

USS CLAMSHELL PORTABLE LATHES

MACTECH PORTABLE MACHINING SOLUTIONS

MACTECH USS CLAMSHELL PORTABLE LATHES SETUP AND OPERATION PROCEDURE



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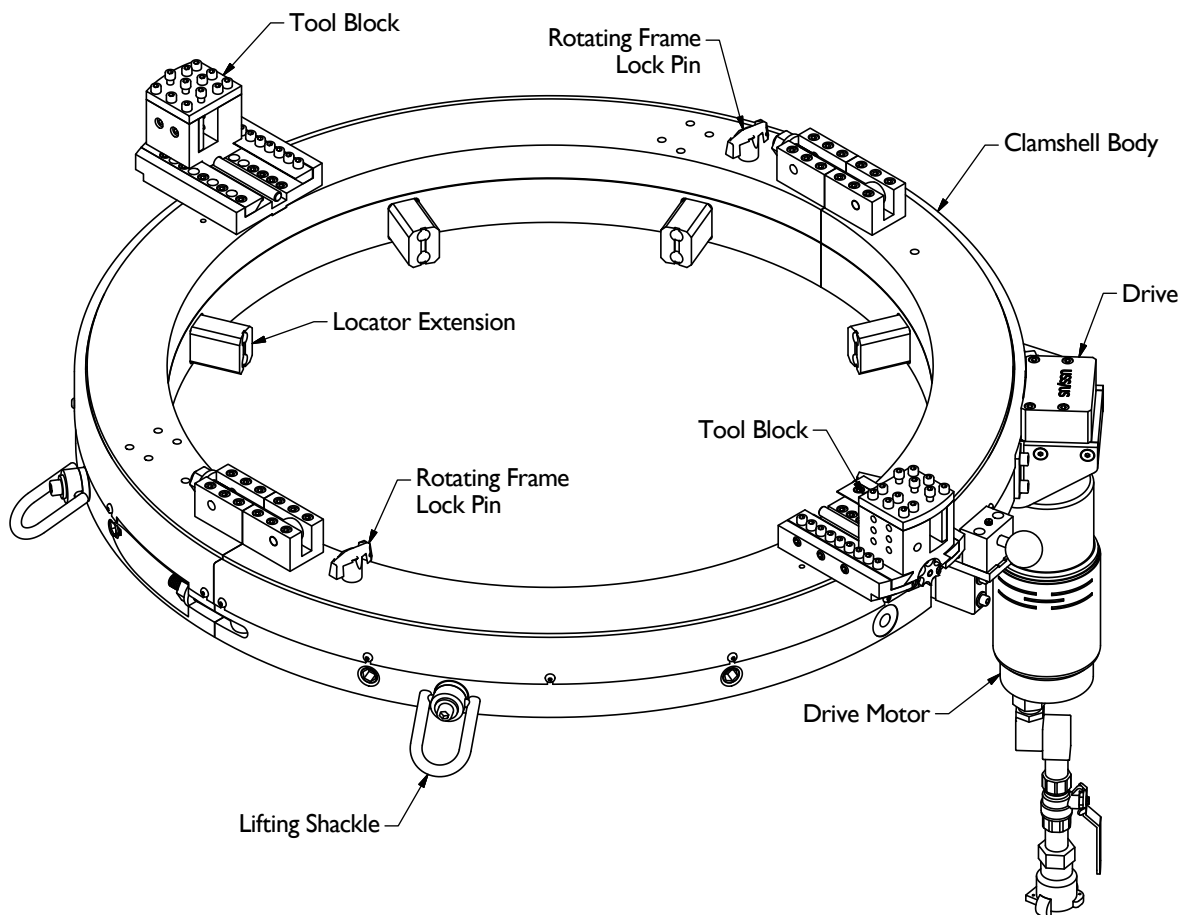
Section I - Description

Mactech USS Clamshell Lathes are exceptionally lightweight, yet rigid, portable machines that are capable of precise pipe cutting and machining. Cold-cutting operation allows the clamshell lathe to be used in environments where sparking is not allowed. The clamshell opens at the split frame and the machine is placed around the workpiece at the location of the cut. Multiple locators are used to center the machine on the workpiece. The drive system rotates the tool blocks, and the feed pins advance the tool bits into the workpiece. USS Clamshell Lathes also provide a platform for optional equipment, such as counterbore and single point face machining attachments.

CAUTION: Users must read and understand these instructions before operating this equipment. Failure to comply with these instructions could result in personal injury, damage to the equipment, or voiding of the warranty.

CAUTION: Keep away from moving parts. Do not reach into moving machinery. Keep the work area clear of non-essential personnel and materials. Always turn off power before adjusting the machine or clearing material. Always use appropriate personal protective equipment. Always follow all site safety procedures and regulations.

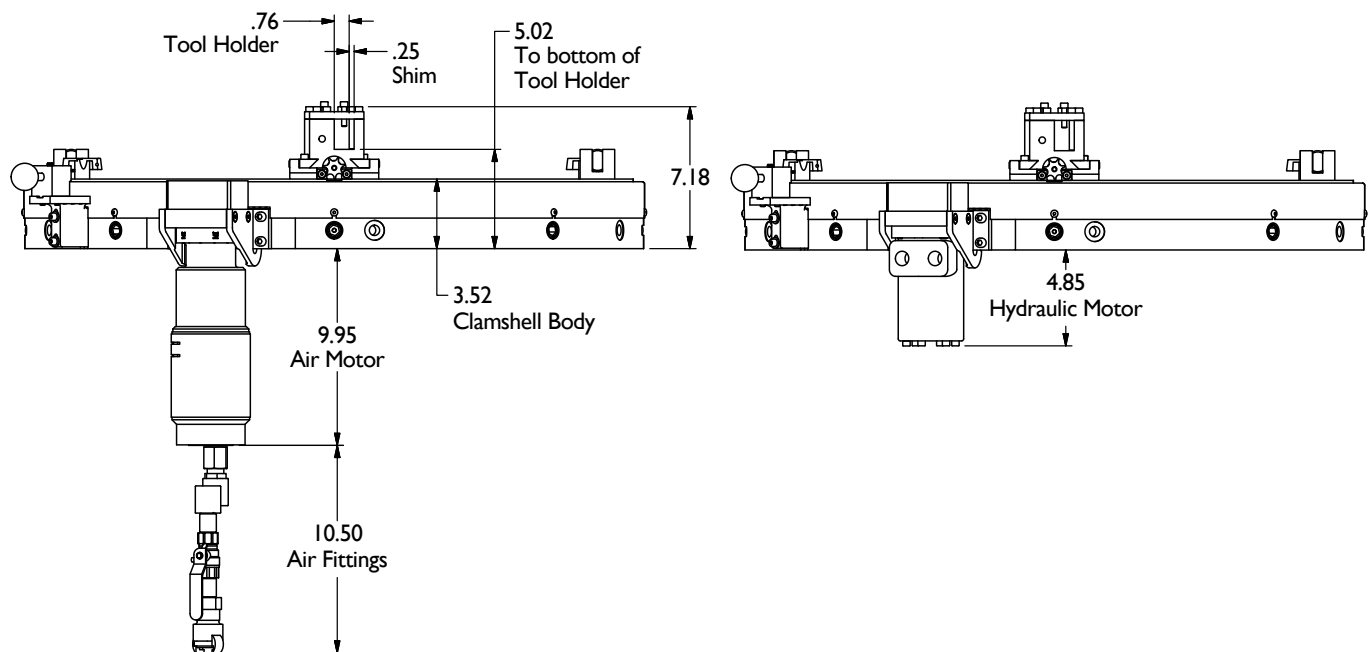
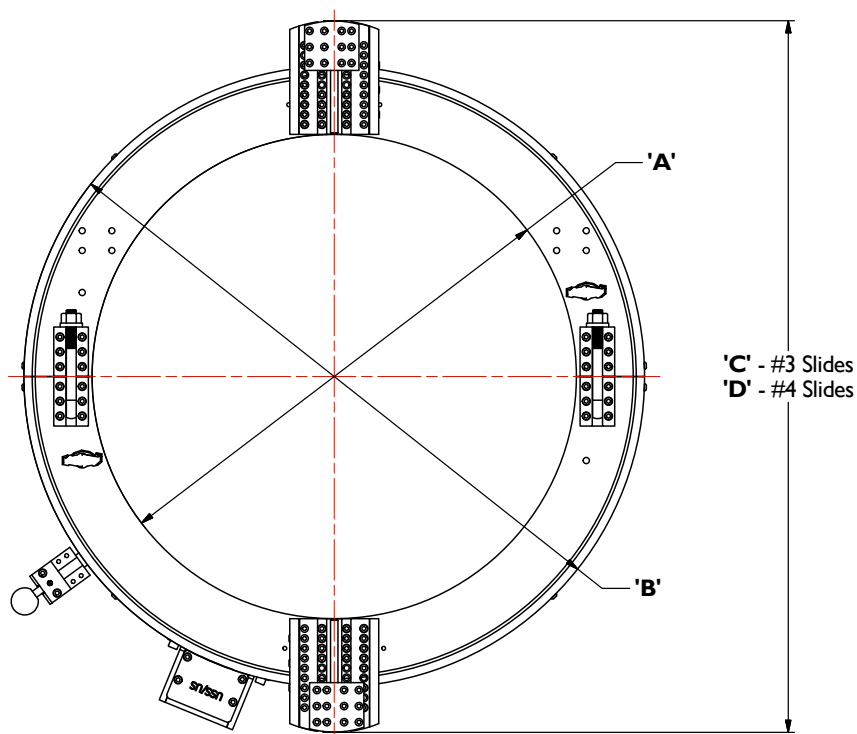
NOTE: Before each use thoroughly inspect the machine. Check for loose or missing fasteners. Make sure all guards are in place and securely fastened. Make sure the tool bits are sharp and in good condition. Correct any problems that require maintenance or replacement before using the machine.



USS Clamshell Portable Lathe Components

USS CLAMSHELL PORTABLE LATHES

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USS Clamshell Portable Lathe Dimensions

Dimension	816USS	820USS	824USS	828USS	830USS	832USS	836USS
A - Machine I.D.	16.50	20.50	24.50	28.50	30.50	33.00	37.00
B - Machine O.D.	23.40	27.40	31.40	35.40	37.50	40.00	44.00
C - #3 Slides	26.00	30.00	34.00	38.00	40.00	42.50	46.50
D - #4 Slides	28.00	32.00	36.00	40.00	42.00	44.50	48.50

USS CLAMSHELL PORTABLE LATHES

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Capabilities

- Pipe Sever
- Pipe sever and bevel
- Pipe sever and double bevel

The USS series of Clamshell Lathes is capable of cold-cutting steel and steel-alloys, stainless steel, and most other metal alloys.

Tooling

3/4 or 1 inch tooling of various profiles.

Drives

Air Drive

Air supply requirement: 100 cfm @ 100 psi (2.8 m³/min @ 6.9 bar)

Hydraulic Drive

HPU requirement: 10-15 gpm @ 1000 psi continuous pressure (38-57 lpm @ 69 bar). Hydraulic motors include hose whips and quick-disconnects. Hydraulic power units are available from Mactech.

Optional Equipment

Refer to the following page for a selection of the optional equipment available for the USS series of clamshell lathes.



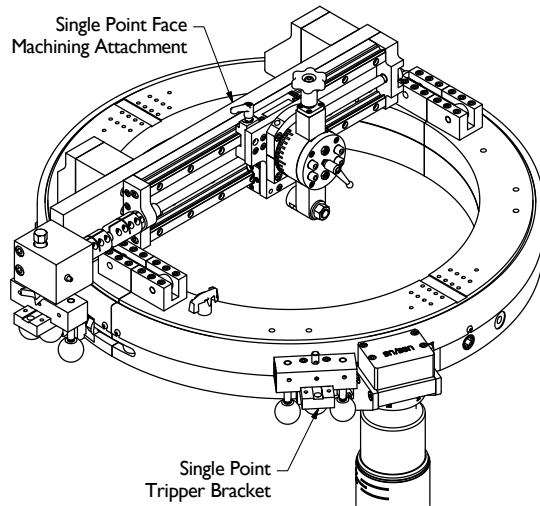
Hydraulic Power Unit

NOTE: Refer to the USS Clamshell Lathes Specification Sheets for detailed information on specific clamshell models.

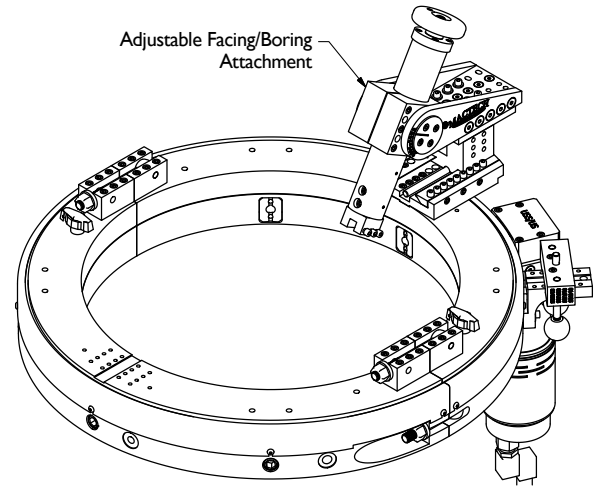
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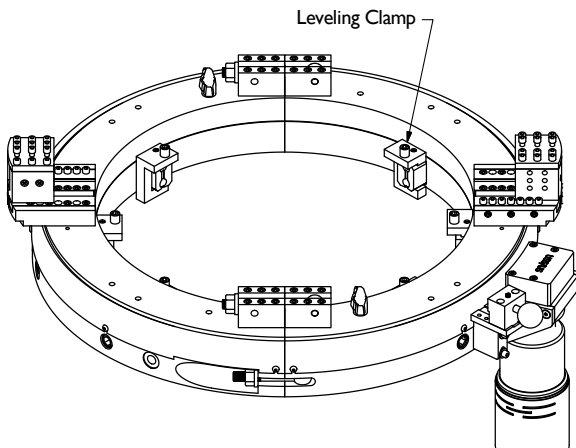
Optional Equipment



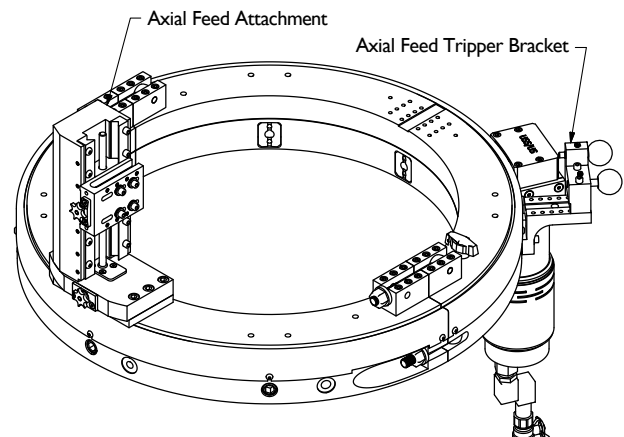
Single Point Attachment
Heavy-wall weld preps, Flange facing,
O-ring grooves



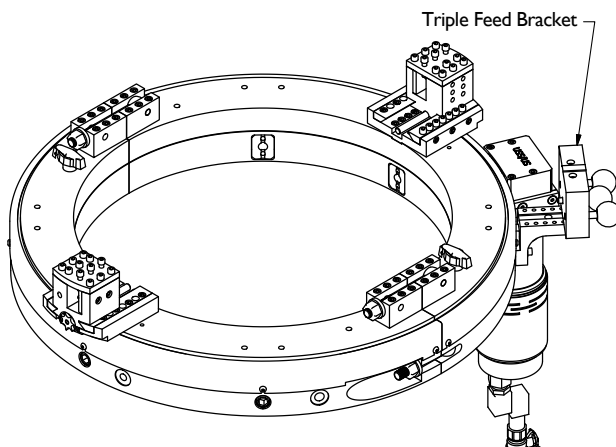
Adjustable Facing/Boring Attachment
Boring, Flange facing, RTJ grooves,
O-ring grooves



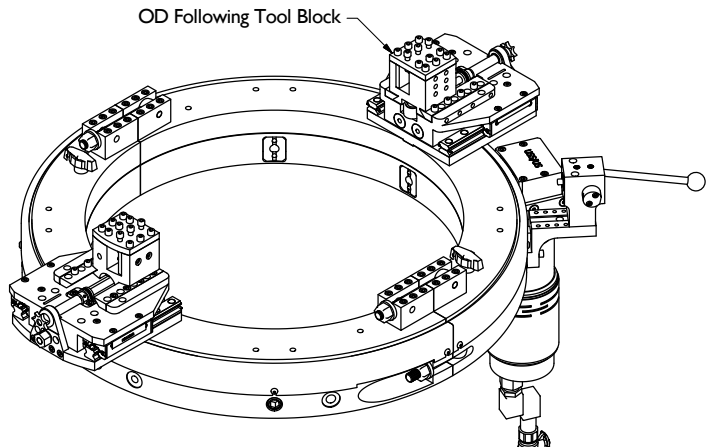
Leveling Clamps
Levels the clamshell with the workpiece face



Axial Feed Attachment
Axial machining (along length of pipe),
Shaft machining, Groove machining



Triple Feed Bracket
Tool bit feed rate adjustment, Feed direction reversal

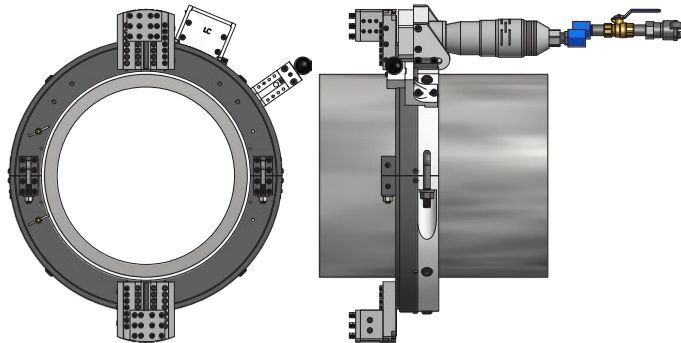


OD Following Tool Blocks
Tracks contour of the workpiece

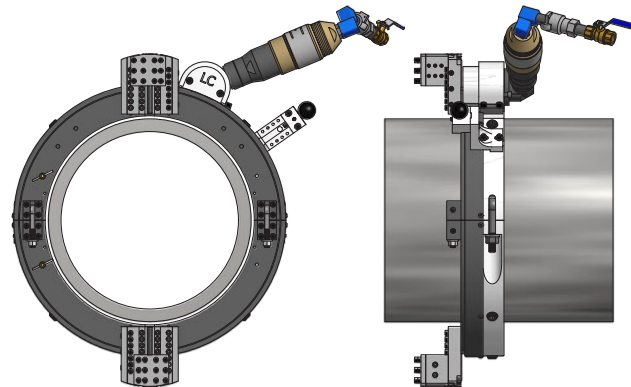
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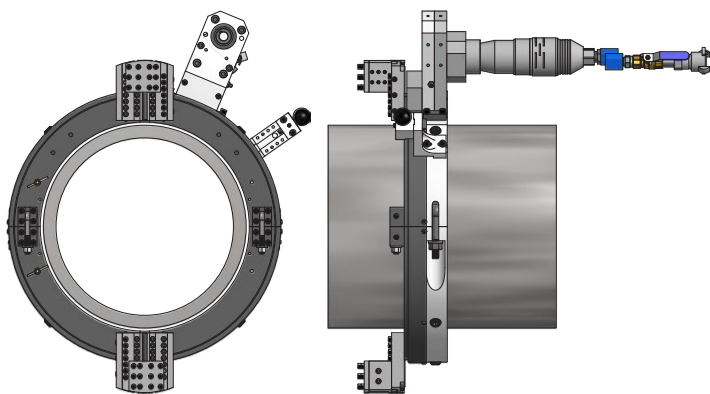
Drive Configurations



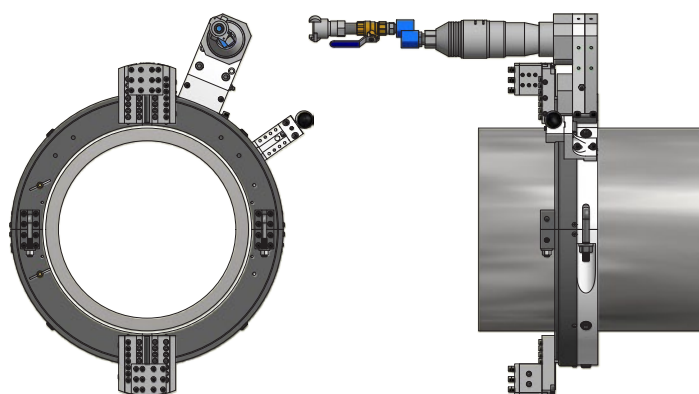
In-line Drive



Right Angle Drive



Reversible Drive, Motor Rear



Reversible Drive, Motor Front

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Section 2 - Setup

CAUTION: Lift the clamshell lathe by the lifting shackles only. Do not lift the machine by the drive motor, tripper bracket, tool holders, or any other attachment. Always use inspected and certified lifting straps. Failure to properly lift the machine may result in serious personal injury or damage to the machine.

