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Instruction Manual Servo feeder







Azimuth Servo Feed Instruction manual







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1. Word of Caution

- ▲ This machine is rated for 208V/60Hz in star configuration. Make sure to properly connect the machine.
- ▲ Before using the machine with material, make sure to perform a visual inspection and try to cycle it 5 times to verify that nothing has been damaged during transport (guarding system, etc.)
- ▲ 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 lead to serious injuries or 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 the power is turned off and locked.

*** Never put your hands in the machine unless the power is turned off and locked out ***





2. Installation

This section covers the mechanical set-up of the servo-driven feeder. Please make sure to fully understand these instructions before attempting to make mechanical adjustments to the machine. All servo feed products drawings and dimensions are presented in Appendix I.

2.1. Adjusting the Feeder Pass Line Height

Adjusting the feeder pass line height is slightly different for direct-mount and rack-mount feeders. Each of these configurations have their own instruction below.

Direct Mount

When the feeder is directly mounted to the press's bolster plate using the provided mounting plate, use the height adjustment screw to make any change to the feeder pass line height.

Please note that the screw offers a limited pass line height adjustment. However, the provided mounting plate offers different mounting hole sets for higher or lower pass lines.

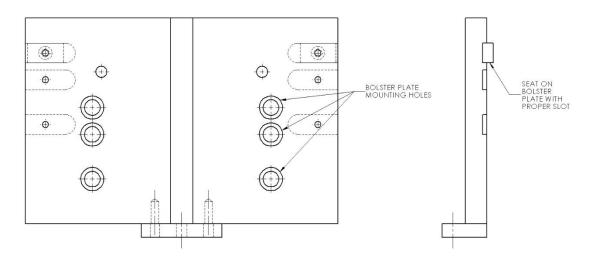


Figure 1: Feeder mounting plate





Rack Mount (Optional)

When the feeder is mounted on an Azimuth Feeder Rack, the pass line height can be adjusted by a wider range, using the built-in screw jack to raise or lower the feeder on the rack. Turning the handle will change the height of the pass-line. A height ruler is included on the feeder rack to approximate the current pass line height.

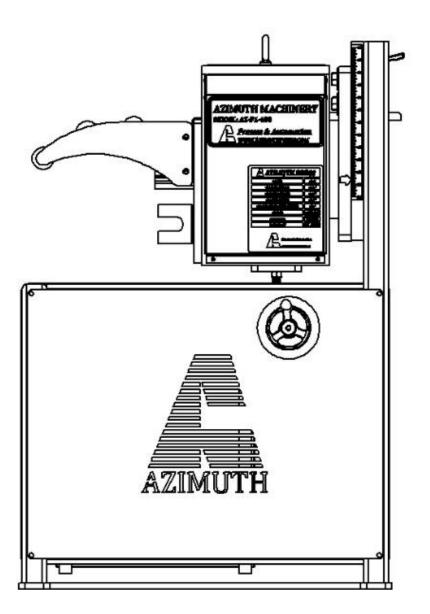


Figure 2: Rack-mounted feeder

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2.2. Roller Pressure and Spacing Adjustment

To adjust the pressure and/or the spacing of the rollers on the sheet metal strip, please use the two threaded studs and nuts to compress or decompress the springs.

Before attempting to change the tension of the springs, please loosen the jam nuts that sit against the main hex nuts, then turn the hex nuts evenly. <u>Failure to tighten both springs evenly may</u> <u>result in sideways feeding of the sheet metal</u>.

When the desired pressure and spacing are reached, tighten the jam nuts against the main hex nuts to lock the adjustment in place.

Adequate pressure is reached when there is no slippage of the sheet metal strip. Excessive pressure may cause deformation of the sheet metal.

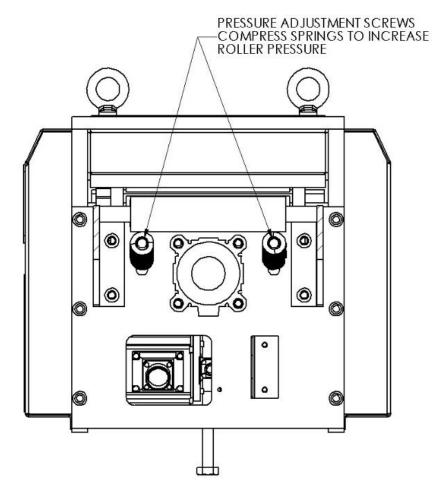


Figure 3: Roller pressure adjustment





2.3. Using the Pneumatic Pilot Release

The feeder is equipped with a pneumatic cylinder to release the pressure off the rollers.

The air pressure supplied to the cylinder <u>must not exceed 60 psi</u> (0.4 MPa). <u>Any higher pressure</u> <u>may cause damage to the feeder.</u>

If your air supply pressure is higher, please restrict flow completely using the feeder's pressure regulator before plugging it into the feeder, then adjust the regulator until the pressure gauge reads around 0.4 MPa (60 psi).

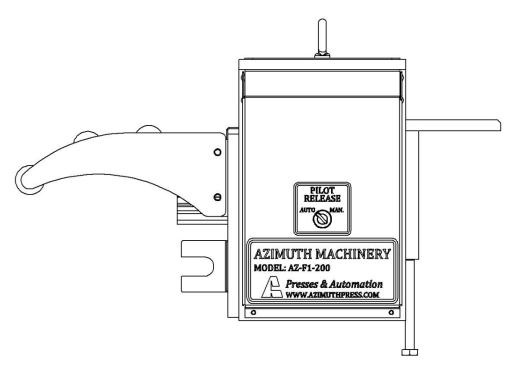


Figure 4: Pilot release mode switch





2.4. Manual Release

Turning the pilot release switch to manual mode will override the signal from the HMI and will disengage the rollers' pressure, allowing you to change sheet metal coils and set-up new material. Once you are done setting up your feeder with your new coil, turn the switch back to AUTO to enable automatic pilot release.



Figure 5: Manual pilot release

2.5. Automatic Release

Automatic pilot release mode allows the HMI to send a signal to the pilot release cylinder to disengage the rollers' pressure between feed cycles when the press is punching the metal strip.





2.6. Feeder specification

When setting up a new coil, set the pilot release to manual mode. Feed the new material through the feeder by hand and switch the pilot release back to AUTO.

Adjust roller pressure following the instructions from section 2.2.

Model→ Parameter↓	Unit	AZ-F1-200	AZ-F1-300	AZ-F1-400	AZ-F1-600	AZ-F1-800	
Coil Width	inch	7 7/8	11 13/16	15 3/4	23 5/8	31 1/2	
Thickness MIN	inch			0,01			
Thickness MAX	inch	0,14					
Rolls diameter	inch	3,55					
Pilot release		Pneumatic					
MAX SPEED	inch	16 inch/s					
Std. Voltage		208VAC-3PH/480VAC-3PH					
Motor Power		2KW					
Air		40 PSI					

Table 1: Feeding width capacity in inches

Thickness gauge	AZ-F1-200	AZ-F1-300	AZ-F1-400
28	8.00	12.00	16.00
26	8.00	12.00	16.00
22	8.00	12.00	16.00
20	8.00	12.00	16.00
18	6.25	10.00	14.00
16	4.75	8.00	12.63
14	4.00	6.00	10.00
12	3.13	4.00	8.00
11	2.00	2.38	4.75
10	1.13	1.50	2.38





2.7. Adjusting Belt Tension and Checking Belt Life

The servomotor powers the rollers with a timing belt and timing pulleys. To ensure that the system runs well, it is important to periodically check the belt for excessive slack or cracks in the rubber.

Always make sure the power is off and locked before performing maintenance on the belt.

To access the timing belt compartment, undo the four bolts that hold the side guard without a pressure gauge, and remove the guard.

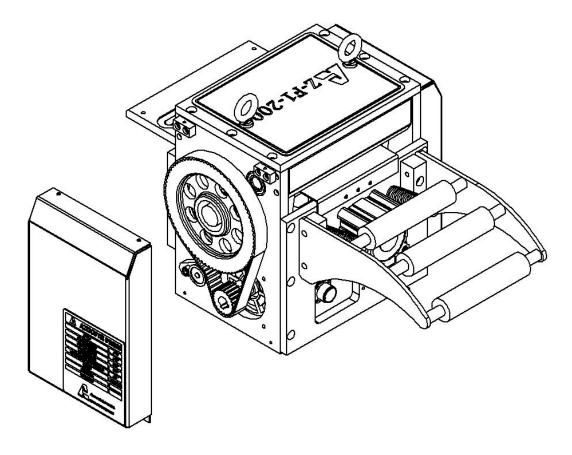


Figure 6: Timing belt compartment



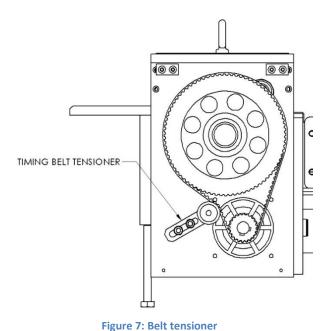


2.8. Belt Tensioning

Belt tension should be checked periodically and adjusted when needed using the feeder's belt tensioner.

To put tension back in the belt, loosen the two bolts that hold the tensioner in place and push it against the timing belt.

When the tension is sufficient on the belt, tighten the two bolts of the tensioner.



2.9. Belt Replacement

When the belt presents clear sign of wear or damage, it is time to replace it. A cracked belt is more prone to snapping and this will cause the feeder to stop functioning. The replacement part number is <u>HTD</u> <u>776-8M-30</u>.

To replace the timing belt, first loosen the two bolts on the belt tensioner, then pull the tensioner back. Remove the old timing belt and put on the new one. Push the tensioner against it and tighten the two bolts when sufficient tension is reached.



Figure 8: Replacement timing belt

<u>Always put the side guard back on the feeder before operating it. The timing belt presents pinch</u> points and could lead to injury.





3. Electrical Control

3.1.Main Menu

		JOBS	MAINTENANCE	09:14:36
Last Feed Torque 0.0 %	Ма	chine State		Job Counter 0 Reset Counter
Ľ	ob Active :			
Distance 0.000 Deceleration 0 mm/s Counter Setpoint 0	Speed Complete Pulse Metric	0 mm/s 0.0 s Feed before Press	Max Torque	0 mm/s 0 % elease sequence
START	AUTO	MANUA	L	

Figure 9: Main menu

Take note that the following electrical instructions may vary depending on the client personalize application.

You can always access the main screen from the navigation bar up top by pressing on the Azimuth logo.

