

**The Welding
Accessory Experts™**



Neutra LTG Tungsten Grinder Operations Manual

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Neutra LTG Tungsten Electrode Grinder

The Safe, Super-Efficient and Environmentally-Friendly Tungsten Grinding Solution!

Thank you for purchasing the Arc-Zone.com® Neutra LTG Liquid -Cooled Tungsten Electrode Grinder. We appreciate your choice of this high-quality product, you can expect many years of reliable service. Your new grinding machine is a precision instrument and comes with a one-year warranty against manufacturing defects.

Designed to meet strict European environmental and workplace safety standards, our liquid-cooled tungsten grinder optimizes your tungsten electrode grinding operation, weighs just 16 pounds and grinds up to 3/16" (4.8mm) diameter with a 20ra surface finish.

With this precision grinding instrument you can prepare precision ground electrodes from .040" (1.0mm) to 3/16" (4.8mm) in diameter, quickly and consistently!

Read this entire manual prior to set-up and operation of your new tungsten grinder. If you have a question about your Neutra LTG or this manual please contact us at 1.800.944.2243 for assistance.

Safety information

Read Safety Precautions Carefully

Note: This Precision Machine Is Designed To Grind Tungsten Electrodes Only!

- When not grinding electrodes, turn grinder off for safety purposes and decreased wear on the precision electric motor.
- Wear proper safety apparel. Do not wear loose clothing, neckties, rings, bracelets, or other jewelry, which may get caught in the machine.
- Wear safety glasses.
- Never operate power tools when tired, intoxicated, or when taking medication that cause drowsiness.
- Use a grounded three-prong-plug, and plug directly into a three-prong-outlet.
- Keep visitors a safe distance from work area.
- Always unplug grinder prior to inspection.
- Read this manual thoroughly for specific adjustments and operating procedures.
- To ensure consistent electrode preparation, replace damaged parts.
- Make sure that the grinder is off before plugging it in.
- Do not apply extreme force to the tungsten while grinding. This may cause your grinder to jam or cause premature grinding wheel wear.
- Never leave the grinder unattended while running.
- Turn the grinder off when you complete the grinding operation and do not leave it until it comes to a complete stop.
- Remove all fluid from the grinder for transportation and store fluid in an appropriate container.
- Know your grinder; learn its operation, applications and limitations.

Unpacking

Arc-Zone.com® takes great pride in producing and delivering quality products. If your product was damaged in transit, please contact your Arc-Zone® account manager immediately.

After unpacking your new grinder, you should have these items:

- The Neutra LTG Liquid Cooled Tungsten Grinding Machine.
- One bottle of grinding fluid with MSDS sheets (MSDS sheets are also available online).
- Tungsten Holder and Collets
- A package with this manual and other materials.
- Be sure to read the manual before proceeding.

