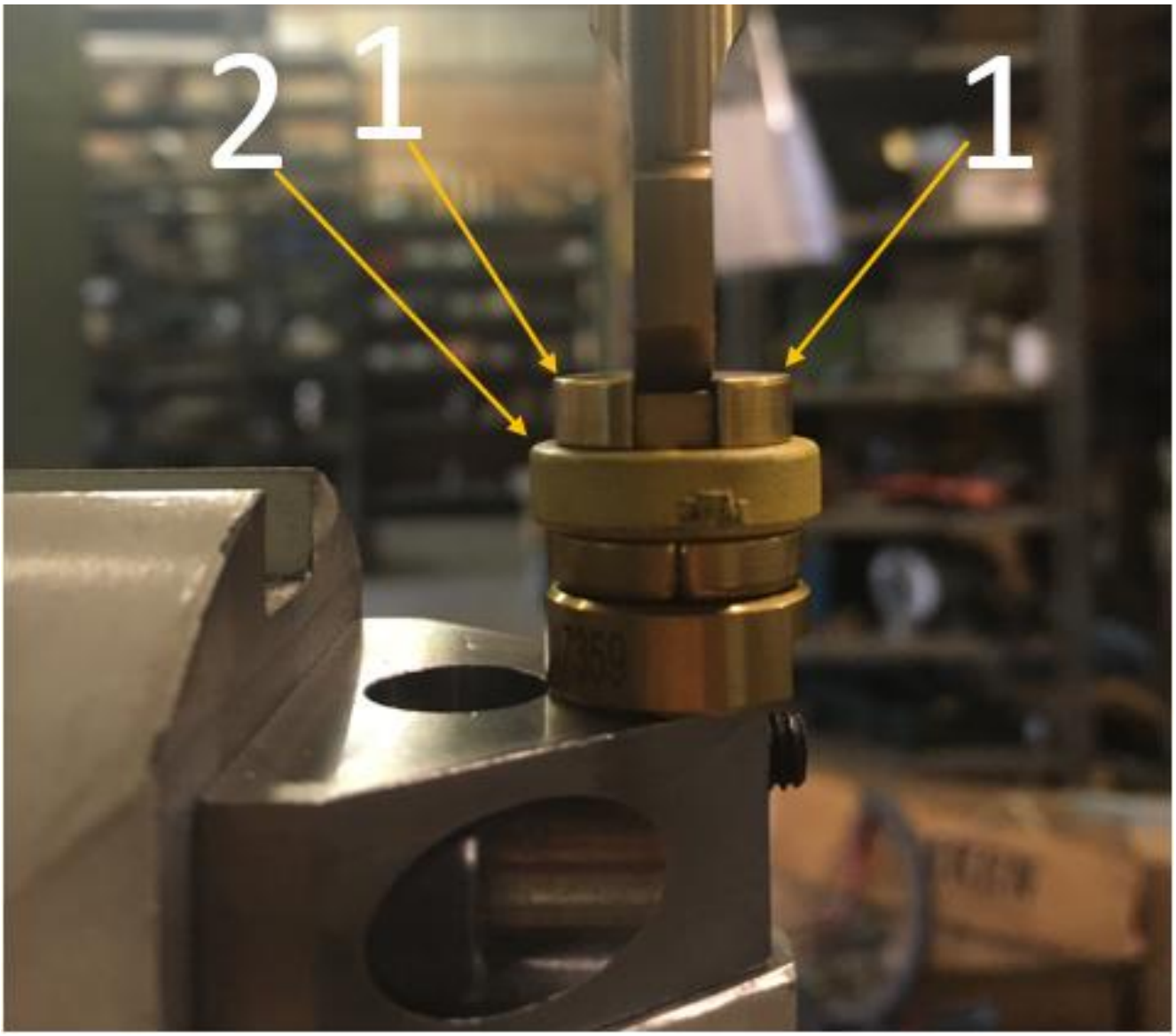




Step 5 – Install the Clinching Blades

Once the punch is properly aligned with the die body, install the clinching blades (2) with the elastomer (1) on the die body & verify that the installation is done properly.

Manually engaged the clutch on the side of the machine & bring the punch down. Verify that the punch



does not hit the blades & goes freely inside the anvil depth of the Lance-N-Loc die assembly.

Step 6 – Bring shut height to its highest position & install the spring, stripper & stripper can.

Bring the shut height of the machine to its highest position to install the Stripper (2), spring (inside the stripper can) & Stripper can (1).

SEE OUR CHANNEL ONLINE FOR MORE DETAILLED VIDEOS OF MAINTENANCE & TIPS.

YOUTUBE CHANNEL: AZIMUTH MACHINERY

See procedure in the HMI

Adjustment of the timing belt

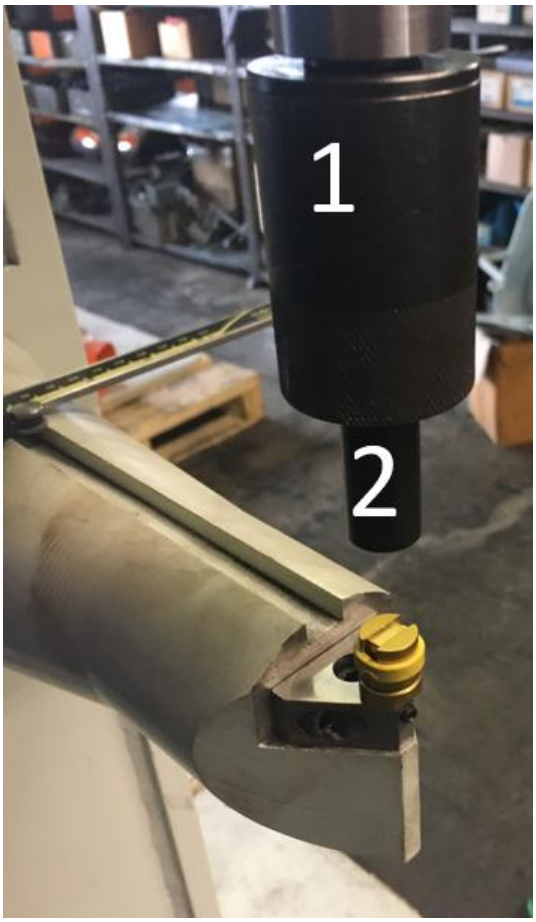
This procedure will help you tighten the timing belt at the right pressure. The figure below illustrates how to check the tension in the belt. To verify the belt tension, you will need to:

5. Remove the timing belt and pulleys guard
6. Put a beam level on the belt and timing pulleys
7. Apply a downward force on the belt
8. Measure the distance between the level and the lowest point of the belt
    a. If you measure less than a ¼'' you do not need to adjust the belt tension
    b. If you measure more than a ¼'' you need to adjust the belt tension

If you have measure a deflexion of a ¼'' or more, this is what you need to do :

7. Loosen the 3 red machine screws
8. Tighten the 2 green machine screws
9. Tighten the 3 red machine screws
10. Check the belt tension as explained earlier
11. Repeat until you have a deflexion of less than a ¼''
12. Put back the belt and pulleys guard on the machine

Re-adjusting material thickness to raise the shut height to its highest position.



Visually verify stripper alignment with the punch.

Step 7 – Adjusting the button dimension

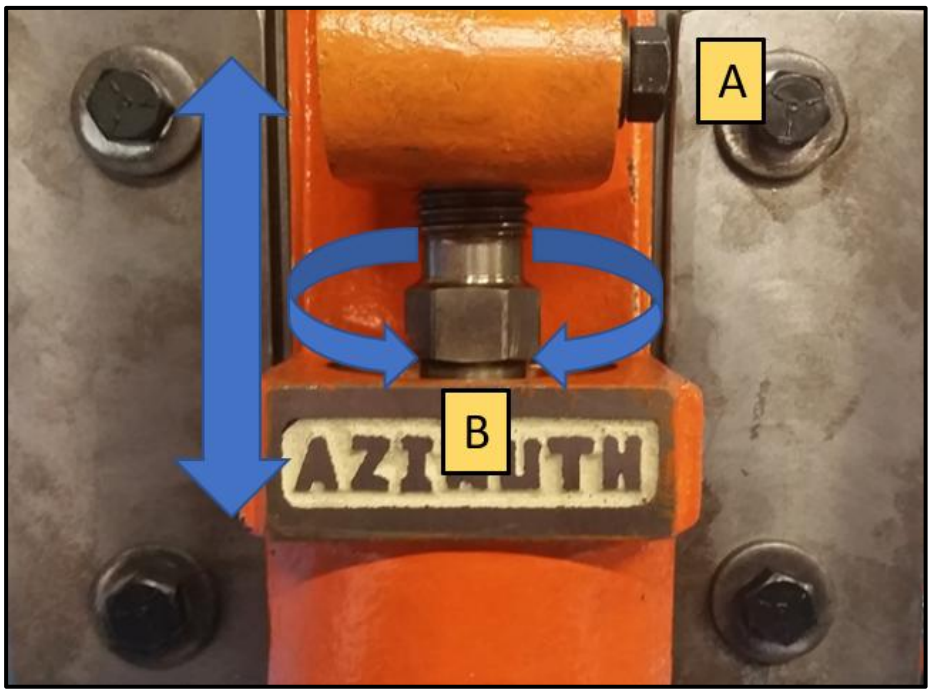


Figure 8 - Adjustment of the button dimension

Raising the punch (rotating the ball screw counter-clockwise) will result in a ***smaller button diameter*** while descending (rotating the ball screw clockwise) the punch will result in a ***bigger button diameter***.

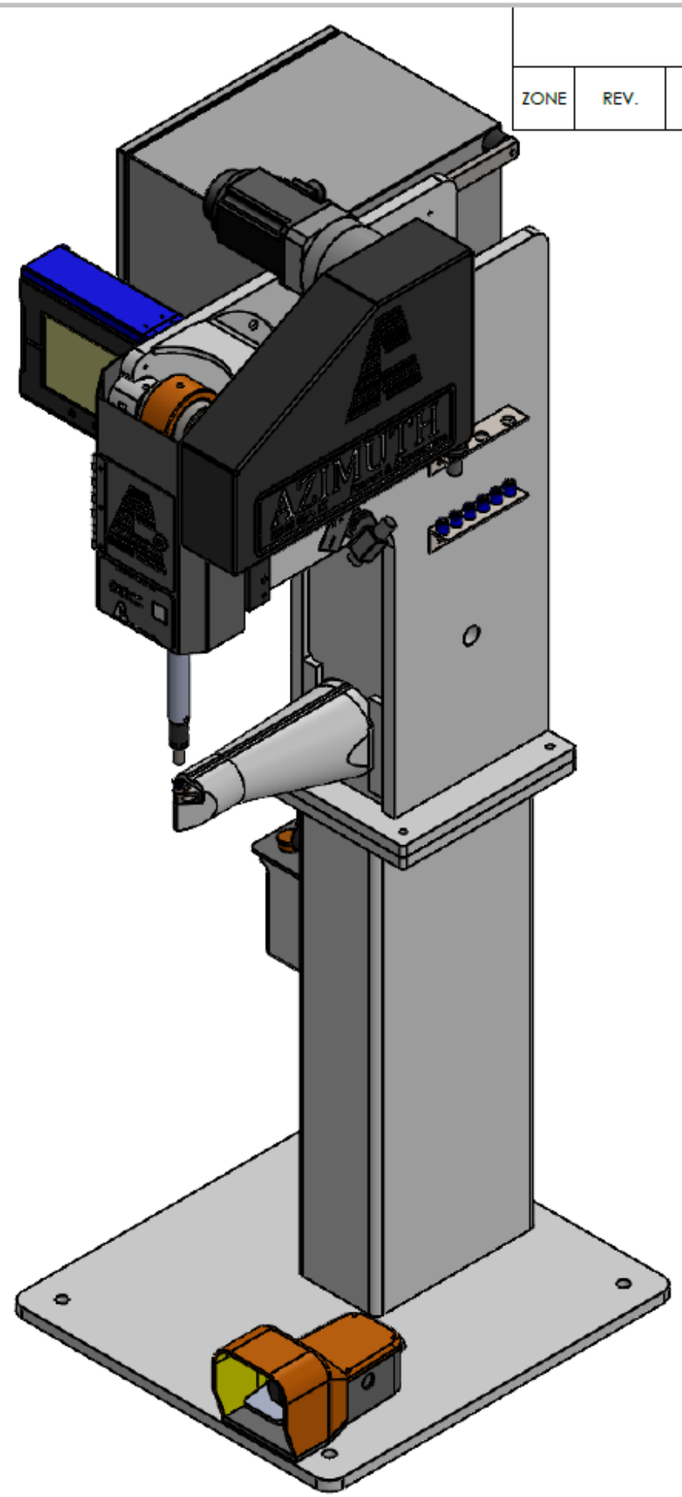
1. Turn the motor OFF and wait until the inertia wheel has completely stopped.
2. Remove the front guard enclosure of the machine.
3. Loosen bolt (A) on the side of the pitman (see figure above).
4. Rotate the ball screw (B) with a ¼ turn or less (clockwise for a bigger diameter, counter-clockwise for a smaller diameter)
5. Tighten the locking bolt (A) on the side of the pitman.
6. Turn the motor ON & clinch two parts of material together.
7. Verify that button diameter (***die side***) matches the recommended dimension.
8. Continue the procedure lines 1 to 6 until you have the right button diameter.

