ALTO

Alto Electric TS350 Brick Saw

Instruction Manual

Please read carefully before using machine

CONTENTS

1. INTRODUCTION

Application

This brick saw is designed for wet cutting masonry applications. The heavy-duty aluminium conveyor cart, fitted with ball-bearing roller wheels, ensures material stability and smooth travel. In addition, a reinforced welded steel frame provides rigidity for accurate cutting and long service life.

This brick saw is supplied with a high-flow water pump, cutting jig, water hoses and associated plumbing, enabling the operator to commence wet cutting operations immediately.

Structure

Console

The ergonomically designed control console allows the operator to easily understand and operate the adjustable handlebars and the raise/lower footplate.

Manual Raise/Lower System

The saw uses a manual raise/lower footplate system that raises and lowers the blade. The footplate can be locked into position to maintain a constant cutting depth.

Water System

The saw is fitted with a water delivery system to supply cooling water to the diamond blade. The system consists of:

- A standard garden-hose connection for connection to the water supply
- An ON/OFF water control valve located on the console

The blade guard incorporates two 6-inch water tubes to direct water onto the diamond blade during cutting.

Blade Application

This saw is designed for use with a Diamond Blade as the cutting tool. Optimum performance is achieved when using 14” Diamond Blades appropriate for the material being cut.

2. SPECIFICATION

Model		**Alto TS350**
Dimensions		
Overall Length	mm	1125
Overall Width	mm	790
Overall Height	mm	1460
Weight		
Net Weight	kg	63
Operating Weight	kg	75
Performance		
Blade Capacity	inch (mm)	14 (350)
Cutting Depth	mm	110
Cutting Length	mm	800
Blade Speed	RPM	2800
Tool Hole	mm	25.4
Power Source		
Motor Power		3HP/2.2KW, 9A
Motor Voltage		230V/50Hz
Overcurrent Protection		13A
Thermal Protection		135℃

3. FOR SAFETY OPERATION

Foreword:

It is important to read this manual carefully so that you will fully understand the operational characteristics and performance of the brick saw. Proper maintenance procedures will ensure long life and top performance of the unit.

Safety:

This section outlines basic safety procedures that apply to the operation, maintenance and adjustment of the Alto brick saw. This unit is designed as a powerful, productive machine that should be operated with respect and caution.

Misuse or carelessness can result in serious injury or property damage, or both. Safety precautions must be always observed.

This safety alert symbol identifies important safety messages throughout this manual and on the machine.

When you see the symbol, carefully read the message that follows. Your safety is at stake!

Operator Qualifications:

Before operating this equipment, an individual should read this manual. Whenever possible, he should be shown how to operate the unit by an experienced operator. Inexperience is hazardous in operating any machine or attachment. Trial and error are not the way to become familiar with a piece of equipment. This is expensive, cuts equipment life and can create machine downtime. Inexperience can cause injury or death. The machine should not be left unattended when operating.

General Safety:

WARNING

- Refrain from working in such cases as below:
- When not feeling well due to fatigue or disease.
- When taking medicine.
- Under the influence of alcohol.

CAUTION

- Read the instruction manual carefully and operate the machine properly to work safely.
- With respect to motor, read the separate motor manual.
- Understand the mechanism of the machine sufficiently.
- Wear protectors (hard hat, safety shoes, ear plugs, etc.) and proper clothing for working safety.
- Always check the machine for loosened threads or any other abnormality before starting your work.
- Whenever affixed name plate (such as operating directions and warnings) becomes difficult to read, replace it with new one.
- This machine presents a hazard if accessed by children. Store the machine securely and out of reach of children.
- Be sure to shut down electricity for servicing.
- Manufacturer does not assume responsibility for any accident arising from modification.

- A list of specific cutting-off wheels to be used, with their nominal characteristics and the advice that the use of all other types of wheels or tool (such as for example circular saw blades) which are not indicated in the list is not allowed.
- Direction of rotation of tool (indicated by an arrow on the guard)
- Maximum diameter of the new tool and bore diameter of the tool which can be fitted to the machine.
- Information on noise emission levels of the machine determined at no load in accordance with Annex A.
- Information that any modification which could lead to a change in the original characteristics of the machine, for example, rotational speed or maximum diameter of the cutting-off wheel machine is still in conformity with the safety regulations.

