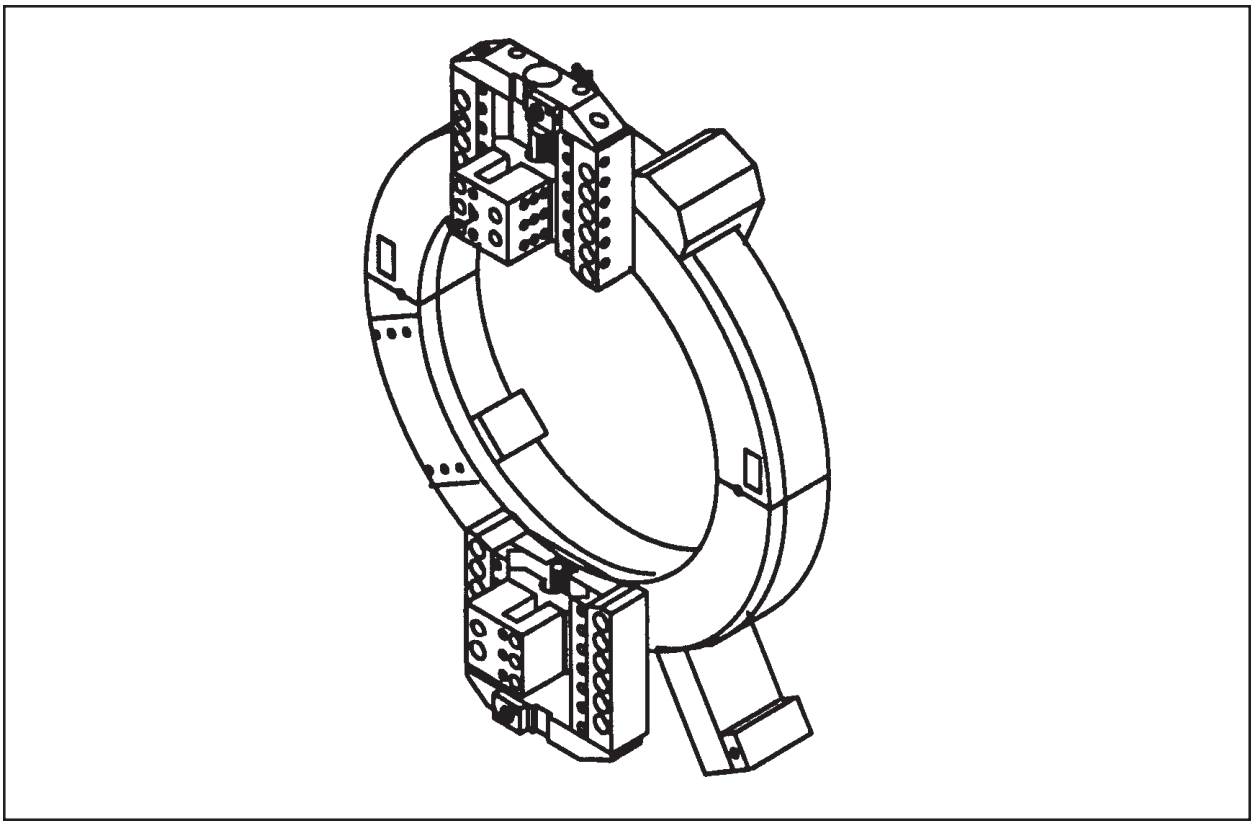


TABLE OF CONTENTS

SAFETY PRECAUTIONS

IN GENERAL

When using rotating head cutting equipment, basic safety precautions should always be followed to reduce the risk of personal injury.

Operate this tool only in accordance with specific operating instructions.

WARNING:	Do not override the deadman switch on the power unit. Locking down, obstructing, or in any way defeating the deadman switch on the power drive unit may result in serious injury.

DRESS CONSIDERATIONS

Use standard safety equipment. Hard hats, safety shoes, safety harnesses, protective clothes, and other safety devices should always be used when appropriate.

Use safety glasses. Do not operate cutting tools without eye protection.

Dress properly. Do not wear loose clothing or jewelry. They can be caught in rotating and moving parts. Avoid slippery floors or wear nonskid footwear. If you have long hair, wear protective hair covering to contain it.

WORK AREA

Keep the work area clean. Cluttered work areas and benches invite injuries.

Consider the work area environment. Keep the area well lit. Keep electrical cords, cables, rags, rigging straps, and etc. clear of rotating equipment. Do not use power-cutting tools in the presence of flammable liquids and gasses.

Keep visitors away. Do not let visitors or untrained personnel at or near operating tools. Enforce eye protection requirements for all observers.

Do not over reach. Keep proper footing at all times.

Stay alert. Watch what you are doing. Use common sense. Do not operate tools when you are tired.

TOOL CARE

Maintain tools with care. Keep tools in good operating condition. Sharp tool bits perform better and safer than dull tool bits. Well maintained tools function properly when needed.

Check for damaged parts. If a tool has malfunctioned, been dropped or hit, it must be checked for damage. Run no-load tests and feed function checks. Do a complete visual inspection.

Electric motors. Use only with proper AC voltage power sources and observe all normal electric shock hazard procedures.

Do not abuse power and control cords. Pulling or running over cords and cables can result in electrical shock hazards and malfunctions. Keep control and power cords out of all cutting fluids and water.

Hydraulic drives. Observe proper procedures for electrically driven power sources. Avoid damage to hydraulic lines. Keep quick-disconnects clean. Grit contamination causes malfunctions.

Air tools. Check the exhaust muffler. Broken or damaged mufflers can restrict air flow or cause excessive noise. Use air motors only with a filtered, lubricated and regulated air supply. Dirty air, low-pressure air or over pressure air will cause malfunctions, including delayed starting.

AREA EQUIPMENT

Secure work. Whenever possible use clamps, vises, chains and straps to secure pipe.

Make sure the tool is secured; it is safer to have both hands free to operate the tool.

TOOL USE

Use the right tool and tool bit for the job. Do not use a tool, which is incorrect for the job you are doing.

Keep the tool bits fully engaged in the tool bit holders. Loose bits are a safety hazard.

Disconnect power supply during setup and maintenance. Use all 'Stop' or Shut off' features available when changing or adjusting tool bits, maintaining the tool, or when the tool is not in use.

Remove adjusting keys and wrenches before applying power to the equipment. Develop a habit of checking the tool before turning it on to make sure that all keys and wrenches have been removed.

Do not force tools. Tools and tool bits function better and safer when used at the feed and speed rate for which they were designed.

Do not reach into rotating equipment. Do not reach into the rotating head stock to clear chips, to make adjustments, or to check surface finish. A machine designed to cut steel will not stop for a hand or an arm.

Handle chips with care. Chips have very sharp edges and are hot. Do not try to pull chips apart with are hands; they are very tough.

Avoid unintentional starts. Do not carry or handle tools with your hand on the operating switches or levers. Do not lay the tool down in a manner that will start the drive. Do not allow the tool to flip around or move when adjusting or changing tool bits.

Store idle tools properly. Disconnect tools from the power source and store in a safe place. Remove tool bits for safe handling of the tool.

GENERAL DESCRIPTION

Model 600RBL Clamshell Series Standard Part No.		
P/N	**Model**	**Power**
01-1251	614RBL	Air
01-1261	614RBL	Hyd
01-1252	616RBL	Air
01-1262	616RBL	Hyd
01-1253	620RBL	Air
01-1263	620RBL	Hyd
01-1254	624RBL	Air
01-1264	624RBL	Hyd
01-1255	630RBL	Air
01-1265	630RBL	Hyd
01-1256	636RBL	Air
01-1266	636RBL	Hyd

The Clamshell P/N includes the following:

- Dual Air or Hydraulic Motors.
- Spacer Bars to cover a complete range of pipe sizes.
- Jackscrews.
- Two (2) Tool Modules.
- One (1) Tripper Bracket Assembly.

The Model 600RBL Low Profile Clamshell is a split-frame pipe lathe designed for severing and beveling in-line pipe.

Using standard Tool Blocks the Model 600RBL Clamshells may be configured to perform the following operations:

- Sever in-line pipe
- Sever and bevel in-line pipe
- Sever and double bevel in-line pipe

DESIGN AND OPERATING FEATURES

The easily adjustable precision 90° vee bearings pre-load and stabilize the rotating head to provide long life, low maintenance, stability, and precision.

The Clamshell splits into two (2) halves for mounting on closed loop systems.

All parts are secured to the two (2) halves, thus avoiding the loss of parts and at the same time providing maximum ease of handling.

The Clamshell is equipped with jackscrews and adjustable mounting bars for out-of-round pipe conditions.

Dual tool blocks with auto-feed sprockets and adjustable slides provide maximum maintainability, life, and operator safety, with a minimum of operator training.

The gear reduction, auto-feed sprockets provide .0025” (.06 mm) of radial feed per revolution of the Headstock for a controlled depth of cut.

The drive gears and bearing surfaces are covered for operator safety and are sealed to provide protection from dust and chips.

The operator’s controls are located away from the rotating Headstock for the operator’s safety.

A modular design concept provides quick, easy maintenance and maximum versatility in the drive and tooling options.

Detachable air or hydraulic motors provide maximum handling ease and low axial clearance.

SPECIFICATIONS

Model 600RBL Clamshell Series																
Model	Range															
	7"	8"	10"	12"	14"	16"	18"	20"	22"	24"	26"	28"	30"	32"	34"	36"
614RBL	■	■	■	■	■											
616RBL			■	■	■	■										
620RBL					■	■	■	■								
624RBL							■	■	■	■						
630RBL										■	■	■	■			
636RBL													■	■	■	■

WEIGHT* BY MODEL

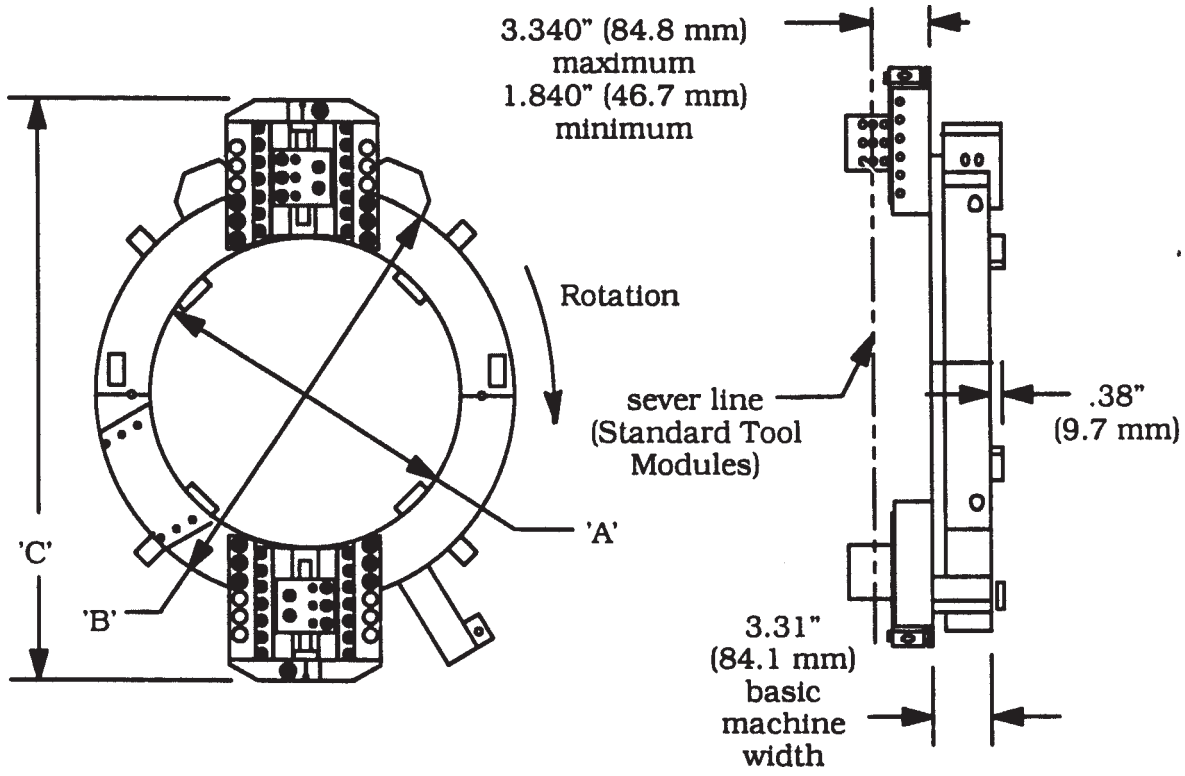
614RBL	97 lbs (44.0 kg)
616RBL	110 lbs (49.9 kg)
620RBL	138 lbs (62.6 kg)
624RBL	152 lbs (69.0 kg)
630RBL	200 lbs (90.7 kg)
636RBL	240 lbs (108.9 kg)

*Basic Machine with two (2) Drive Housings.

POWER REQUIREMENTS

with Dual Hydraulic Motors	20 gpm at 1250 psi (1.3 L/s at 8619 kPa)
with Dual Air Motors	150 cfm at 90 psi (71 L/s at 621 kPa)

Envelope, Model 600RBL, Clamshell



Model	Frame 'A' Inside DIA	Frame 'B' Outside DIA	Frame 'C' Maximum Rotating Parts DIA
614RBL	15.00" (381.0 mm)	21.10" (535.9 mm)	30.00" (762.0 mm)
616RBL	17.00" (431.8 mm)	23.10" (586.7 mm)	32.10" (815.3 mm)
620RBL	21.00" (533.4 mm)	27.10" (688.3 mm)	36.20" (919.5 mm)
624RBL	25.00" (635.0 mm)	31.10" (789.9 mm)	40.55" (1030.0 mm)
630RBL	31.00" (787.4 mm)	37.10" (942.3 mm)	46.65" (1184.9 mm)
636RBL	37.00" (939.8 mm)	43.10" (1094.7 mm)	52.75" (1339.8 mm)

CUTTING CAPACITIES WITH STANDARD TOOL MODULES

Severing with Standard Procedures	2.50" (63.5 mm) wall
Severing and Single Bevel	1.00" (25.4 mm) wall
Severing and Double Bevel	1.00" (25.4 mm) wall
Severing and Beveling w/Special Procedures	2.00" (50.8 mm) wall

Materials include, but are not limited to:

carbon steel, low alloy steel, chrome steel (20% maximum), chrome/molly alloys (Rc 32 maximum), austenitic stainless steel, inconel, aluminum, copper and copper nickel alloys.

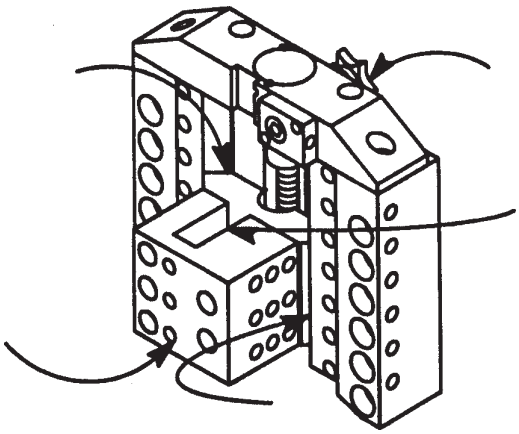
MAINTENANCE

All components should be cleaned and coated with a light film of oil prior to use.

Use a clean, non-detergent oil, preferably SAE 10 (90 SSU) or lighter.

NOTE:	The motor warranty is void if damage occurs from contaminated hydraulic fluid or air supply.

Clean Up



If the Clamshell is operated in such a manner that the Tool Blocks collect debris while cutting, the Tool Blocks and Feed Screws should be cleaned after each cutting operation.

RECOMMENDED MAINTENANCE SCHEDULE

Daily when the unit is in operation

Wipe the unit down and spray with rust preventative under severe humidity conditions.

Visually inspect for loose screws, missing screws, damage, etc.

After every 20 hours of actual operation

Lubricate the male and female Tool Block Slides and Feed Screw(s).

After every 40 hours of actual operation

Thoroughly clean and lubricate the Main Gear, Drive Gear, male and female Tool Slides, Feed Screws, and Tripper Block Assembly.

Non-Scheduled

Thoroughly clean and check the Tool Blocks in the event of feed problems.

Readjust the 90° Vee Bearings if the Headstock becomes loose on the Clamshell.

STORAGE

When the Clamshell is to be stored or if it will remain out of service for a significant period of time, 30 days or more, it should be thoroughly cleaned, lubricated and sprayed with a rust preventative prior to storage.

ADJUSTMENT OF THE 90° VEE BEARINGS PRE-LOAD

Adjustment is done without the Drive Housing(s) attached.

Loosen all of the Bearing Lock Screws and Adjustment Eccentric Nuts about 1/4 turn.

Turn the four (4) Bearing Adjustment Eccentric Nuts in so they are snugged tight.

The OD of the gear is centered with the OD of the housing.

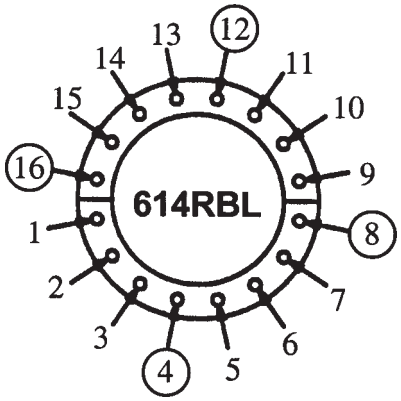
Lightly turn in the remaining Bearing Adjustment Eccentric Nuts until all of the bearings make contact with the Headstock.

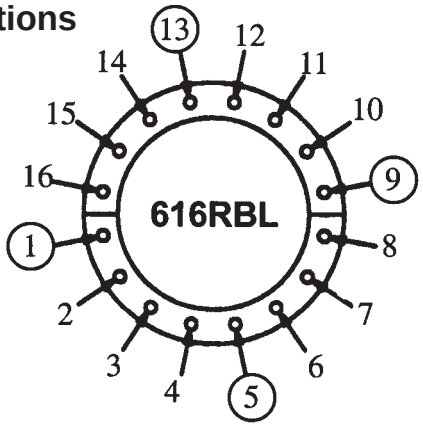
The safe torque range on the Bearing Adjustment Eccentric Nuts is 1 in-lbs (.1 N m) to 3 in-lbs (.3 N m).

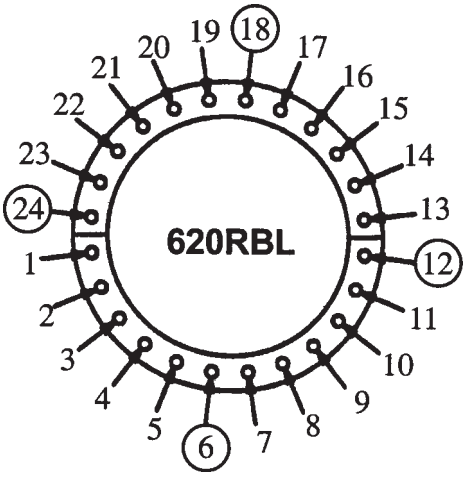
Relax the four (4) Bearing Adjustment Eccentric Nuts and resnug them so that all of the bearings are evenly loaded against the gear race.

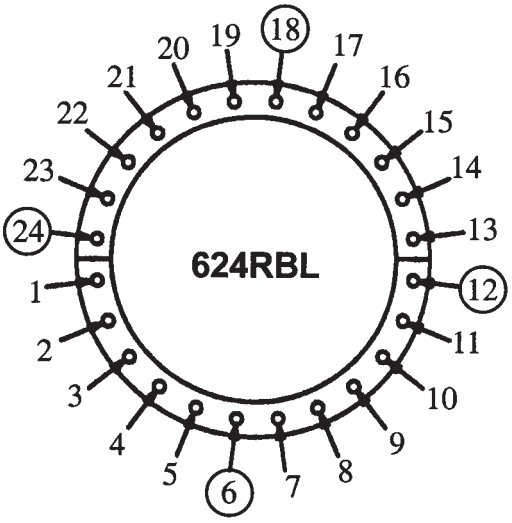
Over-tightening the Bearing Adjustment Eccentric Nuts will result in accelerated bearing and gear race wear and lower available power.