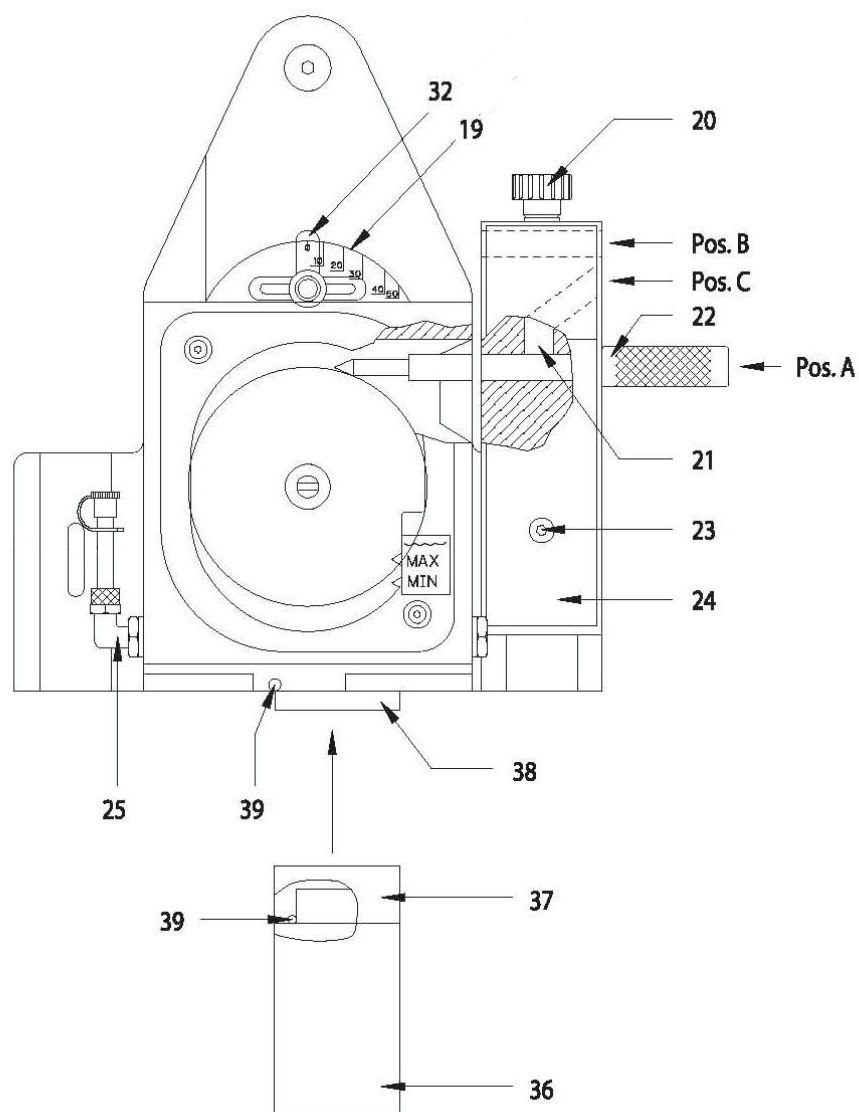


Figure 1 : ArcTime™ LTG

Parts List

ITEM	DESCRIPTION
1	Side wall seal
2	Bushing for grinding wheel
3	U-wheel
4	Recessed screw M5x12 stainless steel
5	Grinding wheel
6	Bulkhead
7	Plastic inspection cover
8	Retaining screw for inspection cover
9	Inspection cover frame
10	Weather strip for inspection cover
11	Machine body
12	Grinding liquid supplied in 260 ml bottle
13	Motor packing ring
14	Motor 50/60 Hz, 110V or 220-240V
15	Screw M6 w/ self-locking nut and water
16	ON/OFF switch
17	Carrying handle
18	Power cable
19	Degree scale
20	Regulating screw control knob
21	Regulating screw
22	Brass handle of electrode holder
23	Screw M6-45 self-locking
24	Console w/ vertical adjustment to set vertex angle and grinding position. Console complete w/ one oblique and two horizontal passageways.
25	Elbow joint for tapping hose

ITEM	DESCRIPTION
26	Tapping hose for plug
27	Electrode clamp, diameter 1.0mm
28	Electrode clamp, diameter 1.6mm
29	Electrode clamp, diameter 2.4mm
30	Electrode clamp, diameter 3.2mm
31	Electrode clamp, diameter 4.0mm
32a	T-piece for setting vertex angle
32b	Thumbscrew for T-piece
33	Spacer piece
34	Stainless steel barrel for electrode holder
35	Dome washer for electrode holder
36	Liquid containing dust receiving bottle, complete w/ liquid
37	Lid for liquid containing/dust receiving bottle
38	Drain plug for console
39	O-ring for drain plug and bottle
40*	Brass barrel for 4.8mm special electrode holder
41*	Brass barrel for 4.8mm special electrode holder
42*	Electrode clamp diameter 4.8mm for special electrode holder
43*	Turning handle for electrode holders
	Liquid disposal bottle 250 ml
	Box w/ foam insert for storing accessories
	Grinding liquid 5 liter container

*Special accessories not included in standard package.