****** ALWAYS BRING THE BALL SCREW TO THE HIGHEST POSITION WHEN YOU ARE CHANGING THICKNESSES OR INSTALLING A NEW PUNCH ******

ANNEXE A – Part list

Product No.	Description	Quantity
H612-S	**H612 Clinching machine GEN III**	**1**
H612-001	Frame	1
6-023AS	Ram Assembly	1
6-022	Gib, LEFT	1
6-306	DIE BLOCK	1
6-326AS	FRONT GUARD ASSEMBLY	1
6-012AS	Automatic lubrication Oiling system 4-15 tons	1
6-302.1AS	NARROW PUNCH HOLDER ASSEMBLY	1
6-669AS	MOTOR ASSEMBLY	1
6-633AS	CRANKSHAFT ASSEMBLY	1
6-500AS	CONTROL PANNEL ASSEMBLY - SERVO	1
6-625AS	BELT & PULLEY GUARD	1
6-624	MOTOR BELT H 1.5"X39"	1
1005-025	Electric foot pedal 2 POS. NO/NC	1
6-669.2	TENSIONNER	1
6-610AS	SIDE LOGO SERVO	1
6-022.1	Gib, Right	1
6-311	PUNCH MOUNTING BRACKET	1
6-311.1	DIE MOUNTING BRACKET	1
6-315AS	LASER ALIGNEMENT TOOL	1
6-633.1	CRANKSHAFT POSITION DIAL	1
6-633.2	CRANKSHAFT POSITION INDICATOR	1
6-505.1AS	HMI ENCLOSURE 7"	1

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	H612-001	FRAME	1
2	6-023AS	RAM ASSEMBLY	1
3	6-022	GIB, LEFT	1
4	6-306	DIE BLOCK	1
5	20032AS	DIE ASSEMBLY	1
6	6-311	PUNCH MOUNTING BRACKET	1
7	6-311.1	DIE MOUNTING BRACKET	1
8	6-326AS	FRONT GUARD ASSEMBLY	1
9	6-012AS	AUTOMATIC OILER	1
10	6-315AS	LASER ALIGNEMENT TOOL	1
11	6-302.1AS	NARROW PUNCH ASSEMBLY	1
12	6-410.9	QR CODE VIDEOS	1
13	6-669AS	MOTOR ASSEMBLY	1
14	6-633AS	CRANK SHAFT ASSEMBLY	1
15	6-500AS	CONTROL PANEL ASSEMBLY-SERVO	1
16	6-625AS	BELT & PULLEY GUARD	1
17	6-633.2	CRANKSHAFT POSITION DIAL	1
18	6-633.1	CRANKSHAFT POSITION INDICATOR	1
19	6-624	MOTOR BELT H 1.5"X39.5"	1
20	1005-025	ELECTRIC FOOT PEDAL	1
21	6-411AS	HMI BOX ASSEMBLY 9"	1
22	6-669.2	TENSIONER	1
23	6-410	H612 GEN III SIDE LOGO	1
24	6-022.1	GIB, RIGHT	1