The navigation bar allows you to access the menu for the uncoiler, alarms, the programmable jobs menu, and the maintenance screen which allows you to change advanced settings. Note that <u>a</u> <u>password is required</u> to access the maintenance screen.

Last feed torque displays what the torque was for the last feed executed, note that this <u>does not</u> <u>include manual jogging or micro steps</u>. The machine state will display what the feeder is currently doing. The job counter increases every time a feed is executed.

You can also view and change information about the current job, note that changing information here *will not save it to the current job*.



The bottom bar allows you to change the mode from auto and manual and also serves to change screens. Pressing on AUTO from the main screen will change to AUTO mode, pressing MANUAL from the manual screen will change to MANUAL mode. Note that both modes will reset, and you won't be able to toggle back, <u>when an alarm is active</u>. The start button allows you to start the machine when the feeder is set at feed before press.

3.2. Job Screen

		JOBS	MAINTENANCE	09:26:59
Job List	Job Select	ted	Job	Active
Alex	Title	Joey	Title	Alex
Joey	Distance 2	00.000 📫	Distance	200.000
	Speed	250 mm/s	Speed	250 mm/s
	Acceleration 2	000 mm/s²	Acceleration	2000 mm/s²
	Deceleration 2	000 mm/s²	Deceleration	2000 mm/s ²
	Complete Pulse	2.0 s	Complete Pulse	2.0 s
	Max Torque	100 %	Max Torque	100 %
	Counter Setpoint	0	Counter Setpoint	0
	Metric	Feed before Press	Metric	Feed before Press
	Bypass re	elease sequence	Вур	bass release sequence
	Save	<- Rea	d	Export
	Delete	Activate	->	Import

Figure 10: Job Screen

The job list shows the job that are *saved in the machine*.

The selected job shows the job which was selected in the list. If you press on the "Alex" job in the list, it will show its content.

The active job is the one which is currently in use by the feeder. The job selected merely shows you the content of the saved job.

The section below shows you actions that you can take on a job.

Save takes the job currently selected and saves it to the list. To **create a new job**, you must change the title and then save it.

Delete removes the job selected from the list <u>forever</u>. There is <u>no way to recover it</u> except if it was exported.



Read will take the active job and move it into the selected job, but it <u>will not save it</u> into the list.

Activate makes the current selected job into the active job.

Export will create a file on the HMI or on the USB stick that represents the job. This allows you to make backups.

Import will import a job that was exported back into the job list.

3.3. Components of a Job

Title	Joey
Distance	200.000
Speed	250 mm/s
Acceleration	2000 mm/s ²
Deceleration	2000 mm/s ²
Complete Pulse	2.0 s
Max Torque	100 %
Counter Setpoint	0
Metric	Feed before Press
	Bypass release sequence



Title: The name of the job.

Distance: The distance the feeder will advance. This is in metric if metric below is selected.

Speed: This is the speed at which the feeder will move. Will always be metric.

Acceleration: How quickly the feeder will reach its speed. Will always be metric.

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Deceleration: How quickly the feeder will stop. Will always be metric.

Complete Pulse: After every feed cycle a pulse will be given corresponding to the amount of time give here. Check for "Feed Complete" output on the electrical schema.

Max Torque: Represents the force in percentage that the motor is allowed before giving an alarm. Note that there is also <u>a max torque in the maintenance menu</u> that applies in manual mode.

Counter Setpoint: When the feeder reaches the counter setpoint then it will stop. Leave at zero to disable.

Metric: Check when you want the recipe to be in metric. Note that this only applies to the recipe, <u>to change the overall unit</u> you need to go to the maintenance menu. Be warned that checking metric will not automatically convert the distance; this needs to be done manually.

Feed before press: Selects whether the feeder starts the press or if the press starts the feeder.

Bypass release sequence: Bypasses the release part of the sequence, allowing the feeder to operate without releasing the pilot.

		JOBS	MAINTENANCE 10:55:23
Micro distance 0.00000 Speed 0.00 mm/s	I Settings Acceleration 0 mm/s ² Deceleration 0 mm/s ²		
Feed To Length Feed To Length RESET	Current Distance 0.00000 Recipe Feed Distance 0.00000	Begin Recording Current Distance	Recording Transfer to Recipe Distance 200.00000
Remote controls feeder or	uncoiler. Micro		Single Feed
Jog Reverse	AUTO	MANUAL	Jog Forward

3.4. Manual Mode

Figure 12: Manual mode explanation

NOTE: Manual mode must be selected for all of its controls to be accessible.





Feed To Length allows you to feed forward, but not past the total distance found in the recipe. To activate the feed to length mode then press the button and it will change color, the current distance will change from -1 to 0. Keep in mind that feed to length can go further than demanded, be careful and set a low acceleration and speed. You *cannot micro step* when using feed to length.

The upper right blank box will show state messages of the feeder, what the feeder is currently doing.

Recordings allow you to record a distance regardless of whether you've jogged forward or backwards. By pressing on the begin recording button the current distance will change to 0. You may then jog as you wish. Once you press end recording the total distance the feeder has moved forward will freeze and you can then transfer it to the active recipe using the button.

Micro-stepping can be activated with the Micro button. The feeder will then move the micro distance instead of jogging continuously when you press the button. Micro mode <u>will be reset</u> when selecting feed to length.

You can control whether the wireless remote moves the uncoiler or the feeder, should the machine have an uncoiler.

You can execute a single feed by maintaining the button for one second and then the entire time the feeder is moving.



3.5. Alarms



Figure 13: Alarm screen

The alarms screen will display alarms and allow you to reset them. Note that if the *press gives out a fault signal,* then the press controller will need to be reset before the alarm on the feeder.





Table 2: List of possible alarms

Alarm	Possible Problem	Solution
Double Feed	The feeder received a feed signal	Make sure the controller's output are
	while waiting for a reset or release	properly configured and that all wiring is
	signal.	properly connected.
Feed Signal Lost	The feed signal was lost during	Make sure the cam angle settings for the
	feeding.	feed are properly set on the press
		controller, or increase the speed of the
		feeder. Make sure that all wiring is properly
		connected.
Max Torque	The maximum torque set in	Inspect the mechanics of the feeder and die
	maintenance (if in Manual) or in	to make sure nothing is blocking it from
	the recipe (if in Auto) has been	operating properly. Make sure the proper
	reached.	material is selected. The max torque value
		is set too low or the machine is forcing
		more than it should – set it higher. Make
		sure a recipe is selected upon start-up.
Pilot Manual	The pilot release is manually	Turn the selector on the side of the feeder
	activated.	to the proper position
Press Fault	The press controller is giving an	Clear the fault with the press controller.
	error.	Make sure everything is properly wired.
Safety Activated	A safety has been activated.	Check all E-Stops and doors. Verify proper
		wiring.
Servo Drive Error	An error with the servo drive has	Press reset and if the error comes back then
	occurred.	lookup the error code on the drive inside of
		the panel and take appropriate measures.
Single Feed Error	Single feed button has not been	Make sure to maintain the single feed
	maintained long enough.	button all the while the feeder is feeding.
Uncoiler Auto Error	Feeder was put in Auto but the	Always put the uncoiler in Auto mode
	uncoiler was not.	before the feeder.
Uncoiler Pilot Error	The uncoiler pilot release is	Turn the selector on the side of the uncoiler
	manually activated.	to the proper position
Uncoiler Overload	Uncoiler motor has been	Perform a mechanical inspection of the
	overloaded	uncoiler to make sure nothing is blocking it.



3.6.Maintenance Screen

			JOBS	MAINTENANCE	15:39:37
Max Jog Distance mm 0.0000	Feeder Overall Unit	т	otal Length Advanced otal Number of Feeds umber of Pilot Releases	0	RESET
Overall Max Torque 96 0		L	teach, wait	nust be in manual to teach two seconds and position desired. Sensor - Begin Teach	
				Sensor - Teach Position an also use the feeder joo reverse buttons to teach	g forward and

Figure 14: Maintenance menu

Max jog distance is the maximum the feeder can feed, in manual, while keeping the button pressed. If the wireless remote loses its signal during a feed cycle, it will keep on feeding indefinitely. This setting helps mitigate that issue by setting a limit. Pilot release delay is the time it takes for the pilot to go back down. It is to ensure that whenever a feed is triggered then the pilot is already back in the correct position. Overall Max Torque is the torque limit when the feeder is in manual mode.

Feeder Overall Unit is the unit of the feeder when it is in manual. By default, it is in inches.

There are three counters which track different stats on the feeder. How long the machine has fed, the total number of feeds executed and the number of pilot releases performed.

There is an experimental functionality that allows you to reteach the setpoint position of the sensor for the uncoiler. Use at your own risk for now.



3.7.Uncoiler (Optional)

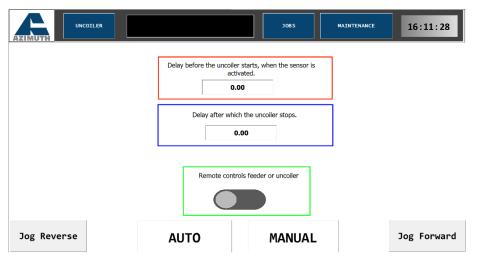


Figure 15: Uncoiler screen (Optional)

If your feeder comes with an uncoiler then you will be able to see this page. There are two delays that can be changed in order to modify how much the uncoiler uncoils the material and how quickly it starts. When the dancer bar below which the metal strip passes reaches a certain height then the uncoiler motor will start. This is controlled by a programmable sensor. The delay before the uncoiler starts when it has reached the sensor is the first parameter that can be set. The second is how long the uncoiler motor will keep on going after the sensor setpoint has been lost. There is an orange indicator light on the sensor itself.

You can choose whether the wireless remote controls the feeder or the uncoiler by toggling this switch.





3.8. Feeder Signals & Press Communication

Communication between the press and the feeder is done through six different signals. Four are sent from the press to the feeder, and two are sent from the feeder to the press.

The tables below explain the different signals that are exchanged between the feeder and the press.

Feed	Initial signal that triggers a feed cycle from the feeder.
Reset	After a feed signal, the press must send a reset signal before the feeder can repeat.
Release	Releases the pressure on the material by operating a solenoid- controlled valve. This part of the <u>sequence can be bypassed</u> . <u>Please visit section 2.3 for more detail</u> .
Error	A fault condition has occurred in the press and therefore the feeder must stop. <u>Please visit section 3.4 for more detail.</u>

Table 3: Signals from the press to the feeder

Table 4: Signals from the feeder to the press.

