CONTINENTAL MODEL 12A

PIPE AND TUBE CUT-OFF MACHINE

SERIAL NO. _____

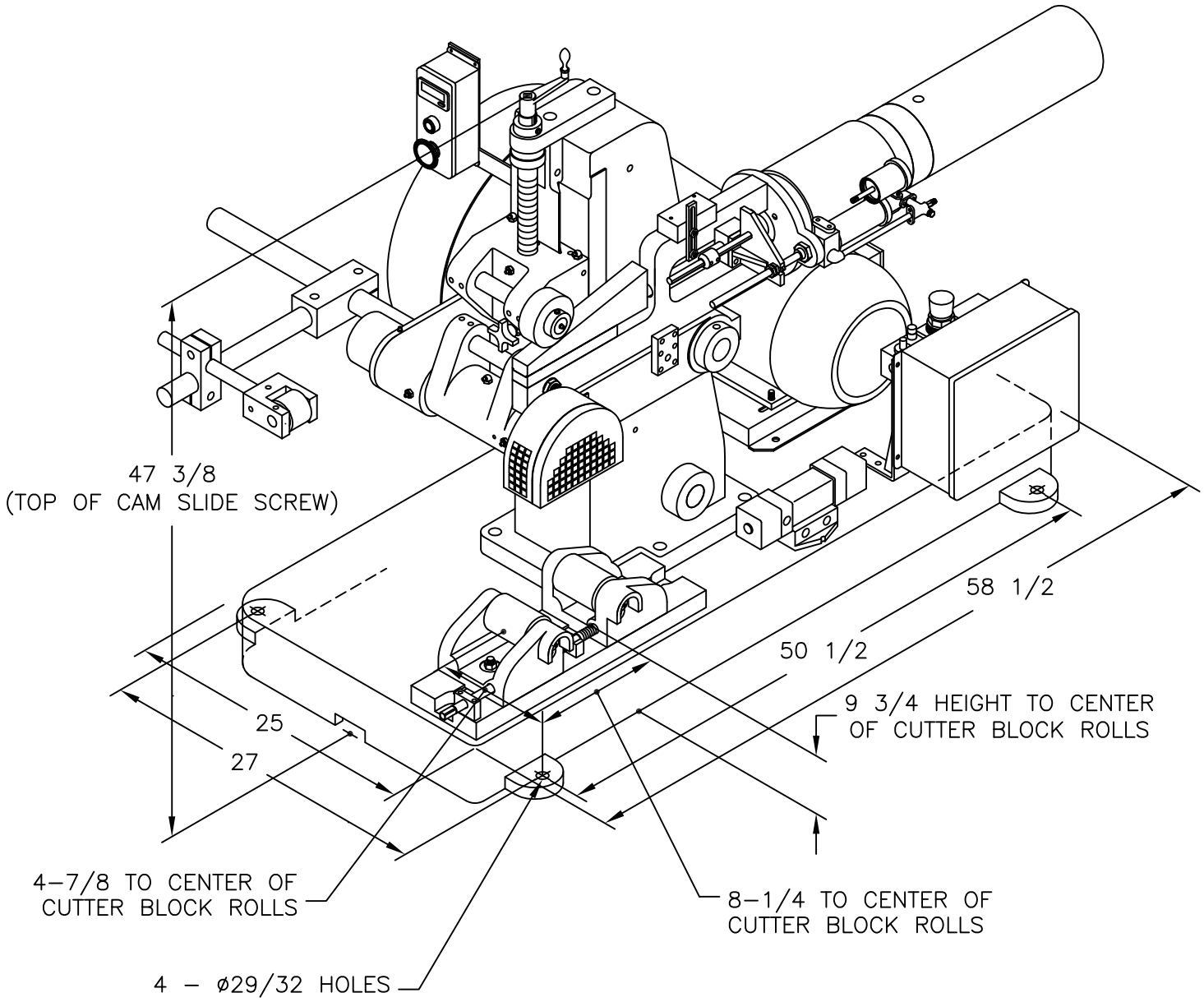
INSTRUCTION AND PARTS MANUAL

CONTINENTAL MODEL 12A

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**



CONTINENTAL PIPE & TUBE CUT–OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

OVERALL DIMENSIONS
MODEL 12A CUT–OFF MACHINE

CURRENT REVISION: B	DATE: 6/4/13	DRAWING NUMBER: MODEL 12A 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 12A-D, MODEL 12A 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 counter 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

The cutter block assembly 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

Model #469 Cutter Block Assemblies may be used as tube supports. They are easily adjustable to accommodate various tube diameters.

Tube supports must be provided on both infeed and outfeed sides of the machine in order to fully support the tube during cutting. The tube should be fed into the machine from the cut-off blade side.

The tube supports must be carefully aligned with the machine and bolted to the floor. Misalignment may result in blade breakage, tube threading, and poor cuts. First, set the supports in place. They should be spaced to provide sufficient support. The tube to be cut should not sag between the supports. NOTE: If short pieces are to be cut, place one of the supports close to the infeed side of the machine.

If Model #469 Cutter Block Assemblies are used as tube supports, first adjust them so that the rolls are the same distance apart. Then, place a length of tube in the supports and the cutter block rolls on the machine. Adjust the supports so that the tube is touching the entire length of both cutter block rolls (front and back) and all tube support rolls.

When all tube supports are aligned, they should be bolted securely in place.

MODEL #445 STANDARD LENGTH GAUGE

The Model 12A may be equipped with a Model #445 Standard Length Gauge. Assemble the length gauge as follows, referring to the appropriate drawings in the PARTS ILLUSTRATIONS SECTION.

Slide the #5514 Gauge Rod into the 1 3/4" bores in the column. Tighten set screws to lock gauge rod in place.

Assemble #5167 Gauge Support (back), #5513 Gauge Bar, #5168 Gauge Support (front), and #5478 Gauge Pin with #5169 Gauge Roll Bracket and Gauge Roll. Slide this assembly onto the #5514 Gauge Bar.

SECTION C. C O N T R O L S

START/STOP SWITCH

This switch is located at the front of the 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.

RETURN SWITCH

The Return Switch is a limit switch located on the #5935 Air Cylinder and Piston Support. When tripped, this switch causes the air cylinder to retract, ending the cut-off stroke.

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 80 to 110 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 is controlled by the #5739 Flow Control Valves located under the air cylinder. They should be adjusted to provide a quick action, but not so fast that the motion is harsh or jerky. These control valves have 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:

1. BEFORE ATTEMPTING TO OPERATE THE MODEL 12A, READ AND UNDERSTAND THIS SECTION COMPLETELY.

2. DO NOT ALLOW THE CUT-OFF BLADE TO CONTACT THE CUTTER BLOCK ROLLS. THIS WILL RESULT IN IMMEDIATE DAMAGE TO THE BLADE AND ROLLS.

