

GT Series Grooving Tool



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



Operating and Maintenance Instructions

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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 GT Series Grooving Tool has been designed for the following types of equipment:

Tube Sheets

Heat Exchangers

Condensers

Boilers

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.

SAFETY GUIDELINES

Read and save all instructions. Before use, be sure everyone using this tool reads and understands this manual, as well as any labels packaged with or attached to the tool.

1. Know Your Elliott Grooving Tool. Read this manual carefully to learn your tool's applications and limitations, as well as potential hazards, associated with this type of equipment.
2. Keep Work Area Clean and Well Lit. Cluttered, dark work areas invite accidents.
3. Dress Properly. Do not wear loose clothing or jewelry. Wear a protective hair covering to contain long hair. It is recommended that the operator wear safety glasses with side shields or a full face shield eye protection. Gloves and water repellent, nonskid footwear are also recommended. Keep hands and gloves away from moving parts.
4. Use Safety Equipment. Everyone in the work area should wear safety goggles or glasses with side shields complying with current safety standards. Wear hearing protection during extended use, respirator for a confined space and a dust mask for dusty operations. Hard hats, face shields, safety shoes, respirators, etc. should be used when specified or necessary.
5. Keep Bystanders Away. Bystanders should be kept at a safe distance from the work area to avoid distracting the operator and contacting the tool.
6. Protect Others in the Work Area from debris such as coolant spray. Provide barriers or shields as needed.
7. Use Proper Accessories. Use Elliott accessories only. Be sure accessories are properly installed and maintained. Do not defeat the purpose of a guard or other safety device when installing an accessory or attachment.
8. Check for Damaged Parts. Inspect guards and other parts before use. Check for misalignment, binding of moving parts, improper mounting, broken parts or any other conditions that may affect operation. If abnormal noise or vibration occurs, stop the tool immediately and have the problem corrected before further use. Do not use a damaged tool. Tag damaged tools "Do Not Use" until repaired. A guard or other damaged part should be properly repaired or replaced by an Elliott service facility or qualified repairman. For all repairs, insist on only identical replacement parts.
9. Remove All Wrenches. Check that all accessory wrenches are removed from the system before turning it on.

OPERATING INSTRUCTIONS

All grooving tools may be operated in standard radial drills, appropriate pneumatic tools, or computer numerically controlled radial heads for multiple drilling operations or with hand-held drive motors for “after-market” retubing projects.

Each size grooving tool operates in a speed range of 100-500 R.P.M. Standard cutting fluids should be used with these tools for optimum performance. Follow standard machine tool cutting speeds and feeds for the material and diameter you are cutting.

Setting Cutting Depth

(see Figure 1)

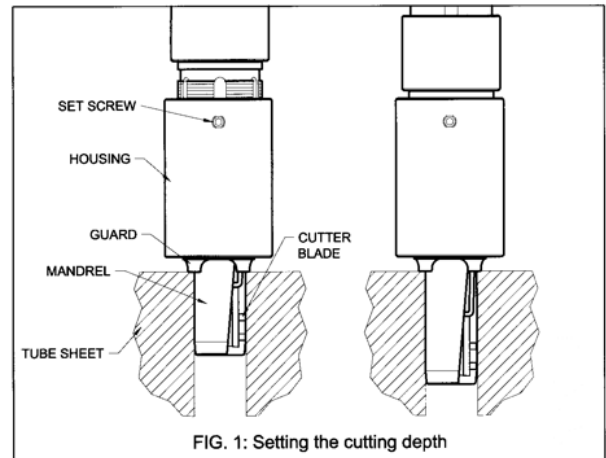
Loosen the set screw (3) in the housing (10) and thread the housing forward or back until the measurement from the face of the guard (13) to the cutter blade is at the desired depth.

Before tightening the set screw (3), ensure the set screw is lined up with the flats on the mandrel adapter (7) to prevent any damage to the adapter threads.

Setting Groove Depth

The actual depth of cut for the groove(s) is controlled by threading the adjustment nut (4) either forward or back to decrease or increase the amount of distance the cutter blade will travel up the mandrel (2) taper. With a mandrel slot taper of 5°, mandrel travel of .125” (3.2mm) equals .011” (0.28mm) increase in cutter blade projection.

