

Electric Torque Motor

110 or 220 Volt - Model: 447000



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



Operating and Maintenance Instructions

Introduction

Thank you for purchasing this Elliott product. More than 100 years of experience have been employed in the design and manufacture of this tool, 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 Elliott 99300 Series Electric Rolling Motor may be used with or without the Elliott Model ELC110220 Electronic Torque Controller to expand tubes in the following types of equipment:

Boilers

Heat Exchangers

Condensers

Chillers

Evaporators

Air Conditioners

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 Instructions



To reduce the risk of injury, everyone using, installing, repairing maintaining, changing accessories on, or working near this tool **MUST** read and understand these instructions before performing any such task.

Elliott Tool Technologies mission is “To be recognized by our customers as the world’s best provider of application solutions”.

The most important safety device for this or any tool is YOU. Your care and good judgement are the best protection against injury. All possible hazards cannot be covered here, but we have tried to highlight some of the important ones.

1. Always wear impact resistant eye and face protection when involved with or near the operation, repair or maintenance of the tool or while changing accessories on the tool.
2. Be sure all others in the area are wearing impact resistant eye and face protection.
3. On overhead work wear a safety helmet.
4. Avoid direct contact with accessory and work surface during and after work as they become heated and sharp. Wear Gloves to protect hands.
5. Operators and maintenance personnel must be physically able to handle the bulk, weight and power of the tool.
6. Holding the accessory with the free hand can be a source of vibration exposure or injury.
7. To avoid injury from entanglement, do not wear loose clothing.
8. Never use dull accessories as they require excessive work pressure and can break from fatigue.
9. Never cool a hot accessory in water, brittleness and early failure can result.
10. This tool and its accessories **MUST NOT** be modified in any way.
11. Slip-Trip-Fall is a major cause of serious injury or even death. Beware of excess hose left on the walking or work surface.
12. High sound levels can cause permanent hearing loss. Use hearing protection as recommended by your employer or OSHA regulation (see CFR part 1910).

Safety Instructions (cont.)

1. Maintain balanced body position and secure footing.
2. Repetitive work motions, awkward positions and exposure to vibration can be harmful to hands and arms. If numbness, tingling, pain or whitening of skin occurs, stop using this tool and consult a physician.
3. Avoid inhaling dust or debris from work process which can be harmful to your health.
4. Proceed with care in unfamiliar surroundings. Hidden hazards may exist, such as electric or other utility lines.
5. This tool is not intended for use in an explosive atmosphere and is not insulated for contact with electrical power sources.
6. Do not operate this tool if it is wet and/or in humid ambient conditions.
7. When operating this tool always hold with both hands and maintain a safe distance.
8. Do not operate this tool without the torque reaction Handle.
9. Always use sharp cutting accessories to prevent tool lock up.
10. Always consider the torque reaction of this tool, especially when the tool's cutting accessory locks.

Protection

Wrong handling can result in injury to the operator and/or damage to the tool. The tool must be used with sharp cutting accessories to improve cutting capacity and protect the tool. Locking the tool may cause overload, the gear box is equipped with a clutch for locking protection.

For additional safety information consult:

- U.S. Department of Labor, (O.S.H.A.); Council of the European Communities and or local codes.
- Your employer union and/or trade association.

GROUND ALL TOOLS! This tool should always be plugged into a three hole electrical receptacle. If an adapters used to accommodate a two hole receptacle, the grounding ear must be attached to a known ground. Never remove the third prong.

Inspect power cord and plug each time prior to using the tool. Any torn or frayed cord must be immediately replace by a qualified electrical service tool technician.

11. Do not abuse the power cord. Never carry the tool by the cord or yank it to disconnect from the receptacle to disconnect.
12. Always disconnect the tool from the power source before making any adjustments to tool accessories connected to the tool.
13. Prevent body contact with grounded surfaces such as pipes and other structures.

Setup

Assembly Instructions

With the tool disconnected from its power source, screw in the torque reaction handle. The tool is supplied with a 5/8" Jacobs chuck and a number 3 Morse Taper adapter to 3/4" square female socket. To Change drive mechanism, insert the drift supplied with the tool into the access slot on the motor's spindle and tap lightly with a hammer until the drive mechanism releases. Insert the desired drive mechanism and tap lightly to lock the mechanism in the motor's spindle. The tool is now ready to accept tube cutter or other cutting accessory.

