CONTINENTAL MODEL 2A

PIPE AND TUBE CUT-OFF MACHINE

SERIAL NO. _____

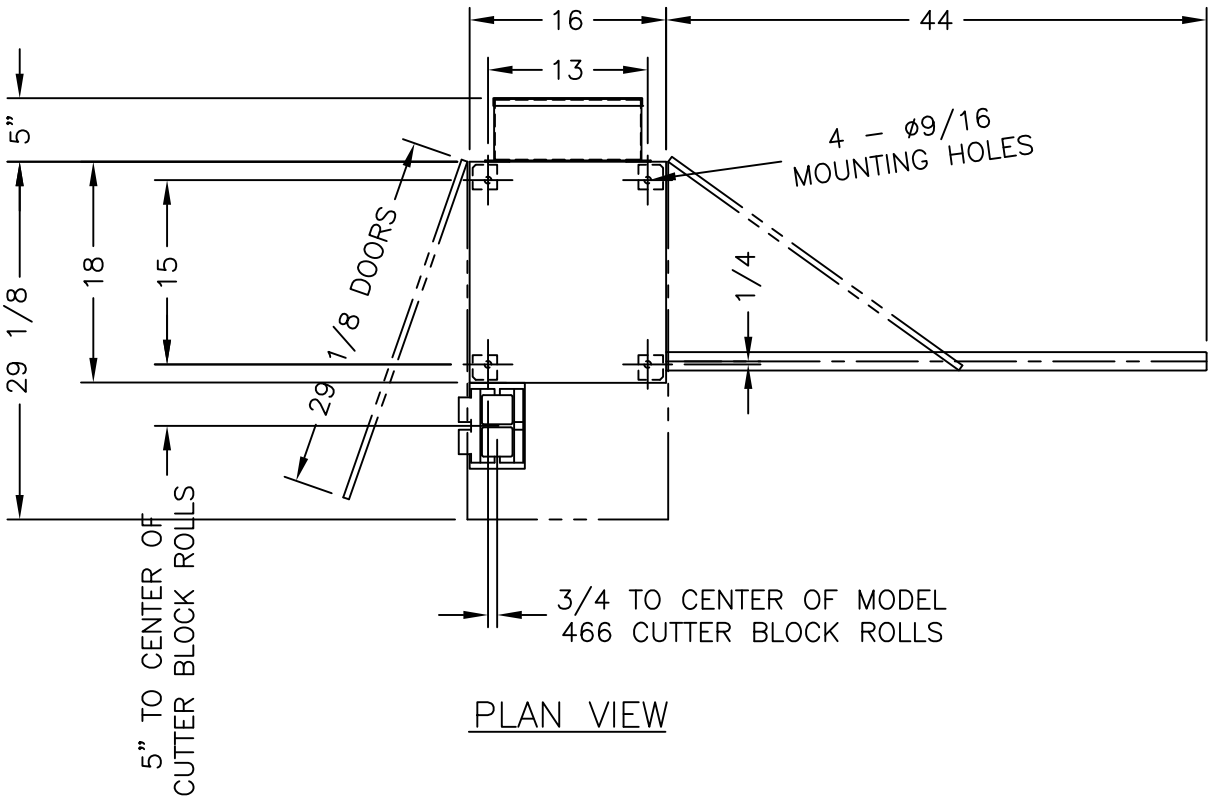
INSTRUCTION AND PARTS MANUAL

CONTINENTAL MODEL 2A

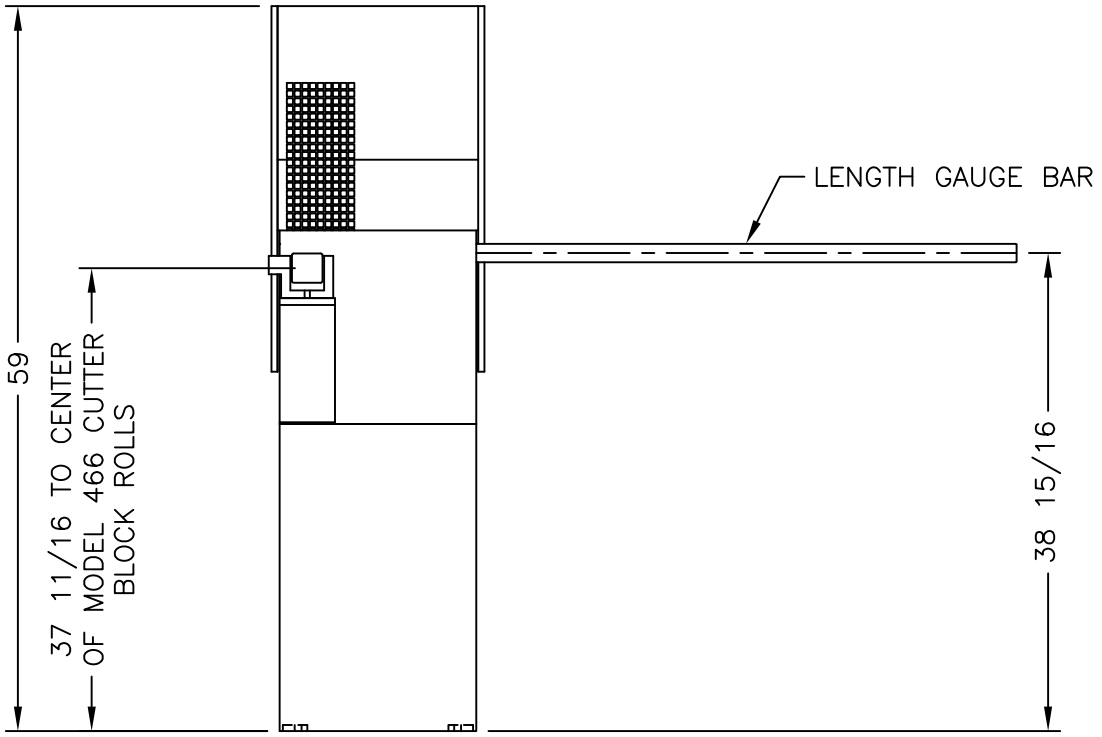
PIPE AND TUBE CUT-OFF MACHINE

INSTRUCTION AND PARTS MANUAL

T A B L E O F C O N T E N T S **SECTION**



PLAN VIEW



FRONT VIEW

CONTINENTAL PIPE & TUBE CUT–OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

OVERALL DIMENSIONS
MODEL 2A CUT–OFF MACHINE

CURRENT REVISION: *	DATE: 1/30/14	DRAWING NUMBER: MODEL 2A OVERALL DIMENSIONS

SECTION A. S A F E T Y I N S T R U C T I O N S

1. Read and understand this manual before operating this machine.

2. NEVER operate this machine with any guard or cover open or removed.

3. Provide a fused, switched disconnect for incoming power line in accordance with the National Electrical Code.

4. If starter box cover is removed, high voltage connections are exposed. Customer supplied disconnect switch should be turned off and locked off, before removing starter box cover.

5. This machine is powered by high voltage electricity. Electrical repairs should be made by a qualified electrician.

6. NEVER reach into the work area of the machine while the cuttershaft is turning.

7. This machine will cut a wide range of tubing diameters and lengths. Each customer's layout, method of supporting the tubing, and material flow into and out of the machine is different. As such, it is impossible for the manufacturer to provide a universal guard to keep operator's hands out of the machine. It is the customer's responsibility to:

    - provide a method to catch and collect cut pieces.

    - provide guards to prevent the operator from accidentally placing hands in the cutting area.

    - install guards along the tube being cut to prevent injury.

8. Movement of various parts may create pinch points. Operator must avoid these points.

9. NEVER wear loose clothing or jewelry that could become entangled in the machine or workpiece.

10. When changing a cut-off blade, turn off power at the customer supplied disconnect switch.

11. Be certain to remove wrench after replacing cut-off blade. NEVER leave wrench hanging from the cuttershaft.

12. NEVER push pipe or tube into the cutting area from the front of the machine. A turning cut-off blade may catch and throw it possibly causing personnel injury and equipment damage. ALWAYS slide the tube into the cutting area from the cut-off blade side of the machine.

13. ALWAYS feed pipe or tube into the cutting area from the cut-off blade side of the machine. Feeding material from the opposite side can result in the operator's hand being pinched between the pipe or tube and the underside of the Cutter Arm as the cut is being made.

14. NEVER attempt to cut material that is bent, twisted, or otherwise distorted.

15. The cutting operation may produce sharp edges and considerable heat. NEVER attempt to catch work pieces as they are cut. Take precautions when handling cut pieces.

SECTION B. I N S T A L L A T I O N

DIMENSIONS

Drawing 2A-D, MODEL 2A DIMENSIONS, shows the overall dimensions of the machine.

LEVELING

Place the machine in the desired location. Transfer the mounting holes in the base to the floor. Then, move the machine and drill the floor for anchor bolts. Place the machine back into position, and check the cutter block mounting surface for level, particularly in the side-to-side direction. Shim the base as necessary to level and eliminate any rocking. After shimming, bolt the machine securely to the floor.

ELECTRICAL

The electrical characteristics of the machine are stamped on a nameplate attached to the starter box. Connect the incoming lines from a disconnect switch (customer supplied) to the L1, L2, L3 terminals on the motor starter located in the control box. Check to make sure that rotation of the cutter shaft is clockwise when viewed from the cut-off blade side. This will prevent pipe from being thrown out of the machine. If rotation is incorrect, reverse any two of the incoming lines.

AIR CONNECTION

A Filter/Regulator/Lubricator Unit (Part No. 4520) is provided at the rear of the machine. Connect shop air to the inlet side of this unit, and fill the lubricator bowl with air line oil.

CUTTER BLOCKS

Cutter blocks are available for tube sizes within the range of the Model 2A (see current Continental catalog). The Model #466 Cutter Block is supplied with the machine and will accommodate 1" to 2" tube diameters. Select the appropriate cutter block for the tube size to be cut, and bolt it to the cutter block bracket on the machine. Note that slots are provided on the cutter block base for front-to-back adjustment.