Initial Set-Up and Operation

Place the grinder on a flat surface with enough free space on each side for proper ventilation and to allow you to comfortably prepare electrodes.

With the power switch in the OFF position and the grinder unplugged proceed as follows:

Your new Neutra LTG does not contain grinding fluid upon delivery and must be filled prior to operation with the supplied grinding fluid.

Fill the grinding chamber with the grinding fluid provided using the hose #26 on the left side of the grinder (see Fig. 1). Fill the to the MAX line shown on the inspection cover frame #9 (See Fig. 2).

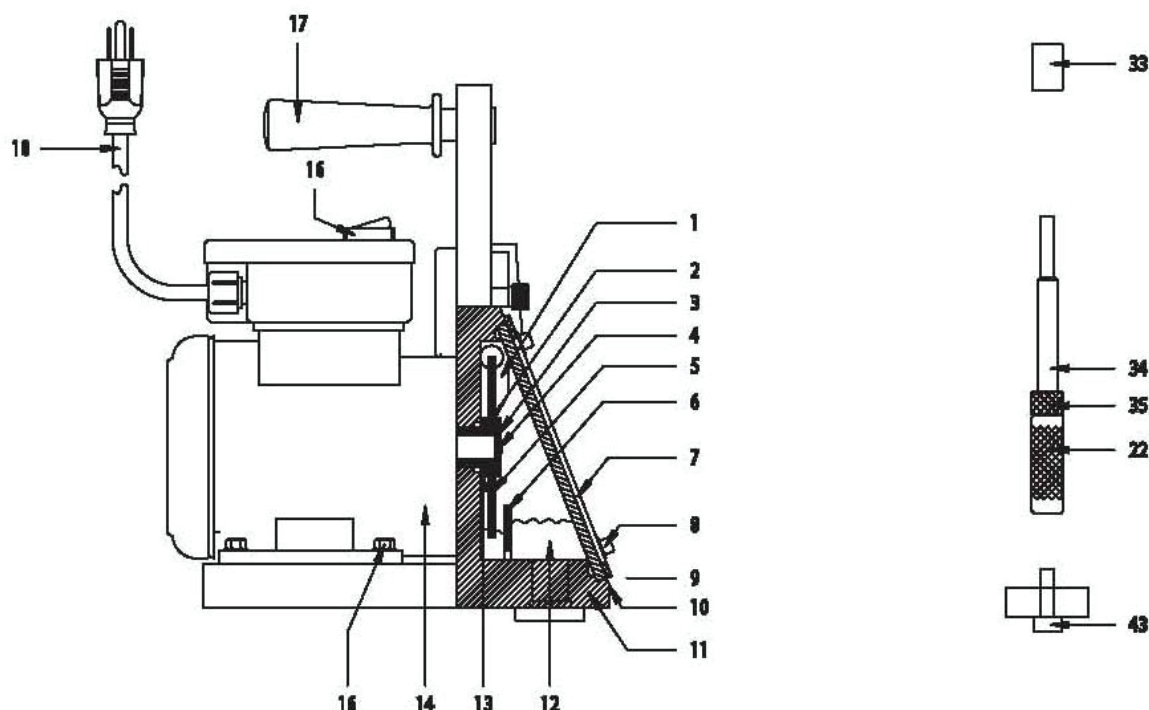


Figure 2 : ArcTime™ LTG (Side view)

Electrode Grinding Procedure

GRINDING A TIP-FLAT ON THE ELECTRODE

Tighten the electrode in the electrode holder. Insert the electrode and electrode holder into position "C" (See Fig. 3) in the console #24 (Fig. 1). Using very light pressure feed the electrode in until it contacts the grinding wheel. Remove and check for desired tip-flat.