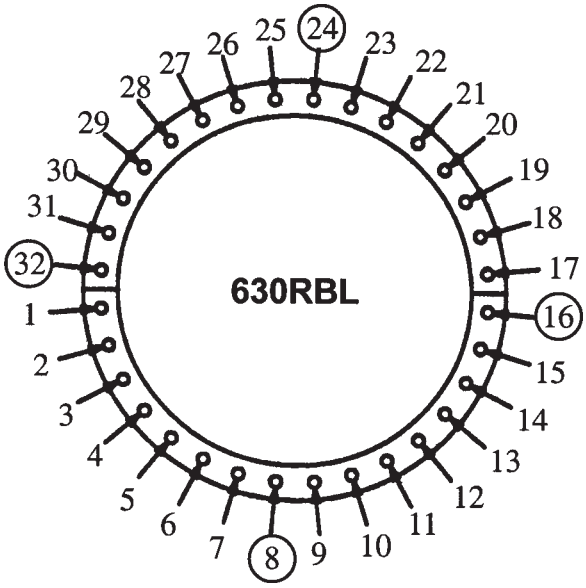
Bearing Adjustment Eccentric Nut Locations

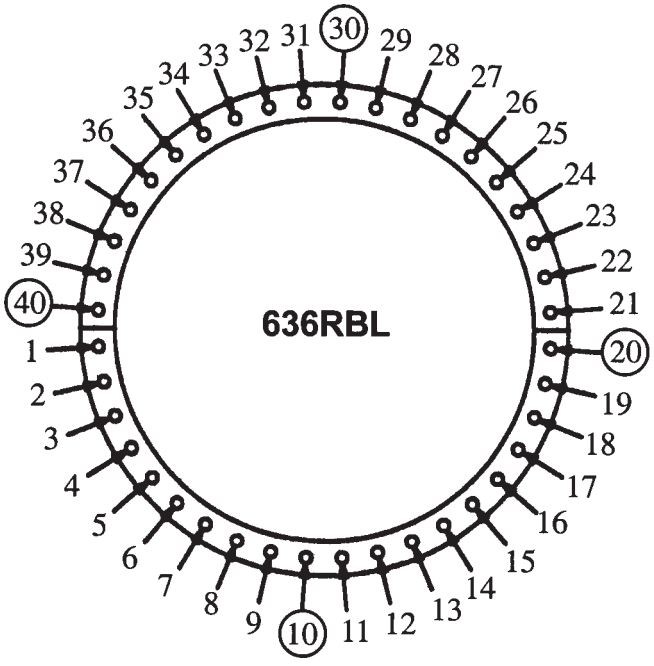












INSPECTION OF THE MAIN GEAR

When the Headstock does not run smoothly, even after adjustment, inspect the Main Gear to ensure no chips, dirt or dust have damaged the gear.

DRIVE GEAR AND MAIN GEAR LUBRICATION

Remove the Drive Housing(s).

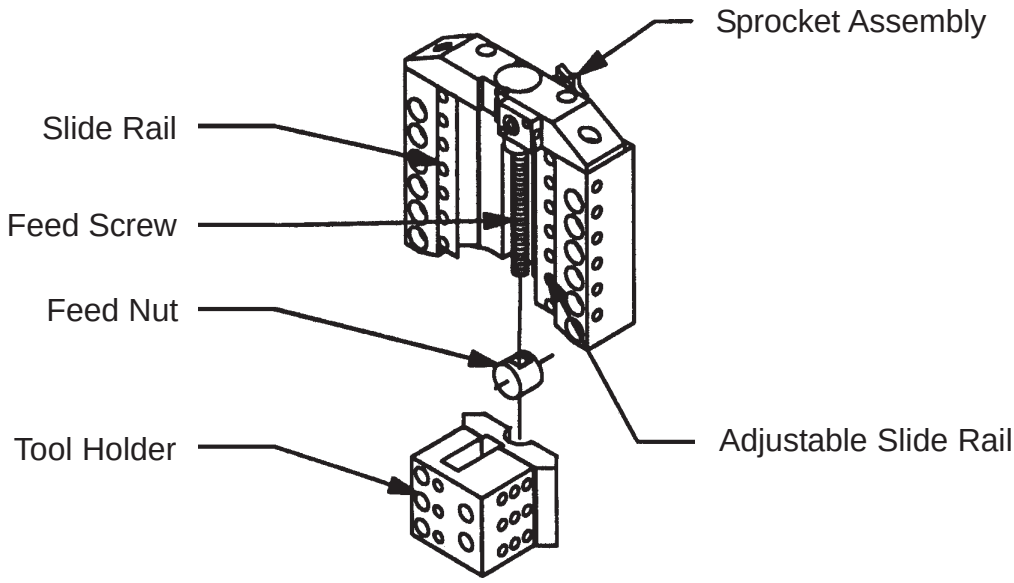
Inspect both the Drive and Main Gears for chips or burrs and clean as required.

Coat the teeth of the Drive and Main Gear with a lubricant that is approved by TRI TOOL INC.

TOOL BLOCK MAINTENANCE

Clean the slide rails, the feed nut, the sprocket assembly and the feed screw.

Inspect these parts for damage and replace as required.



LUBRICATE AND REASSEMBLE THE TOOL BLOCK

NOTE:	Use lubricant sparingly on the Feed Screw or wipe to a film condition.

NOTE:	Excess lubricant will collect grit and/or chips and tend to cause thread jamming and/or damage.

Adjust the Adjustable Slide Rail to provide a firm, but not excessive rotational pressure on the Sprocket.

The Sprocket should be movable by hand; 12 in-lbs (1.4 N m) to 16 in-lbs (1.8 N m) of torque applied to the hex on the front face of the Sprocket Assembly.

The Slide Rails must be over-tightened to squeeze the oil into a thin film against the male and female surfaces of the Slide Rails.

Reset for proper operation.

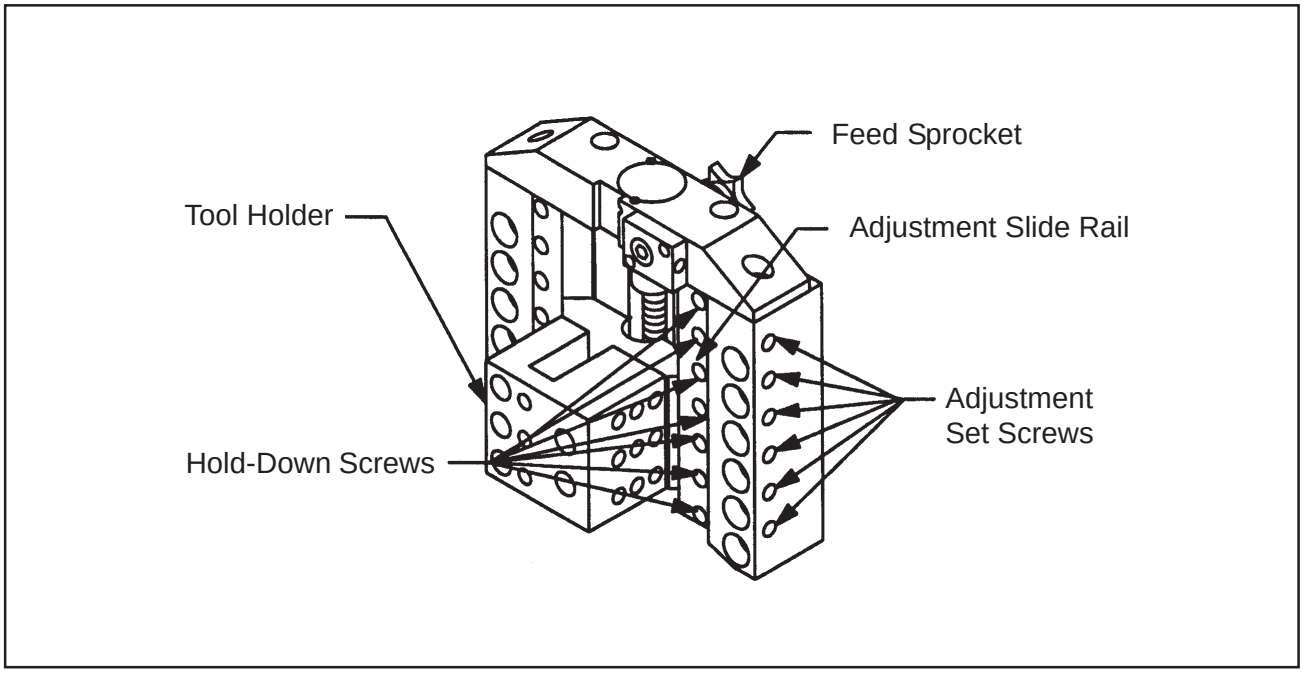
NOTE:	If the Mounting Bracket has been overstressed, the Slide Rails may appear to loosen when mounted if they were adjusted off of the Clamshell.

NOTE:	The Tool Module must be adjusted while it is mounted on the Clamshell.

TOOL HOLDER ADJUSTMENT

CAUTION:	Make sure the Tool Module is mounted firmly to the Clamshell.

Loosen the Hold-Down Screws on the Adjustable Slide Rail.



Run the Tool Holder to the most outward position.

Using the Adjustment Set Screws, apply a light force to the side of the Adjustable Slide Rail so that it is in positive contact with the Tool Holder.

Only adjust the screws that bear directly in line with the Tool Holder.

Tighten the Hold Down Screws to about 12 in-lbs (1.4 N m) to 24 in-lbs (2.7 N m).

Finger tight using a Hex Key.

Using the Hex Wrench, run the Tool Holder to the inward most position.

Note any changes in the feed pressure.

Adjust the remaining Adjustment Set Screws so that the Tool Holder has a smooth, even feel.

Run the Tool Holder the full length of the Slide Rail.

Tightly lock the Adjustable Slide Rail in place with the Hold-Down Screws and fully snug the Adjustment Set Screws.

Check that the Tool Holder runs smoothly and evenly for the full length of travel.

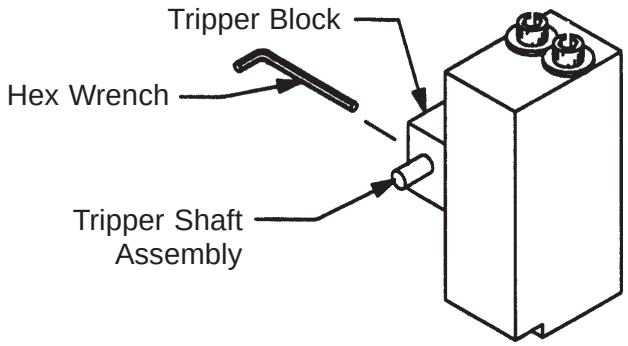
Readjust as necessary.

The Tool Holder should move with some resistance.

TRIPPER BLOCK ASSEMBLY LUBRICATION AND TRIPPER SHAFT ADJUSTMENT

Back off the Half Dog Set Screw until it disengages from the Tripper Shaft.

Remove the Tripper Shaft Assembly from the block and clean off all of the old lubrication.



Apply a fresh lubrication to the Tripper Shaft Assembly and re-install it in the block.

Screw in the Half Dog Set Screw until it locates itself in the Slot on the Tripper Shaft.

LUBRICANT RECOMMENDATIONS

The Drive Gears require a heavy duty grease such as “Chevron Ultra Duty NLGI 2” (P/N 68-0024)

The Slide Rails and Tool Blocks require a light oil such as SAE 10 light machine oil.

The Feed Screw for the Tool Block and Tripper Block Assembly require a SAE 10 light machine oil for normal conditions, and under dusty conditions a silicone, graphite or molybdenum disulfide ‘dry’ lubricant.

NOTE:	A light film of all-purpose grease may be used, but it must be checked for grit contamination frequently.

LUBRICANT RECOMMENDATIONS FOR HYDRAULIC MOTORS

The Bearings in the Hydraulic Motors are sealed and do not require any lubrication.

LUBRICANT RECOMMENDATIONS FOR AIR MOTORS

Air Motors require a Class 2 lubricant, viscosity of 100 to 200 SSU at 100°F (38°C) minimum aniline point of 200°F (93°C).

- TRI TOOL INC. – Air Tool Lubricant (P/N 68-0022)
- Amoco – American Industrial Oil No. 32
- Atlantic Richfield – Duro Oil S–150
- Chevron – A.W. Machine Oil 32
- Exxon – Nuto H32
- Shell – Tellus Oil 32

The Bearings in the Air Motors are sealed and do not require any lubrication.

OPERATION

PREPARATION

Read the operating instructions carefully before attempting to operate the Model 600RBL Low Profile Clamshell.

Configure the Clamshell for the specific task required.

MOUNTING THE TOOL BLOCKS AND TRIPPER BRACKET

The Tool Blocks may be mounted into either location.

Unbolt the two (2) Red Lock Blocks attached to the headstock, flip them over and reattach them with the dowel pin pointing outward. The headstock is now free to rotate.

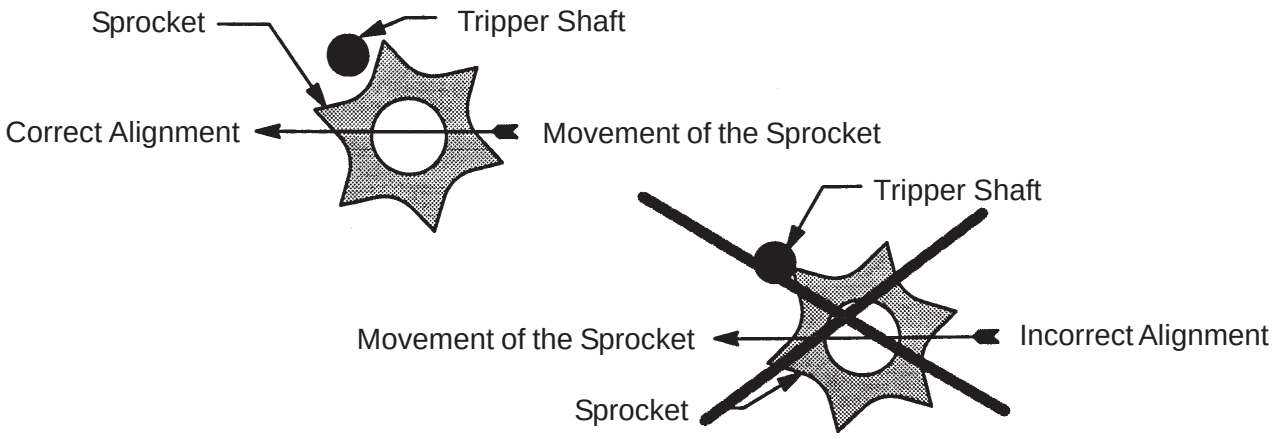
Check the Tripper Shaft to Sprocket Engagement.

Rotate the Headstock until the Sprocket on the Tool Block begins to approach the Tripper Shaft.

The Tripper Shaft must not strike the Sprocket tooth straight on.

This action would damage or break the Tripper Shaft and/or the Sprocket.

Alignment of the Tripper Shaft

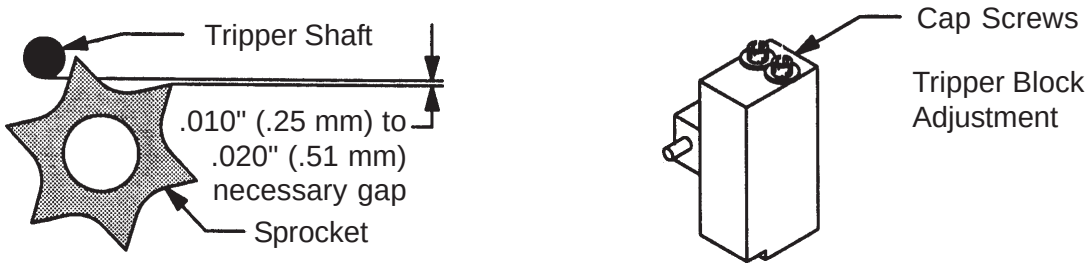


The Tripper Shaft must strike the Sprocket on the edge of the tooth.

CAUTION:	*If the Tripper Shaft to Sprocket Engagement is not correct, operation of the Clamshell may break the Tripper Shaft and/or the Sprocket.*

If the Tripper Shaft to Sprocket Engagement is incorrect, then it will be necessary to loosen the two (2) Cap Screws on the Tripper Bracket, so that it may be adjusted to the proper gap, .010” (.25 mm) to .020” (.51 mm), required for proper engagement.

Tripper Shaft to Sprocket Engagement



Select and install the proper Spacer Bar Set into the Clamshell.

Refer to the 'Spacer Bar Assembly Kits' section of this manual for the kit that best matches the Clamshell to OD of the pipe.

Do not install the Tool Bits until the Clamshell has been installed on the pipe.

INSTALLATION OF THE CLAMSHELL ON AN IN-LINE PIPE

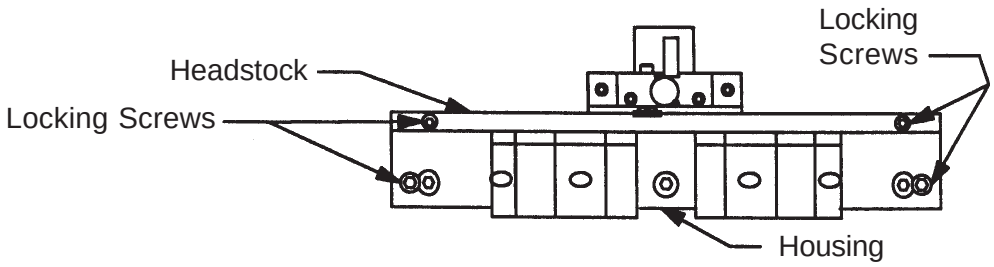
Separation of the Two (2) Halves of the Clamshell

Rotate the Headstock until the split-lines of the Headstock match the split-lines of the Housing.

Unbolt the two (2) Red Lock Blocks attached to the Headstock, flip them over and reattach them with the Dowel Pin going through the Headstock and into the Housing. The headstock is now locked into place.

WARNING:	*This is to prevent the Headstock from rotating out of the Housing while the Clamshell is split in half.*

Locking Screws Location



Unbolt the two (2) halves of the Clamshell.

Two (2) Locking Screws are located on the Housing and two (2) more on the Headstock.

The Locking Screws are captured in their holes so that they will not come totally free of the Clamshell.

Separate the Clamshell halves evenly by pulling them straight apart.

DO NOT FORCE OPEN.

Clean the mating surfaces and the contact surface of the Spacer Bars and the Jackscrews on each half of the Clamshell.

Wipe clean the mounting surface on the pipe.

Check to ensure that the Tool Blocks will clear the pipe when the Clamshell is mounted.

Close the two (2) halves of the Clamshell around the pipe, keeping the mating surfaces clean.

Check that the Alignment Pins have seated the two (2) halves properly.

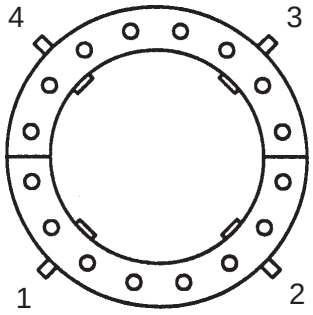
Bolt the two (2) halves of the Clamshell together using the Locking Screws in the Housing and in the Headstock.

Tightening torque should be 50 ft-lbs. (68 N m) to 60 ft-lbs. (81 N m).

Tighten the Adjustable Bars while centering the Clamshell around the pipe.

Wiggle the Clamshell around during this step to ensure that the Spacer Bars are setting square on the pipe.

Adjustable Bars



Tighten Adjustable Bars 1 and 3 to no more than 10 ft-lbs. (14 N m) of torque.

Tighten Adjustable Bars 2 and 4 to no more than 10 ft-lbs. (14 N m) of torque.

Fine center the Clamshell as you would a 4-Jaw Chuck.

Take measurements from the pipe OD to the Housing ID or use a dial indicator to sweep around the pipes outside diameter.

If additional precision in squaring is required, consult TRI TOOL Inc. about alternate methods of squaring.

