SAFETY INSTRUCTIONS

- Wear protective clothing, including safety glasses and steel toe boots.
- **DO NOT** allow loose clothing or long hair near machine operations.
- Keep work site and machine clean. Use brush to remove chips. **DO NOT** use hands or air hose.
- Ensure adequate clearance around pipe before mounting machine.
- Support pipe for total machine weight.
- **DO NOT** rush the job. Read this manual and understand the operating procedure before attempting any cutting operation. Call our toll free number (1-800-328-1488) if any problems arise.
- Before connecting the hoses to the machine, be sure the following components are tightly secured: tool blocks, tool bits, locator pads, squaring and centering screws, motor mounts.
- Be sure both clamshells are totally secured to the pipe before starting the machine.
- During actual machine operation, **DO NOT** touch or rest your hand on or near any moving parts or sharp edges.
- Disconnect air hose or hydraulic power source **BEFORE** dismounting lathe from pipe.
- **NEVER MOVE LATHE WHILE CONNECTED TO AIR OR HYDRAULIC SUPPLY. ALWAYS** turn off control valve and disconnect hoses **BEFORE** attempting to move the machine.

MACHINE SET-UP

Read **SAFETY INSTRUCTIONS** on Page 1.

Pre-Installation Procedure

NOTE:
MOTOR SHOULD BE REMOVED FROM THE DRIVE CLAMSHELL AND TOOL BITS REMOVED FROM TOOL BLOCK

Separating The Lathe

1. Rotate support cage assembly by hand until both the gear and housing split lines on the clamshells are aligned on each clamshell. If necessary, rotate clamshell housing on one end to properly align the split lines.

2. Place the four (4) provided locking pins into the lock pin holes located on each gear face. One lock pin per each half on each clamshell is required to prevent gear rotation when the machine is split. If the lock pin holes in the gear will not line up with the holes in the housing, rotate the support cage assembly 180 degrees for proper alignment.

3. Loosen and remove the eight (8) cap screws located on the tabs of the two aluminum cage support mounting plates. Loosen and unlatch the four (4) swing bolts located on the two gear faces. Loosen and unlatch the four (4) swing bolts located on the sides of the two clamshell housings, and separate the clamshell lathe halves by pulling straight apart.

CAUTION
TO AVOID SERIOUS MACHINE DAMAGE, **DO NOT** PRY HALVES APART

Setting Machine To Shaft Diameter

1. Determine pipe OD and select proper locator pad set. The pad adjustment set screws are accessed from the outside of the housing using an allen wrench. Back off all locator pads as needed for proper clearance of pipe diameter.

2. Determine if present slide location will clear pipe. If not, disassemble the tool holder slide from clamshell gear faces by removing all of the mounting bolts in the gearbox housing and the slide end cap. Pull clamshell halves straight away from the bar to prevent binding on the locating dowels. Remove all of the cap screws in the slide adapter plates located on the two disassembled clamshell halves. Move adapter plates either up or down to establish tool slide clearance when mounted on pipe. Reassemble adapter plates, tool holder slide assembly and clamshell halves.

NOTE:
TOOL HOLDER SLIDE AND ADAPTER PLATES MUST BE ASSEMBLED WITH DOWEL PINS TO PREVENT UNWANTED TOOL MOVEMENT

Installation on In-Line Pipe

Joining Clamshell Lathe Halves

1. Place clamshell lathe halves around the pipe and tighten the clamping swing bolts on the sides of the clamshell frames and on the gear faces. Tighten swing bolts in aluminum housing before swing bolts on gear face. Fasten halves together securely with eight (8) cap screws on the tabs of the aluminum cage support plates.

NOTE:
IF LATHE HALVES WILL NOT COME TOGETHER, CHECK LOCATOR PADS FOR PROPER SIZE AND CLEARANCE – BACK OFF FURTHER IF NECESSARY

2. Lightly tighten the adjustable locator pads around the pipe diameter just enough to secure the clamshell. Do not tighten down completely until the squaring and centering operations are completed.

3. Remove the four (4) locking pins from the gear face on both clamshells. This allows the gear to rotate freely. Rotate slide and cage assembly by hand to check for smooth rotation.

Centering the Lathe on the Pipe

1. Using a 6" scale, measure the distance from the pipe OD to the clam ID at two positions 180 degrees apart. Adjust pads until they are equal distance while maintaining a secure fit to the pipe. Repeat on pads other pads 90 degrees apart. Procedure should be done to both ends of the lathe.

