MASALTA®

OPERATION MANUAL
EDGING POWER TROWEL
MT24 / MT30

WARNING

To reduce the risk of injury, all operators and maintenance personnel must read and understand these instructions before operating, changing accessories, or performing maintenance on Masalta power equipment. All possible situations cannot be covered in these instructions. Care must be exercised by everyone using, Maintaining or working near this equipment.

Table of Contents

HEALTH & SAFETY --- SAFETY PRECAUTIONS

WARNING

- Before using this equipment, study the entire owner's manual to become familiar with its operation. Do not allow untrained or unauthorized personnel, especially children, to operate this equipment. Use only factory authorized parts for service.

USE COMMON SENSE WHEN HANDLING FUELS

- Transport and handle fuel only when contained in approved safety containers.
- Do not smoke when refueling the engine or during any other fuel handling operation.
- If fuel is spilled during refueling, wipe it off from the engine immediately and discard the rag in a safe place. Do not operate the unit if fuel or oil leaks exist-repair immediately.
- Never operate this equipment in an explosive atmosphere.

- Never perform any work on the unit while it is running. Before working on it, stop the engine and disconnect the spark plug wire to prevent accidental starting.
- Do not operate this unit without all guards in place. Keep hands, feet, clothing and jewelry away from the unit blades and all moving parts. Rotating and moving parts will cause serious injury if contacted during operation.
- Do not allow anyone to stand or lean on the unit during operation.

- Keep the safety stop switch system in adjustment and good operating condition at all times. Do not operate the trowel if it does not work properly. Out of control Trowels can cause serious personal injury and damage to fresh concrete surfaces. This system will automatically stop the unit if the operator loses control of it during operation.
- Make sure the safety stop switch is disengaged (lever in the down position) before starting the unit. Keep one hand firmly on the handle while starting and do not let go of the handle during operation.

- Avoid contact with hot exhaust systems and engine parts.
- Allow engine to cool before performing any repairs or service.

- Ear protection required when operating this equipment.

- Never operate any gas powered equipment in a poorly ventilated or enclosed area.
- Avoid prolonged breathing of exhaust gases.

INTRODUCTION

OPERATING PRINCIPLE

The following instructions were compiled to provide you information on how to obtain long and trouble free use of the unit. Periodic maintenance of this unit is essential. Read the manual in its entirety and follow the instructions carefully. Failure to do so may injure yourself or a bystander.

DELIVERY CHECKS—Immediately on taking delivery of your new equipment and before putting it into service.

- Read the handbook completely—it could save a great deal of unnecessary expense.
- Read the engine manual supplied.
- Check the general condition of the equipment –has it been damaged during delivery?
- Check engine oil level.
- Check fuel levels.

Recommended lubricants are detailed in the Care and Maintenance section.

STANDARD FEATURES

Your new Power Trowel comes standard with many features to enhance productivity, performance and safety. Listed below are just a few of these features.

SAFETY STOP SWITCH—The switching mechanism of this switch should operate freely and should always be kept in this condition. With the switch in the OFF position, the engine should not start or run. The purpose of this switch is to stop the engine in a runaway situation, (i.e. the operator releasing the handle during operation).

ADJUSTABLE THROTTLE—Located in a convenient location, this push-pull throttle control can be set to provide any blade speed from 50 to 130 RPM, and located in place at the desired operating speed.

BENT ARM ADJUSTMENT—Allows blades to be adjusted to compensate for bent arms caused by dropping or mishandling the trowel. Can be easily adjusted on-site for consistent finishing.

HEAVY DUTY RING GUARD—Protects operator and unit while providing lower center of gravity which contributes to unit stability and performance.

CAST IRON SPIDER—Extra strong for insure alignment. Also contributes to lower center or gravity for increased trowel performance.

FOLDABLE HANDLE—Easy for transportation and storage.

TILT ADJUSTMENT KNOB – adjusts the angle of the blades for different curing stages and conditions of the concrete. Turning the knob clockwise increases the angle of the blades to the concrete. Turning the knob counter-clockwise flattens or decreases the angle of the blades.