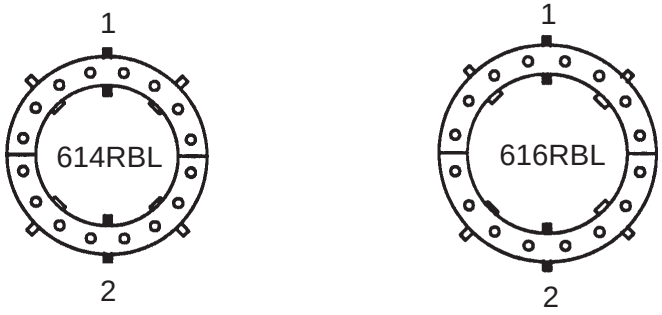
WARNING: *If additional squaring or centering is required, loosen the Adjustable Bars before attempting to move the Clamshell.*

Once the Clamshell is centered about the pipe and the four (4) Adjustable Bars are evenly torqued down then it is time to tighten the Jackscrews.

MODEL 614RBL AND 616RBL

Tighten Jackscrews 1 and 2 down to 10 ft-lbs. (14 N m) of torque.

Model 614RBL and 616RBL Jackscrews



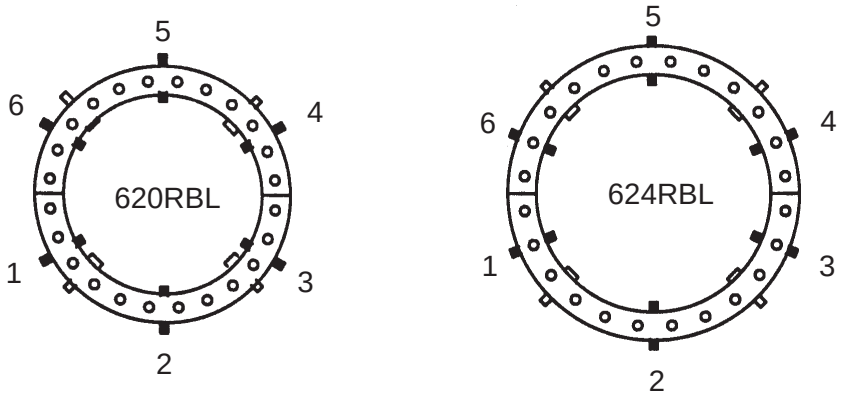
MODEL 620RBL AND 624RBL

Tighten Jackscrews 2 and 5 down to 10 ft-lbs. (14 N m) of torque.

Tighten Jackscrews 3 and 6 down to 10 ft-lbs. (14 N m) of torque.

Tighten Jackscrews 1 and 4 down to 10 ft-lbs. (14 N m) of torque.

Model 620RBL and 624RBL Jackscrews



MODEL 630RBL AND 636RBL

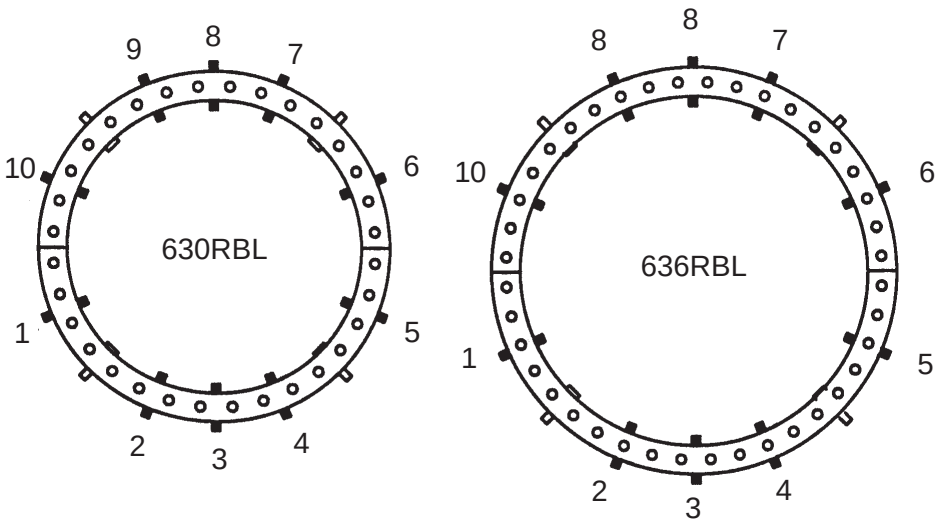
Tighten Jackscrews 3 and 8 down to 10 ft-lbs. (14 N m) of torque.

Tighten Jackscrews 5 and 10 down to 10 ft-lbs. (14 N m) of torque.

Tighten Jackscrews 1 and 6 down to 10 ft-lbs. (14 N m) of torque.

Tighten Jackscrews 2 and 7 down to 10 ft-lbs. (14 N m) of torque.

Model 630RBL and 636RBL Jackscrews



Tighten Jackscrews 4 and 9 down to 10 ft-lbs. (14 N m) of torque.

Verify that the Clamshell is mounted square and centered to the pipe.

Adjust the Jackscrews and Adjustable Bars in opposing pairs to correct any off center positioning.

Once the Clamshell is mounted square and centered to the pipe, tighten all of the Adjustable Bars and Jackscrews to 25 ft-lbs (34 N m) to 30 ft-lbs. (41 N m) of torque following the same sequence that was followed to set them up.

NOTE:	*The Headstock should be able to be rotated by hand with the motor(s) removed.*

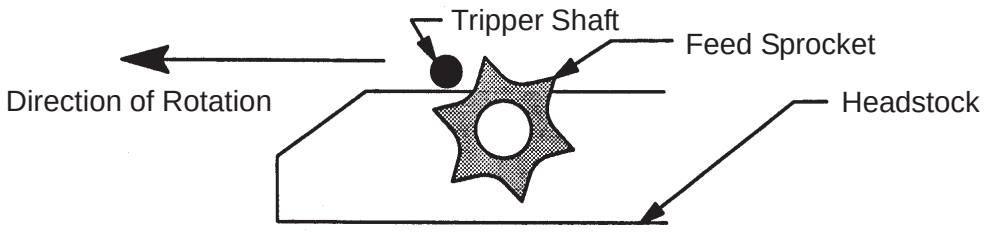
If not, the Jackscrews and/or the Adjustable Bars are to tight and will need to be loosened before the Clamshell is powered up.

MACHINING SEQUENCE

Install the Motor(s) and the Drive Housing(s), if required, into the Slots and bolt them to the Clamshell.

CAUTION:	*The Motor Mounts react to the torque of the Motor only when the Motor Hold-down Bolts are in place.*

Tripper Shaft Rotation



Unbolt the two (2) Red Lock Blocks attached to the headstock, flip them over and reattach them with the dowel pin pointing outward. The headstock is now free to rotate.

Connect the correct power supply to the Model 600RBL.

Rotate the Headstock slowly with the Tripper Shaft pushed 'in' for one full revolution to insure that the Tripper Shaft to Sprocket is correctly aligned for contact with the Sprocket on both Tool Blocks.

WARNING: *You will damage the Tripper Shaft and/or the Feed Sprocket if the Tripper Shaft to Sprocket alignment is incorrect.*

SELECT AND INSTALL THE DESIRED TOOL BIT SET

Refer to the 'Tool Bits' section to select the right Tool Bit Set for the desired results and for installation drawing of the Tool Bit Set-Ups.

WARNING: *Use of dull or improperly designed Tool Bits or Tool Bits not manufactured by TRI TOOL INC. may result in poor performance and may constitute abuse of this machine and therefore voids the TRI TOOL INC. factory warranty.*

The wall thickness plus 3/4" (19.0 mm) of Tool Bit should be protruding from the end of the Tool Holder.

Tighten the Tool Bit Set Screws then verify that there is adequate clearance between the Tool Bits and the pipe by rotating the Headstock.

The Leading Tool Bit should contact the pipe approximately .020" (.51 mm) to .040" (1.02 mm) before the Trailing Tool Bit.

BASIC MACHINING

Turn the motor(s) on to full speed.

Engage the feed by pushing the Tripper Shaft in.

Monitor the cutting operation.

Apply cutting fluid as necessary.

If the chips build up so much that they tangle in the Clamshell, disengage the feed for 2-3 revolutions to clear the chip. Then stop the Clamshell and remove the chips.

CAUTION:	*In-line pipe stores energy. When the pipe is severed, the pipe may move. To prevent accidents due to the spring in the pipe system, be sure to secure the pipe on both sides of the sever line in order to prevent differential movement of the pipe ends.*

When the machining operation is finished, disengage the Tripper Shaft by pulling it to the 'out' position.

Allow the Headstock to continue for three (3) revolutions to complete the cutting operation.

Turn off the motor(s).

Retract the Tool Holder(s) so the Tool Bit(s) will clear the pipe OD.

NOTE:	*The Tool Holder(s) are retracted by rotating the Feed Sprocket Shaft clockwise using the hex wrench supplied with the Clamshell.*

Run the motor(s) until the split-lines of the Headstock and the Housing match.

Loosen the Jackscrews and the Adjustable Bars.

Remove the Clamshell from the pipe.

Unbolt the two (2) Red Lock Blocks attached to the Headstock, flip them over and reattach them with the Dowel Pin going through the Headstock and into the Housing. The headstock is now locked into place.

WARNING:	*This is to prevent the Headstock from rotating out of the Housing while the Clamshell is split in half.*

If the Clamshell must be split to remove it, refer to 'Installation of the Clamshell'.

You should have a complete pipe sever at this time.

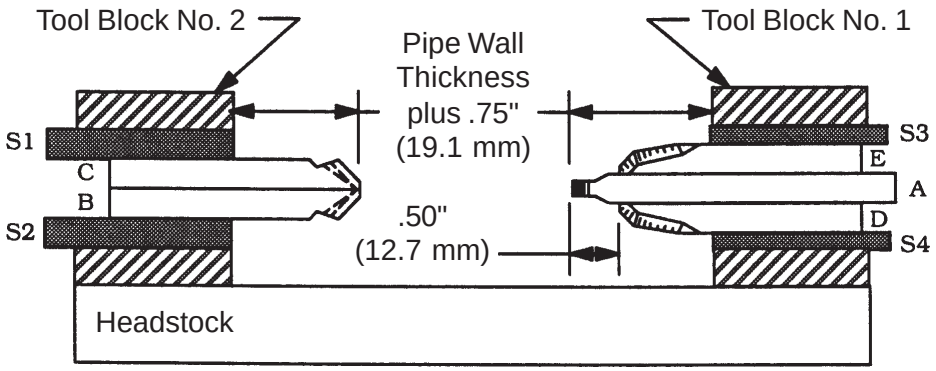
TOOL BIT ADJUSTMENT FOR PART OFF AND DOUBLE BEVEL

Install Tool Bits A, D and E into Tool Block No. 1 along with two (2) Spacers, S3 and S4.

NOTE: *Either Tool Block may be designated as No. 1.*

Position the Spacers flush with the inside face of the Tool Holder.

Tool Bit Installation



Position Tool Bits D and E approximately 1/2" (12.7 mm) outward from the cutting edge of Tool Bit A.

NOTE: *Tool Bits D and E will be repositioned to contact the beveled surface as the cutting progresses.*

Tighten the Set Screws holding Tool Bits A, D and E.

Install the Tool Bits B and C into Tool Block No. 2 along with the two (2) Spacers, S1 and S2.

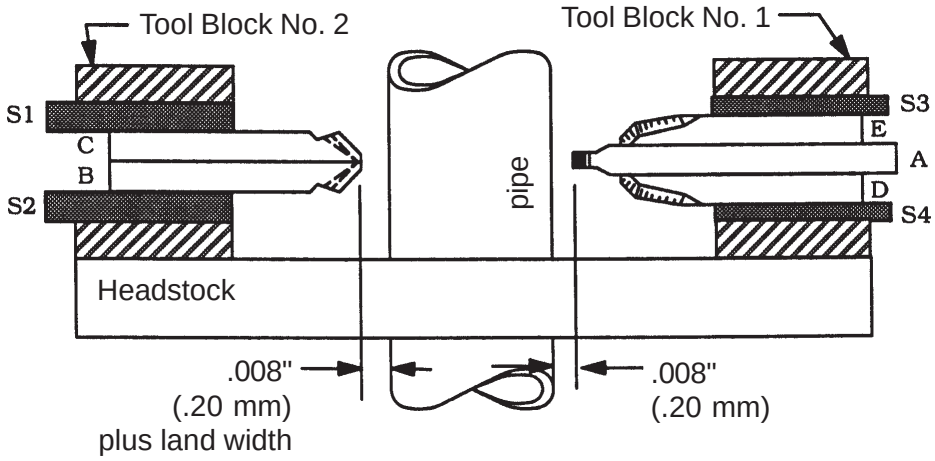
Position the Spacers flush with the inside face of the Tool Holder.

Tool Bits B and C should be the same distance inward from the Tool Holder.

Tighten the Set Screws holding Tool Bits B and C.

Set Tool Bit A to lead Tool Bit B and C by the desired land width as follows:

Tool Bit Set-Up for Land Width



CAUTION: *Make sure that the Tripper Shaft is in the 'out' position.*

Rotate the Headstock slowly.

While rotating the Headstock, visually determine the point on the surface where Tool Bit A comes closest to the pipe.

Rotate the Feed Sprocket until Tool Bit A makes contact with the pipe.

Back the Tool Holder away from the pipe about 1/2 of a revolution. (Approximately .008" [.20 mm])

Each full revolution of the Feed Sprocket moves the Tool Bit .015" (.38 mm) toward or from the pipe.

Continue to rotate the Headstock through 360° slowly, in order to verify that the position of Tool Bit A allows .008" (.20 mm) minimum clearance between Tool Bit A and the pipe surface at the closest point.

Readjust Tool Bit A if necessary.

Mark the pipe surface to define Tool Bit A's closest approach to the pipe.

Continue to rotate the Headstock slowly.

Position Tool Bits B and C directly over the mark that you made to define the closest approach of Tool Bit A to the pipe.

Rotate the Feed Sprocket until Tool Bits B and C make contact with the pipe surface.

Back the Tool Holder off 1/2 a revolution of the Feed Sprocket (approximately .008" [.20 mm]) plus the desired land width.

Each revolution of the Feed Sprocket moves the Tool Bit .015" (.38 mm) toward the pipe.

Engage the Tripper Shaft by pushing it to the 'in' position.

Rotate the Headstock 360° while checking the Feed Pin to Sprocket Engagement.

Initiate the pipe cutting operations.

Loosen the Set Screws holding Tool Bits A, D and E.

Slide Tool Bits D and E inward until they make contact with the beveled surface formed by Tool Bits B and C.

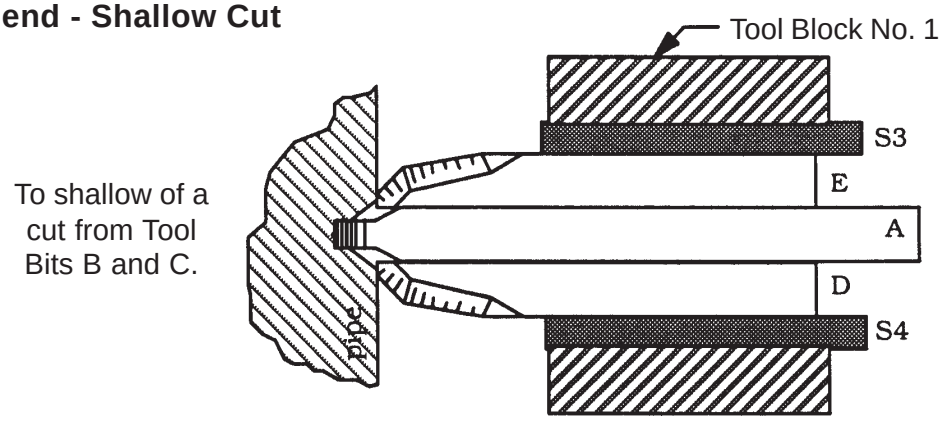
CAUTION: *Do not move Tool Bit A.*

RESETTING THE TOOL BITS FOR A BLEND

If the cut of Tool Bits B and C is too shallow for a blend with Tool Bits D and E, then retract Tool Bits D and E without changing the position of Tool Bit A.

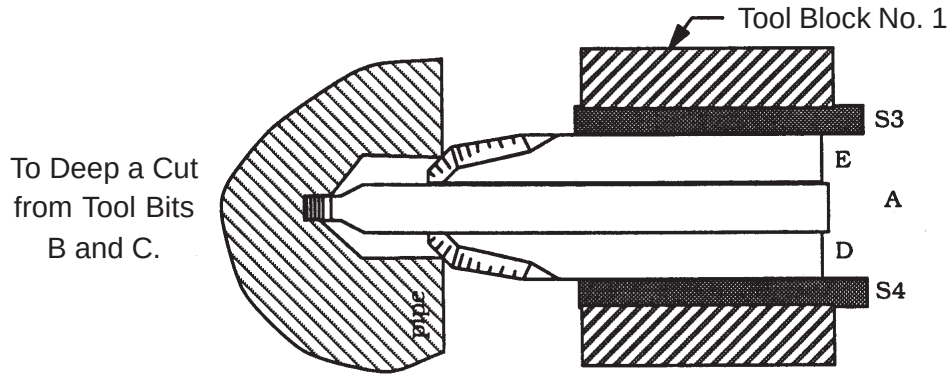
Tighten the Set Screws holding Tool Bits D and E.

No Blend - Shallow Cut



If to deep a cut has been made by Tool Bits B and C, then loosen the Set Screws holding Tool Bits A, D and E.

No Blend - Deep Cut



Push Tool Bit A back, flush with the ends of Tool Bits D and E, which are in contact with the cut edges made by Tool Bits B and C.

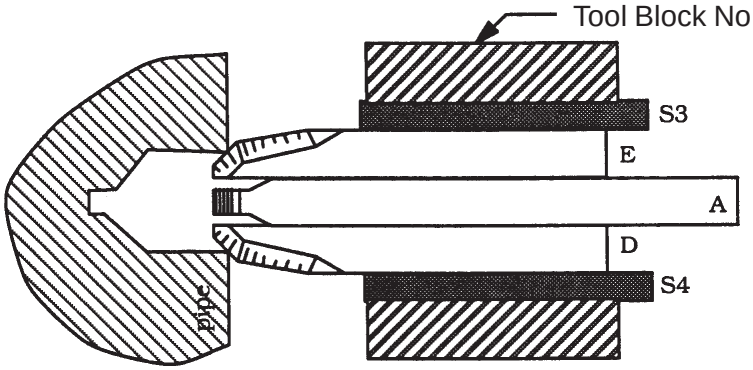
Tighten the Set Screws holding Tool Bits A, D and E.

Rotate the Feed Sprocket of Tool Block No. 2 clockwise so as to move the Tool Holder away from the pipe cut far enough so that Tool Bits B and C will not cut during this recovery sequence.

NOTE:	*During this recovery sequence, the only Tool Bits that are to be cutting are Tool Bits D and E so that they may catch up to the bevel made by Tool Bits B and C.*

All other Tool Bits must be pulled back from the cutting surface.

Correcting for the Sever Tool Bit



NOTE: *When a blend has been achieved, Tool Bit A must be returned to its original position so that the desired land may be cut.*

Loosen the Set Screws holding Tool Bits A, D and E.

Push Tool Bit A forward until it makes contact with the bottom of the slot.

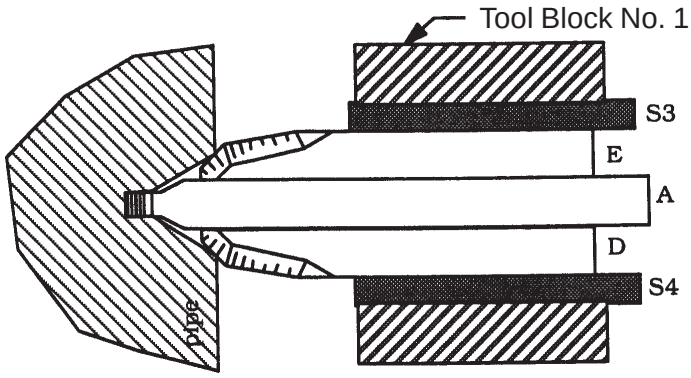
NOTE: *Do not move Tool Bits D and E.*

Rotate the Feed Sprocket for Tool Block No. 2 counterclockwise to bring Tool Bits B and C back into contact with the bevel that they have previously cut.