2. Mount a dial indicator (not included) on the gear face of one clamshell to indicate the OD of the pipe. Rotate the gear by hand, checking for proper centering and minor adjustments as in step #1 with a dial indicator instead of scale.

Attaching and Adjusting the Tripper

1. Rotate slide and support cage assembly so that the tripper wheel on the gear box is perpendicular with the tripper bracket mounting notch, which is located on the clamshell housing closest to the gear box.

2. Add proper tripper bracket extension blocks so that tripper is low enough to make contact with tripping wheel but high enough to clear gear box. Use the appropriate caps screws provided to attach tripper block assembly.

3. The amount of feed can be adjusted by loosening the cap screws that are located by the adjustment knob on the tripper block base. Turn adjustment knob to increase or decrease the feed rate.

Setting Tool Bits

Prior to installation of a tool bit, determine which tool bit must be used for your specific machining operation. The following steps describe installation of tool bits for machining.

1. Using the tool block thumb wheel, back tool block away from pipe to create room for bits.

2. Insert proper tool bit so that the cutting tip touches the pipe OD and stems from the centerline of the pipe. Hold bit with one cap screw, snug but NOT tight.

3. Rotate machine to find "high" spot in pipe, tighten screws to hold bit at this position

CAUTION
TO PREVENT SEVERE TRIPPER MECHANISIM DAMAGE, **DO NOT** ROTATE MACHINE COUNTER-CLOCKWISE

MACHINE OPERATION

Read **SAFETY INSTRUCTIONS** on Page 1.

Operating

1. Attach air or hydraulic supply to the motor while control valve is **OFF.** Put gearbox shifter in the middle position so that it is in neutral, open control valve slowly to check function and speed.

   Connect the air caddy between the air supply and the lathe

and adjust filter and lubricator to match operating speed.

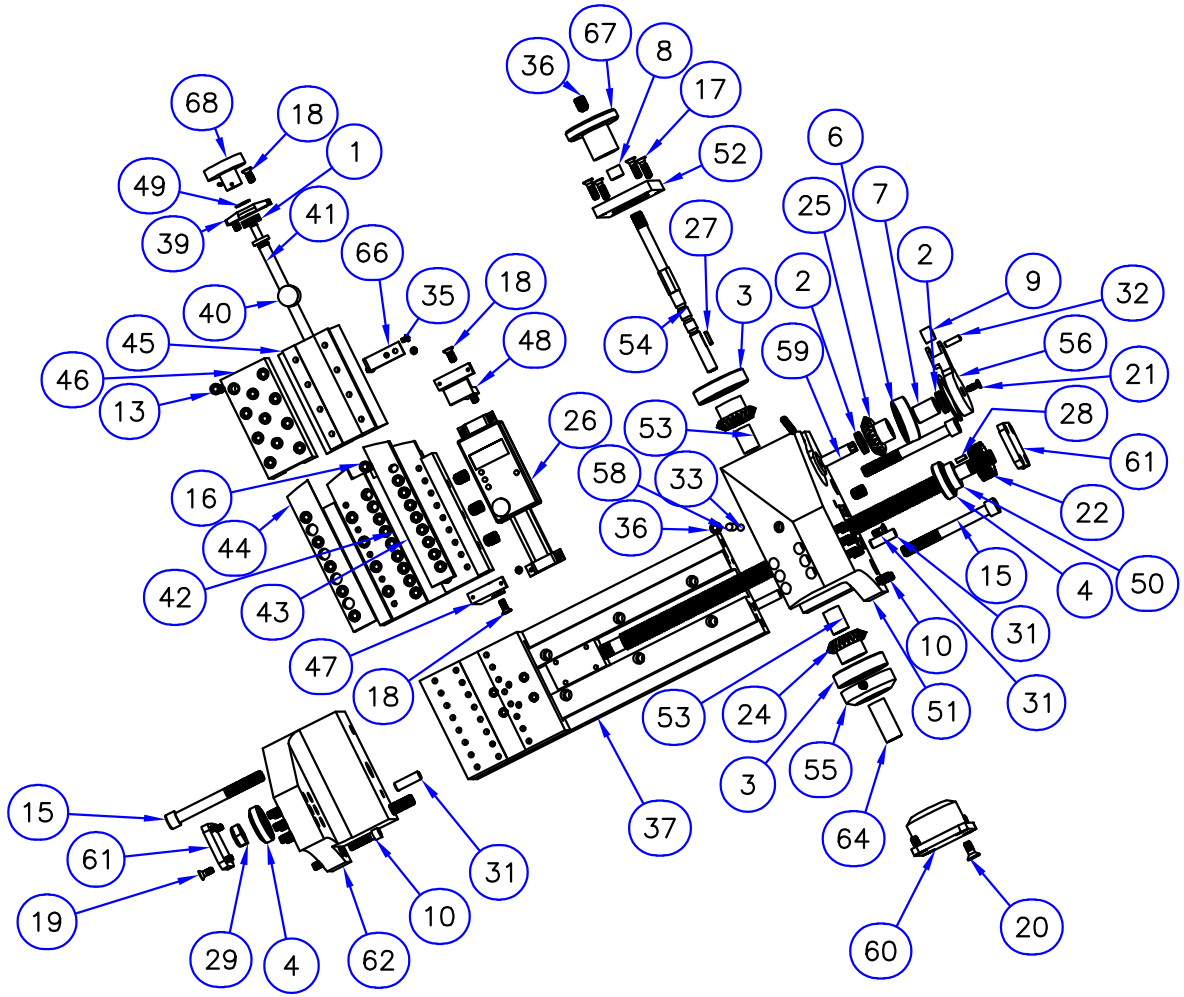
2. Engage gearbox shifter either up or down to desired feed direction, use control valve to control cutting speed. If chatter or vibration occurs, reduce speed. If tool bit(s) chip or become dull, replace them. Use coolant to reduce friction on cutting edge until done.