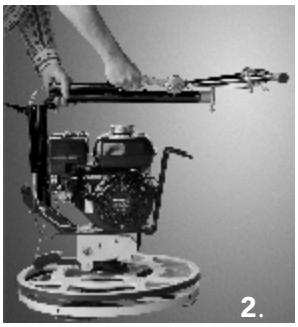
PREPARATION FOR SERVICE

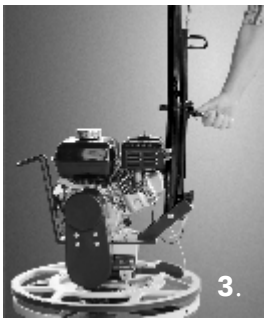
Before Starting—Your new Power Trowel has been assembled and tested at the factory. However, before placing the unit into service the following items should be checked:

Unfolding Handle

To unfold and secure the handle assembly:

1. New machine with folded handle.
2. Unfolding the adjustable handle and lock the screw.
3. Straighten the handle and lock the hinge pin.
4. Tighten the adjustable lever to lock the handle in its fully opened position.





OIL LEVEL AND LUBRICATION—Check the oil level in the engine and gearbox. Engine and trowel warranties are VOID if this unit is run without oil. The blade have been greased.

FUEL—Fill the fuel tank on gasoline engines with clean gasoline from a safety can. DO NOT mix oil with the gasoline.

OPERATIONS

TO START

Make sure the safety stop switch is in the **STOP** position. If it is not, push the lever down to the **STOP** position before attempting to start the engine. Open fuel valve under fuel tank (if so equipped), open throttle approximately half way down and apply choke. Holding unit handle firmly with one hand, pull the starter rope sharply with the other about (3) times. When engine starts, open choke and adjust throttle as necessary to keep it running. If engine doesn't start after (3) pulls, open choke slightly.

NOTE: These starting instructions are general guidelines only. Since many engine options are available on our power trowels, consult the ENGINE MANUAL included with the unit for specific instructions.

TO SHUT OFF

Push the safety stop switch down to the **STOP** position. Close throttle all the way, and turn the engine switch to OFF position.

INITIAL OPERATION

With engine started as instructed previously and at operating temperature, adjust speed to about half throttle. Hold the handle firmly with one hand and move the safety stop switch to RUN position to engage the trowel blades.

FINISHING OPERATION

After floating, allow the concrete to set until it will support the weight of the trowel. Set the pitch to approximately 1/4" to 3/8" on the blades. If the blades start to dig into the concrete, decrease the amount of pitch.

LIFTING THE TROWEL

You can use the LIFTING HOOK to move the machine.

MANEUVER OPERATION

Below (Figure 1) illustrates a typical walk-behind trowel application. Practice maneuvering the trowel. The trick is to let the trowel do the work.

Continue to practice maneuvering the trowel. Try to practice as if you were finishing a slab of concrete. Practice edging and covering a large area. Remember a good finishing technique is to work backwards. Be careful when moving backwards so that hazards can be avoided. The best way to get accustomed to the trowel is repeated use.