Follow the steps below to set-up and operate the model 12A 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 #5726 Cutter Shaft Nut and #5399 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. Adjust the spacing of the Cutter Block Rolls so that an angle of approximately 90 degrees is formed by lines from the center of the tube to the center of each roll.

3. Place a length of the tube to be cut in the Cutter Block Rolls and the Pipe Support. Adjust the Pipe Supports 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.

4. Set air pressure to approximately 80 to 110 PSI.

5. Set the knurled adjusting knob on the #4550 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.

6. Loosen the #5300 Camslide Set Screw and position the #5164-A Camslide so that the cut-off blade is about 1/2" above the tube. Tighten Camslide Set Screw.

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.

8. Adjust the #5224 Return Switch so that the cut-off blade just passes through the thickness of the material.
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.

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 the tube size, wall thickness, and particularly the 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 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 UNDERSIDE OF THE CUTTER ARM AS THE CUT IS BEING MADE.

11. Adjust the Model #445 Standard 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. **Do not hold the foot switch closed during the cutting action. If it is 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.**

12. Lock all adjustments so that they do not change during production.

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:

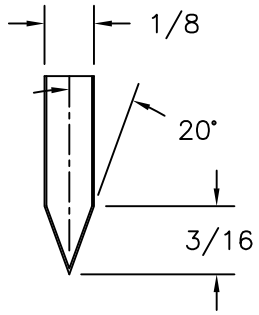
    A. If a sharper edge is left on the blade (less honing), the blade will cut faster and with less pressure, but will not last as long between resharpenings. This is more appropriate for thin-walled, softer, materials.

    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.

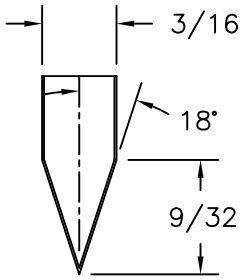
FIG. 1 – RECOMMENDED CUT–OFF BLADE BEVELS

1/8" STANDARD BEVEL



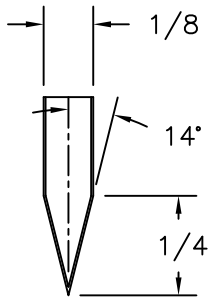
1/8" BLADE FOR WALL THICK–NESS UP TO .125" (1/8").

3/16" STANDARD BEVEL



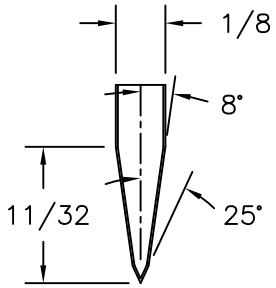
3/16" BLADE FOR WALL THICK–NESS UP TO .250" (1/4").

TUBE BEVEL



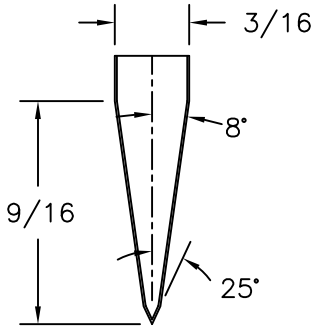
1/8" BLADE FOR WALL THICK–NESS UP TO .065".

1/8" LONG BEVEL



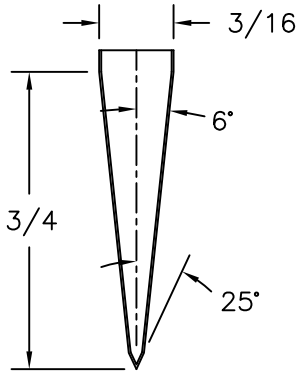
1/8" BLADE FOR WALL THICK–NESS UP TO .313" (5/16").

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.

3. Lubricate the #5461 and #5460 upper and lower Wedge Blocks. A grease fitting is provided on the #5344 Fastening Pin. Use #2 EP grease.

4. Lubricate Cutter Block Roll bearings. Use #2 EP grease.

5. If equipped with Model #445 Length Gauge, lubricate #5480 Gauge Pin. Use #2 EP grease.

6. Lubricate front and rear Cutter Arm Bearings. Eight grease fittings are provided on the Cutter Arm. One (1) grease fitting is located at the back of the machine column. Use #2 EP grease.

WEEKLY CHECKS

1. Lubricate #5398 Cam Roll. A grease fitting is provided in the #5343 Cam Roll Pin.

2. Check Air Line Lubricator to make sure it provides approximately one drop of oil for every 5 to 10 strokes of the Air Cylinder.

SIX MONTH CHECKS

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

2. 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.

4550 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 4550-R1, 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