3. Close control valve to stop motor and disconnect hoses. Back out tool block to until tool bit clears.

812LC 4 X 12 CROSS FEED ASSEMBLY

600-2850

ITEM	PART NO.	QTY	DESCRIPTION
1	020-0041	1	1/4" ROLLER THRUST WASHER
2	020-0071	2	THRUST BEARING SET 3/8 X .14
3	020-0083	2	BALL BEARING 1 X 2 X .5 SEALED
4	020-0131	2	TAPERED BEARING, .5 X 1.378
5	020-0138	2	BALL BEARING R10-OPEN
6	020-0139	1	BALL BEARING 20MM
7	021-0005	1	3/8 ROLLER BEARING CLUTCH
8	022-0035	1	3/8 X 1/2 X 3/8L BUSHING
9	040-0021	1	NYLON ROLLER BUSHING - 1/2"
10	070-0003	10	1/4-20 X 1 SHCS
11	070-0005	6	1/4-20 X 1-1/2 SHCS
12	070-0008	3	1/4-20 X 1/2 SHCS
13	070-0009	8	1/4-20 X 1-1/4 SHCS
14	070-0010	23	1/4-20 X 5/8 SHCS
15	070-0064	4	3/8-16 X 3-1/2 SHCS
16	070-0072	9	1/4-20 X 7/8 SHCS
17	071-0001	4	#10-24 X 3/4" FHCS
18	071-0004	6	10-32 X 1/2 FHCS
19	071-0013	8	#10-24 X 1/2 FHCS
20	071-0028	4	1/4-20 X 5/8 FHCS
21	071-0031	1	8-32 X 1/2 FHCS
22	100-0239	1	HELICAL GEAR, 16 DP 1.25 PD
23	100-0239 MOD-A	1	HELICAL GEAR 16 DP, BORED
24	100-0240 MOD-A	2	MITER GEAR BORED 5/8 - TURNED 1"
25	100-0240 MOD-B	1	MITER GEAR BORED 5/8-TURNED .787
26	130-0315 MOD-C	1	4" DIGITAL READOUT, MODIFIED
27	150-0062	1	3/32 SQ X 1/2 KEY- ROUNDED ENDS
28	150-0063	1	1/8 SQ X 3/8 KEY
29	170-0012	2	1/2-13 JAM STYLE ELASTIC LOCKNUT
30	200-0019	1	3/32 X 5/8 HARDENED DOWEL PIN
31	200-0038	4	5/16 x 1 HARDENED DOWEL
32	200-0072	1	3/16 X 5/8 L HARDENED DOWEL PIN
33	205-0008	1	.250 DIA STEEL BALL
34	237-0019	1	RETAINING RING - INTERNAL 3BM1 #45
35	300-0104	8	#5-40 x 3/16 PHILLIPS PHMS
36	340-0013	6	3/8-16 X 1/2 CPSS
37	387-0077 MOD-A	1	4 x 12 SLIDE
38	400-0033	2	.219 COMPRESSION SPRING
39	460-0015	1	FEED SCREW MOUNTING PLATE
40	460-0019	1	3/8-40 RH FEED NUT
41	460-0042	1	#3 3/8-40 RH US FEED SCREW
42	460-0642 MOD-A	1	#4 X 3/4 TOOL BLOCK SLIDE MODIFIED
43	460-0643	1	#4 ADJUSTABLE GIB
44	460-0644	1	#4 NON-ADJUSTABLE TOOL SLIDE GIB
45	460-0663	1	#4 20MM TOOL BLOCK
46	460-0664	1	20MM TOO BLOCK CAP
47	460-0665	1	LOWER BRACKET - DIGITAL READOUT
48	460-0666	1	DIGITAL READOUT - TOP MOUNT
49	480-1026	1	1/4 X 9/16 X .040 BRASS WASHER
50	480-1052	1	1/2 X 1 X .317 THICK WASHER
51	620-4100	1	GEARBOX 812LC 4 X14 AXIAL
52	620-4101	1	BEARING RETAINING PLATE - UPPER
53	620-4102	2	3/8 HEX HOLE BUSHING
54	620-4103	1	3/8 HEX DRIVE SHAFT
55	620-4104	1	BRONZE BUSHING SPACER
56	620-4106	1	CAM FEED ARM
57	620-4110	2	5/8 X 1 X .219 BEARING SPACER
58	620-4111	1	1/4" PUSH ROD
59	620-4112	1	CAM DRIVE SHAFT
60	620-4113	1	LOWER BEARING RETAINER
61	620-4114	2	SLIDE BEARING COVER PLATE
62	620-4115	1	IDLE CLAM MOUNTING BRACKET
63	620-4116	1	CAM SHAFT END PLATE
64	620-4118	1	HEX DRIVE SHAFT BUSHING
65	620-4119	1	FEED SCREW 5/8-10 LH ACME
66	620-4125	1	DIGITAL READOUT MTG BRKT
67	620-4126	1	FEED KNOB 3/8-16
68	620-4127	1	FEED KNOB 1/4" NON-THREADED