Operating Voltage

The operating voltage must correspond with that on the identification plate. Machines designed for 110 volts may also operate on 120 volts.

Changing Speeds

Model 447000 is equipped with a two speed gear box with the low speed rating of 60-140 RPM and the High Speed rating of 200-470. To change gears disconnect the tool from its power source, then pressing in on the gear selector (Located on the under side of the tool's spindle) slide it forward or back to change gears.

Variable Speed Control

Model 447000 is equipped with an adjustable speed control located just above the tool's trigger handle. Position 1 is the slowest speed, with position 7 being the fastest speed. See the recommended cutting speed chart on page XX listing cutting speeds for various diameters and tube materials.

Power Control (Disabled)

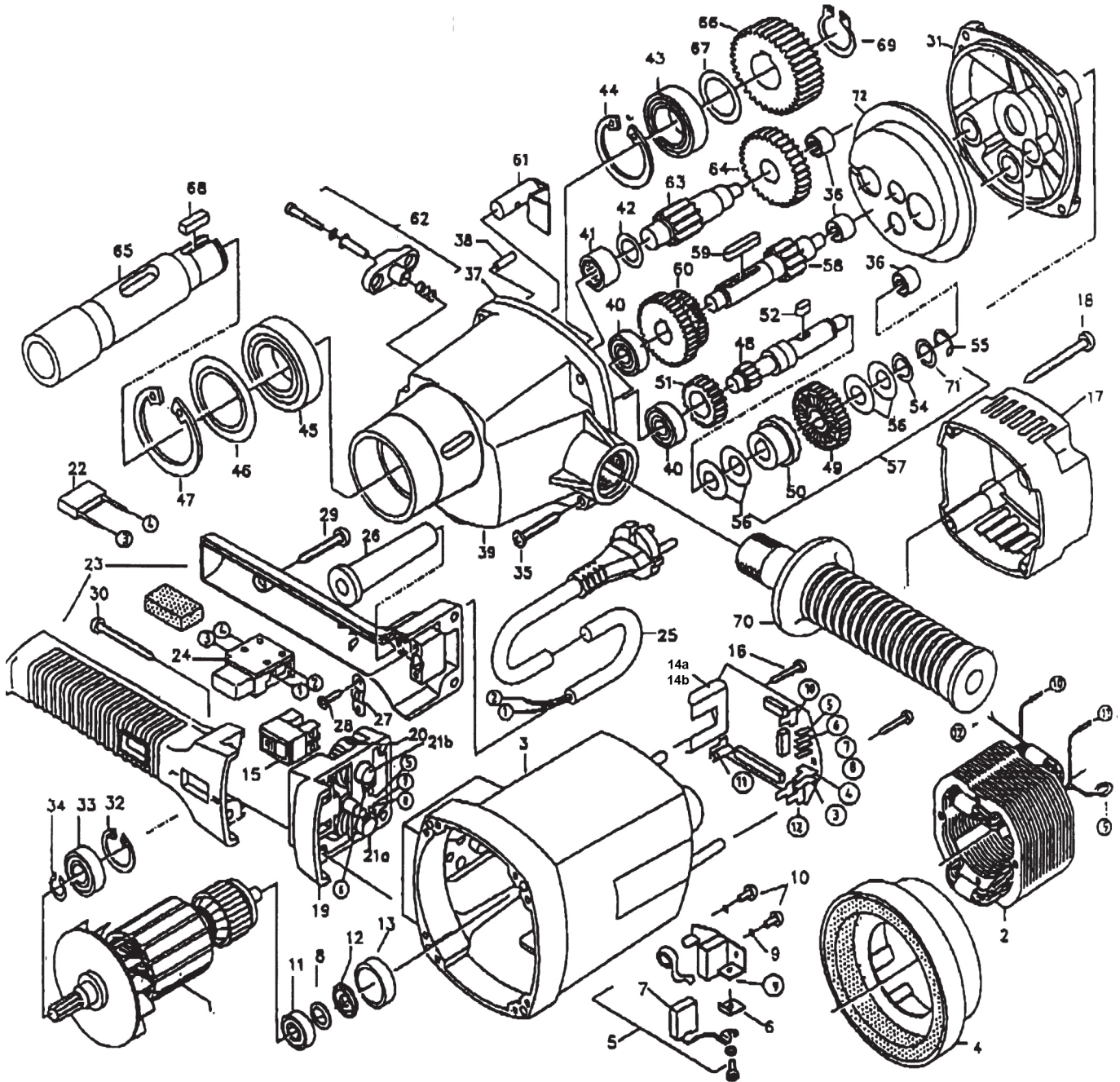
Your model may have a power adjustment knob located directly opposite the variable speed control. This control has been disabled at the factory. Making adjustments to this knob will have no affect on the performance of the motor.