Starting Safety:

CAUTION

- Do not use wooden discs. Do not use dry-cutting discs.
- Cutting tool diamond blade wet cutting.
- CONTINUOUS CROWN: ceramic, marble, stone, single-fired ceramic
- LASER/SECTORS: cement, natural stones, granite, abrasive materials (With narrow slots, max 5 mm).
- TURBO: cement, natural stones, granite, refractory
- Admissible Operating Conditions:
  This machine is designed for intermittent operation in accordance with Duty Type S6
  Rated Duty Cycle
  40% load operation
  60% no-load operation (idle running)
- Before starting and operating your machine, check for safety of personnel or obstacle around.
- Always pay attention to ground so you can work in stable position.
- Whenever machine fails to work properly or any abnormality is noticed during work, suspend your work immediately.
- Be sure to stop motor whenever you leave the machine. Also, do not forget to stop the motor when you move the machine as well.
- Instructions for setting up the machine including, for example, choosing a flat and stable surface, free of obstacles (except materials to be cut) and adequately lit.
- Advice to check correct rotation of tool.
- Advice to prevent any contact with the rotating tool
- Never carry tool by cord or yank it to disconnect it from socket.
- Keep cord from heat, oil and sharp edges.
- When tool is used outdoors, use only extension cords intended for this particular use and so marked.
- Be sure to work in a safe and balanced position.
- The precautions to be taken for mounting, clamping and removing the cutting-off wheels, in particular:
  Setting the control device to the “off” position.
  Separating the machine from its energy source by unplugging the main power supplies for electric machines or for other machines, or by stopping the prime mover.

- Information about handling methods of tightening flanges.
- Information on the most foreseeable forbidden uses.

Servicing Safety:

CAUTION

- Before lifting, make sure that machine parts (hook and vibration insulator in particular) are not damaged and screws are not loosened or lost.
- Stop the motor before lifting your machine. Contact with moving parts can cause serious injury.
- Allow machine and motor to cool before performing service or maintenance. Contact with hot components can cause serious burns.
- Use wire rope which has sufficient strength.
- Use one point suspension hook and lift straight upward without giving any shock.
- Be sure not to allow any person or animal to enter underneath the lifted machine.
- For safety, try not to lift to unnecessary height.

Shutdown:

EMERGENCY SHUTDOWN

Press emergency switch to “OFF”.

NORMAL SHUTDOWN

Press the red button fully to activate machine stop.

4. TRANSPORTATION AND INSTALLATION

Transportation:

The machine can be easily moved by using the transport handles.

Before transporting the machine, ensure that:

- The sliding carriage is fixed by locking the carriage.
- The motor head is completely down by the lever to recovery.

To carry the machine to use a tie rod with four arms, capable of lifting 200 kg or at least 20% more than the weight of the machine, engaging the hooks into the carrying handles.

IN ORDER NOT TO COMPROMISE THE MACHINE STABILITY, KEEP STRICTLY TO THE FOLLOWING PROCEDURES. HOLD THE MACHINE DURING THE OPERATIONS DESCRIBED BELOW.

When the machine is in working position:

- loosen the back legs locking knobs (motor side).
- remove the back legs one at a time.
- place the machine rear side on the ground.
- move the machine.

Positioning:

Starting from a stable surface, place the machine in working position as indicated below:

- remove the machine from its packaging.
- loosen the locking knobs and insert the legs in their position.
- tighten the locking knobs.

5. BEFORE STARTING YOUR OPERATION

Checking Before Use:

- Before any cutting operation, make sure that the water level inside the tank is the same as the one indicated in the picture.

THE MACHINE HAS BEEN DESIGNED FOR WORKING WITH WATER.

- Make sure that the power supply cable does not interfere with the cutting operations.

Connecting to Power Supply:

THE MACHINE IS TO BE CONNECTED TO THE POWER SUPPLY BY A RESIDUAL CURRENT CIRCUIT BREAKER (RCCB) WITH THE FOLLOWING CHARACTERISTICS:

In 16 A Id 30 mA

To ensure correct functioning, periodically check the efficiency of RCCBs by pressing the push-button on the front of the device.

- Make sure that the section of the power supply cable cores has been measured according to the starting current and its length. For cables up to 50 m long, a section of 4 mm2 is enough.
- Before connecting the machine to the power socket, check that the power supply voltage corresponds to that shown on the plate on the machine.
- The machine must be connected to an effective earth wire. In case of doubt, do not connect the machine.