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED

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QC, Canada, J5C 1B6

AZIMUTH

DESCRIPTION
H612 GEN III CLINCHING PRESS

PART NO
H612-S

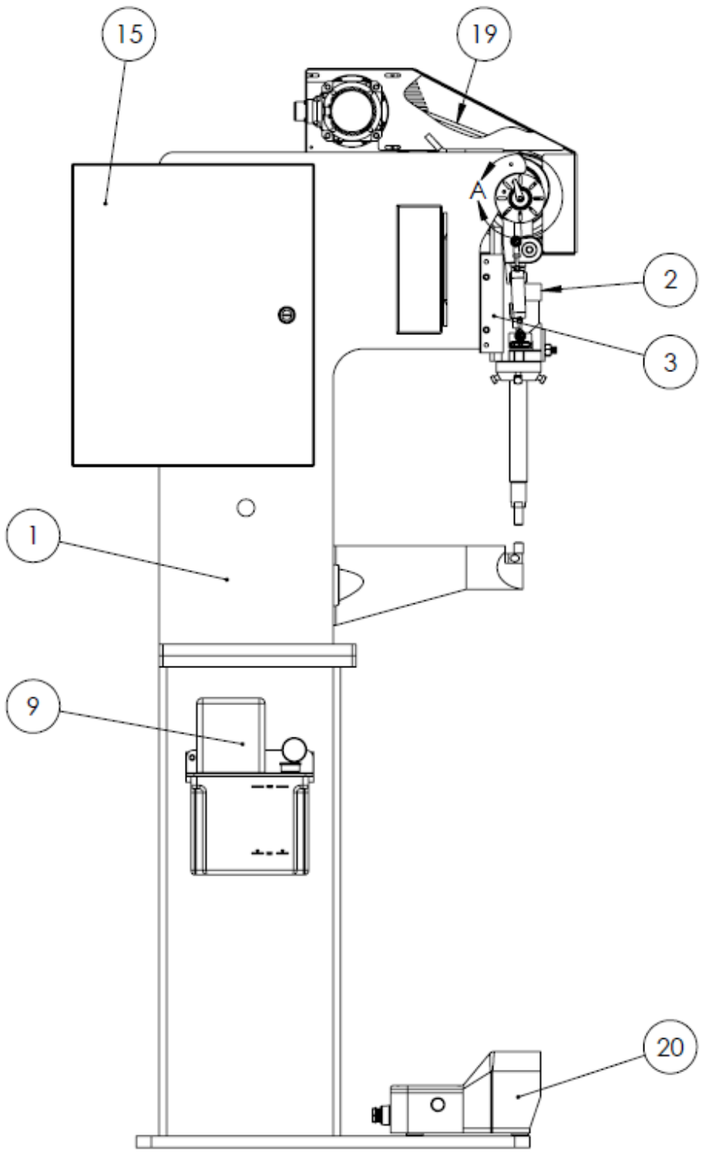
DRAWN BY	SCALE
FRANCIS DURAND	1:8
DRAWING # H612-S-AS	MATERIAL

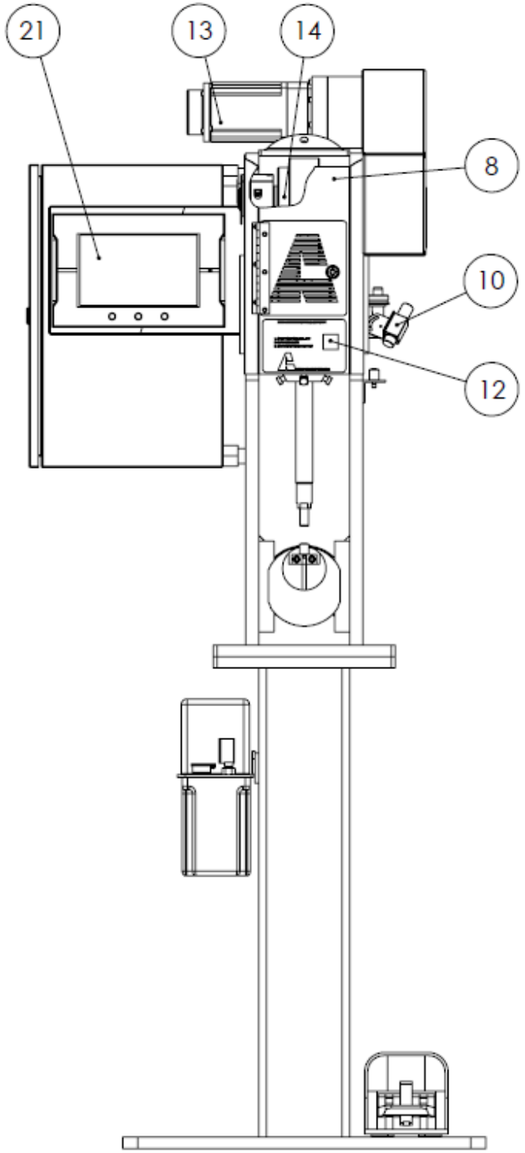
COMMENTS :

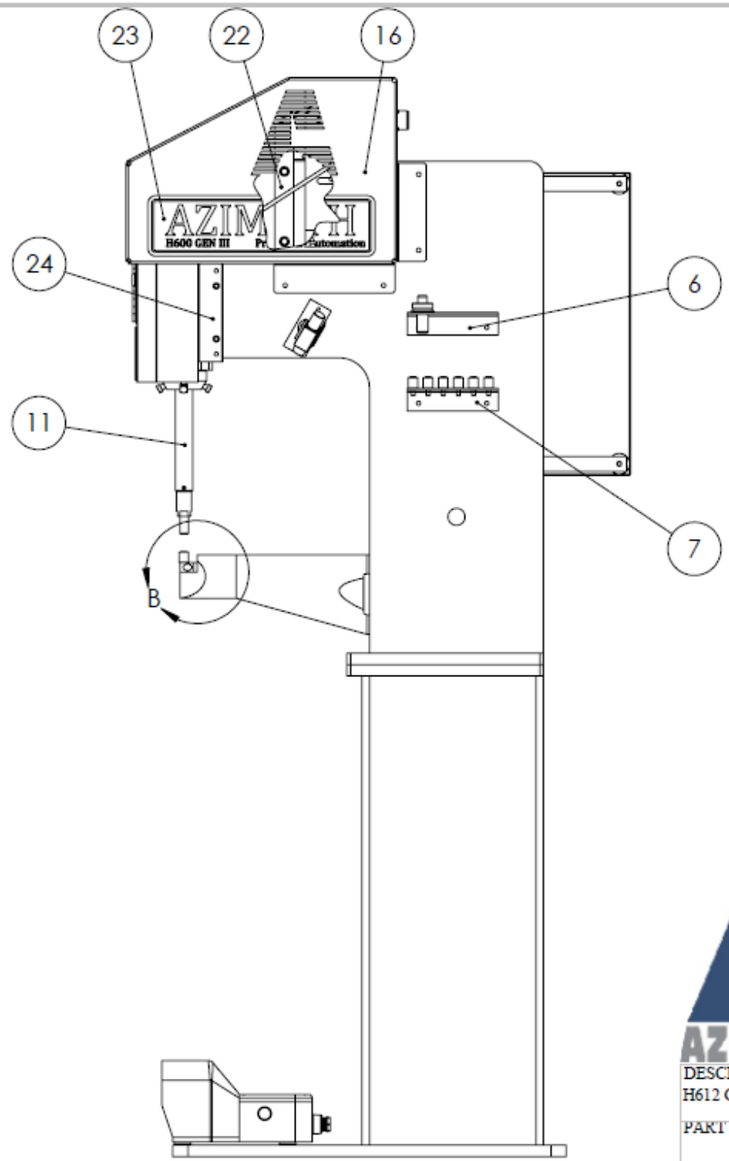
UNLESS OTHERWISE SPECIFIED

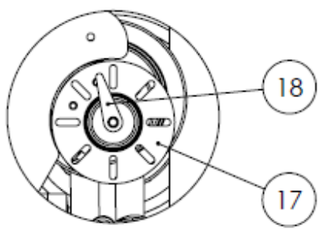
DIMENSIONS ARE IN INCHES
TOLERANCES :
FRACTIONAL ±1/64
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.005