NOTE: For tool size 5/8” thru 1-1/4”, one revolution of the Adjustment Nut (4) will increase or decrease blade height by .005” (0.13mm). For size 1-1/2” and up, one revolution of the Adjustment Nut will equal .007” (0.18mm) change in blade height.



OPERATING INSTRUCTIONS

Installing/Replacing Cutter Blades

The same cutter blade can be used on all tool sizes from 5/8" (15.9mm) to 3" (76.2mm). Standard blade tooth configurations are shown in the chart on page 4. Other blade configurations are available. Contact customer service for details.

Installing Cutter Blades

Slide the tapered end of the blade under the cutter spring (9) and push the blade forward until the hook-end of the cutter spring locks into the groove of the cutter blade.

Removing Cutter Blades

Pry a flat-end screwdriver under the side of the cutter spring (9). Lift the cutter spring up and slide the cutter blade from the front of the tool's mandrel.

Mandrel Replacement

1. Loosen set screw (3) in the housing (10) and unthread the housing all the way off.

WARNING

Before removing the mandrel adapter (7) in step 2, extreme caution should be taken as this part is under spring tension and could cause serious injury if not removed properly.

2. Stand the mandrel (2) on end with the morse taper end down. Press & hold securely the mandrel adapter (7) while loosening set screw (14) located on opposite side of cutter spring (9). Once the set screw is free of the groove in the mandrel, gradually allow the mandrel adapter to slide up the mandrel until there is no more spring tension.

NOTE: DO NOT release the mandrel adapter while there is still spring tension!

After removing the mandrel adapter, loosen set screw (14) in the spring retainer (5) and slide the spring retainer off the mandrel.