Complete Pulse	A pulse of programmable length given every time a feed is finished.
Error	A fault condition has occurred in the feeder and therefore the press must stop. <u>Please visit section 3.4 for more detail.</u>





4. Maintenance

4.1. Machine routine maintenance needs

- The condition in the air system (dryer/lubricator), daily oil checks should be made and the water must be emptied. Verify if there is a leak and the pressure is normal.
- Before working with the machine, operators must check all the working parts, should do the checks against the possibility of loosening and dismantling due to the vibrations occurring during feeding. Uncommon sounds are a good sign of malfunction.
- Periodically lubricate the bearings according to the maintenance chart. Most of them are sealed.
- Lubricate guidance rollers and screw shaft regularly for AZ-F3 models.
- Rollers must be cleaned before feeding the sheet.
- General maintenance and checks on the machine are mainly focused on abrasion and moving parts. Verify the following parts according to the maintenance chart. For further details, go to Appendix I.
 - o AZ-F1
 - AZ-F1-XXX-2001-00, AZ-F1-XXX-2007-00, AZ-F1-XXX-2104, AZ-F1-XXX-3001-00, AZ-F1-XXX-3004-00, AZ-F1-XXX-3005-00 & AZ-F1-XXX-6003-00.
 - o AZ-F2
 - AZ-F2-XXX-2001-00, AZ-F2-XXX-2007-00, AZ-F2-XXX-2008-00, AZ-F2-XXX-2009-00, AZ-F2-XXX-2104-00, AZ-F2-XXX-2011, AZ-F2-XXX-2012, AZ-F2-XXX-3001-00, AZ-F2-XXX-3004-00, AZ-F2-XXX-3005-00, AZ-F2-XXX-2008-00, AZ-F2-XXX-3102-00 & AZ-F1-XXX-6003-00.
 - AZ-F3 (INCOMING)

Table 5: Routine maintenance needs

Parts	Daily	Weekly	Monthly	Biannual
Conditioning oil control	\checkmark			
Lubrication of bearings		\checkmark		
Rollers cleaning	\checkmark			
General maintenance and checks of the machine				\checkmark

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4.2.Machine troubleshooting instructions

For any requests regarding troubleshooting or issues with the machine, contact the following authorized personal.

For mechanical requirements:

• Charles Lefebvre <u>charles@azimuthpress.com</u> & Joey Trudeau <u>joey@azimuthpress.com</u>

For electrical or programming requirements:

• Alex Savoie <u>alex@azimuthpress.com</u>

The following general conditions must be followed.

- Check the machine and make sure that here is no damage when taking delivery of your machine. Please ask your dealer for replacement of shipping damage within 7 days starting the date of purchase, replacement requests are invalid after 7 days.
- Please check whether the accessories are missing while delivery of your machine. If there are any missing parts, please ask your dealer for the provision of the parts in question within 7 days from the date of purchase. Request you make after 7 days will not be considered.
- Make sure your machine is grounded and there are no voltage fluctuations on power supply.
- Failures caused by use of improper power connections are not covered by warranty of your machine. Repair of such failures will bring you financial burden.
- Do not try to attach external parts to each other's slots or their own slot the wrong way. Do all connections while the machine is off, do not try to attach or detach any parts while the machine is running.
- Do not interfere with software on the machine. Any modification to the software can be done if only Azimuth approves the request. Otherwise, it will cause your machine to be out of warranty.
- Make sure all connections to the machine are correctly made.
- Machine work surface must be flat, non-slip and solid.
- If our machine works with another machine than Azimuth ones, the manufacturer is not liable for any damage or work loss due to shock, moving around or vibrations in the event of overload of the other machine.
- Loading capacity of the machine must not be exceeded. Work overload will damage the machine and all components rotating.

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AZIMUTH MACHINERY



T. 450 632 8080 • <u>sales@azimuthpress.com</u> • www.azimuthpress.com 6040 Route 132, Ste-Catherine, Quebec, Canada, J5C 1B6

- Make sure the machine is working as shown by the technical service during installation.
- Make sure there are no dust, slug or aluminum powder from sheet material sticking in the machine's rotating parts, every time you load a product roll.
- Only use our machines for sheet materials, our machines are designed for uncoiling, feeding and cutting sheet metals. They are not suitable for round or rectangle profiled materials.

Fault phenomenon	Failure cause	Elimination methods
	Feeding roller have not	Increasing pressure
	enough pressure	
	Feeding length too long	Upper die strip material adverse puller
There is a fixed direction		phenomenon
feeding error	Feeding length not enough	Coil width and mold guide plate is appropriate? Or
		mold and feeder is straight line.
	Burrs or foreign bodies	Check the retaining plate and stripper for burrs or
		foreign bodies
	Feeder adjustment quantity	Leveling machine and feeder whether match or
	of materials	leveling machine and feeder of middle distance
		and material arc height and appropriate punch
Feed produced when		turnover number
unexpected errors	Transmission gap is too	Will tighten gauge belt pulley
unexpected errors	large between roller and	
	servo feeder	
	Coil related conditions	Material thickness, width and length is in
		accordance with the standards?
	Coil thickness corresponding	Adjust the pressure
	to the pressure	
	Coil width and keep-off	Adjust the keep-off wheel
Coil serpent	wheel is not in proper place	
	On both sides of the roller	Adjust on both sides of the roller to parallel
	and materials between high	
	and low is not the same	
	Roller pressure is too large	The pressure drops
	Feeding roller and the	Check whether mold guide groove and feeder in
	material of sliding	line? The mold has waste that did not roll out?
	phenomenon	Materials have burrs and the phenomenon of card
		mode.

Table 6: Troubleshooting instructions

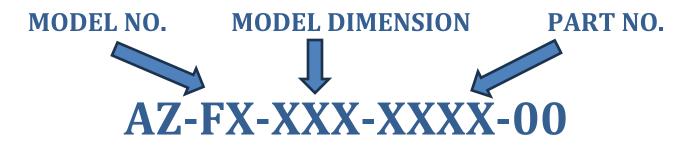




APPENDIX

APPENDIX I: AZ-FX SERIES DRAWINGS

In this appendix, you will find the spare parts and dimensions for all the AZ-FX servo feeder models. Note that the part numbers when ordering use the following template.







AZ-F1-XXX

AZ-F1-XXX SPARE PARTS:

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AZ-F1-200-0001-00	AIR CONNECTOR	1
2	AZ-F1-200-0002-00	SPECIFICATIONS PLATE	1
3	AZ-F1-200-0003-00	TOP DECO PLATE	1
4	AZ-F1-200-0004-00	FEEDER SIDE DECO PLATE	1
5	AZ-F1-200-0005-00	PRESSURE REGULATING VALVE	1
6	AZ-F1-200-0006-00	PILOT RELEASE PLATE	1
7	AZ-F1-200-0007-00	KEY SWITCH 2 POSITIONS	1
8	AZ-F1-200-0008-00	SINGLE SCALE PRESSURE GAUGE WITH STEEL CASE	1
9	AZ-F1-200-1000-00	FRAME	1
10	AZ-F1-200-2000-00	CRANKSHAFT ASSEMBLY	1
11	AZ-F1-200-3000-00	COUPLING SHAFT	1
12	AZ-F1-200-4000-00	ROLLER ASSEMBLY	1
13	AZ-F1-200-5000-00	WIDTH LIMITER	4
14	AZ-F1-200-6000-00	MOTOR	1
15	AZ-F1-200-7000-00	TENSIONER	1
16	AZ-F1-200-8000-00	ADJUSTING PLATE	1
17	AZ-F1-200-11000-00	ADJUSTING CYLINDER FOR THICKNESS	1

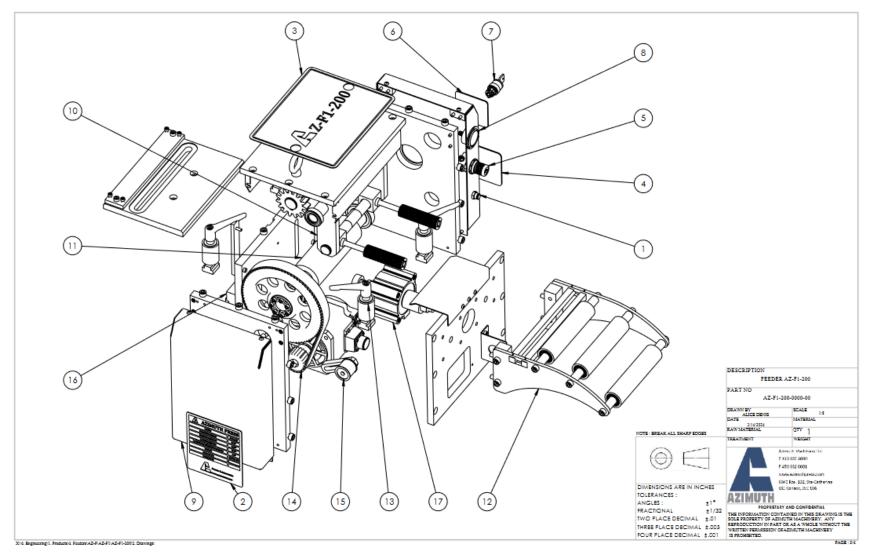


2014. Engineering 1. Freducts14. Feeders1 AZ-F1 AZ-F1 AZ-F1-200 2. Drs

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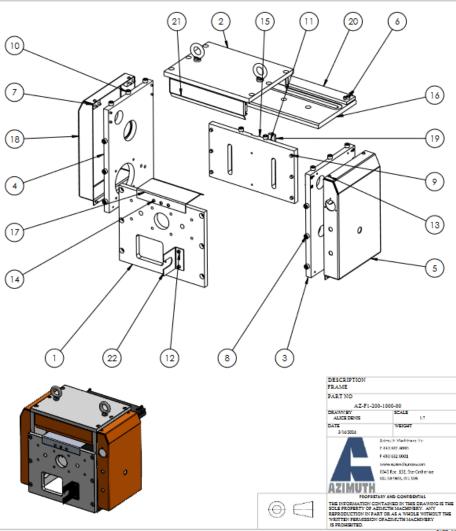