Z:\1. Ingénierie\2.Dessins\ENGINEERING DRAWING\1. PRESSES\DESSIN D'APPROBATION\Clinching Press\GEN III\

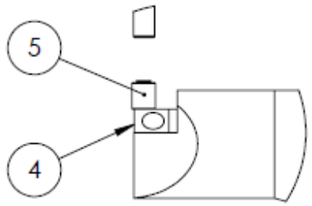








DÉTAIL A
ECHELLE 1 : 4



DÉTAIL B
ECHELLE 1 : 4

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AZIMUTH

DESCRIPTION
H612 GEN III CLINCHING PRESS

PART NO
H612-S

DRAWN BY	SCALE
FRANCIS DURAND	1:10
DRAWING #	MATERIAL
H612-S-AS	

COMMENTS :

UNLESS OTHERWISE SPECIFIED

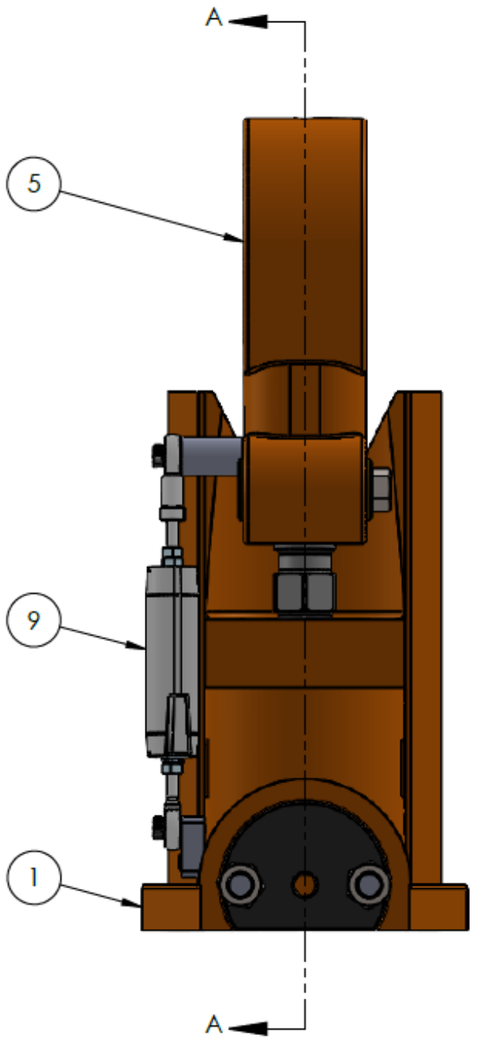
DIMENSIONS ARE IN INCHES
TOLERANCES :

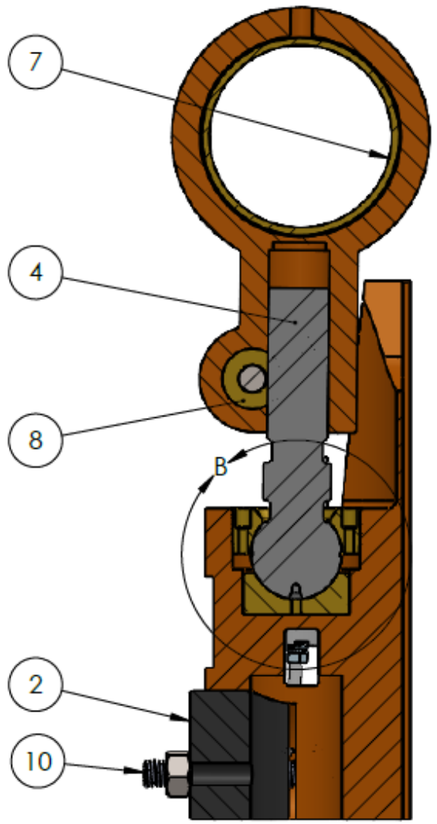
FRACTIONAL	±1/64
TWO PLACE DECIMAL	±.01
THREE PLACE DECIMAL	±.005

Z:\1. Ingénierie\2.Dessins\ENGINEERING DRAWING\1. PRESSES\DESSIN D'APPROBATION\Clinching Press\GEN III\

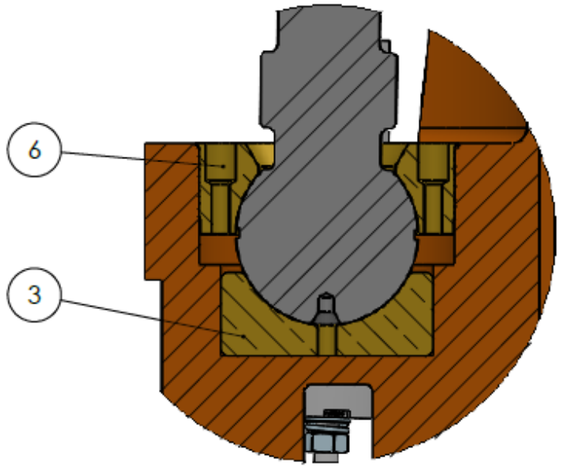
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	6-023	RAM	1
2	6-024	CLAMP BLOCK, RAM	1
3	6-025	BALL SEAT, RAM	1
4	6-027	BALL SCREW, PITMAN	1
5	6-029	PITMAN (CON, ROD)	1
6	6-026	CUP, BALL ADJUSTMENT	1
7	6-136	BRONZE BUSHING PITMAN	1
8	6-028	CLAMP BLOCK, PITMAN	1
9	6-403AS	SHUT HEIGHT INDICATOR 0-1" ASSEMBLY	1
10	6-090	STUD, CLAMP BLOCK, 7/16-14 x 3.25 LG.	2