3. To assemble a mandrel, reverse the above steps.

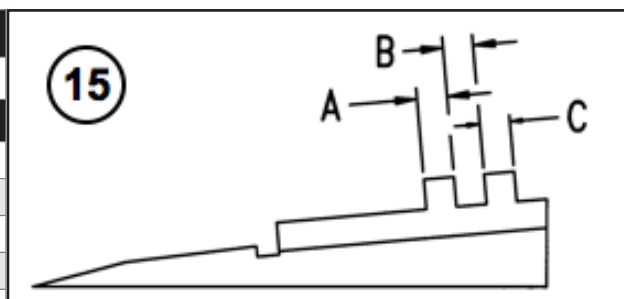
Specifications

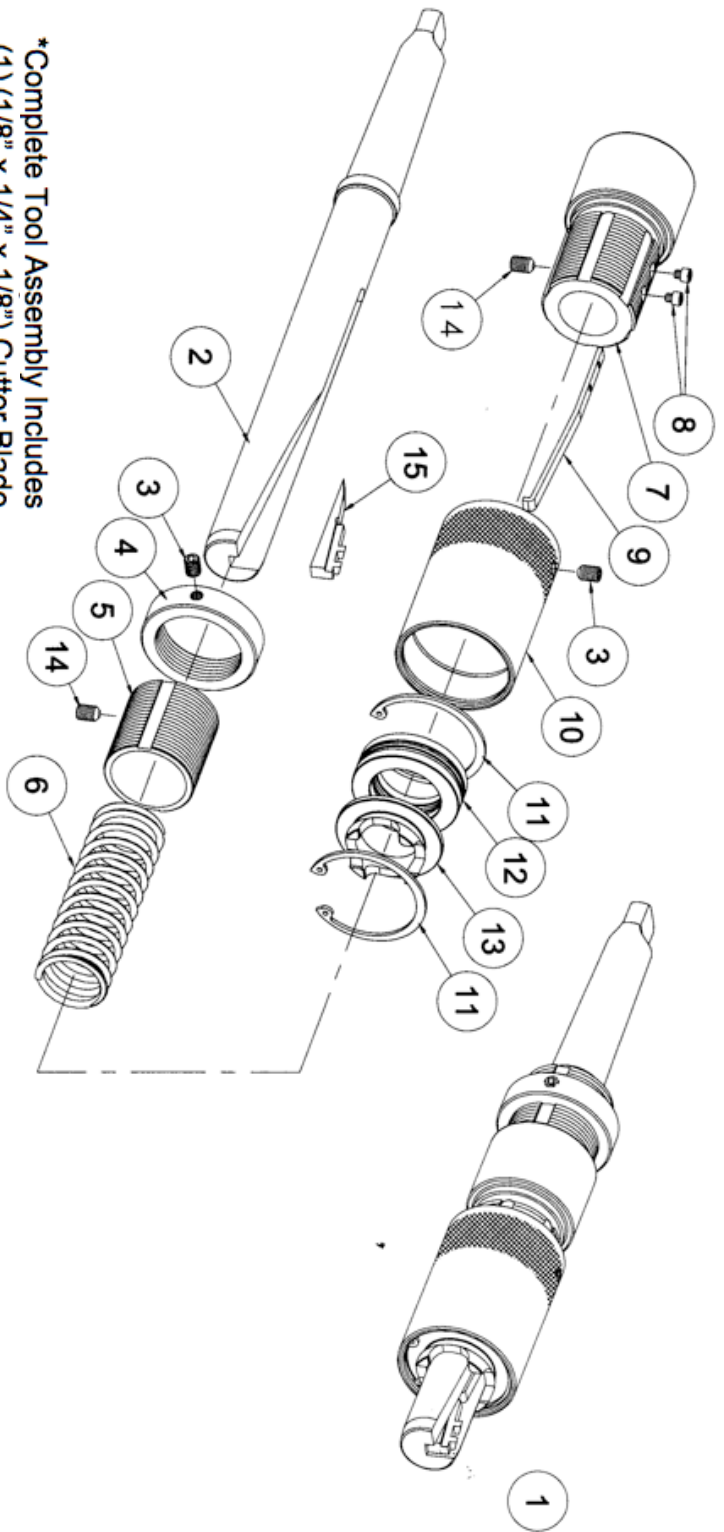
Model No.	Hole Size in. (mm)	OAL in. (mm)	Wt. Lb. (kg)	Operating Speed RPM	Max Cutting Depth in. (mm)	Mandrel Size in. (mm)	Morse Taper
GT375	3/8 (9.53)	12.56 (319)	2.8 (1.3)	400 - 700	1.50 (38.1)	3/8 (9.53)	No. 3
GT500	1/2 (12.7)	12.56 (319)	2.9 (1.3)	300 - 525	1.63 (41.4)	1/2 (12.7)	
GT625	5/8 (15.9)	12.75 (323.9)	3.5 (1.6)	250 - 425	2 (50.8)	5/8 (15.9)	
GT750	3/4 (19.0)	12.75 (323.9)	3.8 (1.7)	200 - 350	2 (50.8)	3/4 (19.0)	
GT875	7/8 (22.2)	13 (330.2)	4.5 (2.0)	175 - 300	2 (50.8)	7/8 (22.2)	
GT1000	1 (25.4)	13 (330.2)	4.8 (2.2)	150 - 260	2 (50.8)	1 (25.4)	
GT1250	1-1/4 (31.8)	13 (330.2)	6.8 (3.1)	125 - 200	2 (50.8)	1-1/4 (31.8)	
GT1500	1-1/2 (38.1)	13.81 (350.8)	10.6 (4.8)	100 - 175	1.50 (38.1)	1-1/2 (38.1)	No. 4
GT1750	1-3/4 (44.5)	13.81 (350.8)	12.4 (5.6)	85 - 150	1.50 (38.1)	1-3/4 (44.5)	
GT2000	2 (50.8)	13.81 (350.8)	16.5 (7.5)	75 - 130	1.50 (38.1)	2 (50.8)	
GT2500	2-1/2 (63.5)	13.81 (350.8)	20.5 (9.3)	60 - 100	1.69 (42.9)	2-1/2 (63.5)	
GT3000	3 (76.2)	13.81 (350.8)	22.5 (10.2)	50 - 90	1.50 (38.1)	3 (76.2)	

Tool No.			Tooth Form		
GT375	GT500	GT625 & Up	A	B	C
Cutter Blade No.			A	B	C
GT375-31-1	GT500-31-1	GT100-31-1	1/8	1/8	1/8
GT375-31-2	GT500-31-2	GT100-31-2	1/8	3/16	1/8
GT375-31-3	GT500-31-3	GT100-31-3	1/8	1/4	1/8
GT375-31-4	GT500-31-4	GT100-31-4	1/8	3/8	1/8
GT375-31-5	GT500-31-5	GT100-31-5	1/8	7/16	1/8
GT375-31-6	GT500-31-6	GT100-31-6	1/8	1/2	1/8

Other sizes on request. Consult factory for price.