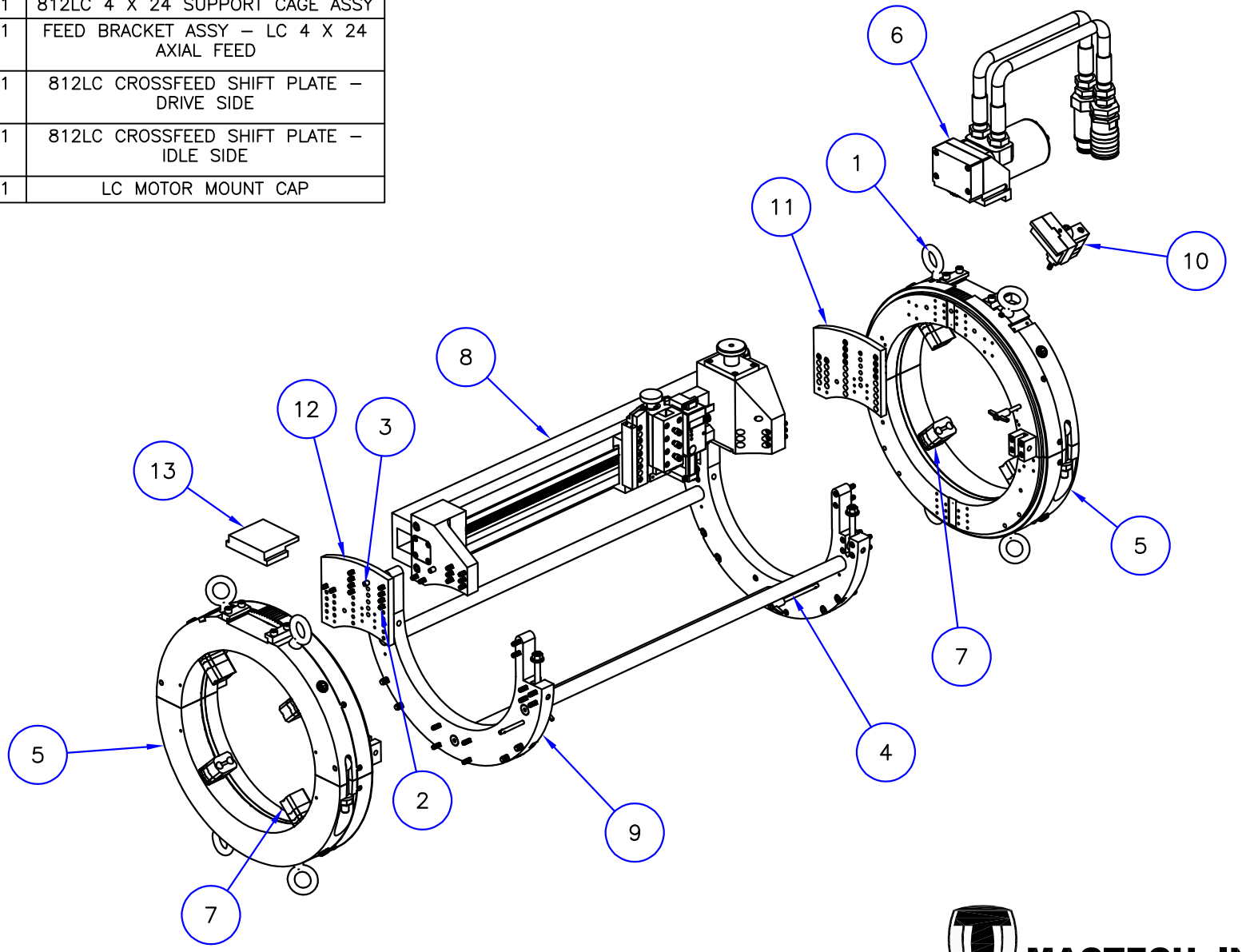


MACTECH, INC

812LC - 4x24 AXIAL FEED ASSEMBLY

600-2863

ITEM	PART NO.	QTY	DESCRIPTION
1	030–0011	8	1/2–13UNC x 1–1/2 EYE BOLT
2	070–0010	20	1/4–20 X 5/8 SHCS
3	200–0078	2	5/16 x 7/8 L DOWEL PIN
4	205–0010	2	1/4 X 3" BALL LOCK PIN
5	600–1073	2	812LC ASSEMBLY
6	600–2740	1	LC/SLC UNIVERSAL HYD DRIVE
7	600–2764	8	LC STACKABLE LOCATOR SET
8	600–2860	1	812LC 4 X 24 CROSS FEED ASSY
9	600–2861	1	812LC 4 X 24 SUPPORT CAGE ASSY
10	600–2862	1	FEED BRACKET ASSY – LC 4 X 24 AXIAL FEED
11	620–4131	1	812LC CROSSFEED SHIFT PLATE – DRIVE SIDE
12	620–4132	1	812LC CROSSFEED SHIFT PLATE – IDLE SIDE
13	620–4139	1	LC MOTOR MOUNT CAP

