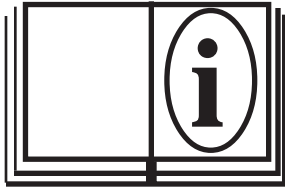




Utility Pipe Cutter Model UPC



	PIPE & VALVE
	MAINTENANCE PRODUCTS
Mod. UPC	S/N: <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
E.H. WACHS COMPANIES 100 Shepard St. Wheeling Il. 60090	

Part Number: 29-MAN-00

Revision No: 2

Revised:
June, 98

UTILITY PIPE CUTTER

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UTILITY PIPE CUTTER

SECTION I

SAFETY INSTRUCTIONS


The E. H. Wachs Company takes great pride in manufacturing safe, quality products with user safety a priority.

The E.H. Wachs Company recommends that all users comply with the following safety rules and instructions when operating our equipment.

For your safety and the safety of others, read and understand these safety recommendations and operating instructions before operating.

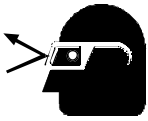


Read the Following thoroughly before proceeding.


	CAUTION Keep clear of rotating parts during operation. Hands and arms should be kept a minimum of 2' away from moving parts except during starting and stopping.
------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------

1. **READ THE OPERATING MANUAL!!** Reading the setup and operating instructions prior to beginning the setup procedures can save valuable time and help prevent injury to operators or damage to machines.
2. **INSPECT MACHINE & ACCESSORIES!** Prior to machine setup physically inspect the machine and it's accessories. Look for worn tool slides, loose bolts or nuts, lubricant leakage, excessive rust, etc. A properly maintained machine can greatly decrease the chances for injury.
3. **ALWAYS READ PLACARDS & LABELS!** All placards, labels and stickers must be clearly legible and in good condition. Replacement labels can be purchased from the manufacturer.
4. **KEEP CLEAR OF ROTATING PARTS!** Keep hands, arms and fingers clear of all rotating or moving parts. Always turn machine off before attempting any adjustments requiring contact with the machine or it's accessories.
5. **SECURE LOOSE CLOTHING & JEWELRY!** Loose fitting clothing, jewelry; long, unbound hair can get caught in the rotating parts on machines. By keeping these things secure or removing them you can greatly reduce the chance for injury.
6. **KEEP WORK AREA CLEAR!** Be sure to keep the work area free of clutter and nonessential materials. Only allow those personnel directly associated with the work being performed to have access to the area if possible.


ALWAYS WEAR PROTECTIVE EQUIPMENT:

	WARNING Impact resistant eye protection must be worn while operating or working near this tool.
-------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------

For additional information on eye and face protection, refer to federal OSHA regulations, 29 Code of Federal Regulations, Section 1910.133., Eye and Face Protection and American National Standards Institute, ANSI Z87.1, Occupational and Educational Eye and Face Protection. Z87.1 is available from the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.

	CAUTION Personal hearing protection is recommended when operating or working near this tool.
--------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------

Hearing protectors are required in high noise areas, 85 dBA or greater. The operation of other tools and equipment in the area, reflective surfaces, process noises and resonant structures can substantially contribute to and increase the noise level in the area. For additional information on hearing protection, refer to federal OSHA regulations, 29 Code of Federal Regulations, Section 1910.95, Occupational Noise Exposure and ANSI S12.6 Hearing Protectors.

	CAUTION Gloves are not a form of protection and should not be worn while operating machinery. Chips and debris which are generated during operation should be disposed of in a safe manner. This should be done with the use of a dust pan and broom to avoid exposure to hands.
--------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

UTILITY PIPE CUTTER

SECTION II

STANDARD EQUIPMENT

INTRODUCTION

The Wachs **Utility Pipe Cutter** was engineered for fast and effective cutting of cast iron and ductile iron utility pipe. One machine covers the full range of pipe sizes from 6" (152mm) through 24" (609.6 mm) and easily cuts cast iron, ductile iron, clay, PVC, aluminum, fiberglass and C-900 Plastic Pipe. The compact design and low radial clearance makes it ideal for in-line underground pipe cutting. Set-up is fast and easy. The quick chain clamp and auto feed complements the lightweight and size. To assist with overall convenience, each utility saw is shipped in it's own storage case with all accessories and necessary hand tools.



