

Elliott offers a complete line of precision tube tools, including:



**tube
expanders**

- Boiler Expanders
- Heat Exchanger Expanders
- Condenser Expanders
- Refinery Expanders

**tube rolling motors
& torque controls**

- Electric
- Pneumatic

**tube
cleaners**

- Air & Water Driven Motors
(Internal/External Drives)
- Jiffy Guns
("Shoot-Thru" Devices)
- Roto-Jet
(Rotating Flex Shaft)

**additional
products**

- Tube and Joint Testers
- Tube Plugs
(High & Low Pressure)

**retubing
tools**

- Tube Gauges
- Tube Cutters
- Manual Tools
- Spear Type Tube Pullers
- Collet-Type Tube Pullers
- CYCLGRIP Tube Extractors
- Grooving Tools
- End-Prep Tools

**metal working
products**

- Back Chamfering Tools
- Carbide Roller Burnishing Tools
- Diamond Burnishing Tools
- Elliptical Deburring Tools
- Fine Boring Tools
- Internal Recessing Tools
- Magic Vise
- Mechanical Joining Tools
- Roller Burnishing Tools
- Single Blade Reamers

**“ONE-REVOLUTION
TUBE CUTTER”**

Series 9060



Operating and Maintenance Instructions

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One-Revolution Tube Cutter For Non Ferrous Tubes ("9060" Series)

TABLE OF CONTENTS

Introduction	2
General Tool Information	3
Operation	4
Replacing Cutter Bit	5
Diagram Tool Selection Guide	6

Tube O.D.		Wall Gauge BWG	Body Dia		Catalog Numbers							
Inch	mm		inch	mm	Assembly	① Body	② Cutter Blade	③ Cutter Pin	④ Collar	⑤ Set Screw	⑥ Set Screw	Hex Drive
1/2	12.7	18-19	0.394	10.0	9060-100	9060-100-1	9060N625-1	9060P1	9060-100-4	128YY	128EH	3/8"
		20	0.425	10.8	9060-108	9060-108-1	9060N625-4		9060-108-4			
5/8	15.9	14	0.445	11.3	9060-113	9060-113-1	9060N625-3	9060P1	9060-113-4	128YY	128EH	3/8"
		15-16	0.469	11.9	9060-119	9060-119-1			9060-119-4			
		17-18	0.484	12.3	9060-123	9060-123-1	9060N625-2		9060-123-4			
		19-21	0.516	13.1	9060-131	9060-131-1			9060-131-4			
		22	0.547	13.9	9060-139	9060-139-1	9060N750-2		9060-139-4			
3/4	19.1	14-15	0.571	14.5	9060-145	9060-145-1	9060N750-2	9060P1	9060-145-4	128YY	128EH	1/2"
		16	0.594	15.1	9060-151	9060-151-1			9060-151-4			
		17-18	0.602	15.3	9060-153	9060-153-1	9060N1000-1		9060-153-4			
		19-20	0.642	16.3	9060-163	9060-163-1			9060P2			
7/8	22.2	14-15	0.685	17.4	9060-174	9060-174-1	9060N1000-1	9060P2	9060-174-4	128YY	128AX	5/8"
		16-17	0.724	18.4	9060-184	9060-184-1			9060-184-4			
