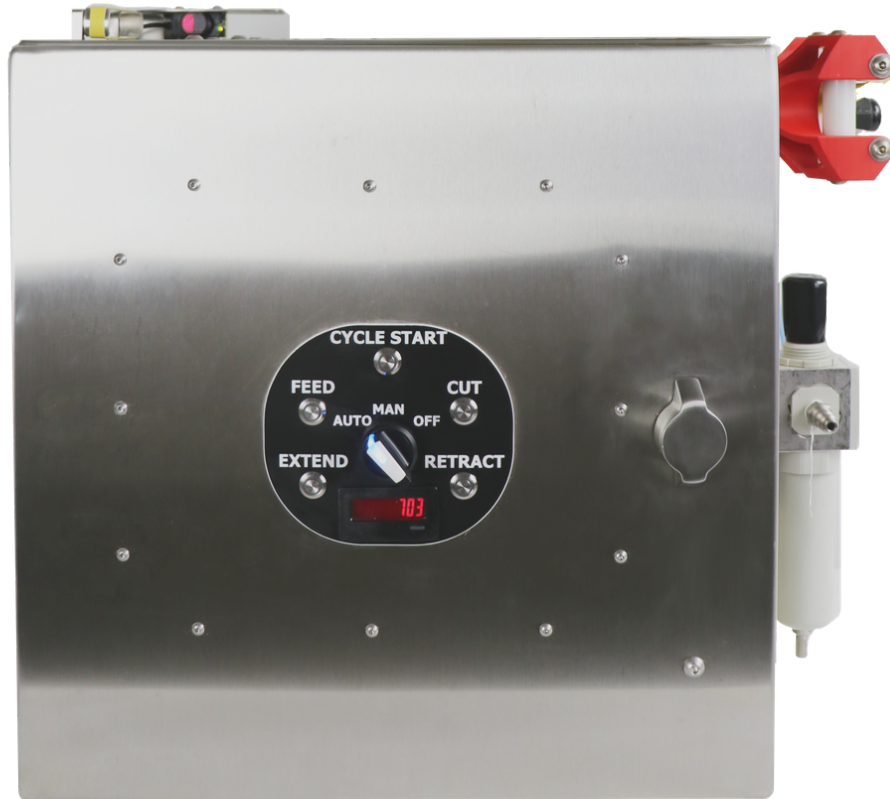




OYSTER BANDING MACHINE

Operator's Manual

(2020.09)



Manufactured in the USA by:
ALLIANCE RUBBER COMPANY
Hot Springs, AR



Holding Your World Together

www.RubberBand.com



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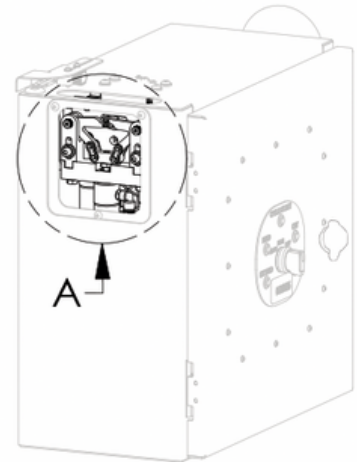
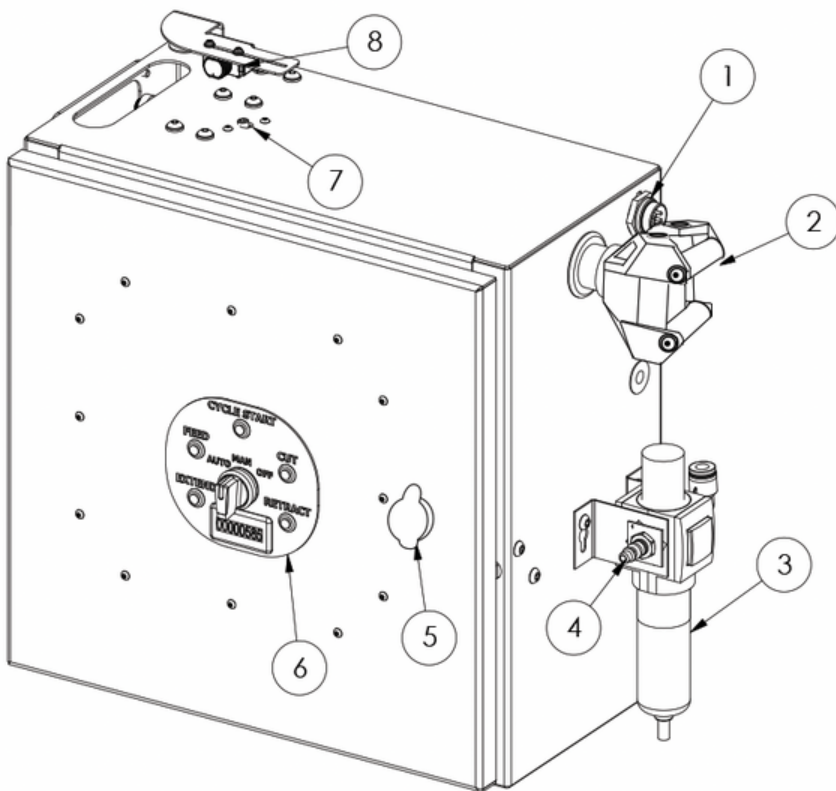
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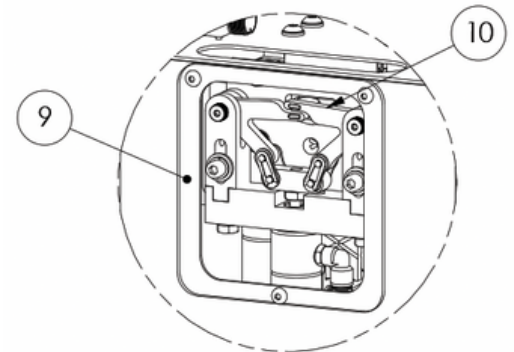
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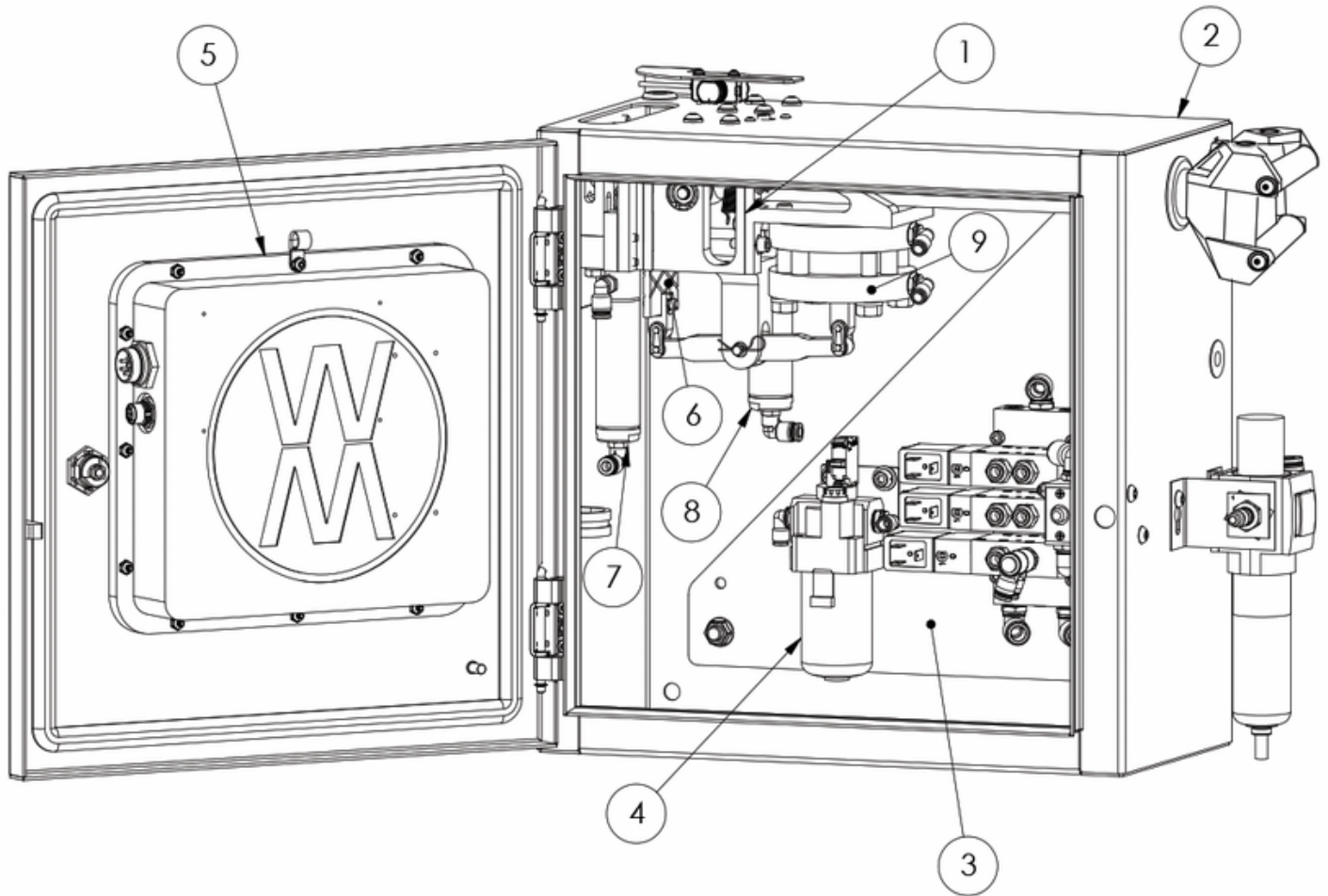
1. Power Connector
2. Feed Tube
3. Regulator
4. Compressed Air Inlet Valve
5. Door Lock
6. Control Panel
7. Feed Tensioner
8. Sensor
9. Safety Shield
10. Fingers



DETAIL A
Fingers Assembly



1. Core Assembly
2. Main Enclosure
3. Subpanel Assembly
4. Lubricator
5. Control Box
6. Knife Blade
7. Fingers Cylinder
8. Feed Cylinder
9. Knife cylinder



1 Safety Procedures

Caution



- FAILURE TO REMOVE APPENDAGES OR OTHER FOREIGN MATERIALS FROM THE PATH OF THE KNIFE BLADE CAN RESULT IN PROJECTILES OR LOSS OF APPENDAGES.



- DO NOT LET ANY BODY PART CROSS THROUGH THE PATH OF THE KNIFE BLADE AT ANY TIME.



- DO NOT LET ANY BODY PART GET STUCK BELOW THE FINGERS MECHANISM WHILE OPERATING.

■ Power Source

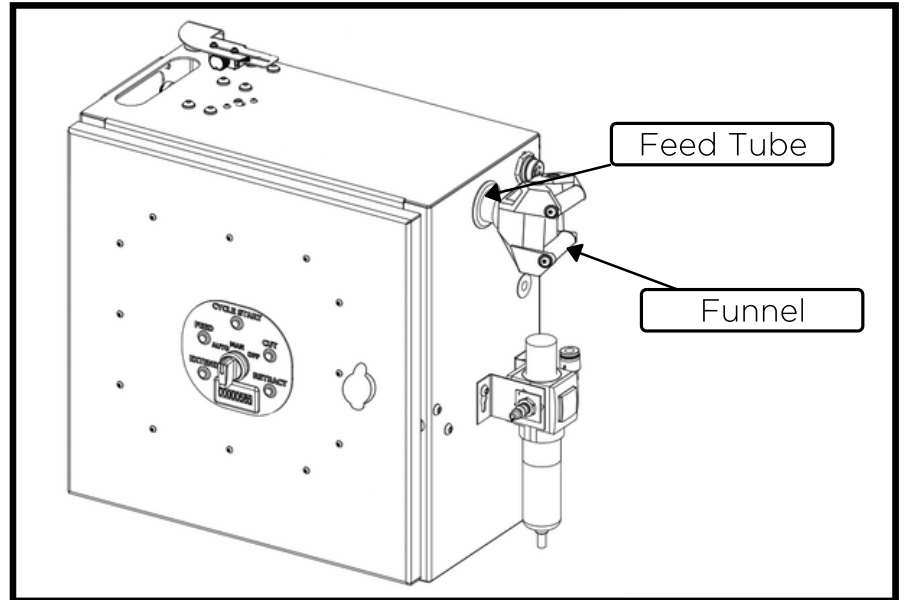
- This device can be operated from 110-120 VAC~ 1.4A 50-60Hz and should be used with the provided power cable. The connection can be directly attached using the 3-prong plug attached to the provided power cable.
- Alternatively, the power can be directly wired to a 12-24VDC auxiliary power supply (battery) and should be used with the provided power cable. The connection can be directly wired using the 2-pin plug attached to the provided power cable. The positive terminal should be connected to the yellow wire.