Standard Equipment:

- Air model:-Pneumatic drive assembly
- Hydraulic model: Hydraulic drive assembly
- Gas model: 5 HP gasoline engine with 10' flexible drive shaft
- Mounting chain sections to 24" (1-24" length, 1-36"* length)
- Steel storage case
- Operating tools
- Operating Manual
- Blade guard
- Water nozzle

**Consult factory for pipe diameters over 24"*

Optional Equipment:

Water delivery system: 4-gallon tank, hand pump and hose
Guide chain (guide trackinsystem) for 6" through 24" pipe
60° champhering blades

Please refer to the back of the manual for ordering details.



Utility Pipe Cutter with optional coolant pump tank.

UTILITY PIPE CUTTER

SECTION III

MACHINE SPECIFICATIONS

Weight:

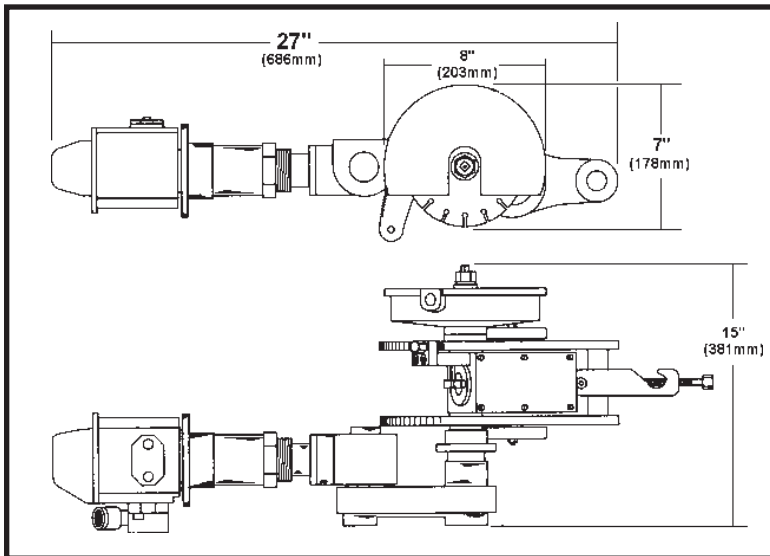
Power:	Gas	Hydraulic	Pneumatic
Machine:	17.6	17.6	17.6
Flex Shaft:	40 lbs.	N/A	N/A
Drive Motor:	60 lbs.	15 lbs.	12 lbs.

Blades:

Size	Description
5"	For pipe sizes up to 16"
6"	For pipe sizes up to 24"

Chain: Roller chain with hook connection

Chain Sections	Section Length	Pipe Range
Standard	26"	6"-10"
Standard	36"	10"-24"



Capacity: 6" through 24" pipe*
Set Up Time: Less than 5 minutes
Cutter Drive: Worm gear box
Travel Drive: Worm gear box
Blade Speed: 1200-1500 RPM
Drives/Power Requirements:
 Pneumatic - 100 CFM @ 90 PSI
 Hydraulic - 8 GPM @ 1500 PSI
 Gasoline - 5 HP @ 3000 RPM
Controls:
 Motor on/off valve
 Travel on/off lever
Dimensions: See diagram.
Clearance: Radial - 8", Axial - 16"
Travel Speed: Approximately one minute per diameter inch or 3 circumferential inches per minute
Machineable Materials: Cast iron, ductile iron, clay, PVC, aluminum, fiberglass and C-900 plastic pipe
Construction: Cast aluminum gear box and main frame. Steel worm gears and drive shafts.
Finish: Brushed aluminum

UTILITY PIPE CUTTER

SECTION IV

SET-UP AND OPERATION

UTILITY PIPE CUTTER

SECTION IV

SET-UP AND OPERATION

I. MACHINE SET-UP

1. Remove machine from carrying case and place on bench top with chain sections.
2. Determine pipe size to be cut and assemble proper chain sections. Refer to chain chart on page 10 for proper extensions.
3. Loosen gear box lock bolt and lift gear bot to its full up-right position (figure 1).