		18	0.748	19.0	9060-190	9060-190-1	9060N1000-2		9060-190-4			
		19-20	0.760	19.3	9060-193	9060-193-1			9060P3			
1	25.4	12-13	0.760	19.3	9060-193	9060-193-1	9060N1000-2	9060P3	9060-193-4	128YY	128YY	5/8"
		14	0.807	20.5	9060-205	9060-205-1			9060-205-4			
		15	0.827	21.0	9060-210	9060-210-1			9060-215-4			3/4"
		16-17	0.846	21.5	9060-215	9060-215-1						
		18-21	0.878	22.3	9060-223	9060-223-1			9060-223-4			
		22	0.913	23.2	9060-232	9060-232-1			9060-232-4			
1-1/4	31.8	10-11	0.965	24.5	9060-245	9060-245-1	9060N1000-2	9060P3	9060-245-4	128YY	128YY	7/8"
		12	1.004	25.5	9060-255	9060-255-1			9060-255-4			
		13-14	1.039	26.4	9060-264	9060-264-1			9060-274-4			
		15-16	1.079	27.4	9060-274	9060-274-1						
		17-19	1.114	28.3	9060-283	9060-283-1			9060-283-4			
1-1/2	38.1	10-11	1.217	30.9	9060-309	9060-309-1	9060N1500-1	9060P3	9060-309-4	128YY	128YY	7/8"
		12-13	1.260	32.0	9060-320	9060-320-1			9060-320-4			
		14-15	1.311	33.3	9060-333	9060-333-1			9060-339-4			
		16-17	1.335	33.9	9060-339	9060-339-1						
		18-19	1.378	35.0	9060-350	9060-350-1			9060-350-4			
1-3/4	44.5	10-11	1.453	36.9	9060-369	9060-369-1	9060N1500-1	9060P3	9060-369-4	128YY	128YY	1"
		12-14	1.508	38.3	9060-383	9060-383-1			9060-383-4			
		15-16	1.587	40.3	9060-403	9060-403-1			9060-410-4			
		17-18	1.614	41.0	9060-410	9060-410-1						
2	50.8	10	1.713	43.5	9060-435	9060-435-1	9060N1500-1	9060P3	9060-435-4	128YY	128YY	1"
		11	1.740	44.2	9060-442	9060-442-1			9060-442-4			
		12-13	1.760	44.7	9060-447	9060-447-1			9060-457-4			
		14-15	1.799	45.7	9060-457	9060-457-1						
		16-17	1.843	46.8	9060-468	9060-468-1			9060-476-4			
		18-19	1.874	47.6	9060-476	9060-476-1						
2-1/4	57.2	10	1.957	49.7	9060-497	9060-497-1	9060N2250-1	9060P4	9060-497-4	128YY	128YY	1-1/4"
		11	1.988	50.5	9060-505	9060-505-1			9060-505-4			
		12-13	2.012	51.1	9060-511	9060-511-1			9060-524-4			
		14-15	2.063	52.4	9060-524	9060-524-1						
		16-17	2.098	53.3	9060-533	9060-533-1			9060-541-4			
		18-19	2.130	54.1	9060-541	9060-541-1						
2-1/2	63.5	10	2.213	56.2	9060-562	9060-562-1	9060N2250-1	9060P4	9060-562-4	128YY	128YY	1-1/4"
		11	2.240	56.9	9060-569	9060-569-1			9060-569-4			
		12-13	2.252	57.2	9060-572	9060-572-1			9060-585-4			
		14-15	2.303	58.5	9060-585	9060-585-1						
		16-17	2.346	59.6	9060-596	9060-596-1			9060-602-4			
		18-19	2.370	60.2	9060-602	9060-602-1						