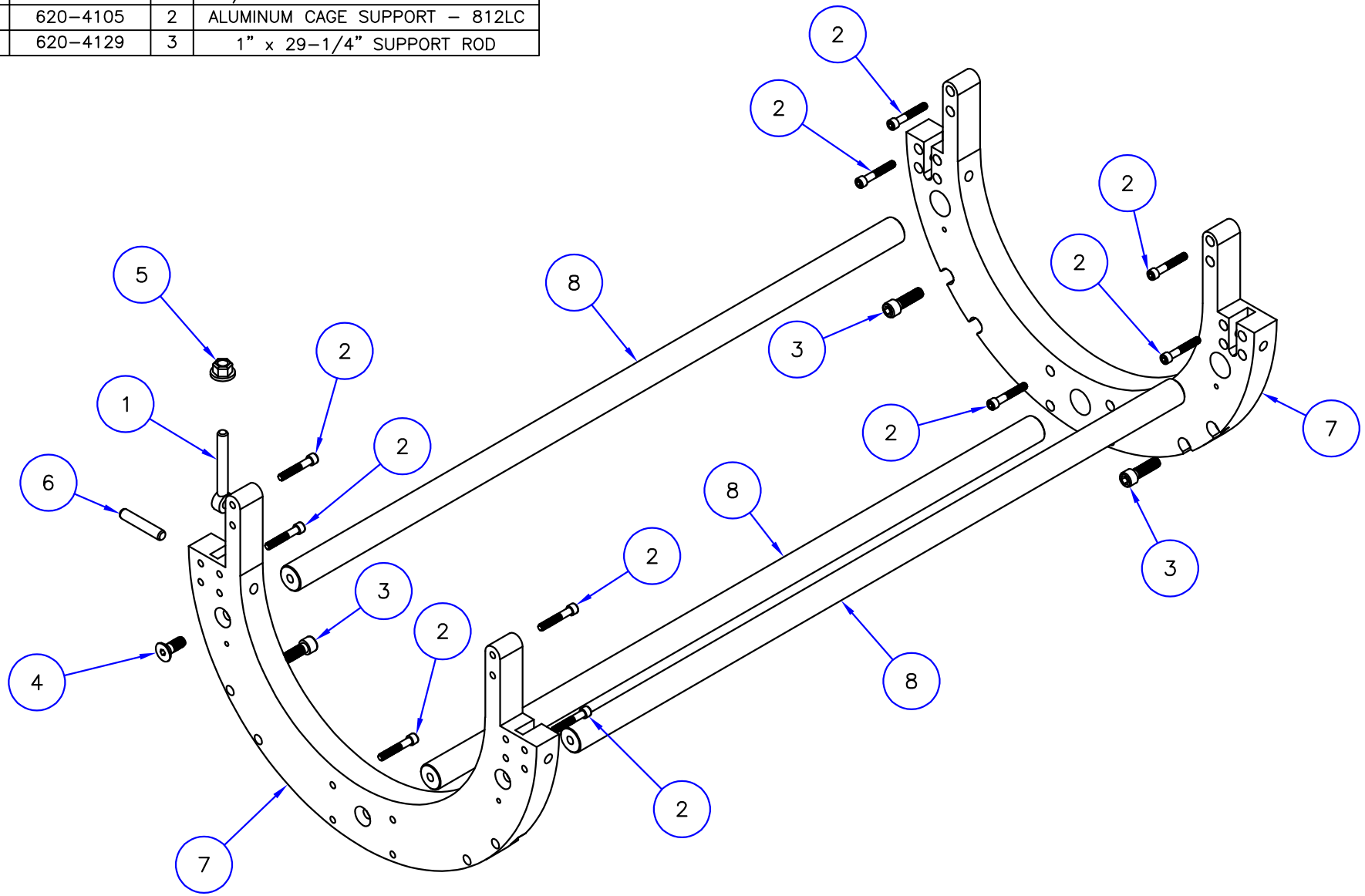


MACTECH, INC

812LC 4 x 24 SUPPORT CAGE ASSEMBLY

600-2861

ITEM	PART NO.	QTY	DESCRIPTION
1	030–0017	4	3/8–16 X 3 EYE BOLT 3/8 HOLE
2	070–0005	32	1/4–20 X 1–1/2 SHCS
3	070–0021	8	3/8–16 X 1–1/4 SHCS
4	071–0024	6	3/8–16 X 1 FHCS
5	170–0025	4	3/8–16 FLANGE NUT
6	200–0052	4	3/8 X 2" HARDENED DOWEL PIN
7	620–4105	2	ALUMINUM CAGE SUPPORT – 812LC
8	620–4129	3	1" x 29–1/4" SUPPORT ROD