Separate Clamshell Halves

NOTE: The drive motor and tool bits must not be installed before completing the setup steps.

1. Rotate the clamshell gear to align the gear and housing split lines. Lock the gear and housing in place by inserting two lock pins through the holes on the clamshell face. If the gear holes do not line up with the housing holes, rotate the gear 180°. See Figure 1.
2. Loosen the nuts holding the four swing bolts. Separate the two clamshell halves by pulling straight apart. Do not pry or force open with tools. See Figure 2.

NOTE: Do not use tools to open the clamshell halves. Do not pry or force the halves open. Any attempt to do so may damage the equipment.

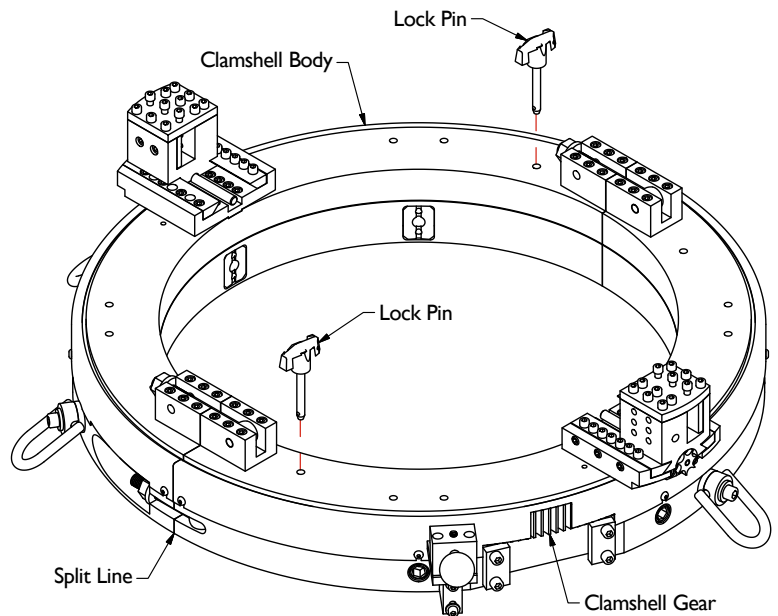


Figure 1 - Install Lock Pins

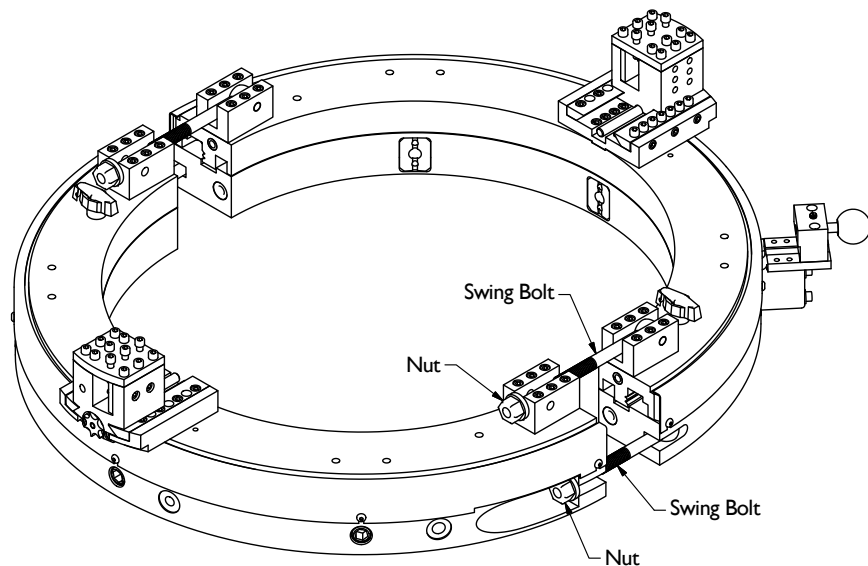


Figure 2 - Separate Clamshell Halves

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Install Locators

3. Determine the pipe or workpiece outside diameter. Select the size and combination of locator extensions required to fit around the diameter of the workpiece. Locator adjustment is done by turning the set screws on the outside of the clamshell housing. Back the locators out slightly so that they will clear the workpiece diameter when the clamshell is placed around the workpiece. See Figure 3.

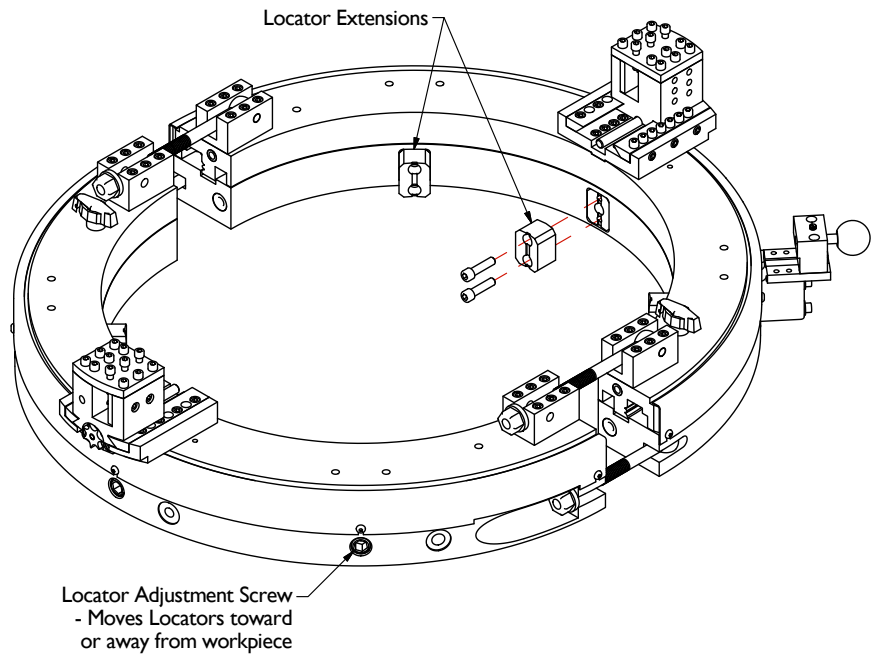


Figure 3 - Install Locators

Install Clamshell on Workpiece

4. Place the clamshell around the workpiece. Close the clamshell by tightening the four swing bolt nuts previously loosened. Tighten the locators against the workpiece just enough to hold the clamshell in place. Final tightening will be completed after the clamshell is centered and squared to the workpiece. See Figure 4.

NOTE: Do not force the clamshell halves together. If the clamshell does not completely close around the workpiece, check the locators and extensions for proper size. It may be necessary to back the locators further away from the workpiece.

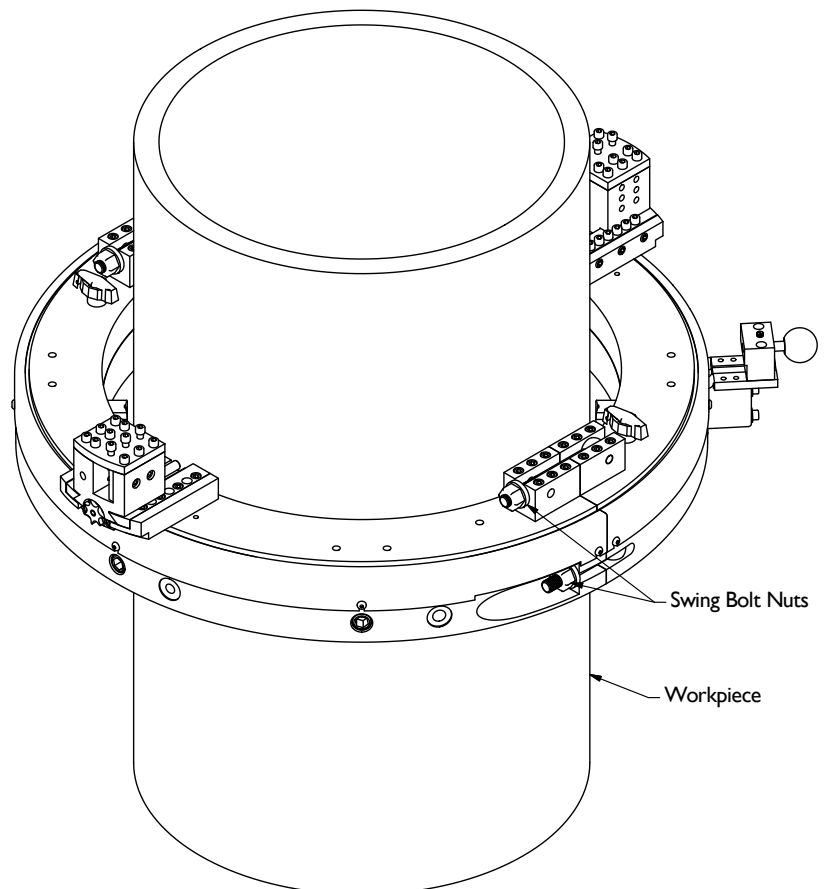


Figure 4 - Install Clamshell on Workpiece

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Square and Center the Clamshell

5. Square the clamshell to the workpiece. Place a square against the back face of the clamshell and along the length of the workpiece. Adjust locators 1, 4 and 3, 6 until the clamshell is square to the workpiece. Always make adjustments in a cross-pattern sequence. See Figure 5.

NOTE: Always leave two locators, opposite of each other, lightly tightened against the workpiece. This allows adjustment of the remaining locators. Always use a cross-pattern sequence when making adjustments.

6. Center the clamshell to the workpiece. Measure the distance from the workpiece outside diameter to the clamshell inside diameter at locator positions 1 and 4. Adjust the locator positions so that they are at the same dimension, while maintaining squareness and a secure fit on the workpiece. Repeat the process on locators 3 and 6. When the clamshell is centered and squared to the workpiece, tighten locators 2 and 5 against the workpiece. For fine centering mount a dial indicator on the clamshell face and indicate to the outside diameter of the workpiece. Make adjustments as required. Make sure all locators are firmly tightened against the workpiece. See Figure 5.

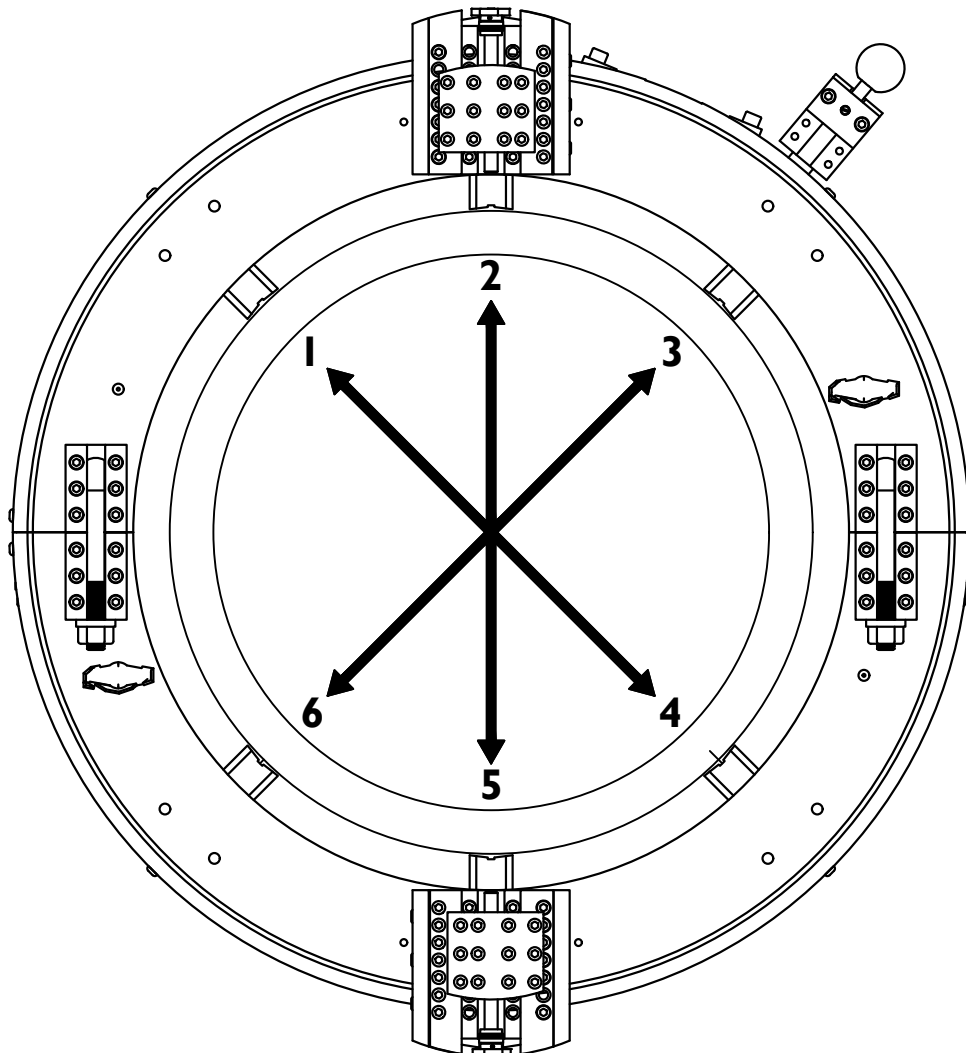


Figure 5 - Square and Center the Clamshell

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Adjust Feed Mechanism

7. Remove the two lock pins. Rotate the clamshell gear by hand to check for smooth rotation. Make sure the feed pin properly engages both tool block starwheels. Adjust the feed bracket axial and radial positions to engage the feed pin. See Figure 6.

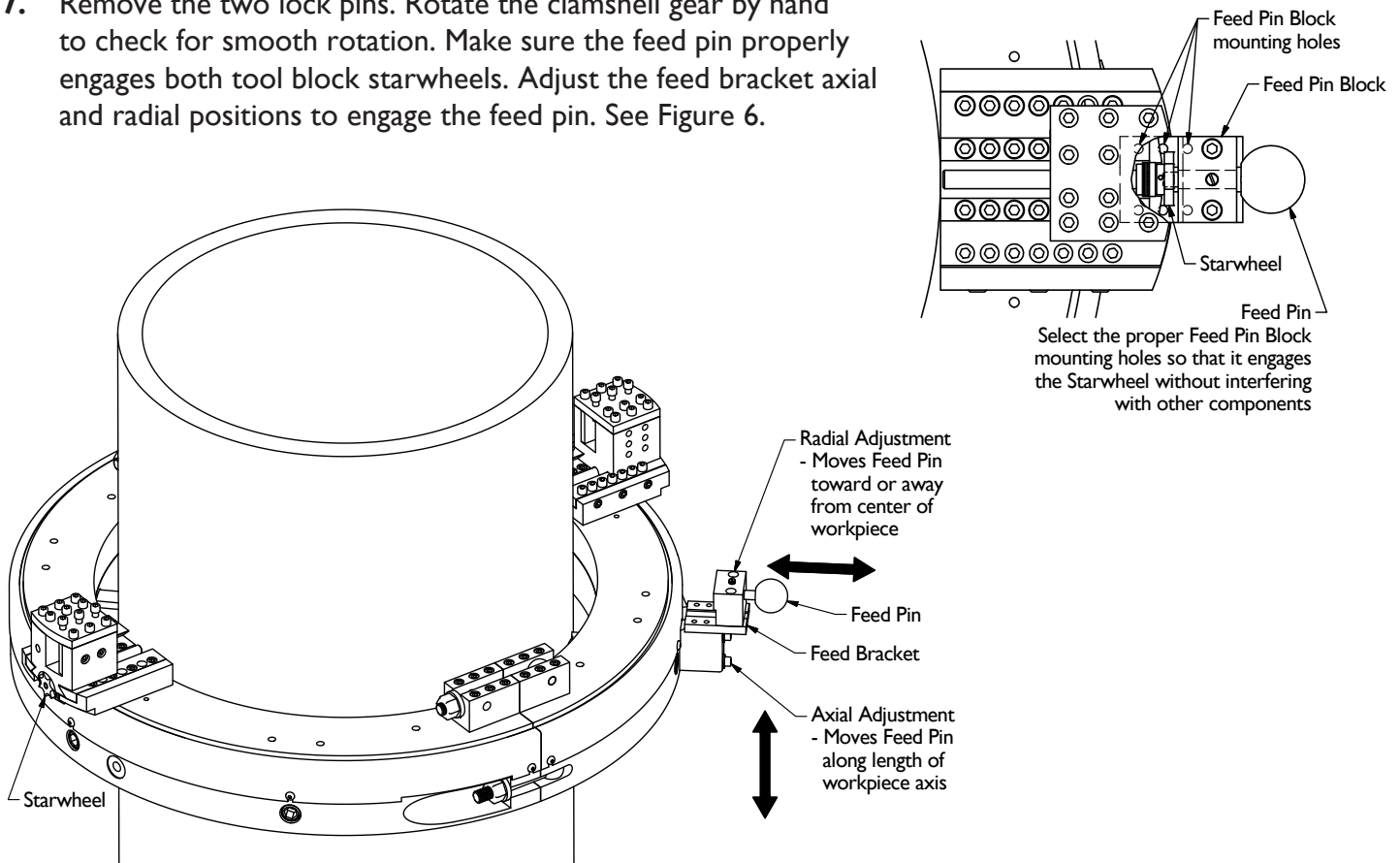


Figure 6 - Set Feed Pin Axial and Radial Positions

8. Adjust the tool block starwheel to remove feed screw backlash. Using a starwheel wrench, turn the starwheel counter-clockwise until the tool block begins to move. Set the bottom lobe of the starwheel a few degrees to the left of the vertical centerline. This is the optimal position for indexing feed the pin. Figure 7 shows proper feed pin engagement with the starwheel.

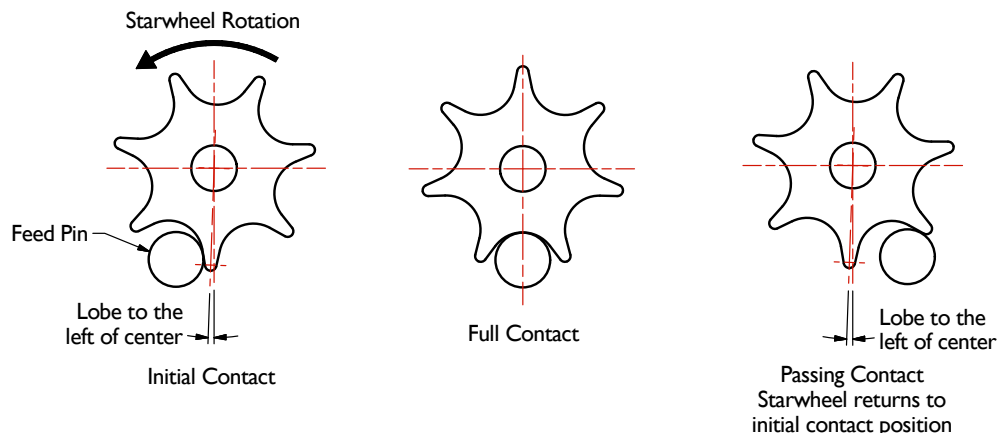


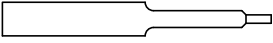
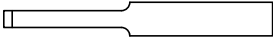





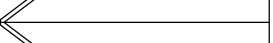
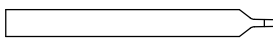

Figure 7 - Remove Feed Screw Backlash

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Install Tool Bits

9. Select the tool bit or tool bit set for your machining operation. Other tool bits are available. Contact Mactech for a full list of tool bits available for your machine.