FIGURE 1

Unit is now ready to be installed on to pipe.

MACHINE INSTALLATION

4. Place machine on pipe, letting excess chain hang from back side of machine.
5. Wrap chain around pipe and hook on adjustable fork (figure 2). Let excess chain loop over and hang.



FIGURE 2

6. Tighten Fork Bolt until chain is snug. Proceed turning another 3/4" and remove wrench (Figure 3).

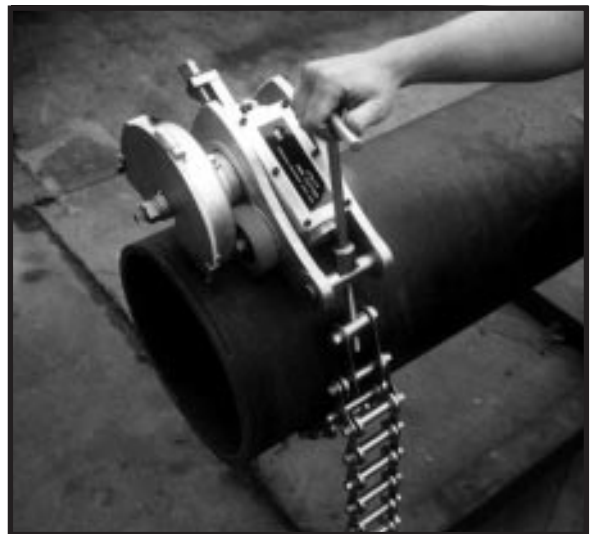


FIGURE 3

7. After chain has been secured, be sure rear steel wheels are contacting pipe (figure 4).

UTILITY PIPE CUTTER

SECTION IV

SET-UP AND OPERATION



FIGURE 4

8. Proceed to install blade on machine once it has been mounted. Flip cutter guard up and remove nut, lock washer and Outside Collar. Install cutter with arrow pointing in the proper direction (Figure 5).

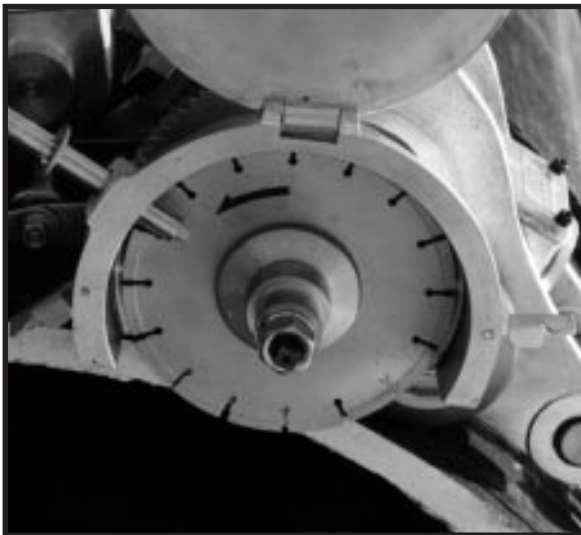


FIGURE 5

9. Install drive motor by lining up hex and inserting the shaft in the housing. Tighten by hand knurled lock ring and attach power supply (Figure 6)



NOTE: Shaft rotation is counter clockwise. Reverse removal procedure and snug nut down. Return Guard Cover to its DOWN position and latch.