Visually check the Tripper Shaft to Sprocket Engagement for Tool Block No. 2.

Perfect Blend

Correct depth of cut from Tool Bits B and C with Tool Bits D and E.



Leave Tool Bits D and E in contact with the beveled surface made by Tool Bits B and C.

Resume the pipe cutting operation.

CUTTING SPEEDS

Pipe Size	True Diameter		RPM for 200 in/min (5080 mm/min)	RPM for 250 in/min (6350 mm/min)	RPM for 300 in/min (7620 mm/min)
36"	36.00"	914.4 mm	1.8	2.2	2.7
34"	34.00"	863.6 mm	1.9	2.3	2.8
32"	32.00"	812.8 mm	2.0	2.5	3.0
30"	30.00"	762.0 mm	2.1	2.7	3.2
28"	28.00"	711.2 mm	2.3	2.8	3.4
26"	26.00"	660.4 mm	2.4	3.1	3.7
24"	24.00"	609.6 mm	2.6	3.3	4.0
22"	22.00"	558.8 mm	2.9	3.6	4.3
20"	20.00"	508.0 mm	3.2	4.0	4.8
18"	18.00"	457.2 mm	3.5	4.4	5.3
16"	16.00"	406.4 mm	4.0	5.0	6.0
14"	14.00"	355.6 mm	4.5	5.7	6.8
12"	12.75"	323.9 mm	5.0	6.2	7.5
10"	10.75"	273.1 mm	5.9	7.4	8.9
8"	8.63"	219.2 mm	7.4	9.2	11.1
7"	7.63"	193.8 mm	8.3	10.4	12.5
	7.00"	177.8 mm	9.1	11.4	13.6
Cutting Speeds are Approximate					

Use 200 surface inches per minute (5080 surface millimeters per minute) for:

Stainless steels in general when no coolant is allowed, all heavy-wall tube and some chrome/molybdenum steels.

Use 250 surface inches per minute (6350 surface millimeters per minute) for:

Mild steels and some thin-wall stainless steels when coolants are permitted and applied.

Use 300 surface inches per minute (7620 surface millimeters per minute) for:

Aluminum and some thin-wall mild steel and tube with coolants.

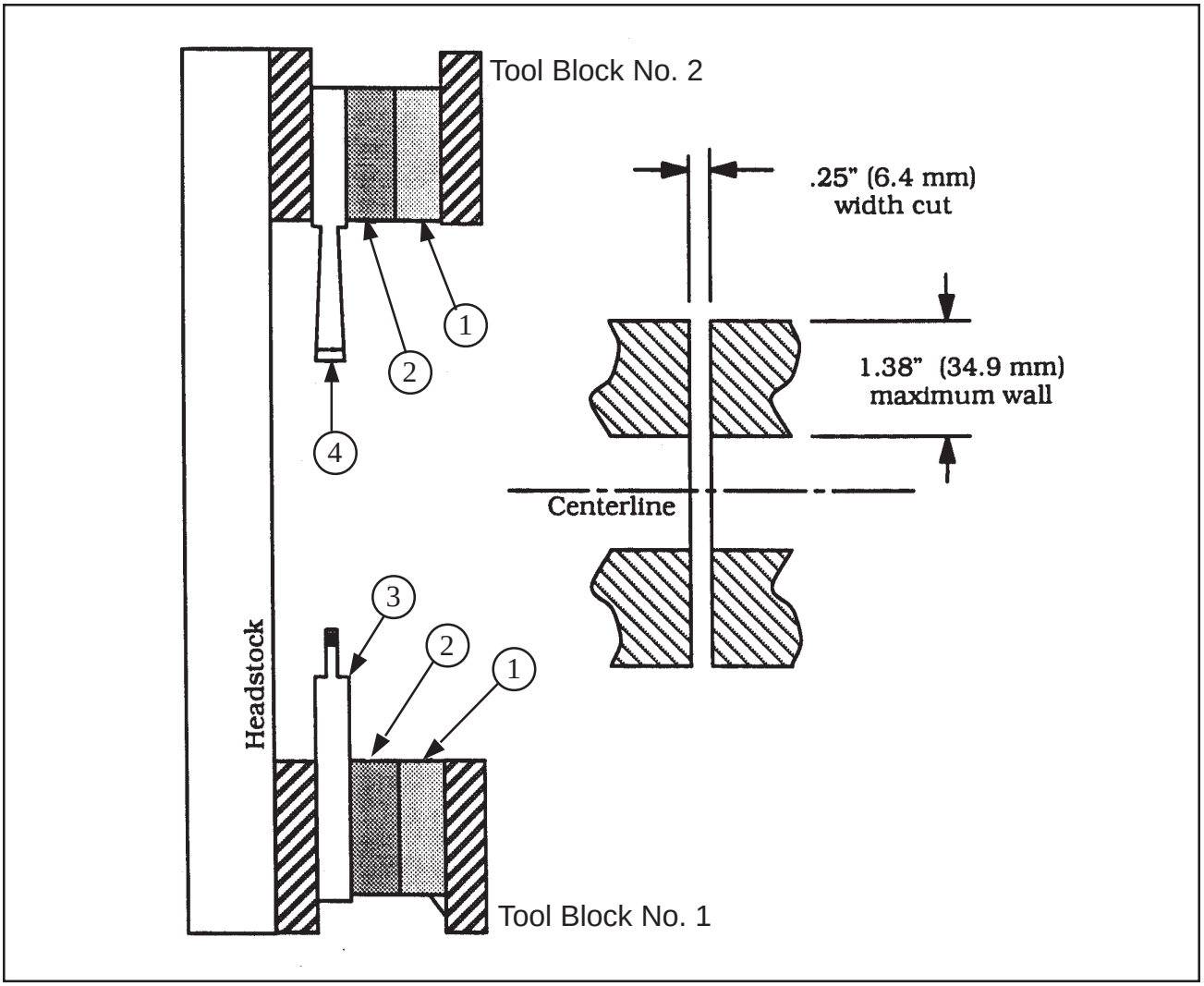
SPACER BAR ASSEMBLY KITS

Pipe DIA	True OD		Spacer Bar Assembly P/N
Model 614RBL			
	7.00"	177.8 mm	08-0353
7"	7.63"	193.8 mm	08-0352
8"	8.63"	219.2 mm	08-0351
10"	10.75"	273.1 mm	08-0350
12"	12.75"	323.9 mm	08-0349
Model 616RBL			
10"	10.75"	273.1 mm	08-0351
12"	12.75"	323.9 mm	08-0350
14"	14.00"	355.6 mm	08-0346
Model 620RBL			
14"	14.00"	355.6 mm	08-0348
16"	16.00"	406.4 mm	08-0347
18"	18.00"	457.2 mm	08-0346
Model 624RBL			
18"	18.00"	457.2 mm	08-0348
20"	20.00"	508.0 mm	08-0347
22"	22.00"	558.8 mm	08-0346
Model 630RBL			
24"	24.00"	609.6 mm	08-0348
26"	26.00"	660.4 mm	08-0347
28"	28.00"	711.2 mm	08-0346
Model 636RBL			
30"	30.00"	762.0 mm	08-0348
32"	32.00"	812.8 mm	08-0347
34"	34.00"	863.6 mm	08-0346

TOOL BITS

SEVER TOOL BIT SET

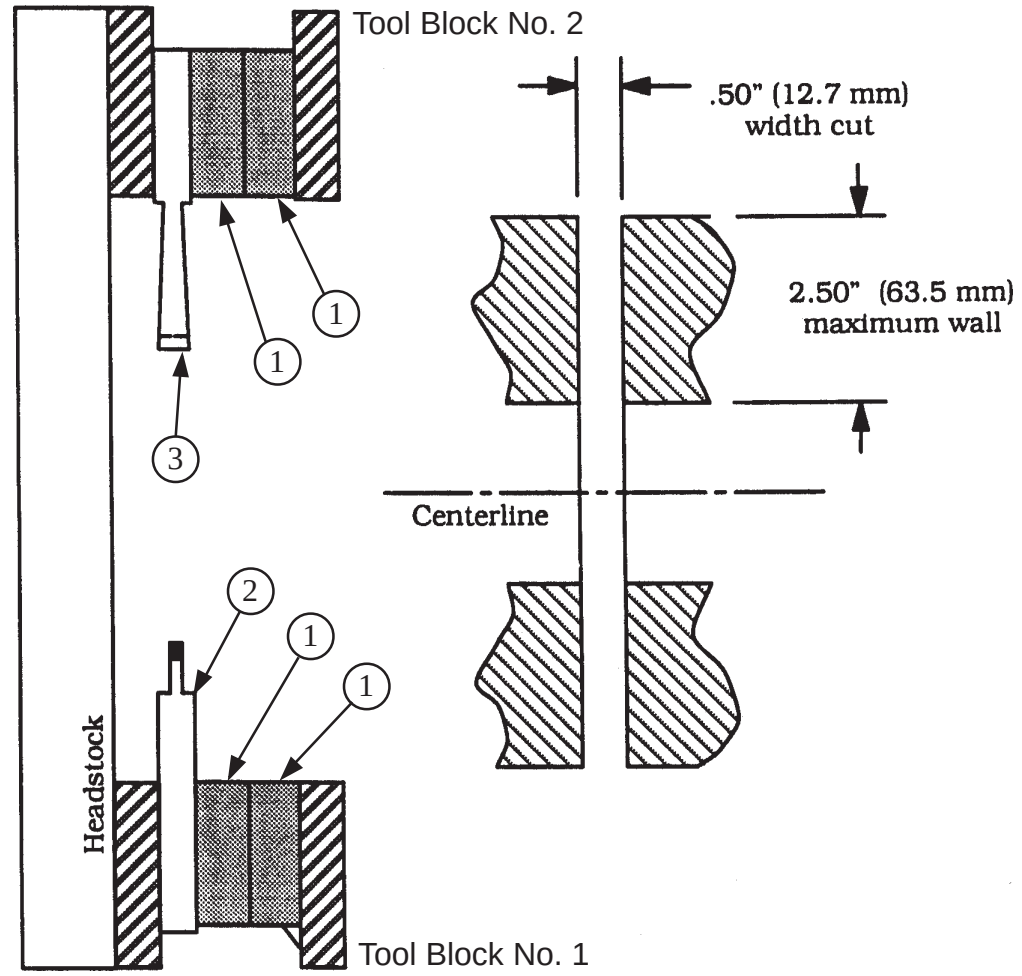
The Sever Tool Bit Set will sever up to 1 3/8” (34.9 mm) wall with a 1/4” (6.4 mm) wide cut.



Item No.	Part No.	Description	Qty
1.	30-0225	SPACER, TOOL, 3/4” X 1” X 3”	2
2.	30-0310	SPACER, TOOL, 3/4” X 3/4” X 3”	2
3.	99-1209	TOOL BIT, LEADING SEVER	1
4.	99-1210	TOOL BIT, TRAILING SEVER	1

SEVER TOOL BIT SET

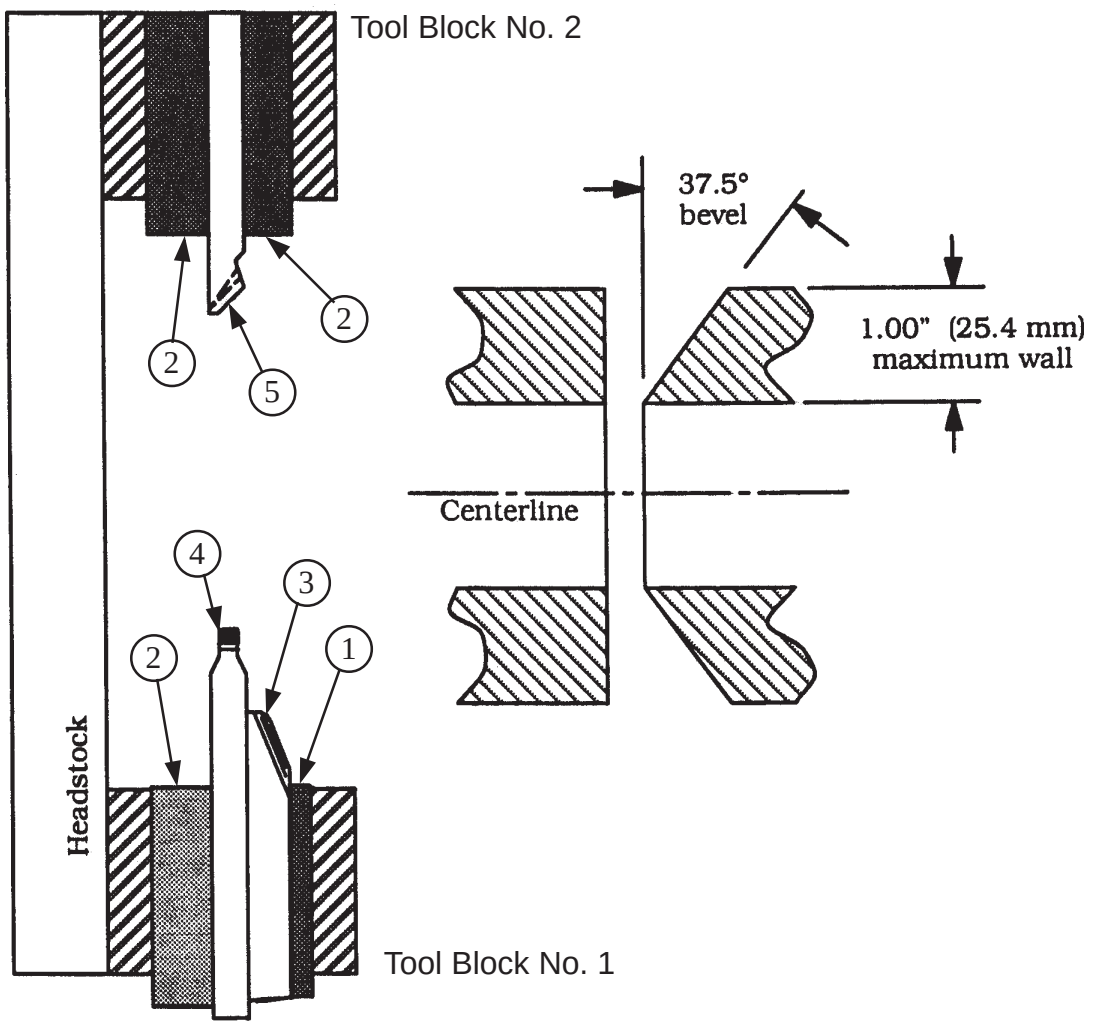
The Sever Tool Bit Set will sever up to 2 1/2” (63.5 mm) wall with a 1/2” (12.7 mm) wide cut.



Item No.	Part No.	Description	Qty
1.	30-0310	SPACER, TOOL, 3/4" X 3/4" X 3"	4
2.	99-0821	TOOL BIT, LEADING SEVER	1
3.	99-0822	TOOL BIT, TRAILING SEVER	1

LEFT HAND SEVER AND SINGLE BEVEL TOOL BIT SET

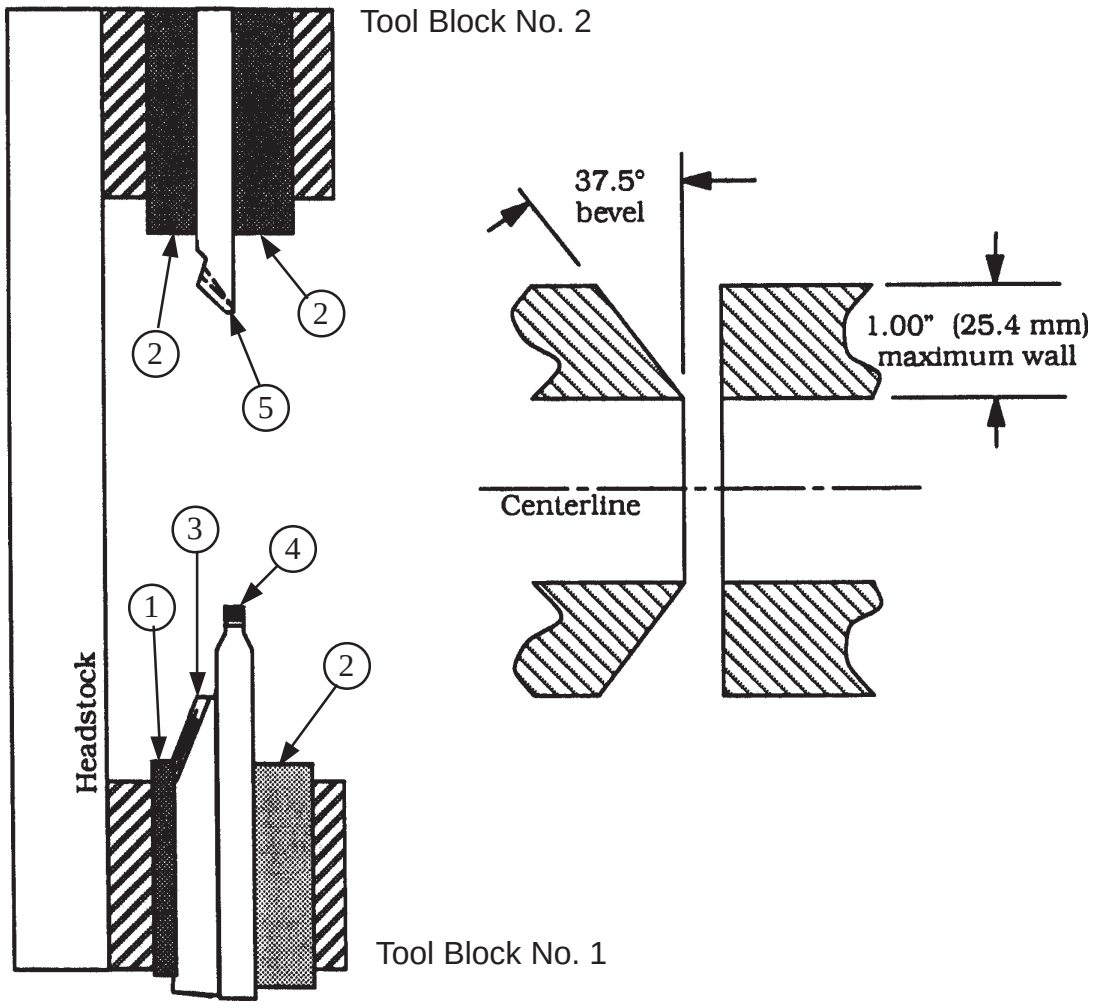
The Left Hand Sever and Single Bevel Tool Bit Set will sever and 37.5° bevel up to a 1.00” (25.4 mm) wall on the pipe being cut off.