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED





COUPE A-A
ECHELLE 2 : 5



DÉTAIL B
ECHELLE 4 : 5

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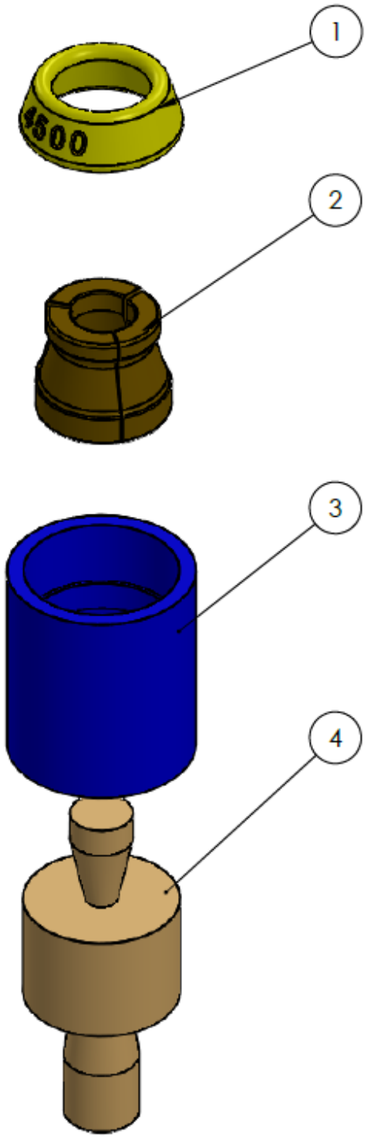
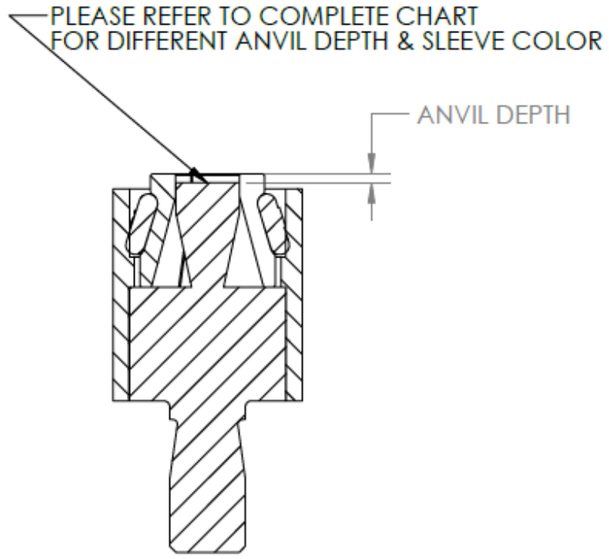
DESCRIPTION	RAM ASSEMBLY
MODEL NO	6-023AS
DRAWN BY: FRANCIS DURAND	SCALE: 1:3
DRAWING #	REV
COMMENTS :	

NO	PartNo	DESCRIPTION	QTE
1	20262	ELASTOMER MEDIUM	1
2	20254	BLADES	3
3	6-304.1	BLUE Sleeve	1
4	20032	Clinching die body 0.180, 24-29G	1





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6040 Rte. 132
Ste-Catherine, QC, CAN

DESCRIPTION
DIE ASSEMBLY

DESCRIPTION
STANDARD PARTS

DRAWN BY	DATE
JOEY TRUDEAU	2019-04-15
ISSUED FOR	DWG. #
CUSTOMER APPROVAL	20032AS

COMMENTS :

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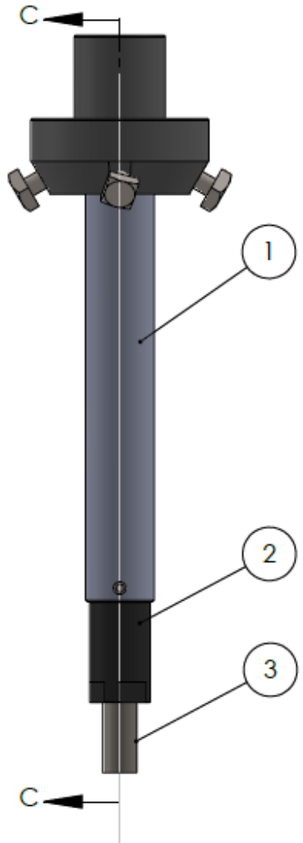
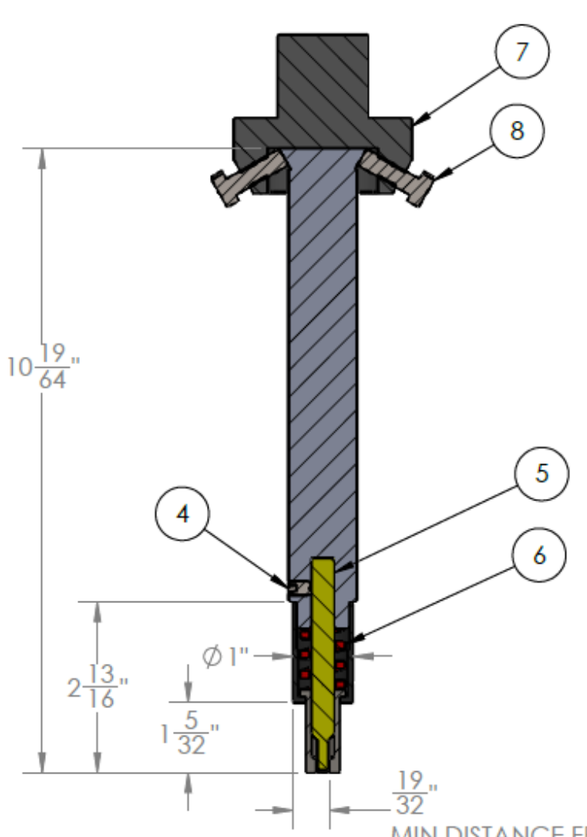
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	6-302.1	Shank (H612) Taloc	1
2	6-310.1	Spring holder	1
3	6-305.1	Stripper, Narrow punch holder	1
4	4000-007	Setscrew, 1/4-28, 0.375" LG.	1
5	20618	Clinching punch 3.5" 22G	1
6	Refer to shart	Spring	1