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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AZ-F1-200-1001-00	FRONT PLATE	1
2	AZ-F1-200-1002-00	TOP PLATE	1
3	AZ-F1-200-1004-00	SIDE PLATE	1
4	AZ-F1-200-1003-00	SERVO SIDE PLATE	1
5	AZ-F1-200-1011-00	AZ-F1 SIDE GUARD	1
6	B18.3.1M - 8 x 1.25 x 20 Hex SHCS 20NHX		2
7	B18.3.1M - 6 x 1.0 x 20 Hex SHCS 20NHX		20
8	B18.3.1M - 10 x 1.5 x 25 Hex SHCS 25NHX		6
9	B18.3.1M - 10 x 1.5 x 16 Hex SHCS 16NHX		8
10	B18.3.1M - 10 x 1.5 x 20 Hex SHCS 20NHX		6
11	B18.3.1M - 6 x 1.0 x 16 Hex SHCS 16NHX		2
12	B18.3.1M - 6 x 1.0 x 12 Hex SHCS 12NHX		2
13	B18.3.4M - 6 x 1.0 x 10 SBHCSN		8
14	B18.3.4M - 6 x 1.0 x 6 SBHCSN		3
15	AZ-F1-200-1005-00	BACK PLATE	1
16	AZ-F1-200-1006-00	BED PLATE	1
17	AZ-F1-200-1013-00	GUIDE PLATE	1
18	AZ-F1-200-1011-01	AZ-F1 SIDE GUARD	1
19	AZ-F1-200-1008-00	GUIDE	1
20	AZ-F1-200-1009-00	CLAMPING PLATE	1
21	AZ-F1-200-1012-00	FRONT GUARD	2
22	AZ-F1-200-1014-00	CABLE TIDY PLATE	1



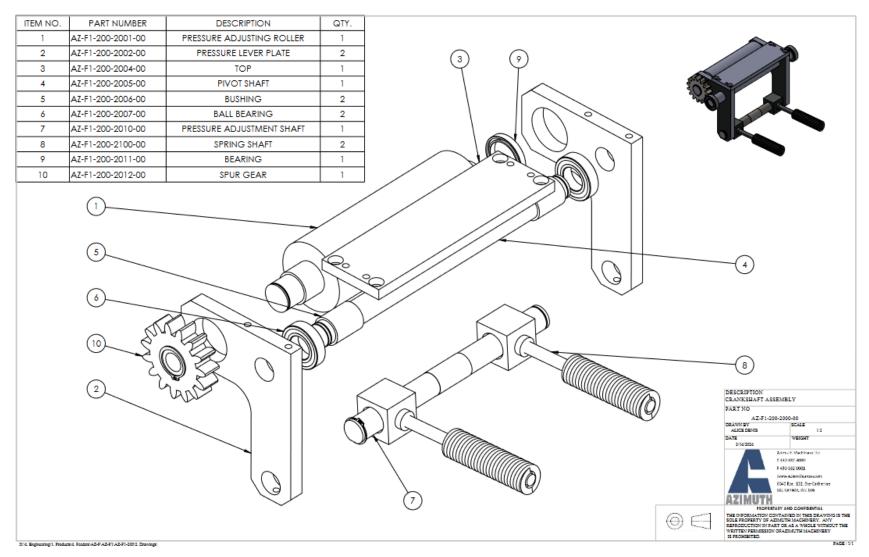
X14. Engineering 1. Products14. Feeders1AZ-F1AZ-F1AZ-F1-0001. Drawings

PAGE: 1/1

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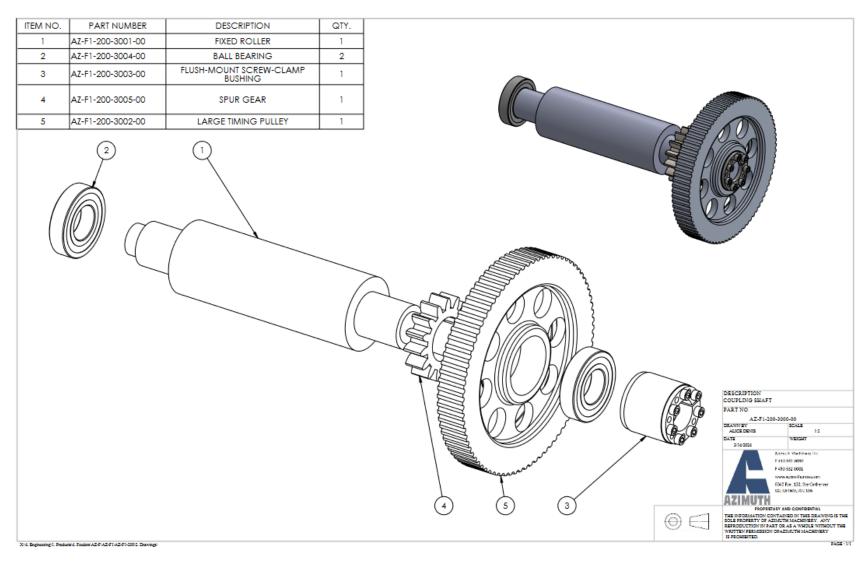