REPLACING A CUTTER BIT

1. Using a 2mm allen wrench, loosen the set screw (item 6) that secures the cutter pin.
2. Remove the cutter pin (item 3)
3. Discard the old cutter bit and insert a new bit with the beveled side of the tip up.
4. Replace the cutter pin making certain that the pin is completely through the hole in the cutter bit.
5. Tighten the set screw.

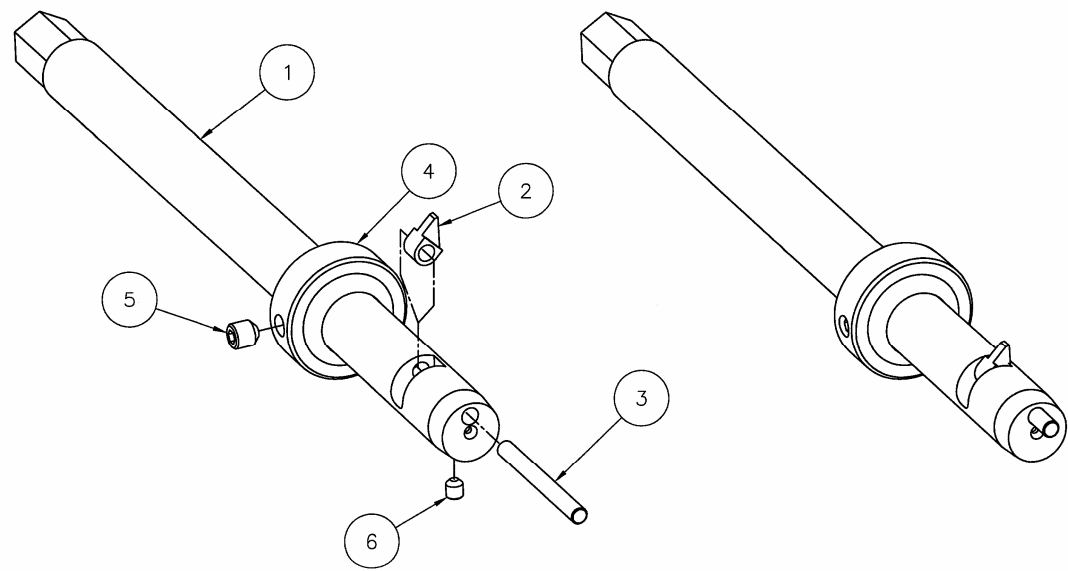


Diagram 1

INTRODUCTION

Thank you for purchasing this Elliott product. The design and manufacture of this tool, represents the highest standard of quality, value and durability. Elliott tools have proven themselves in thousands of hours of trouble free field operation.

If this is your first Elliott purchase, welcome to our company; our products are our ambassadors. If this is a repeat purchase, you can rest assured that the same value you have received in the past will continue with all of your purchases, now and in the future.

We at Elliott would like you to be completely satisfied with this tool and therefore recommend that this instruction manual be thoroughly read prior to use.

Your Elliott tube cutter has been designed and manufactured to the highest standards, using the latest in materials and technology. If the guidelines in this manual are followed, this tool will provide many years of trouble free operation.

Elliott Tool Technologies Ltd shall not be liable for errors contained herein or for incidental or consequential damage in connection with the furnishing, performance, or use of this material.

GENERAL TOOL INFORMATION

The Elliott 9060 series one-revolution tube cutter is intended for use on all non-ferrous tube materials and some steel tubes. This tool is not recommended for cutting stainless steel or any other steel alloys.

The one-revolution tube cutter is designed strictly as a hand operated tool. It should never be used with a power drill or impact wrench. Using the one-revolution tube cutter with a power tool may result in damage to the tool, the vessel being worked on, or injury to the operator.

For the proper function of the one-revolution tube cutter it is important to select and use the correct cutter for the tube size being punctured or cut. Refer to the chart on page 6 of this manual, your Elliott catalog or the Elliott Product Selection CD for size options.

The only adjustment available with the one-revolution cutter is for the depth of cut down tube. See the operation section for direction on setting the cutting depth.

Cutter bits will wear out but are easily replaced. See page 5 for directions on installing replacement bits in your tool.

WHY PUNCTURE TUBES PRIOR TO PLUGGING

After plugging a leaking tube, corrosion deposits or polymerized process fluids often seal the perforation or crack that led to the plugging. Fluid is then captured inside the tube, which can cause a buildup of sufficient pressure to eject the tube plug and cause injury. Venting the tube with a generous puncture prior to plugging prevents the trapping of fluids in the tube. Positive venting will also prevent such occurrences as fire, explosion or release of toxic or noxious materials to the atmosphere during retubing or plug removal.

Venting is recommended for oil refinery, petrochemical, chemical and other process heat exchangers and for feed water heaters.

OPERATION

After selecting the proper one-revolution cutter for the tube being punctured or cut, follow the steps below.

1. Determine the distance down tube you wish to make the cut. Using a 3mm allen wrench, loosen the set screw (item 5 diagram 1) and slide the collar (item 4 diagram 1) to the desired setting to a maximum depth of 6". Tighten the set screw.
2. Make sure the cutter bit is laid down inside the cavity of the cutter body.
3. Insert the cutter into the tube until the collar is resting against the tube sheet opening.
4. Using a wrench, turn the tool clockwise. The cutter bit will engage against the inside of the tube wall, you will feel the resistance. Continuing to turn the wrench clockwise will force the cutter bit through the tube wall.
5. Rotating the cutter a complete 360° will sever the tube. A ribbon of tube material will remain attached to one of the tube ends, which may or may not come off the tube when it is pulled.
6. To remove the tube cutter from the tube turn the cutter counter-clockwise which will reset the cutter bit to the "down" position. It may help to pull back slightly on the tube cutter while turning to reset the cutter bit. Once the cutter bit is retracted the tool can be removed from the tube.

TO VENT A TUBE

Follow steps 1 – 4 of the above instructions. Once the tube has been punctured by the cutter bit, rotate the tube cutter 1/8 of a turn. Reversing the rotation of the cutter will reset the bit, remove the tool from the tube

NOTE: To function properly the cutter bit must move freely in the body cavity. Keep the cavity clean of grease, dirt and chips that could restrict free movement.