NOT INCLUDED IN THIS ASSEMBLY

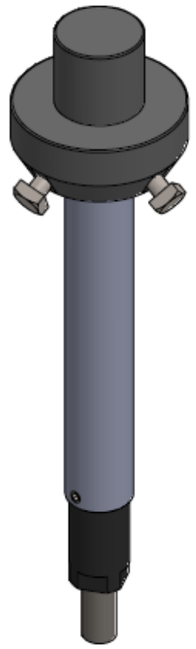
ITEM NO.	PART NO.	DESCRIPTION	QTY.
7	6-301	H600 Tooling adapter	1
8	22052	Square head bolt, 5/16-18 x 1" LG.	4

GAUGE	SPRING COLOR	PART NO
14	GREEN	22064
15	GREEN	22064
16	GREEN	22064
17	GREEN	22064
18	GREEN	22064
19	GREEN	22064
20	GOLD	22068
21	GOLD	22068
22	GOLD	22068
23	GOLD	22068
24	GOLD	22068
25	GOLD	22068





MIN DISTANCE FROM FLANGE



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DESCRIPTION
NARROW PUNCH HOLDER ASSEMBLY

PART NO
6-302.1AS

DRAWN BY	SCALE
JOEY TRUDEAU	2:5
DRAWING #	

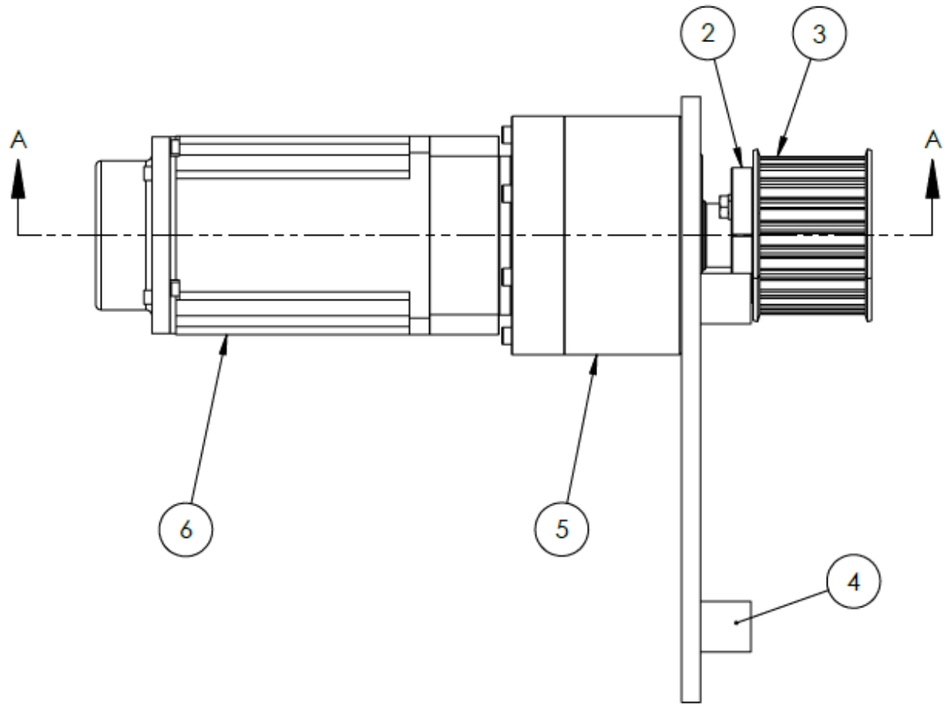
COMMENTS :
TO BE USED WITH PUNCH 018274

UNLESS OTHERWISE SPECIFIED

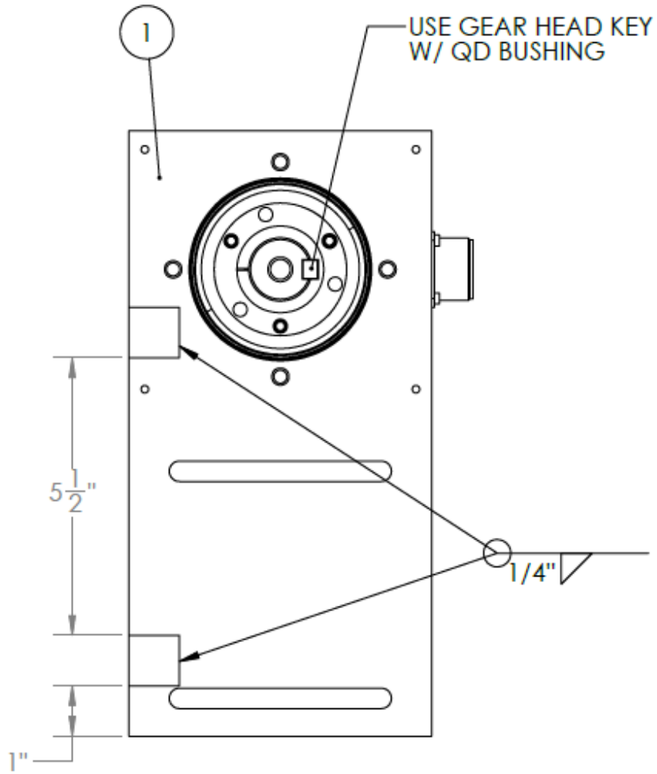
DIMENSIONS ARE IN INCHES
TOLERANCES :

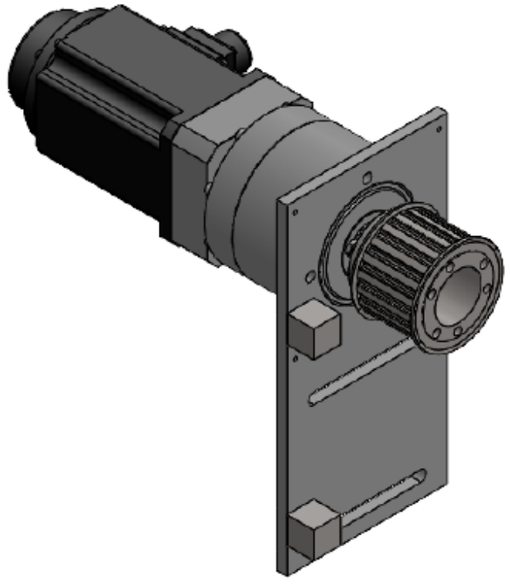
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	6-669	MOTOR BRACKET	1
2	6-623	SH BUSHING 32MM BORE	1
3	6-623.1	PULLEY 2" H BELT 20T	1
4	6-669.1	PUSHER BLOCK	2
5	6-630	INLINE GEAR HEAD 10:1	1
6	6-626	MOTOR 1.5kW-3000RPM-240V	1