Item No.	Part No.	Description	Qty
1.	30-0223	SPACER, TOOL, 1/8” X 3/4” X 3”	1
2.	30-0310	SPACER, TOOL, 3/4” X 3/4” X 3”	3
3.	99-4347	TOOL BIT, TRAILING BEVEL	1
4.	99-4078	TOOL BIT, SEVER	1
5.	99-4082	TOOL BIT, LEADING BEVEL	1

RIGHT HAND SEVER AND SINGLE BEVEL TOOL BIT SET

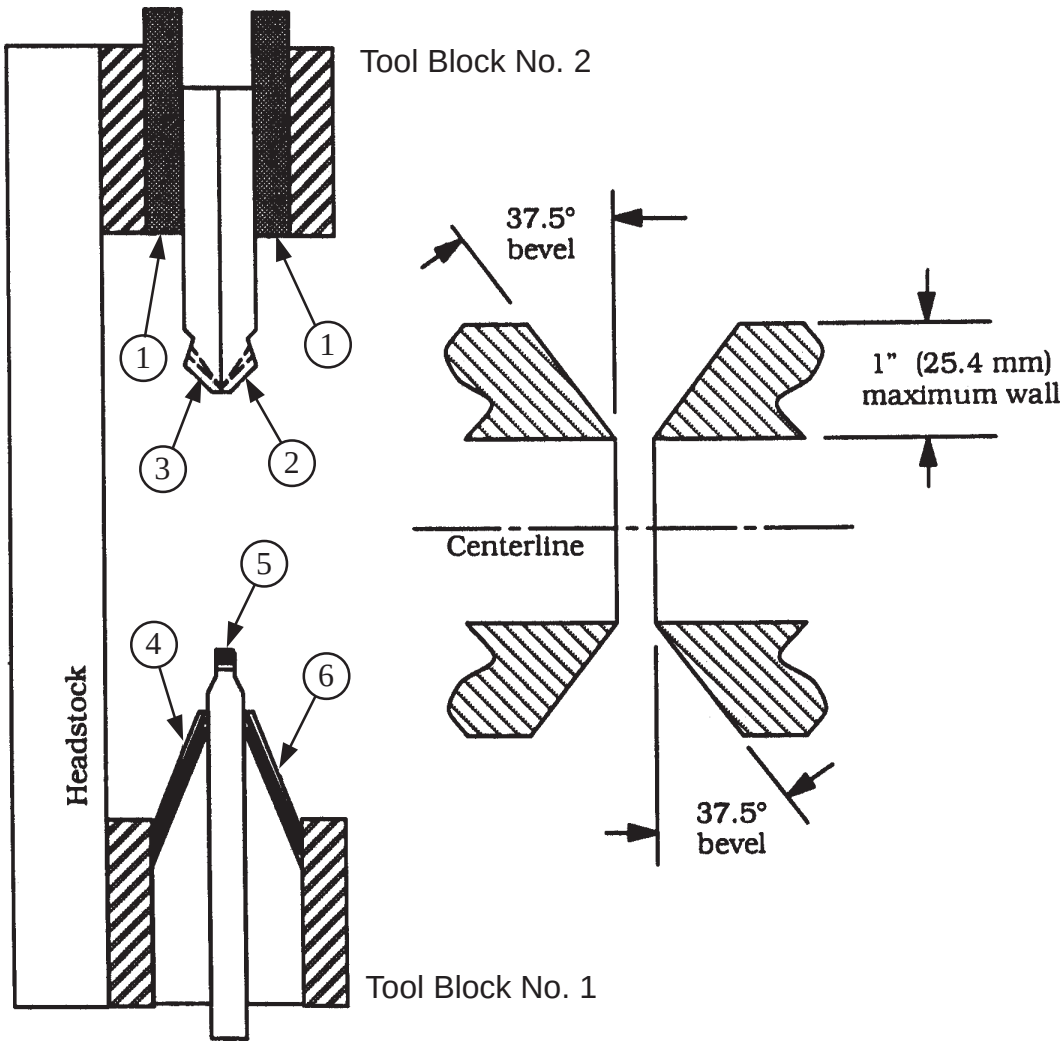
The Right Hand Sever and Single Bevel Tool Bit Set will sever and 37.5° bevel up to a 1.00” (25.4 mm) wall on the pipe the Clamshell is mounted on.



Item No.	Part No.	Description	Qty
1.	30-0223	SPACER, TOOL, 1/8” X 3/4” X 3”	1
2.	30-0310	SPACER, TOOL, 3/4” X 3/4” X 3”	3
3.	99-4346	TOOL BIT, TRAILING BEVEL	1
4.	99-4077	TOOL BIT, SEVER	1
5.	99-4081	TOOL BIT, LEADING BEVEL	1

SEVER AND DOUBLE BEVEL TOOL BIT SET

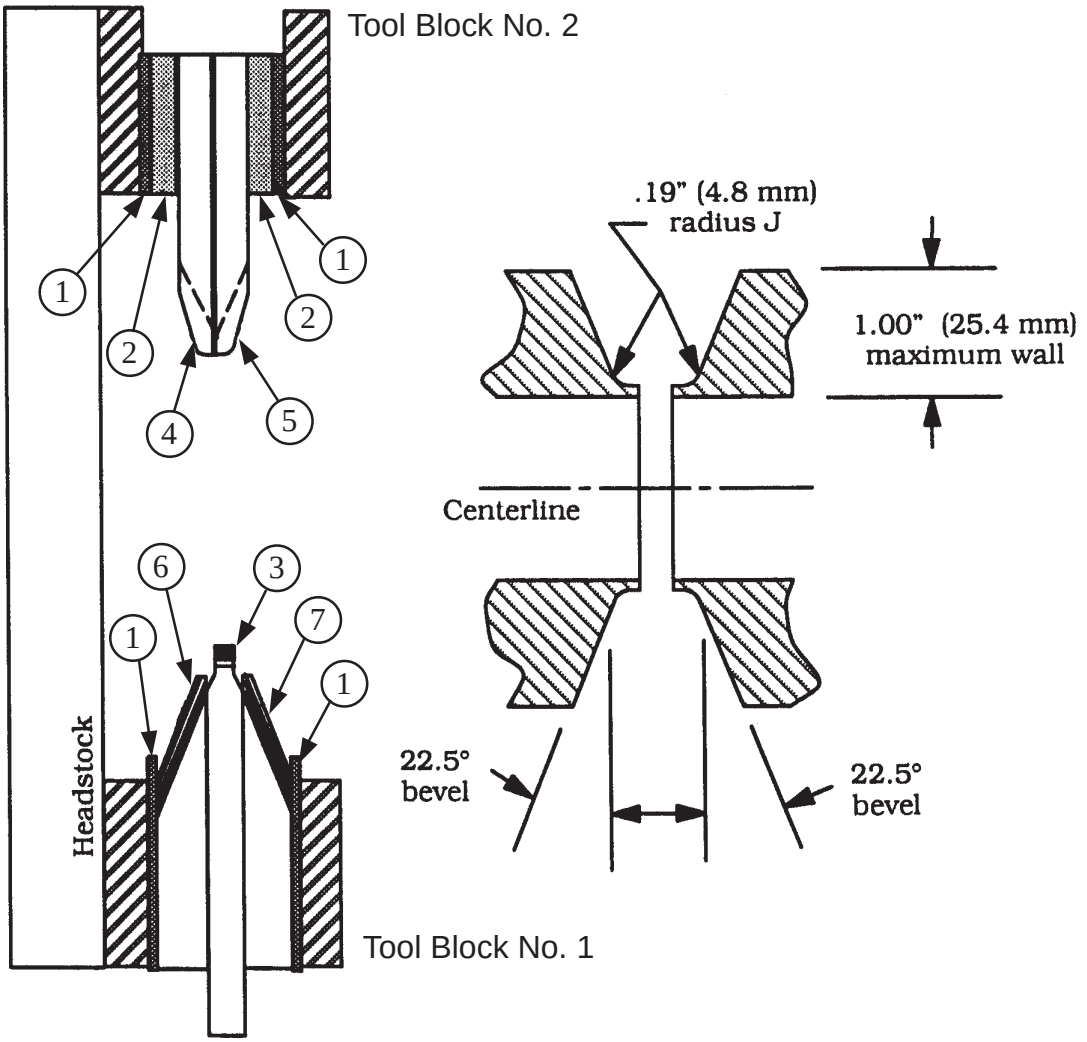
The Sever and Double Bevel Tool Bit Set will sever and 37.5° bevel on both sections of pipe up to 1.00” (25.4 mm) wall.



Item No.	Part No.	Description	Qty
1.	30-0206	SPACER, TOOL, 1/2” X 3/4” X 3”	2
2.	99-0561	TOOL BIT, LEADING BEVEL, LH	1
3.	99-0562	TOOL BIT, LEADING BEVEL, RH	1
4.	99-4346	TOOL BIT, TRAILING BEVEL, RH	1
5.	99-0564	TOOL BIT, SEVER	1
6.	99-4347	TOOL BIT, TRAILING BEVEL, LH	1

SEVER AND DOUBLE J-BEVEL TOOL BIT SET

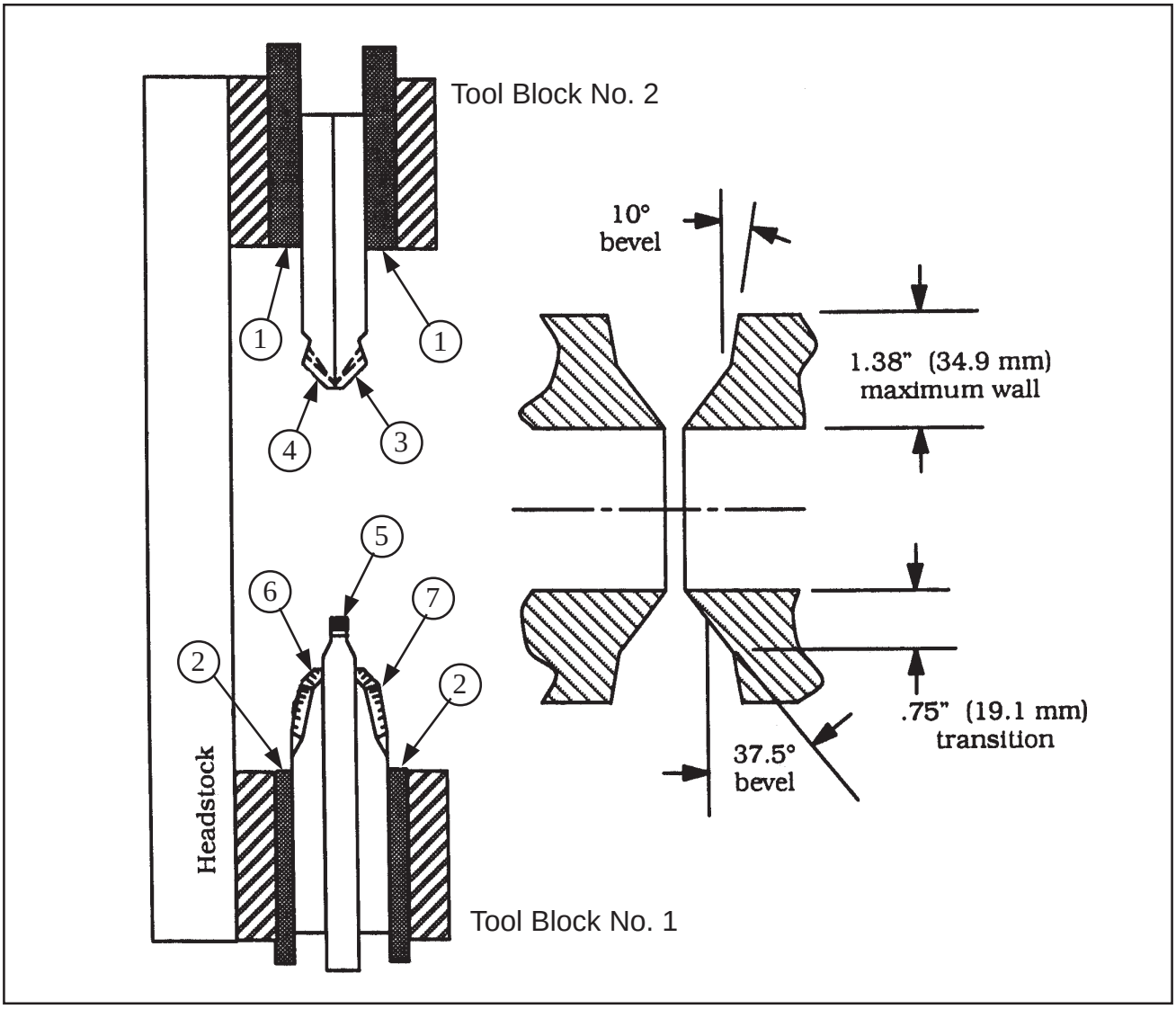
The Sever and Double J-Bevel Tool Bit Set will sever and 22 1/2° bevel with a 3/16” (4.76 mm) radius J up to 1.00” (25.4 mm) wall both sections of pipe.



Item No.	Part No.	Description	Qty
1.	30-0223	SPACER, TOOL, 1/8” X 3/4” X 3”	4
2.	30-0206	SPACER, TOOL, 1/2” X 3/4” X 3”	2
3.	99-1524	TOOL BIT, SEVER	1
4.	99-2630	TOOL BIT, LEADING BEVEL, RH	1
5.	99-2631	TOOL BIT, LEADING BEVEL, LH	1
6.	99-2632	TOOL BIT, TRAILING BEVEL, RH	1
7.	99-2633	TOOL BIT, TRAILING BEVEL, LH	1

SEVER AND DOUBLE COMPOUND BEVEL TOOL BIT SET

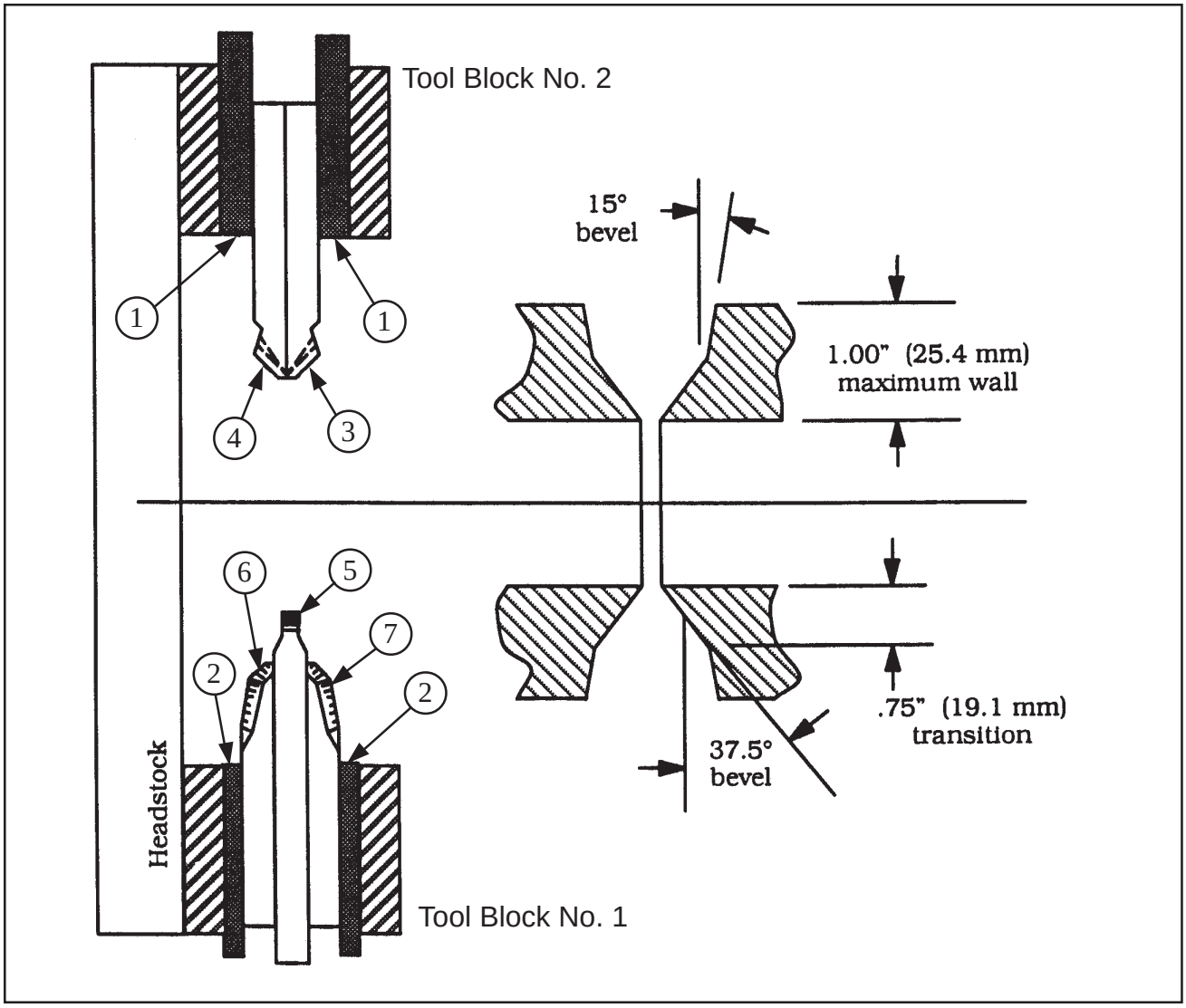
The Sever and Double Compound Bevel Tool Bit Set will sever and 37.5° /10° compound bevel with a 3/4” (19.1 mm) transition up to 1 3/8” (34.9 mm) wall.



Item No.	Part No.	Description	Qty
1.	30-0206	SPACER, TOOL, 1/2” X 3/4” X 3”	2
2.	30-0227	SPACER, TOOL, 1/4” X 3/4” X 3”	2
3.	99-0561	TOOL BIT, LEADING BEVEL, LH	1
4.	99-0562	TOOL BIT, LEADING BEVEL, RH	1
5.	99-0564	TOOL BIT, SEVER	1
6.	99-1661	TOOL BIT, TRAILING BEVEL, RH	1
7.	99-1662	TOOL BIT, TRAILING BEVEL, LH	1

SEVER AND DOUBLE COMPOUND BEVEL TOOL BIT SET

The Sever and Double Compound Bevel Tool Bit Set will sever and 37.5°/15° compound bevel with a 3/4” (19.1 mm) transition up to 1.00” (25.4 mm) wall.



Item No.	Part No.	Description	Qty
1.	30-0206	SPACER, TOOL, 1/2” X 3/4” X 3”	2
2.	30-0227	SPACER, TOOL, 1/4” X 3/4” X 3”	2
3.	99-0561	TOOL BIT, LEADING BEVEL, LH	1
4.	99-0562	TOOL BIT, LEADING BEVEL, RH	1
5.	99-0564	TOOL BIT, SEVER	1
6.	99-1442	TOOL BIT, TRAILING BEVEL, RH	1
7.	99-1443	TOOL BIT, TRAILING BEVEL, LH	1

TROUBLE SHOOTING

Problem: The Tool Bit Chatters

The tool bit is loose or overextended.
The tool bit is damaged.
The tool holder is too loose in the slides.
The cutting speed is too fast.
The clamping pads are loose on the pipe or tube.
Cutting fluid is required.
The main bearing pre-load is loose.

Problem: There is excessive Tool Bit wear

The pipe or tube material is too hard or abrasive.
The cutting speed is too fast.
Cutting fluid is required.
A dull Tool Bit is causing surface hardening conditions . (Stainless pipe or tubing)
There is scale or other foreign matter on the pipe or tube, which is dulling the tool bit at the start of the cut.
The tool bit is incorrect for the material being cut.

Problem: The Tool Bit is diving and the Clamshell is stalling

The tool bit is dull, chipped, etc.
The tool holder adjustment slide is too loose.
The parting tool bit is leading the beveling tool bit by too much for proper chip clearance.
The tool bit is over-extended.
The tool holder is over-extended.
The main bearing pre-load is too loose.

Problem: The surface finish is rough

The tool bit is dull, chipped, etc.
Metal build-up on the cutting edge of the tool bit is creating a false cutting edge.
Cutting fluid is required.

Problem: The Headstock is hard to rotate by hand

The hydraulic motors are engaged.
The clamping pads are too tight on the pipe or tube.
Foreign material is on the mating surface of the split lines.
Chips and/or other foreign material are in the rotating section.
The tool bit is in contact with the pipe or tube.
The tool block is in contact with the pipe or tube.
The main bearing pre-load is too tight.

Problem: The tool holder is not feeding

The feed pin is broken or out of position.
The feed sprocket shear pin is broken.
The feed screw is stripped.
The feed nut is stripped.
The slide rails are too tight.

Problem: There is a loss of air power

The air supply pressure is too low.
The air filter is plugged.
The air line size is insufficient.
The air line is too long.

Problem: There is a loss of hydraulic power

The hydraulic supply pressure is too low.
The hydraulic filter is plugged.
The hydraulic line size is insufficient.
The hydraulic line is too long.

Problem: The tool bit will not reach the work

Incorrect tool blocks are installed for the size of the pipe or tube being worked on.
Incorrect tool bit is installed.

Problem: The Clamshell is slipping on the pipe or tube

The clamping pads are not in full contact with the pipe or tube.
The clamping pressure is too light.
Scale and/or other foreign material is present on the pipe or tube.
Weld seams, swelling, or bumps under the Clamping Pads are preventing full contact.
Dull tool bits are causing extra force in the axial and/or radial direction.
The pipe or tube wall is too thin which allows the tube wall to flex and the machine to move.

Problem: The hydraulic motor will not start

The hydraulic power supply is shut off.
The hydraulic motor is damaged and will not run free.