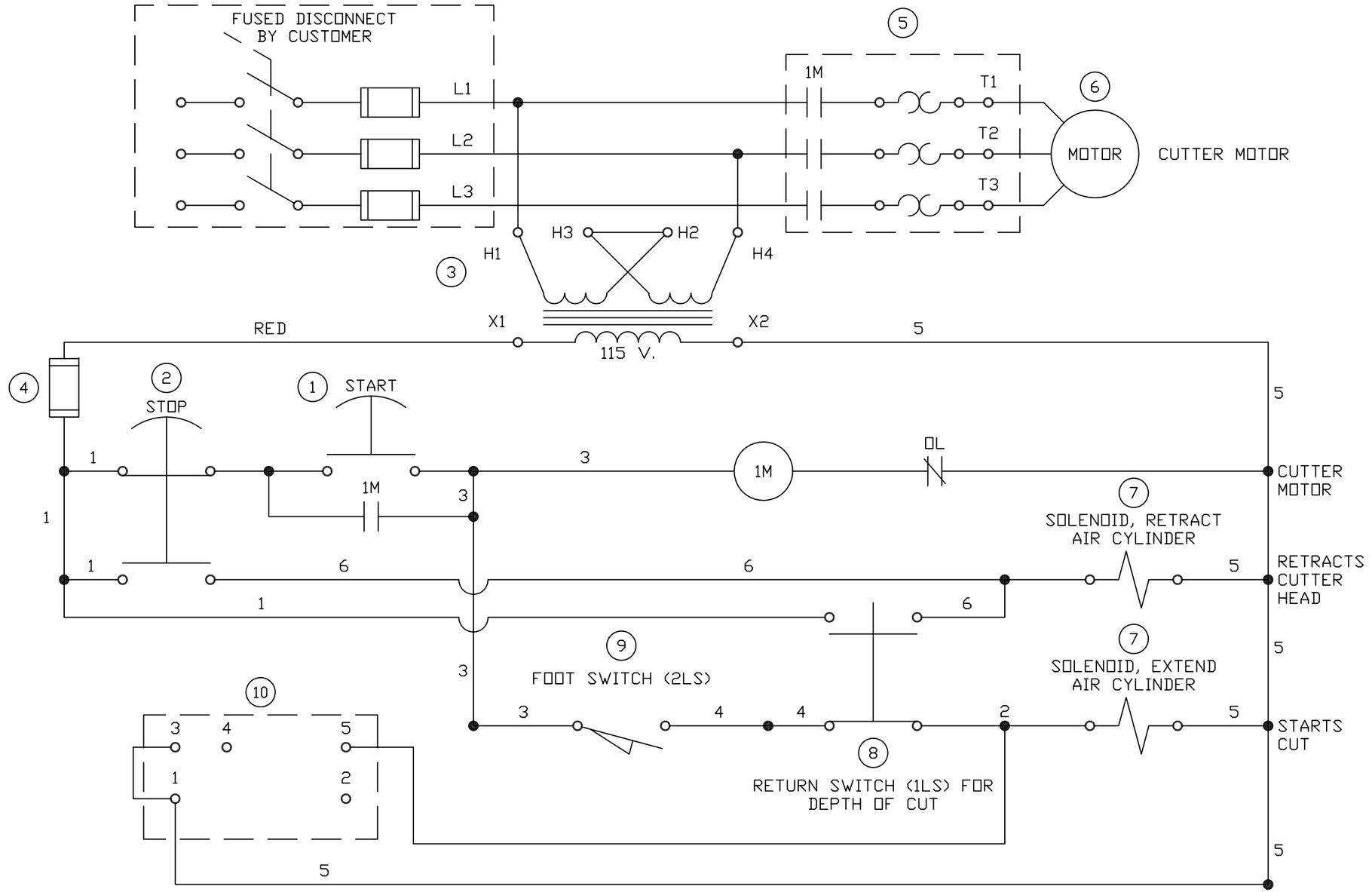
Retract Hydrocheck piston rod and hold retracted. Fill Hydrocheck until oil bleeds from small hole in balance cylinder. (Air must be bled from gun before filling Hydrocheck.) Slowly cycle piston rod. Stand Hydrocheck for a period of time with fill valve in highest position. Using a small rod (paper clip), 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



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 3 AMP, 250 V., NON-BUSS FUSE (WITH #5250 FUSE BLOCK)
5. #5208 STARTER
6. MOTOR
7. #5819 SOLENOID VALVE
8. #5224-1 SWITCH - DEPTH OF CUT
9. #5243 FOOT SWITCH
10. #6311 COUNTER

CONTINENTAL PIPE & TUBE CUT-OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

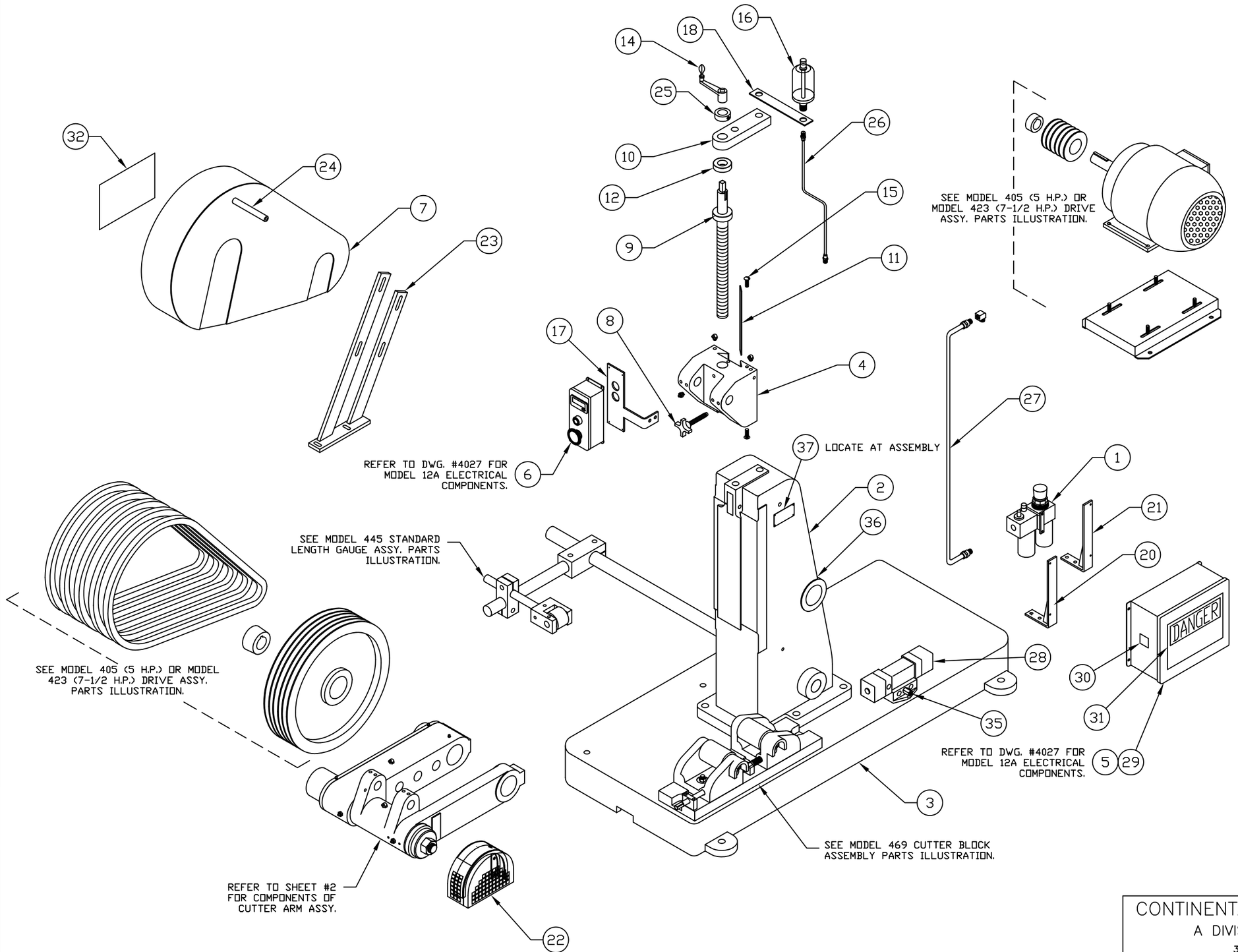
325 SOUTH FAIRBANK STREET - ADDISON, ILLINOIS 60101