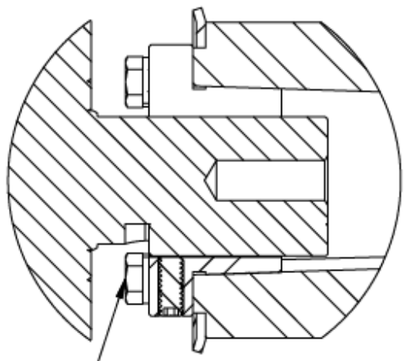
REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED



COUPE A-A
ECHELLE 1 : 3







DÉTAIL B
ECHELLE 2 : 3

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AZIMUTH

DESCRIPTION
MOTOR ASSEMBLY

PART NO
6-669AS

DRAWN BY	SCALE
JOEY TRUDEAU	1:2
DRAWING #	MATERIAL

COMMENTS :

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES
TOLERANCES :
FRACTIONAL ±1/64
TWO PLACE DECIMAL ±.01
THREE PLACE DECIMAL ±.005

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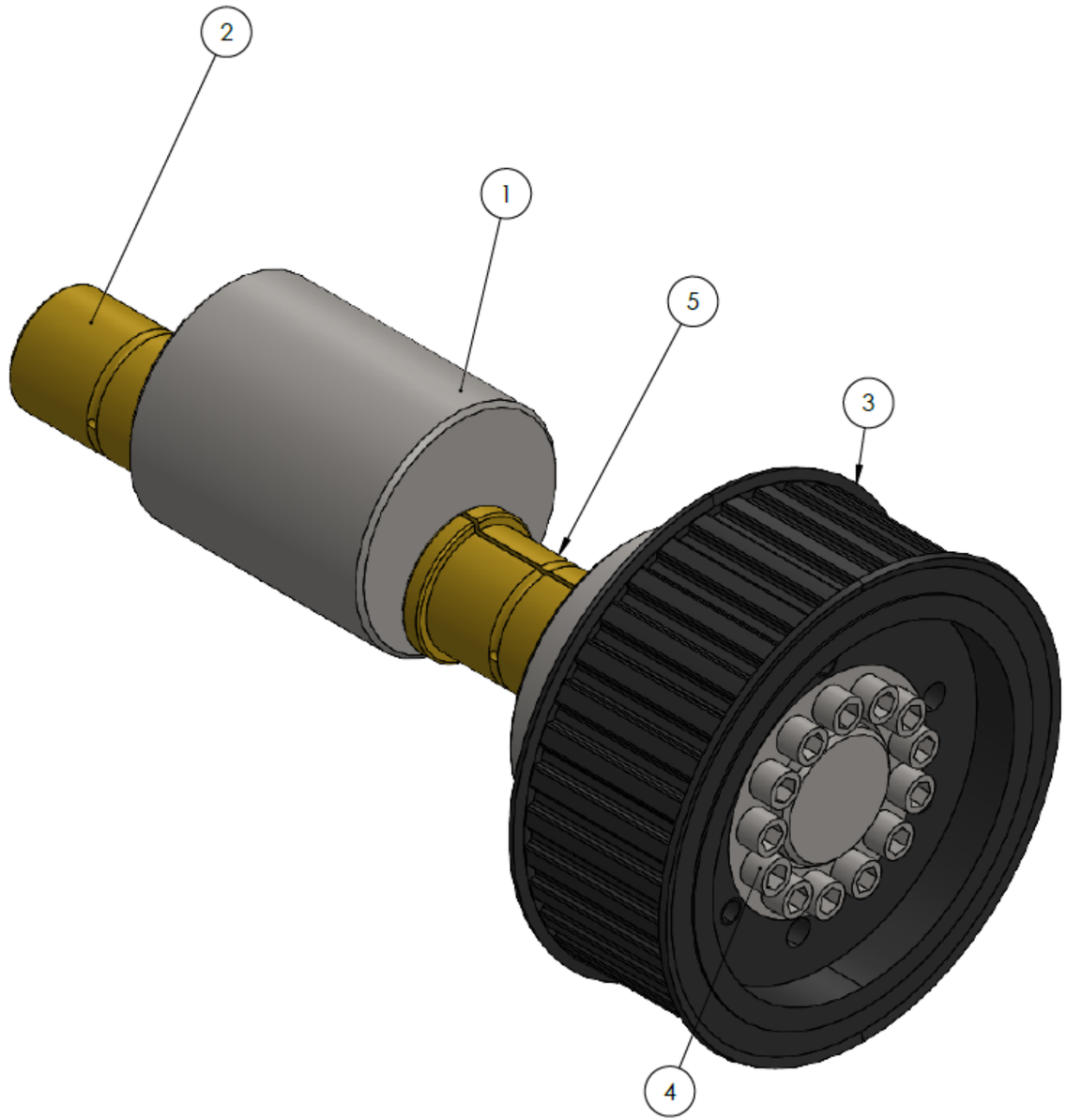
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	6-633	CRANKSHAFT, 1.25" STROKE	1
2	6-034SO	BRONZE BUSHING, SOLID	1
3	6-623.2	PULLEY 2" H BELT 36T	1
4	6-601	LOCKING DONUT PULLEY & CRANK	1
5	6-034SP	BRONZE BUSHING, SPLIT	1

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED



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DESCRIPTION
CRANK SHAFT ASSEMBLY

PART NO
6-633AS

DRAWN BY	SCALE
FRANCIS DURAND	1:2
DRAWING #	MATERIAL

COMMENTS :

Z:\1. Ingénierie\2.Dessins\ENGINEERING DRAWING\7. ASSEMBLY\CRANKSHAFT - 033AS - 233AS - 333AS - 633AS\633AS SERVO CRANKSHAFT\

ANNEXE B – Electrical schematic

Contact azimuth Tech support.