The cutter block must be set perpendicular to the cut-off blade or "threading" will occur. Threading is a condition where the tube moves sideways as the cut-off blade contacts it. To correct threading, loosen the front cutter block bolt slightly, then tap the cutter block to move it in the opposite direction of the threading. (If tube is threading to the right, move the front of the cutter block to the left and vice versa.) Then, re-tighten the cutter block bolt. Repeat until threading is eliminated.

TUBE SUPPORTS

If a Model #425 or #426 Tube Support Table is to be used with this machine, it should be assembled and installed according to the instructions provided with it.

If pipe supports are to be used, they must be carefully aligned with the machine, and bolted to the floor. First, set the supports in place. They should be spaced so that the tube to be cut does not sag between the supports. NOTE: If short pieces are to be cut, place one of the supports close to the machine. Place a length of tube or barstock in the supports and the cutter block rolls. Adjust the supports so that the tube is touching the entire length of both cutter block rolls (front and back), and all pipe support rolls.

At this point, the pipe supports should be bolted to the floor. Carefully mark the center of each hole in the pipe support bases. Then, drill and bolt to floor using 3/8" lag bolts with anchors.

Rotate the Pipe Support Heads so they are perpendicular to the tube (rolls will be aligned

with tube). If the heads are not perpendicular to the tube, threading of the tube can result, particularly if polyurethane coated pipe support rolls are used.

Recheck alignment of pipe supports with the cutter block rolls. Misalignment may result in cut-off blade breakage, tube threading, and poor cuts.

LENGTH GAUGE BAR

The following parts are removed from the Model 2A for shipping purposes and must be reassembled:

1 - #5494 Gauge Bar
2 - #5493 Gauge Lever
2 - #5384 Gauge Bar Collar

PROCEDURE FOR REASSEMBLY:

1. Slide #5494 Gauge Bar through bushing in right side of machine (standing at front of machine). Slide in end of bar that has milled flats.

2. Slide one #5384 Gauge Bar Collar, two #5493 Gauge Levers (Note the orientation of the Gauge Levers as shown in Figure 1.) and then the other #5384 Gauge Bar Collar onto the Gauge Bar.

3. Slide #5494 Gauge Bar through bushing at left side of machine so that it is flush with the outside of machine. Spread a light coat of grease on the outer faces of the #5384 Collars. Slide the collars against the inside face of the machine and lock in place using setscrews. The setscrews should be tightened onto the flats provided. There should be minimal side-to-side play after both collars are locked into place.

4. Slide one #5493 Gauge Lever along bar until it is aligned with #5417 Gauge Cam and #5932 Gauge Screw. The other #5493 Gauge Lever should be aligned with the #5496 Travel Stop at the right side of the machine. See Figure 1.

LENGTH GAUGE

The Model 2A may be equipped with either a Model #442 Standard Length Gauge or a Model #428 Automatic Length Gauge. The Length Gauge will automatically move out of the way during a cut. The Model 2A may be set up so that it will either lower or raise the Length Gauge, depending on the material size and flow plan. If the cut extends <u>past the cutter block assembly</u> it is best to set the length gauge to lower during the cut. If the cut length is short, requiring the length stop to be positioned <u>over the cutter block assembly</u>, it is necessary to set the length gauge to raise during the cut.

SET-UP to LOWER the Length Gauge (Refer to Figure 2):

- Rotate the #5493 Gauge Lever at the left (when facing the machine) until the flat surface is horizontal. Tighten the fastener to lock the Gauge Lever to the Gauge Bar.
- Then lower the #5932 Gauge Screw to the Gauge Lever and lock into place.
- Do not tighten the #5493 Gauge Lever at the right. It should be loose on the #5494 Gauge Bar.

SET-UP to RAISE the Length Gauge (Refer to Figure 2):

- Disconnect power and air to the machine.
- If the Length Gauge Assembly is installed on the Gauge Bar, loosen it and let it hang below the Gauge Bar.
- Adjust the #5496 Travel Stop to the dimension shown in Figure 2.
- Place the tube to be cut in the cutter block assembly.
- Rotate the Head Assembly until the cut-off blade contacts the tube. It may be necessary to move the Hydrocheck nut up to do this. Refer to Section D, "Operation" for additional information.
- Position the #5493 Gauge Lever at the right (when facing the machine) so that it contacts the Travel Stop. Tighten the fastener to lock the Gauge Lever to the Gauge Bar.
- Position the #5493 Gauge Lever at the left so that it contacts the #5417 Cam. Tighten the fastener to lock the Gauge Lever to the Gauge Bar. At this point, the Gauge Lever at the right should be contacting the Travel Stop and the Gauge lever at the left should be contacting the Cam.
- Install the Length Gauge Assembly onto the Gauge Bar. Position it so that the bottom edge of the stop is just below the top of the tube.
- Turn the Travel Stop out (counterclockwise) two turns and lock in place. See Figure 2.
- **NOTE! Rotate Head Assembly up to starting position before reconnecting air and power.**

After setting up for a raising or lowering action, assemble the Length Gauge and slide it onto the #5494 Gauge Bar. The #5354 Gauge Pin may be set up with the round pipe stop facing the cutter blocks. For very short cut-off lengths, the narrow blade-shape end may face the cutter blocks and fit into the slot on the cutter block.

To adjust Length Gauge for a particular size, loosen the back of the #5933 Gauge Support so that the pipe stop or blade catches the edge of the tube and clears the tube just AFTER the cut-off wheel engages the work. This prevents the work from moving as the length gauge clears the work.