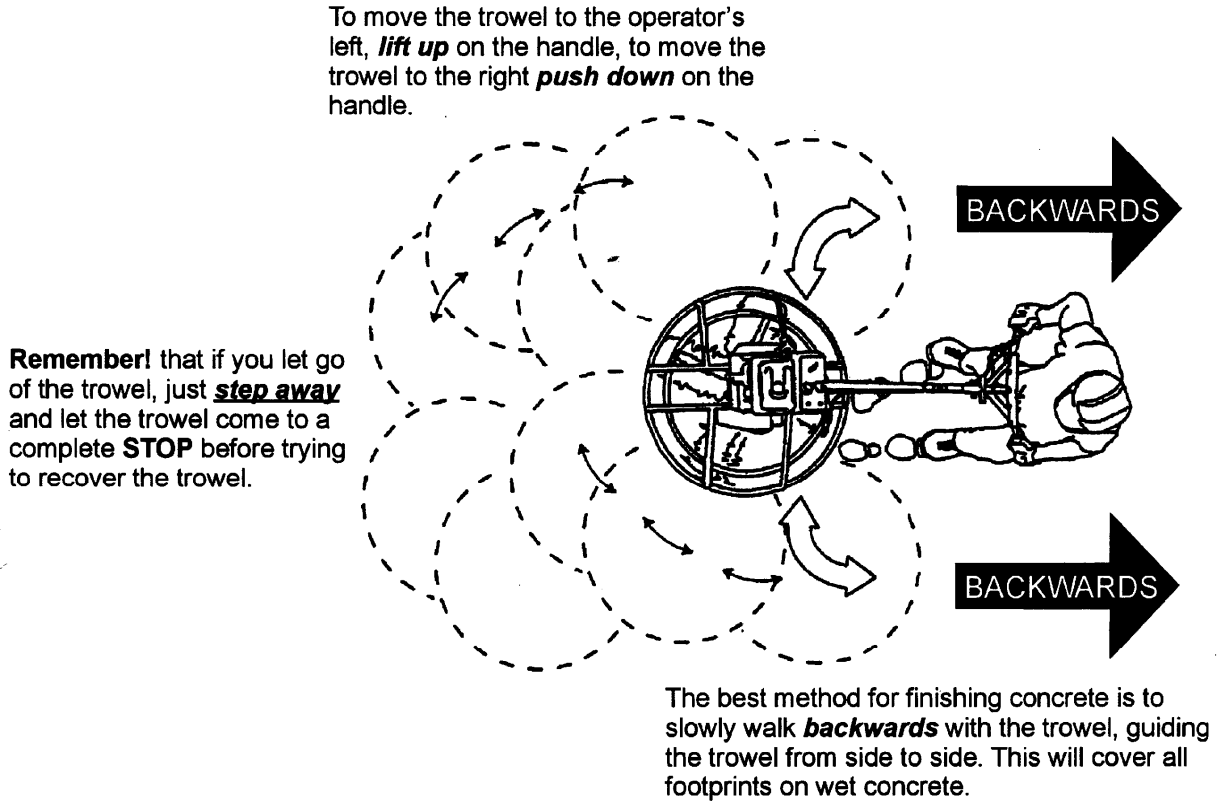


Figure 1

TROWELLING MACHINES BLADE ADJUSTMENT

Edging Power Trowel have a blade level adjustment incorporated into the outside bolt hole in the blade arm. This adjustment is a threaded insert in the blade arm, the blade bolt goes through the middle of the insert. (Figure 2)