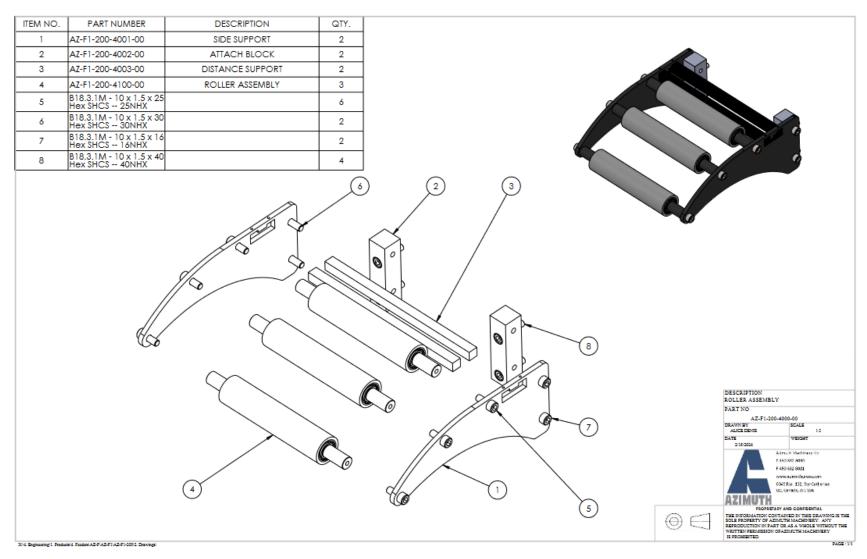








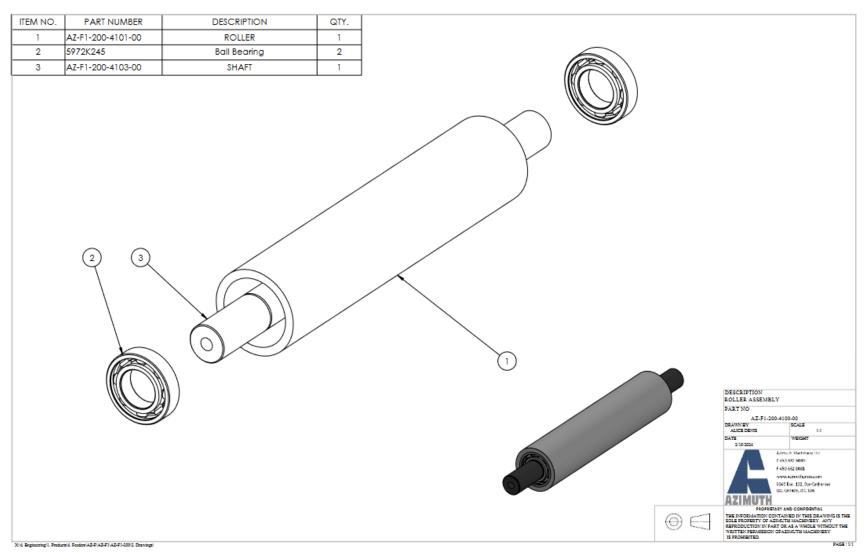








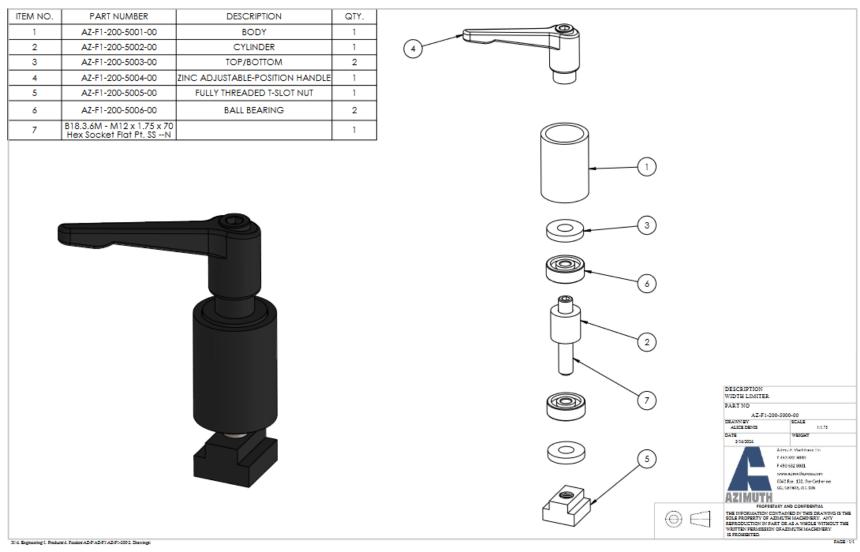








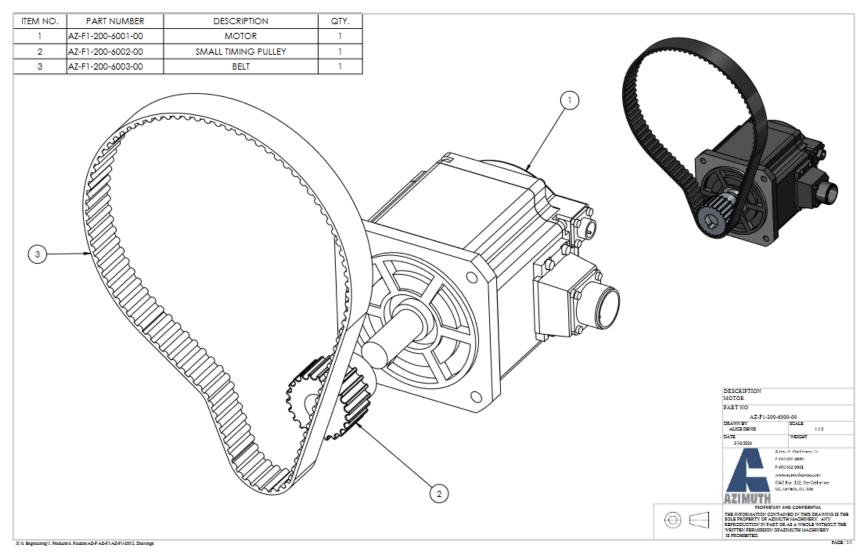




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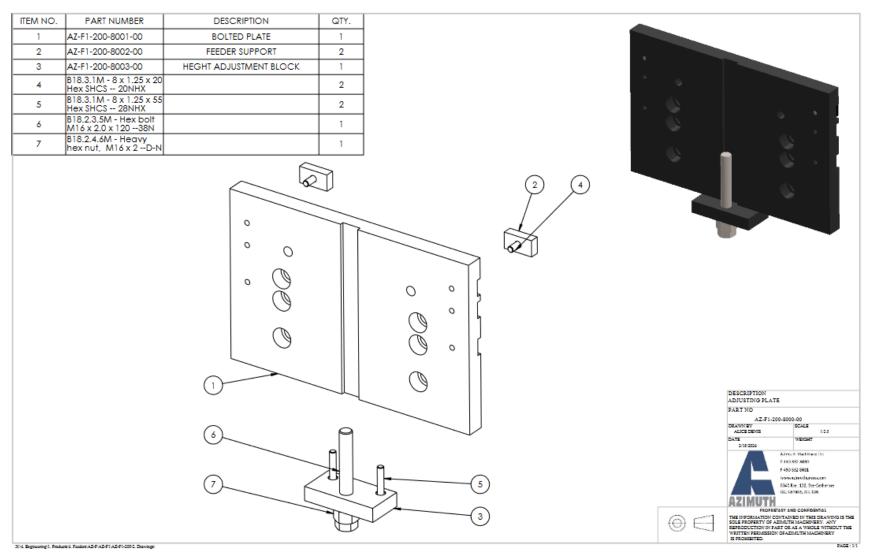








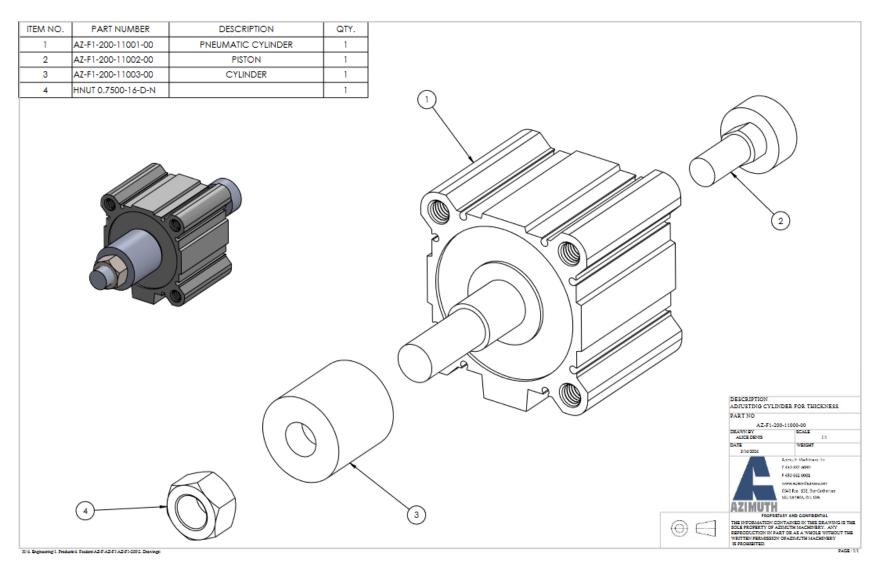








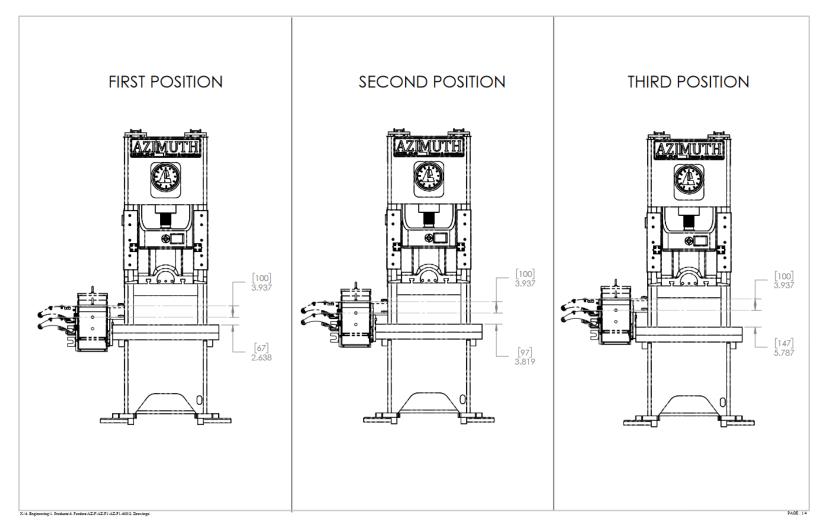








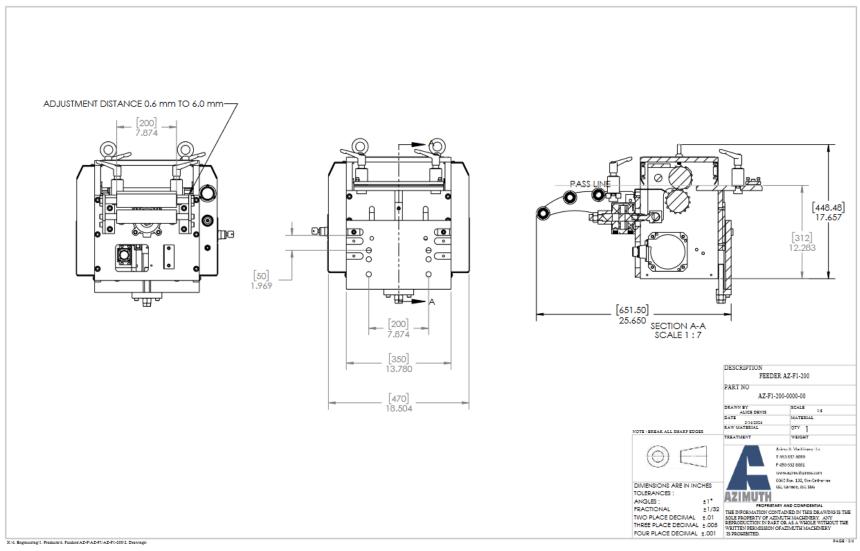
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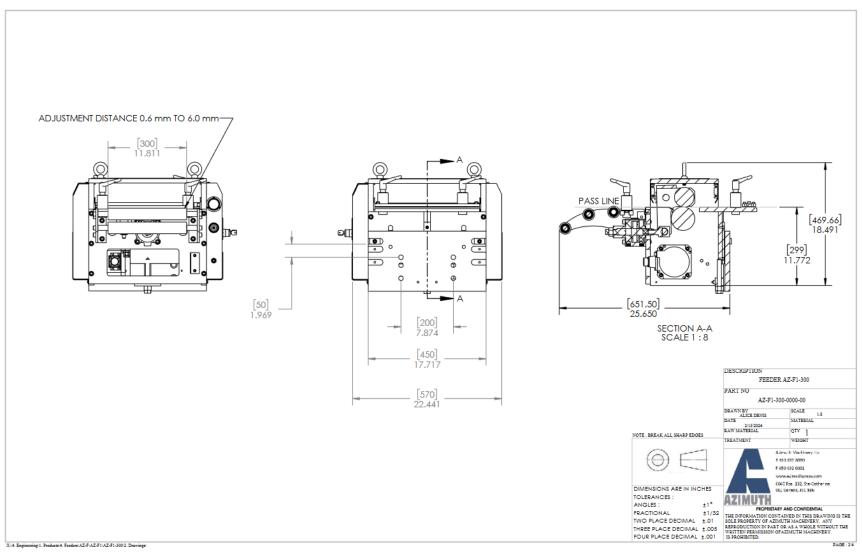