SCHEMATIC WIRING DIAGRAM
MODEL 12A CUT-OFF MACHINE

CURRENT REVISION: H	DATE: 9/11/14	DRAWING NUMBER: 4027, REVISION H

SECTION H

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



BILL OF MATERIALS

ITEM	PART No.	DESCRIPTION	QTY.
1	6318	TRIO CONTROL UNIT	1
2	5160	COLUMN	1
3	5161	COLUMN BASE	1
4	5164-A	CAM SLIDE	1
5	5225-1	STARTER & TERMINAL BOX	1
6	6322 (2)	COUNTER & PUSH-BUTTON BOX	1
7	5291	V-BELT GUARD	1
8	5300	CAM SLIDE SET SCREW	1
9	5364-A	CAM SLIDE ADJUSTING SCREW	1
10	5429	CAM SLIDE SCREW PLATE	1
11	5482	GIB	1
12	5621	BEARING, CAM SLIDE SCREW	1
13	5702*	WRENCH, CUTTERSHAFT NUT	1
14	5705	HANDLE	1
15	5724	SCREW, CAM SLIDE GIB	2
16	6304	FEED OILER	1
17	6316	BRACKET, PUSH BUTTON BOX	1
18	5922	BRACKET, FEED OILER	1
19			1
20	5939-L	BRACKET (LH), STARTER BOX	1
21	5939-R	BRACKET (RH), STARTER BOX	1
22	5976 (1)	BLADE GUARD ASSY.	1
23	5973	MOUNTING BRACKET, V-BELT GUARD	1
24	5974	SUPPORT BAR, V-BELT GUARD	1
25	5458	GAUGE SHAFT/CAM COLLAR	1
26	6307	OILER HOSE & FITTINGS	1
27		AIR HOSE	
28	5819	AIR VALVE	1
29	5225-2	PANEL, TERMINAL BOX	1
30	5875	TAG, ELECTRICAL CHARACTERISTICS	1
31	5878	TAG, DANGER	1
32	5877	TAG, CAUTION	1
* 33	5243	FOOT SWITCH	1
34			
35	6319	MUFFLER/SPEED CONTROL	1
36	5868	GREASE FITTING, STRAIGHT	1
37	5961	NAMEPLATE, SERIAL NUMBER	1

(*) ITEM NOT ILLUSTRATED.

NOTE APPLICATION:
(1) FIRST USED ON MACHINE WITH S/N 8X-81756.
(2) FIRST USED ON MACHINE WITH S/N 85-81971.

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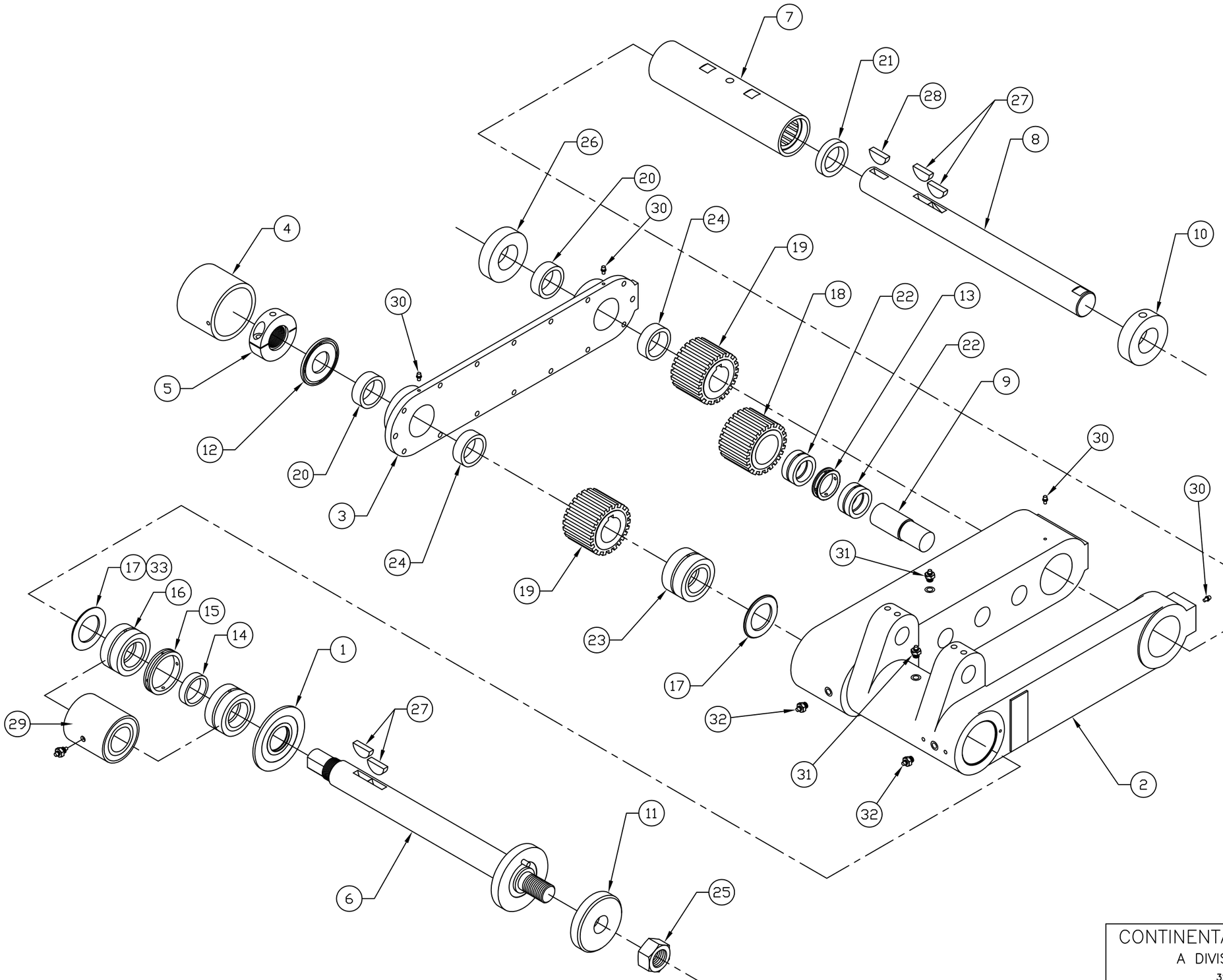
PARTS ILLUSTRATION
MODEL 12A, SHEET 1 OF 3

