One Revolution Tube Cutter

Series 9060

Tube & Pipe Cleaners ○ Tube Testers ○ Tube Plugs ○ Tube Removal ○ Tube Installation

Operating and Maintenance Instructions

www.elliott-tool.com

ELLIOTT TOOL TECHNOLOGIES

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INTRODUCTION

Thank you for purchasing this Elliott product. More than 100 years of experience have been employed in the design and manufacture of this control, representing 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.

The One Revolution Tube Cutter has been designed and manufactured to the highest standards, using the latest materials and technology. If the guidelines in this manual are followed, this tool will provide many years of trouble free operation.

If you have any questions regarding this product, manual or operating instructions, please call Elliott at +1 800 332 0447 toll free (USA only) or +1 937 253 6133, or fax us at +1 937 253 9189 for immediate service.

GENERAL 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 7 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 9 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 process is recommended for oil refinery, petrochemical, chemical and other process heat exchangers and for feed water heaters.

NOTE: Venting can be accomplished even on heavy wall tubes that cannot be severed due to the thick ribbon catching on adjacent tubes.

OPERATION INSTRUCTIONS

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, pg 9) and slide the collar (item 4 diagram , pg 9) 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.

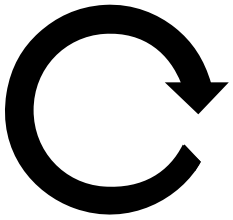
NOTE: To function properly, the cutter but must move freely in the body cavity. Keep the cavity clean of grease, dirt, and chips that could restrict free movement.

How To Vent A Tube

1

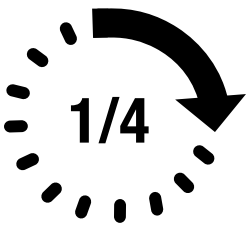
Determine how far down the tube you wish to make the cut, and lock the collar in place.

2



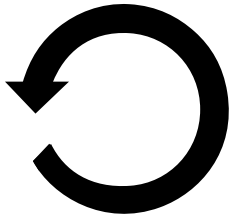
Insert the cutter into the tube and start rotating the cutter clockwise.

3



When you begin to feel some resistance, rotate the tool a quarter turn more to pierce the tube.

4



Turn the cutter counter-clockwise to reset the cutter bit. Once the bit is retracted the cutter can be removed.