Tool Set		Description	Max Cut Depth
 Narrow Sever- Leads	 Wide Sever - Follows	<u>Sever Set</u> - uses one narrow sever and one wide sever tool bit. 440-0023 - Narrow Sever, 4" long 440-0021 - Wide Sever, 4" long	1.88"
		<u>Sever Set</u> - uses one narrow sever and one wide sever tool bit. 440-0120 - Narrow Sever, 6" long 440-0119 - Wide Sever, 6" long	2.25"
 37° Sever- Leads	 37° Bevel - Follows	<u>Sever/Bevel 37°, LH Set</u> - uses one sever and one bevel tool bit. 440-0042 - Sever, 5" long, left-hand 440-0041 - Bevel, 5" long, left-hand	1.12"
		<u>Sever/Bevel 37°, RH Set</u> - uses one sever and one bevel tool bit. 440-0044 - Sever, 5" long, right-hand 440-0043 - Bevel, 5" long, right-hand	1.12"
 37°-10° Sever- Leads	 37°-10° Bevel - Follows	<u>Sever/Compound Bevel 37°-10°, LH Set</u> - uses one sever and one bevel tool bit. 440-0046 - Sever, 5" long, left-hand 440-0045 - Bevel, 5" long, left-hand	2.25"
		<u>Sever/Compound Bevel 37°-10°, RH Set</u> - uses one sever and one bevel tool bit. 440-0048 - Sever, 5" long, right-hand 440-0047 - Bevel, 5" long, right-hand	2.25"
 Sever - Leads	 37° Double Bevel - Follows	<u>Sever/Double Bevel 37°, Set</u> - uses one sever and two bevel tool bits. 440-0053 - Sever, 5" long 440-0054 - Double Bevel, 5" long, right-hand 440-0055 - Double Bevel, 5" long, left-hand	0.93"
 Sever - Leads	 37°-10° Double Bevel - Follows	<u>Sever/Double Bevel 37°-10°, Set</u> - uses one sever and two bevel tool bits. 440-0053 - Sever, 5" long 440-0081 - Double Bevel, 5" long, left-hand 440-0082 - Double Bevel, 5" long, right-hand	1.94"
* All Tooling fits in a 3/4" Tool Slot			

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NOTE: The clamshell rotates clockwise when viewed toward the tool block face. Bevel tools are available in left-hand and right-hand versions. Right-hand tools bevel on the side of the cut which the clamshell is mounted. Left-hand tools bevel on the opposite side of the cut. See Figures 8 and 9.

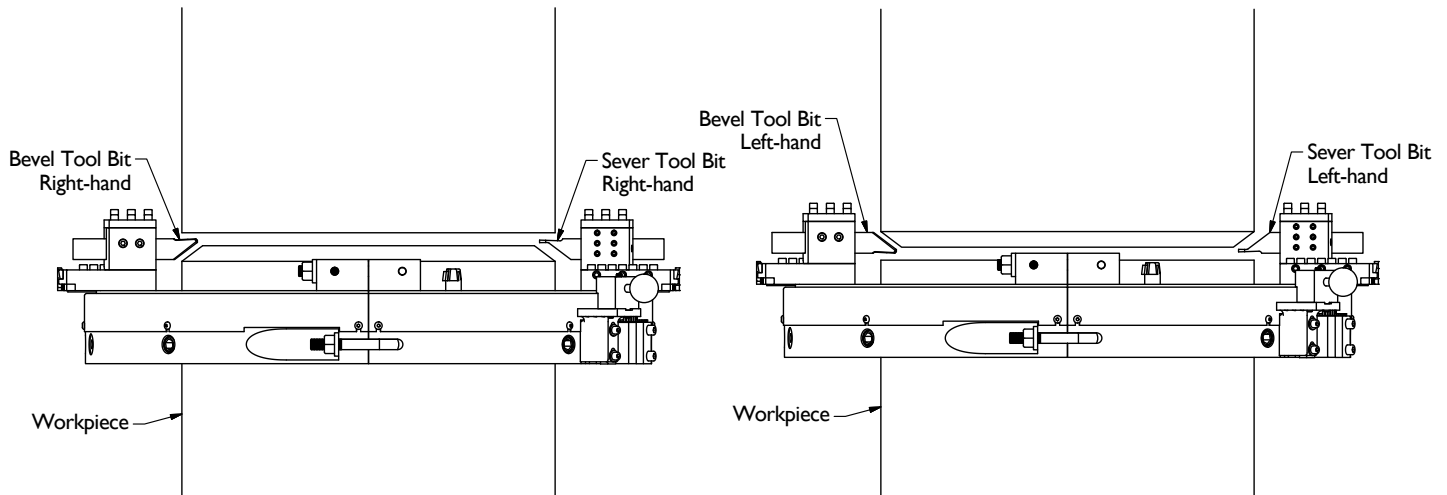


Figure 8 - Right-hand and Left-hand Tool Bits

10. Use a starwheel wrench to back both tool blocks away from the workpiece. Make sure the feed pin is disengaged. See Figure 9.

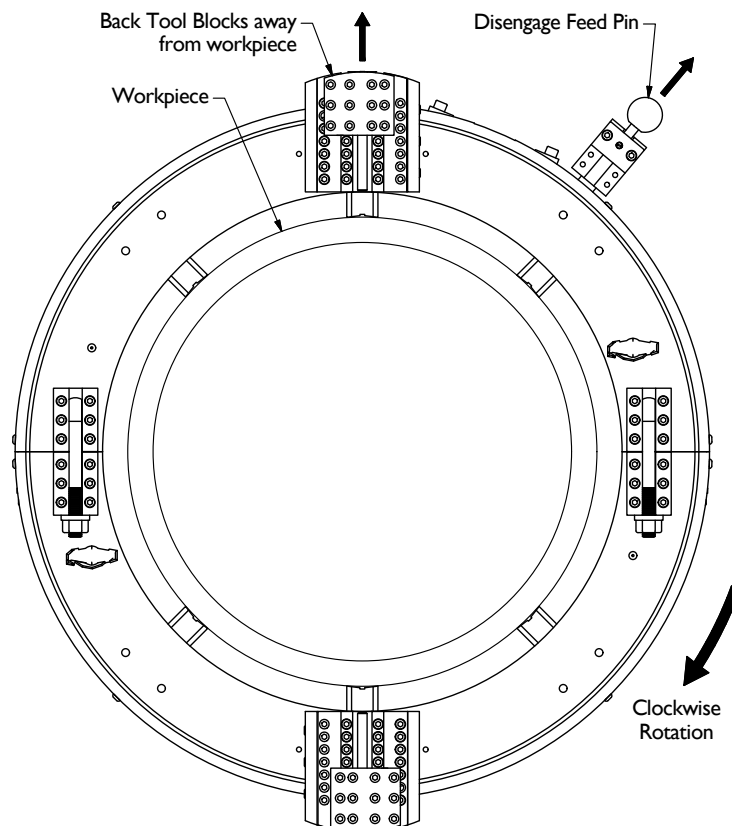


Figure 9 - Back Tool Blocks away from Workpiece and Disengage Feed Pin

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11. Insert a tool bit into each tool block. Use shims to position the tool bit as necessary. Each tool block must use the same thickness and quantity of shims. Limit the distance the tool bit extends out of the tool block for greatest rigidity. A rigid setup will help achieve the best performance, accuracy and quality of cuts. See Figure 10.

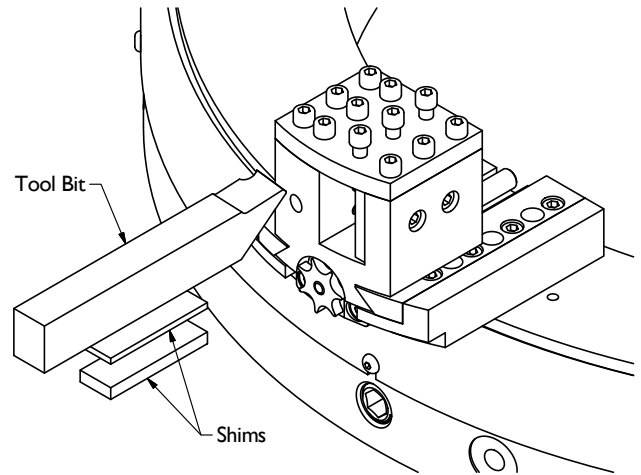


Figure 10 - Install Tool Bit and Shims

12. The tool bit cutting tip must lie on the centerline of the workpiece. Lightly tighten one set screw on the side of each tool block to hold the tool bits, yet allow movement to set the tool bit at the proper position. See Figure 11.

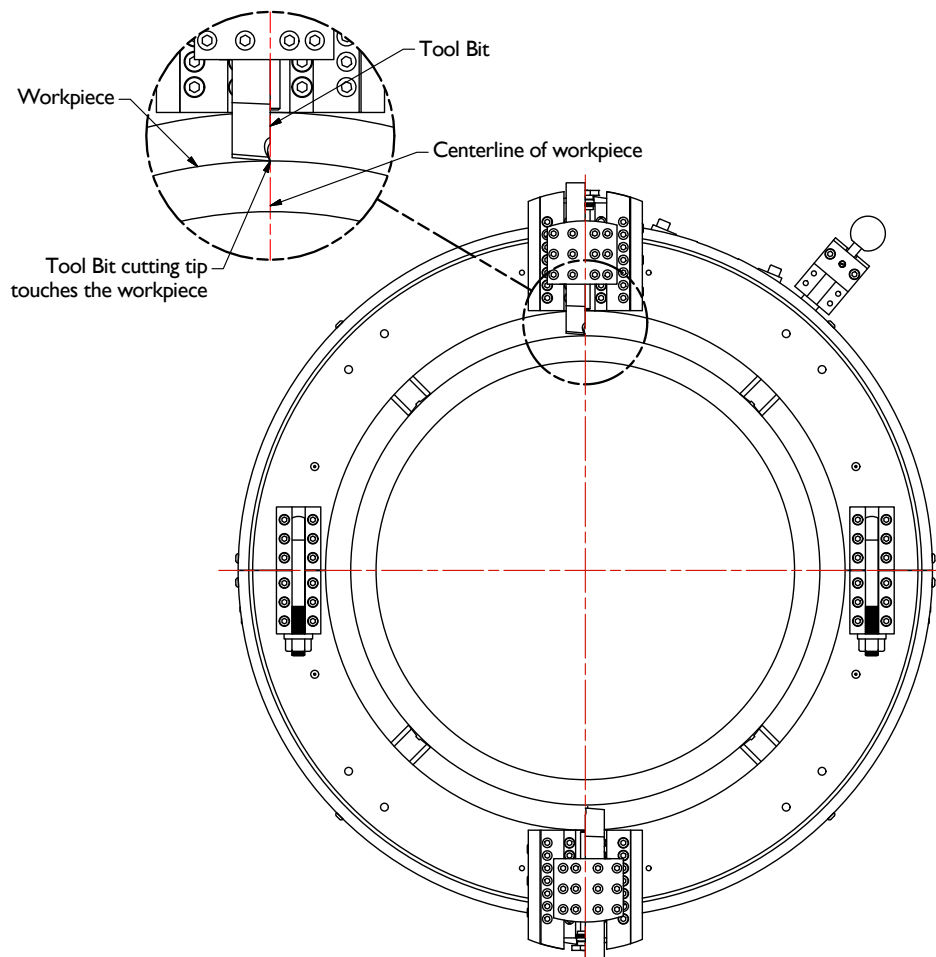


Figure 11 - Cutting Tip on Centerline

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- 13.** Manually rotate the clamshell counter-clockwise one revolution. This will push the tool bits away from the workpiece high point and will prevent gouging. Firmly tighten the set screws on the side of the tool block and the cap screws on the top of the tool block to hold the tool bits.

Set Leading/Following Tool Bits

- 14.** Sever-bevel and narrow-wide sever bit combinations require a lead and follow tool bit setup. Sever bits must lead bevel bits, and narrow-sever bits must lead wide-sever bits. Follow steps 9 through 13 for installing a tool bit. This sets the position for the leading tool bit.
- 15.** Back the following tool bit away from the workpiece slightly more than the leading tool bit. This will allow the leading tool bit to begin the cut before the following tool bit. As the cut is made further tool bit adjustment may be required. See Figure 12.

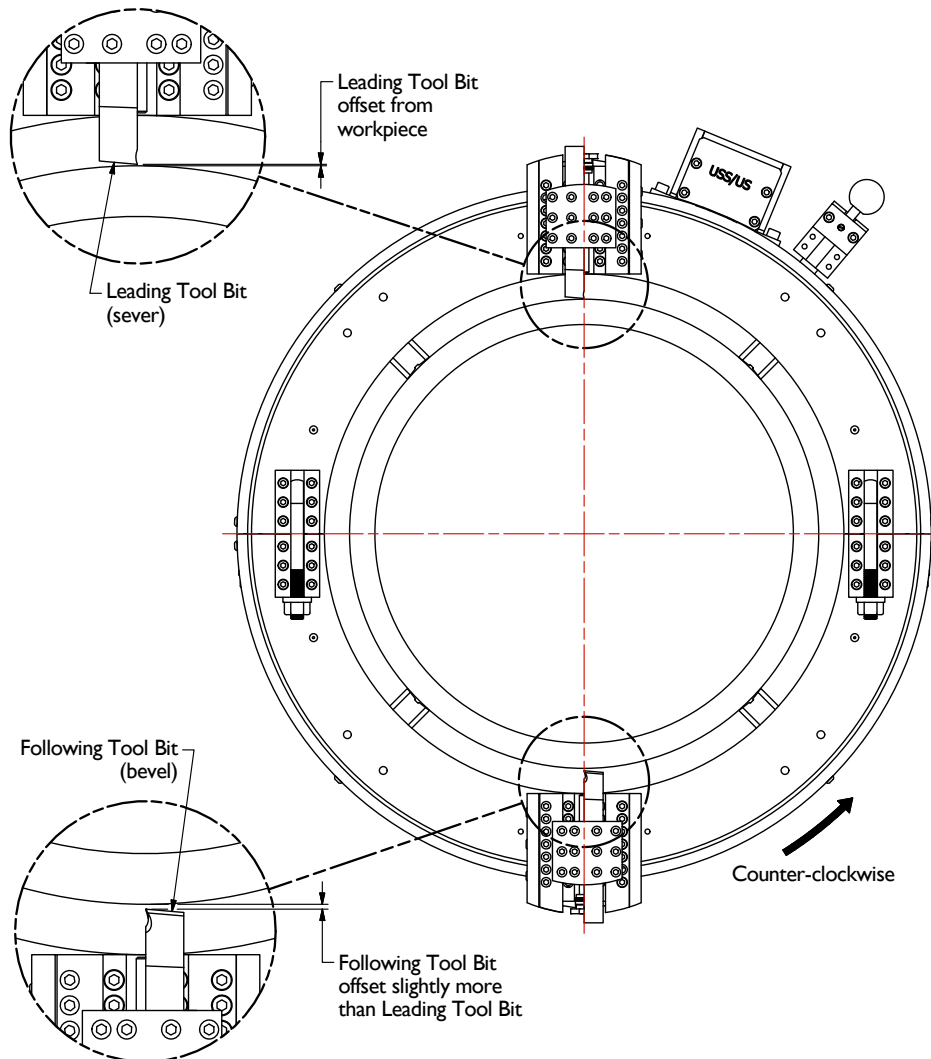


Figure 12 - Set Leading/Following Tool Bits

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Install Drive Motor

16. Install the drive assembly onto the clamshell. Slide the drive behind the mounting brackets on the clamshell. Mesh the drive gear with the clamshell gear. Push the drive assembly up until it stops. Secure the drive to the clamshell by tightening four mounting bracket screws. See Figure 13.

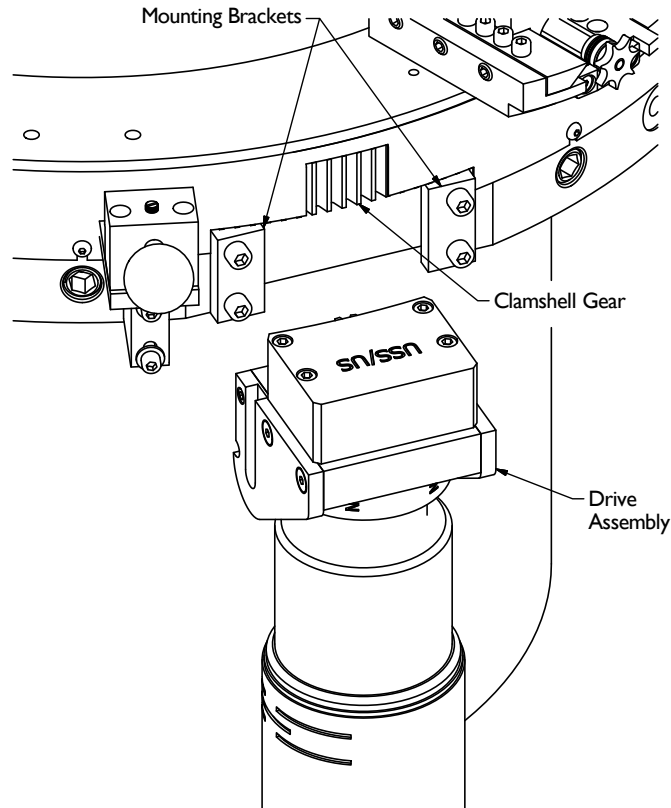


Figure 13 - Install Drive Motor

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Section 3 - Operation

Sever In-line Pipe

1. Install two sever bits. With the tool bits touched off the workpiece, turn the starwheel one revolution to back the tool bits slightly away from the workpiece. Make sure the starwheel is set at the initial contact position, as shown in Figure 7, page 2-4. Make sure the power supply is off. Connect the power supply to the drive motor. Disengage the feed pin and slowly apply power to check the function and speed of the clamshell.
2. Engage the feed pin to begin cutting. Use the power supply to control the rotation speed. If chattering or vibration occurs reduce the rotation speed. Use coolant to reduce friction. Replace dull tool bits as required.
3. Disengage the feed pin. Allow the machine to rotate at least two times without the feed activated to clear the cut of any burrs or hanging metal. Cut power from the power supply to stop cutting. Disconnect hoses. Back each tool block away from the clamshell as far back as possible.

Sever/Bevel In-line Pipe

1. Install two left or right-hand sever/bevel bits. With the tool bits touched off the workpiece, turn the starwheel one revolution to back the tool bits slightly away from the workpiece. Make sure the starwheel is set at the initial contact position, as shown in Figure 7, page 2-4. Make sure the power supply is off. Connect the power supply to the drive motor. Disengage the feed pin and slowly apply power to check the function and speed of the clamshell.
2. Engage the feed pin to begin cutting. Use the power supply to control the rotation speed. Machine the bevel to a sharp edge. If the pipe is out of round, re-center the clamshell to the pipe and complete the bevel operation. If chattering or vibration occurs reduce the rotation speed. Use coolant to reduce friction. Replace dull tool bits as required.
3. Disengage the feed pin. Allow the machine to rotate at least two times without the feed activated to clear the cut of any burrs or hanging metal. Cut power from the power supply to stop cutting. Disconnect hoses. Back each tool block away from the clamshell as far back as possible.

NOTE: Use the emergency-stop button on the hydraulic pendant control to immediately cut power to the machine.

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Tapered Gibs Adjustment

NOTE: The tool blocks must move smoothly along the slides. The gibs may require adjustment due to wear or heavy use. The gibs must be parallel to the slide for proper feed function. Disconnect the power supply before adjusting the gibs.

1. Use a starwheel wrench to back the tool block fully away from the clamshell center. Remove the two flat head screws which hold the tool block and feed screw on the slide. Pull the tool block and feed screw assembly out of the slide. See Figure 14.

NOTE: Apply a light coat of machine oil to the gibs. Inspect the gibs for burrs, sharp edges, or other damage that may prevent the tool block from sliding freely along the gibs. Replace gibs as necessary.