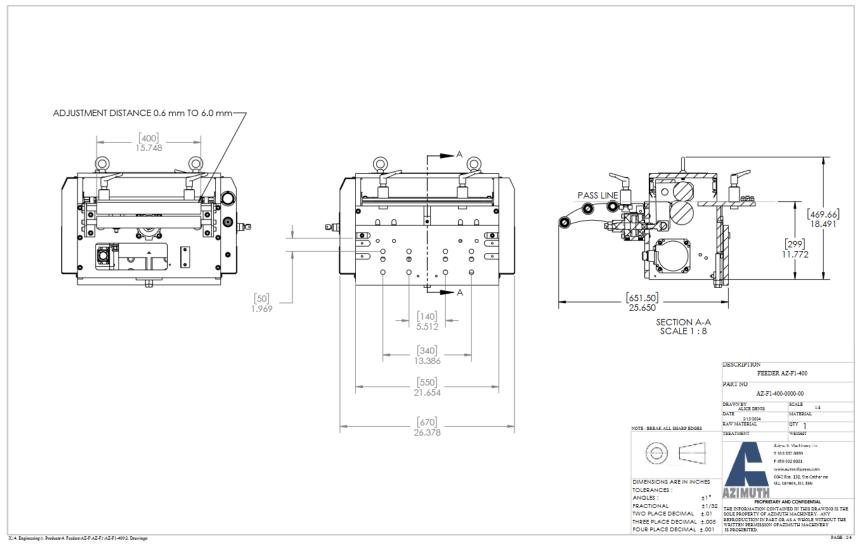








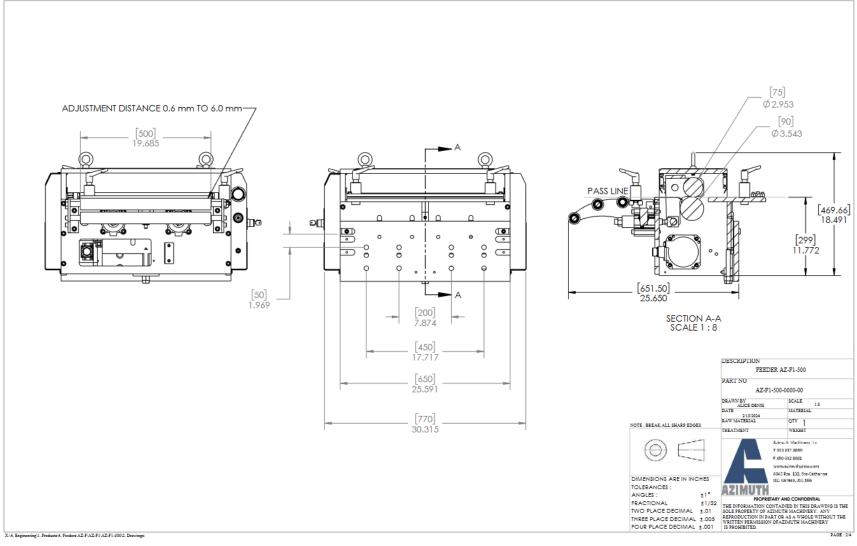




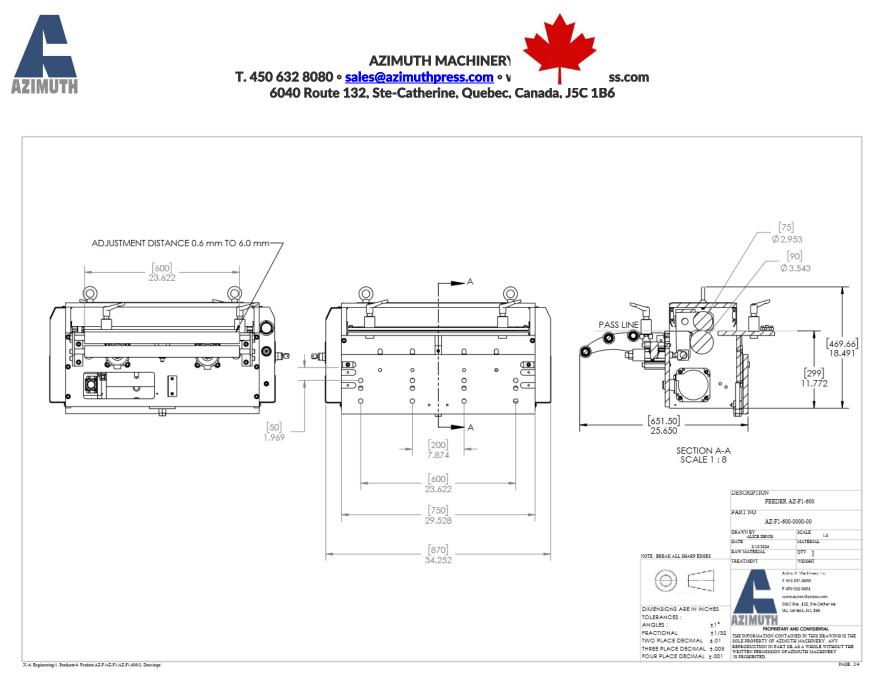




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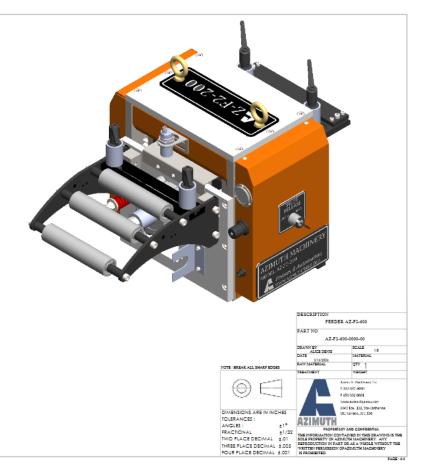




AZ-F2-XXX

AZ-F2-XXX SPARE PARTS:

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AZ-F2-200-1000-00	FRAME	1
2	AZ-F2-200-2000-00	CRANKSHAFT ASSEMBLY	1
3	AZ-F2-200-3000-00	COUPLING SHAFT	1
4	AZ-F2-200-3100-00	SMALL GEAR ASSEMBLY	1
5	AZ-F2-200-4000-00	ROLLER ASSEMBLY	1
6	AZ-F2-200-5000-00	WIDTH LIMITER	4
7	AZ-F2-200-6000-00	MOTOR	1
8	AZ-F2-200-7000-00	TENSIONER	1
9	AZ-F2-200-8000-00	ADJUSTING PLATE	1
10	AZ-F2-200-9000-00	SENSOR	1
11	AZ-F2-200-11004-00	AIR DIRECTIONAL CONTROL VALVE	1
12	AZ-F2-200-11005-00	SINGLE SCALE PRESSURE GAUGE WITH STEEL CASE	1
13	AZ-F2-200-11006-00	PRESSURE REGULATING VALVE	1
14	AZ-F2-200-11007-00	AIR CONNECTOR	1
15	AZ-F2-200-11008-00	KEY SWITCH 2 POSITIONS	1
16	AZ-F2-200-12001-00	SPECIFICATIONS PLATE	1
17	AZ-F2-200-12002-00	TOP DECO PLATE	1
18	AZ-F2-200-12003-00	FEEDER SIDE DECO PLATE	1
19	AZ-F2-200-12004-00	PILOT RELEASE PLATE	1
24	AZ-F2-200-11000-00	ADJUSTING CYLINDER FOR THICKNESS	1

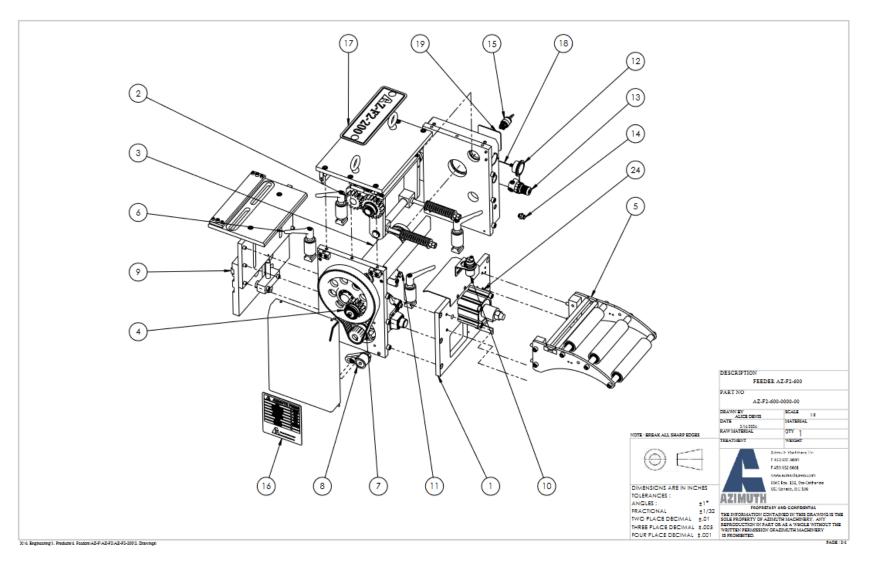


214. Engineering 1. Products' 4. Feeders' AZ-F1 AZ-F1 AZ-F1-2001. Drawin

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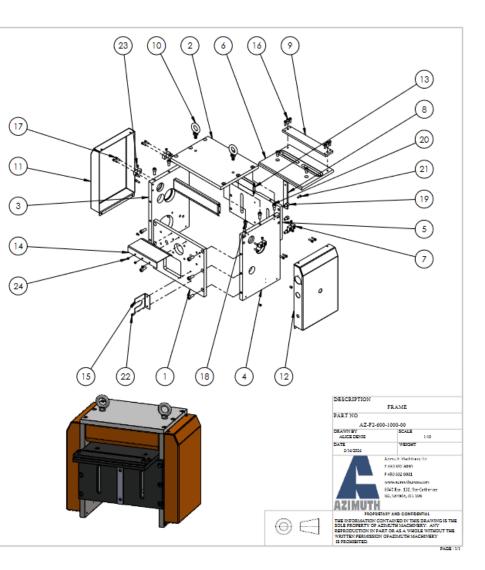








ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	AZ-F2-200-1001-00	BACK PLATE	1
2	AZ-F2-200-1002-00	TOP PLATE	1
3	AZ-F2-200-1003-00	RIGHT SIDE PLATE	1
4	AZ-F2-200-1004-00	LEFT SIDE PLATE	1
5	AZ-F2-200-1005-00	ADJUSTING FRONT PLATE	1
6	AZ-F2-200-1006-00	MATERIAL TABLE	1
7	AZ-F2-200-1007-00	COVER SUPPORT	4
8	AZ-F2-200-1008-00	SLIDE	1
9	AZ-F2-200-1009-00	CLAMPING PLATE	1
10	AZ-F2-200-1010-00	STEEL EYEBOLT- FOR LIFTING	2
11	AZ-F2-200-10001-00	COVER	1
12	AZ-F2-200-10001-00	COVER	1
13	AZ-F2-200-10002-00	LIMITING SUPPORT	2
14	AZ-F2-200-10003-00	GUIDING PLATE	1
15	AZ-F2-200-10004-00	L PLATE	1
16	B18.3.1M - 8 x 1.25 x 20 Hex SHCS 20NHX		2
17	B18.3.1M - 6 x 1.0 x 20 Hex SHCS 20NHX		20
18	B18.3.1M - 10 x 1.5 x 25 Hex SHCS 25NHX		10
19	B18.3.1M - 10 x 1.5 x 16 Hex SHCS 16NHX		8
20	B18.3.1M - 10 x 1.5 x 20 Hex SHCS 20NHX		2
21	B18.3.1M - 6 x 1.0 x 16 Hex SHCS 16NHX		2
22	B18.3.1M - 6 x 1.0 x 12 Hex SHCS 12NHX		2
23	B18.3.4M - 6 x 1.0 x 10 SBHCSN		8
24	B18.3.4M - 6 x 1.0 x 6 SBHCSN		3