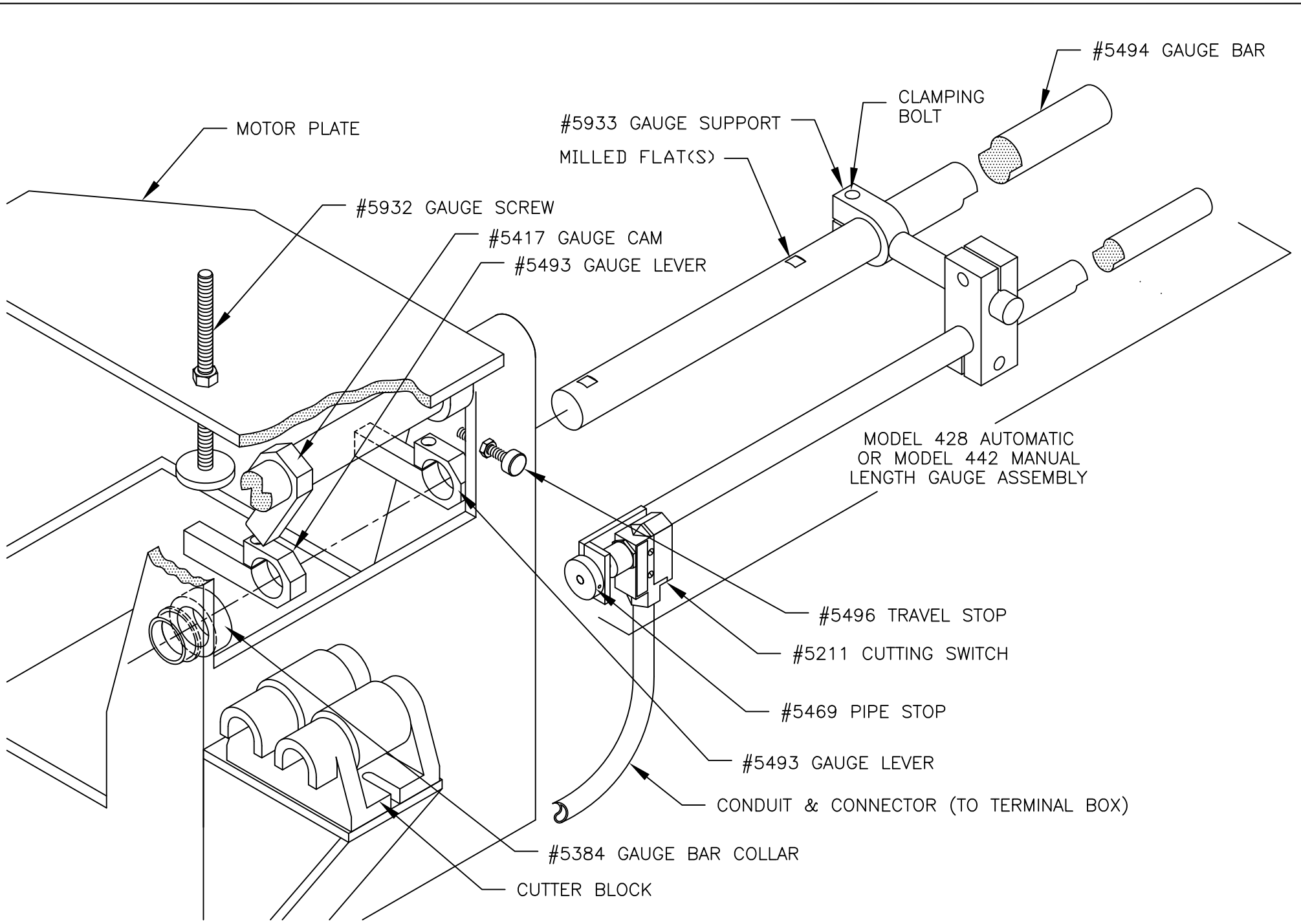


FIG. 1 – ASSEMBLY OF LENGTH GAUGE TO CUT–OFF MACHINE

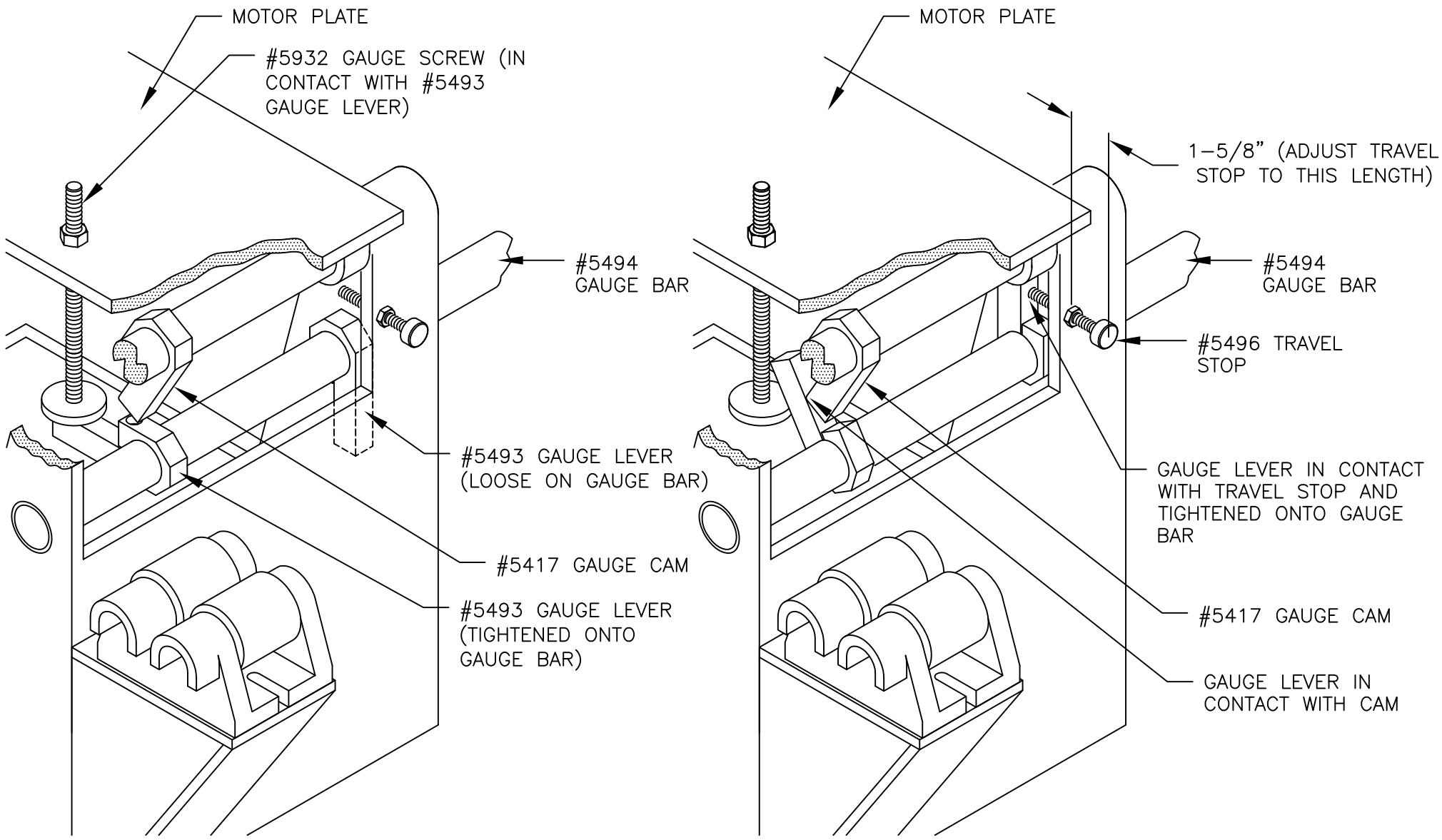


FIG. 2 – LENGTH GAUGE SET–UP

SECTION C. C O N T R O L S

START/STOP SWITCH

This switch is located on the front of the cut-off machine. Pressing "START" starts the drive motor. Pressing "STOP" simultaneously stops the drive motor and retracts the air cylinder, raising the cut-off blade.

FOOT SWITCH

Pressing the foot switch causes the air cylinder to extend, initiating the cut-off stroke.

AUTOMATIC LENGTH GAUGE SWITCH

The switch on the optional Automatic Length Gauge acts the same as the foot switch. It initiates the cutting stroke.

RETURN SWITCH

The Return Switch is a limit switch located inside the machine enclosure on the cut-off blade side. When tripped, this switch causes the air cylinder to retract, ending the cut-off stroke. The point at which this occurs is adjusted by moving the #5496 Trip.

AIR PRESSURE

Air pressure to the air cylinder may be adjusted at the Filter/Regulator/Lubricator Unit. Adjusting the air pressure changes the total force available to push the cut-off blade through the cut. It should generally be set at 40 to 60 psi. Lighter wall tubing requires lower pressures and heavier wall tubing requires higher pressures.

AIR CYLINDER SPEED CONTROL

The cutting stroke consists of three parts: an initial rapid portion to move the cut-off blade quickly to the tube, a slower, controlled cutting stroke, and another rapid stroke to return the cut-off blade to starting position. The speed of the two rapid moves are controlled by the Speed Control Screw located on the Exhaust Muffler/Speed Control (on the air cylinder control valve). It should be adjusted to provide a quick action, but not so fast that the motion is harsh or jerky. The speed control screw has been set at the factory and should not require adjustment unless the air pressure is set very high or very low.

HYDROCHECK

The Hydrocheck is attached to the air cylinder and provides a hydraulic limiting action on the cutting portion of the stroke. This allows control of the cutting speed. Two nuts on the Hydrocheck Rod allow adjustment of the point at which the Hydrocheck action begins. A control knob at the bottom of the Hydrocheck allows adjustment of the cutting speed feed rate. Turning the knob clockwise will slow the feed rate. Turning the knob counterclockwise will increase the feed rate. A locking knob is provided.

COUNTER

An electronic 8-digit counter is installed at the front of the cut-off machine. The counter display is powered by an internal lithium battery, which provides up to six (6) years of continuous operation. The counter has a front panel reset button. When first starting the cut-off machine, press the reset button to clear the counter display.

SECTION D. O P E R A T I O N

CAUTION : BEFORE ATTEMPTING TO OPERATE THE MODEL 2A, READ AND UNDERSTAND THIS SECTION COMPLETELY.

Follow the steps below to set-up and operate the Model 2A for the various size pipe and tubes to be cut.

1. Install the appropriate cut-off blade for the tube to be cut. See current Continental Catalog for a description of cut-off blade models. Remove the #5723 Cutter Shaft Nut and #5326 Clamp Collar and place the cut-off blade on the cutter shaft. Replace the clamp collar and nut and tighten. Seat the nut securely by tapping the end of the wrench with a mallet.

2. Select the appropriate cutter block for the tubing size to be cut. See the current Continental Catalog for a list of Cutter blocks.

3. Mount the cutter block on the machine. Roughly center it in the slots provided, and align it with the cut-off blade.

4. Place a length of the tube to be cut in the cutter block rolls and the pipe support or support table rolls. Adjust the pipe supports or support table vertically to align with the cutter block rolls. It may be necessary at this point to slide the cutter block forward or backward slightly to achieve this alignment. The cutter block must remain aligned with the cut-off blade.

5. Set air pressure to approximately 40 to 60 psi.

6. Set the knurled adjusting knob on the #5800 Hydrocheck so that it is just slightly opened. This will provide a very slow feeding speed and is a good precaution for the first few trial strokes.

7 Set the Stop Nuts on the Hydrocheck so that the link between the air cylinder and Hydrocheck contacts the nut just before the blade contacts the pipe. This may be done with the motor off, by manually pulling the #5422 Motor Plate down so that the cut-off blade is 1/16 to 1/8” above the tube. Then, adjust the Stop Nuts so they are touching the link.

8. Set the depth of the cut-off stroke by adjusting the #5496 Trip so that the #5224 Switch is actuated just after the cut-off blade completes its cut. Note that the #5224 Switch may also be adjusted by sliding it along its mounting bracket, rotating the actuating arm, or shortening the actuating arm. For most tube sizes, these adjustments will not be necessary.

9. Run a trial stroke with the pipe adjacent to, but not under, the cut-off blade. Observe the point at which the Hydrocheck engages, and the point at which the return switch is tripped, and adjust accordingly.

   NOTE: DO NOT ALLOW THE CUT-OFF BLADE TO CONTACT THE CUTTER BLOCK ROLLS. THIS WILL RESULT IN IMMEDIATE DAMAGE TO THE BLADE AND ROLLS. IF IT APPEARS THAT THE BLADE MAY CONTACT THE ROLLS, PUSH THE "STOP" BUTTON. THIS WILL STOP THE MOTOR AND RAISE THE CUT OFF BLADE.

10. Place the material to be cut in the machine and run trial cuts. Adjust as required.

Although the characteristics of the cutting process will vary significantly with tube size, wall thickness, and particularly material, the following will generally apply:

- A faster cut will reduce the O.D. burr, and a slower cut will reduce the I.D. burr.

- Spreading the rolls apart will reduce the O.D. burr; moving them closer together will reduce the I.D. burr.

- Generally, the best cut is the fastest cut that will produce the desired end conditions. A fast cut produces less heat and less wear on the blade.

- See the CUT-OFF BLADES NOTES section for additional information concerning adjustment of the cutting process.

CAUTION: NEVER PUSH PIPE OR TUBE INTO THE CUTTING AREA FROM THE FRONT OF THE MACHINE. THE CUT-OFF BLADE CAN CATCH AND THROW THE MATERIAL, CAUSING PERSONAL INJURY AND EQUIPMENT DAMAGE. ALWAYS SLIDE THE MATERIAL INTO THE CUTTING AREA FROM THE CUT-OFF BLADE SIDE OF THE MACHINE.

CAUTION: ALWAYS FEED PIPE OR TUBE INTO THE CUTTING AREA FROM THE CUT-OFF BLADE SIDE OF THE MACHINE. FEEDING MATERIAL FROM THE OPPOSITE SIDE CAN RESULT IN THE OPERATOR'S HAND BEING PINCHED BETWEEN THE PIPE OR TUBE AND THE COMPONENTS ON THE UNDERSIDE OF THE MOTOR PLATE, AS THE CUT IS BEING MADE.

11. Adjust the Model #442 Standard Length Gauge or Model #428 Automatic Length Gauge as described in the INSTALLATION Section. To make production cuts with the Standard Length Gauge, hold the tubing firmly against the Pipe Stop and press the foot switch. Hold the tube against the stop until the blade engages the cut. In the case of the Automatic Length Gauge, simply push the tube against the stop and hold firmly until the cut-off blade engages the cut. **Do not hold the foot switch or the Automatic Length Gauge Switch closed during the cutting action. If they are closed at the same time that the #5224 Return switch is actuated (at end of cutting stroke), damage to the Air Cylinder Solenoid will result.**

CUT-OFF BLADE NOTES

Continental Cut-Off Blades are available for almost all tube sizes and wall thicknesses. These blades are manufactured from S-7 Tool Steel. They are held to precise tolerances and heat treated to provide a long life. They may be resharpened using one of the Continental Grinders (see current catalog), or sent to Continental Pipe & Tube Cut-Off Machines for resharpening. With proper care, Continental Cut-Off Blades will provide thousands of cuts.