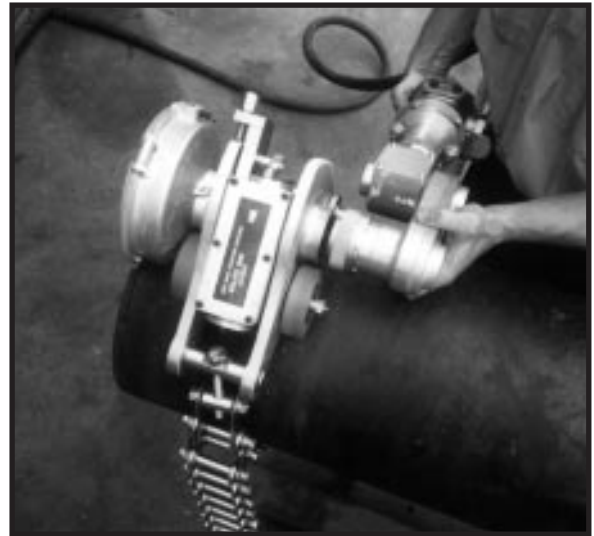


FIGURE 6

10. Attach water supply with fitting supplied and/or special water tank system (optional). Once tank hose is attached, pressurize tank and begin cutting sequence (Figure 7).

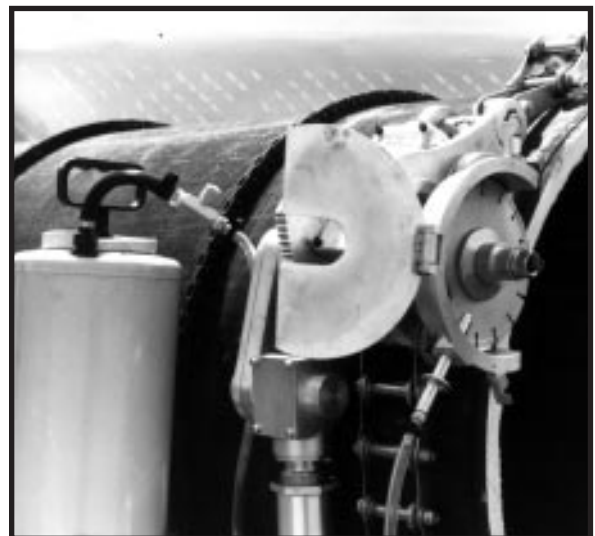


FIGURE 7

UTILITY PIPE CUTTER

SECTION IV

SET-UP AND OPERATION

UPC OPERATION

11. With water cooling system running, start power supply and proceed to penetrate cutter through pipe wall. Lock cutter into position once full depth of cut is achieved. Do this by snugging the gear box bolt and remove wrench (Figure 8).



FIGURE 8

12. Activate feed trip knob by turning it 90° from its original position (Figure 9). Once tripped, cutter will begin traveling around pipe.



FIGURE 9

13. Once cut is complete, return feed knob to the disengaged position and turn power supply off.

14. Remove machine from pipe by reversing steps 1 through 3.

CUTTING TIPS

- A. Always have water supply running before starting power supply.
- B. If feed stops or hesitates, make sure adequate chain tension has been applied. If not, wheels may slip on pipe.
- C. Keep hands, jewelry, long hair and loose clothing away from cutting blade.
- D. Always wear safety glasses and hearing protection while running equipment.

CHAIN CHART

Machine	Chain Length	Max Pipe
Cutter w/Fixed chain section	26"	10"
add chain section length	45"	24"
add chain section length	45"	36"

TWO PASS CUTTING

- 1. Depending on the hardness, thickness or O.D. of the pipe being cut, two pass cutting may be advisable. When two pass cutting is selected, the use of the UPC guide track system is recommended.
- 2. Generally all cast iron pipe 12" O.D. up to 36" O.D. maximum, with a wall thickness greater than 5/8" should be two pass cut to avoid blade damage, machine stalling or mis-tracking.
- 3. Ductile iron pipe generally will not require two pass cutting, although, when wall thickness is over 5/8" or O.D. is 24" or larger, two pass cutting should be used.
- 4. The E.H. Wachs Company recommends the use of the UPC Guide Track System on all cast or ductile iron pipe 24" O.D. up to 36" O.D. maximum to avoid mis-tracking.