X14. Engineering 1. Products' 4. Feeders' AZ-F1 AZ-F1 AZ-F1-1001. Drawings

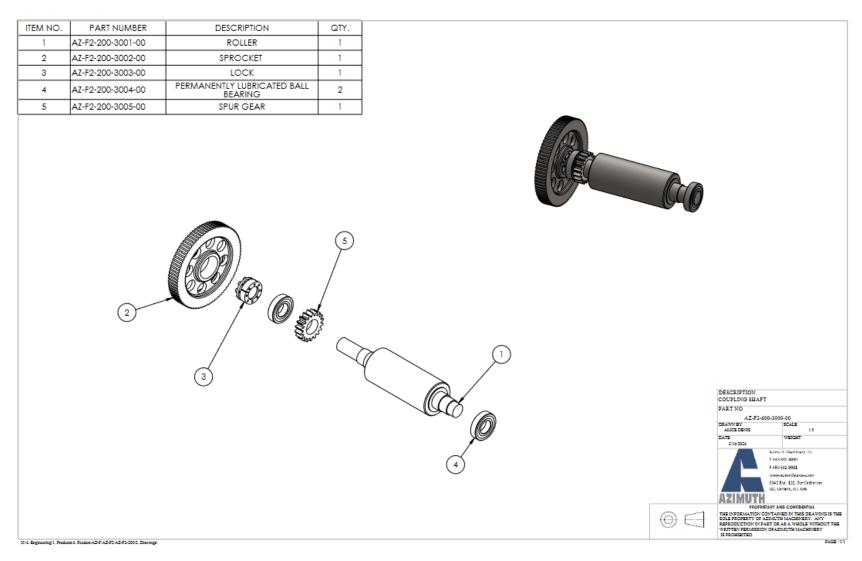




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ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	
1	AZ-F2-200-2001-00	ROLLER	1	$\downarrow \forall \forall \forall \forall \forall \forall \forall \forall \forall $
2	AZ-F2-200-2002-00	RIGHT SUPPORT	1	
3	AZ-F2-200-2003-00	LEFT SUPPORT	1	
4	AZ-F2-200-2004-00	TOP	1	
5	AZ-F2-200-2005-00	SHAFT GEAR	1	
6	AZ-F2-200-2006-00	BUSHING	1	\Box
7	AZ-F2-200-2007-00	PERMANENTLY LUBRICATED BALL BEARING	2	
8	AZ-F2-200-2008-00	SINGLE ROW DEEP GROOVE BEARING WITH A SNAP RING	1	
9	AZ-F2-200-2009-00	BALL BEARING	2	
10	AZ-F2-200-2010-00	SPRING SHAFT	1	
11	AZ-F2-200-2100-00	SPRING	2	
12	AZ-F2-200-2011-00	SPUR GEAR	1	
13	AZ-F2-200-2012-00	SPUR GEAR	1	
14	B27.7M - 3AM1-25		4	
15	B27.7M - 3AM1-24		1	
16	B18.3.1M - 8 x 1.25 x 20 Hex SHCS 20NHX		4	
17	B18.3.6M - M6 x 1.0 x 20 Hex Socket Flat Pt. SSN		2	
18	B18.3.6M - M6 x 1.0 x 12 Hex Socket Flat Pt. SSN		4	
19	B18.3.6M - M6 x 1.0 x 8 Hex Socket Flat Pt. SS - -N		2	
				DESCRIPTION CRANESSART ASSEMBLY FAR TO B ALC: F1-600-2000-00 DEALINE TO B F1-600-2000-00 DEALINE TO B F1-600-20
				SOL PROPERTY OF AZUNCTRI MACHINERY REPRODUCTION IN FART OR AS A WHOLE WITH WRITELY REPRESENCE OF AZUNCTRI MACHINERY HISTORIETTS