IN THE EVENT OF REVERSE MOTOR ROTATION, INVERT THE TWO-PHASE PINS INSIDE THE POWER PLUG, AS INDICATED BELOW:

- with a screwdriver with a slotted impression, press in the appropriate seat and turn the two-phase pins.
- check the correct direction of rotation.

Blade Assembly/Disassembly:

- Before performing any operation or adjustment, disconnect the machine from the supply mains.
- Unscrew the knobs and the locking nut on the disc cover and remove it.
- Remove the blade fixing nut using the 30 mm spanner and the 5 mm Allen wrench.

THE BLADE FIXING NUT HAS A LEFT-HAND THREAD.

• Install the new blade, checking for correct direction of rotation as clearly indicated on the tool.

• Tighten the blade and put the blade cover guard back in position.

IN ADDITION TO THE KNOBS ALWAYS REASSEMBLE THE LOCKING NUT ON THE DISC COVER.

Ø300 mm Diamond Blad Assembly:

For a correct use of the machine with Ø 300 mm tools, the cutting head stroke register must be adjusted. Proceed as described below:

- Install the Ø 300 mm tool as indicated in the paragraph (diamond blade assembly / disassembly).
- Loosen the limit stop register located near the cutting head locking lever.

- By means of the locking lever, secure the motor head to be able to move the diamond part of the tool inside the groove of the working table.

DO NOT PUT THE CUTTING TOOL IN CONTACT WITH THE BOTTOM OF THE WORKING TABLE GROOVE.

• Put back the adjusting screw supporting the frame pin and secure it with the two locking nuts.

BEFORE USING A Ø 300 mm CUTTING TOOL AGAIN, ALWAYS CHECK THE CORRECT POSITION OF THE CUTTING HEAD LIMIT STOP REGISTER.

6. OPERATION

Control Devices:

The machine is equipped with a control board made up of:

1) Start Button (Green Color):

Press the button fully to activate machine starting.

2) Regular Stop Button (Red Color):

Press the button fully to activate machine stop.

3) Overcurrent Circuit Breaker:

It intervenes when there is overcurrent, interrupting the machine supply. Its intervention is indicated by the expulsion of the manual reset. In case of intervention of the circuit breaker, wait a few minutes and reset it by pressing its central pin.

4) Device for Disconnected from The Mains (Plug):

Machine power supply point. During the maintenance phases, take out the device plug to disconnect the machine from the mains.

Cutting on The Table:

BEFORE PERFORMING THE CUTTING OPERATIONS, MAKE SURE THAT THE MATERIAL IS PROPERLY LEANED AGAINST THE TILE STOPPER.

BEFORE STARTING THE CUTTING OPERATIONS, THE OPERATOR MUST MAKE SURE THAT AT LEAST 150 cm ARE LEFT FREE AROUND THE MACHINE.

IN ORDER TO WORK IN SAFETY CONDITIONS, DO NOT LET OTHER PEOPLE REMAIN NEAR THE MACHINE DURING

THE CUTTING OPERATIONS. THE OPERATOR STANDS IN WORKING POSITION DURING THE DIFFERENT MACHINE OPERATION PHASES.

By means of the locking lever, secure the motor head

- Arrange the piece to be cut on the working table at the desired measurement.
- Start the machine and wait until cutting blade cooling water comes out, adjusting the necessary amount by means of the water on-off valve located on the blade guard
- Start the machine and wait until cutting blade cooling water comes out, adjusting the necessary amount by means of the water on-off valve located on the blade guard.

EMPTY THE TANK ONCE THE CUTTING OPERATIONS HAVE BEEN COMPLETED.

7. RESIDUAL RISK

The machine's designing paid particular attention to the aspects that may generate risks for the safety and health of operators. Nevertheless, there are still some potential risks, which are described below:

Danger of presence of electric current:

The machine has an internal electric system. CONNECT THE MACHINE TO A SYSTEM WITH DIFFERENTIAL PROTECTION AND EFFECTIVE EARTH WIRE.

Danger of prolonged exposure to noise:

The continuative use of the machine causes an exposure to noise levels above 85 dB (A). OPERATORS MUST USE PROPER EAR DEFENDERS.