■ Air Source

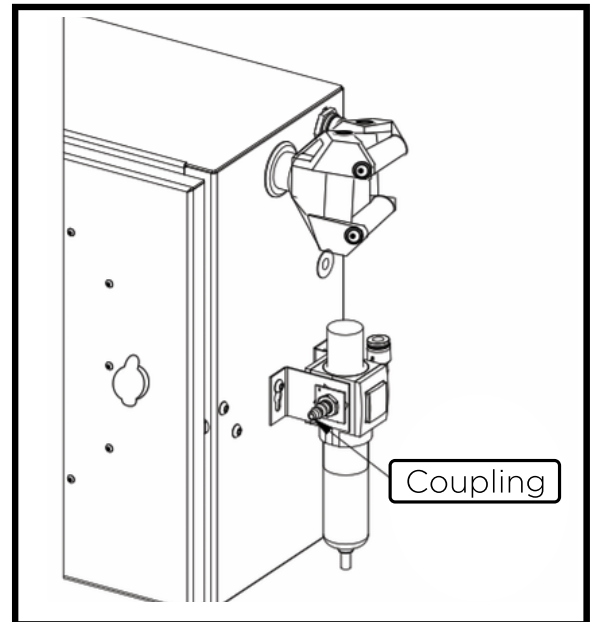
- This device requires a minimum of 100psi of clean and dry air for the inlet valve for proper operation.

2 Machine Setup

- 1 Attach the provided funnel by placing it on the end of the feed tube.



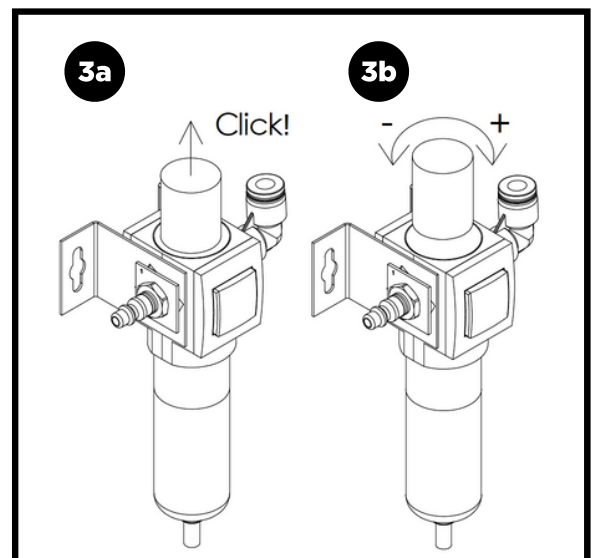
- 2 Connect an air compressor to the regulator using the 1/4" male quick connect coupling. Make sure the inlet compressed air is regulated to 75 psi.



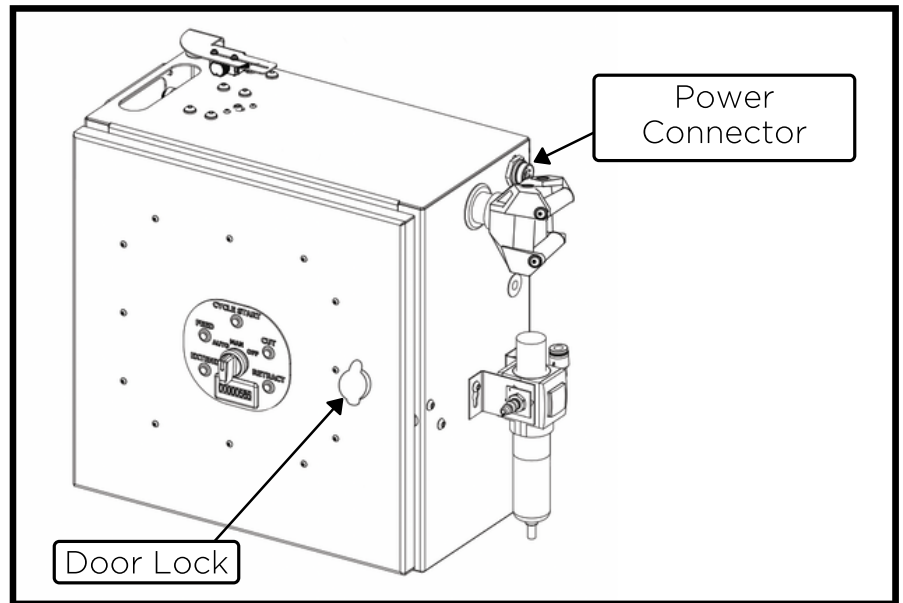
- 3a Pull up on the regulator adjustment knob until it clicks to adjust pressure.

- 3b Adjust the regulator pressure to 75 psi. Turn the handle clockwise to increase the pressure and counterclockwise to decrease the pressure supplied to the system. (It is not recommended for pressure to be greater than 75 psi)

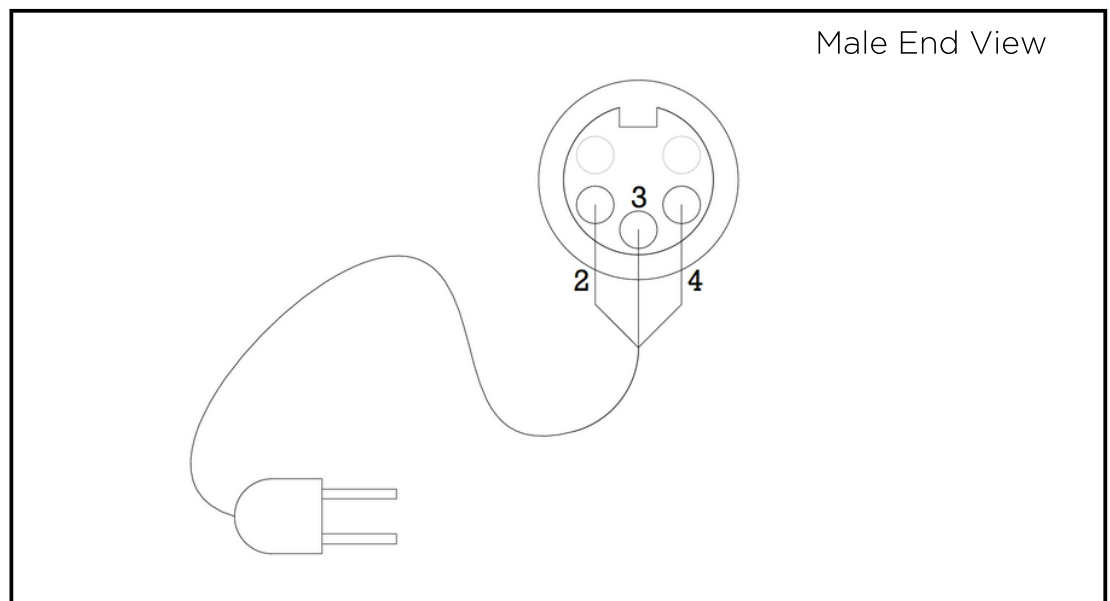
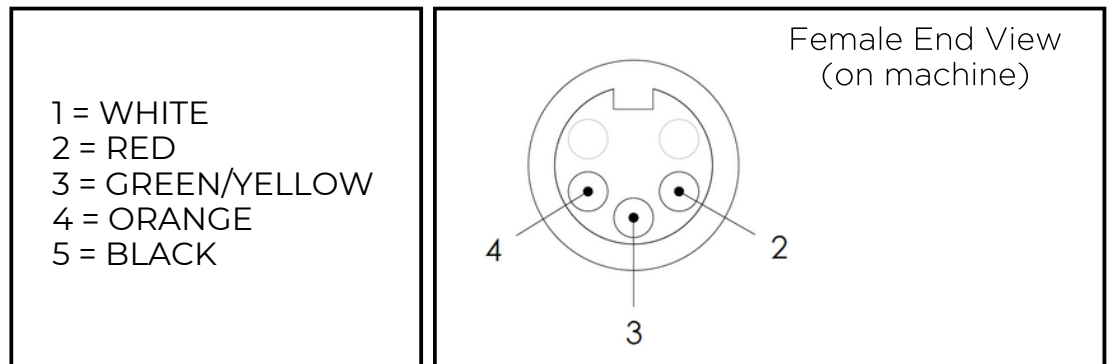
- 3c Once the pressure is adjusted to 75 psi, push back down on the handle until you hear a click to lock the handle in place.



- 4** Connect power cable to the labeled power connector and the other end either to a 3-prong outlet (120VAC). Please see page 3



AC (in)



- 5** Close the door and lock it.

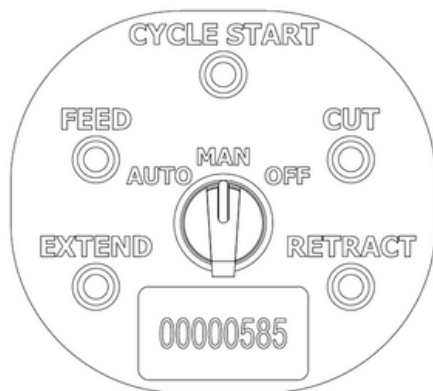
✓ IMPORTANT!
If the door is open, the safety switch will not allow the machine to function.

3 Functions: Manual Mode ("MAN")

✓ IMPORTANT!

KEEP ALL GUARDS AND COVERS IN PLACE AT ALL TIMES

- 1 Flip the switch on the control board to "MAN" and confirm that each of the following buttons work properly. In manual mode, each function can be independently operated to assist in band loading or troubleshooting.



Feed:

This button will feed the band tubing through two rolls towards the knife blade and extension fingers.

Cut:

This button will operate the knife blade upwards to cut whatever is in its path.

✓ IMPORTANT!

BE SURE TO KEEP ANY BODY PART OR PLIERS OUT OF THIS PATH BEFORE PRESSING.

Extend:

This button will extend the fingers that hold the bands at full extension and ready for banding of objects.