Problem: The air motor will not start

The air supply is shut off.
The air motor will not run free.
The air motor needs lubrication.
Add lubrication and do not run the air motor for a few minutes.
Then try again.
Tap on the air motor casing lightly with a piece of wood or with a soft rubber mallet.
The vanes may be sticking.
Sand or other foreign material is in the vanes of the air motor.

ACCESSORIES

The following accessories are recommended for use with the Model 600RBL Clamshells and are available from TRI TOOL INC.

1. Model 765RVC Hydraulic Power Supply (for single or dual hydraulic drive systems) Available in 480 volt, 380 volt and 240 volt configurations.

2. Model 757RSS Hydraulic Power Supply (for single hydraulic drive systems) Available in 480 volt, 380 volt and 240 volt configurations.

3. Portable Air Filter Caddy (P/N 75-0078) (for single or dual air drive systems) A FRL is required to protect the warranty on all TRI TOOL INC. air driven tools.

4. Portable Air Filter Caddy (P/N 75-0115) (for single air drive systems) A FRL is required to protect the warranty on all TRI TOOL INC. air driven tools.

5. 600RBL Single Point Module Kit

6. 600RBL OD Tracking Module Kit

7. Heavy duty electric drive motor kit (115 VAC or 230 VAC)

8. CBM-3 Counterbore Module Kit (P/N 05-0220)

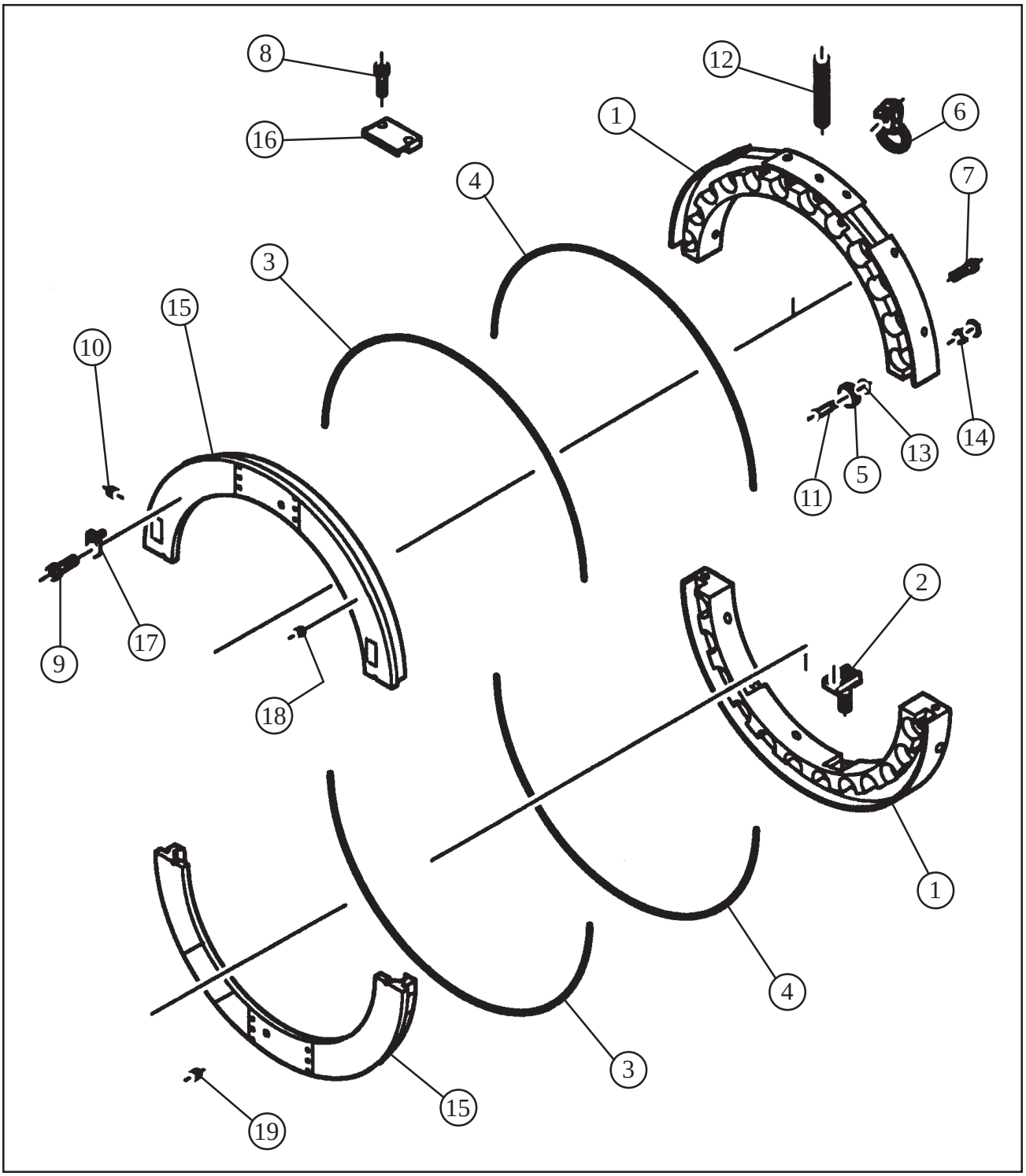
9. Heavy Duty Sever Accessory Kit (P/N 05-0203) Converts tool modules (P/N 08-0342) into heavy duty sever modules.

10. “ISCAR” Sever Accessory Kit (P/N 05-0205) Converts tool modules (P/N 08-0342) into “ISCAR” sever modules.

11. 1/2” x 3/4” Sever Tool Bit Accessory Kit (P/N 05-0211) Converts tool modules (P/N 08-0342) into low profile tool modules which use 1/2” x 3/4” tool bits.

ILLUSTRATED PARTS BREAKDOWN

MODEL 600RBL CLAMSHELL SUB-ASSEMBLY



Parts List, Model 614RBL Clamshell Sub-Assembly (P/N 02-2270)

Item No.	Part No.	Description	Qty
1.	19-0605	HOUSING, MAIN	1
	32-0438	PIN, SPLITLINE, 1/2" DIA	4
	33-0021	SCREW, CAP, #8-32 X 5/8"	4
	33-0115	SCREW, CAP, 1/2-13 X 3 1/2"	2
2.	26-1351	BAR ASSY, ADJUSTABLE	4
3.	28-0057	SEAL, FELT	49” (125 CM)
4.	28-0057	SEAL, FELT	66” (168 CM)
5.	29-0290	BEARING, 90˚ VEE	16
6.	30-0415	RING, HOIST	2
7.	33-0018	SCREW, CAP, #8-32 X 1/4"	2
8.	33-0089	SCREW, CAP, 7/16-14 X 1"	2
9.	33-0251	SCREW, CAP, 1/2-20 X 1"	2
10.	33-0483	SCREW, SET, #8-32 X 5/8", CUP PT	2
11.	33-1770	SCREW, SHLDR, 12 MM X 40 MM	16
12.	33-1792	JACKSCREW	2
13.	34-0271	WASHER, THRUST	16
14.	35-0374	NUT, ECCENTRIC, ADJUSTMENT	16
15.	39-0647	GEAR, HEADSTOCK	1
	32-0236	PIN, SPLITLINE	4
	33-0019	SCREW, CAP, #8-32 X 3/8"	4
	33-0090	SCREW, CAP, 7/16-14 X 1 1/4"	2
16.	43-0400	COVER, DRIVE HOUSING SLOT	1
17.	48-0768	LOCK-BLOCK ASSY	2
18.	54-0375	FITTING, GREASE	1
19.	54-0304	PLUG, THREADED	4
NOT SHOWN:			
	05-1305	SHIPPING KIT, 600RBL SERIES	1
	36-0003	WRENCH, L, 3/32” HEX	1
	36-0010	WRENCH, L, 1/4” HEX	1
	36-0011	WRENCH, L, 5/16” HEX	1
	36-0012	WRENCH, L, 3/8” HEX	1

Parts List, Model 614RBL Clamshell Sub-Assembly (P/N 02-2270) Continued

Item No.	Part No.	Description	Qty
NOT SHOWN:			
	36-0021	WRENCH, T, 3/16” HEX	1
	36-0183	WRENCH, 3/8” HEX, BALL PT	1
	36-0184	WRENCH, T, 5/8” HEX, SOCKET	1
	36-0185	WRENCH, L, 6 MM HEX	1
	36-0223	WRENCH, 3/8” SPEEDER	1

Parts List, Model 616RBL Clamshell Sub-Assembly (P/N 02-2271)

Item No.	Part No.	Description	Qty
1.	19-0606	HOUSING, MAIN	1
	32-0438	PIN, SPLITLINE, 1/2" DIA	4
	33-0021	SCREW, CAP, #8-32 X 5/8"	4
	33-1855	SCREW, CAP, 1/2-13 X 3 3/4"	2
2.	26-1351	BAR ASSY, ADJUSTABLE	4
3.	28-0057	SEAL, FELT	55” (140 CM)
4.	28-0057	SEAL, FELT	73” (186 CM)
5.	29-0290	BEARING, 90° VEE	16
6.	30-0415	RING, HOIST	2
7.	33-0018	SCREW, CAP, #8-32 X 1/4"	2
8.	33-0089	SCREW, CAP, 7/16-14 X 1"	2
9.	33-0251	SCREW, CAP, 1/2-20 X 1"	2
10.	33-0483	SCREW, SET, #8-32 X 5/8", CUP PT	2
11.	33-1770	SCREW, SHLDR, 12 MM X 40 MM	16
12.	33-1792	JACKSCREW	2
13.	34-0271	WASHER, THRUST	16
14.	35-0374	NUT, ECCENTRIC, ADJUSTMENT	16
15.	39-0648	GEAR, HEADSTOCK	1
	32-0236	PIN, SPLITLINE	4
	33-0019	SCREW, CAP, #8-32 X 3/8"	4
	33-0090	SCREW, CAP, 7/16-14 X 1 1/4"	2
16.	43-0400	COVER, DRIVE HOUSING SLOT	1
17.	48-0768	LOCK-BLOCK ASSY	2
18.	54-0375	FITTING, GREASE	1
19.	54-0304	PLUG, THREADED	4
NOT SHOWN:			
	05-1305	SHIPPING KIT, 600RBL SERIES	1
	36-0003	WRENCH, L, 3/32” HEX	1
	36-0010	WRENCH, L, 1/4” HEX	1
	36-0011	WRENCH, L, 5/16” HEX	1
	36-0012	WRENCH, L, 3/8” HEX	1

Parts List, Model 616RBL Clamshell Sub-Assembly (P/N 02-2271) Continued

Item No.	Part No.	Description	Qty
NOT SHOWN:			
	36-0021	WRENCH, T, 3/16” HEX	1
	36-0183	WRENCH, 3/8” HEX, BALL PT	1
	36-0184	WRENCH, T, 5/8” HEX, SOCKET	1
	36-0185	WRENCH, L, 6 MM HEX	1
	36-0223	WRENCH, 3/8” SPEEDER	1

Parts List, Model 620RBL Clamshell Sub-Assembly (P/N 02-2272)

Item No.	Part No.	Description	Qty
1.	19-0607	HOUSING, MAIN	1
	32-0438	PIN, SPLITLINE, 1/2" DIA	4
	33-0021	SCREW, CAP, #8-32 X 5/8"	4
	33-0116	SCREW, CAP, 1/2-13 X 4"	2
2.	26-1351	BAR ASSY, ADJUSTABLE	4
3.	28-0057	SEAL, FELT	68” (173 CM)
4.	28-0057	SEAL, FELT	85” (216 CM)
5.	29-0290	BEARING, 90° VEE	24
6.	30-0415	RING, HOIST	2
7.	33-0018	SCREW, CAP, #8-32 X 1/4"	4
8.	33-0089	SCREW, CAP, 7/16-14 X 1"	2
9.	33-0251	SCREW, CAP, 1/2-20 X 1"	2
10.	33-0483	SCREW, SET, #8-32 X 5/8", CUP PT	2
11.	33-1770	SCREW, SHLDR, 12 MM X 40 MM	24
12.	33-1792	JACKSCREW	6
13.	34-0271	WASHER, THRUST	24
14.	35-0374	NUT, ECCENTRIC, ADJUSTMENT	24
15.	39-0649	GEAR, HEADSTOCK	1
	32-0236	PIN, SPLITLINE	4
	33-0019	SCREW, CAP, #8-32 X 3/8"	4
	33-0092	SCREW, CAP, 7/16-14 X 1 3/4"	2
16.	43-0400	COVER, DRIVE HOUSING SLOT	1
17.	48-0768	LOCK-BLOCK ASSY	2
18.	54-0375	FITTING, GREASE	1
19.	54-0304	PLUG, THREADED	4
NOT SHOWN:			
	05-1305	SHIPPING KIT, 600RBL SERIES	1
	36-0003	WRENCH, L, 3/32” HEX	1
	36-0010	WRENCH, L, 1/4” HEX	1
	36-0011	WRENCH, L, 5/16” HEX	1
	36-0012	WRENCH, L, 3/8” HEX	1

Parts List, Model 620RBL Clamshell Sub-Assembly (P/N 02-2272) Continued

Item No.	Part No.	Description	Qty
NOT SHOWN:			
	36-0021	WRENCH, T, 3/16” HEX	1
	36-0183	WRENCH, 3/8” HEX, BALL PT	1
	36-0184	WRENCH, T, 5/8” HEX, SOCKET	1
	36-0185	WRENCH, L, 6 MM HEX	1
	36-0223	WRENCH, 3/8” SPEEDER	1

Parts List, Model 624RBL Clamshell Sub-Assembly (P/N 02-2273)

Item No.	Part No.	Description	Qty
1.	19-0608	HOUSING, MAIN	1
	32-0438	PIN, SPLITLINE, 1/2" DIA	4
	33-0021	SCREW, CAP, #8-32 X 5/8"	4
	33-0117	SCREW, CAP, 1/2-13 X 4 1/2"	2
2.	26-1351	BAR ASSY, ADJUSTABLE	4
3.	28-0057	SEAL, FELT	80” (204 CM)
4.	28-0057	SEAL, FELT	98” (249 CM)
5.	29-0290	BEARING, 90° VEE	24
6.	30-0415	RING, HOIST	2
7.	33-0018	SCREW, CAP, #8-32 X 1/4"	2
8.	33-0089	SCREW, CAP, 7/16-14 X 1"	2
9.	33-0251	SCREW, CAP, 1/2-20 X 1"	2
10.	33-0483	SCREW, SET, #8-32 X 5/8", CUP PT	2
11.	33-1770	SCREW, SHLDR, 12 MM X 40 MM	24
12.	33-1792	JACKSCREW	6
13.	34-0271	WASHER, THRUST	24
14.	35-0374	NUT, ECCENTRIC, ADJUSTMENT	24
15.	39-0650	GEAR, HEADSTOCK	1
	32-0236	PIN, SPLITLINE	4
	33-0019	SCREW, CAP, #8-32 X 3/8"	4
	33-0092	SCREW, CAP, 7/16-14 X 1 3/4"	2
16.	43-0400	COVER, DRIVE HOUSING SLOT	1
17.	48-0768	LOCK-BLOCK ASSY	2
18.	54-0375	FITTING, GREASE	1
19.	54-0304	PLUG, THREADED	4
NOT SHOWN:			
	05-1305	SHIPPING KIT, 600RBL SERIES	1
	36-0003	WRENCH, L, 3/32” HEX	1
	36-0010	WRENCH, L, 1/4” HEX	1
	36-0011	WRENCH, L, 5/16” HEX	1
	36-0012	WRENCH, L, 3/8” HEX	1

Parts List, Model 624RBL Clamshell Sub-Assembly (P/N 02-2273) Continued

Item No.	Part No.	Description	Qty
NOT SHOWN:			
	36-0021	WRENCH, T, 3/16” HEX	1
	36-0183	WRENCH, 3/8” HEX, BALL PT	1
	36-0184	WRENCH, T, 5/8” HEX, SOCKET	1
	36-0185	WRENCH, L, 6 MM HEX	1
	36-0223	WRENCH, 3/8” SPEEDER	1

Parts List, Model 630RBL Clamshell Sub-Assembly (P/N 02-2274)

Item No.	Part No.	Description	Qty
1.	19-0609	HOUSING, MAIN	1
	32-0438	PIN, SPLITLINE, 1/2" DIA	4
	33-0021	SCREW, CAP, #8-32 X 5/8"	4
	33-0118	SCREW, CAP, 1/2-13 X 5"	2
2.	26-1351	BAR ASSY, ADJUSTABLE	4
3.	28-0057	SEAL, FELT	99” (252 CM)
4.	28-0057	SEAL, FELT	117” (298 CM)
5.	29-0290	BEARING, 90° VEE	32
6.	30-0415	RING, HOIST	2
7.	33-0018	SCREW, CAP, #8-32 X 1/4"	4
8.	33-0089	SCREW, CAP, 7/16-14 X 1"	2
9.	33-0251	SCREW, CAP, 1/2-20 X 1"	2
10.	33-0483	SCREW, SET, #8-32 X 5/8", CUP PT	2
11.	33-1770	SCREW, SHLDR, 12 MM X 40 MM	32
12.	33-1792	JACKSCREW	10
13.	34-0271	WASHER, THRUST	32
14.	35-0374	NUT, ECCENTRIC, ADJUSTMENT	32
15.	39-0651	GEAR, HEADSTOCK	1
	32-0236	PIN, SPLITLINE	4
	33-0019	SCREW, CAP, #8-32 X 3/8"	4
	33-0093	SCREW, CAP, 7/16-14 X 2"	2
16.	43-0400	COVER, DRIVE HOUSING SLOT	1
17.	48-0768	LOCK-BLOCK ASSY	2
18.	54-0375	FITTING, GREASE	1
19.	54-0304	PLUG, THREADED	4
NOT SHOWN:			
	05-1305	SHIPPING KIT, 600RBL SERIES	1
	36-0003	WRENCH, L, 3/32” HEX	1
	36-0010	WRENCH, L, 1/4” HEX	1
	36-0011	WRENCH, L, 5/16” HEX	1
	36-0012	WRENCH, L, 3/8” HEX	1

Parts List, Model 630RBL Clamshell Sub-Assembly (P/N 02-2274) Continued

Item No.	Part No.	Description	Qty
NOT SHOWN:			
	36-0021	WRENCH, T, 3/16” HEX	1
	36-0183	WRENCH, 3/8” HEX, BALL PT	1
	36-0184	WRENCH, T, 5/8” HEX, SOCKET	1
	36-0185	WRENCH, L, 6 MM HEX	1
	36-0223	WRENCH, 3/8” SPEEDER	1

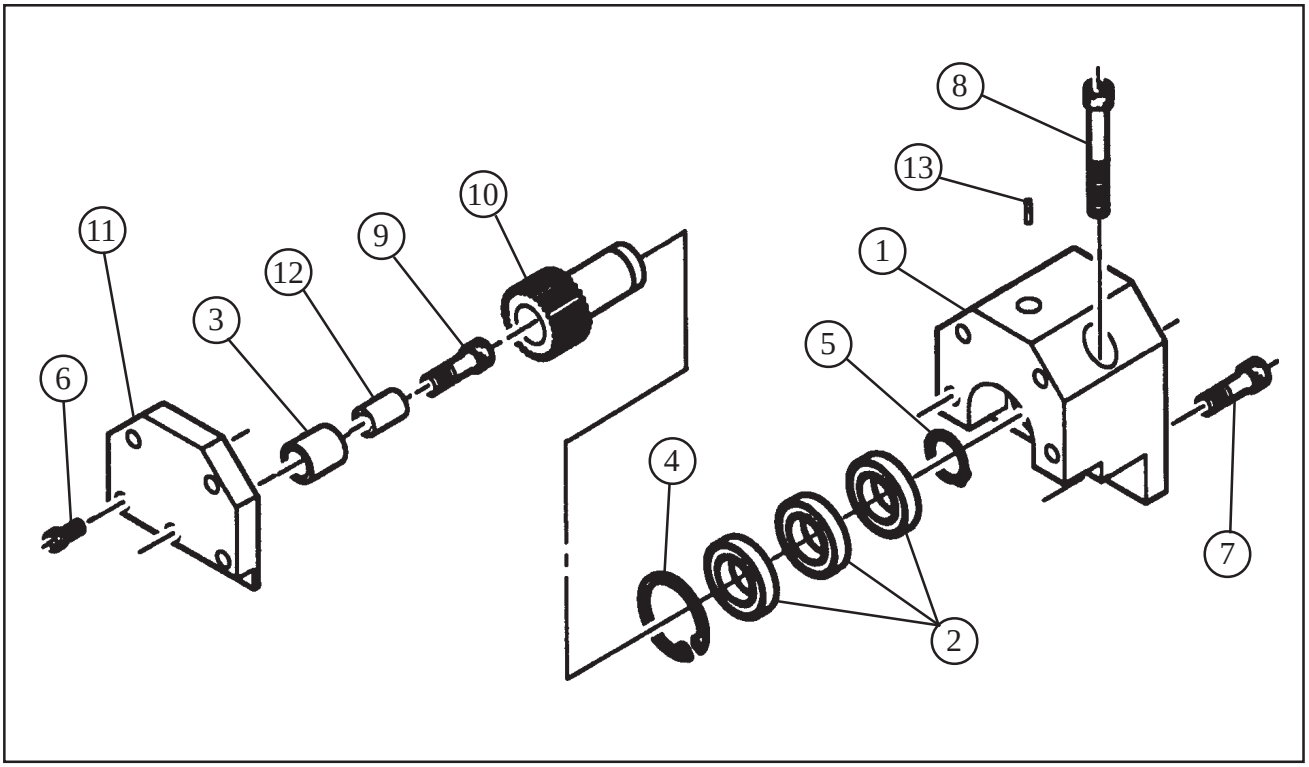
Parts List, Model 636RBL Clamshell Sub-Assembly (P/N 02-2275)