CURRENT REVISION: P	FILE NAME: PI12A-1	DRAWING NUMBER: PI12A-SHT 1



BILL OF MATERIALS

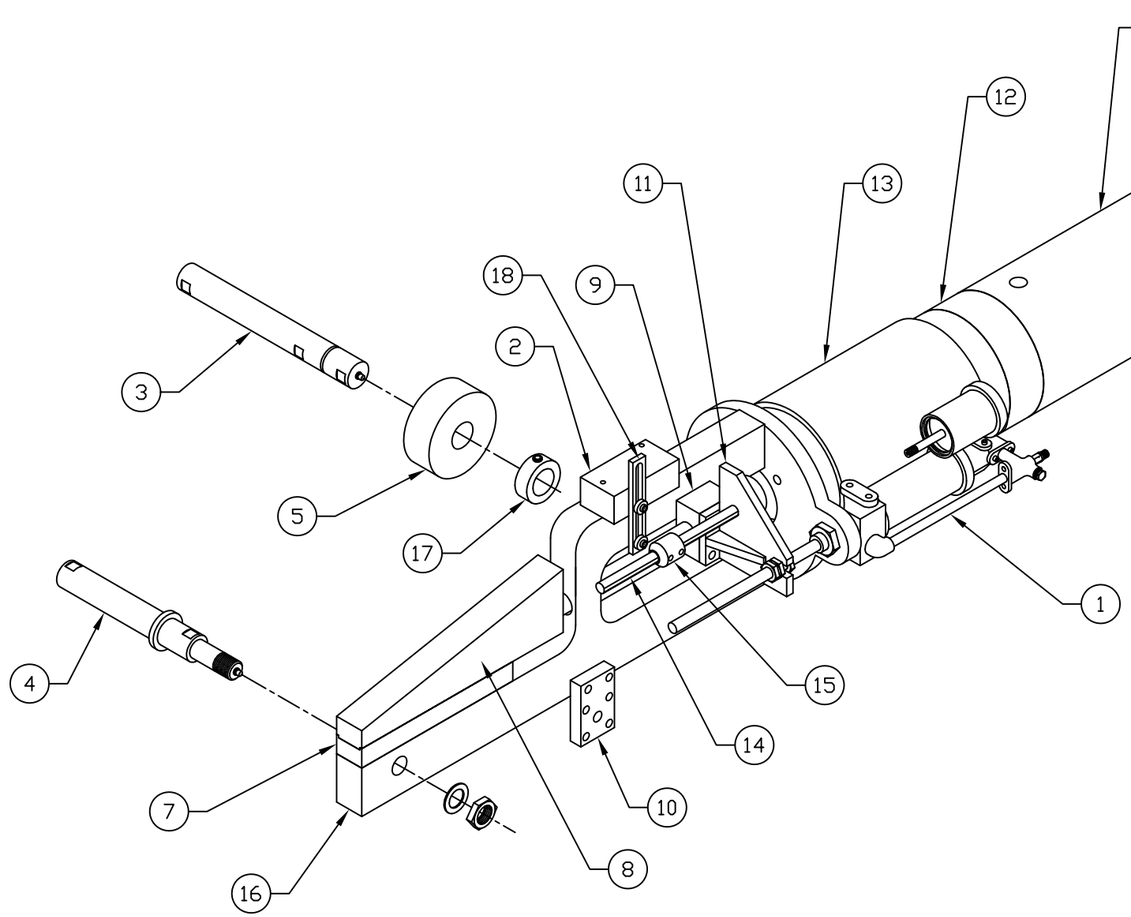
	ITEM	PART No.	DESCRIPTION	QTY.
	1	5151	CUTTERSHAFT THRUST WASHER	1
	2	5162	CUTTER ARM	1
	3	5163	GEAR CASE COVER	1
	4	5293	SPLIT COLLAR GUARD	1
	5	5321	CUTTERSHAFT SPLIT COLLAR	1
	6	5333	CUTTERSHAFT (1-3/4 DIA.)	1
	7	5334	DRIVE SHAFT SLEEVE	1
	8	5335	DRIVE SHAFT	1
	9	5348	IDLER GEAR STUD	4
	10	5388	DRIVE SHAFT COLLAR	1
	11	5399	CUTTERSHAFT CLAMP COLLAR	1
	12	5434	THRUST WASHER	1
	13	5474	IDLER GEAR BEARING SPACER	4
*	14	5586 (2)	INNER SPACER, CUTTERSHAFT BRG.	1
*	15	5587 (2)	OUTER SPACER, CUTTERSHAFT BRG.	1
*	16	5588 (2)	NEEDLE BEARING	2
*	17	5589 (2)	NEEDLE BEARING WASHER	1
	18	5605	IDLER GEAR	4
	19	5606	DRIVE GEAR	2
	20	5612	GREASE SEAL	2
	21	5613	GREASE SEAL	1
	22	5620	IDLER GEAR NEEDLE BEARING	8
	23	5623	CUTTERSHAFT NEEDLE BEARING	1
	24	5647	GEAR CASE COVER BUSHING	2
	25	5726	CUTTERSHAFT NUT	1
	26	5477	SHEAVE SPACER	1
	27	5872	WOODRUFF KEY	4
	28	5873	WOODRUFF KEY	1
*	29	5617 (1)	REPLACEMENT CUTTERSHAFT BRG ASSY	1
	30	300-01129	GREASE FITTING, DRIVE, STRAIGHT	4
	31	5855	GREASE FITTING, 1/8NPT, RELIEF	2
	32	5868	GREASE FITTING, 1/8NPT, NO RELIEF	2
*	33	5400 (1)	NEEDLE BEARING WASHER	1

* NOTE APPLICATION:
(1) USED ON MACHINES BEFORE SERIAL NUMBER 85-121606.
(2) USED ON MACHINES BEGINNING WITH SERIAL NUMBER 85-121606 AND LATER.