PARTS LIST

Tube OD Range		BWG	Body OD		Cutter Part #		Cutter Blade	Cutter Pin	Collar	Set Screw 1	Set Screw 2	Hex Drive
Inch	mm		Inch	mm	6" Reach	12" Reach						
3/8"	9.5	18	0.272	6.9	9060-050	-	9060N375-1	9060P5	9060-050-4	128CB		7/32"
1/2"	12.7	18-19	0.394	10.0	9060-100	9060-100-12	9060N500-1		9060-100-4			5/16"
		20	0.425	10.8	9060-108	9060-108-12			9060-108-4		128KK	
5/8"	15.9	14	0.445	11.3	9060-113	9060-113-12	9060N625-3		9060-113-4			3/8"
		15-16	0.469	11.9	9060-119	-			9060-119-4			
		17-18	0.484	12.3	9060-123	9060-123-12	9060N625-2		9060-123-4			7/16"
		19-21	0.516	13.1	9060-131	9060-131-12	9060N750-2	9060P1	9060-131-4		128JJ	
		22	0.547	13.9	9060-139	9060-139-12			9060-139-4			
3/4"	19.1	12-13	0.516	13.1	9060-131	9060-131-12			9060-131-4			1/2"
		14-15	0.571	14.5	9060-145	9060-145-12			9060-145-4			
		16	0.594	15.1	9060-151	9060-151-12			9060-151-4			
		17-18	0.602	15.3	9060-153	9060-153-12			9060-153-4			
		19-20	0.642	16.3	9060-163	9060-163-12	9060N1000-1	9060P2	9060-163-4			
7/8"	22.2	12-13	0.642	16.3	9060-163	9060-163-12			9060-163-4			5/8"
		14-15	0.685	17.4	9060-174	9060-174-12			9060-174-4			
		16-17	0.724	18.4	9060-184	-			9060-184-4			
		18	0.748	19.0	9060-190	9060-190-12			9060-190-4			
		19-20	0.760	19.3	9060-193	9060-193-12	9060N1000-2	9060P3	9060-193-4		128G	
1"	25.4	12-13	0.760	19.3	9060-193	9060-193-12			9060-193-4	128L		
		14	0.807	20.5	9060-205	9060-205-12			9060-205-4			
		15	0.827	21.0	9060-210	9060-210-12			9060-210-4			
		16-17	0.846	21.5	9060-215	9060-215-12			9060-215-4			3/4"
		18-21	0.878	22.3	9060-223	9060-223-12			9060-223-4			
		22	0.913	23.2	9060-232	-			9060-232-4			
1-1/4"	31.8	10-11	0.965	24.5	9060-245	9060-245-12			9060-245-4			
		12	1.004	25.5	9060-255	9060-255-12			9060-255-4		128F	
		13-14	1.039	26.4	9060-264	9060-264-12			9060-264-4			7/8"
		15-16	1.079	27.4	9060-274	9060-274-12			9060-274-4			
		17-19	1.114	28.3	9060-283	9060-283-12			9060-283-4		128D	
		20-24	1.250	29.5	9060-295	-			9060-295-4			
1-1/2"	38.1	10-11	1.217	30.9	9060-309	-	9060N1500-1	9060P3	9060-309-4			
		12-13	1.260	32.0	9060-320	9060-320-12			9060-320-4			
		14-15	1.311	33.3	9060-333	9060-333-12			9060-333-4			
		16-17	1.335	33.9	9060-339	9060-339-12			9060-339-4			
		18-19	1.378	35.0	9060-350	9060-350-12			9060-350-4			
1-3/4"	44.5	10-11	1.453	36.9	9060-369	-			9060-369-4			1"
		12-14	1.508	38.3	9060-383	-			9060-383-4			
		15-16	1.587	40.3	9060-403	-			9060-403-4			
		17-18	1.614	41.0	9060-410	-			9060-410-4			

PARTS LIST

Tube OD Range		BWG	Body OD		Cutter Part #		Cutter Blade	Cutter Pin	Collar	Set Screw 1	Set Screw 2	Hex Drive
Inch	mm		Inch	mm	6” Reach	12” Reach						
2”	50.8	10	1.713	43.5	9060-435	-	9060N1500-1	9060P3	9060-435-4	128L	128D	1”
		11	1.740	44.2	9060-442	-			9060-442-4			
		12-13	1.760	44.7	9060-447	9060-447-12			9060-447-4			
		14-15	1.799	45.7	9060-457	-			9060-457-4			
		16-17	1.843	46.8	9060-468	-			9060-468-4			
		18-19	1.874	47.6	9060-476	9060-476-12			9060-476-4			
2-1/4”	57.2	10	1.957	49.7	9060-497	-	9060N2250-1	9060P4	9060-497-4			1-1/4”
		11	1.988	50.5	9060-505	-			9060-505-4			
		12-13	2.012	51.1	9060-511	-			9060-511-4			
		14-15	2.063	52.4	9060-524	-			9060-524-4			
		16-17	2.098	53.3	9060-533	-			9060-533-4			
		18-19	2.130	54.1	9060-541	-			9060-541-4			
2-1/2”	63.5	10	2.213	56.2	9060-562	-			9060-562-4			
		11	2.240	56.9	9060-569	-			9060-569-4			
		12-13	2.252	57.2	9060-572	-			9060-572-4			
		14-15	2.303	58.5	9060-585	-			9060-585-4			
		16-17	2.346	59.6	9060-596	-			9060-596-4			
		18-19	2.370	60.2	9060-602	-			9060-602-4			

ADJUSTMENT & REPAIR

Replacing a cutter bit.

1. Using an allen wrench, loosen the set screw (item 6) that secures the cutter pin.
   NOTE: Tube Cutter models 9060-190 and below use a 5/64 allen wrench & Tube Cutter models 9060-193 and above use a 1/8 allen wrench.
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.