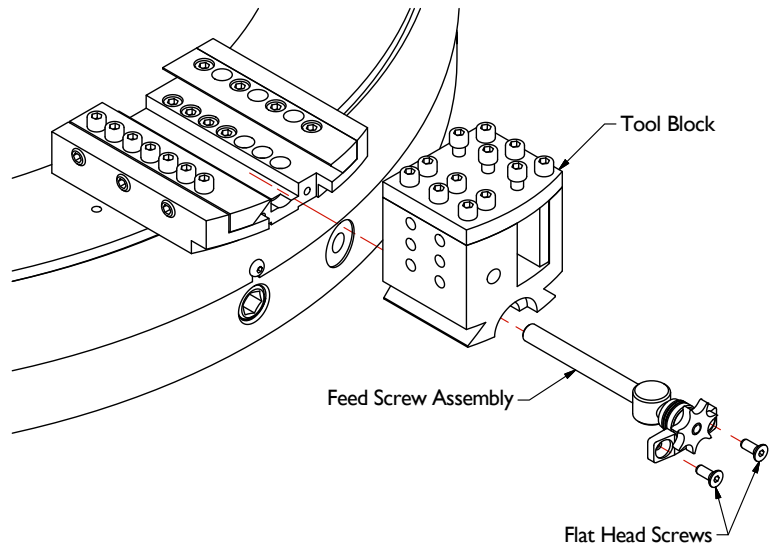


Figure 14 - Remove Feed Screw and Tool Block

2. Install shims into the tool block to simulate a tool bit. Tighten the tool bit retaining screws. Replace the tool block only (without feed screw assembly) into the slide. Tighten the set screws on the side of the slide 1/4 turn. Loosen the cap screws on top of the adjustable gib if necessary. Move the tool block in the slide. There should be no slop and no binding. Continue to adjust set screws as necessary so that the tool block slides smoothly. The tool block must move easily with slight resistance, with no slop or binding. Resistance must be the same along the entire length of the slide. It may be necessary to move the tool block by tapping with a deadblow hammer (included in the hand tool kit). Adjust set screws as necessary. Tighten the cap screws on top of the adjustable gib. See Figure 15.
3. Remove the tool block. Reassemble the feed screw assembly onto the tool block. Reassemble the tool block on the slide. Use a starwheel wrench to move the tool block along the slide to check the slide adjustment.

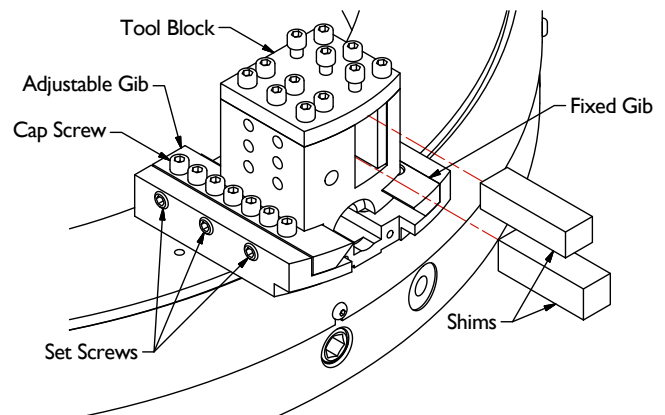


Figure 15 - Adjust Gibs

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Section 4 - Cleaning, Inspection and Maintenance

CAUTION: The lock pins must be in place before disassembly of the clamshell at the split line. The ring gear may roll out of the clamshell body if the lock pins are not in place. This may result in damage to the machine or serious injury to the user.

NOTE: Cleaning and maintenance must be performed after each use to maintain the operation and life of the machine.

1. After each use wipe down the entire machine with a clean rag. Remove metal shavings, oil, dirt and debris from the machine. Compressed air may be used to blow out metal shavings.
2. If the machine has been exposed to saltwater or used in other corrosive environments, rinse off the entire machine with freshwater immediately after use. Use compressed air to dry the machine as thoroughly as possible. It is important to remove all saltwater to prevent corrosion. The machine may require disassembly and thorough drying and lubrication of all components to remove all saltwater.
3. Check the machine for damage, loose or missing parts and excessive wear to components.
4. Make sure the four lifting rings are present and in good condition.
5. Inspect the tool blocks and feed pins. Make sure that all metal shavings, dirt and debris are removed. Make sure there is no damage to components and all parts are functional. Lubricate the feed screw with machine oil.
6. Check the locators and extensions for damage or wear. Make sure all fasteners are present and in good condition.

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Section 5 - Assembly Drawings and Hand Tool List

USS Clamshells Main Body Assemblies	
Drawing No.	Description
600-2790C	816USS Main Body Assembly
600-0367C	820USS Main Body Assembly
600-0418C	824USS Main Body Assembly
600-2798C	828USS Main Body Assembly
600-2758C	830USS Main Body Assembly
600-2759C	832USS Main Body Assembly
600-2770C	836USS Main Body Assembly

USS Clamshells Tool Blocks and Slides	
Drawing No.	Description
600-2727	#3 Tool Block and Slide Assembly
600-2728	#4 Tool Block and Slide Assembly
600-0349	3/4" Tool Block Shim Set

USS Clamshells Feed Brackets	
Drawing No.	Description
600-2771	#4 USS Feed Bracket, 824USS-836USS
600-3303	#3 Triple Feed Bracket, 814USS-824USS
600-3304	#3 Triple Feed Bracket, 828USS-836USS
600-3307	#3 Extended Handle Feed Bracket

USS Clamshells Drives	
Drawing No.	Description
600-4221D	In-line Air Drive Assembly, Standard
600-4231D	In-line Air Drive Assembly, High-torque
600-4241A	In-line Hydraulic Drive Assembly

USS Clamshells Locator Extensions	
Drawing No.	Description
600-2768	Locator Extension Set

Hand Tool List

These tools are provided for operation and basic maintenance of the machine. All tools must be returned with the machine.

Part No.	Description	Qty
452-0011	Combination Wrench, 7/8"	1
452-0110	Allen Wrench, Long Arm, 1/4"	1
452-0153	Allen Wrench, 1/8"	1
452-0155	Allen Wrench, 5/32"	1
452-0156	Allen Wrench, 3/16"	1
452-0158	Allen Wrench, 1/4"	1

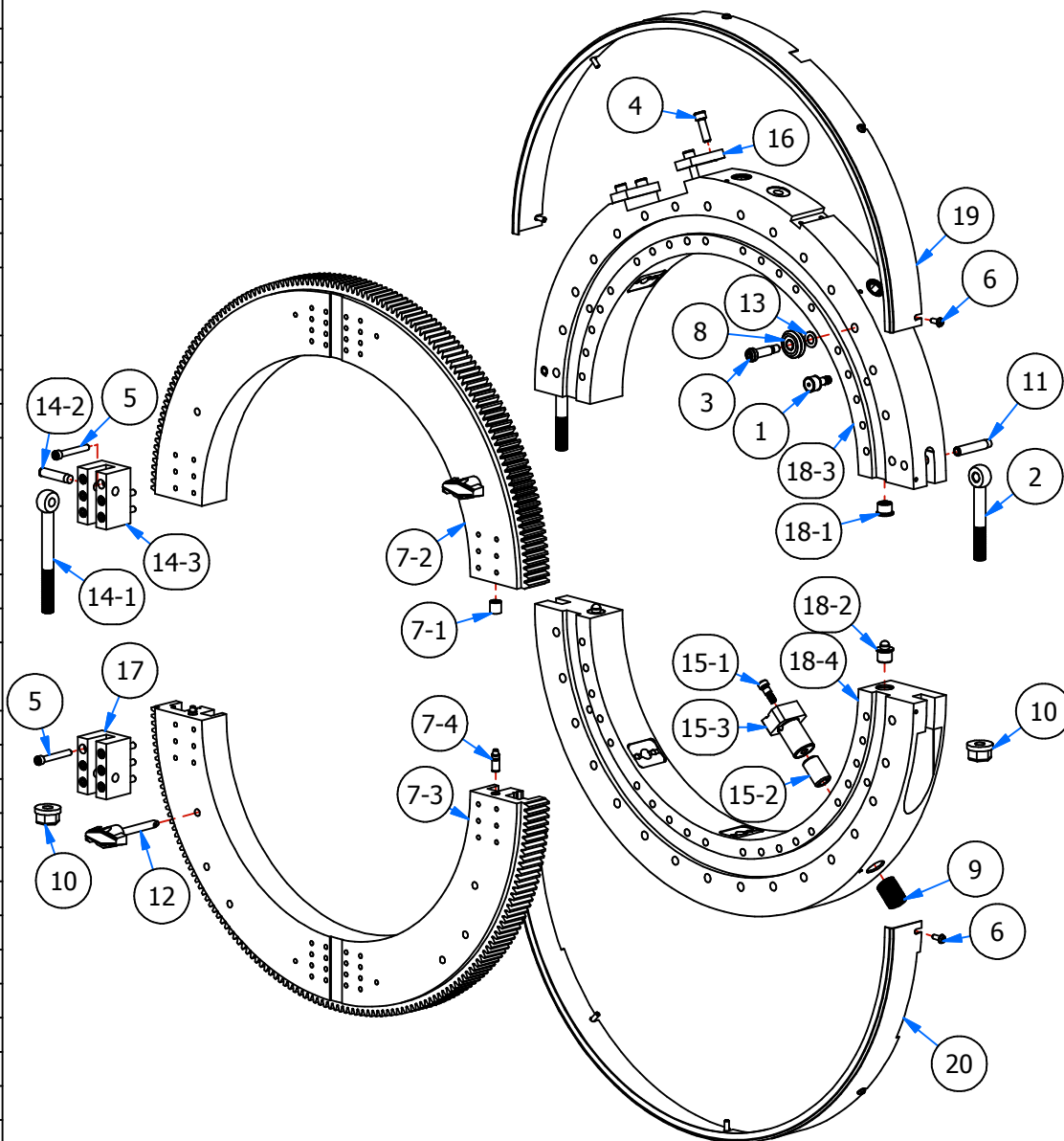
Part No.	Description	Qty
452-0160	Allen Wrench, 3/8"	1
452-0420	Breaker Bar, 1/2" Drive	1
452-0436	Socket, 7/8", 1/2" Drive	1
452-0602	Deadblow Hammer	1
600-0349	3/4" Tool Block Shim Set	2
452-0820	Starwheel Speed Wrench, 7 pt	1
	Feed Screw Assembly, Spare	1



ITEM	PART NUMBER	QTY	DESCRIPTION
1	020-0120	40	5/8 CAMFOLLOWER BEARING - NOT CROWNED
2	030-0013	2	1/2-13 X 3-3/4" EYE BOLT - 3/8 HOLE
3	061-0003	32	3/8 x 1 SHOULDER SCREW
4	070-0006	4	5/16 - 18 x 1 SHCS
5	070-0011	24	1/4-20 X 1 3/4 SHCS
6	072-0001	10	10 - 24 x 1/2 BHCS
7	100-0016C	1	816USS SPLIT GEAR SET
7-1	040-0013	2	BUSHING - 5/16 X 1/2 X 1/2 LONG
7-2	100-0016C-A	1	816USS SPLIT GEAR SET - UPPER HALF
7-3	100-0016C-B	1	816USS SPLIT GEAR SET - LOWER HALF
7-4	200-0058	2	5/16 BULLET NOSE DOWEL PIN - TEMPERED
8	120-0006	32	#2 GUIDE WHEEL BEARING
9	120-0065	6	3/4-10 X 1-1/8 HELICOIL
10	170-0006	4	1/2-13 FLANGE NUT
11	200-0052	2	3/8 x 2 HARDENED GROUND PRODUCTION DOWEL PIN
12	205-0002	2	5/16 BALL LOCK PIN
13	480-1002	32	SHIM WASHER - 11/16 X 3/8 X .032
14	600-0458	2	US SWING BOLT ASSEMBLY
14-1	030-0005	1	1/2-13 x 5 EYE BOLT
14-2	200-0008	1	3/8 x 1 3/4 HARDENED GROUND PRODUCTION DOWEL PIN
14-3	620-0601	1	US SWING BOLT BRACKET
15	600-2766	6	USS/SLC STACKABLE LOCATOR BASE ASSY
15-1	061-0002	1	SHOULDER SCREW - 1/4 X 13/16
15-2	490-0025	1	LOCATOR JACK SCREW
15-3	620-3941	1	USS/SLC STACKABLE LOCATOR BASE
16	620-0589	2	USS/SLC MOTOR MOUNT BRACKET
17	620-0601	2	US SWING BOLT BRACKET
18	620-3850	1	816US/USS MAIN HOUSING ASSEMBLY
18-1	040-0002	2	FLANGED BUSHING - BULLET NOSE, 3/8
18-2	200-0002	2	LOCATING PIN - BULLET NOSE, 3/8
18-3	620-3850A	1	816US/USS MAIN HOUSING - UPPER HALF
18-4	620-3850B	1	816US/USS MAIN HOUSING - LOWER HALF
19	630-1050	1	816USS GEAR SHIELD - MOTOR HALF
20	630-1051	1	816USS GEAR SHIELD - HOUSING HALF

816USS MAIN BODY ASSEMBLY

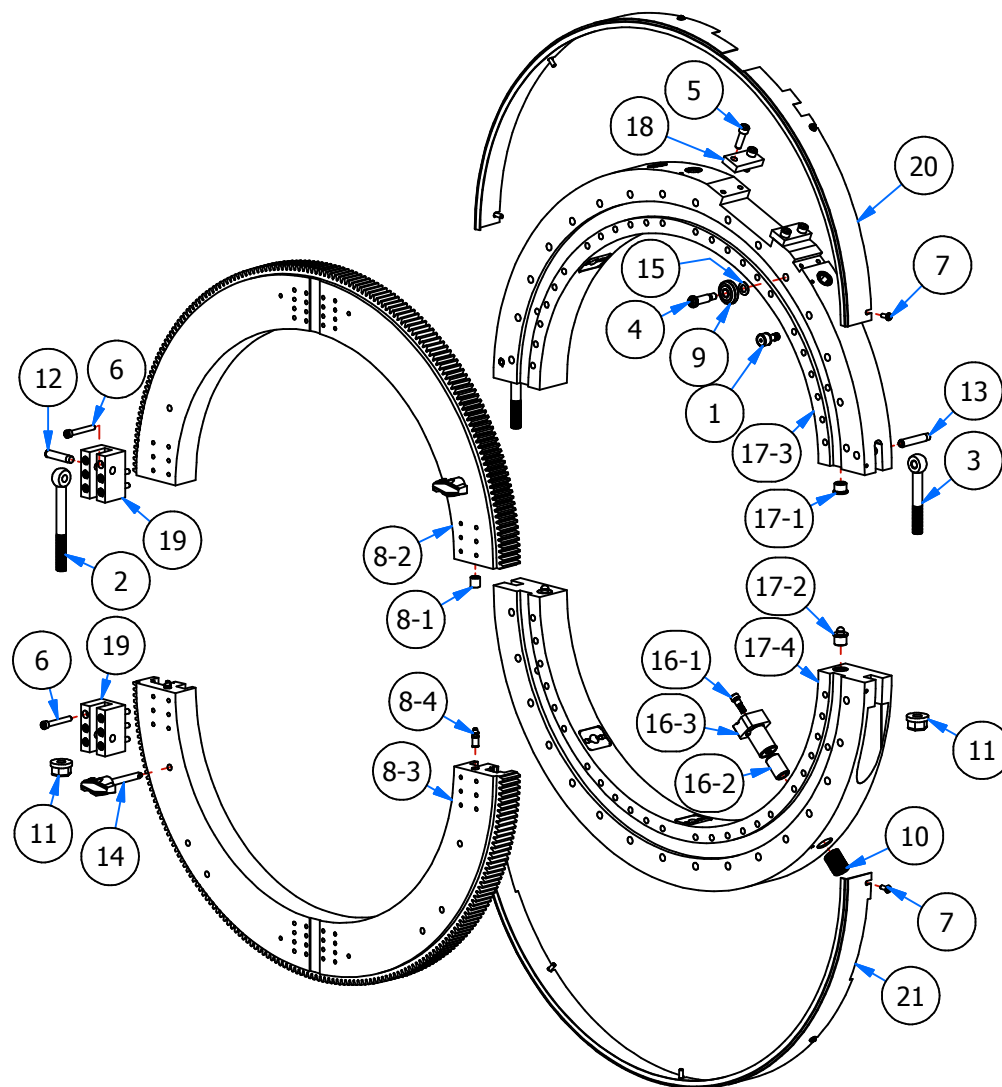
600-2790C



ITEM	PART NUMBER	QTY	DESCRIPTION
1	020-0120	48	5/8 CAMFOLLOWER BEARING - NOT CROWNED
2	030-0005	2	1/2-13 x 5 EYE BOLT
3	030-0013	2	1/2-13 X 3-3/4" EYE BOLT - 3/8 HOLE
4	061-0003	32	3/8 x 1 SHOULDER SCREW
5	070-0006	4	5/16 - 18 x 1 SHCS
6	070-0011	24	1/4-20 X 1 3/4 SHCS
7	072-0001	10	10 - 24 x 1/2 BHCS
8	100-0023C	1	820US/USS SPLIT GEAR SET
8-1	040-0013	2	BUSHING - 5/16 X 1/2 X 1/2 LONG
8-2	100-0023C-A	1	820US/USS SPLIT GEAR SET - UPPER HALF
8-3	100-0023C-B	1	820US/USS SPLIT GEAR SET - LOWER HALF
8-4	200-0058	2	5/16 BULLET NOSE DOWEL PIN - TEMPERED
9	120-0006	32	#2 GUIDE WHEEL BEARING
10	120-0065	6	3/4-10 X 1-1/8 HELICOIL
11	170-0006	4	1/2-13 FLANGE NUT
12	200-0008	2	3/8 x 1 3/4 HARDENED GROUND PRODUCTION DOWEL PIN
13	200-0052	2	3/8 x 2 HARDENED GROUND PRODUCTION DOWEL PIN
14	205-0002	2	5/16 BALL LOCK PIN
15	480-1002	32	SHIM WASHER - 11/16 X 3/8 X .032
16	600-2766	6	USS/SLC STACKABLE LOCATOR BASE ASSY
16-1	061-0002	1	SHOULDER SCREW - 1/4 X 13/16
16-2	490-0025	1	LOCATOR JACK SCREW
16-3	620-3941	1	USS/SLC STACKABLE LOCATOR BASE
17	620-0530	1	820USS MAIN HOUSING ASSY
17-1	040-0002	2	FLANGED BUSHING - BULLET NOSE, 3/8
17-2	200-0002	2	LOCATING PIN - BULLET NOSE, 3/8
17-3	620-0530A	1	820USS MAIN HOUSING - UPPER HALF
17-4	620-0530B	1	820USS MAIN HOUSING - LOWER HALF
18	620-0589	2	USS/SLC MOTOR MOUNT BRACKET
19	620-0601	4	US SWING BOLT BRACKET
20	630-1220	1	820USS GEAR SHIELD - MOTOR HALF
21	630-1221	1	820USS GEAR SHIELD - HOUSING HALF