Retract:

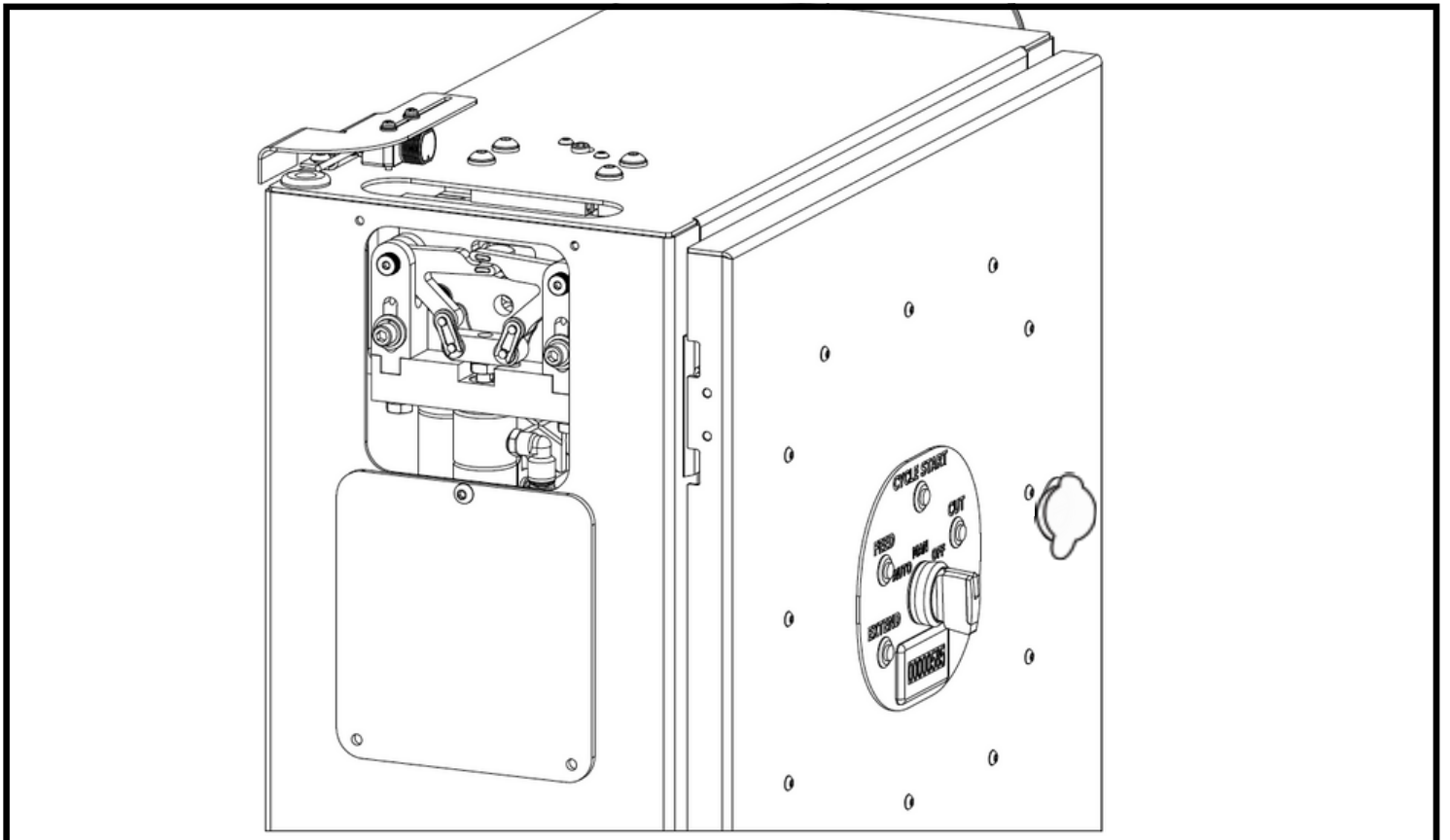
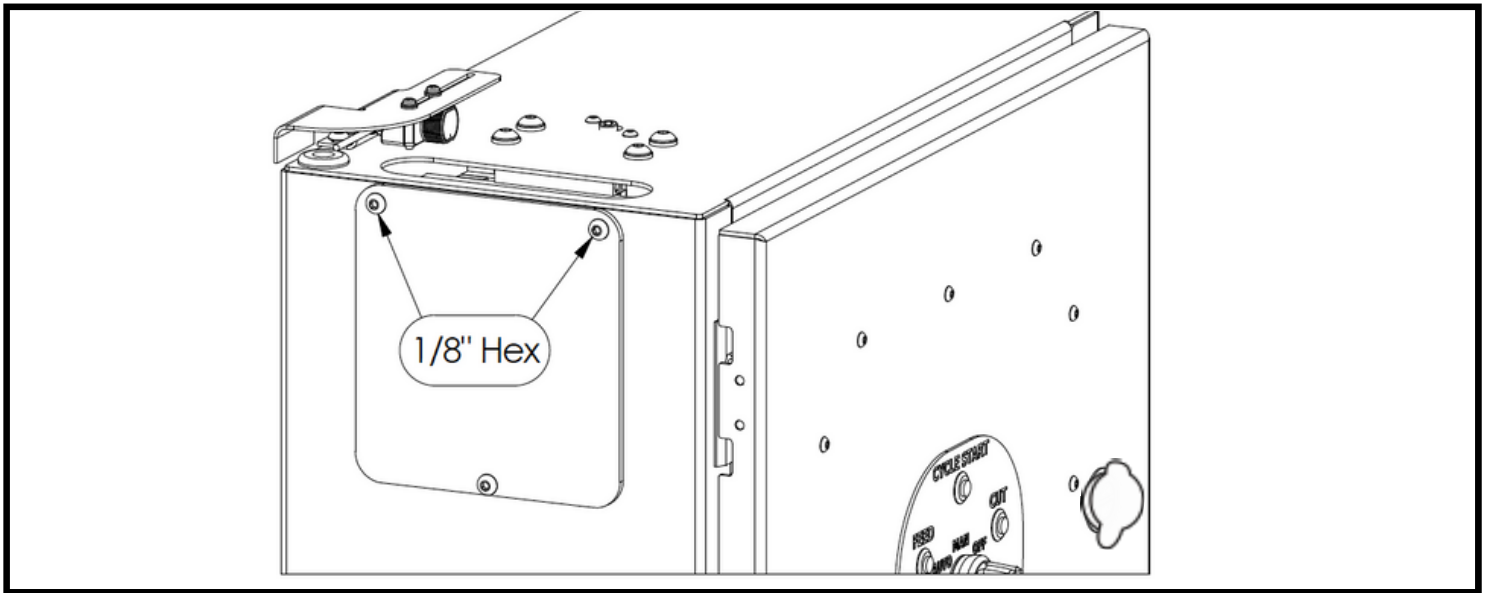
This button will retract the fingers out of the way and is the best way to store the machine when not being used.

✓ IMPORTANT!

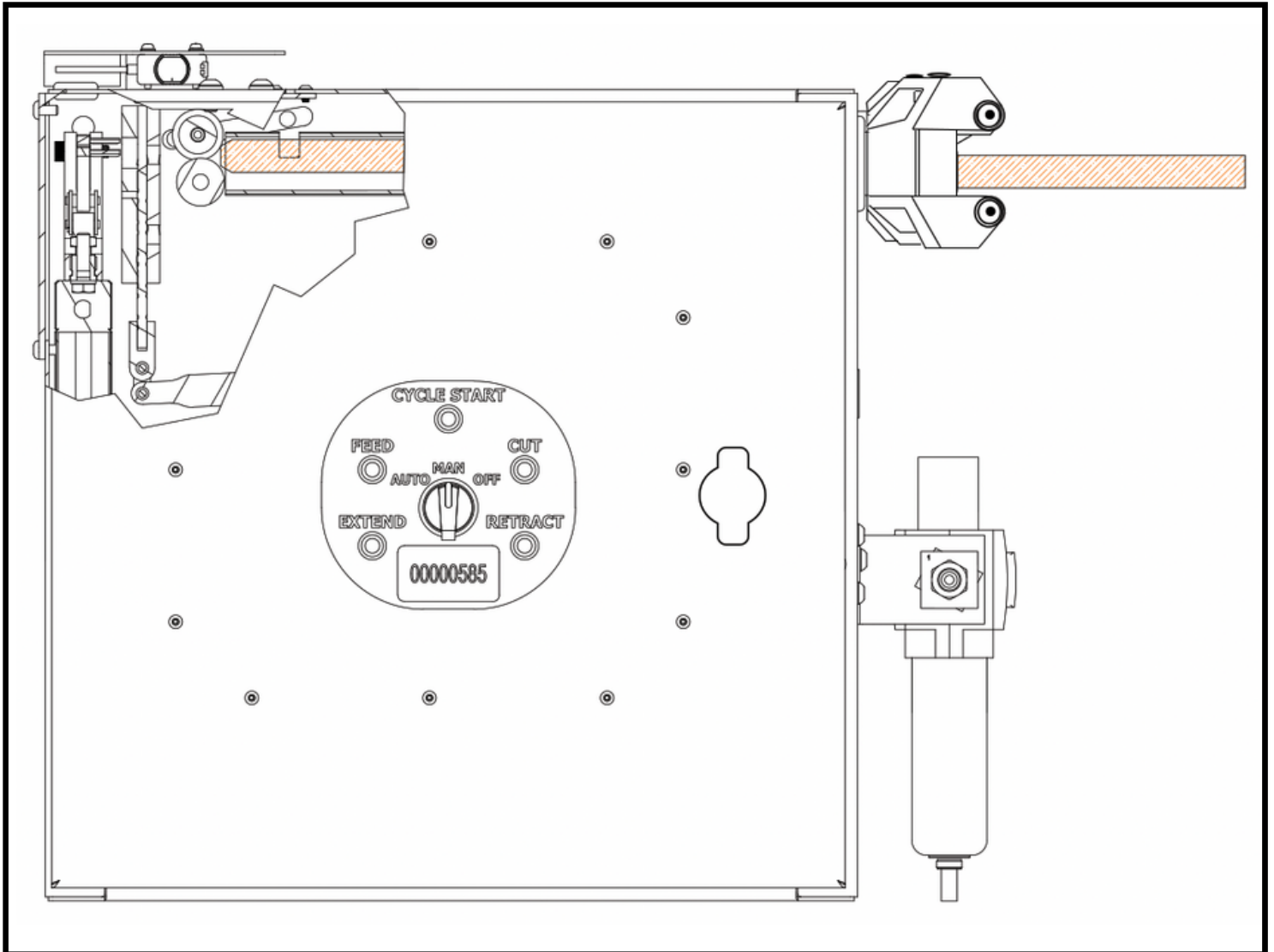
TURN SWITCH BACK TO OFF WHEN NOT IN USE

4 Loading Bands

- 1 Use a 1/8" hex key to remove the (2) socket head screws and turn the safety shield down temporarily.



- 2 Make sure the compressed air is on and the regulator is at 75 psi.
- 3 Load the tubing into the funnel.



- 4 Push the tubing all the way through the funnel until you feel it stop. It should have stopped against the feed wheel. Hold the band tubing in place keeping some pressure against the feed wheel.
- 5 Press the "FEED" button on the the control panel until you feel the feed wheel engage and apply pressure, pulling the tubing. Make sure to not press "FEED" more than 1-2 times after you feel it pull the tubing.

✓ IMPORTANT!

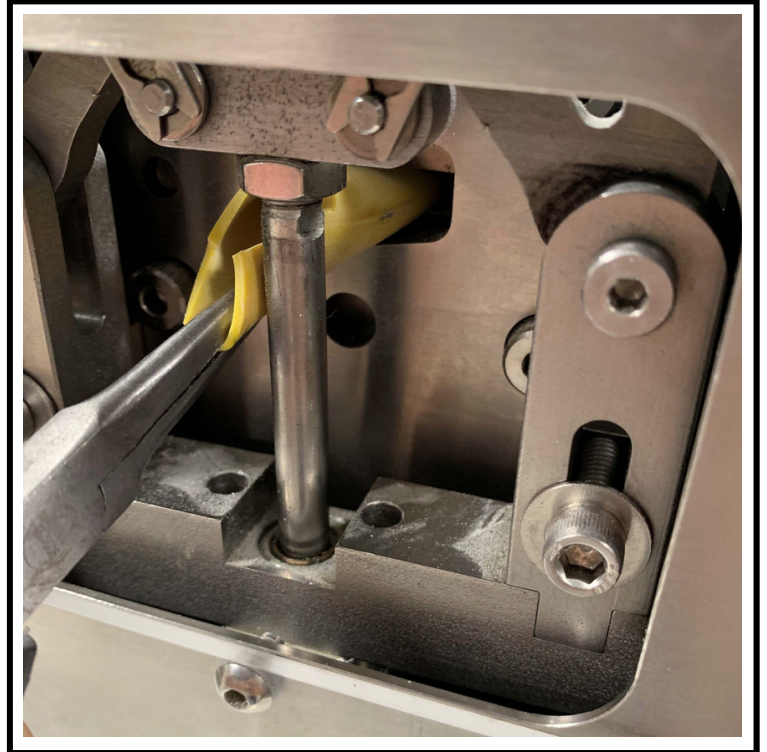
If it does not engage and pull the tube after a few attempts, see step 7a. If it engages, continue to step 8.