Following is a checklist of circumstances that can result in shortened blade life. Review this list when blade life is shorter than expected, or when unsatisfactory cutting action is encountered.

1. Make certain correct blade model is being used. Check current Continental Catalog for applications.

2. #5723 Nut must be tightened securely to make certain the Cut-Off Blade is clamped flat and cannot slip.

3. Make certain that the blade does not touch the cutter block rolls at the end of the stroke. This will immediately damage both the blade and the rolls.

4. Check alignment of the tubing in the pipe supports and cutter block roll (see OPERATION Section). This alignment is critical for smooth cuts and long blade life.

5. Make certain that the tube spins freely on the supports. Any drag or binding can cause the Cut-off Blade to slip against the pipe as it cuts.

6. Check adjustment of the Length Gauge to make certain it clears the tube shortly after the Cut-Off Blade engages the cut. As the cut is made, the end of the tube is actually moved towards the Length Gauge. If the gauge has not cleared the end of the tube it will cause binding.

7. On air powered machines, check to be sure the Hydrocheck engages BEFORE the Cut-Off Blade contacts the tube.

8. Make sure that the tubing is not striking the side of the Cut-Off Blade as it is advanced into position.

9. On tough or heavy wall material, a lubricating oil may be required to assist the cut. Use LUBRICATING oil, NOT cutting oil.

10. Do not attempt to cut excessively bent, twisted or otherwise distorted material.

11. Tubing material can vary significantly, even within one lot. Hard areas may be encountered, which can shorten blade life.

12. If material is long (over 20 ft.) or very heavy, the Cut-Off Blade may have difficulty spinning it. This will cause the blade to slip, shortening blade life.

13. During resharpening, the edge of the blade must not become overheated. This will cause the edge to soften.

14. After resharpening, the edge of the blade should be honed with a stone (available as Continental Part No. #5959) to remove the sharp edge, and provide a rounded edge. The sharper the edge the more fragile it is.

    NOTE:

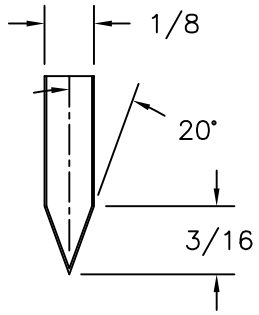
    A. If a sharper edge is left on the blade (less honing), the blade will cut faster and with less pressure, but will not last as long between resharpenings. This is more appropriate for thin-walled, softer, materials.

    B. If a more blunt edge is left on the blade (more honing), the blade will require more pressure to cut, but will last longer between resharpenings. This is more appropriate for heavier walled, tougher materials.

15. If a Cut-Off Blade becomes dull or nicked during use, remove it immediately and have it resharpened. If it is left in service, the damage will become worse. In a relatively short time, the blade will be ruined.

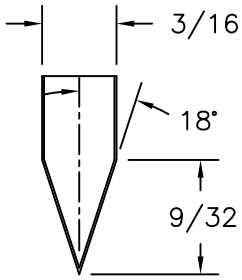
FIG. 1 – RECOMMENDED CUT–OFF BLADE BEVELS

1/8" STANDARD BEVEL



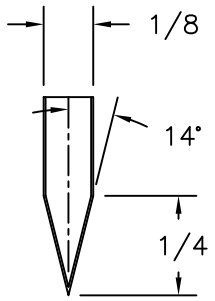
1/8" BLADE FOR WALL THICK–NESS UP TO .125" (1/8").

3/16" STANDARD BEVEL



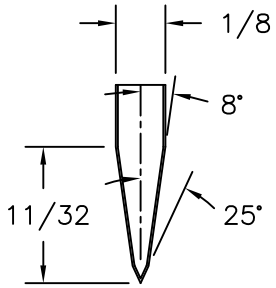
3/16" BLADE FOR WALL THICK–NESS UP TO .250" (1/4").

TUBE BEVEL



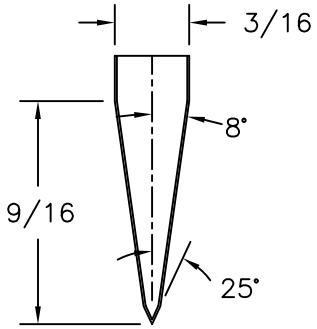
1/8" BLADE FOR WALL THICK–NESS UP TO .065".

1/8" LONG BEVEL



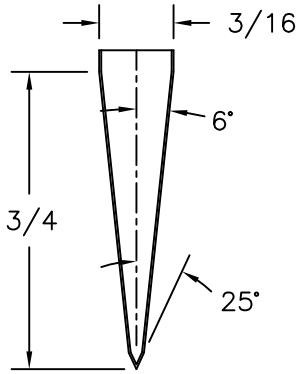
1/8" BLADE FOR WALL THICK–NESS UP TO .313" (5/16").

3/16" LONG BEVEL



3/16" BLADE FOR WALL THICK–NESS UP TO .500" (1/2").

EXTRA LONG BEVEL



3/16" BLADE FOR WALL THICK–NESS UP TO .625" (5/8").

FIG. 2 – CONTINENTAL CUT–OFF BLADE MODELS

MODEL NO.	BORE (IN.)	THICKNESS (IN.)	DIA. (IN.)	BEVEL (SEE FIG. 1)	REMARKS
7170	1–7/16	1/8	7	STD.	FOR USE ON CONTINENTAL MODEL 2B, 2A, 3H, 3A, 6H, & 6A. NO PIN HOLES OR KEYWAYS.
7171	1–7/16	1/8	7	TUBE	
7172	1–7/16	1/8	7	LONG	
7370	1–7/16	3/16	7	STD.	
7372	1–7/16	3/16	7	LONG	
7373	1–7/16	3/16	7	EXTRA LONG	
7120	1–1/2	1/8	7	STD.	ONE (1) 13/32 DIA. PIN HOLE ON 1–1/8" RADIUS.
7121	1–1/2	1/8	7	TUBE	
7122	1–1/2	1/8	7	LONG	
7320	1–1/2	3/16	7	STD.	
7322	1–1/2	3/16	7	LONG	
7140	1–3/4	1/8	7	STD.	TWO (2) 13/32 DIA. PIN HOLES, ONE (1) ON 1–13/32" RADIUS, ONE (1) ON 1–29/64" RADIUS.
7340	1–3/4	3/16	7	STD.	
7342	1–3/4	3/16	7	LONG	
8140	1–3/4	1/8	8	STD.	
8340	1–3/4	3/16	8	STD.	

FILE NAME: BVLPAGE

SECTION F. M A I N T E N A N C E

This machine is completely adjusted and lubricated at the factory. Performing the following maintenance checks will assure trouble-free operation and a long service life. Use an N.L.G.I. #2 Lithium based, Extreme Pressure (EP) grease where indicated.

DAILY CHECKS

1. Fill Air Line Lubricator with Air Line Oil.

2. Drain water from the Air Line Filter/Regulator.

   NOTE: THESE TWO ITEMS ARE EXTREMELY IMPORTANT TO THE SERVICE LIFE OF THE AIR CYLINDER.

WEEKLY CHECKS

1. Lubricate the #5417 Gauge Bar and #5495 Pivot Bar, using N.L.G.I. #2 EP grease in the fittings provided.

2. Lubricate Cutter Block Bearings, using N.L.G.I. #2 EP grease in the fittings provided.

3. Spread a light coating of grease on the flat surface of the #5493 Gauge Lever, using #2 EP grease.

4. Place a few drops of light machine oil on the pivot points of the air cylinder mounts.

5. Check Air Line Lubricator to make sure it provides approximately one drop for every 5 strokes of the Air Cylinder.

SIX MONTH CHECKS

1. Check oil level in gearbox. Fill with a 7EP or 8EP Lubricant as indicated on gearbox manufacturer's label. (DO NOT use 5EP or 6EP Lubricants as this can lead to excessive foaming). Fill gearbox to level indicated on gearbox for “CONTINUOUS” use. If no lubricant is shown, use 90W Gear Oil.

2. Check drive belts for wear and tightness. Adjust accordingly. All three belts should be tightened evenly.

3. Check fluid level in Hydrocheck Unit. The stem extending from small cylinder on the Hydrocheck should have three grooves visible. If not, the Hydrocheck fluid level is low. If the Hydrocheck requires service, see the following section for information.

5800 HYDROCHECK INFORMATION

DISMANTLING AND REASSEMBLING

Always use care in dismantling and reassembling the Hydrocheck to be sure cylinders, piston seals and piston rod seal are not damaged. Replace any damaged packings before reassembling.

SEAL KIT

Part number 5800-R2, Hydrocheck Seal Kit, contains parts subject to replacement through normal operation.

ADDING OIL

Before replacing filler valve, the main cylinder should be filled with ISO 32 hydraulic oil as follows:

1. Stand Hydrocheck upright with piston rod pointed downward and fully extended.
2. Slowly pour oil into cylinder until level with filler valve opening.
3. Move piston rod in and out slightly (1/16 to 1/8") to release any air trapped under piston assembly.
4. Keep Hydrocheck in upright position for a short while to allow air to escape.
5. Replace filler valve.
6. Use part number 4550-G, Oil Gun to bring hydraulic oil to proper level, indicated by grooves on Indicator Rod. Air must be bled from oil gun before filling Hydrocheck. Stand Oil Gun with nozzle pointing up. Cause oil to flow from nozzle until it runs clear of air bubbles.
7. Follow Air Bleeding Procedure to remove all traces of trapped air.