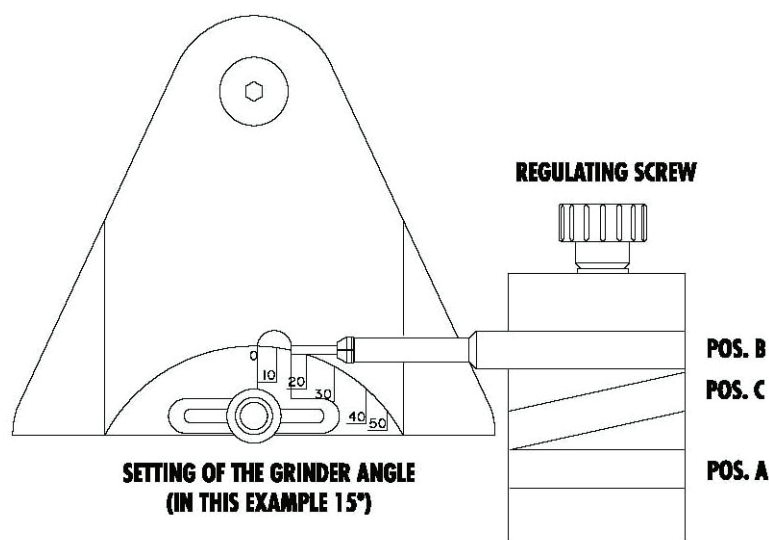


Figure 3: Grinding Tungsten

SETTING THE GRINDING ANGLE

FOR GRINDING ANGLES UP TO 25° (50° included angle)

Set the clear plastic "T" on the face of the machine to the desired position by placing the right hand side of the vertical "T" piece #32 (Fig. 1) at the required grinding angle, tighten the retaining nut. Insert the electrode into the collet in the electrode holder #22 (Fig. 1). Do not tighten.

Insert the electrode holder into position "B" of the console #24 (Fig. 1) as shown in Fig. 3. Push the electrode holder in as far as it will go, ensuring the electrode contacts the Plastic "T" piece #32 at the desired angle. Tighten the electrode in the electrode holder by turning the knurled brass end of the electrode holder.

FOR GRINDING ANGLES GREATER THAN 25° (50° + INCLUDED ANGLE)

Requires the optional 1" [25.4mm] long brass bushing #33 (Fig. 2)

The plastic T piece is not used for this operation. Loosen nut and move the plastic "T" piece all the way to the left. Re-tighten the retaining nut.

Insert electrode in the electrode holder collet #22 (Fig. 1) . Do not tighten. Slide the 1" (25.4mm) brass bushing onto the electrode holder until it stops against the shoulder of the electrode holder.

Insert the electrode holder with the bushing and electrode into position "B" shown in Fig. 3. Push it in as far as it will go. With the electrode loose in the electrode holder, set the end of the electrode in line with the desired grind angle and tighten the electrode holder by twisting the knurled brass end of the electrode holder.

SETTING THE GRINDING POSITION

The degree scale on the front of the grinder coincides with the grinding wheel in the grinding chamber. The bottom of the tungsten electrode must be set to align with the edge of the degree scale where it registers the desired grinding angle.

Alignment is set by changing the height of the console #24 (Fig. 1) with the regulating screw #20.

Turning the screw clockwise will lower the console. Turning the screw counter-clockwise will raise the console.

GRINDING THE TUNGSTEN ELECTRODE

With the power switch is in the OFF position plug in the grinder. Move the power switch to the ON position. Remove the electrode holder assembly, with the electrode tightened in place from position "B" and insert it into position "A" (see Fig. 3).

While rotating the holder, use light pressure to feed the electrode into the grinding chamber so that it contacts the grinding wheel. Continue to rotate the holder using light pressure against the grinding wheel until the grinding operation is complete. This is indicated by the shoulder on the electrode holder (or spacer piece) contacting the console.

When the grinding operation is complete, remove the holder and electrode from the machine with a slight rotating motion. This will remove any excess grinding fluid from the electrode.

Maintenance

MAINTAINING THE GRINDING FLUID

The Neutra LTG should always be filled with sufficient grinding fluid. This ensures optimum dust collection and adequate cooling of the diamond wheel. The correct level is between the MIN and MAX indicators on the inspection cover frame #9. Check the fluid level regularly and top up as necessary. Only the original type grinding fluid will ensure maximum grind quality and wheel life.