UTILITY PIPE CUTTER

SECTION V MAINTENANCE

UTILITY PIPE CUTTER

SECTION V

MAINTENANCE

This machine has been designed to be as maintenance free as possible. The most important part of keeping this machine operation is cleaning. The gearbox is packed with grease as well as the drive gearbox. These items will only require maintenance if a seal starts to leak.

ALL MODELS

1. Clean entire machine after every cut.
2. Remove blade when storing.
3. Inspect for gearbox leaks after each use.
4. Inspect feed tension bolt and water nozzle adjustment screw. (Replace if worn)
5. Inspect water delivery hose and replace if leaking.

AIR DRIVE ONLY

1. Lubricate air motor during operation
2. Fog air motor prior to storing machine after use.
3. Clean after every use.

HYDRAULIC ONLY

1. Inspect hoses for wear (Replace worn or abraded hose immediately)
2. Clean after every use

UTILITY PIPE CUTTER

SECTION VI

TROUBLE SHOOTING

UTILITY PIPE CUTTER

SECTION VI

TROUBLE SHOOTING

Trouble	Possible Cause	Remedy
Cutter won't turn	No Power	Check power supply. Make sure drive adaptor is connected properly. (Consult factory if not correctable)
	Machine won't travel	No power Feed arm not engaged Drive wheels slipping
Blade binds in cut	Dull blade	Replace Blade
	Blade warped	Replace Blade
	Insufficient lubrication	Lubricate with water
	Machine cutting crooked	Replace blade or adjust machine and chain Tension
Cutting crooked	Improper chain tension	Adjust Chain.
	Bent chain hooks	Inspect and replace.
	Dull blade	Replace blade.

If a problem persists or is not listed in the above chart, cease operation and consult the manufacturer for additional instructions.