Care and Maintenance

Due to the design this tool requires minimum care maintenance. Nevertheless, you should always observe the following:

1. Keep the electric tool clean
2. Do not any allow foreign matter to pass inside the tool.
3. After 300 hours use of operation, the carbon brushes have to be checked by a qualified technician. If they are .196" (5.0mm), they must be replaced by new, original brushes. The new brushes must be run in by a 20 minute idle run of the tool.

447000 Replacement Parts



447000 Replacement Parts List

ITEM	PART NUMBER	DESCRIPTION
1	40-7152E100	Armature
2	40-7152E150	Stator, Complete
3	40-7742A200	Motor Housing
4	40-71540140	Air Guiding Ring
5	40-80201199	Carbon Brush Holder
6	40-73320210	Contact Washer
7	40-80700021-2	Carbon Brush Set
8	40-73320999	Disk
9	40-80201385	Spring Disk 34
10	40-80201180	Screw CM4x12
11	40-80410021	Ball Bearing
12	40-80701002	Magnet Ring
13	40-73320315	Bearing Steel
14a	40-7152E280	Circuit Board for 110 Volt
14b	40-7152B280	Circuit Board for 220 Volt
15	40-80600110	Reverse
16	40-80201260	Self Tapping Screw
17	40-71525240	Cap to Motor Housing
18	40-80201267	Screw
19	40-74326293	Spacer
20	40-71521230	Selector Wheel
21A	40-80500020	Potentiometer
21B	40-80500007	Pontentiometer
22	40-80500010	Condenser
23	40-71527260	Side Handle
24	40-80600114	Switch
25	40-80600060	Connection Cable
26	40-71323255	Cable Sleeve
27	40-71540330	Wire Locking
28	40-80201271	Screw 4.2x16
29	40-80201291	Screw
30	40-80201294	Self Tapping Screw
31	40-7152B610	End Shield
32	40-80201333	Safety Ring 28/1.2
33	40-80410032	Ball Bearing
34	40-80201320	Safely Ring
35	40-80201292	Screw 4.2x16
36	40-80420110	Needle Sleeve

ITEM	PART NUMBER	DESCRIPTION
37	40-74429620	Paper Seal
38	40-80200580	Notched Pin 5x16
39	40-71521400	Gearbox Housing
40	40-80410020	Bearing
41	40-80420001	Needle Bearing
42	40-71540517	Disk of Needle Bearing
43	40-80410061	Ball Bearing
44	40-80201336	Locking Ring
45	40-80410070	Grooved Ball Bearing
46	40-71540426	Disk F. Grooved Ball Bearing
47	40-80201338	Locking Ring
48	40-71521490	Intermediate Shaft 1
49	40-74326550	Coupling Wheel
50	40-71540560	Coupling Half
51	40-71521470	Intermediate Wheel 1
52	40-71540495	Fitting Spring
54	40-71540607	Pressure Disk
55	40-80201361	Safety Washer
56	40-80200713	Spring
57	40-74326493	Coupling
58	40-71521500	Intermediate Shaft 2
59	40-80200602	Fitting Spring, hardened
60	40-71521440	Cluster Gears
61	40-71521520	Coupling Bolt
62	40-71540545	Gear Switch
63	40-71521510	Intermediate Shaft 3
64	40-71521480	Intermediate Wheel 4
65	40-71540420	Work Spindle
66	40-71540430	Spindle Wheel
67	40-80200512	Fitting Disk
68	40-80200606	Fitting Spring
69	40-80201326	Locking Ring
70	40-71411590	Handle, Complete, Additional
71	40-71540606	Pressure Disk
72	40-7152B265	Grease Chamber



Contact Us

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

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