For stainless steel materials, add suffix "S" to part number.





*Complete Tool Assembly Includes
(1) (1/8" x 1/4" x 1/8") Cutter Blade.

Tool Size

Item No.	Description	3/8"	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"	1-1/2"	1-3/4"	2"	2-1/2"	3"
1	Assembly	GT375	GT500	GT625	GT750	GT875	GT1000	GT1250	GT1500	GT1750	GT2000	GT2500	GT3000
2	Mandrel	GT375-03	GT500-03	GT625-03	GT750-03	GT875-03	GT1000-03	GT1250-03	GT1500-03	GT1750-03	GT2000-03	GT2500-03	GT3000-03
3	Set Screw	128L (2)	128L (3)	128L (2)	128L (2)	128L (2)	128L (2)	128L (2)	128L (2)	128L (2)	128L (2)	128L (2)	128L (2)
4	Adjustment Nut	GT375-07	GT375-07	GT625-07	GT625-07	GT1000-07	GT1000-07	GT1250-07	GT1500-07	GT1750-07	GT2000-07	GT2500-07	GT3000-07
5	Spring Retainer	GT375-08	GT375-08	GT625-08	GT750-08	GT875-08	GT1000-08	GT1250-08	GT1500-08	GT1750-08	GT2000-08	GT2500-08	GT3000-08
6	Spring	GT375-39	GT500-39	37-72600	37-72602S	37-72701	37-3344	37-11979	37-72962	37-S101	GT2000-39	GT2500-39	GT3000-39
7	Mandrel Adapter	GT375-04	GT500-04	GT625-04	GT750-04	GT875-04	GT1000-04	GT1250-04	GT1500-04	GT1750-04	GT2000-04	GT2500-04	GT3000-04
8	Cap Screw (2)	P8302-57	P8302-61	P8302-69	P8302-69	P8302-69	P8302-69	P8302-69	P8302-69	P8302-69	P8302-76	P8302-76	P8302-76
9	Cutter Spring	GT375-10	GT500-10	GT750-10	GT750-10	GT875-10	GT750-10	GT750-10	GT750-10	GT750-10	GT750-10	GT750-10	GT750-10
10	Housing	GT375-02	GT500-02	GT625-02	GT750-02	GT875-02	GT1000-02	GT1250-02	GT1500-02	GT1750-02	GT2000-02	GT2500-02	GT3000-02
11	Retaining Fling	P8374-137	P8374-137	P8374-156	P8374-156	P8374-187	P8374-187	P8374-212	P8374-237	P8374-256	P8374-306	P8374-354	P8374-412
12	Thrust Bearing	PC80-51104	PC80-51104	PC80-51204	PC80-51204	PC80-51106	PC80-51106	PC80-51107	PC80-51108	PC80-51109	PC80-51111	PC80-51113	PC80-51116
13	Guard	GT375-06	GT500-06	GT625-06	GT750-06	GT875-06	GT1000-06	GT1250-06	GT1500-06	GT1750-06	GT2000-06	GT2500-06	GT3000-06
14	Set Screw	128DD	See Item 3	128G	128G	128G	128G	128G	128G	128G	128G	128G	128G

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 twenty-four (24) 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.



Contact Us

Elliott Tool offers a complete line of precision tube tools to meet your needs. Contact us or your local support.

Elliott Tool Technologies, Ltd.
1760 Tuttle Avenue
Dayton, Ohio 45403-3428
Phone: +1 937 253 6133 • +1 800 332 0447
Fax: +1 937 253 9189
www.elliott-tool.com

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