Item No.	Part No.	Description	Qty
1.	19-0610	HOUSING, MAIN	1
	32-0438	PIN, SPLITLINE, 1/2" DIA	4
	33-0021	SCREW, CAP, #8-32 X 5/8"	4
	33-0119	SCREW, CAP, 1/2-13 X 5 1/2"	2
2.	26-1351	BAR ASSY, ADJUSTABLE	4
3.	28-0057	SEAL, FELT	118” (300 CM)
4.	28-0057	SEAL, FELT	135” (343 CM)
5.	29-0290	BEARING, 90° VEE	40
6.	30-0415	RING, HOIST	2
7.	33-0018	SCREW, CAP, #8-32 X 1/4"	4
8.	33-0089	SCREW, CAP, 7/16-14 X 1"	2
9.	33-0251	SCREW, CAP, 1/2-20 X 1"	2
10.	33-0483	SCREW, SET, #8-32 X 5/8", CUP PT	2
11.	33-1770	SCREW, SHLDR, 12 MM X 40 MM	40
12.	33-1792	JACKSCREW	10
13.	34-0271	WASHER, THRUST	40
14.	35-0374	NUT, ECCENTRIC, ADJUSTMENT	40
15.	39-0652	GEAR, HEADSTOCK	1
	32-0236	PIN, SPLITLINE	4
	33-0019	SCREW, CAP, #8-32 X 3/8"	4
	33-0093	SCREW, CAP, 7/16-14 X 2"	2
16.	43-0400	COVER, DRIVE HOUSING SLOT	1
17.	48-0768	LOCK-BLOCK ASSY	2
18.	54-0375	FITTING, GREASE	1
19.	54-0304	PLUG, THREADED	4
NOT SHOWN:			
	05-1305	SHIPPING KIT, 600RBL SERIES	1
	36-0003	WRENCH, L, 3/32” HEX	1
	36-0010	WRENCH, L, 1/4” HEX	1
	36-0011	WRENCH, L, 5/16” HEX	1
	36-0012	WRENCH, L, 3/8” HEX	1

Parts List, Model 636RBL Clamshell Sub-Assembly (P/N 02-2275) Continued

Item No.	Part No.	Description	Qty
NOT SHOWN:			
	36-0021	WRENCH, T, 3/16” HEX	1
	36-0183	WRENCH, 3/8” HEX, BALL PT	1
	36-0184	WRENCH, T, 5/8” HEX, SOCKET	1
	36-0185	WRENCH, L, 6 MM HEX	1
	36-0223	WRENCH, 3/8” SPEEDER	1

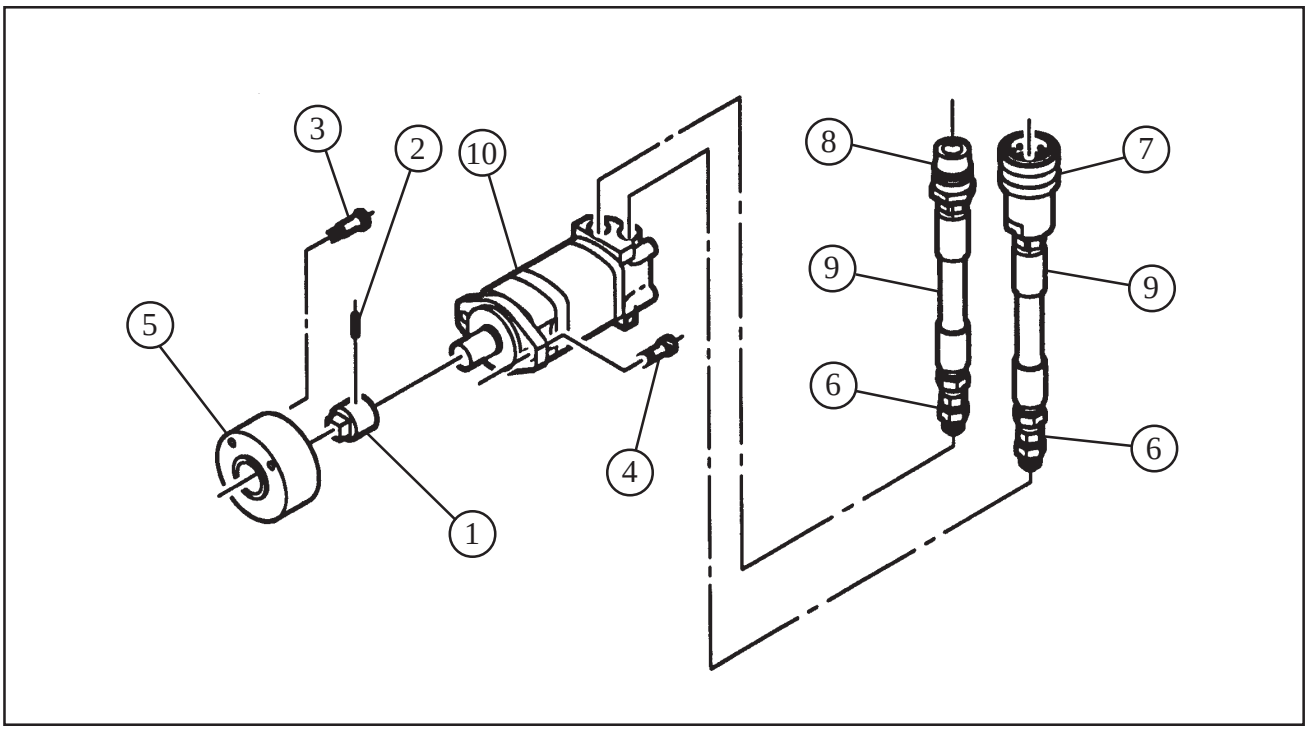
HOUSING ASSEMBLY, DRIVE (P/N 19-0666)



Parts List, Drive Housing Assembly (P/N 19-0666)

Item No.	Part No.	Description	Qty
1.	19-0665	HOUSING, DRIVE	1
2.	29-0065	BEARING, BALL	3
3.	29-0291	BEARING, ROLLER	1
4.	30-0294	RING, RETAINING, INTERNAL	1
5.	30-2101	RING, RETAINING, EXTERNAL	1
6.	33-0070	SCREW, CAP, 3/8-16 X 7/8"	4
7.	33-0089	SCREW, CAP, 7/16-14 X 1"	2
8.	33-0097	SCREW, CAP, 7/16-14 X 3"	2
9.	33-0237	SCREW, SET, 3/8-24 X 1 1/2"	1
10.	39-0657	GEAR, PINION	1
11.	43-0427	COVER	1
12.	45-0205	BUSHING	1
13.	54-0375	FITTING, GREASE	1

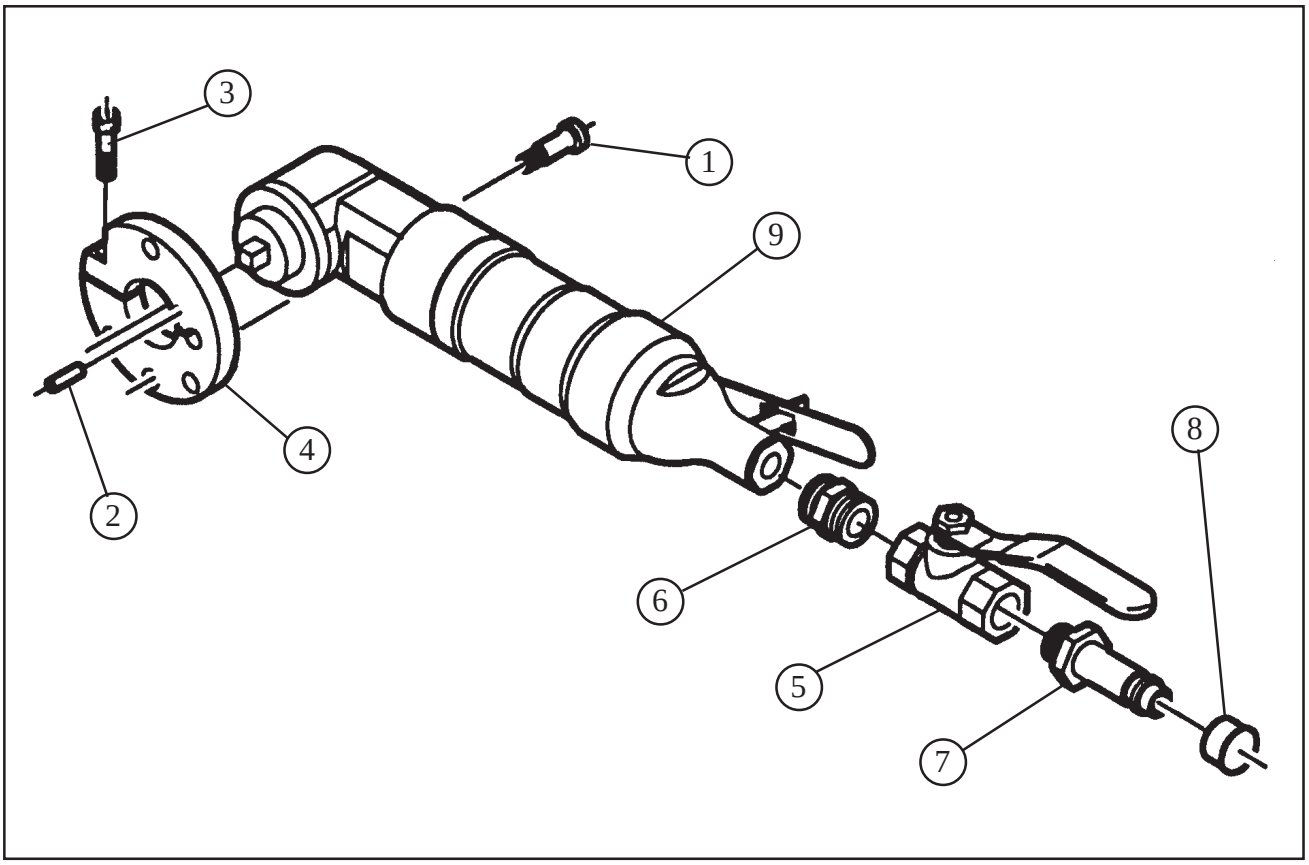
MOTOR ASSEMBLY, HYDRAULIC (P/N 56-0071)



Parts List, Hydraulic Motor Assembly (P/N 56-0071)

Item No.	Part No.	Description	Qty
1.	27-0460	ADAPTER, DRIVE	1
2.	32-0090	PIN, SHEAR	1
3.	33-0075	SCREW, CAP, 3/8-16 X 2"	2
4.	33-0108	SCREW, CAP, 1/2-13 X 1 3/4"	2
5.	47-0914	BRACKET, TORQUE RESTRAINT	1
6.	54-0002	ADAPTER	2
7.	54-0333	COUPLER, QD, HYD., DRIPLESS, FEMALE	1
8.	54-0334	COUPLER, QD, HYD., DRIPLESS, MALE	1
9.	55-0156	HOSE ASSY, HYDRAULIC	2
10.	56-0073	MOTOR, HYDRAULIC	1
NOT SHOWN			
	54-0335	DUST PLUG, DRIPLESS	2
REFERENCE: HOSE MANIFOLD ASSEMBLIES TO CONNECT THE DUAL HYDRAULIC MOTOR ASSY'S.			
	55-0169	HOSE ASSY, MANIFOLD, FEMALE	1
	55-0170	HOSE ASSY, MANIFOLD, MALE	1

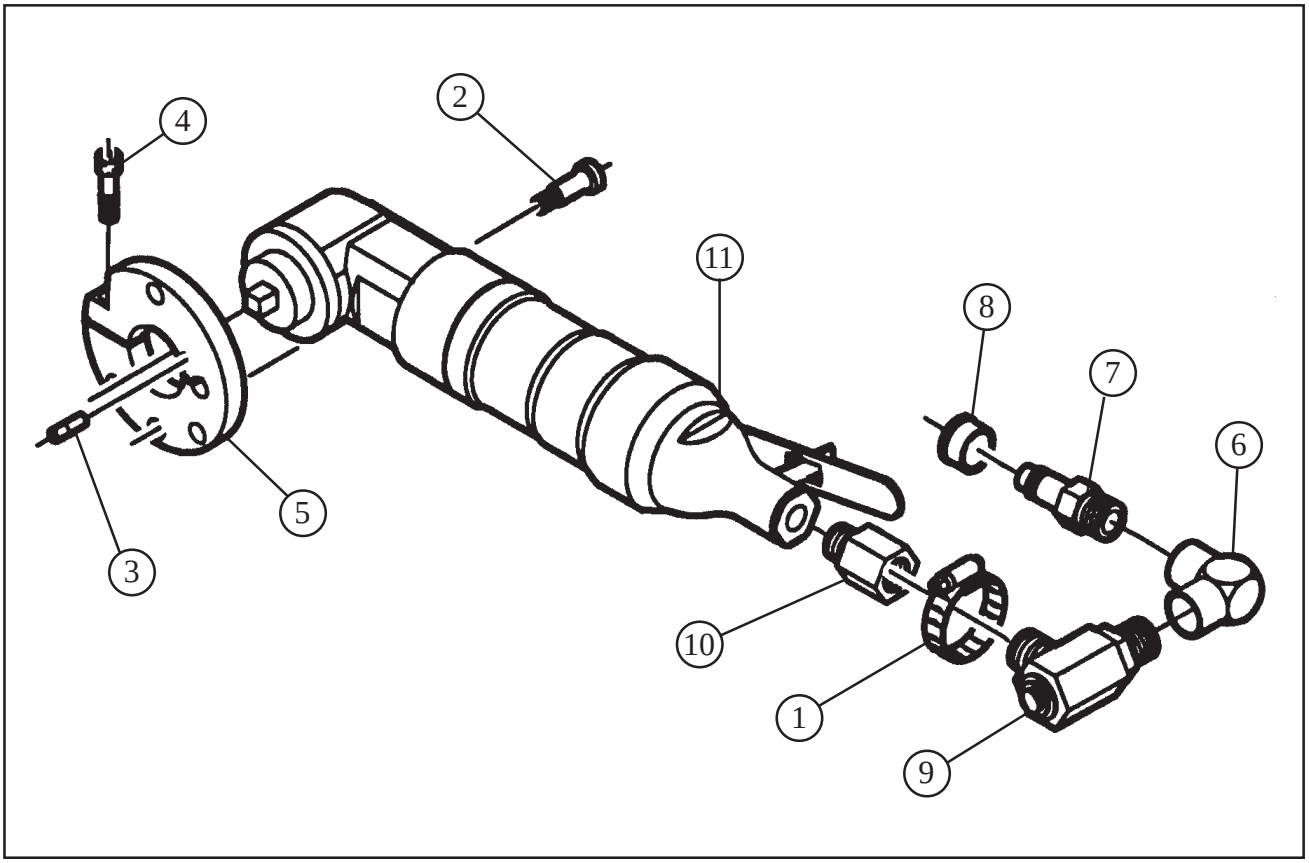
MOTOR ASSEMBLY, AIR, SINGLE DRIVE (P/N 57-0164)



Parts List, Single Drive Air Motor Assembly (P/N 57-0164)

Item No.	Part No.	Description	Qty
1.	33-0945	SCREW, SHOULDER, 1/2" X 3/4"	2
	47-0660	BRACKET ASSY, TORQUE RESTRAINT	1
2.	32-0257	PIN, DOWEL, 5/16" X 7/8"	1
3.	33-0073	SCREW, CAP, 3/8-16 X 1 1/2"	1
4.	47-0658	BRACKET, TORQUE RESTRAINT	1
	53-0031	VALVE ASSY, FLOW CONTROL, AIR	1
5.	53-0016	VALVE, FLOW CONTROL	1
6.	54-0019	NIPPLE, PIPE	1
7.	54-0126	COUPLING, MALE, QUICK DISCONNECT	1
8.	54-0201	CAP, PLASTIC	1
9.	57-0158	MOTOR, AIR	1

MOTOR ASSEMBLY, AIR, DUAL DRIVE (P/N 57-0209)

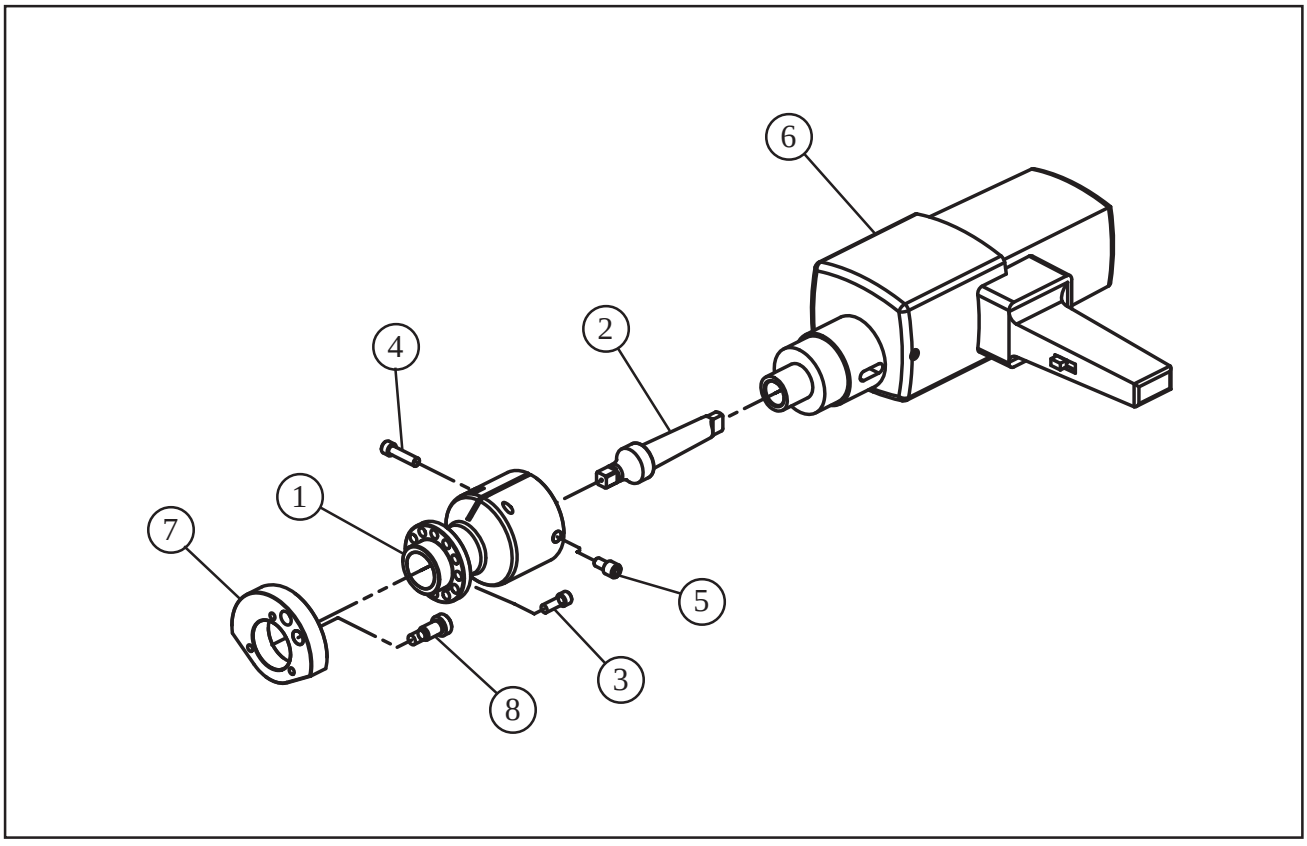


Parts List, Dual Drive Air Motor Assembly (P/N 57-0209)