Periodically, the grinding fluid should be drained off into a suitable, sealed container, through hose #26 (Fig. 1) (it may be necessary to rotate the grinder onto its side to remove all of the fluid). If your grinder is equipped with the optional reservoir, remove and clean reservoir after draining fluid from main chamber. Refill reservoir with new grinding fluid and install. Refill the grind chamber to the MAX indicator line.

CAUTION: When performing this procedure tag the grinder so that it will not be operated without fluid!

Contaminated fluid should be placed in a suitable container and disposed of according to the standards set by your local authorities.

CLEANING THE GRINDING CHAMBER

After approximately 6 to 10 hours of operation the grinding chamber should be cleaned. Personnel performing this operation should wear the necessary protective equipment.

Drain all grinding fluid through hose #26 (Fig. 1) into a suitable container and dispose of properly (it will be necessary to rotate the grinder onto its side to remove all of the fluid). Remove screws #38 (Fig. 1) , inspection cover frame #9 (Fig. 2) and plastic inspection cover #7 (Fig. 2). Clean out the grinding chamber and rinse with clean grinding fluid. If your grinder is equipped with the optional reservoir, remove and clean the reservoir bottle. Refill with grinding fluid and install.

Retain all grinding residue and fluid in a suitable container and dispose of according to the standards set by your local authorities.

Replace the inspection cover assembly and fill the grinding chamber to the proper level with fluid.

Check the cover area for leaks before grinding.

REPLACING THE GRINDING WHEEL

Set the power switch to the OFF position and unplug the grinder from the power source before beginning this operation.

Drain off all of the grinding fluid through hose #26 (Fig. 1) (as specified in "Maintaining The Grinding Fluid) and retain it in a suitable container. Remove screws #8 (Fig. 2) inspection cover frame #9 and plastic inspection cover #7 (Fig. 2) . With one hand, hold the outer diameter of the grinding wheel and use an allen wrench to loosen the retaining screw #4 (Fig. 2) . Remove screw #4 (Fig. 2) and retainer #3 (Fig. 2). The grinding wheel #5 (Fig. 2) can then be removed.

A new electrode seal #13 (Fig. 2) should be installed when replacing the Grinding wheel. Follow the instructions for "REPLACING THE ELECTRODE SEAL."

Install the new grinding wheel, the retainer #3 (Fig. 2) and the screw #4 (Fig. 2). Use only hand pressure on the outer diameter of the grinding wheel and tighten the screw #4 (Fig. 1).

Replace the inspection cover assembly and refill the grinder to the proper level with the approved grinding fluid.

REPLACING THE ELECTRODE SEAL

The Neutra LTG uses a foam seal in the wall of the grinding chamber. The seal prevents grinding fluid from leaking from the grinding chamber, and wipes excess grinding fluid from the tungsten electrode as it is removed.

With use, the seal will wear and may allow leakage of the grinding fluid. If this occurs, the seal must be replaced.

To change the seal first remove the vertical console #24 (Fig. 1) on the right side of the grinder. The seal is located in a recess in the wall of the grinding chamber and must be completely removed. Thoroughly clean the recess so that the new seal will seat properly.

Coat the outside of the new seal with the waterproof sealer provided. Install the new seal with the small clip on the inner face in the 6 o'clock (bottom) position. Push the seal firmly into the recess until the clip engages on the inner wall of the grinding chamber. The vertical console is then replaced and the bosses on the seal should contact the side of the console.

Additional Assistance

If you require additional assistance with parts or service for your Neutra LTG Liquid Cooled Tungsten Grinder you can contact your Arc-Zone® technician at 1.800.944.2243 or 760.931.1500..

Warranty

The Neutra LTG Liquid Cooled Tungsten Grinder comes with a ninety-day warranty on parts and labor, (excluding diamond wheel and normal wear items). This warranty excludes "excessive" abuse or improper handling. This is a precision machine and should be treated accordingly.