- 6 Look through the window on the side of machine where the safety shield was located. Press FEED 1-3 more times until you see enough tubing to grab with pliers.

Caution



- DO NOT PLACE ANY APPENDAGES IN PATH OF KNIFE BLADE

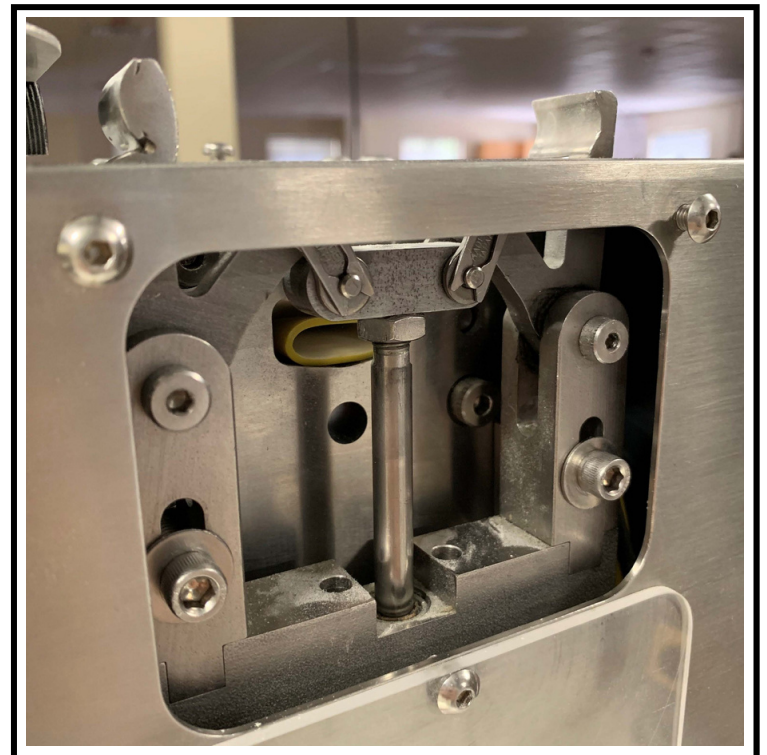


- 7 While pulling the tubing towards the window, make sure that it is fully through the feed wheel.

✓ IMPORTANT!

MAKE SURE THE PLIERS ARE NOT IN THE PATH OF THE KNIFE BLADE ONCE COMPLETE.

Press the "CUT" button on the control panel to cut the band.

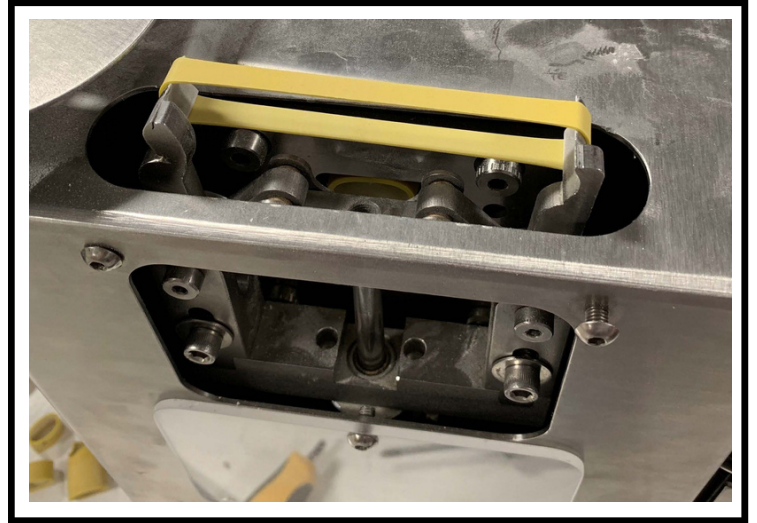


- 8 Turn the switch on the control panel to "AUTO" and then press the button labeled "CYCLE START" or trigger the sensor until a band is loaded onto the fingers.

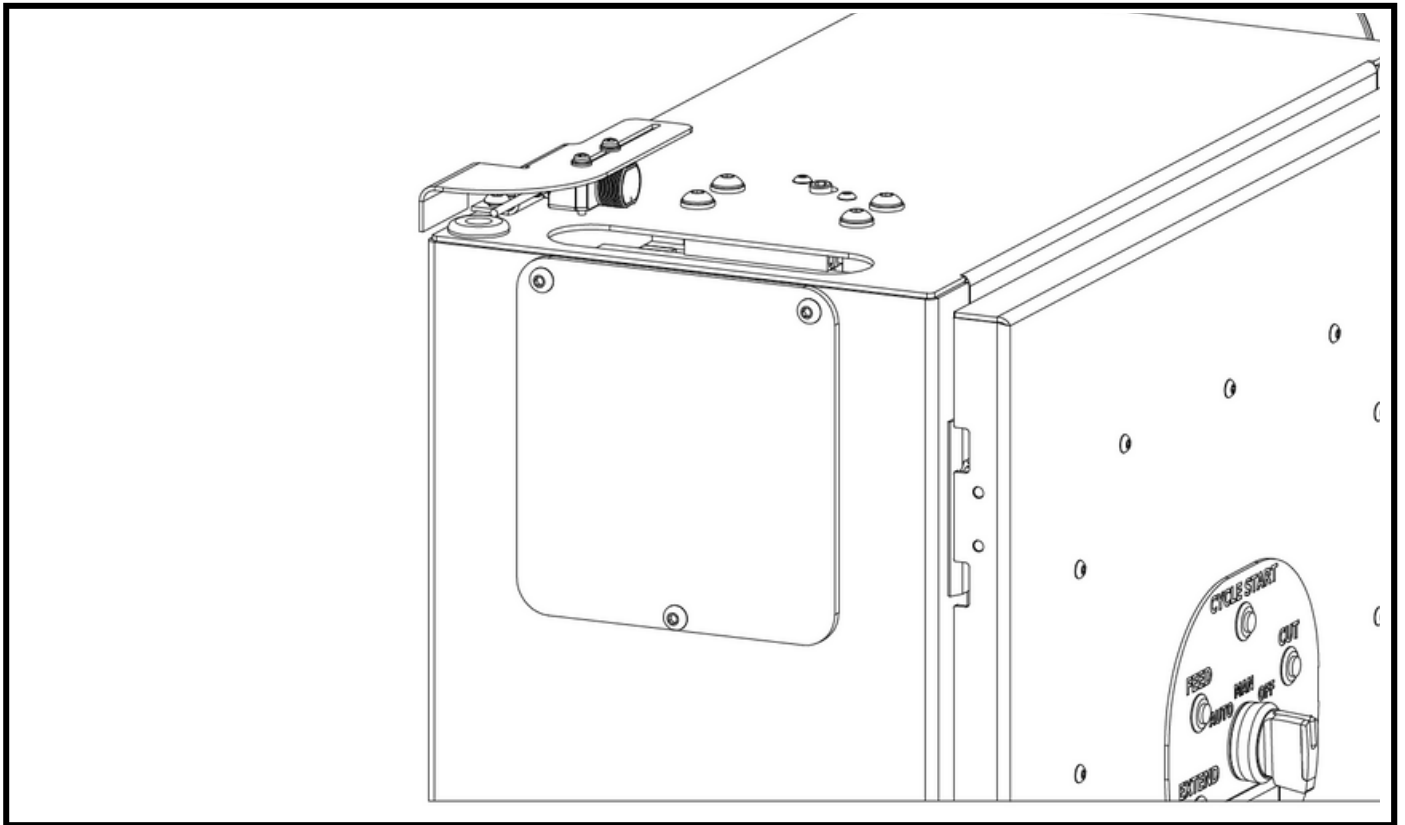
Caution



- DO NOT PLACE ANY APPENDAGES IN PATH OF FINGERS MECHANISM



- 9 Finish by turning the safety shield and fastening the (2) socket head screws back into place. You are now ready to start auto loading of bands.

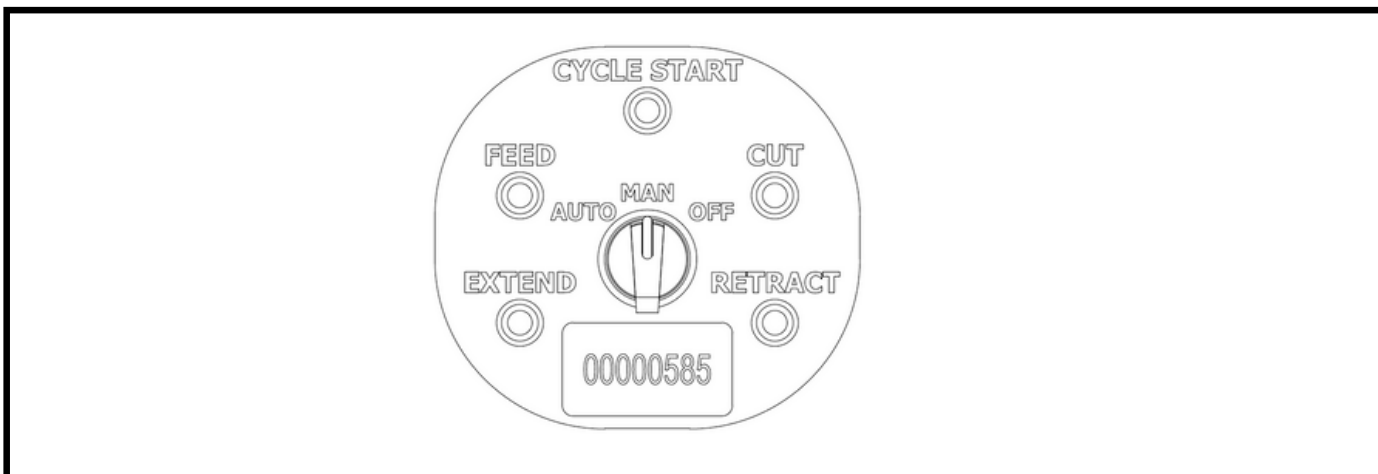


5 Functions: Auto Mode ("AUTO")

✓ IMPORTANT!

KEEP ALL GUARDS AND COVERS IN PLACE AT ALL TIMES

- 1 Flip the switch on the control board to "AUTO".