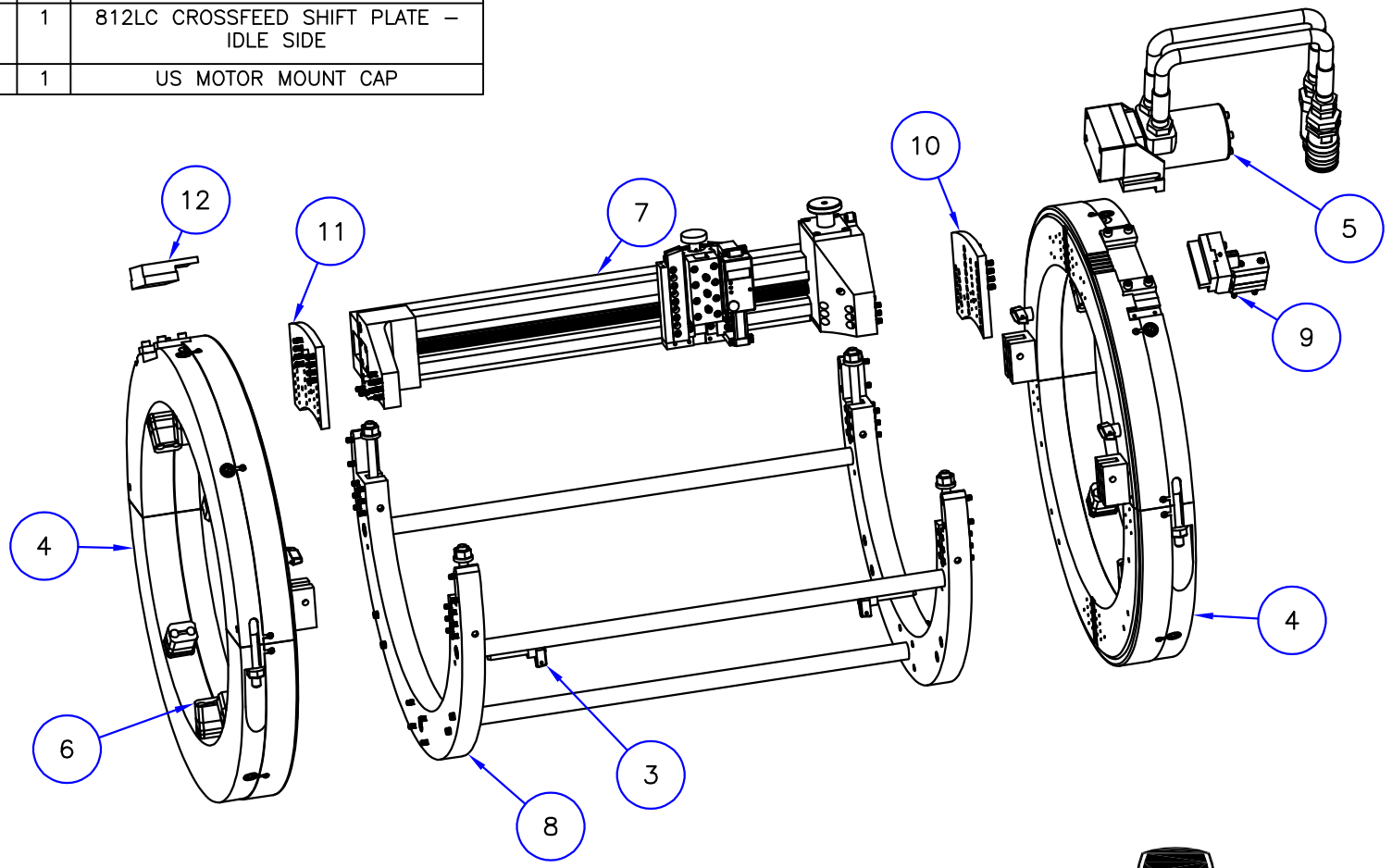


MACTECH, INC

820USS - 4 X 24 AXIAL FEED ASSEMBLY

600-2873

ITEM	PART NO.	QTY	DESCRIPTION
1	070–0004	16	1/4–20 X 3/4 SHCS
2	200–0078	2	5/16 x 7/8 L DOWEL PIN
3	205–0009	2	5/15 x 3–1/2 LOCK PIN
4	600–0367 MOD–A	2	820USS MODIFIED MAIN BODY ASSEMBLY
5	600–2707	1	USS UNIVERSAL HYDRAULIC DRIVE ASSEMBLY
6	600–2768	12	USS/SLC STACKABLE LOCATOR SINGLE SET
7	600–2860	1	812LC 4 X 24 CROSS FEED ASSY
8	600–2871	1	820USS SUPPORT CAGE ASSEMBLY
9	600–2872	1	FEED BRACKET ASSY –USS 4 X 24 AXIAL FEED
10	620–4131	1	812LC CROSSFEED SHIFT PLATE – DRIVE SIDE
11	620–4132	1	812LC CROSSFEED SHIFT PLATE – IDLE SIDE
12	620–4140	1	US MOTOR MOUNT CAP