Danger of accidental contact with the moving tool.

OPERATORS MUST WEAR HEAVY PROTECTIVE GLOVES

Danger of exposure to fragments of materials.

OPERATORS MUST WEAR PROTECTIVE GOGGLES.

ALWAYS STAY IN THE WORKING POSITION DURING THE MACHINE OPERATION PHASES:

- During material loading.
- During material cutting.
- During the cutting tool deceleration following the machine stop.

8. MAINTENANCE

BEFORE PERFORMING ANY OPERATION OR ADJUSTMENT, DISCONNECT THE MACHINE FROM THE SUPPLY MAINS.

Cleaning:

DO NOT WASH THE MACHINE WITH HIGH PRESSURE WATER JETS

Through the tap located on the bottom of the recovery tank, remove any working residual from the machine.

Clean the sprayer regularly as indicated.

Clean the slide guides regularly to remove cutting residues.

SLIDING CARRIAGE ADJUSTMENT

The sliding carriage is provided with a register for adjustment.

If any excessive vertical movement of the carriage should take place, act as follows:

1) with a 13 mm wrench and a 6 mm Allen wrench, loosen the lower wheel supports.

2) make the lower wheel support slide on the adjustment slot until the vertical play is eliminated.

3) lock the lower wheel support again.

IN CASE OF LATERAL MOVEMENTS OF THE CARRIAGE, TIGHTEN ALL THE WHEEL SUPPORTS STILL FURTHER.

9. TROUBLE SHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Blade slows or Stops cutting, still remains on blade.	Blade too hard for the material being cut.	Try cutting very soft material (sandstone, silica brick, cinder block) to Redress the blade.
	Engine Torque diminished because of loose V-Belts.	Tighten and/or replace V-Belts.
	Insufficient Engine power.	Check throttle setting. Check engine horsepower.
	Improper direction of rotation.	Check that the blade is oriented, and rotational arrow points in a "Down-Cutting" direction.
	Blade is slipping one the blade shaft.	Check that the blade & flange pin is properly installed on the blade shaft.
Blade does not cut straight and/or true.	Blade being used on misaligned saw.	Check blade shaft bearings and alignment integrity.
	Blade is excessively hard for the material being cut.	Check specifications of the blade with the material being cut.
	Blade being used at improper RPM.	Ensure blade surface feet per min speed is approximately 6000.
	Blade improperly mounted on arbor shoulders and flanges.	Ensure blade is properly affixed on the blade shaft.
	Excessive force applied to blade while cutting.	Do not force the blade in the cut. Apply a slow/steady pace to sawing.
Blade discolouring, crackling and/or wearing excessively.	Blade too hard for the material being cut.	Try cutting very soft material (sandstone, silica brick, cinder block) to Redress the blade.
	Blade improperly mounted on arbor shoulders and flanges.	Ensure blade is properly affixed on the blade shaft. Ensure the blade flanges are clean & free of debris.
	Blade not receiving enough cooling water or air.	Ensure proper flow & volume of water is provided for wet cutting blades.
	Arbor hole out of round.	Ensure blade is properly affixed on the blade shaft.
	Incorrect blade chosen for material being cut.	Check specifications of the blade with the material being cut.
	Excessive force applied to blade while cutting.	Do not force the blade in the cut. Apply a slow/steady pace to sawing.

HAVE YOUR TOOL REPAIRED BY A QUALIFIED PERSON

This electric tool complies with the relevant safety rules. Repairs should only be carried out by qualified persons using original spare parts, otherwise this may result in considerable danger to the user. Malfunctions not related to a conformity defect that exists at the time of purchase are excluded from the warranty. Exclusions include:

- Wear of materials (taking into account the average life of the product)
- Failure to comply with the recommendations contained in this manual.
- Maintenance and tampering carried out by unauthorized personnel.
- Use of non-original spare parts.

10.DISPOSAL

In the event of scrapping the entire machine, it must be disposed of in accordance with the methods laid down by current legislation.

	Polyamide	Steel	Aluminum	Copper	Epoxy Resin
Main Chassis	●	●			
Water Pump	●	●	●	●	●
Electric Motor	●	●	●	●	

11.SAFETY LABELS

YOU MUST READ OPERATOR'S INSTRUCTION MANUAL BEFORE OPERATING