BLEEDING AIR FROM OIL

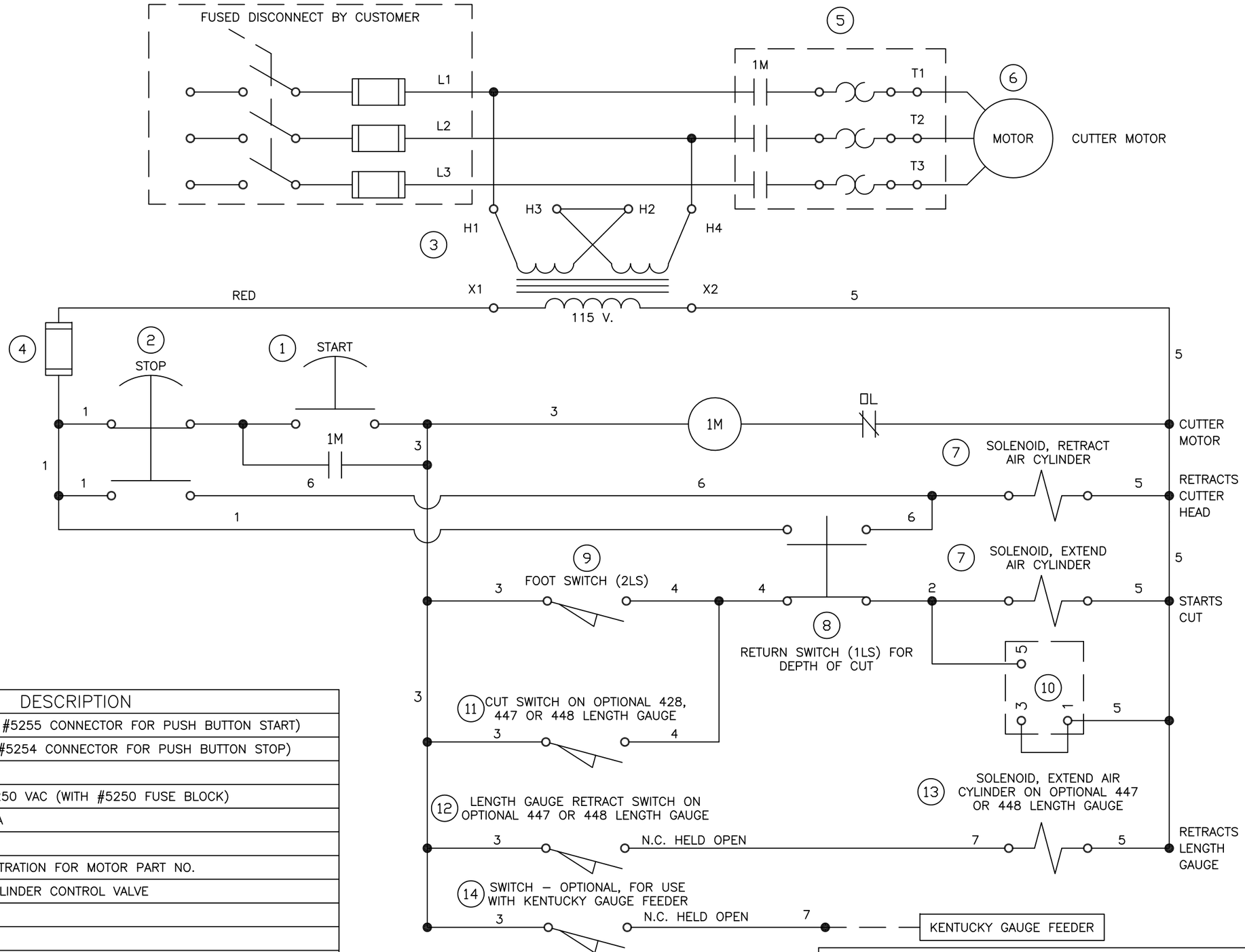
Retract Hydrocheck piston rod and hold retracted. Fill Hydrocheck until oil bleeds from small hole in balance cylinder. (Air must be bled from gun before filling Hydrocheck.) Slowly cycle piston rod. Stand Hydrocheck for a period of time with fill valve in highest position. Using a small rod (paper clip), open fill valve and allow air to bleed off. Fill again with bleed hole in balance cylinder in the highest position and with piston rod retracted. Allow a clear stream of oil to flow from small hole in balance cylinder. Using a small rod, release a quantity of oil from fill valve so Hydrocheck is not over-filled (third innermost groove on indicator rod flush with balance cylinder head with threaded rod retracted). Hydrocheck is now ready for use.

IRREGULAR CHECKING ACTION

The presence of air in the Hydrocheck will cause irregular checking action. Air can be detected by a spongy feel when pressing on the balance cylinder rod, or by the sound of air passing through needle valve when in operation. Follow Air Bleeding Procedure to remove all traces of trapped air.

SECTION G

W I R I N G D I A G R A M



ITEM	PART No.	DESCRIPTION
1	5247–1	PUSH BUTTON START (WITH #5255 CONNECTOR FOR PUSH BUTTON START)
2	5246–1	PUSH BUTTON STOP (WITH #5254 CONNECTOR FOR PUSH BUTTON STOP)
3	5228	TRANSFORMER
4	5251	NON–BUSS FUSE, 3 AMP, 250 VAC (WITH #5250 FUSE BLOCK)
5	5249	STARTER, MODEL 2A AND 3A
	5208	STARTER, MODEL 6A
6		MOTOR – SEE PARTS ILLUSTRATION FOR MOTOR PART NO.
7		SOLENOID AT #6207 AIR CYLINDER CONTROL VALVE
8	5224–1	SWITCH – DEPTH OF CUT
9	5243	FOOT SWITCH
10	6311	COUNTER
11	5211	CUT SWITCH ON OPTIONAL 428, 447 OR 448 LENGTH GAUGE
12	5224–1	LENGTH GAUGE RETRACT SWITCH ON OPTIONAL 447 OR 448 LENGTH GAUGE
13		SOLENOID AT #5807 AIR CYLINDER
14	5224–1	SWITCH – OPTIONAL, FOR USE WITH KENTUCKY GAUGE FEEDER

CONTINENTAL PIPE & TUBE CUT–OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

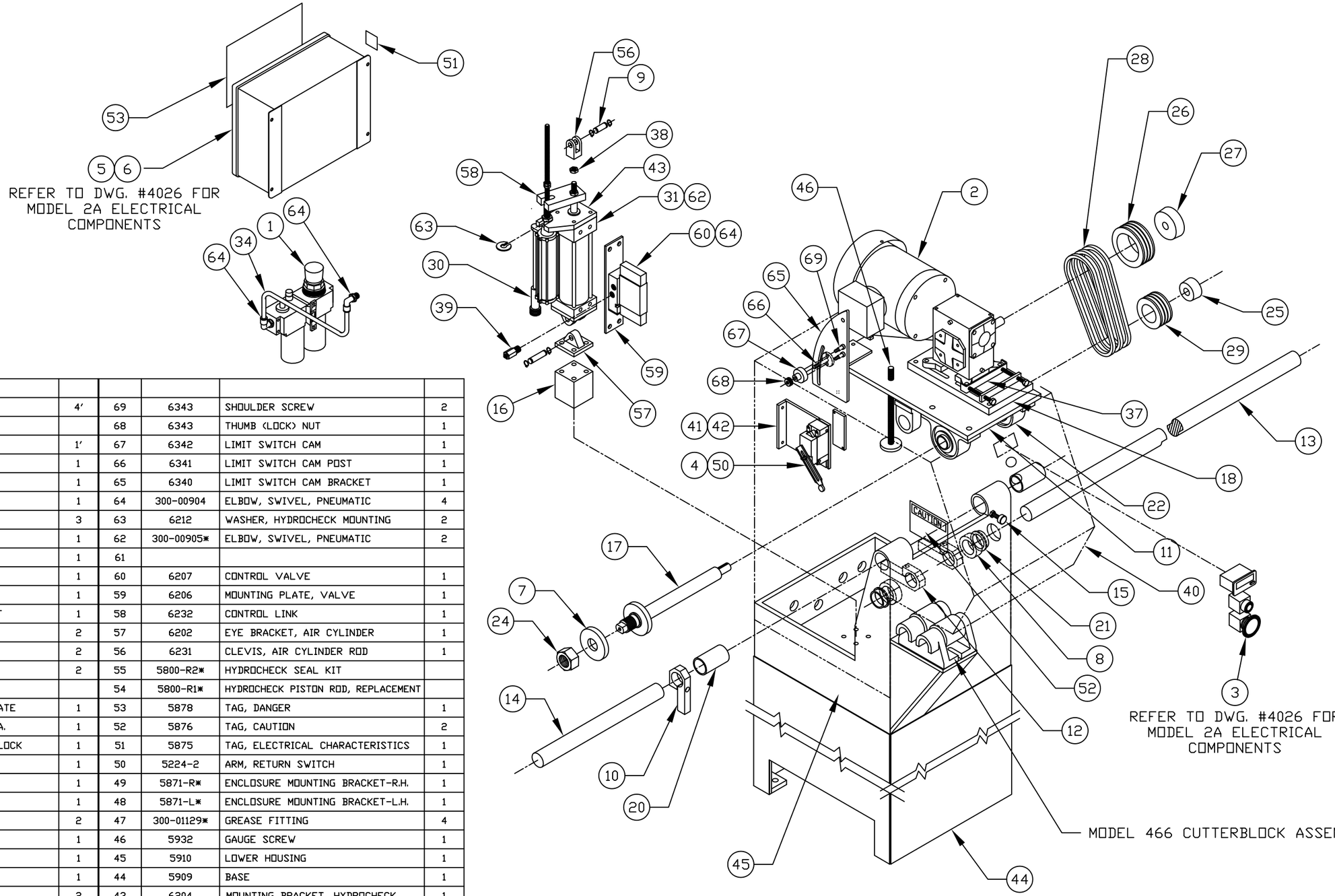
325 SOUTH FAIRBANKS STREET, ADDISON, ILLINOIS, 60101