Cycle Start:

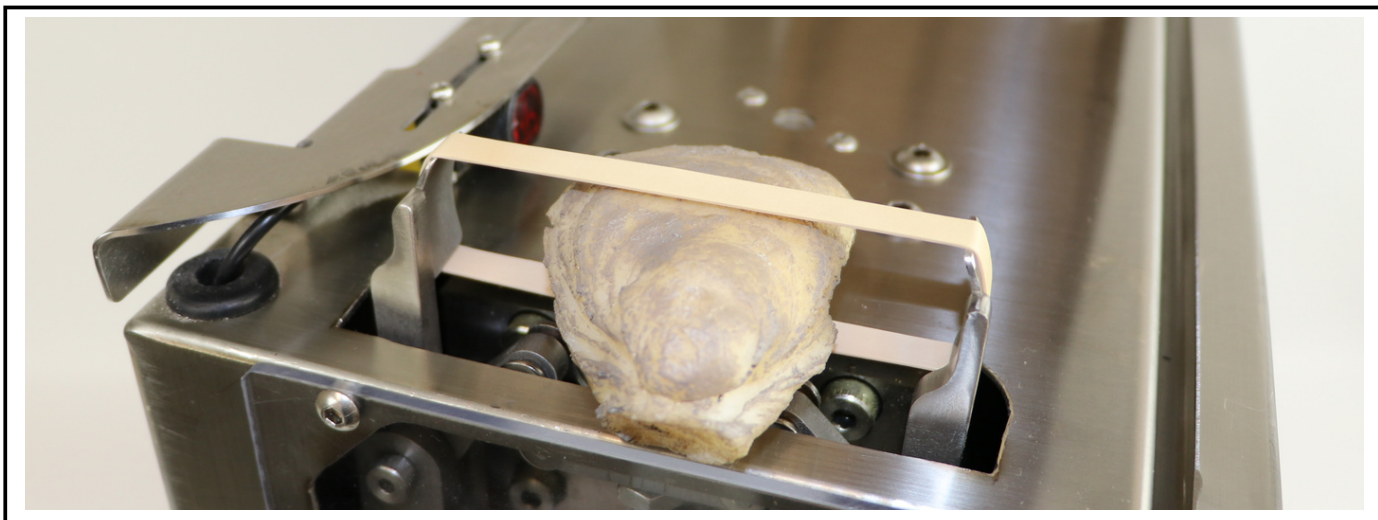
This button will initiate a full cycle of RETRACT, FEED, CUT, and EXTEND to prepare for the automatic feeding function.

Auto Mode:

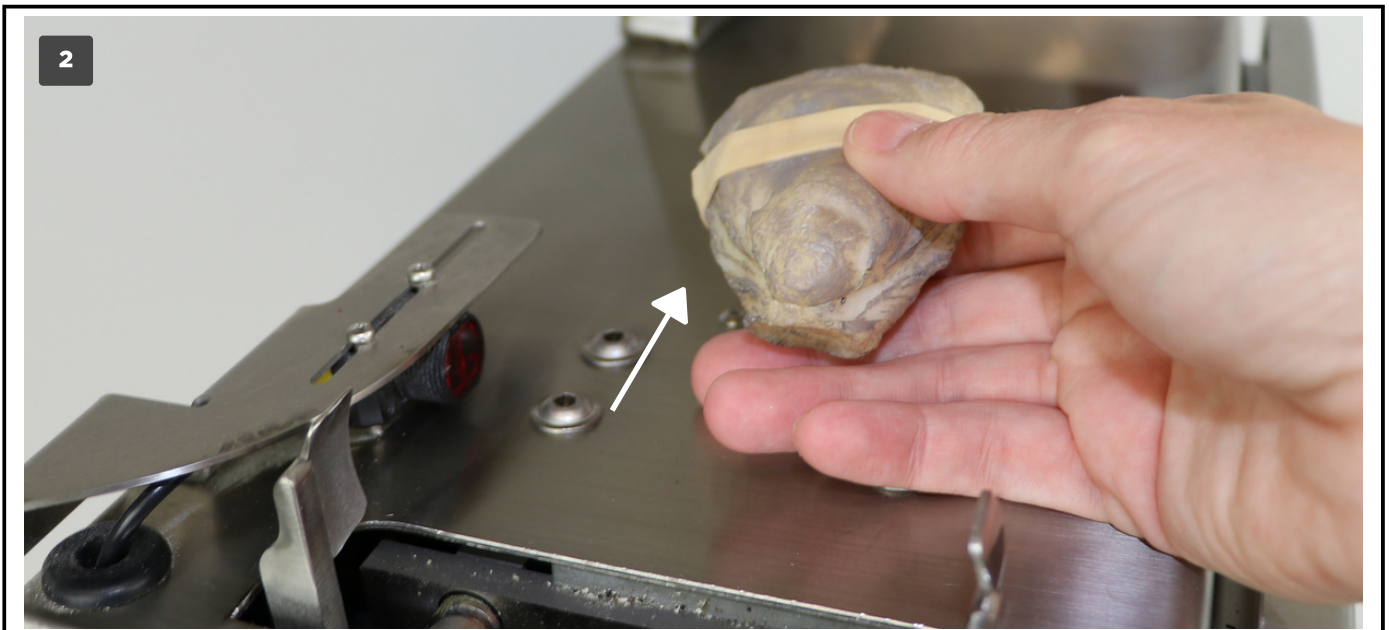
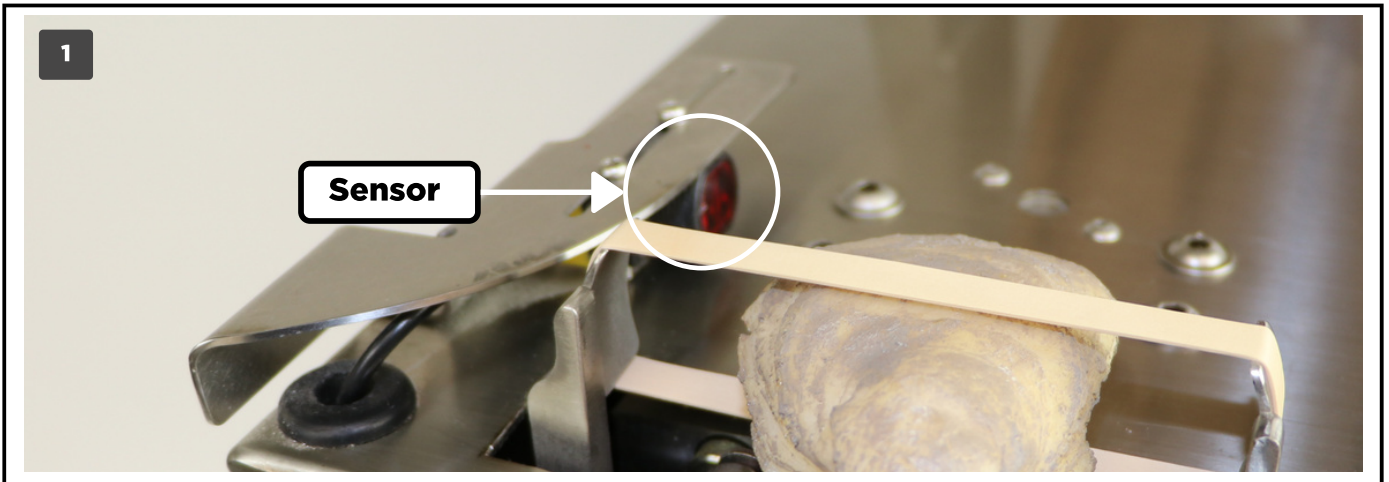
While the switch is turned to AUTO, the sensor can be utilized for control of the machine without touching the control panel. When an object is detected by the sensor and then moved out of the sensor's line of sight, a new band will be loaded into the fingers and ready for the next object. See page 16 to change the AUTO sequence.

To use this mode, you must follow the following procedure:

- A Place object to be banded inside the stretched band.

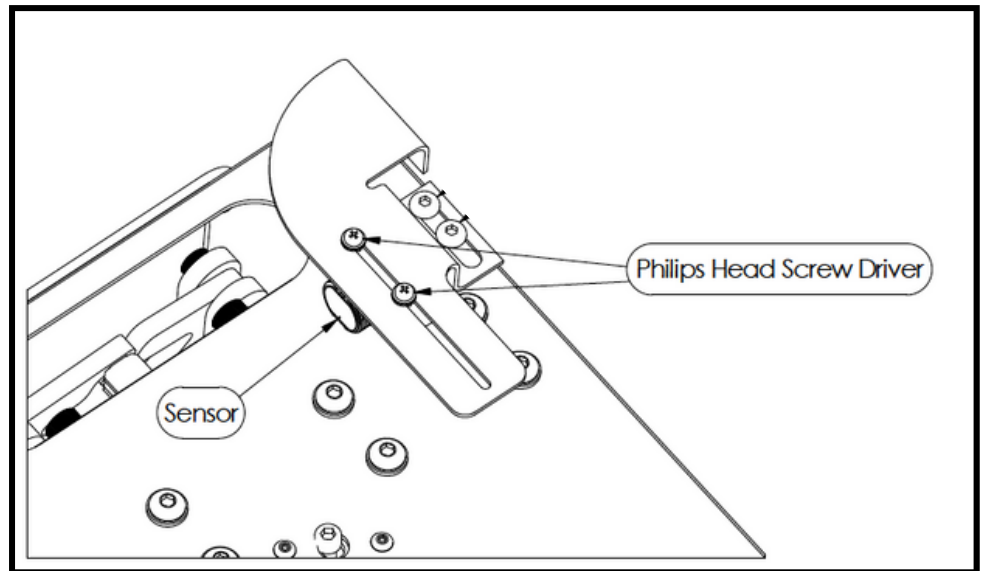


- B** Move the object through the sensor's line of sight where you pass all the way through (start in sensor's line of sight, then move out of sensor's line of sight) to enact the sequence and automatically set up the next band.



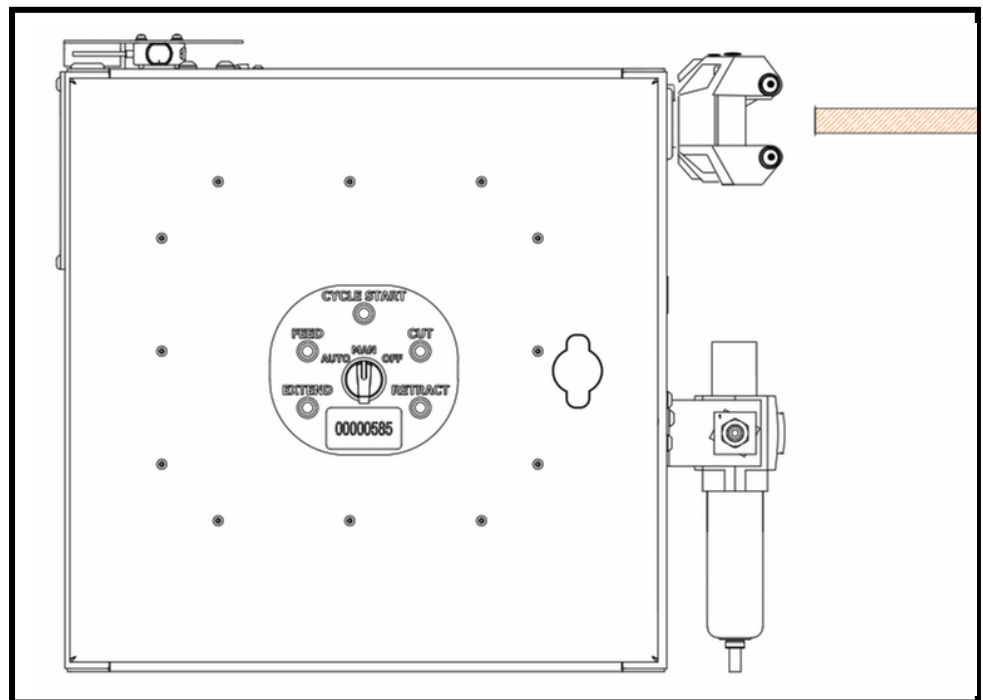
✓ NOTE:

To adjust the sensor for different lengths of objects being banded, loosen the shown screws with the tools listed and adjust accordingly.



6 Unloading Tubing

To unload tubing, simply pull the tubing from the funnel side of the machine until it comes back out from where it was fed in.