Item No.	Part No.	Description	Qty
1.	30-0621	CLAMP, HOSE	1
2.	33-0945	SCREW, SHOULDER, 1/2" X 3/4"	2
	47-0660	BRACKET ASSY, TORQUE RESTRAINT	1
3.	32-0257	PIN, DOWEL, 5/16" X 7/8"	1
4.	33-0073	SCREW, CAP, 3/8-16 X 1 1/2"	1
5.	47-0658	BRACKET, TORQUE RESTRAINT	1
6.	54-0062	ELBOW, 90˚	1
7.	54-0126	COUPLING, MALE, QUICK DISCONNECT	1
8.	54-0201	CAP, PLASTIC	1
9.	54-0204	SWIVEL JOINT	1
10.	54-0329	FITTING, EXTENSION	1
11.	57-0158	MOTOR, AIR	1

HD, ELECTRIC DRIVE KIT, 115V & 230V

MOTOR SPECIFICATIONS	
Dual Range, Variable Speed	
Voltage Input	115 VAC, 40-60 Hz, 2300 Watt rated supply
	230 VAC, 40-60 Hz, 2300 Watt rated supply
Power Requirements	20 amp
No Load rpm	60 - 140 rpm
MATERIAL CUTTING CAPACITIES	
Severing with Standard Procedures	.80" (20.3 mm) wall
Severing with Special Procedures	1.50" (38.1 mm) wall
Severing with Single Beveling	.80" (20.3 mm) wall
Severing with Double Beveling	.40" (10.2 mm) wall



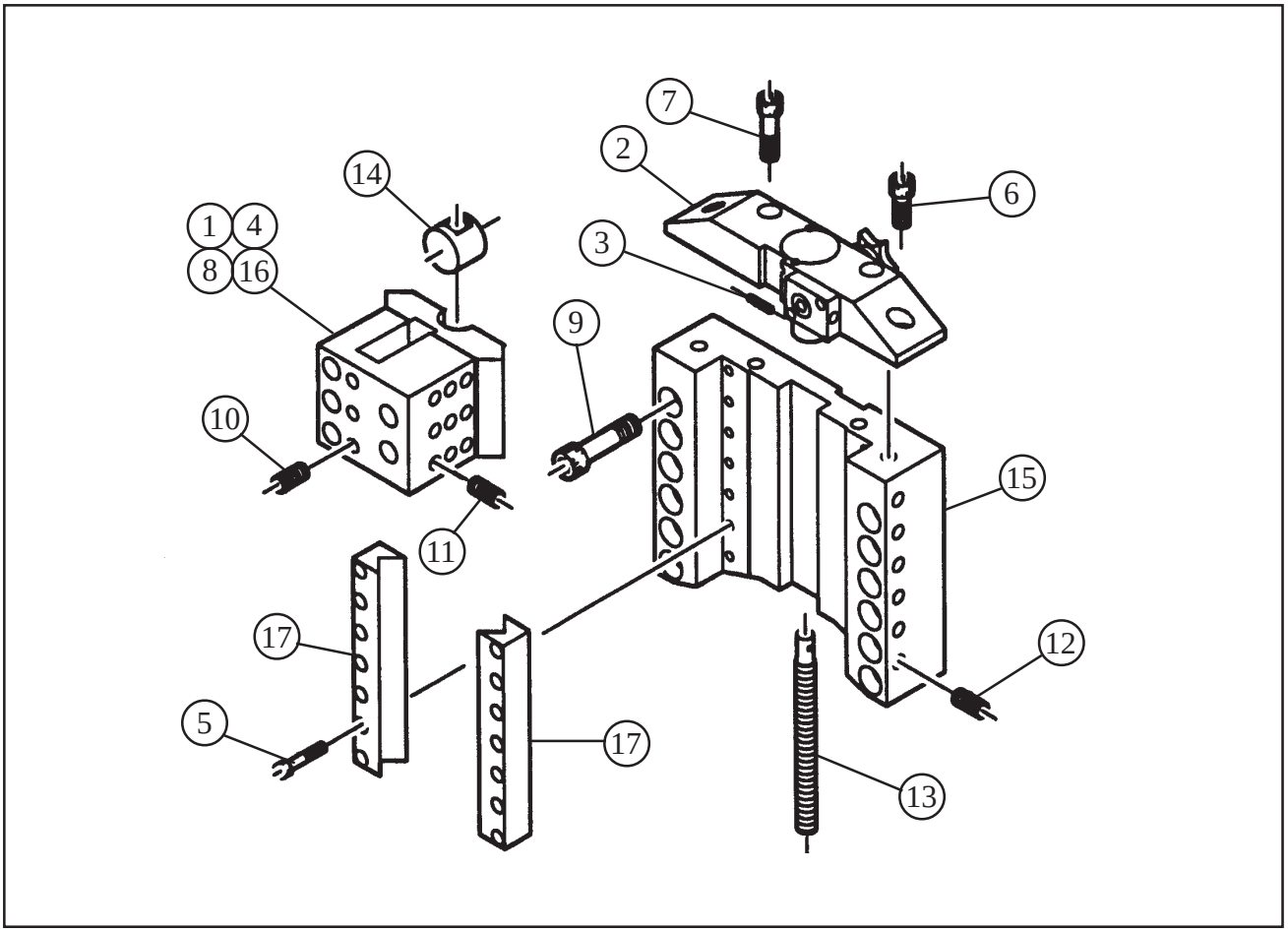
Parts List, HD Electric Drive Kit, 115V (P/N 05-0465)

Item No.	Part No.	Description	Qty
	58-0167	MOTOR ASSY, ELECTRIC DRIVE, 115V	1
1.	27-0826	ADAPTER, DRIVE	1
2.	30-3143	1/2" SQUARE DRIVE	1
3.	33-0055	SCREW, CAP 5/16-18 X 7/8" LG.	3
4.	33-0057	SCREW, CAP 5/16-18 X 1 1/4" LG.	1
5.	33-1874	SCREW, ANTI-ROTATION	2
6.	58-0192	MOTOR, ELECTRIC, 110V ,MODIFIED	1
7.	27-1137	ADAPTER, MOTOR	1
8.	33-0988	SCREW, SHOULDER, 1/2" X 1/2"	1

Parts List, HD Electric Drive Kit, 230V (P/N 05-0466)

Item No.	Part No.	Description	Qty
	58-0174	MOTOR ASSY, ELECTRIC DRIVE, 230V	1
1.	27-0826	ADAPTER, DRIVE	1
2.	30-3143	1/2" SQUARE DRIVE	1
3.	33-0055	SCREW, CAP 5/16-18 X 7/8" LG.	3
4.	33-0057	SCREW, CAP 5/16-18 X 1 1/4" LG.	1
5.	33-1874	SCREW, ANTI-ROTATION	2
6.	58-0173	MOTOR, ELECTRIC, 110V ,MODIFIED	1
7.	27-1137	ADAPTER, MOTOR	1
8.	33-0988	SCREW, SHOULDER, 1/2" X 1/2"	1

BLOCK ASSEMBLY, TOOL (P/N 08-0342)



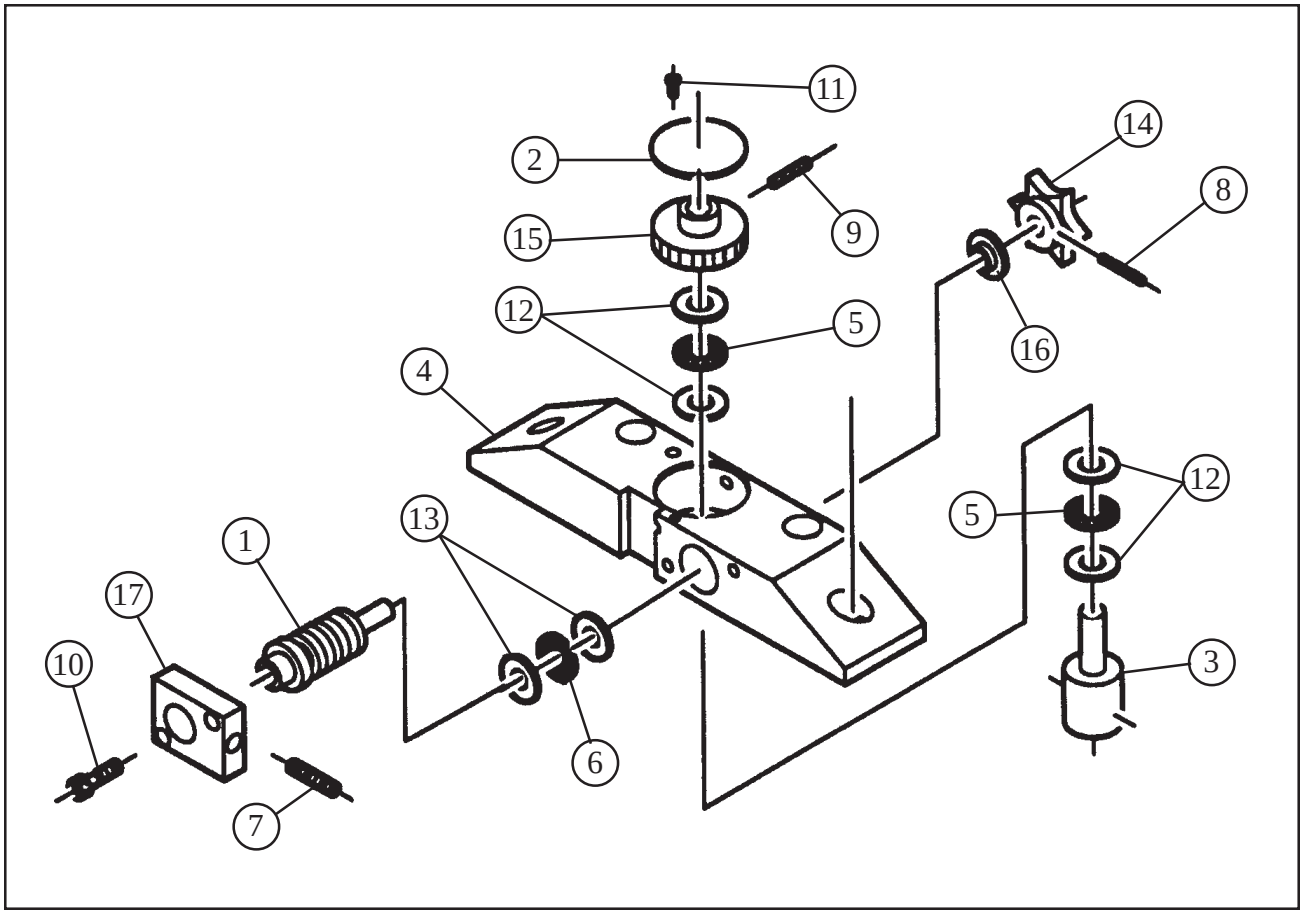
Parts List, Tool Block Assembly (P/N 08-0342)

Item No.	Part No.	Description	Qty
1.	24-1260	PLATE, SLIDE	1
2.	27-0541	ADAPTER PLATE ASSY, GEAR	1
3.	32-0490	PIN, SPIRAL SPRING	1
4.	32-0494	PIN, PULL DOWEL, 5/16" DIA X 3/4"	2
5.	33-0043	SCREW, CAP, 1/4-20 X 1 1/4"	14
6.	33-0070	SCREW, CAP, 3/8-16 X 7/8"	2
7.	33-0073	SCREW, CAP, 3/8-16 X 1 1/2"	2
8.	33-0077	SCREW, CAP, 3/8-16 X 2 1/2"	5
9.	33-0255	SCREW, CAP, 1/2-20 X 2"	6
10.	33-0530	SCREW, SET, 3/8-16 X 5/8", CUP PT	3
11.	33-0535	SCREW, SET, 3/8-16 X 1 1/2", CUP PT	9

Parts List, Tool Block Assembly (P/N 08-0342) Continued

Item No.	Part No.	Description	Qty
12.	33-1369	SCREW, SET, 3/8-24 X 1/2", HDOG	6
13.	33-1840	FEED SCREW	1
14.	35-0398	NUT, FEED	1
15.	47-0875	BRACKET, TOOL MODULE	1
16.	48-0841	BLOCK, TOOL	1
17.	66-0135	RAIL, SLIDE	2

PLATE ASSEMBLY, GEAR ADAPTER (P/N 27-0541)



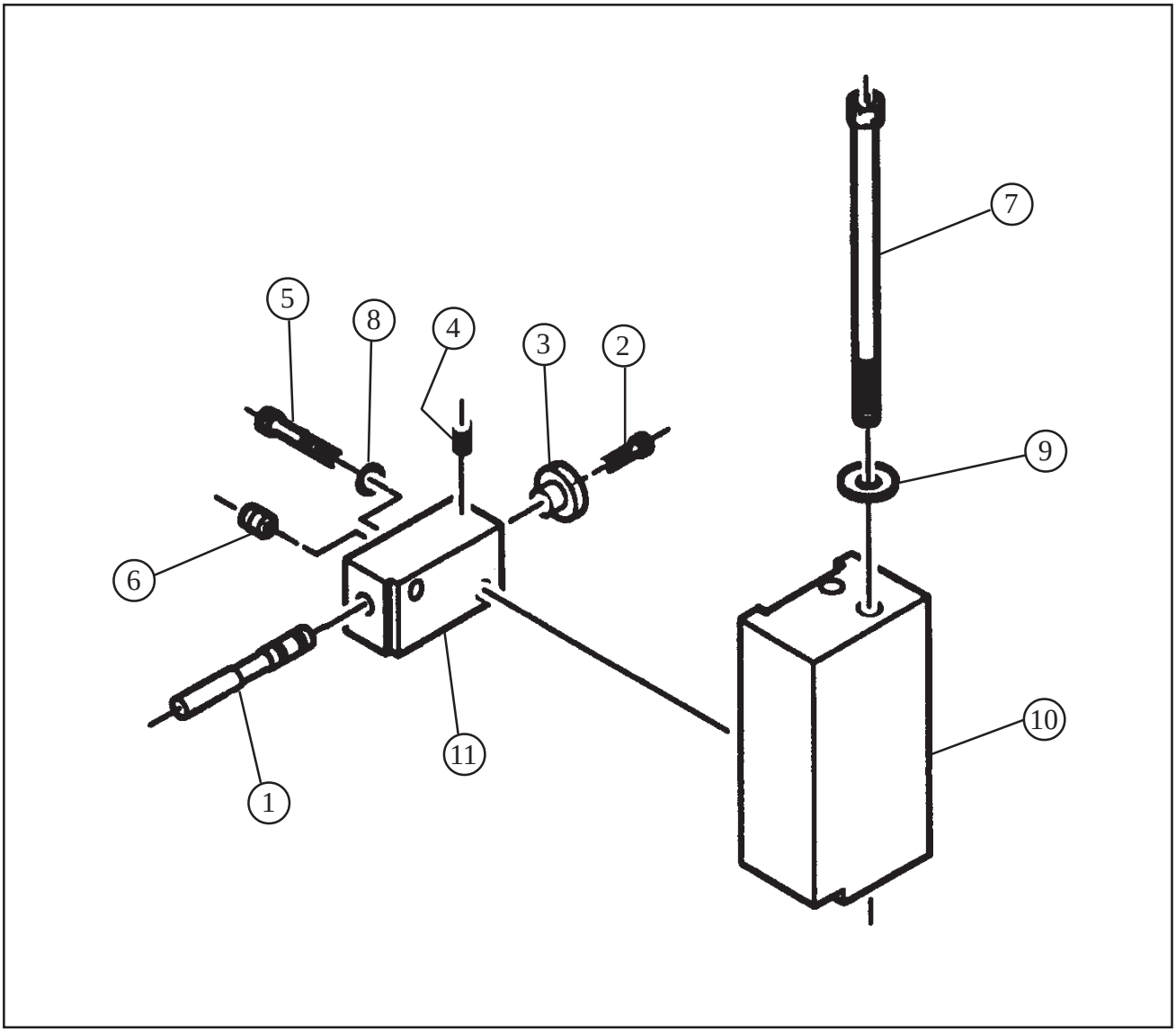
Parts List, Plate Assembly, Gear Adapter (P/N 27-0541)

Item No.	Part No.	Description	Qty
1.	14-0075	DRIVE SHAFT ASSEMBLY	1
2.	24-1261	PLATE, COVER	1
3.	27-0453	ADAPTER, FEEDSCREW	1
4.	27-0542	ADAPTER PLATE, GEAR	1
5.	29-0068	BEARING, THRUST	2
6.	29-0190	BEARING, THRUST	1
7.	30-0464	PLUNGER, BALL	1
8.	32-0018	PIN, ROLL, 3/32" DIA X 3/4"	1
9.	32-0489	PIN, SPIRAL SPRING	1
10.	33-0020	SCREW, CAP, #8-32 X 1/2"	2
11.	33-0272	SCREW, BUTTON, #8-32 X 1/4"	2

Parts List, Plate Assembly, Gear Adapter (P/N 27-0541) Continued

Item No.	Part No.	Description	Qty
12.	34-0107	WASHER, THRUST	4
13.	34-0202	WASHER, THRUST	2
14.	38-0122	SPROCKET, FEED	1
15.	39-0727	GEAR, FEED	1
16.	45-0254	BUSHING, BRONZE	1
17.	48-0972	BLOCK, PLUNGER	1

BRACKET ASSEMBLY, TRIPPER



Parts List, Bracket Assembly, Tripper (P/N 47-0891)
(For use with the 614RBL, 616RBL and 620RBL)

Item No.	Part No.	Description	Qty
	14-0070	SHAFT ASSY., TRIPPER	1
1.	20-0565	SHAFT, TRIPPER	1
2.	33-0030	SCREW, CAP, #10-24 X 3/4"	1
3.	42-0023	KNOB	1
4.	30-0125	PLUNGER, BALL	1
5.	33-0045	SCREW, CAP, 1/4-20 X 1 3/4"	2
6.	33-0954	SCREW, SET. #10-32 X 1/4", HDOG	1
7.	33-1823	SCREW, CAP, 3/8-16 X 6 1/2"	2
8.	34-0026	WASHER, FLAT, 1/4"	2
9.	34-0028	WASHER, FLAT, 3/8"	2
10.	47-0893	BRACKET, TRIPPER	1
11.	48-0845	BLOCK, TRIPPER	1

Parts List, Bracket Assembly, Tripper (P/N 47-0892)
(For use with the 624RBL, 630RBL and 636RBL)

Item No.	Part No.	Description	Qty
	14-0070	SHAFT ASSY., TRIPPER	1
1.	20-0565	SHAFT, TRIPPER	1
2.	33-0030	SCREW, CAP, #10-24 X 3/4"	1
3.	42-0023	KNOB	1
4.	30-0125	PLUNGER, BALL	1
5.	33-0045	SCREW, CAP, 1/4-20 X 1 3/4"	2
6.	33-0954	SCREW, SET. #10-32 X 1/4, HDOG	1
7.	33-1823	SCREW, CAP, 3/8-16 X 6 1/2"	2
8.	34-0026	WASHER, FLAT, 1/4"	2
9.	34-0028	WASHER, FLAT, 3/8"	2
10.	47-0882	BRACKET, TRIPPER	1
11.	48-0845	BLOCK, TRIPPER	1