820USS MAIN BODY ASSEMBLY

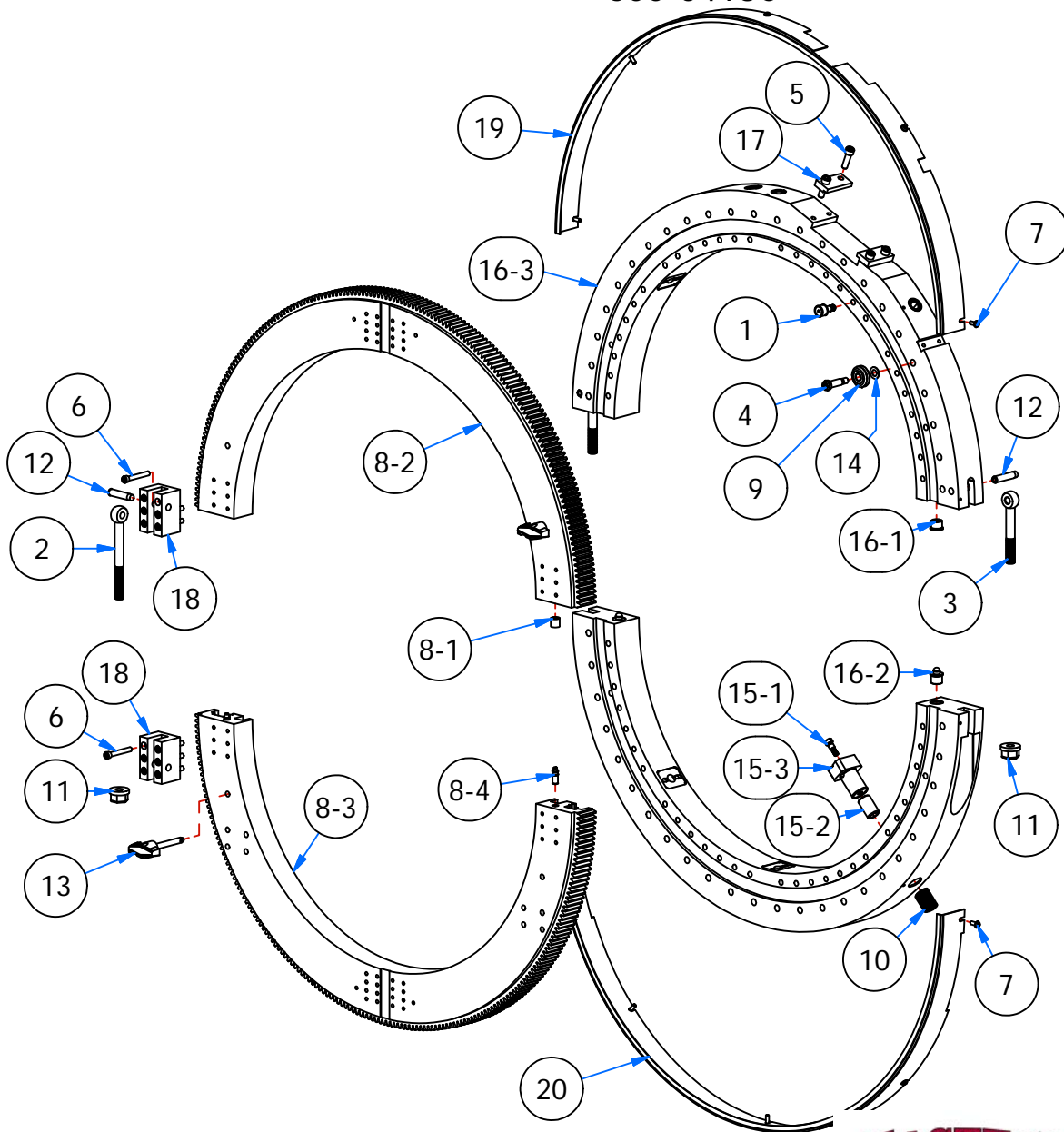
600-0367C



PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	020-0120	56	CAMFOLLOWER BEARING - 5/8" - NOT CROWNED
2	030-0005	2	EYE BOLT - 1/2-13 UNC X 5 LONG
3	030-0013	2	EYE BOLT - 1/2-13 UNC X 3-3/4" LONG - 3/8" DIA HOLE
4	061-0003	48	SHOULDER SCREW, 3/8 x 1", 5/16-18 UNC THDS
5	070-0006	4	SHCS, 5/16-18 x 1
6	070-0011	24	SHCS, 1/4-20 x 1-3/4
7	072-0001	10	BHCS, #10 - 24 x 1/2
8	100-0018C	1	SPLIT GEAR SET - 824USS
8-1	040-0013	2	BUSHING - 5/16 X 1/2 X 1/2 LONG
8-2	100-0018C-A	1	SPLIT GEAR SET - 824USS, UPPER HALF
8-3	100-0018C-B	1	SPLIT GEAR SET - 824USS, LOWER HALF
8-4	200-0058	2	5/16 BULLET NOSE DOWEL PIN - TEMPERED
9	120-0006	48	GUIDE WHEEL DUA-L-VEE SIZE NO 2 - 1.21 OD X 3/8 ID X .437 THICK
10	120-0065	6	HELICOIL INSERT - 3/4-10 UNC X 1-1/8L
11	170-0006	4	FLANGE NUT - 1/2-13 UNC
12	200-0008	4	PRODUCTION DOWEL PIN - 3/8 x 1 3/4
13	205-0002	2	BALL LOCK PIN - 5/16"
14	480-1002	48	SHIM WASHER - 11/16 X 3/8 X .032
15	600-2766	6	USS/SLC STACKABLE LOCATOR BASE ASSY
15-1	061-0002	1	SHOULDER SCREW - 1/4 X 13/16
15-2	490-0025	1	LOCATOR JACK SCREW
15-3	620-3941	1	USS/SLC STACKABLE LOCATOR BASE
16	620-0588	1	824USS MAIN BODY ASSEMBLY
16-1	040-0002	2	FLANGED BUSHING - BULLET NOSE, 3/8
16-2	200-0002	2	LOCATING PIN - BULLET NOSE, 3/8
16-3	620-0588A	1	824USS MAIN BODY - UPPER HALF
16-4	620-0588B	1	824USS MAIN BODY - LOWER HALF
17	620-0589 A	2	824USS MOUNTING CLAMP
18	620-0601	4	US SWING BOLT BRACKET
19	630-1224	1	824USS GEAR SHIELD - MOTOR HALF
20	630-1225	1	824USS GEAR SHIELD - HOUSING HALF

824USS MAIN BODY ASSEMBLY

600-0418C

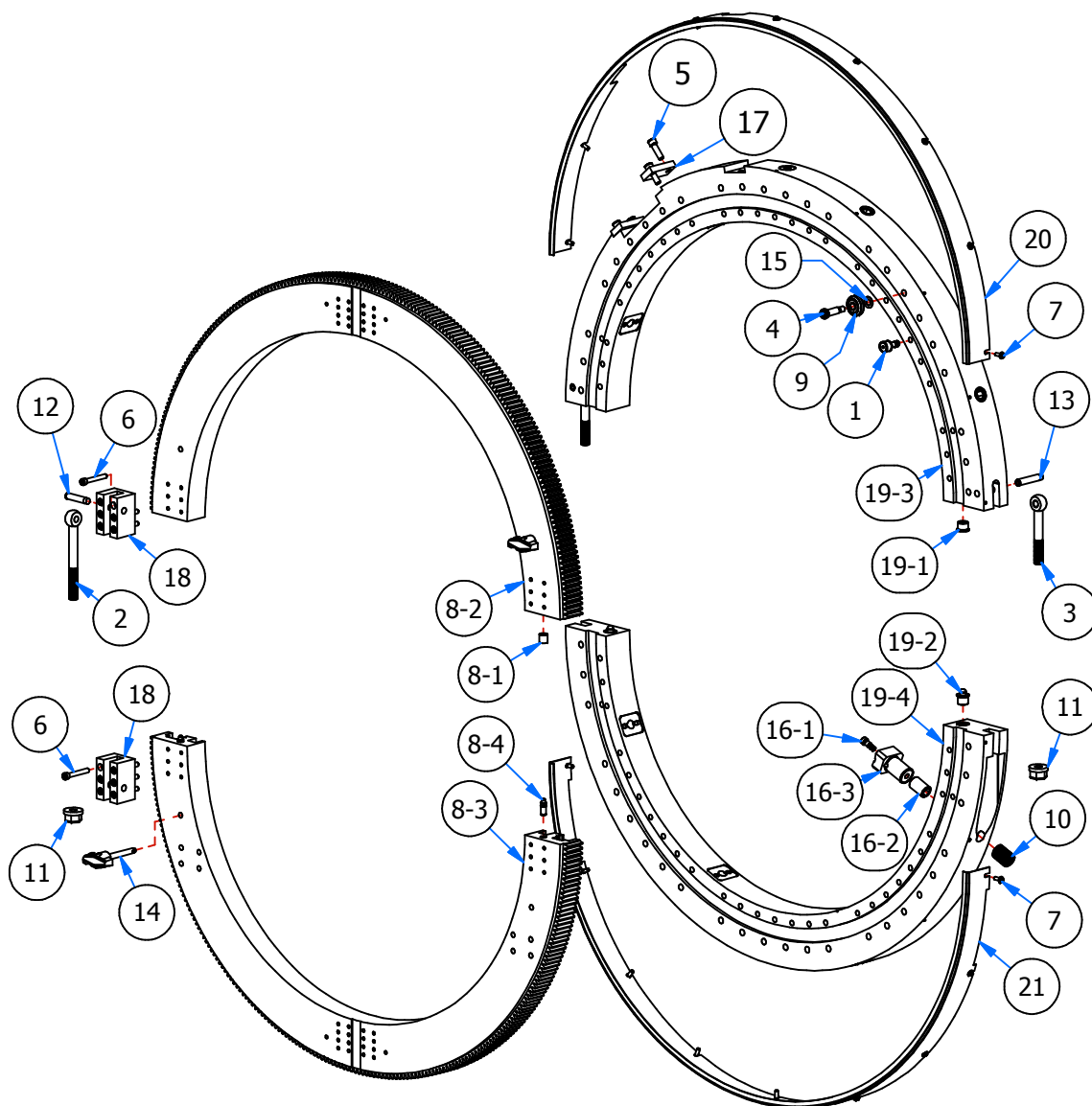


MACTECH
ON-SITE MACHINING SOLUTIONS

ITEM	PART NUMBER	QTY	DESCRIPTION
1	020-0120	54	5/8 CAMFOLLOWER BEARING - NOT CROWNED
2	030-0005	2	1/2-13 x 5 EYE BOLT
3	030-0013	2	1/2-13 X 3-3/4" EYE BOLT - 3/8 HOLE
4	061-0003	48	3/8 x 1 SHOULDER SCREW
5	070-0006	4	5/16 - 18 x 1 SHCS
6	070-0011	24	1/4-20 X 1 3/4 SHCS
7	072-0001	17	10 - 24 x 1/2 BHCS
8	100-0128	1	828USS SPLIT GEAR SET
8-1	040-0013	2	BUSHING - 5/16 X 1/2 X 1/2 LONG
8-2	100-0128C-A	1	828USS SPLIT GEAR SET - UPPER HALF
8-3	100-0128C-B	1	828USS SPLIT GEAR SET - LOWER HALF
8-4	200-0058	2	5/16 BULLET NOSE DOWEL PIN - TEMPERED
9	120-0006	48	#2 GUIDE WHEEL BEARING
10	120-0065	8	3/4-10 X 1-1/8 HELICOIL
11	170-0006	4	1/2-13 FLANGE NUT
12	200-0008	2	3/8 x 1 3/4 HARDENED GROUND PRODUCTION DOWEL PIN
13	200-0052	2	3/8 x 2 HARDENED GROUND PRODUCTION DOWEL PIN
14	205-0002	2	5/16 BALL LOCK PIN
15	480-1002	48	SHIM WASHER - 11/16 X 3/8 X .032
16	600-2766	8	USS/SLC STACKABLE LOCATOR BASE ASSY
16-1	061-0002	1	SHOULDER SCREW - 1/4 X 13/16
16-2	490-0025	1	LOCATOR JACK SCREW
16-3	620-3941	1	USS/SLC STACKABLE LOCATOR BASE
17	620-0589	2	USS/SLC MOTOR MOUNT BRACKET
18	620-0601	4	US SWING BOLT BRACKET
19	620-3856	1	828USS HOUSING ASSEMBLY
19-1	040-0002	2	FLANGED BUSHING - BULLET NOSE, 3/8
19-2	200-0002	2	LOCATING PIN - BULLET NOSE, 3/8
19-3	620-3856A	1	828USS HOUSING SET - UPPER HALF
19-4	620-3856B	1	828USS HOUSING SET - LOWER HALF
20	630-1228	1	828USS GEAR SHIELD - MOTOR HALF
21	630-1229	1	828USS GEAR SHIELD - HOUSING HALF

828USS MAIN BODY ASSEMBLY

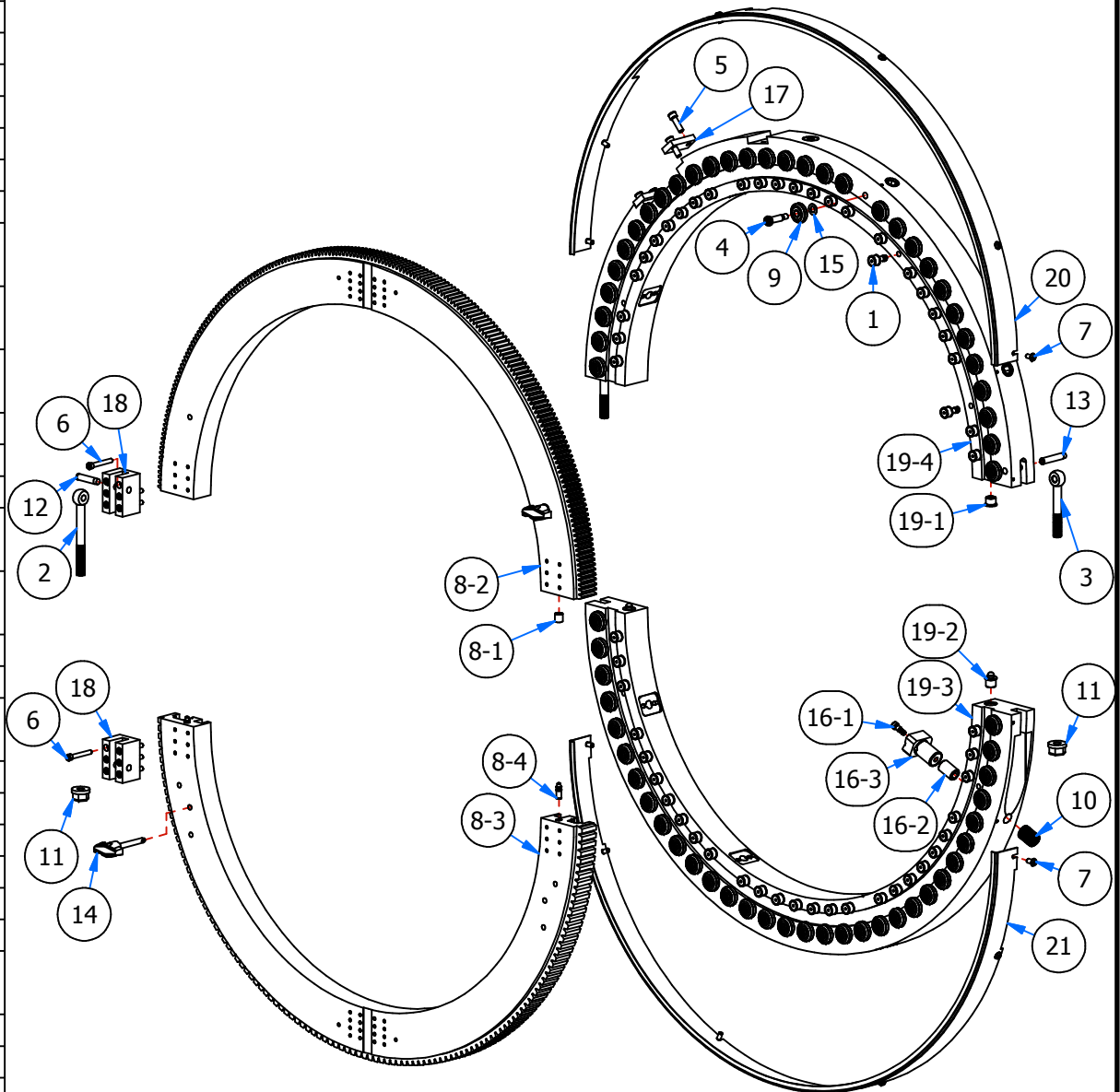
600-2798C



ITEM	PART NUMBER	QTY	DESCRIPTION
1	020-0120	54	5/8 CAMFOLLOWER BEARING - NOT CROWNED
2	030-0005	2	1/2-13 x 5 EYE BOLT
3	030-0013	2	1/2-13 X 3-3/4" EYE BOLT - 3/8 HOLE
4	061-0003	64	3/8 x 1 SHOULDER SCREW
5	070-0006	4	5/16 - 18 x 1 SHCS
6	070-0011	24	1/4-20 X 1 3/4 SHCS
7	072-0019	12	1/4 - 20 x 1/2 BHCS
8	100-0245C	1	830USS SPLIT GEAR SET
8-1	040-0013	2	BUSHING - 5/16 X 1/2 X 1/2 LONG
8-2	100-0245C-A	1	830USS SPLIT GEAR SET - UPPER HALF
8-3	100-0245C-B	1	830USS SPLIT GEAR SET - LOWER HALF
8-4	200-0058	2	5/16 BULLET NOSE DOWEL PIN - TEMPERED
9	120-0006	64	#2 GUIDE WHEEL BEARING
10	120-0065	8	3/4-10 X 1-1/8 HELICOIL
11	170-0006	4	1/2-13 FLANGE NUT
12	200-0008	2	3/8 x 1 3/4 HARDENED GROUND PRODUCTION DOWEL PIN
13	200-0052	2	3/8 x 2 HARDENED GROUND PRODUCTION DOWEL PIN
14	205-0002	2	5/16 BALL LOCK PIN
15	480-1002	64	SHIM WASHER - 11/16 X 3/8 X .032
16	600-2766	8	USS/SLC STACKABLE LOCATOR BASE ASSY
16-1	061-0002	1	SHOULDER SCREW - 1/4 X 13/16
16-2	490-0025	1	LOCATOR JACK SCREW
16-3	620-3941	1	USS/SLC STACKABLE LOCATOR BASE
17	620-0589	2	USS/SLC MOTOR MOUNT BRACKET
18	620-0601	4	US SWING BOLT BRACKET
19	620-3856	1	830USS HOUSING SET
19-1	040-0002	2	FLANGED BUSHING - BULLET NOSE, 3/8
19-2	200-0002	2	LOCATING PIN - BULLET NOSE, 3/8
19-3	620-3856B	1	830USS HOUSING SET - LOWER HALF
19-4	620-3858A - NEW	1	830USS HOUSING HALF - UPPER HALF
20	630-1230	1	830USS GEAR SHIELD - MOTOR HALF
21	630-1231	1	830USS GEAR SHIELD - HOUSING HALF