⚠ CAUTION:

DO NOT STAND IN LINE WITH TUBING IN THE MACHINE WHEN UNLOADING BANDS, AS THE TUBING COULD EXIT THE MACHINE QUICKLY WITH FORCE AND CAUSE AN INJURY TO A BODY.

7 General Maintenance of Machine

Cleaning:

A typical occurrence of these machines is to have a large buildup of talc within the whole assembly. To clean this powder from the machine, make sure to disconnect power/air. For cleaning, it is recommended to use compressed air with safety glasses and gloves. Be sure to clean the feed tube, inside the main enclosure, around the knife blade, the feed wheel, and idler wheel. Please see diagrams if you do not know where any of these components are located.

Oil:

In order for the knife blade to function properly, hydraulic oil is used and fed onto the knife blade. The lubricator is located in the main enclosure and must be refilled periodically. The amount of lube is set at the factory, but the oiler can be adjusted based on what the end user sees in operation. Too much oil is better than not enough. A bowl of oil will last roughly the consumption of one 15# reel of tubing. Only use ISO VG 32 Hydraulic Oil. (Operating temperature of this oil is 18°F/-8°C to 147°F/64°C)

**Replacement oil can be ordered from Alliance Rubber Company.*

Air Filter:

Contact the manufacturer for detailed instructions on how to replace filter, *though this is generally not considered to be a maintenance item with proper filtration on the compressor side.*

Tubing Not Feeding

- If tubing is pulling through the feed wheel, but no tubing is coming out:
 - STOP feeding.
 - Turn off the compressed air, unhook the quick connect coupling, or open the main enclosure door to release back pressure in the system.
 - Disengage the feed wheel using the feed adjustment screw.
 - Pull tubing out in typical unloading situation.
 - Re-engage the feed wheel using the adjustment screw.
 - Feed tubing and look to make sure the tab cutout, as instructed in "Loading Bands", is between the feed wheel and idler wheel.
 - Make sure to grab with pliers and pull through.

- If tubing is not being pulled through the feed wheel:
 - Check on the regulator that pressure is at 75 psi.
 - Check and make sure the adjustment screw on the top of the machine is engaged properly.
 - Check and make sure that you have cut a tab into the tubing as instructed in "Loading Bands."
 - Check for a build up of talc on the feed wheel and idler wheel.
 - Check that the band tubing is not tangled or caught on the funnel.

✓ TYPICAL CAUSE:

Not grabbing with pliers to pull through while continually feeding. This can lead to clogs.

Adjusting Length of Band

- - Open enclosure and locate stroke limiter (item 46) on Core Assembly. Reference page 24.
 - Loosen the set screw (item 17) on Core Assembly. Reference page 24.
 - The stroke limiter is threaded onto the feed piston.
 - Moving the brass stroke limiter upwards will shorten the stroke and therefor decrease the length of band.
 - Moving the brass stroke limiter downwards will increase the stroke and therefor increase the length of band.

Clog in the Feed Tube or Feed Wheel

- - Turn off the compressed air, unhook the quick connect coupling, or open the main enclosure door to release back pressure in the system.
 - Make sure the feed wheel is disengaged by tightening the adjustment screw.
 - Unload band tubing in usual unloading circumstances. Apply extra pressure if needed until tubing comes out.

Speed Adjustment

- To decrease the speed of a cycle:
 - Turn control switch into MANUAL mode
 - Hold CYCLE START and then press EXTEND
 - Switch to AUTO mode
 - Press CYCLE START button

- To reset the speed back to default mode:
 - Turn control switch into MANUAL mode
 - Hold CYCLE START and then press FEED
 - Switch to AUTO mode
 - Press CYCLE START button

CYCLE Switch Adjustment

- To switch to a normally closed switch (for example, a foot pedal switch):
 - Turn control switch into MANUAL mode
 - Hold CYCLE START and then press RETRACT
 - Switch to AUTO mode
 - Press CYCLE START button

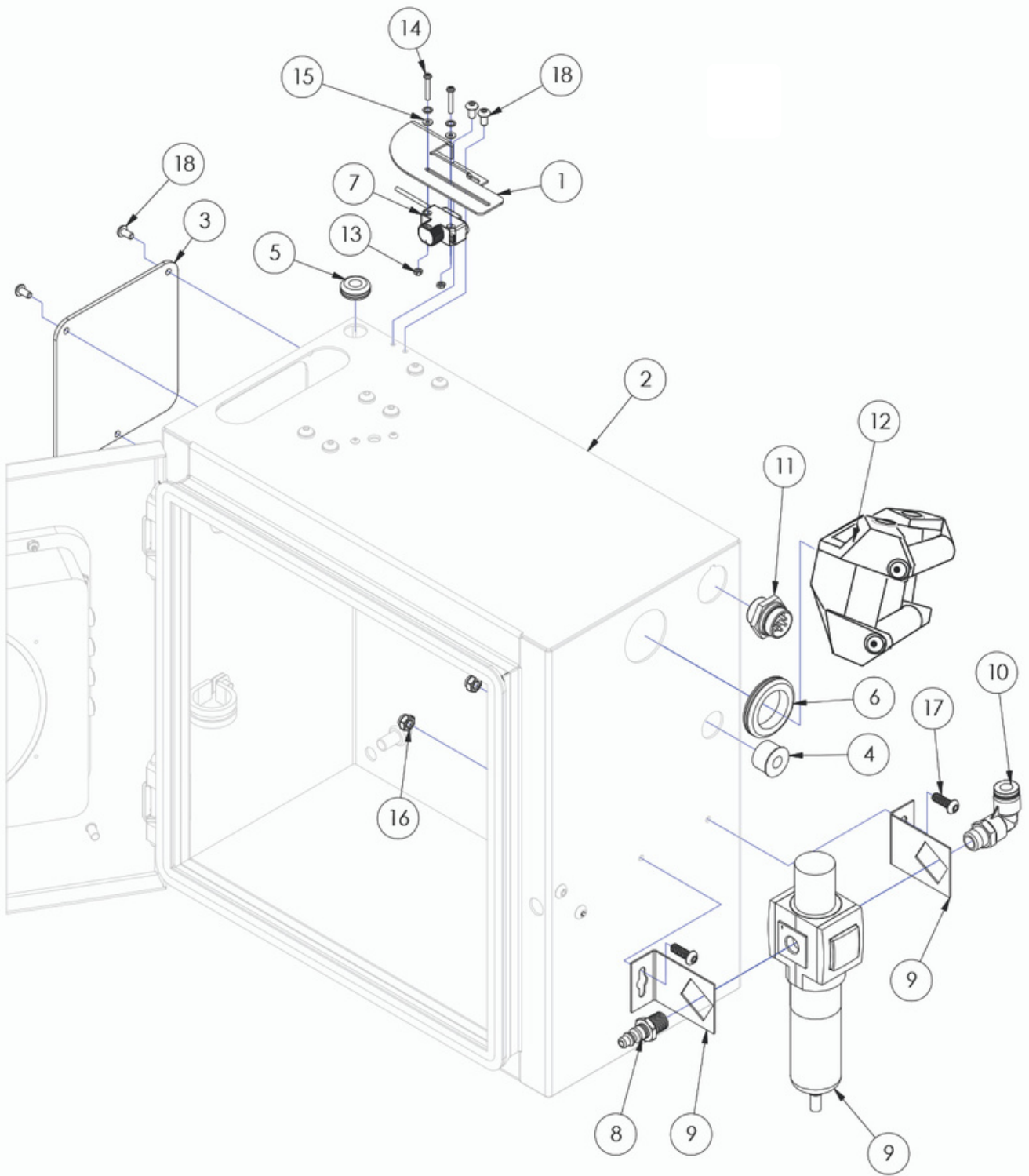
- To reset the switch to the default normally open switch (proximity sensor):
 - Turn control switch into MANUAL mode
 - Hold CYCLE START and then press CUT
 - Switch to AUTO mode
 - Press CYCLE START button

ENCLOSURE ASSEMBLY:

Exterior

■ Bill of Materials

Item	Part Number	Qty.
1	BM1-0001-0032 NC1 Sensor Z Bracket	2
2	BM1-0001-0041 NC Enclosure	1
3	BM1-0001-0061 NC NC Cover	1
4	BM1-0001-0084 NC Locking Grommet	1
5	BM1-0001-0086 NC Grommet	1
6	BM1-0001-0087 NC Grommet	1
7	BM1-0001-0091 NC Sensor	1
8	BM1-0004-0011 NC Male Quick Disconnect	1
9	BM1-0004-0012 NC FRL Assembly	2
10	BM1-0004-0014 NC Connector, Tubing	1
11	BM1-0005-0016 NC 5 Pos. Male Receptacle	2
12	BM1-0002-0041 NC Infeed Funnel	1
13	M3.0-.50 Nut, Hex	2
14	M3.0-.50 X20.00 18-8 SS Screw, Pan-Head Philips	2
15	#4 18-8 SS Washer, Internal Tooth	2
16	1/4-20 St Stl Nut, Self-Locking	2
17	1/4-20 X0.75 St Stl Screw, Button-Head Socket	2
18	10-32 X0.375 St Stl Screw, Button-Head Socket	5

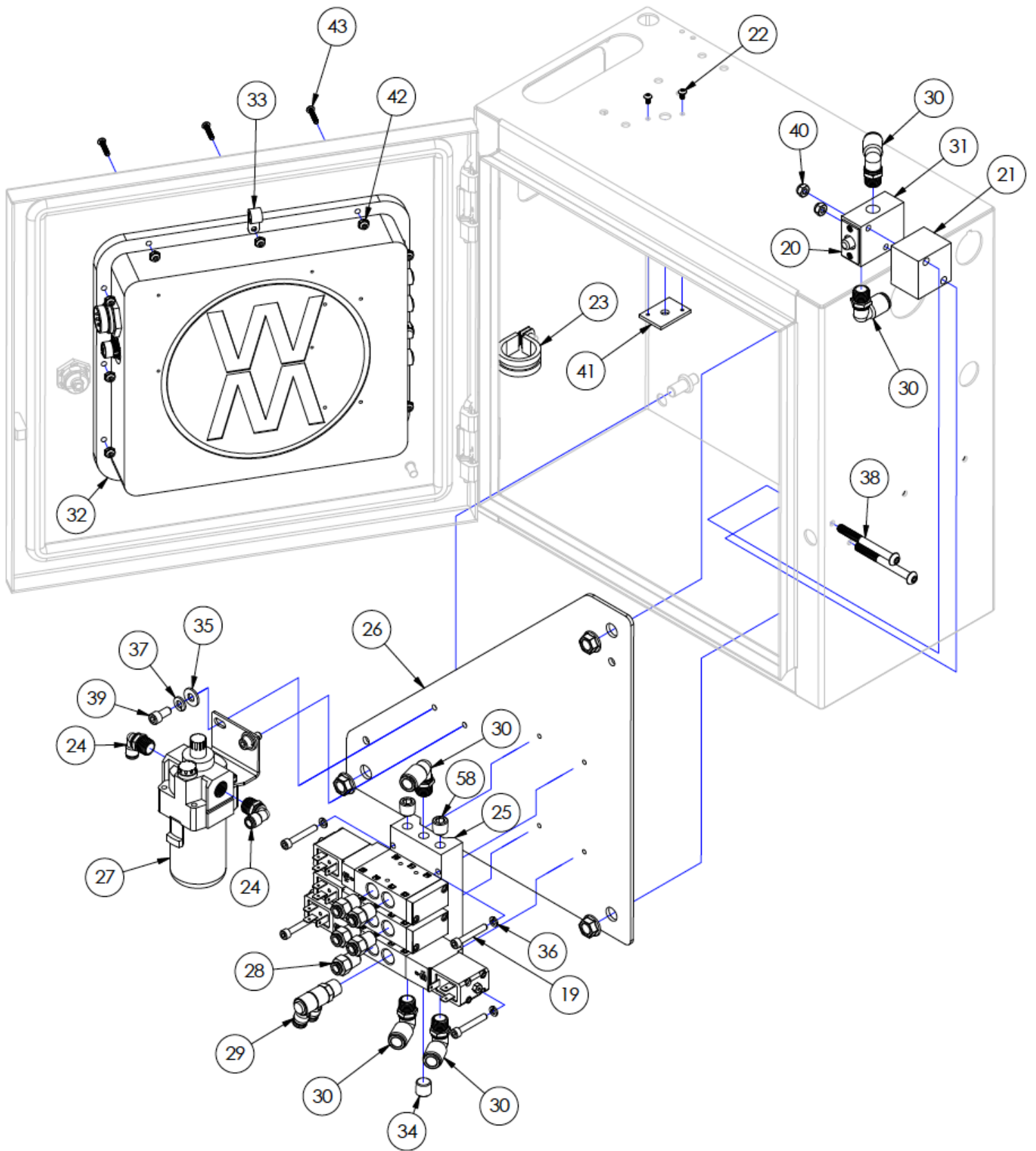


ENCLOSURE ASSEMBLY:

Interior

■ Bill of Materials

Item	Part Number	Qty.
19	BM1-0001-0008 NC Idler Tension Plate	1
20	BM1-0001-0062 NC Air Disconnect Plate	1
21	BM1-0001-0063 NC Air Disconnect Spacer Block	1
22	BM1-0001-0085 NC 6-32 x 0.25 SS Button Head	2
23	BM1-0001-0093 NC 9516-0090 Clamp, Cushion	1
24	BM1-0002-0026 NC 1/4" to 1/4" 90° fitting	2
25	BM1-0004-0001 NC Valve Assembly, 24 VDC	1
26	BM1-0004-0002 NC Subpanel	1
27	BM1-0004-0005 NC Air Lubricator	1
28	BM1-0004-0006 NC 1/4" NPT Connector, Tubing	5
29	BM1-0004-0007 NC Connector, Tubing	3
30	BM1-0004-0010 NC 3/8" to 1/4" 90° fitting	5
31	BM1-0004-0013 NC Air Disconnect Switch	1
32	BM1-0005-0080 NC NC Control Box	1
33	BM1-0005-0027 NC Nylon Clamp	1
34	1/4" NPT St Stl Plug, Pipe	3
35	1/4" St Stl Washer, Flat	2
36	#10 St Stl Washer, Split-Locking	4
37	1/4" St Stl Washer, Split-Locking	2
38	1/4-20 X 2.50 SS Screw, Button Head	2
39	1/4-20 X0.50 St Stl Screw, Socket Head	2
40	10-32 St Stl Nut, Hex, Self-Locking	2
41	10-32 X1.25 St Stl Screw, Socket Head	4
42	6-32 18-8 SS Nut, Hex, Self-Locking	12
43	8-32 X0.75 St Stl Screw, Button-Head Socket	12

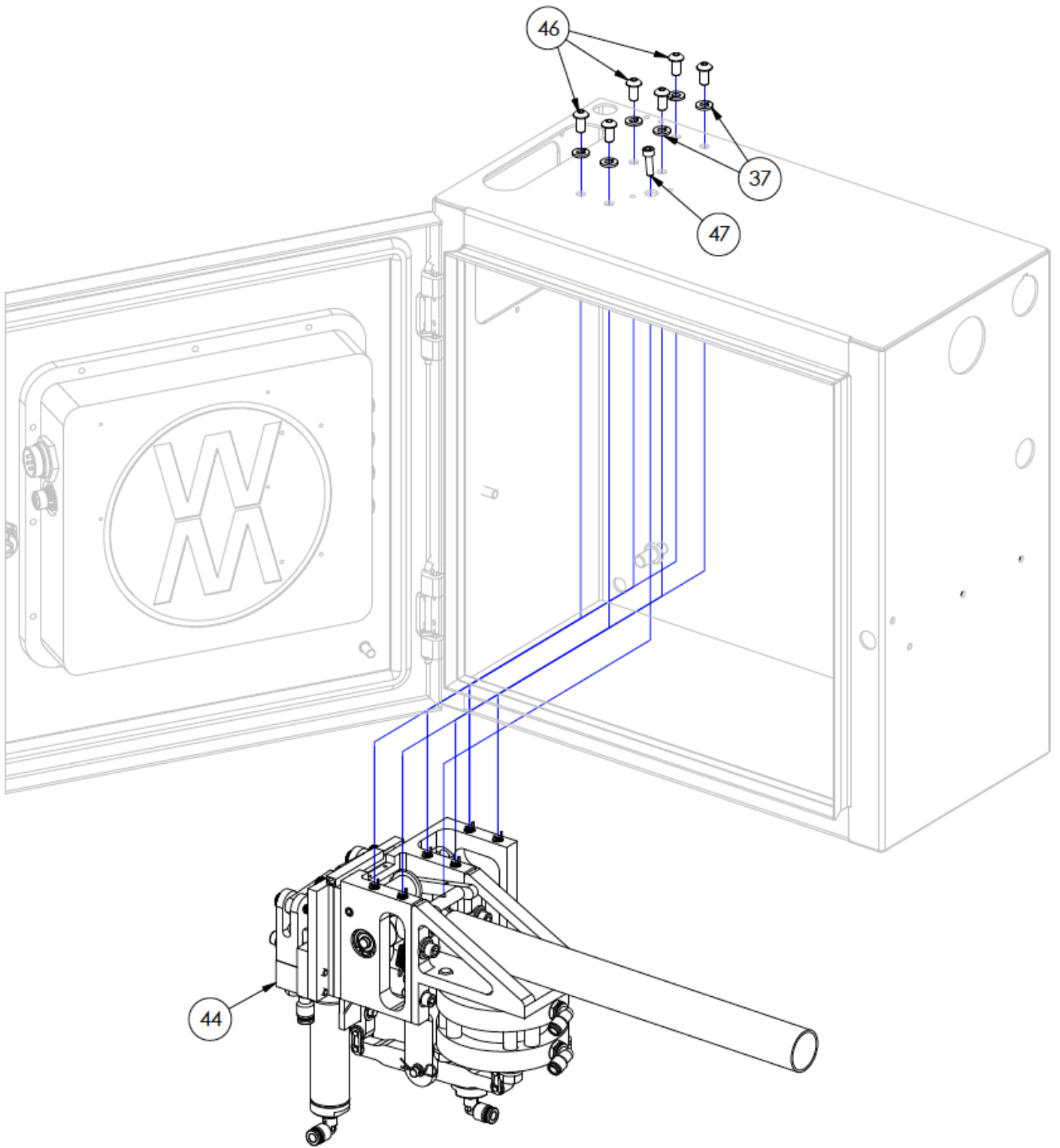


CORE ASSEMBLY:

Mounting

■ Bill of Materials

Item	Part Number	Qty.
37	1/4" St Stl Washer, Split-Locking	6
44	BM1-0002-0100 NC Core Assembly	1
46	1/4-20 X0.50 St Stl Screw, Button-Head Socket	6
47	10-32 X0.625 St Stl Screw, Socket Head	1

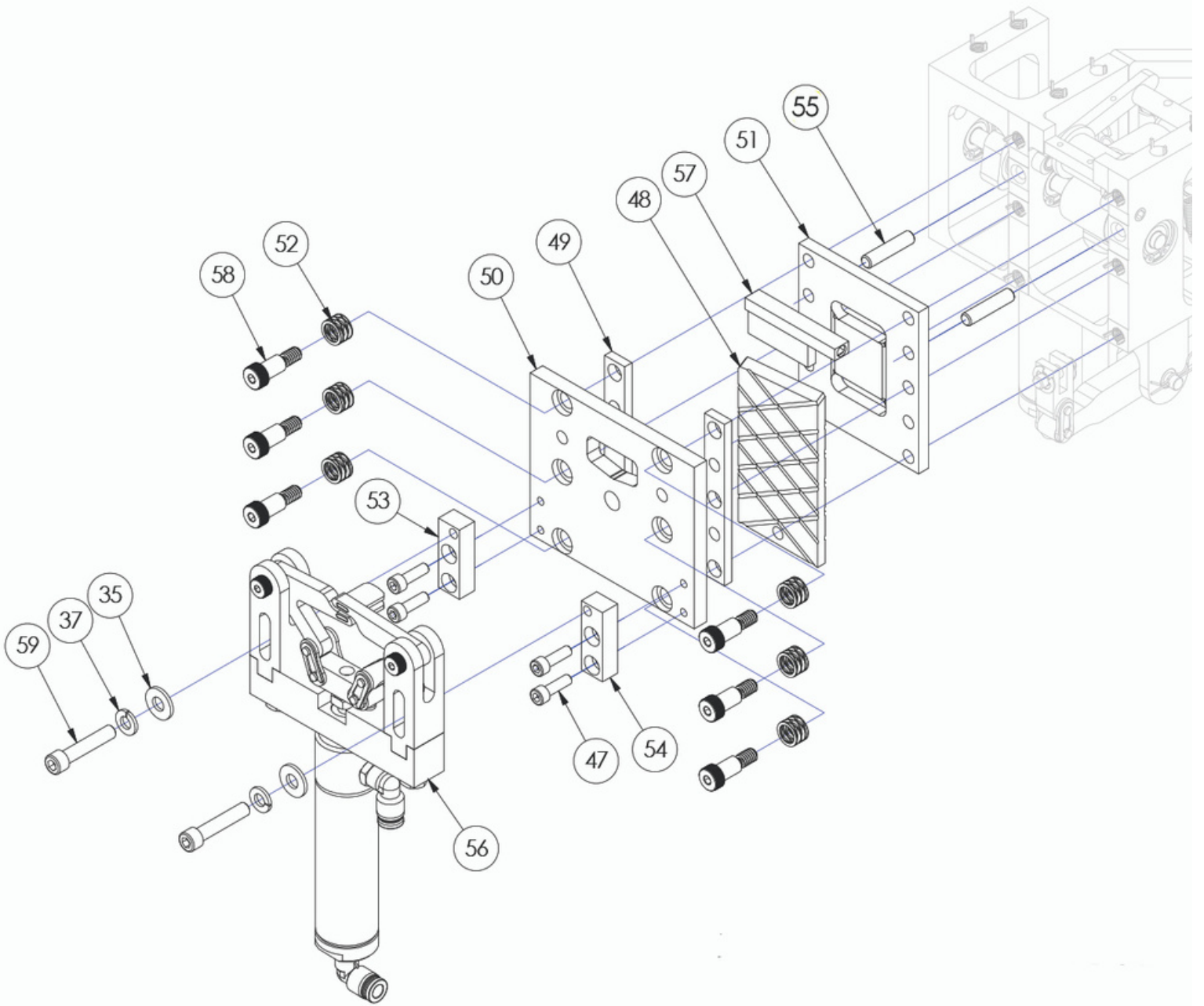


CORE ASSEMBLY:

Knife and Stretcher Mounting

■ Bill of Materials

Item	Part Number	Qty.
35	1/4" St Stl Washer, Flat	2
37	1/4" St Stl Washer, Split-Locking	2
47	10-32 X0.625 St Stl Screw, Socket Head	4
48	BM1-0002-0001 NC1 Knife Blade	1
49	BM1-0002-0002 NC1 Precision Spacer	2
50	BM1-0002-0003 NC2 Knife Guide	1
51	BM1-0002-0004 NC1 Shear Plate	1
52	BM1-0002-0017 NC Stacked Wave Disc Spring	6
53	BM1-0002-0018 NC Knife Guide Spacer Block	1
54	BM1-0002-0019 NC Knife Guide Spacer Block	1
55	BM1-0002-0033 NC 18-8 Stainless Dowel Pin	2
56	BM1-0003-0101 NC Stretcher Assembly	1
57	BM1-0002-0042 A Nozzle	1
58	1/4-20 X0.50 18-8 SS Bolt, Shoulder	6
59	1/4-20X1.25 St Stl Screw, Button-Head Socket	2