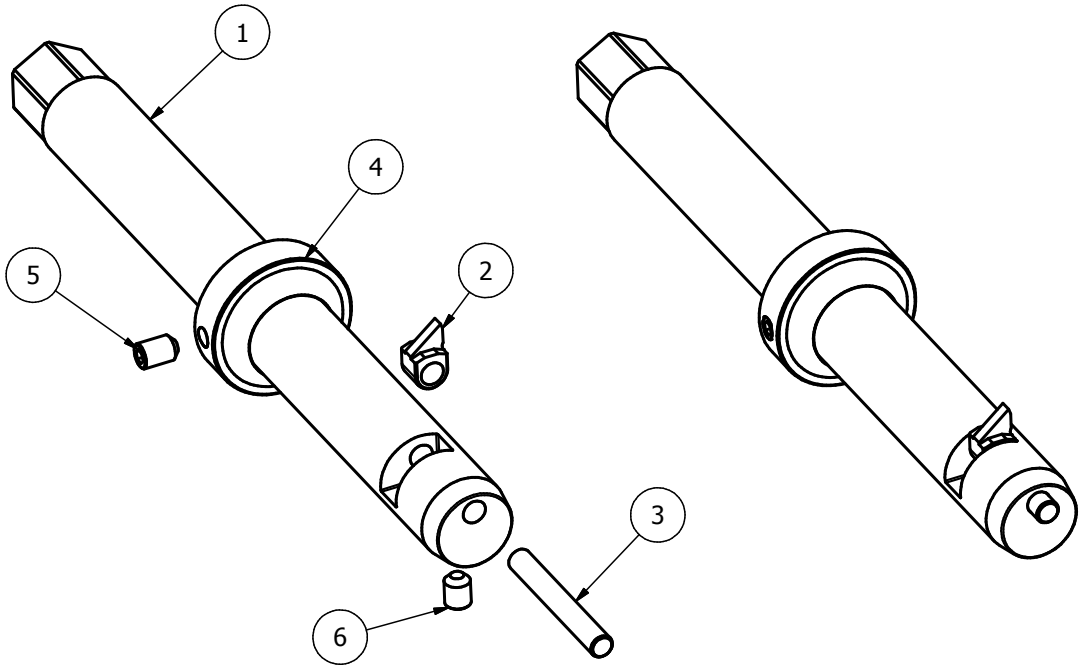


Diagram 1

WARRANTY

Should any part, of Seller's own manufacture, prove to have been defective in material or workmanship when shipped (as determined by Seller), Seller warrants that it will, at its sole option, repair or replace said part f.o.b., point of manufacture, provided that Buyer notifies, in writing, of such defect within twelve (12) months from date of shipment from the manufacturing plant.

On request of Seller, the part claimed to be defective will be returned, transportation, insurance, taxes and duties prepaid, to the factory where made, for inspection. Any item, which has been purchased by Seller, is warranted only to the extent of the original manufacturer's warranty to Seller.
Seller shall not be liable for any damages or delays caused by defective material or workmanship.

No allowance will be made for repairs or alterations made by others without Seller's written consent or approval. If repairs or alterations are attempted without Seller's consent, Seller's warranty is void.

THE WARRANTIES PROVIDED IN THE OBLIGATIONS AND LIABILITIES OF SELLER HEREUNDER, AND THE RIGHTS AND REMEDIES OF BUYER HEREUNDER ARE EXCLUSIVE AND IN SUBSTITUTION FOR, AND BUYER HEREBY WAIVES ALL OTHER WARRANTIES, GUARANTEES, OBLIGATIONS, CLAIMS FOR LIABILITIES, RIGHTS AND REMEDIES, EXPRESS OR IMPLIED, ARISING BY LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY FOR MERCHANTABILITY AND FITNESS FOR PURPOSE.

Seller's total liability is limited to the lower of the cost of repair or replacement.

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Printed in the USA

TM-43
PL-14