830USS MAIN BODY ASSEMBLY

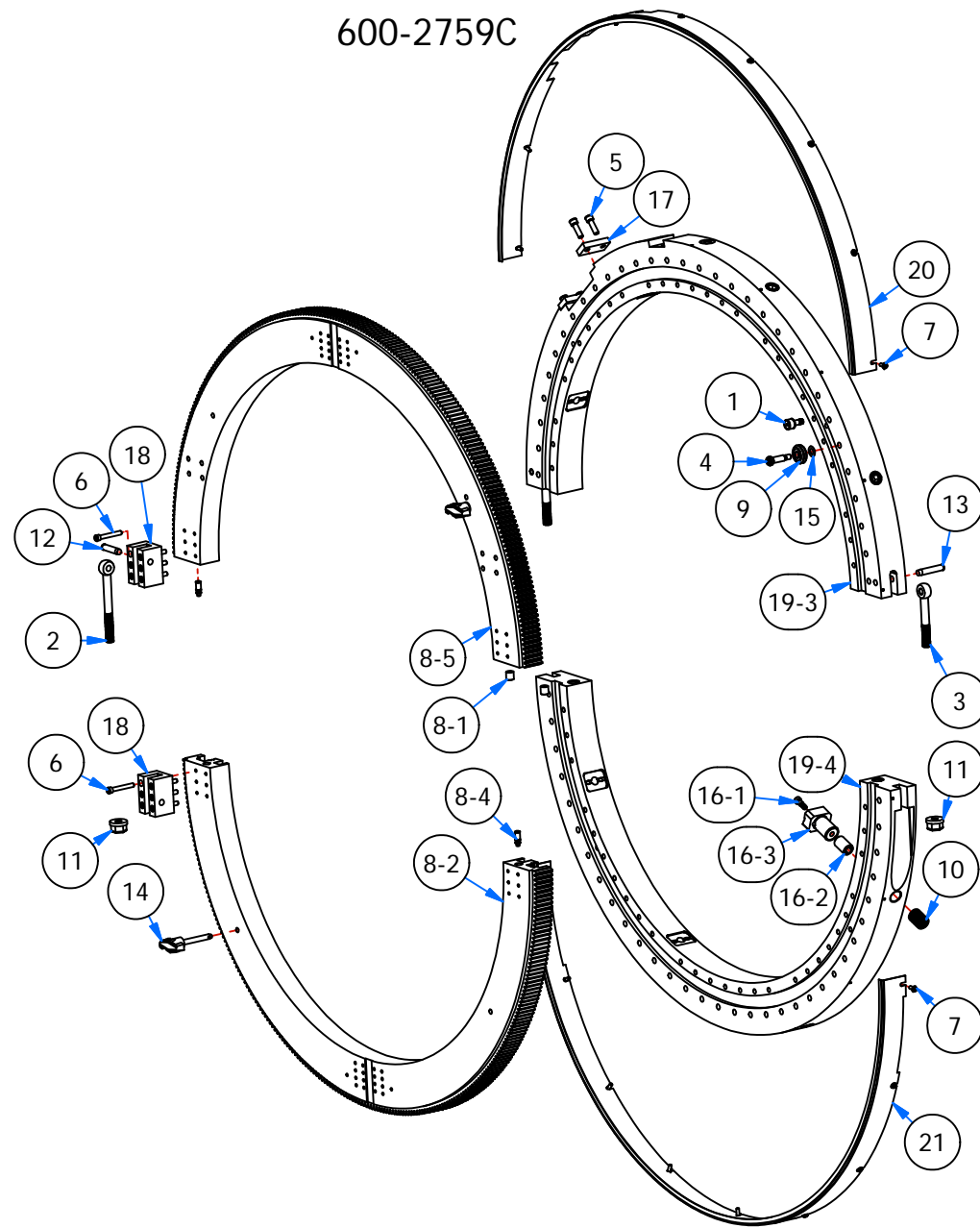
600-2758C



ITEM	PART NUMBER	QTY	DESCRIPTION
1	020-0120	54	5/8 CAMFOLLOWER BEARING - NOT CROWNED
2	030-0005	2	1/2-13 x 5 EYE BOLT
3	030-0013	2	1/2-13 X 3-3/4" EYE BOLT - 3/8 HOLE
4	061-0003	64	3/8 x 1 SHOULDER SCREW
5	070-0006	4	5/16 - 18 x 1 SHCS
6	070-0011	24	1/4-20 X 1 3/4 SHCS
7	072-0001	17	10 - 24 x 1/2 BHCS
8	100-0215C	1	832USS SPLIT GEAR SET
8-1	040-0013	2	BUSHING - 5/16 X 1/2 X 1/2 LONG
8-2	100-0215C-A	1	832USS SPLIT GEAR SET - UPPER HALF
8-4	200-0058	2	5/16 BULLET NOSE DOWEL PIN - TEMPERED
8-5	100-0215C-B	1	832USS SPLIT GEAR SET - LOWER HALF
9	120-0006	64	#2 GUIDE WHEEL BEARING
10	120-0065	8	3/4-10 X 1-1/8 HELICOIL
11	170-0006	4	1/2-13 FLANGE NUT
12	200-0008	2	3/8 x 1 3/4 HARDENED GROUND PRODUCTION DOWEL PIN
13	200-0052	2	3/8 x 2 HARDENED GROUND PRODUCTION DOWEL PIN
14	205-0002	2	5/16 BALL LOCK PIN
15	480-1002	64	SHIM WASHER - 11/16 X 3/8 X .032
16	600-2766	8	USS/SLC STACKABLE LOCATOR BASE ASSY
16-1	061-0002	1	SHOULDER SCREW - 1/4 X 13/16
16-2	490-0025	1	LOCATOR JACK SCREW
16-3	620-3941	1	USS/SLC STACKABLE LOCATOR BASE
17	620-0589	2	USS/SLC MOTOR MOUNT BRACKET
18	620-0601	4	US SWING BOLT BRACKET
19	620-3860	1	832USS MAIN HOUSING
19-3	620-3860A	1	832USS HOUSING - MOTOR HALF
19-4	620-3860B	1	823USS HOUSING - NON-MOTOR HALF
20	630-1232	1	832USS GEAR SHIELD - MOTOR HALF
21	630-1233	1	832USS GEAR SHIELD - HOUSING HALF

832USS MAIN BODY ASSY

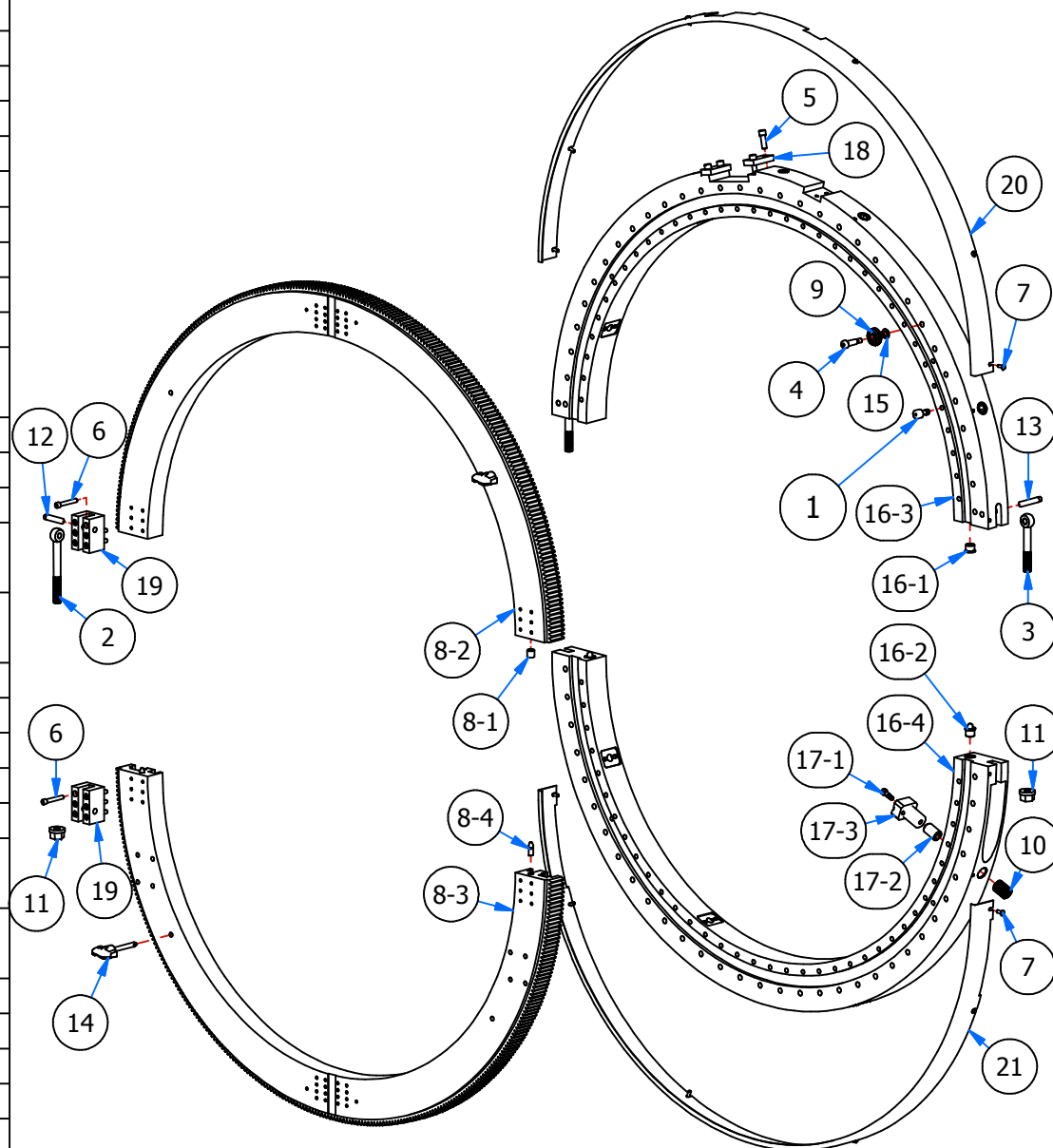
600-2759C



ITEM	PART NUMBER	QTY	DESCRIPTION
1	020-0120	70	5/8 CAMFOLLOWER BEARING - NOT CROWNED
2	030-0005	2	1/2-13 x 5 EYE BOLT
3	030-0013	2	1/2-13 X 3-3/4" EYE BOLT - 3/8 HOLE
4	061-0003	64	3/8 x 1 SHOULDER SCREW
5	070-0006	4	5/16 - 18 x 1 SHCS
6	070-0011	24	1/4-20 X 1 3/4 SHCS
7	072-0001	12	10 - 24 x 1/2 BHCS
8	100-0216C	1	836USS SPLIT GEAR SET
8-1	040-0013	2	BUSHING - 5/16 X 1/2 X 1/2 LONG
8-2	100-0216C-A	1	836USS SPLIT GEAR SET - UPPER HALF
8-3	100-0216C-B	1	836USS SPLIT GEAR SET - LOWER HALF
8-4	200-0058	2	5/16 BULLET NOSE DOWEL PIN - TEMPERED
9	120-0006	64	#2 GUIDE WHEEL BEARING
10	120-0065	8	3/4-10 X 1-1/8 HELICOIL
11	170-0006	4	1/2-13 FLANGE NUT
12	200-0008	2	3/8 x 1 3/4 HARDENED GROUND PRODUCTION DOWEL PIN
13	200-0052	2	3/8 x 2 HARDENED GROUND PRODUCTION DOWEL PIN
14	205-0002	2	5/16 BALL LOCK PIN
15	480-1002	64	SHIM WASHER - 11/16 X 3/8 X .032
16	600-0418	1	836USS HOUSING ASSEMBLY
16-1	040-0002	2	FLANGED BUSHING - BULLET NOSE, 3/8
16-2	200-0002	2	LOCATING PIN - BULLET NOSE, 3/8
16-3	620-3870A	1	836USS HOUSING ASSEMBLY - UPPER HALF
16-4	620-3870B	1	836USS HOUSING ASSEMBLY - LOWER HALF
17	600-2766	8	USS/SLC STACKABLE LOCATOR BASE ASSY
17-1	061-0002	1	SHOULDER SCREW - 1/4 X 13/16
17-2	490-0025	1	LOCATOR JACK SCREW
17-3	620-3941	1	USS/SLC STACKABLE LOCATOR BASE
18	620-0589	2	USS/SLC MOTOR MOUNT BRACKET
19	620-0601	4	US SWING BOLT BRACKET
20	630-1236	1	836USS GEAR SHIELD - MOTOR HALF
21	630-1237	1	836USS GEAR SHIELD - HOUSING HALF

836 USS MAIN BODY ASSEMBLY

600-2770C

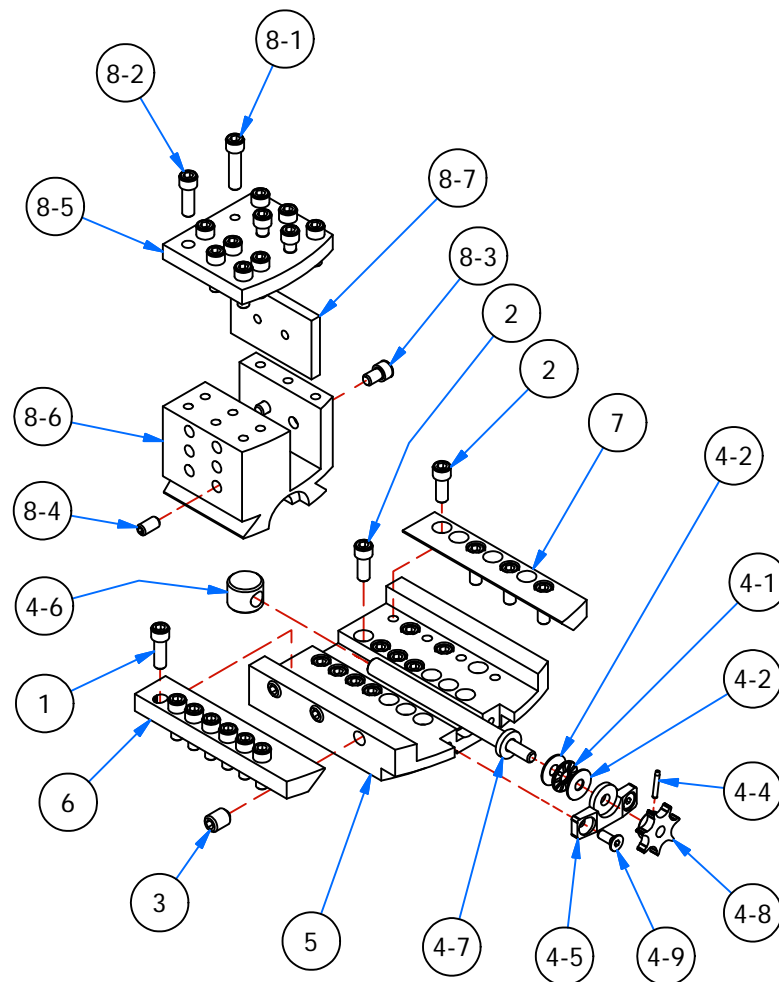


PARTS LIST				
ITEM	PART NUMBER	QTY	DESCRIPTION	VENDOR
1	070-0004	7	SHCS, 1/4-20 x 3/4	PURCHASED
2	070-0010	14	SHCS, 1/4-20 x 5/8	PURCHASED
3	340-0013	3	SSS, CUP POINT - 3/8-16 UNC x 1/2"	PURCHASED
4	460-0037	1	FEED SCREW ASSEMBLY - #3 3/8-40 UNS RH - 7 PT	MACTECH
4-1	020-0041	1	NEEDLE THRUST BEARING - 1/4 X 11/16	PURCHASED
4-2	020-0041-031	2	NEEDLE THRUST BEARING RACE - 1/4 X 11/16 X 1/32T	PURCHASED
4-4	200-0019	1	PRODUCTION DOWEL PIN - 3/32 x 5/8	PURCHASED
4-5	460-0015	1	FEED SCREW ENDPLATE - 7PT.	MACTECH
4-6	460-0019	1	FEED NUT - 3/8-40 UNS RH	MACTECH
4-7	460-0042	1	FEED SCREW - #3 3/8-40 UNS RH	MACTECH
4-8	460-0330	1	STAR WHEEL - 7PT	MACTECH
4-9	071-0004	2	FHCS, #10-32 x 1/2	PURCHASED
5	460-0625	1	#3 X 3/4 TOOL BLOCK SLIDE	MACTECH
6	460-0626	1	#3 GIB - ADJUSTABLE	MACTECH
7	460-0627	1	#3 GIB - FIXED	MACTECH
8	600-0045	1	US TOOL BLOCK ASSEMBLY - 1" SLOT	MACTECH
8-1	070-0003	3	SHCS, 1/4-20 x 1	PURCHASED
8-2	070-0004	9	SHCS, 1/4-20 x 3/4	PURCHASED
8-3	070-0033	2	SHCS, 1/4-20 x 3/8	PURCHASED
8-4	340-0001	6	SSS, CUP POINT - 1/4-20 UNC x 1/2"	PURCHASED
8-5	460-0346	1	CAP - US TOOL BLOCK - 1" SLOT	MACTECH
8-6	460-0347	1	TOOL BLOCK - 1" SLOT - US - 820 AFO	MACTECH
8-7	460-0348	1	SHIM - TOOL BLOCK WIDTH - US - 820 AFO	MACTECH

*1" SHIM SET: PN 600-0380

*3/4" SHIM SET: PN 600-0349

#3 US 1" TOOL BLOCK & SLIDE ASSEMBLY 600-2727

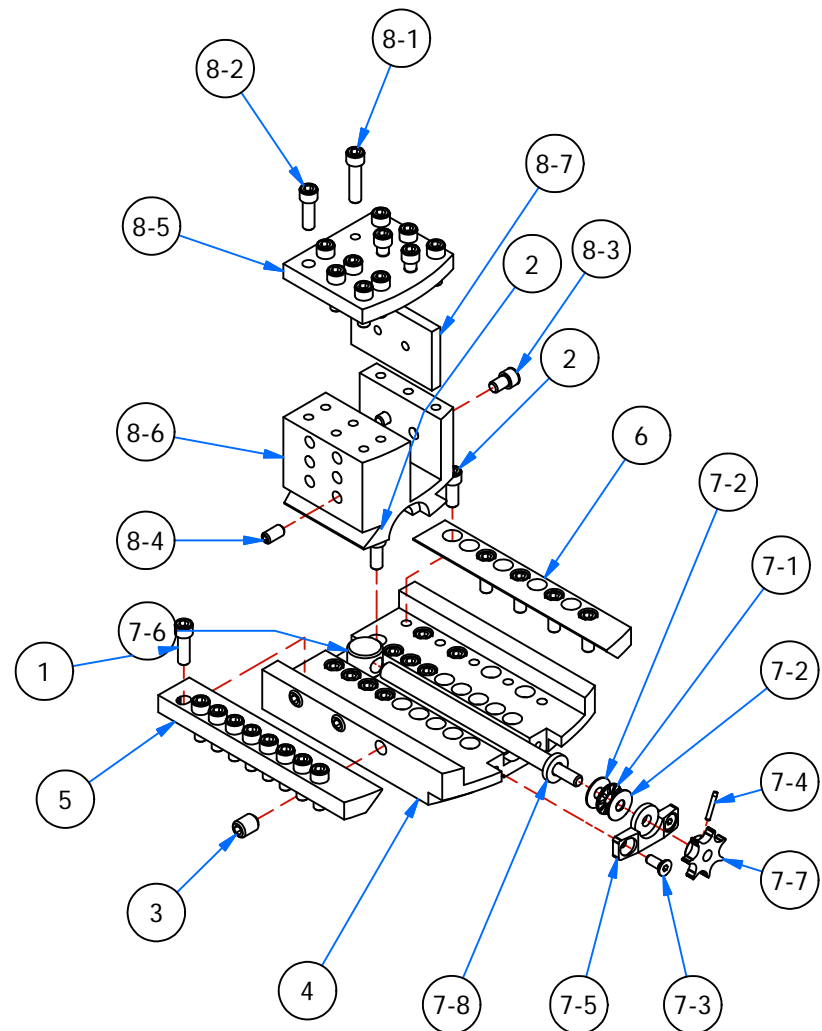


PARTS LIST				
ITEM	PART NUMBER	QTY	DESCRIPTION	VENDOR
1	070-0004	9	SHCS, 1/4-20 x 3/4	PURCHASED
2	070-0010	15	SHCS, 1/4-20 x 5/8	PURCHASED
3	340-0013	3	SSS, CUP POINT - 3/8-16 UNC x 1/2"	PURCHASED
4	460-0642	1	TOOL BLOCK SLIDE - #4 X 3/4	MACTECH
5	460-0643	1	#4 GIB - ADJUSTABLE	MACTECH
6	460-0644	1	#4 GIB - FIXED	MACTECH
7	460-0649	1	FEED SCREW ASSEMBLY - #4 3/8-40 UNS RH - 7 PT	MACTECH
7-1	020-0041	1	THRUST BEARING CAGE - 1/4"	PURCHASED
7-2	020-0041-031	2	THRUST WASHER - 1/4" X .031	MACTECH
7-3	071-0004	2	FHCS, #10-32 x 1/2	PURCHASED
7-4	200-0019	1	PRODUCTION DOWEL PIN - 3/32 x 5/8	PURCHASED
7-5	460-0015	1	FEED SCREW ENDPLATE - 7PT.	MACTECH
7-6	460-0019	1	FEED NUT - 3/8-40 UNS RH	MACTECH
7-7	460-0330	1	STAR WHEEL - 7PT	MACTECH
7-8	460-0648	1	FEED SCREW - #4 3/8-40 UNS RH	MACTECH
8	600-0045	1	US TOOL BLOCK ASSEMBLY - 1" SLOT	MACTECH
8-1	070-0003	3	SHCS, 1/4-20 x 1	PURCHASED
8-2	070-0004	9	SHCS, 1/4-20 x 3/4	PURCHASED
8-3	070-0033	2	SHCS, 1/4-20 x 3/8	PURCHASED
8-4	340-0001	6	SSS, CUP POINT - 1/4-20 UNC x 1/2"	PURCHASED
8-5	460-0346	1	CAP - US TOOL BLOCK - 1" SLOT	MACTECH
8-6	460-0347	1	TOOL BLOCK - 1" SLOT - US - 820 AFO	MACTECH
8-7	460-0348	1	SHIM - TOOL BLOCK WIDTH - US - 820 AFO	MACTECH