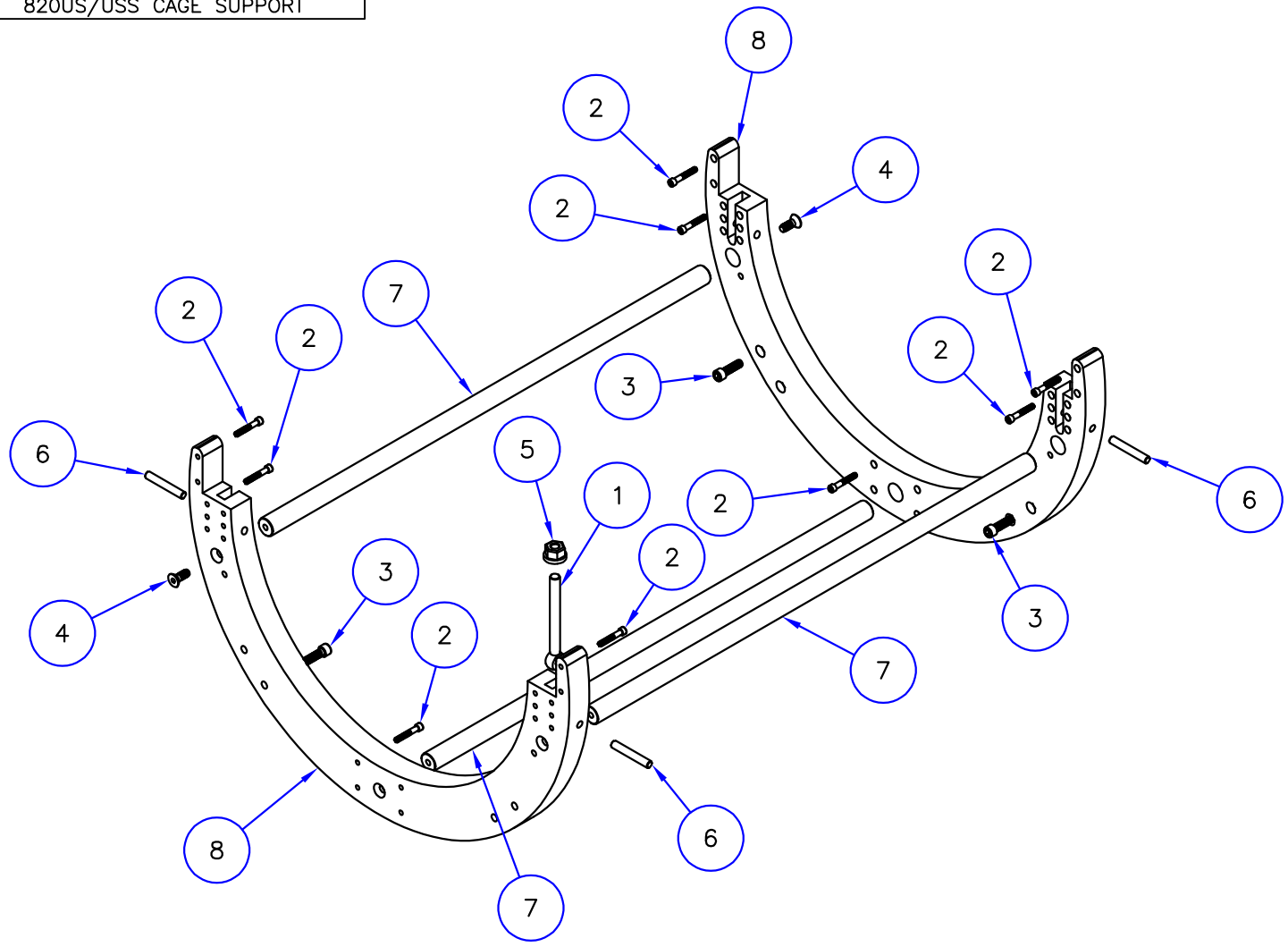


MACTECH, INC

820USS 4 X 24 SUPPORT CAGE ASSEMBLY

600-2871

ITEM	PART NO.	QTY	DESCRIPTION
1	030-0005	4	1/2-13 X 5 EYE BOLT
2	070-0005	40	1/4-20 X 1-1/2 SHCS
3	070-0021	8	3/8-16 X 1-1/4 SHCS
4	071-0024	6	3/8-16 X 1 FHCS
5	170-0006	4	1/2-13 FLANGE NUT
6	200-0077	4	3/8 x 2-1/2" HARDENED DOWEL PIN
7	620-4129	3	1" x 29-1/4" SUPPORT ROD
8	620-4138	2	820US/USS CAGE SUPPORT



MACTECH, INC