UTILITY PIPE CUTTER

SECTION VII

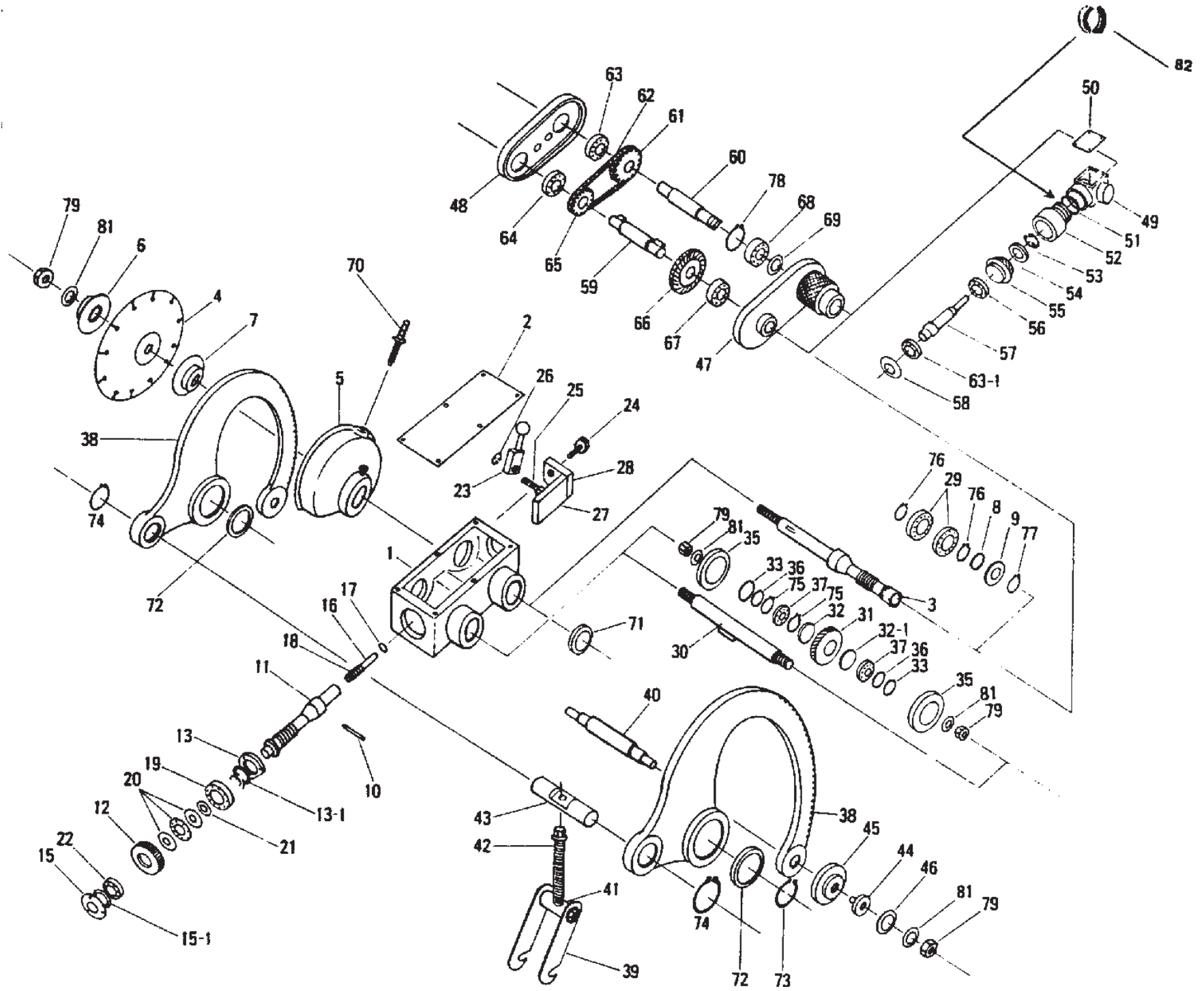
**PARTS LISTS
AND
EXPLODED VIEW
DRAWINGS**