*1" SHIM SET: PN 600-0380

* 3/4" SHIM SET: PN 600-0349

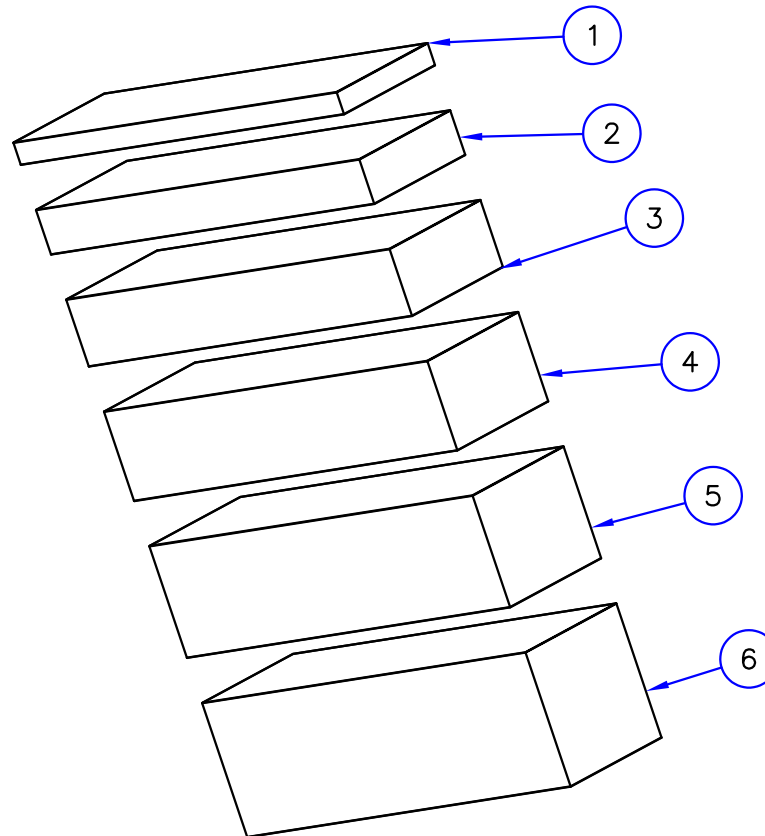
#4 US 1" TOOL BLOCK & SLIDE ASSEMBLY 600-2728



Parts List			
ITEM	PART NO.	QTY	DESCRIPTION
1	620-0479	1	US 3/4 TOOL BLOCK SHIM – 1/8 THICK
2	620-0480	1	US 3/4 TOOL BLOCK SHIM –1/4 THICK
3	620-0481	1	US 3/4 TOOL BLOCK SHIM – 3/8 THICK
4	620-0482	1	US 3/4 TOOL BLOCK SHIM – 1/2 THICK
5	620-0483	1	US 3/4 TOOL BLOCK SHIM – 5/8 THICK
6	620-0484	1	US 3/4 TOOL BLOCK SHIM – 3/4 THICK

US 3/4 TOOL BLOCK SHIM SET

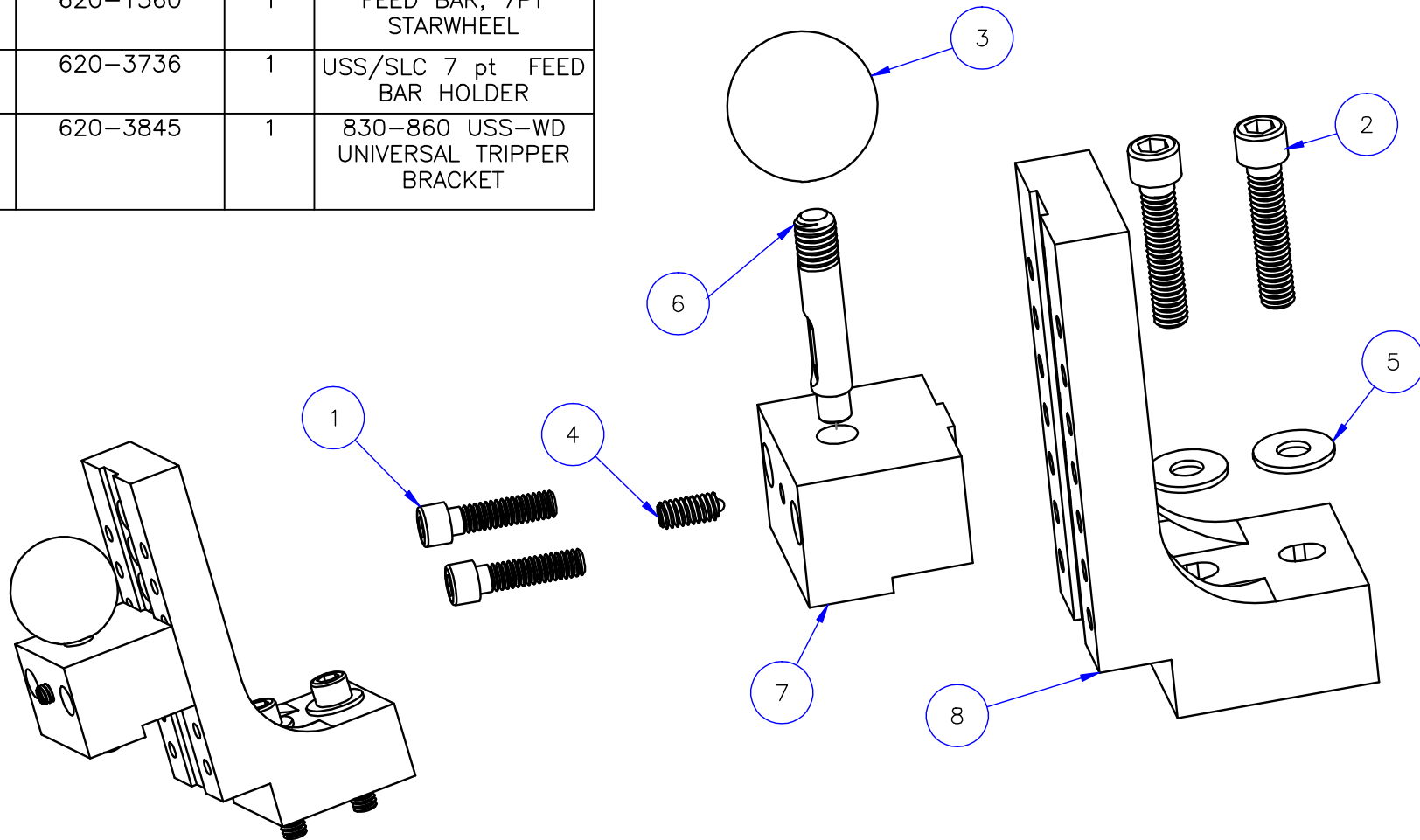
600-0349



MACTECH, INC

USS 7 pt Feed Bracket Assy #600-2771			
ITEM	PART NO.	QTY	DESCRIPTION
1	070-0003	2	1/4-20 X 1 SHCS
2	070-0013	2	5/16-18 X 1-1/2" SHCS
3	120-0003	1	1-3/8 DIA 3/8 THREADED BALL
4	120-0028	1	1/4-20 SPRING PLUNGER
5	480-1070	2	1/4" USS HARDENED WASHER
6	620-1560	1	FEED BAR, 7PT STARWHEEL
7	620-3736	1	USS/SLC 7 pt FEED BAR HOLDER
8	620-3845	1	830-860 USS-WD UNIVERSAL TRIPPER BRACKET

#4 USS 7pt TRIPPER BRACKET ASSEMBLY (828-860) 600-2771



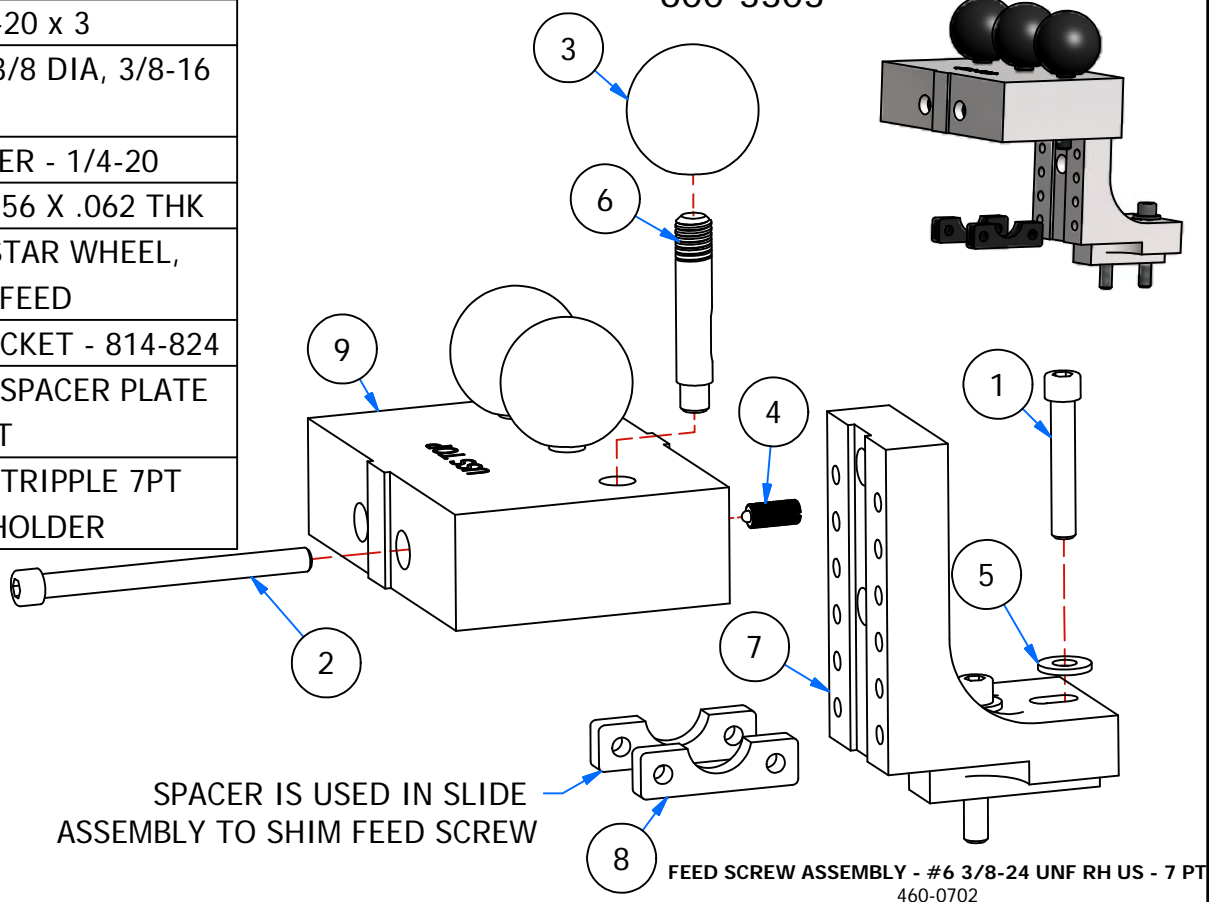
MACTECH, INC

PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	070-0005	2	SHCS, 1/4-20 x 1-1/2
2	070-0102	2	SHCS, 1/4-20 x 3
3	120-0003	3	PLASTIC KNOB - 1-3/8 DIA, 3/8-16 UNC
4	120-0028	3	SPRING PLUNGER - 1/4-20
5	480-1014	2	WASHER - .255 X .56 X .062 THK
6	620-1560	3	FEED BAR - 7PT STAR WHEEL, MANUAL FEED
7	620-3296	1	LC SP TRIPPER BRACKET - 814-824
8	620-8101	2	DOUBLE FEED BAR SPACER PLATE - 7 PT
9	620-8104	1	USS REVERSIBLE TRIPPLE 7PT FEED BAR HOLDER

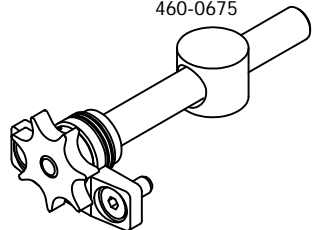
*PN 620-3777 MAY BE USED FOR #4 SLIDES.

814USS-824USS #3 7PT REVERSIBLE TRIPPLE FEED BRACKET ASSY

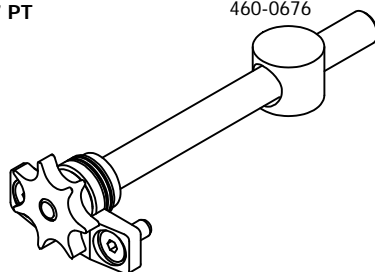
600-3303



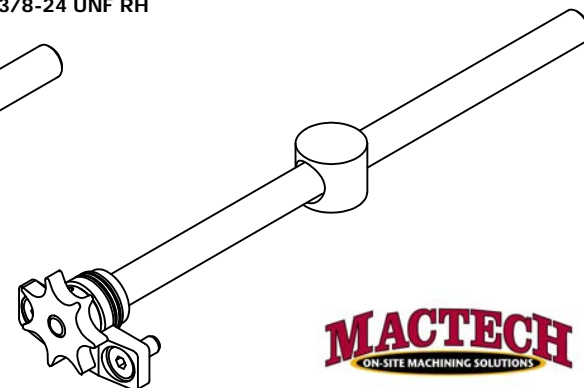
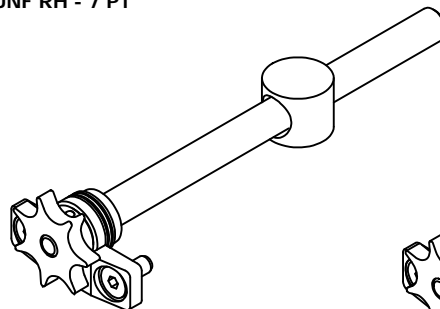
FEED SCREW ASSEMBLY - #2 3/8-24 UNF RH - 7 PT
460-0675



FEED SCREW ASSEMBLY - #3 3/8-24 UNF RH - 7 PT
460-0676



FEED SCREW ASSEMBLY - #4 3/8-24 UNF RH
460-0677



FEED SCREWS TO BE USED WITH THIS TRIPPER

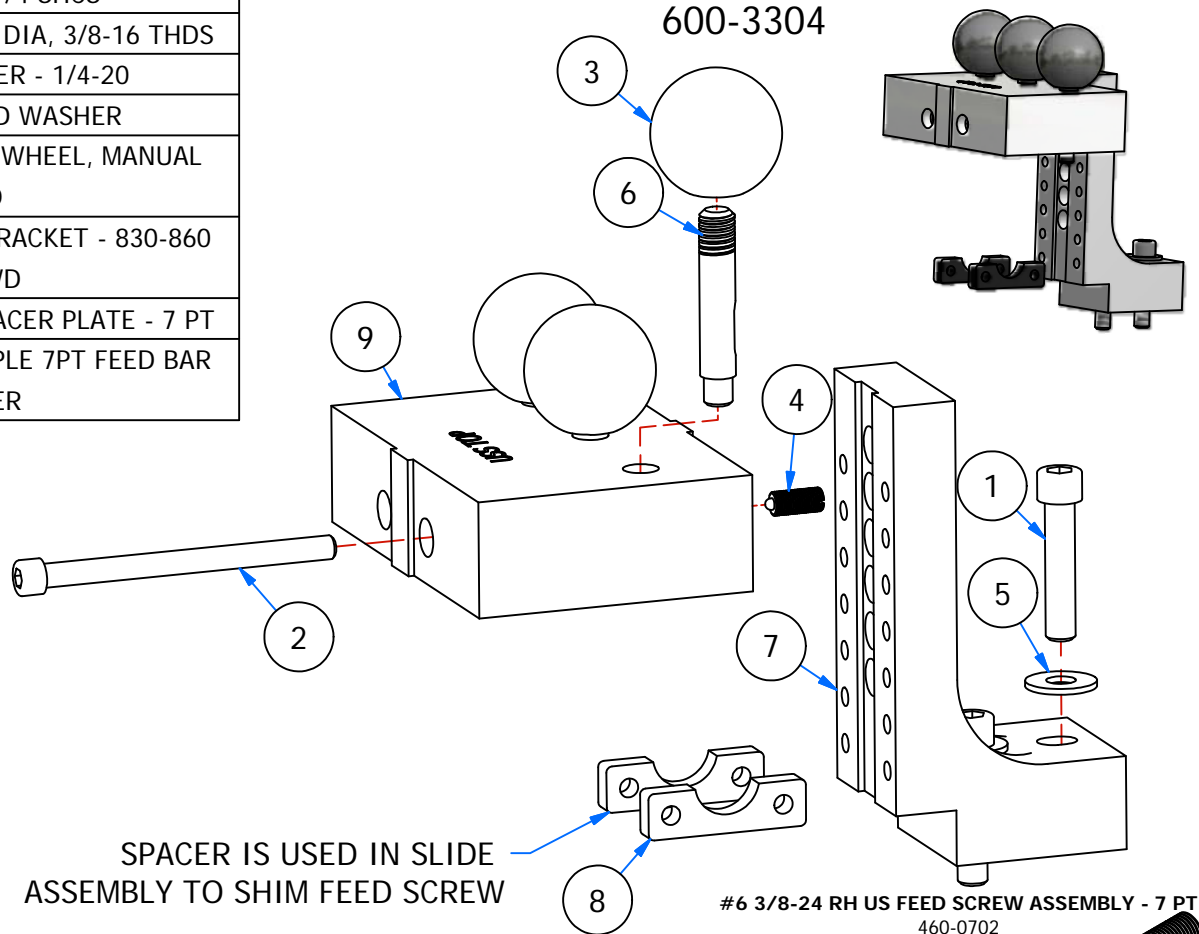
MACTECH
ON-SITE MACHINING SOLUTIONS

ITEM	PART NUMBER	QTY	DESCRIPTION
1	070-0013	2	5/16 - 18 x 1 1/2 SHCS
2	070-0174	2	1/4 - 20 x 3 1/4 SHCS
3	120-0003	3	PLASTIC KNOB - 1-3/8 DIA, 3/8-16 THDS
4	120-0028	3	SPRING PLUNGER - 1/4-20
5	480-1070	2	USS HARDENED WASHER
6	620-1560	3	FEED BAR - 7PT STAR WHEEL, MANUAL FEED
7	620-3845	1	UNIVERSAL TRIPPER BRACKET - 830-860 USS-WD
8	620-8101	2	DOUBLE FEED BAR SPACER PLATE - 7 PT
9	620-8104	1	USS REVERSIBLE TRIPPLE 7PT FEED BAR HOLDER

*PN 620-3777 MAY BE USED FOR #4 SLIDES.