SCHEMATIC WRING DIAGRAM FOR
MODEL 2A, 3A AND 6A CUT–OFF MACHINES

CURRENT REVISION: X	DATE: 9/11/14	DRAWING NUMBER: 4026, REVISION X

SECTION H

P A R T S I L L U S T R A T I O N S



ITEM	PART No.	DESCRIPTION	QTY.	ITEM	PART No.	DESCRIPTION	QTY.
35							
34	300-01139	TUBING, PNEUMATIC	4'	69	6343	SHOULDER SCREW	2
33				68	6343	THUMB (LOCK) NUT	1
32	5243	FOOT SWITCH	1'	67	6342	LIMIT SWITCH CAM	1
31	6230	AIR CYLINDER	1	66	6341	LIMIT SWITCH CAM POST	1
30	5800	HYDROCHECK	1	65	6340	LIMIT SWITCH CAM BRACKET	1
29	5767	TAPERLOCK SHEAVE	1	64	300-00904	ELBOW, SWIVEL, PNEUMATIC	4
28	5766	V-BELT	3	63	6212	WASHER, HYDROCHECK MOUNTING	2
27	5765	TAPERLOCK BUSHING	1	62	300-00905*	ELBOW, SWIVEL, PNEUMATIC	2
26	5764	TAPERLOCK SHEAVE	1	61			
25	5761	TAPERLOCK BUSHING	1	60	6207	CONTROL VALVE	1
24	5723	CUTTERSHAFT NUT	1	59	6206	MOUNTING PLATE, VALVE	1
23	5702*	WRENCH, CUTTERSHAFT NUT	1	58	6232	CONTROL LINK	1
22	5652	PILLOW BLOCK	2	57	6202	EYE BRACKET, AIR CYLINDER	1
21	5645	BUSHING, FLANGED	2	56	6231	CLEVIS, AIR CYLINDER ROD	1
20	5644	BUSHING	2	55	5800-R2*	HYDROCHECK SEAL KIT	
19				54	5800-R1*	HYDROCHECK PISTON ROD, REPLACEMENT	
18	5867	GEARHEAD ADJUSTMENT PLATE	1	53	5878	TAG, DANGER	1
17	5556	CUTTERSHAFT - 1-7/16 DIA.	1	52	5876	TAG, CAUTION	2
16	6203	AIR CYLINDER MOUNTING BLOCK	1	51	5875	TAG, ELECTRICAL CHARACTERISTICS	1
15	5496	TRIP/TRAVEL STOP	1	50	5224-2	ARM, RETURN SWITCH	1
14	5495	PIVOT BAR	1	49	5871-R*	ENCLOSURE MOUNTING BRACKET-R.H.	1
13	5494	GAUGE BAR	1	48	5871-L*	ENCLOSURE MOUNTING BRACKET-L.H.	1
12	5493	GAUGE LEVER	2	47	300-01129*	GREASE FITTING	4
11	5422	MOTOR PLATE	1	46	5932	GAUGE SCREW	1
10	5417	GAUGE CAM	1	45	5910	LOWER HOUSING	1
9	5405	AIR CYLINDER PIN	1	44	5909	BASE	1
8	5384	GAUGE BAR COLLAR	2	43	6204	MOUNTING BRACKET, HYDROCHECK	1
7	5326	CLAMP COLLAR	1	42	5859	RETURN SWITCH BACKING PLATE	1
6	5225-2*	PANEL, TERMINAL BOX	1	41	5858	RETURN SWITCH MOUNTING BRACKET	1
5	5225-1	STARTER & TERMINAL BOX	1	40	5856	ENCLOSURE	1
4	5224-1	RETURN SWITCH	1	39	6208	EXHAUST MUFFLER/SPEED CONTROL	1
3	6324*	PUSH-BUTTON & COUNTER ENCLOSURE	1	38	6233	HEX JAM NUT	2
2	5219	GEARHEAD MOTOR - 1 H.P.	1	37	5842	GEARHEAD PUSH BAR	1
1	4520	TRIO CONTROL UNIT	1	36			

BILL OF MATERIALS

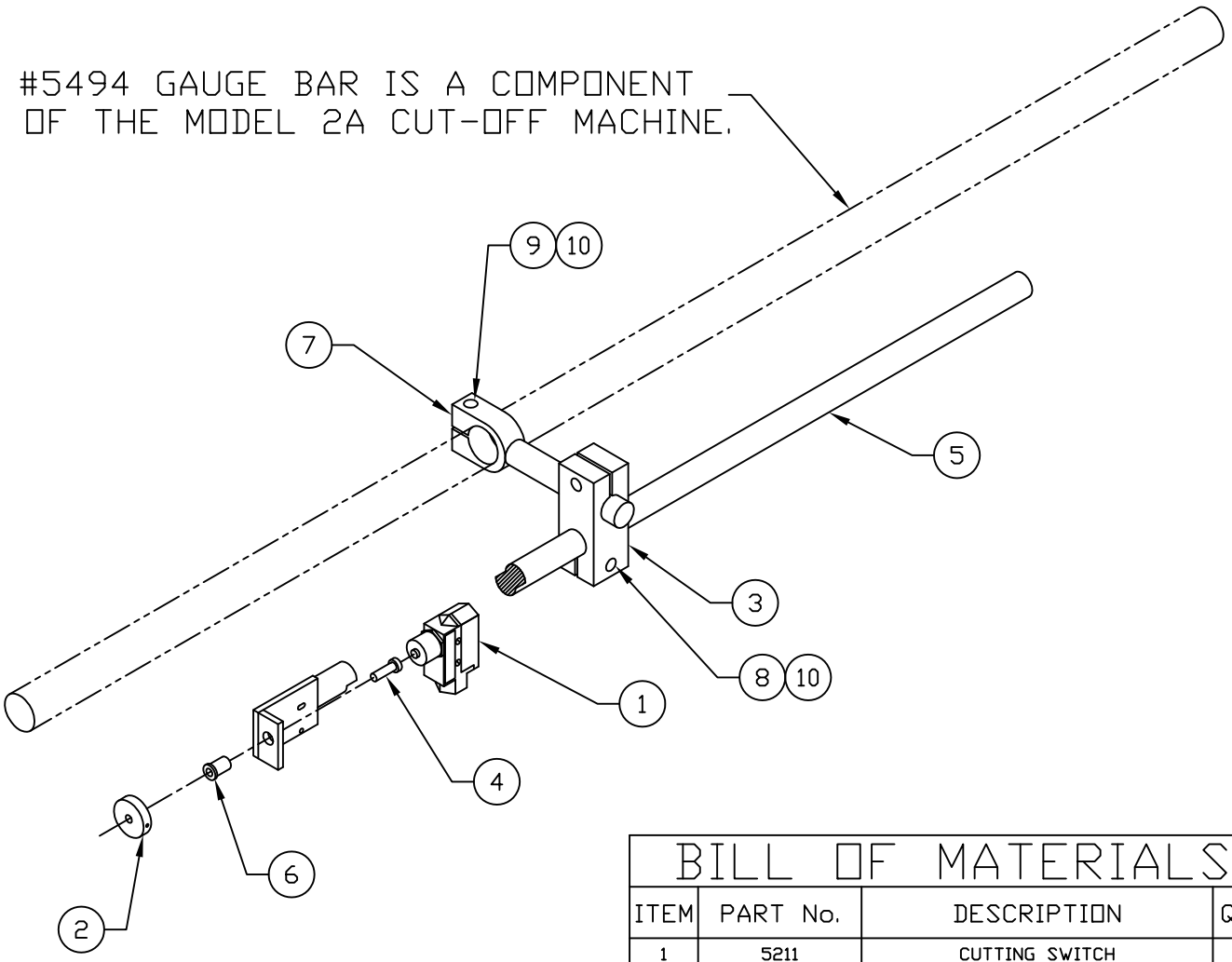
NOTE: ITEMS MARKED (*) ARE NOT ILLUSTRATED.

CONTINENTAL PIPE & TUBE CUT-OFF MACHINES
A DIVISION OF KIENE DIESEL ACCESSORIES, INC.
325 SOUTH FAIRBANK STREET - ADDISON, ILLINOIS 60101

PARTS ILLUSTRATION
MODEL 2A CUT-OFF MACHINE

CURRENT REVISION: S	FILE NAME: PI2A	DRAWING NUMBER: PI 2A

#5494 GAUGE BAR IS A COMPONENT OF THE MODEL 2A CUT-OFF MACHINE.



BILL OF MATERIALS

ITEM	PART No.	DESCRIPTION	QTY.
1	5211	CUTTING SWITCH	1
2	5469	PIPE STOP	1
3	5479	BRACKET, FRONT	1
4	5984	SWITCH ACTIVATING PIN	1
5	5591	SWITCH MOUNTING BRACKET & BAR	1
6	5983	FLANGED GUIDE BUSHING	1
7	5933	GAUGE SUPPORT, BACK	1
8	201-64420	1/2-13 X 1-3/4 LG. HHCS	2
9	201-64421	1/2-13 X 2" LG. HHCS	1
10	206-61028	1/2 SAE WASHER	3