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

PARTS ILLUSTRATION
MODEL 12A, SHEET 2 OF 3

CURRENT REVISION: E	FILE NAME: PI12A-2	DRAWING NUMBER: PI12A-SHT 2



BILL OF MATERIALS

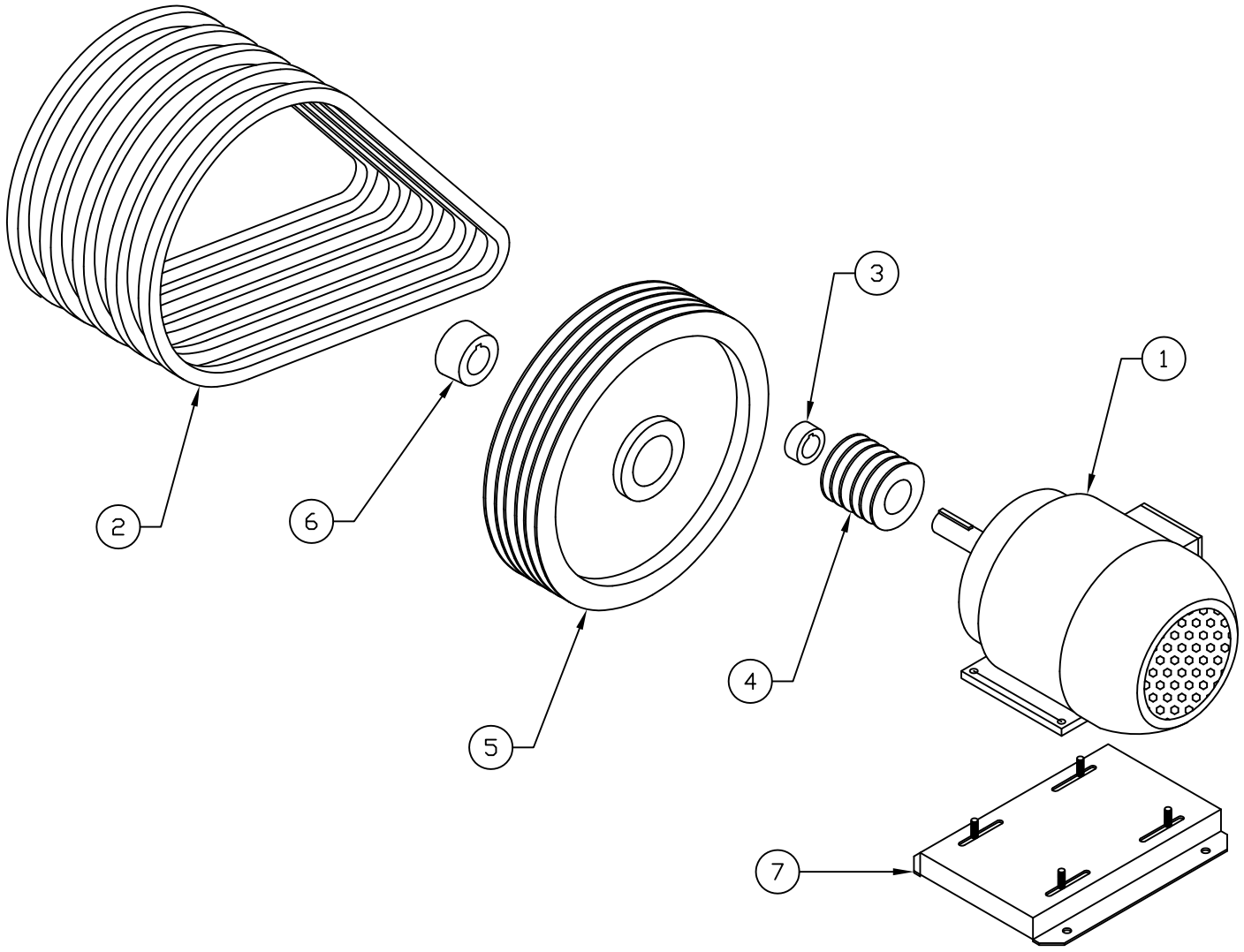
ITEM	PART No.	DESCRIPTION	QTY.
1	4550	HYDROCHECK	1
2	5224-1	RETURN SWITCH	1
3	5343	CAM ROLL PIN	1
4	5344	FASTENING PIN W/BUSHING	1
5	5398	CAM ROLL	1
6	5427	COUNTERWEIGHT	1
7	5460	LOWER WEDGE BLOCK	1
8	5461	UPPER WEDGE BLOCK	1
9	6218	ROD EXTENSION	1
10	6321	ALIGNMENT BRACKET	1
11	5534	TRIP ACTUATING BRACKET	1
12	5543	COUNTERWEIGHT ADAPTER	1
13	5803	CYLINDER	1
14	5850	LIMIT SWITCH CAM POST	1
15	5851	LIMIT SWITCH CAM	1
16	5935	CYLINDER & PISTON SUPPORT	1
17	5458	CAM COLLAR	1
18	5224-2	ARM, RETURN SWITCH	1
19	4550-R1*	HYDROCHECK SEAL KIT	

(*) ITEM 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 12A, SHEET 3 OF 3

CURRENT REVISION: E	FILE NAME: PI12A-3	DRAWING NUMBER: PI12A-SHT 3



FOR 60Hz. OPERATION ONLY.
CONSULT FACTORY FOR 50Hz.
OPERATION.

BILL OF MATERIALS

	ITEM	PART No.	DESCRIPTION	QTY.
	1	5203B	MOTOR, 5 H.P., 230/460 V.	1
	2	5745	V-BELT	5
	3	5752	BUSHING, TAPERLOCK (MOTOR)	1
	4	5755	SHEAVE, TAPERLOCK (MOTOR)	1
	5	5757	SHEAVE, TAPERLOCK (DRIVE SHAFT)	1
	6	5758	BUSHING, TAPERLOCK (DRIVE SHAFT)	1
	7	5203-1	MOTOR SLIDE BASE	1
NOT SHOWN	8	5993	THERMAL OVERLOAD RELAY	3