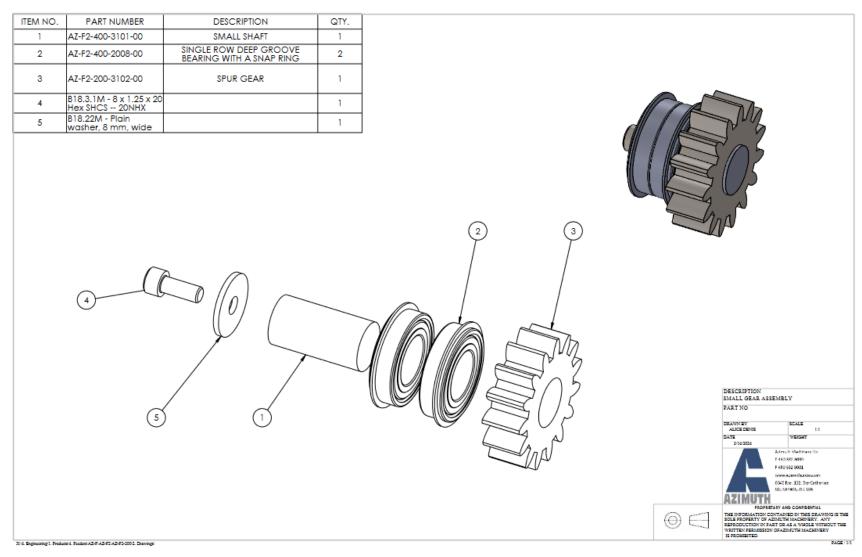








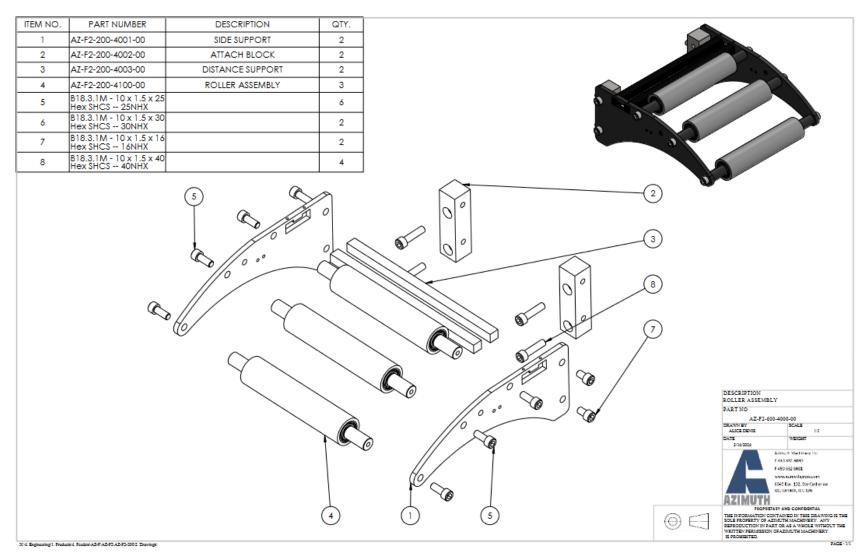








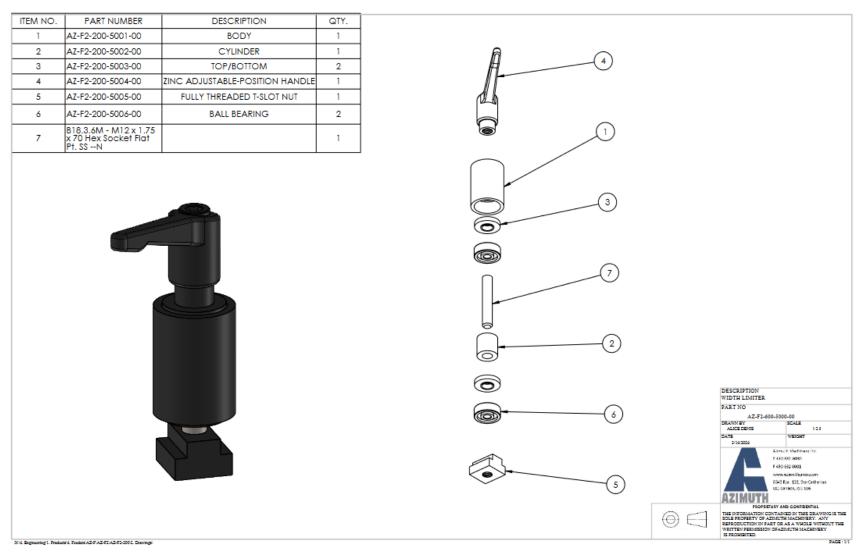








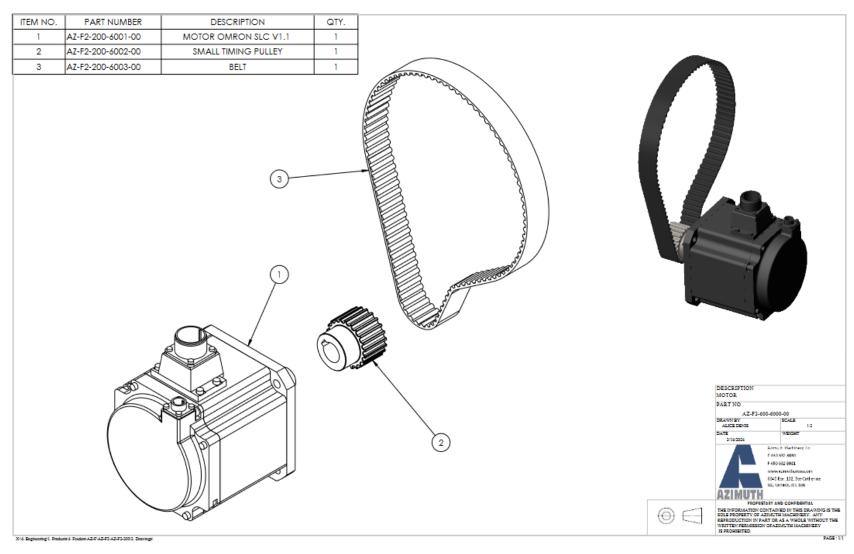






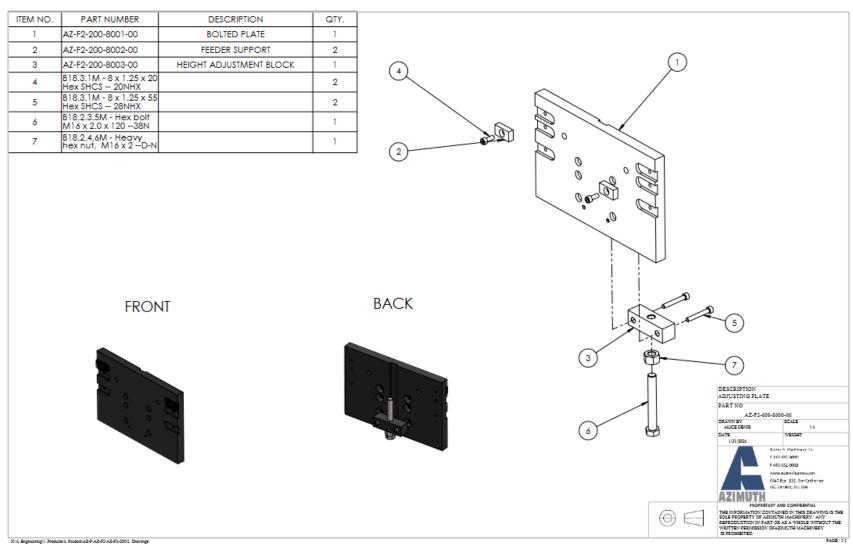
















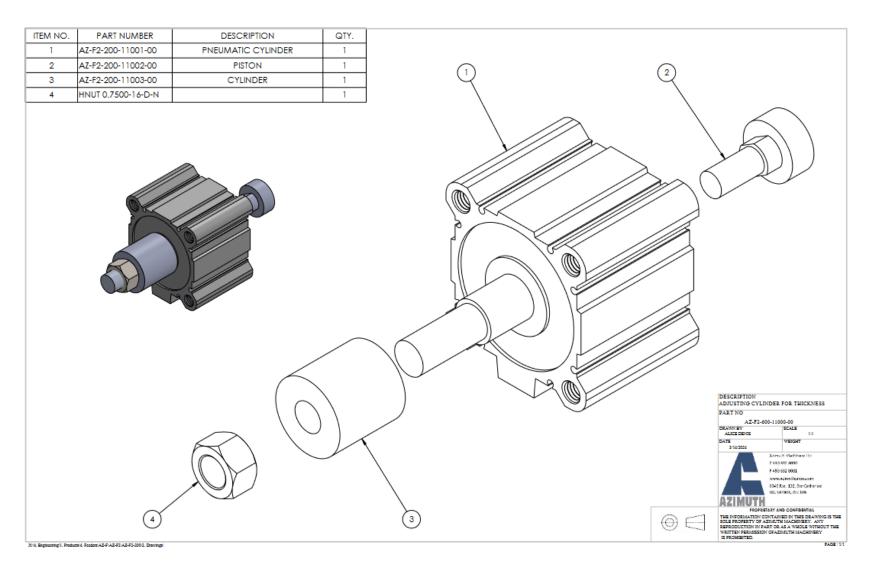


IO. PART NUMBER DESCRIPTION QTY.
AZ-F2-200-9001-00 SENSOR 1
AZ-F2-200-9002-00 SENSOR SUPPORT 1





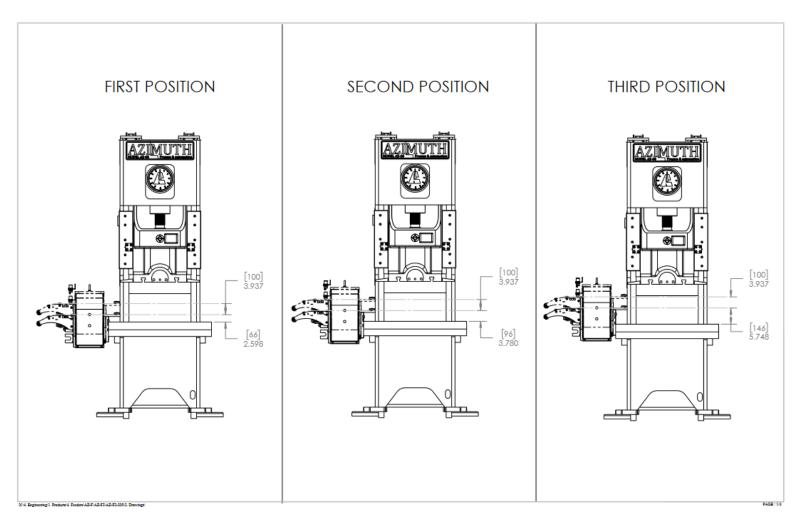




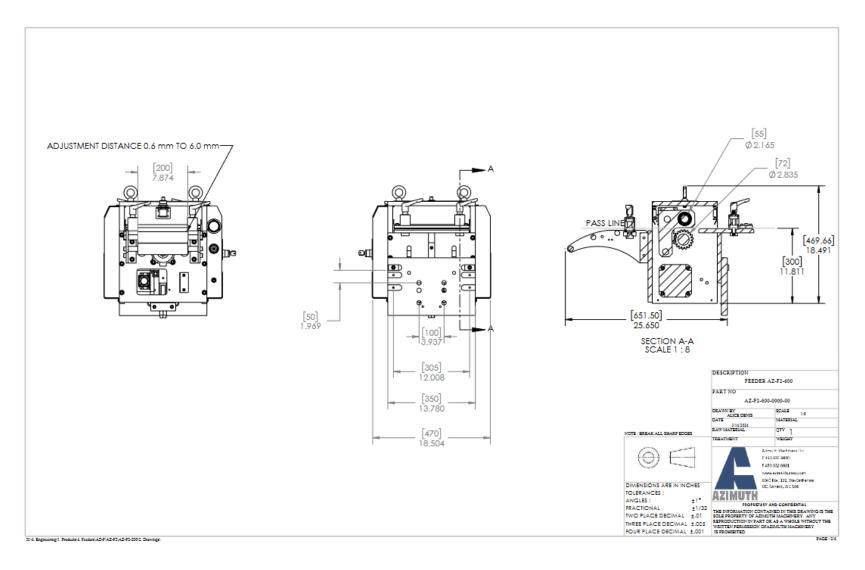




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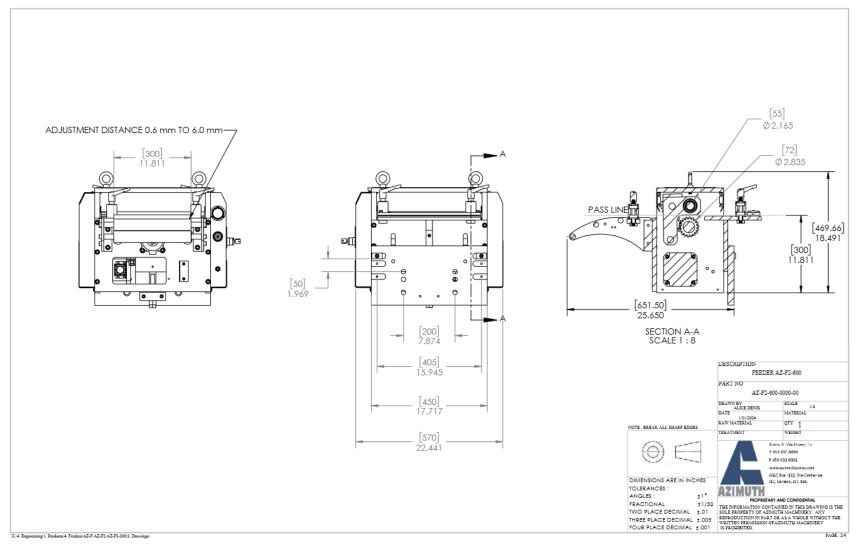




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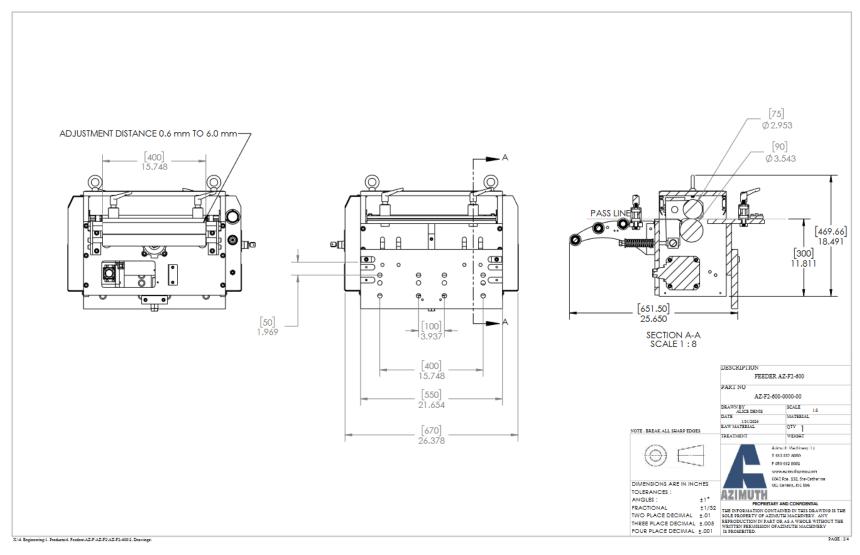
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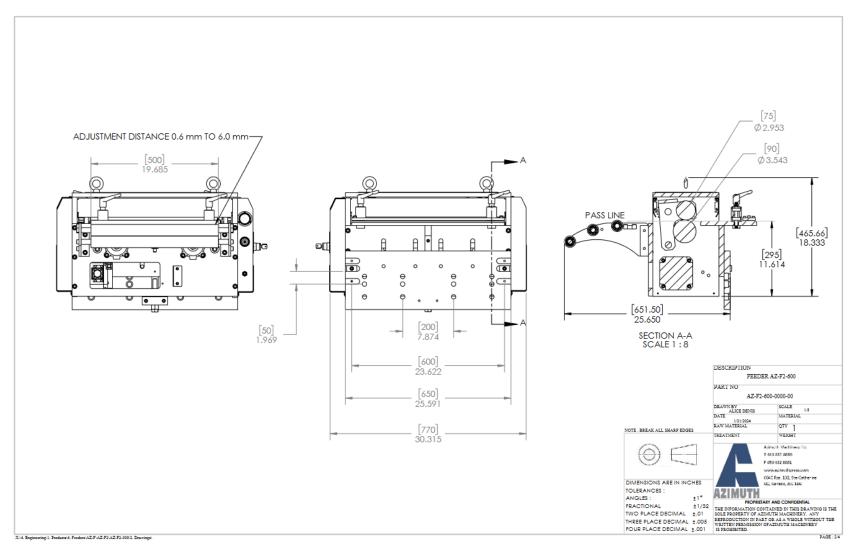


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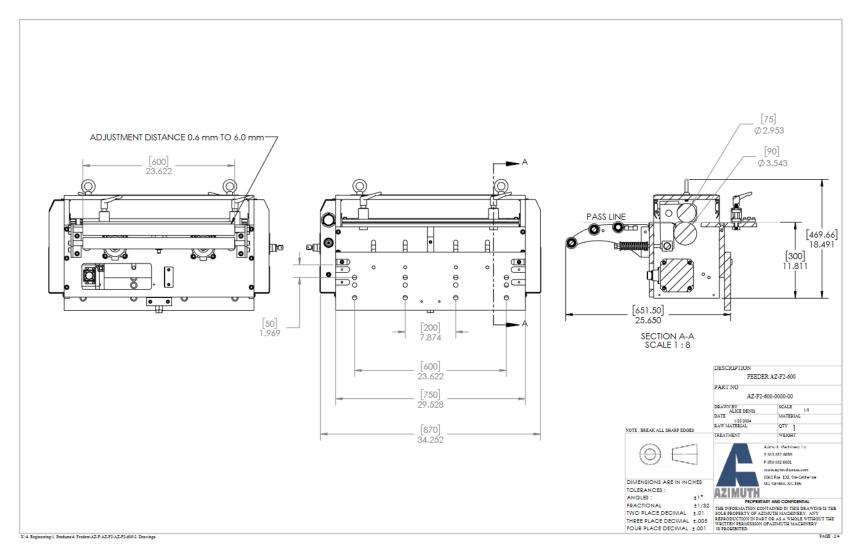




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AZ-F3-XXX (INCOMING):



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