828USS-860USS #3 7PT REVERSIBLE TRIPPLE FEED BRACKET ASSY

600-3304

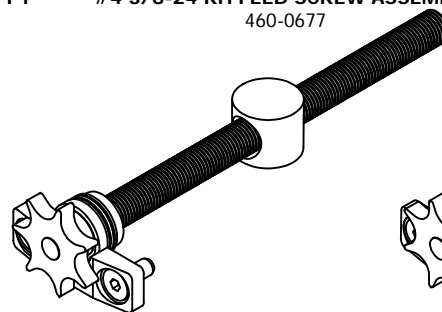
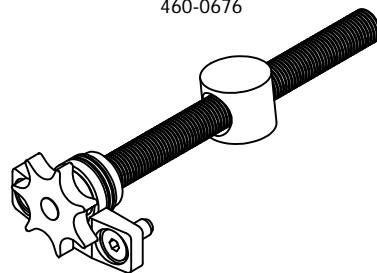
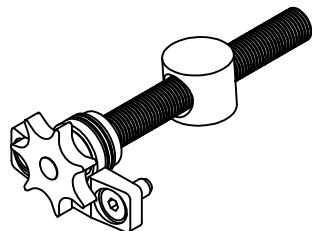


#6 3/8-24 RH US FEED SCREW ASSEMBLY - 7 PT
460-0702

#2 3/8-24 RH FEED SCREW ASSEMBLY - 7 PT
460-0675

#3 3/8-24 RH FEED SCREW ASSEMBLY - 7 PT
460-0676

#4 3/8-24 RH FEED SCREW ASSEMBLY
460-0677



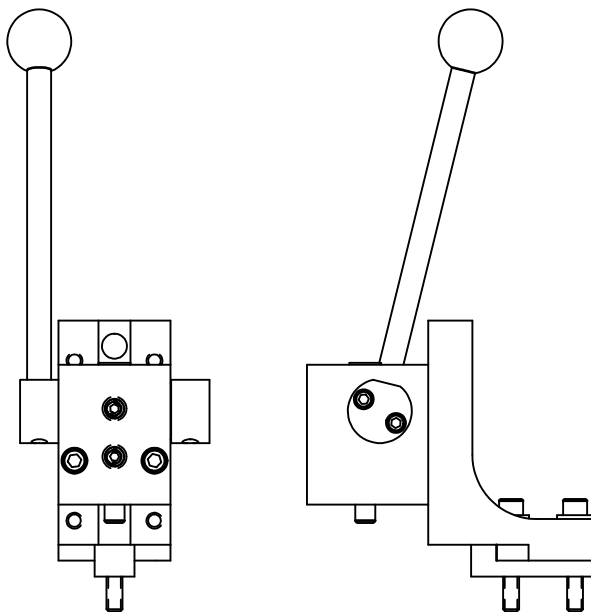
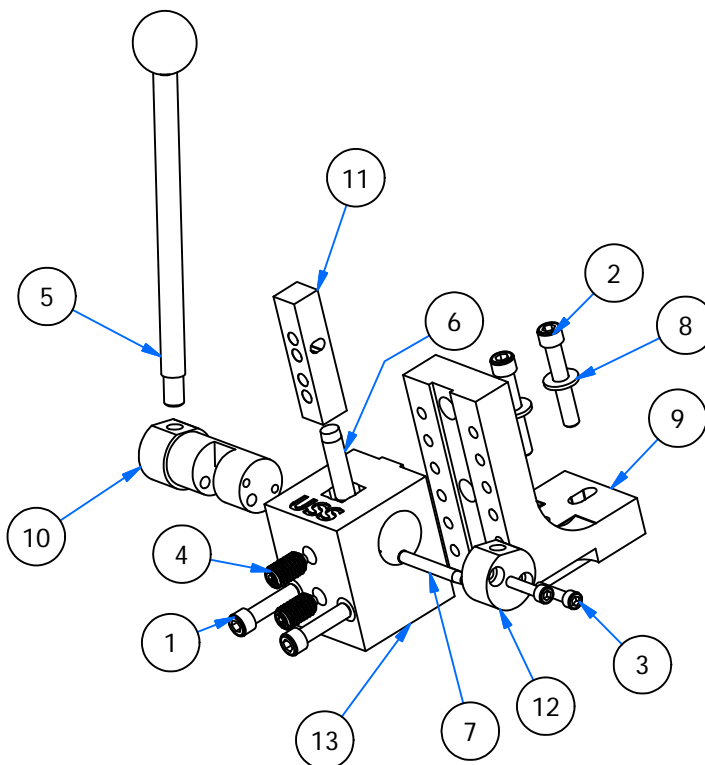
FEED SCREWS TO BE USED WITH THIS TRIPPER

MACTECH
ON-SITE MACHINING SOLUTIONS

PARTS LIST

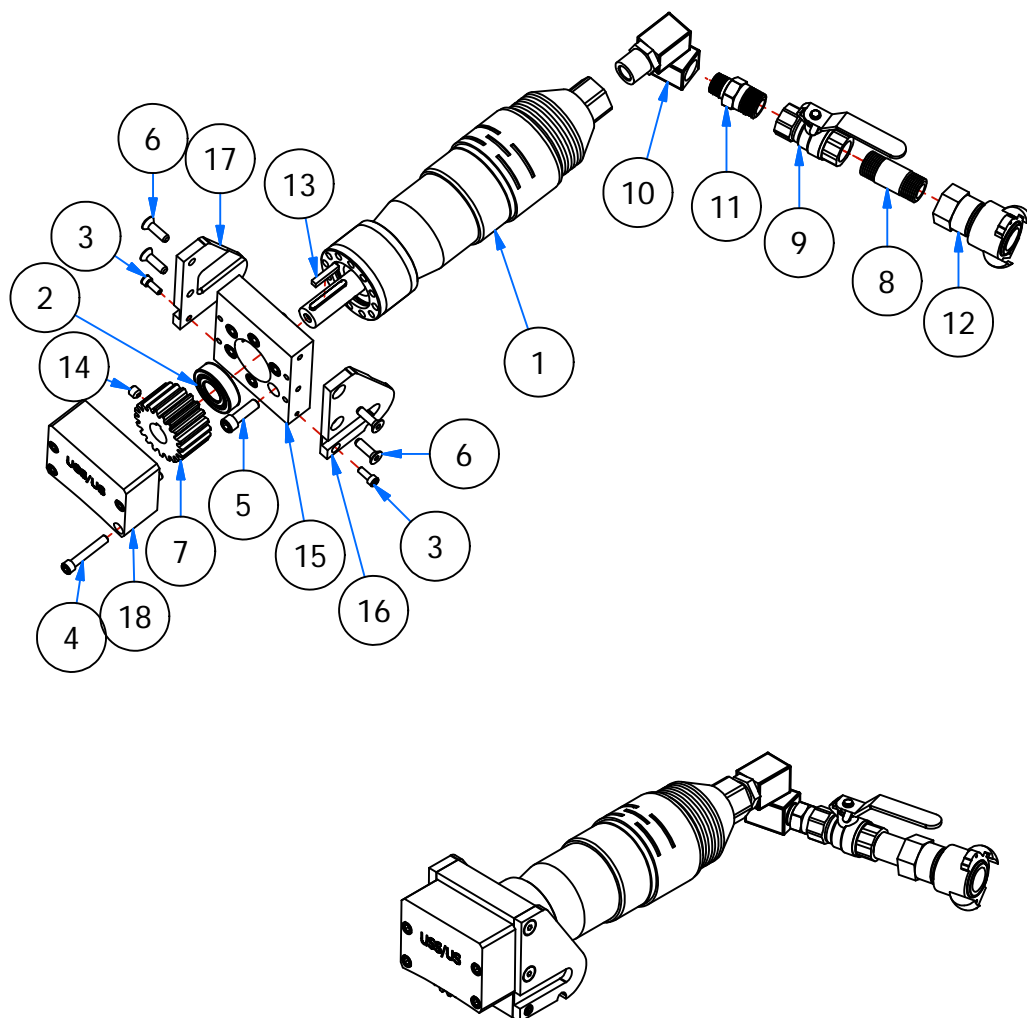
ITEM	PART NUMBER	QTY	DESCRIPTION
1	070-0003	2	SHCS, 1/4-20 x 1
2	070-0005	2	SHCS, 1/4-20 x 1-1/2
3	070-0190	2	SHCS, #8-32 x 3/4
4	120-0169	2	SPRING PLUNGER - 3/8-16 X 18# SHORT
5	120-0170	1	STEEL LEVER HANDLE 5/16-18 X 6", PLASTIC BALL
6	200-0163	1	PRODUCTION DOWEL PIN - 5/16 x 1 1/4
7	200-0164	1	PRODUCTION DOWEL PIN - 3/16 x 1 1/2
8	480-1014	2	WASHER - .255 X .56 X .062 THK
9	620-3296	1	ADJUSTABLE FEED BRACKET - #3 SLIDE
10	620-8107	1	EXTENDED FEED CAM
11	620-8108	1	FEED PIN - EXTENDED HANDLE FEED
12	620-8110	1	CAM CAP
13	620-8111	1	USS EXTENDED HANDLE FEED BAR HOLDER - 7PT

USS EXT HANDLE FEED BRKT ASSY - 7PT 814-824 600-3307



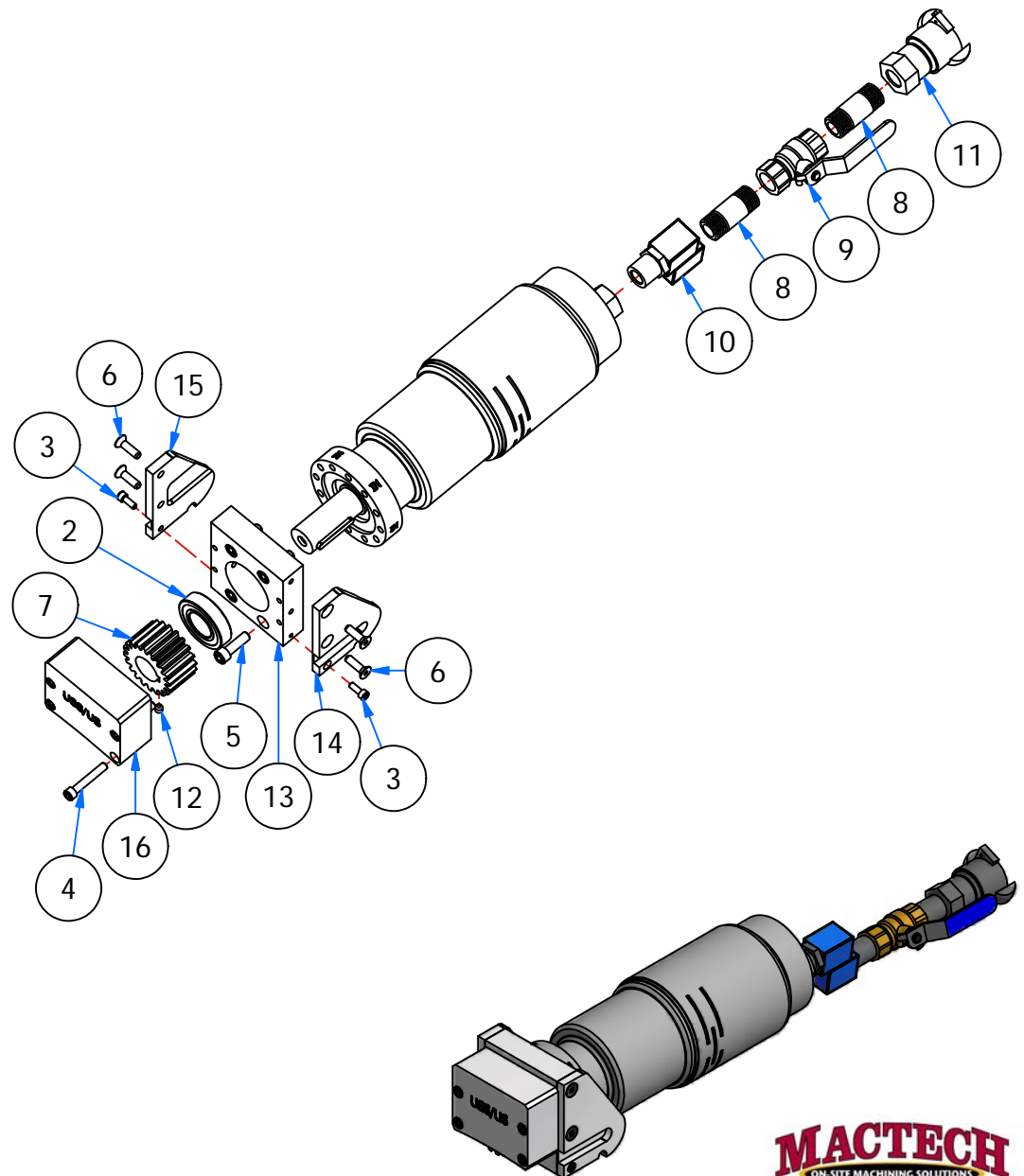
PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	010-1041	1	AIR MOTOR 1700 W, 89 RPM
2	020-0133	1	RADIAL BALL BEARING - 3/4 X 1-5/8 X 7/16, R12, SEALED
3	070-0002	2	SHCS, #10-24 x 1/2
4	070-0005	4	SHCS, 1/4-20 x 1-1/2
5	070-0006	6	SHCS, 5/16-18 x 1
6	071-0012	4	FHCS, 1/4-20 x 7/8
7	100-0357	1	SPUR GEAR - 10 DP 20° 20T
8	127-0001	1	1/2" NPT X 2" LONG PIPE NIPPLE
9	127-0002	1	BALL VALVE - 1/2"
10	127-0058	1	COUPLING - DOUBLE SWIVLE - 1/2"
11	127-0107	1	REDUCING NIPPLE - 1/2-NPTM TO 3/8 NPTM
12	128-0024	1	COUPLING - EARLOCK - 1/2" NPTF
13	150-0011	1	MACHINE KEY - 3/16 SQ X 1 SQ ENDS
14	340-0093	1	SSS, CUP POINT - 5/16-18 UNC x 3/16"
15	620-5706	1	3800 DRIVE FACE PLATE - USS/US
16	620-5710	1	RH DRIVE SIDE PLATE - 2"
17	620-5711	1	LH DRIVE SIDE PLATE - 2"
18	620-5718	1	USS/US GEAR COVER

USS 3800 IN-LINE DRIVE ASSEMBLY - MT20, 89 RPM 600-4221 D



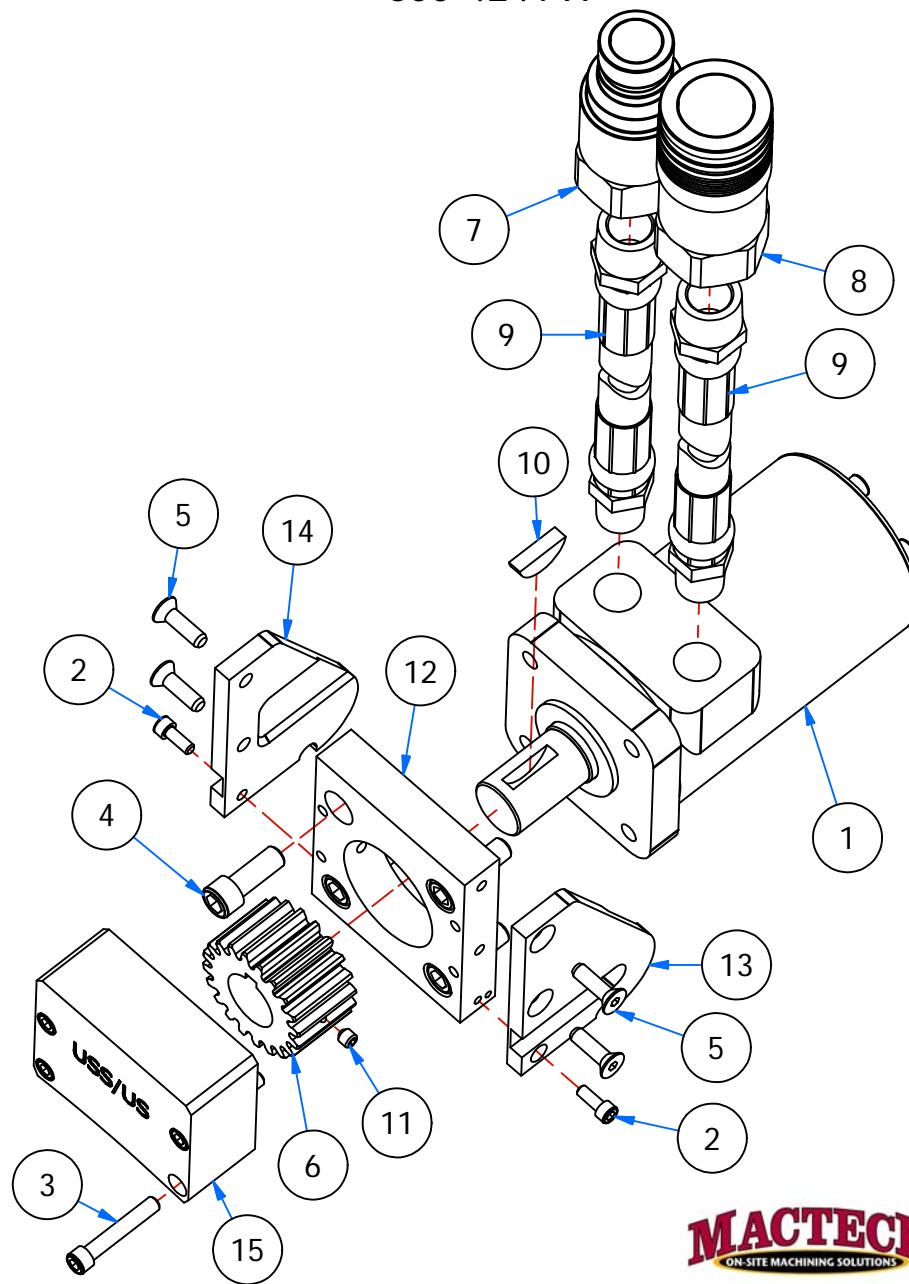
PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	010-1040	1	AIR MOTOR 3000 WATT, 95 RPM, 1" SHAFT
2	020-0083	1	BALL BEARING 1 X 2 X .5 SEALED
3	070-0002	2	SHCS, #10-24 x 1/2
4	070-0005	4	SHCS, 1/4-20 x 1-1/2
5	070-0006	4	SHCS, 5/16-18 x 1
6	071-0012	4	FHCS, 1/4-20 x 7/8
7	100-0089	1	SPUR GEAR - 10DP 20° 20T 1" BORE W/KWY
8	127-0001	2	1/2" NPT X 2" LONG PIPE NIPPLE
9	127-0002	1	BALL VALVE - 1/2"
10	127-0058	1	COUPLING - DOUBLE SWIVLE - 1/2"
11	128-0024	1	COUPLING - EARLOCK - 1/2" NPTF
12	340-0006	1	SSS, CUP POINT - 1/4-20 UNC x 1/4"
13	620-5702	1	4800 DRIVE FACE PLATE - USS/US
14	620-5710	1	RH DRIVE SIDE PLATE - 2"
15	620-5711	1	LH DRIVE SIDE PLATE - 2"
16	620-5718	1	USS/US GEAR COVER

USS 4800 IN-LINE DRIVE ASSEMBLY - MT30, 95 RPM 600-4231 D



PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	011-1000	1	CHAR LYNN HYDRAULIC MOTOR NO. 101-1004
2	070-0002	2	#10-24 x 1/2 SHCS
3	070-0005	4	1/4 - 20 x 1 1/2 SHCS
4	070-0014	4	3/8 - 16 x 1 SHCS
5	071-0012	4	1/4-20 x 7/8 FHCS
6	100-0089	1	SPUR GEAR - 10 DP, 2.0 PD, 20 PA, 20 TOOTH
7	128-0091	1	3/4" DRIPLESS MALE HYD FITTING
8	128-0092	1	3/4" DRIPLESS FEMALE DYD FITTING
9	128-0101	2	1/2 X 36" HYD HOSE - 1/2" NPTM & 3/4" NPTM
10	150-0013	1	NO. 808 WOODRUF KEY
11	340-0006	1	1/4-20 x 1/4 SSS-CUP POINT
12	620-5704	1	HYDRAULIC DRIVE FACE PLATE
13	620-5710	1	RH DRIVE SIDE PLATE - 2"
14	620-5711	1	LH DRIVE SIDE PLATE - 2"
15	620-5718	1	USS/US GEAR COVER

USS HYDRAULIC DRIVE ASSY - CHAR LYNN 101-1004 600-4241 A



PARTS LIST			
ITEM	PART NUMBER	QTY	DESCRIPTION
1	070-0006	2	SHCS, 5/16-18 x 1
2	070-0007	2	SHCS, 5/16-18 x 1-1/4
3	070-0013	2	SHCS, 5/16-18 x 1-1/2
4	070-0032	2	SHCS, 5/16-18 x 3/4
5	620-3942	1	1/4" LOCATOR EXTENSION, LC/USS
6	620-3943	1	1/2" LOCATOR EXTENSION, LC/USS
7	620-3944	1	1" LOCATOR EXTENSION, LC/USS
8	620-3946	1	2" LOCATOR EXTENSION, LC/USS

FOR CLAMSHELLS 814USS - 824USS
PN: "600-2768 SET-6" IS NEEDED

FOR CLAMSHELLS 828USS - 848USS
PN: "600-2768 SET-8" IS NEEDED

ACCESSORIES:

1-1/2" EXTENSION 620-3945
2-1/2" EXTENSION 620-3947
3" EXTENSION 620-3948

USS STACKABLE LOCATOR EXTENSION SET 600-2768