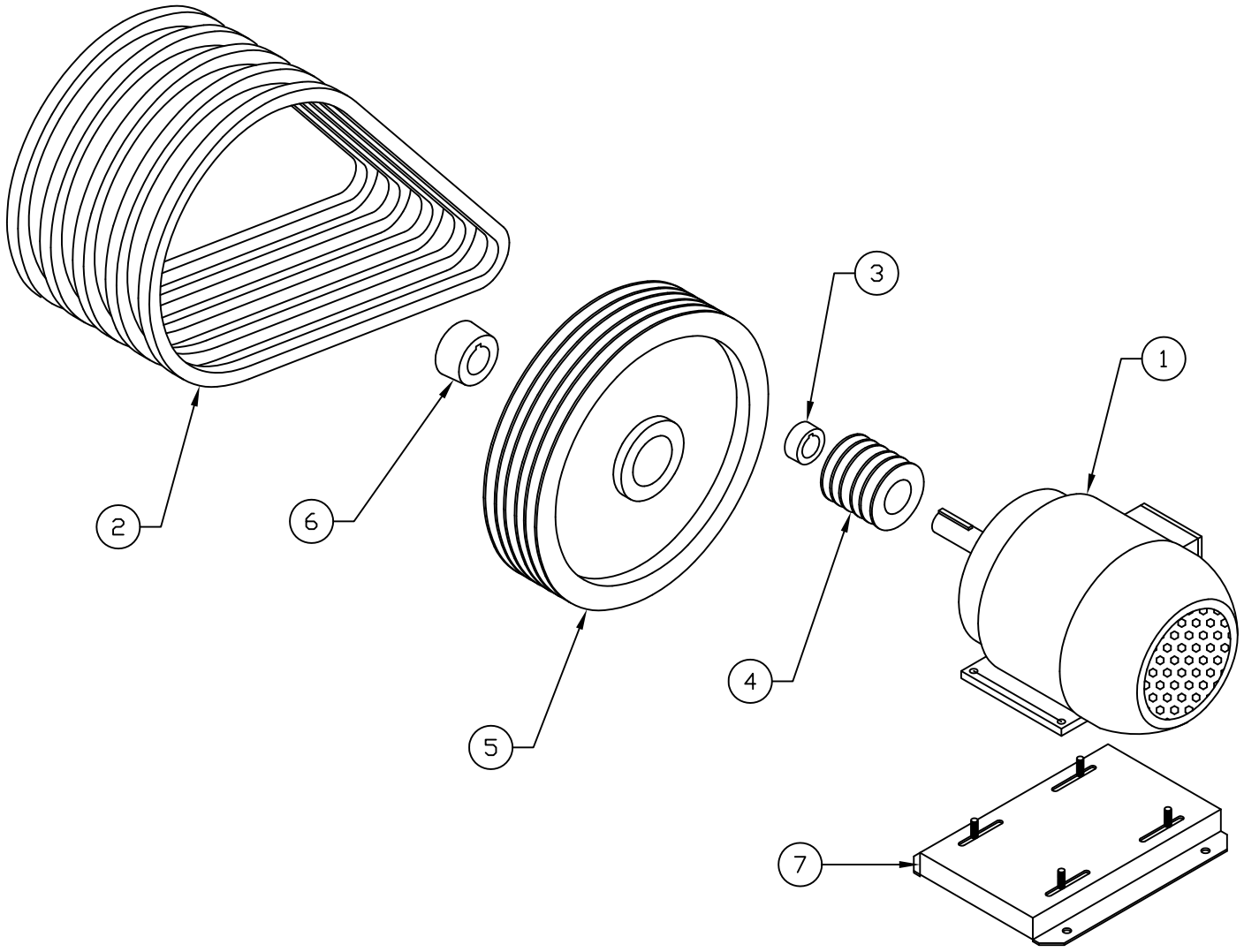
CONTINENTAL PIPE & TUBE CUT-OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

PARTS ILLUSTRATION
MODEL 405, 5HP DRIVE ASSEMBLY

CURRENT REVISION: B	FILE NAME: PI405	DRAWING NUMBER: PI 405



FOR 60Hz. OPERATION ONLY.
CONSULT FACTORY FOR 50Hz.
OPERATION.

BILL OF MATERIALS

	ITEM	PART No.	DESCRIPTION	QTY.
	1	5212	MOTOR, 7-1/2 H.P.	1
	2	5745	V-BELT	5
	3	5756	BUSHING, TAPERLOCK (MOTOR)	1
	4	5755	SHEAVE, TAPERLOCK (MOTOR)	1
	5	5757	SHEAVE, TAPERLOCK (DRIVE SHAFT)	1
	6	5758	BUSHING, TAPERLOCK (DRIVE SHAFT)	1
	7	5212-1	MOTOR SLIDE BASE	1
NOT SHOWN	8	5993	THERMAL OVERLOAD RELAY	3
NOT SHOWN	9	6339	HEX BUSHING	3

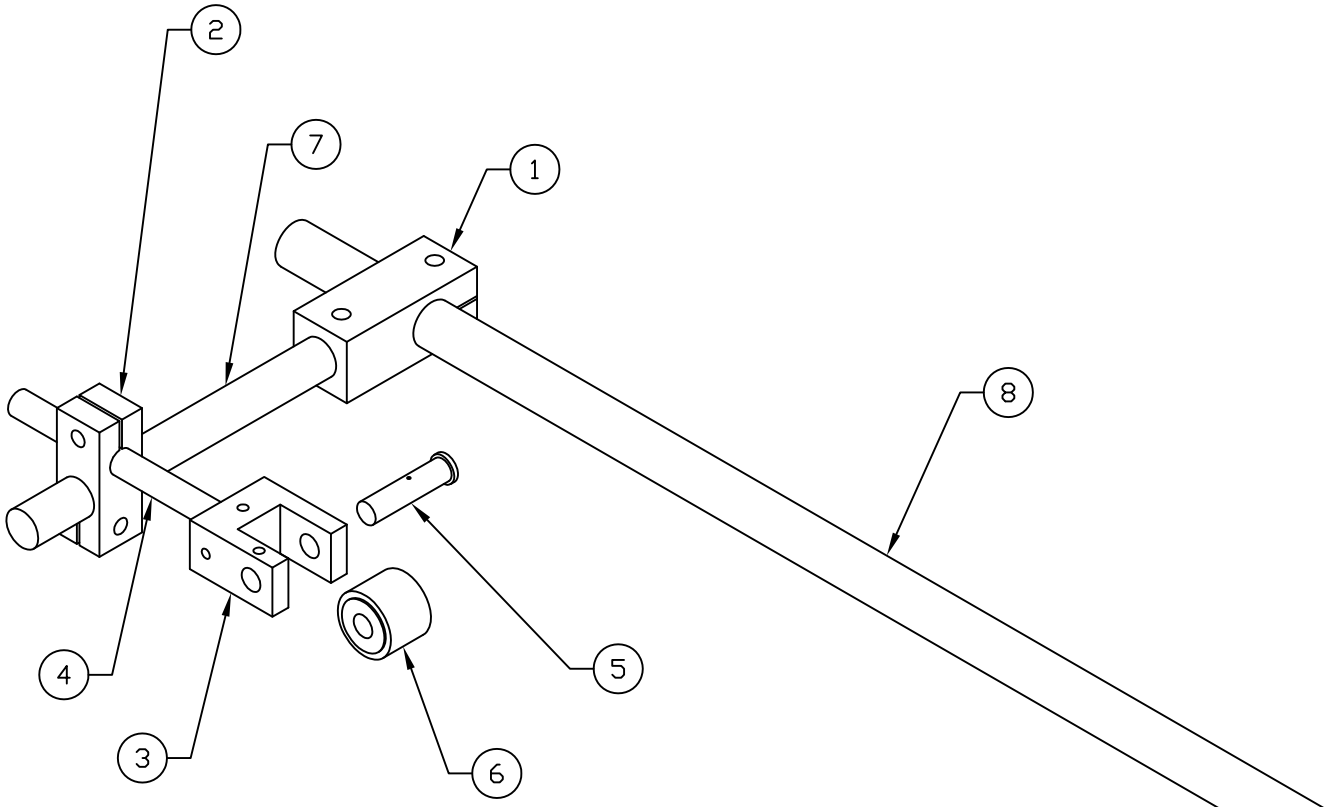
CONTINENTAL PIPE & TUBE CUT-OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