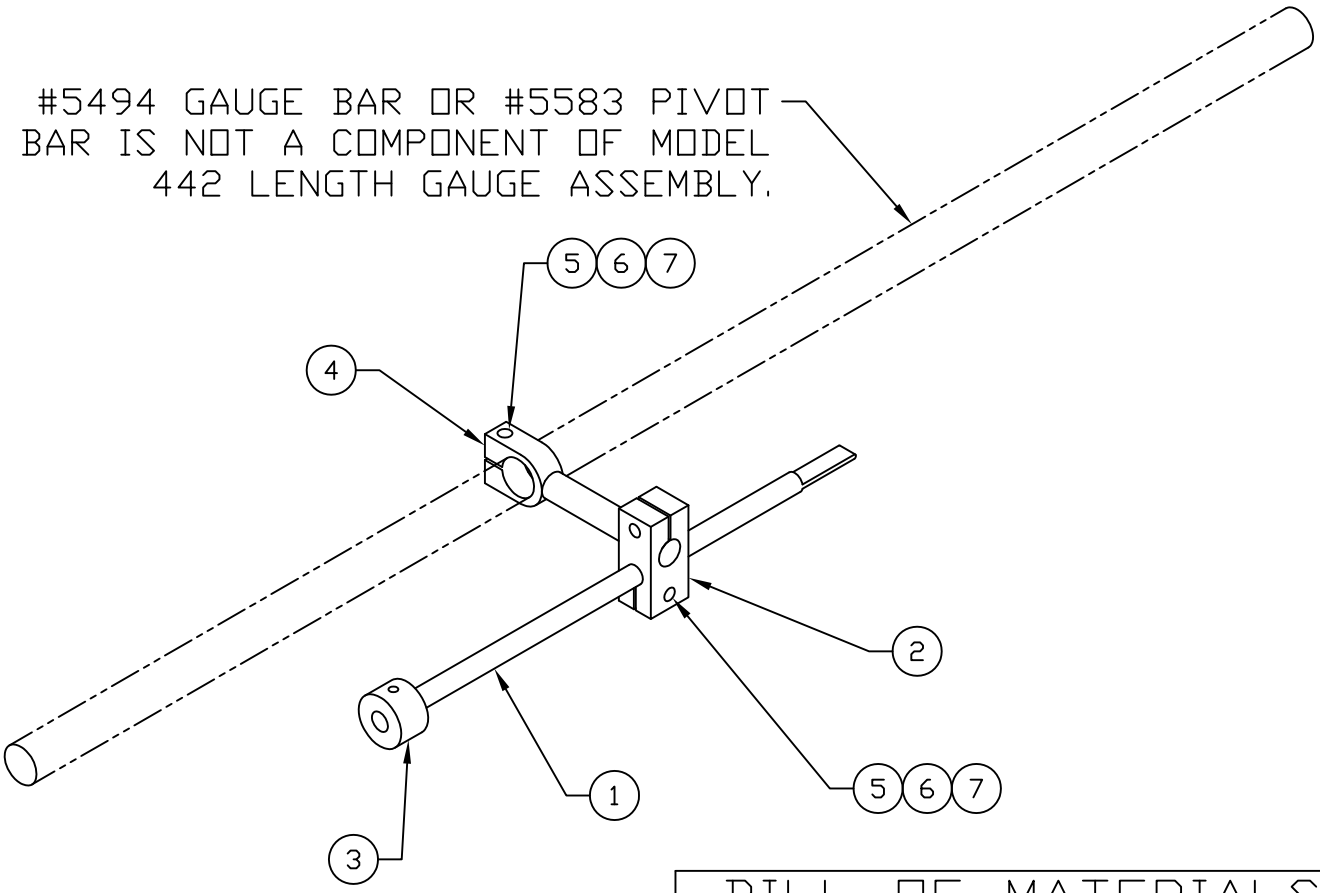
CONTINENTAL PIPE & TUBE CUT-OFF MACHINES
A DIVISION OF KIENE DIESEL ACCESSORIES, INC.
325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

PARTS ILLUSTRATION
MODEL 428 AUTOMATICE LENGTH GAUGE ASSEMBLY

CURRENT REVISION: B	DATE: 3/27/92	DRAWING NUMBER: PI 428

REVISIONS			
REV	DESCRIPTION	DRWN	DATE
	CURRENT REVISION: A		

#5494 GAUGE BAR OR #5583 PIVOT BAR IS NOT A COMPONENT OF MODEL 442 LENGTH GAUGE ASSEMBLY.



BILL OF MATERIALS

ITEM	PART No.	DESCRIPTION	QTY.
1	5354	GAUGE PIN	1
2	5439	GAUGE SUPPORT, FRONT	1
3	5516	HARDENED PIPE STOP	1
4	5933	GAUGE SUPPORT, BACK	1
5	201-64421	1/2-13 X 2" LG. HHCS	3
6	206-61028	1/2 SAE WASHER	3
7	207-61028	1/2 SPLIT LOCK WASHER	3

CONTINENTAL PIPE & TUBE CUT-OFF MACHINES
A DIVISION OF KIENE DIESEL ACCESSORIES, INC.
325 S. FAIRBANKS ST., ADDISON, IL., 60101

MATERIAL: AS SHOWN

FINISH: SEE DETAIL DWGS.

TOLERANCE UNLESS OTHERWISE SPECIFIED:
FRACTIONS: +/- 1/64
DECIMALS: +/- .005
ANGLES: +/- .5°
FILE NAME: PI442

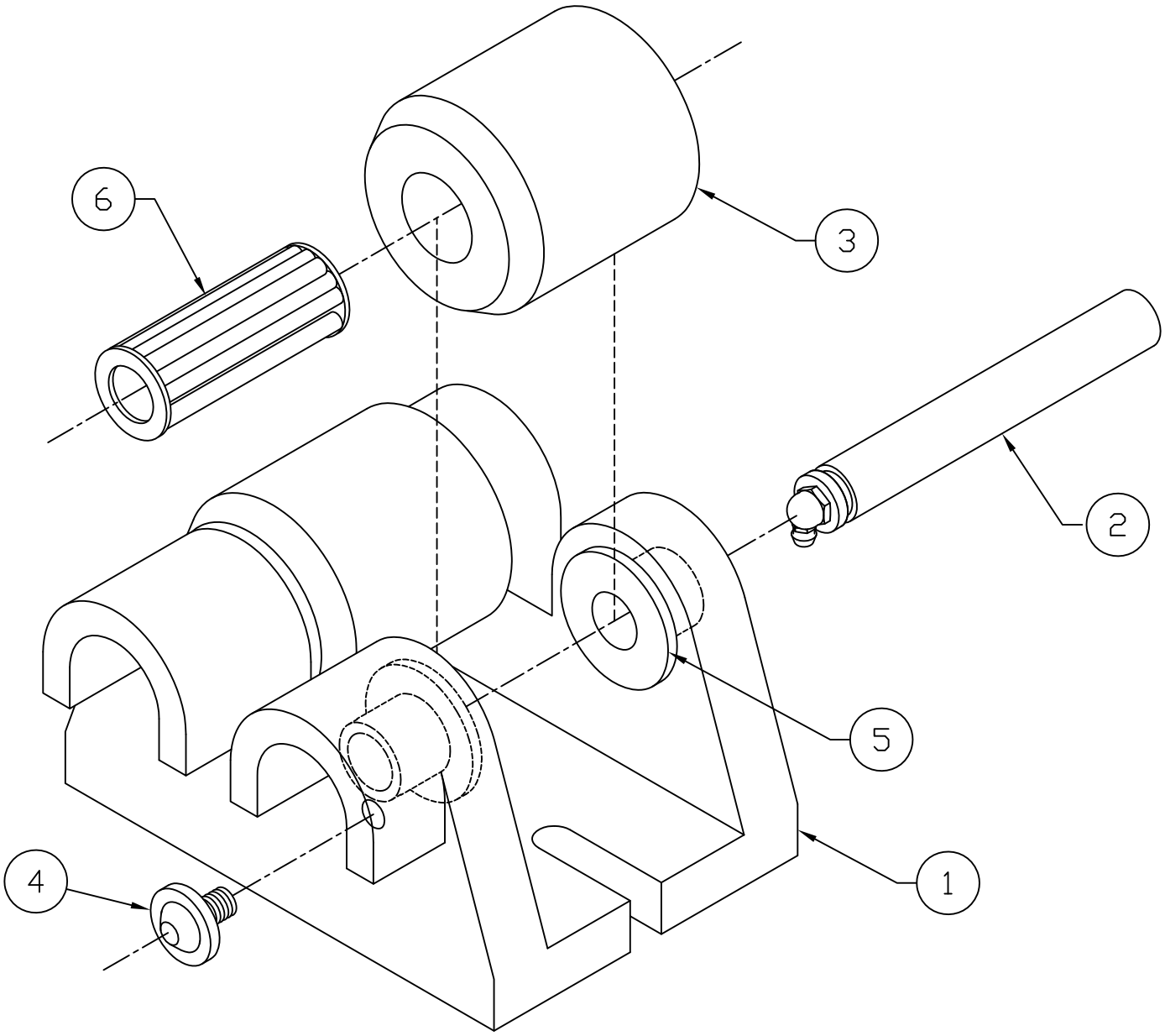
SCALE: NONE

PARTS ILLUSTRATION MODEL 442 LENGTH GAUGE ASSEMBLY

DATE: 3/27/92

DRWN: GFK

PART NUMBER: PI 442



LUBRICATE ROLLERBEARINGS WITH KENDALL SUPER BLU HIGH TEMP EP L-427 GREASE (CONTINENTAL PART NO. 5960). PUMP A SUFFICIENT QUANTITY INTO EACH BEARING THROUGH THE FITTING SO THAT GREASE IS FORCED OUT BETWEEN THE BEARING AND CUTTER BLOCK ROLL. REMOVE EXCESS GREASE.

BILL OF MATERIALS

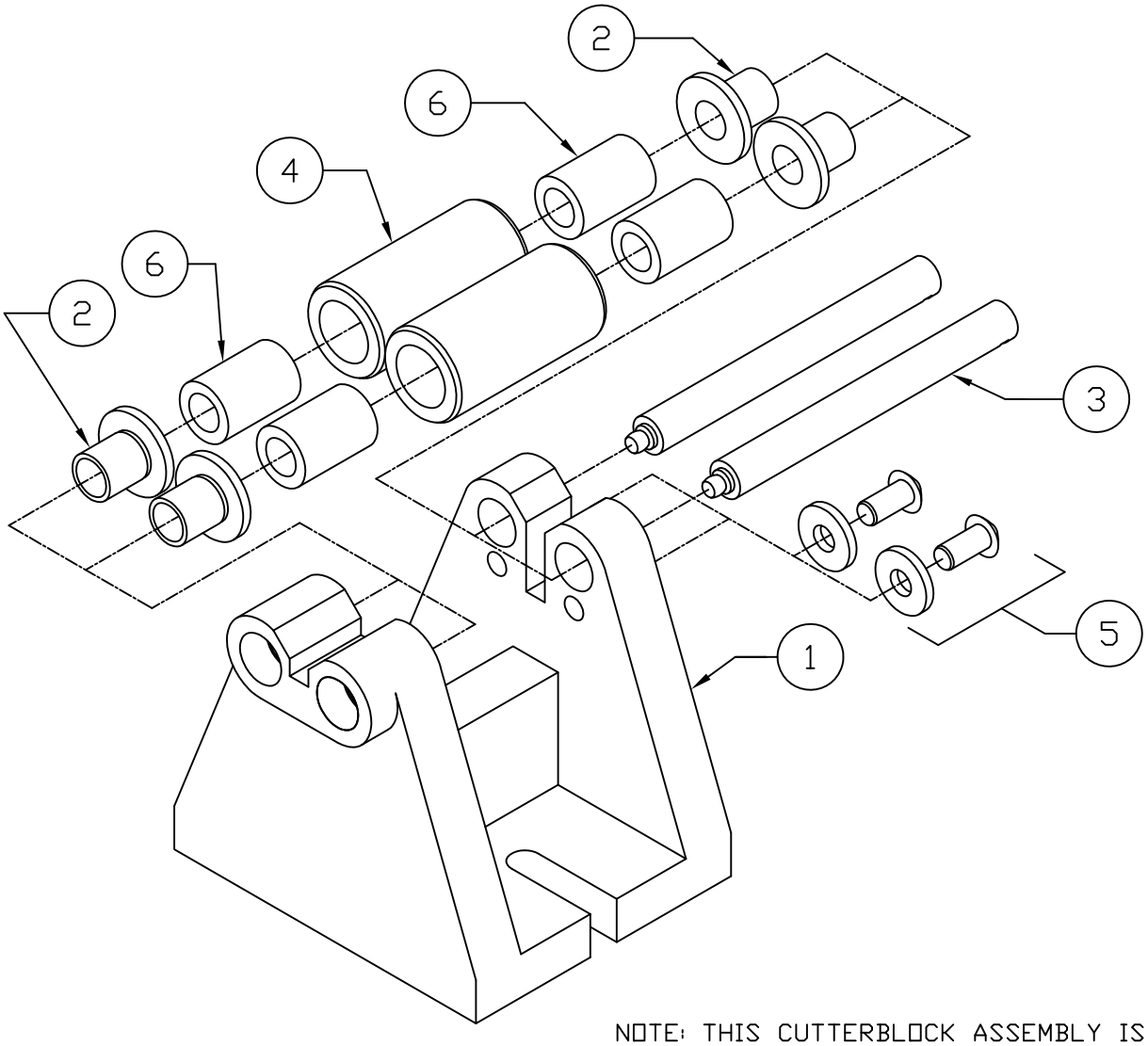
ITEM	PART NO.	DESCRIPTION	QTY.
1	5104	CUTTER BLOCK	1
2	5311	ROLL PIN	2
3	5312	CUTTER BLOCK ROLL	2
4	5361	ROLL PIN CLAMP SCREW	2
5	5395	ROLL PIN BUSHING	4
6	5616	ROLLERBEARING	2