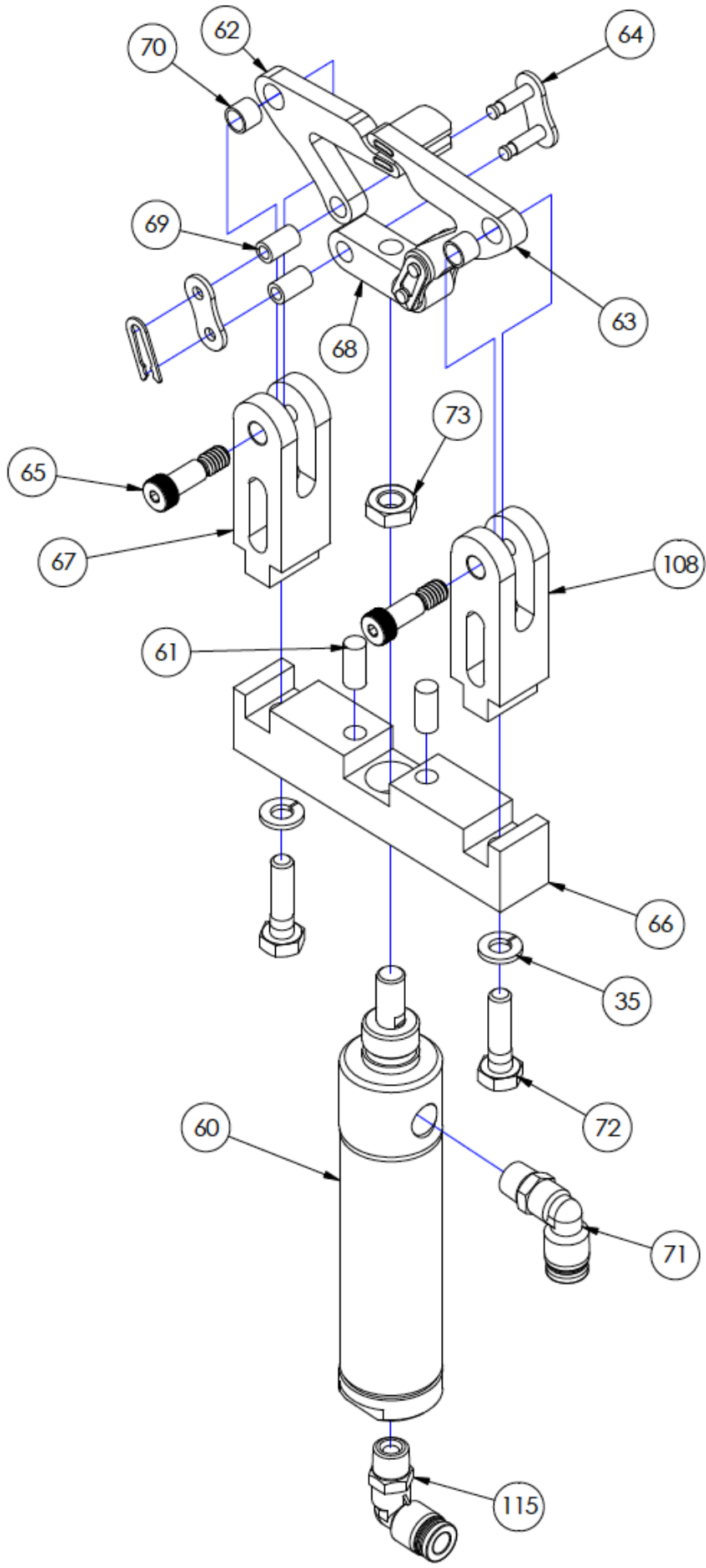


CORE ASSEMBLY:

Stretcher Assembly

■ Bill of Materials

Item	Part Number	Qty.
35	1/4" St Stl Washer, Flat	2
60	BM1-0003-0001 NC Actuator, Double Acting	1
61	BM1-0003-0002 NC Bumper	2
62	BM1-0003-0003 NC Left Stretcher Arm Weldment	1
63	BM1-0003-0004 NC Right Stretcher Arm Weldment	1
64	BM1-0003-0005 NC #40 Master Link Chain	2
65	BM1-0003-0007 NC Shoulder Bolt	2
66	BM1-0003-0016 NC Stretcher Top Plate	1
67	BM1-0003-0017 NC Stretcher Side Frame	2
68	BM1-0003-0019 NC Center Linkage	1
69	BM1-0003-0020 NC Sleeve Bearing	4
70	BM1-0003-0006 NC Sleeve Bearing	2
71	BM1-0004-0015 NC Connector, Tubing	1
72	1/4-20 X1.00 St Stl Bolt, Hex	2
73	5/16-24 St Stl Nut, Low	1

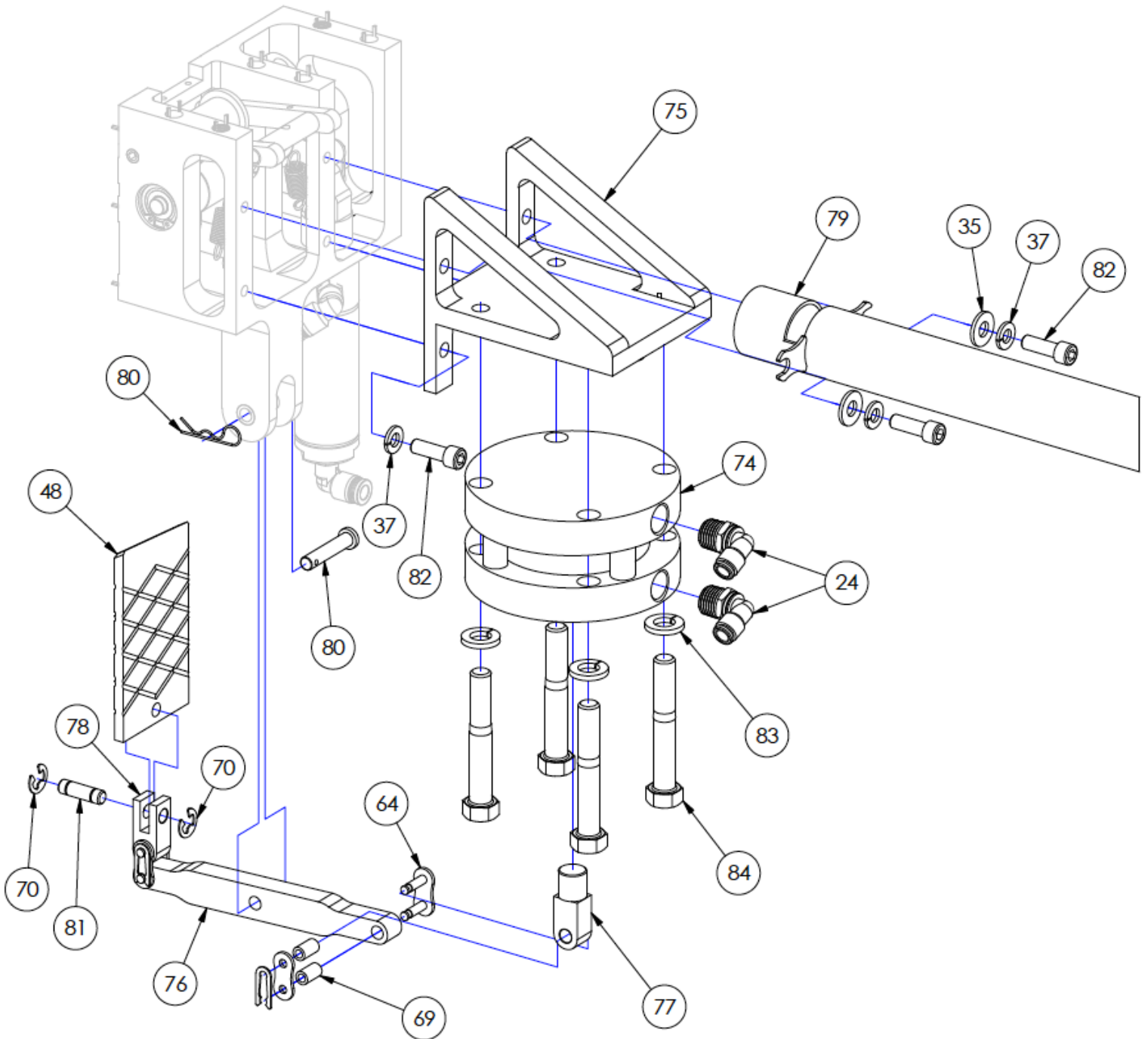


CORE ASSEMBLY:

Knife Mechanism

■ Bill of Materials

Item	Part Number	Qty.
24	BM1-0002-0026 NC 1/4" to 1/4" 90° fitting	2
35	1/4" St Stl Washer, Flat	2
37	1/4" St Stl Washer, Split-Locking	4
48	BM1-0002-0001 NC1 Knife Blade	1
64	BM1-0003-0005 NC #40 Master Link Chain	2
69	BM1-0003-0020 NC Sleeve Bearing	4
74	BM1-0002-0016 NC 1062D01-01E Actuator, Double Acting	1
75	BM1-0002-0012 NC Knife Cylinder Mount	1
76	BM1-0002-0013 NC Knife Rocker Arm	1
77	BM1-0002-0014 NC Knife Actuator Clevis	1
78	BM1-0002-0015 NC Knife Clevis	1
79	BM1-0002-0030 NC Tube Guide Weldment	1
80	BM1-0002-0034 NC Clevis Pin	1
81	BM1-0002-0036 NC Clevis Pin w/ Rings	1
82	1/4-20 X0.75 St Stl Screw, Socket Head	4
83	3/8 St Stl Washer, Split-Locking	4
84	3/8-16 X2.50 St Stl Bolt, Hex	4



CORE ASSEMBLY:

Feed Mechanism

■ Bill of Materials

Item	Part Number	Qty.
60	BM1-0003-0001 NC Actuator, Double Acting	1
64	BM1-0003-0005 NC #40 Master Link Chain	1
69	BM1-0003-0020 NC Sleeve Bearing	2
70	BM1-0003-0006 NC Sleeve Bearing	4
71	BM1-0004-0015 NC Connector, Tubing	2
85	BM1-0002-0005 NC Knurled Drive Wheel	1
86	BM1-0002-0006 A Drive Shaft	1
87	BM1-0002-0007 A Idler Roller	1
88	BM1-0002-0008 NC Idler Shaft	1
89	BM1-0002-0009 NC Feed Arm	1
90	BM1-0002-0010 NC Feed Arm Clevis	1
91	BM1-0002-0011 NC1 Processing Frame	1
92	BM1-0002-0021 NC Threaded Dowel Pin	2
93	BM1-0002-0023 NC1 Idler Shaft Frame Arm	2
94	BM1-0002-0024 NC Idler Shaft	1
95	BM1-0002-0025 NC Clutch Bearing	1
96	BM1-0002-0027 NC Ball Bearing, Double Sealed	3
97	BM1-0002-0028 NC Idler Roller Bearing	2
98	BM1-0002-0038 NC Internal Snap Ring	6
99	BM1-0002-0053 NC Stroke Limiter	1
100	10-32 X1.00 St Stl Set Screw	1
101	6-32 X0.25 St Stl Screw, Flat Head Phillips	2