PARTS ILLUSTRATION
MODEL 423, 7-1/2HP DRIVE ASSEMBLY

CURRENT REVISION: D	FILE NAME: PI423	DRAWING NUMBER: PI 423



BILL OF MATERIALS

	ITEM	PART No.	DESCRIPTION	QTY.
	1	5167	GAUGE SUPPORT (BACK)	1
	2	5168	GAUGE SUPPORT (FRONT)	1
	3	5169	GAUGE ROLL BRACKET	1
	4	5478	GAUGE PIN	1
	5	5480	GAUGE ROLL PIN	1
	6	5481	GAUGE ROLL	1
	7	5513	GAUGE BAR	1
	8	5514	GAUGE ROD	1
NOT SHOWN	9	201-64534	5/8-11 X 1-1/2 HEX HD CAP SCREW	2

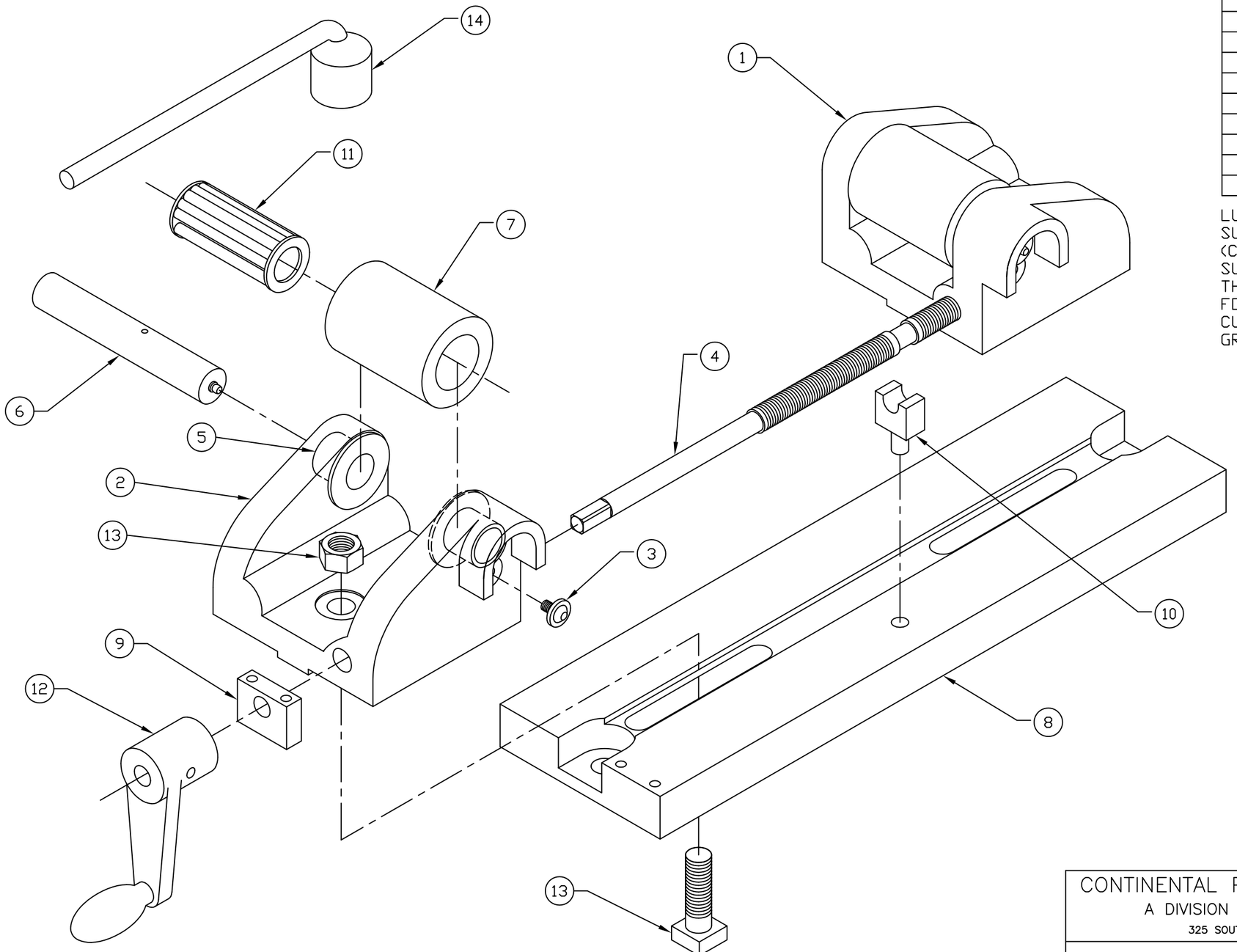
CONTINENTAL PIPE & TUBE CUT-OFF MACHINES

A DIVISION OF KIENE DIESEL ACCESSORIES, INC.

325 SOUTH FAIRBANK STREET – ADDISON, ILLINOIS 60101

PARTS ILLUSTRATION
MODEL 445 STANDARD LENGTH GAUGE ASSEMBLY

CURRENT REVISION: A	FILE NAME: PI445	DRAWING NUMBER: PI 445



BILL OF MATERIALS

ITEM	PART No.	DESCRIPTION	QTY.
1	5165-L	CUTTER BLOCK, LH	1
2	5165-R	CUTTER BLOCK, RH	1
3	5302	CUTTER BLOCK PIN CLAMP SCREW	2
4	5316	CUTTER BLOCK ADJUSTING SCREW	1
5	5317	CUTTER BLOCK ROLL PIN BUSHING	2
6	5318	CUTTER BLOCK ROLL PIN	2
7	5319	CUTTER BLOCK ROLL	2
8	5381	CUTTER BLOCK BASE PLATE	1
9	5436	ADJUSTING SCREW SUPPORT	1
10	5459	ADJUSTING SCREW STUD	1
11	5622	CUTTER BLOCK ROLLER BEARING	2
12	5706	CRANK HANDLE, #2	1
13	5760	CUTTER BLOCK CLAMP SCREW & NUT	2
14	5975	CUTTER BLOCK WRENCH	1

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.

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

PARTS ILLUSTRATION
MODEL 469 CUTTERBLOCK ASSEMBLY

CURRENT REVISION: A	FILE NAME: PI469	DRAWING NUMBER: PI 469

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.