CONTINENTAL PIPE & TUBE CUT-OFF MACHINES
A DIVISION OF KIENE DIESEL ACCESSORIES, INC.
325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

PARTS ILLUSTRATION
MODEL 466 CUTTER BLOCK ASSEMBLY

CURRENT REVISION: B	DATE: 9/9/91	DRAWING NUMBER: PI 466

REVISIONS			
REV	DESCRIPTION	DRWN	DATE
	CURRENT REVISION: B		



NOTE: THIS CUTTERBLOCK ASSEMBLY IS ALSO AVAILABLE WITH POLYURETHANE COATED ROLLS (PART NO. 5368).

LUBRICATE ROLLERBEARINGS WITH KENDALL SUPER BLU HIGH TEMP EP L-427 GREASE (CONTINENTAL PART NO. 5960). PUMP A SUFFICIENT QUANTITY INTO EACH BEARING THROUGH THE FITTING SO THAT GREASE IS FORCED OUT BETWEEN THE BEARING AND CUTTER BLOCK ROLL. REMOVE EXCESS GREASE.

BILL OF MATERIALS

ITEM	PART NO.	DESCRIPTION	QTY.
1	5110	STATIONARY CUTTER BLOCK	1
2	5313	CUTTER BLOCK ROLL PIN BUSHING	4
3	5314	CUTTER BLOCK ROLL PIN	2
4	5315	CUTTER BLOCK ROLL	2
5	5361	CUTTER BLOCK PIN CLAMP SCREW	2
6	5615	CUTTER BLOCK ROLLERBEARING	4

CONTINENTAL PIPE & TUBE CUT-OFF MACHINES
A DIVISION OF KIENE DIESEL ACCESSORIES, INC.
325 S. FAIRBANKS ST., ADDISON, IL., 60101

MATERIAL: AS SHOWN

FINISH: SEE DETAIL DWGS.

TOLERANCE UNLESS OTHERWISE SPECIFIED:
FRACTIONS: +/- 1/64
DECIMALS: +/- .005
ANGLES: +/- .5°
FILE NAME: PI491

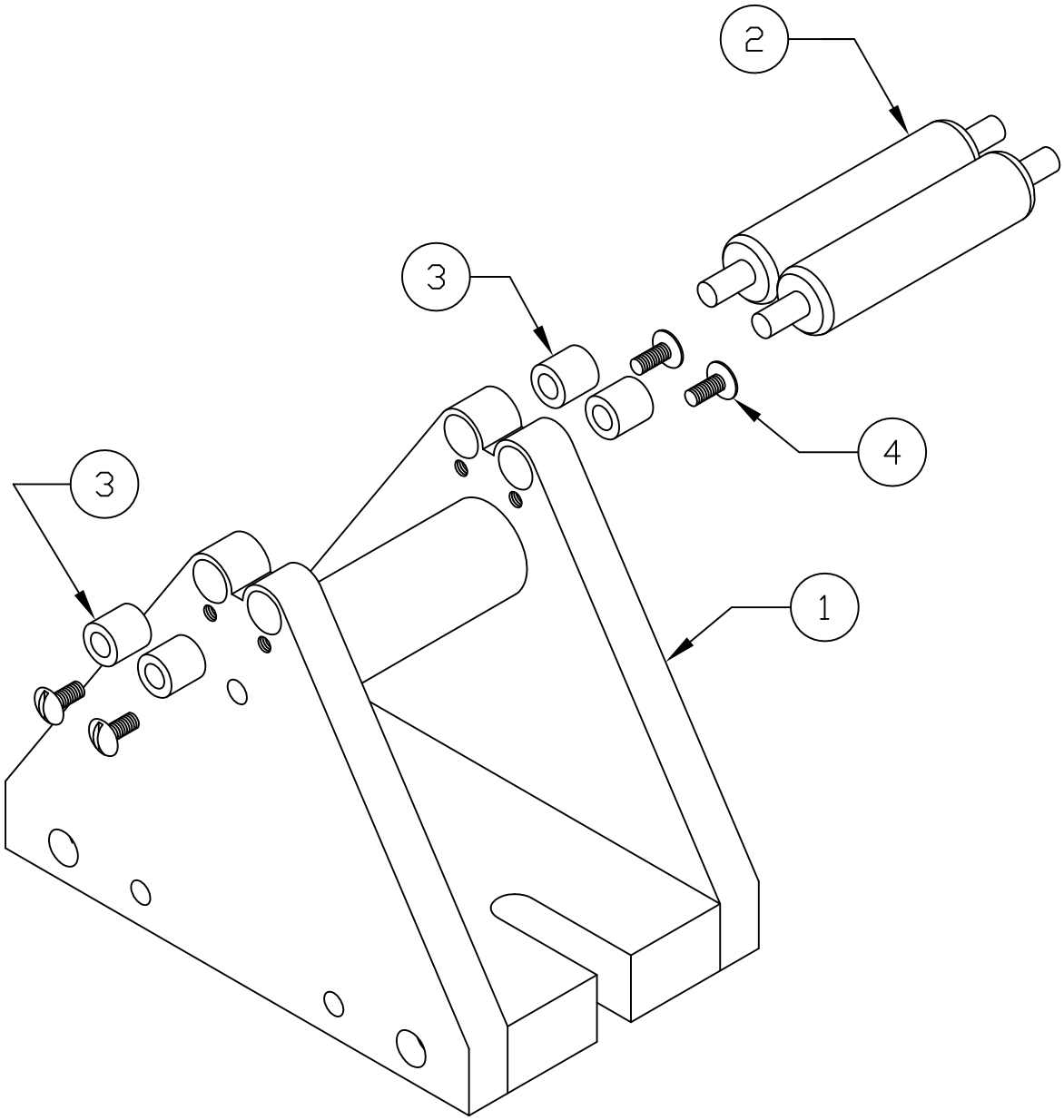
SCALE: NONE

PARTS ILLUSTRATION MODEL 491 CUTTER BLOCK ASSEMBLY

DATE: 3/30/92

DRWN: GFK

PART NUMBER: PI 491



PACK BEARINGS WITH KENDALL SUPER BLU HIGH TEMP EP L-427 GREASE (CONTINENTAL PART NO. 5960). REMOVE EXCESS GREASE.

BILL OF MATERIALS

ITEM	PART NO.	DESCRIPTION	QTY.
1	5569	CUTTER BLOCK	1
2	5307	CUTTER BLOCK ROLL	2
3	5614	BEARING	4
4	224-63030	#8-32 X 3/8 TRUSS HEAD SCREW	4

CONTINENTAL PIPE & TUBE CUT-OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

PARTS ILLUSTRATION
MODEL 492 CUTTERBLOCK ASSEMBLY

CURRENT REVISION: A	FILE NAME: PI492	DRAWING NUMBER: PI 492

W A R R A N T Y

The equipment delivered hereunder is guaranteed to be free from defective material and workmanship for a period of six (6) months from date of delivery, when given normal and proper usage, and when used by the original purchaser.

Notice of any claimed defect must be given to seller within thirty (30) days after discovery of any claimed defect. During warranty period, seller's obligation shall be limited to delivering to the buyer, F.O.B. seller's plant, replacements of any equipment or parts, or repairing such equipment or parts, found defective by inspection.

Any article not of seller's manufacture included in this proposal is sold under such warranty only as the makers give us, and we are able to enforce, but it is not guaranteed by seller in any way. No equipment or material shall be returned to seller except on our specific instructions and no claim will be honored unless we have been given an opportunity for inspection on site and in the claimed defective condition. The determination of seller's representative will be final. Seller assumes no responsibility for reimbursing repair or replacement costs incurred without our prior written authorization, or prior to a determination of seller's authorized representative. Seller assumes no liability for the cost of installation of repaired or replacement parts. All costs of packing and shipping defective parts and/or replacement of repaired parts shall be paid by buyer. In no event shall our liability under this warranty exceed the purchase price paid for the products.

THE WARRANTY STATED HEREIN IS IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SELLER SHALL HAVE NO LIABILITY WHATSOEVER IN ANY EVENT FOR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES RESULTING IN PERSONAL INJURY.

Any action for breach of this warranty or other action under this contract must be commenced within one (1) year after such cause of action arises.