UTILITY PIPE CUTTER

UTILITY PIPE CUTTER- BILL OF MATERIALS

Part Number 29-000-00

REF	PART NO.	QTY	DESCRIPTION	REF	PART NO.	QTY	DESCRIPTION
1	29-100-01	1	Gear Box	47	29-100-48	1	Drive Housing
2	29-100-02	1	Gear Box Cover	48	29-100-49	1	Housing Cover
3	29-100-03	1	Cutter Shaft	49	29-100-50	1	Gear Box (miter)
5	29-100-05	1	Blade Shroud	50	29-100-51	1	Cover
5-1	29-100-06	1	Shroud Cover	51	29-100-52	1	"O" ring
6	29-100-07	1	Outside Collar	52	29-100-53	1	Housing drive, threaded
7	29-100-08	1	Drive Collar	53	29-100-54	1	Cir Clip
8	29-100-09	1	Shaft Sleeve (seal)	54	29-100-55	1	Washer
9	29-100-10	2	Shaft Seal	55	29-100-56	1	Miter Gear
10	29-100-11	1	Feed Drive Pin	56	29-100-57	1	Bearing
11	29-100-12	1	Worm Shaft	57	29-100-58	1	Shaft (miter)
12	29-100-13	1	Primary Worm Gear	58	29-100-59	1	Miter shaft
13	29-100-14	1	Shaft End Plate "thru"	59	29-100-60	1	Miter Shaft
13-1	29-100-15	1	Shaft Seal	60	29-100-61	1	Imput Shaft
15	29-100-16	1	Shaft End Plate Cover	61	29-100-62	1	Primary Gear
15-1	29-100-17	1	Shaft Seal	62	29-100-63	1	Chain
16	29-100-18	1	Feed on/off shaft	63	29-100-64	1	Bearing
17	29-100-19	1	"O" ring	63-1	29-100-65	1	Bearing
18	29-100-20	1	Spring	64	29-100-66	1	Bearing
19	29-100-21	1	Bearing	65	29-100-67	1	Secondary Gear
20	29-100-22	1	Thrust Washer Assembly	66	29-100-68	1	Miter Gear
22	29-100-23	1	Bearing	67	29-100-69	1	Bearing
23	29-100-24	1	Feed Engagement Lever	68	29-100-70	1	Bearing
24	29-100-25	1	Depth Lock Bolt	69	29-100-71	1	Seal
25	29-100-26	1	Feed Engagement Pivot	70	29-100-72	1	Water Jet
26	29-100-27	1	Lock Clip	71	29-100-73	2	Garlock Bushing Motor
27	29-100-28	1	Bracket	72	29-100-74	2	Garlock Busing side plate
28	29-100-29	1	Depth Lock Bracket	73	29-100-75	2	Side Plate Snap Ring
29	29-100-30	1	Bearings	74	29-100-76	2	Pivot Shaft Snap Ring
30	29-100-31	1	Feed Shaft	75	29-100-77	2	Shaft Snap Ring
31	29-100-32	1	Secondary Worm Gear	76	29-100-78	2	Snap Ring (cutter shaft)
32	29-100-33	1	Shaft Spacer	77	29-100-79	1	Snap Ring
32-1	29-100-34	1	Shaft Spacer	78	29-100-80	1	Snap Ring
33	29-100-35	2	Shaft Sleeve (seal)	79	29-100-81	1	Hex Nut
35	29-100-36	2	Drive Wheel	81	29-100-82	2	Lock Washer
36	29-100-37	2	Shaft Seal	82	29-100-83	1	Split Collar
37	29-100-38	2	Bearing				
38	29-100-39	2	Side Plate				
39	29-100-40	2	Chain Hooks				
40	29-100-41	1	Axle				
41	29-100-42	1	Pivot Shaft-chain				
42	29-100-43	1	Chain Tension Screw				
43	29-100-44	1	Pivot Shaft-machine				
44	29-100-45	2	Wheel Bushing				
45	29-100-46	2	Wheel				
46	29-100-47	2	Washer				



UTILITY PIPE CUTTER

HYDRAULIC DRIVE ASSEMBLY BILL OF MATERIAL

REF #	PART #	QTY.	DESCRIPTION
01	29-003-00	1	ADAPTOR, HYD. MOTOR
02	29-005-00	1	MOTOR, HYDRAULIC
03	29-011-00	1	NUT, LOCK
04	29-040-00	1	HOSE ASSEMBLY 24"
05	29-042-00	1	VALVE FLOW CONTROL
06	90-027-08	1	1/8" SQ. KEY (N/S)
07	90-071-07	2	HHCS, 3/8"-16 x 3/4"
08	90-075-52	2	LOCKWASHER (N/S)
09	90-075-53	2	3/8" FLAT WASHER
010	90-078-07	1	3/8" JIC ADAPTOR
011	90-078-57	3	3/8" HP HEX NIPPLE
012	90-078-62	2	3/8" FEMALE ELBOW
013	90-078-68	2	3/8" FEMALE TEE
014	90-078-71	1	3/8" BALL VALVE
015	90-098-58	1	1/2" HP HEX NIPPLE
016	90-098-67	2	1/2" JIC x 3/8" NPT ADAPTOR
017	90-098-68	2	1/2" x 3/8" REDUCING NIPPLE
018	29-044-00	1	LABEL NAME

HYDRAULIC DRIVE ASSEMBLY