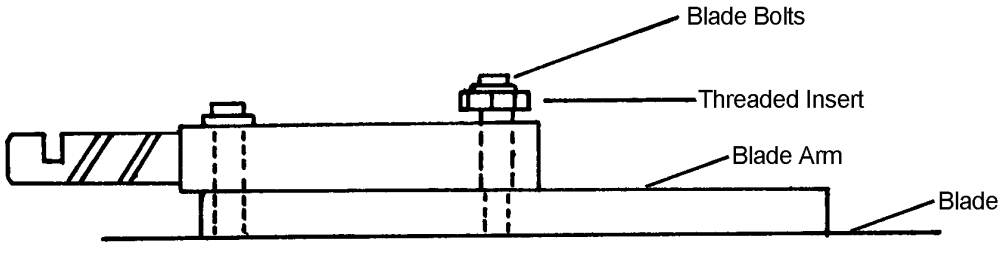


Figure 2

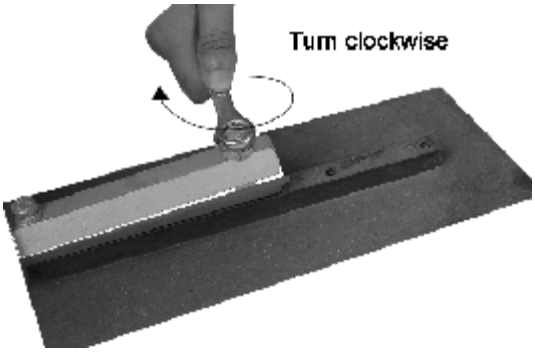
Do not turn the threaded insert when you put new blades onto the troweling machine. If you do, you will put the machine out of balance, these inserts are used to adjust the height of the outside of the troweling machine's blades. This allows you to keep all blades level on the same plane. There are many reasons why adjustment may be necessary, such as, a slightly bent blade arm or wear between the blade arm and the base assembly or the threaded insert was turned when new blades were put onto the machine.

One symptom of misaligned blades is uneven wear along the blade's edge, ideally the blade will wear evenly but if either the inside or outside wears more adjustment will be necessary.

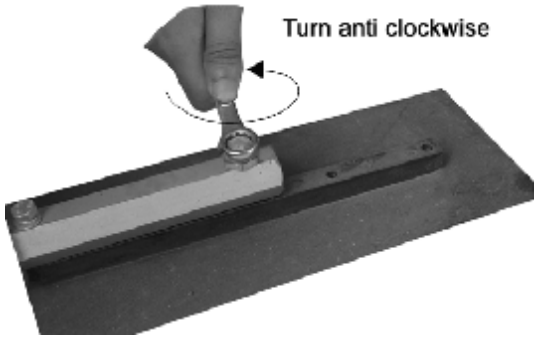
Another symptom can be the handle bar moving up & down as the blades rotate. A misaligned arm will either lift or drop the handle bar as it comes around, the machine will feel like it is bouncing. Note: if this is severe it may indicate a bent arm that needs repairing or replacing.

TROWEL ARM ADJUSTMENT SCREW

The bottom of the threaded insert is what the blade is bolted up to. If you turn the threaded insert clockwise you screw the threaded insert through the blade arm and increase the distance between the blade arm and the blade and therefore lower the outside of the blade. Conversely you will raise the outside of the blade if you turn the threaded insert anti clockwise and reduce the distance between the blade arm and blade.



Clockwise increases distance between blade arm and blade.



Anti Clockwise decreases distance between blade arm and blade.

When assembling trowel blades to trowel arms, the adjustment screw part number 10404 should never protrude below the underside surface of trowel arm except when used for emergency on site adjustment to level trowel blades.

If the adjustment screw is not flush with the underside of the trowel arm this will cause the power trowel to bounce and vibrate especially at high speed, causing the trowel blades to leave an uneven finish to concrete due to the blade or blades not being level with one another.

Make certain that adjusting screw is held firmly in place while tightening bolt which secures the blade to trowel arm.

MAINTENANCE

MAINTENANCE, LUBRICATION AND ADJUSTMENT

To get long and trouble free service from your new Power Trowel, it is essential to perform periodic maintenance on engine and machine mechanisms. Follow the guidelines listed below;

LUBRICATION

A. ENGINE CRANKCASE

Daily—check oil level in engine. Engine warranty is VOID if it is run without oil. Add oil as required to keep crankcase full. Engine oil should be changed every 250 hours of operation, or once a year, whichever comes first.

Oil requirements are as follows:

Temperatures above 40℉ (4℃) – SAE 30

Temperatures below 40℉ (4℃) – SAE 5W20

These oil requirements are general guidelines only, for specific requirements consult the ENGINE MANUAL included with the unit.

See the engine manual supplied with your machine for appropriate engine maintenance schedule and troubleshooting guide for problems.

B. TROWEL

Daily (8-10 Hours)

- Check the oil level in the engine crankcase and gear box, fill as necessary.
- Check V-belt.

Weekly (50-60 Hours)

- **Relube arms, thrust collar and clutch.**
- Replace blades if necessary.
- Check and clean or replace the engine air filter as necessary.
- Replace engine oil and filter as necessary, see engine manual.

Monthly (200-300 Hours)

- Remove, clean reinstall and relube the arms and thrust collar. Adjust the blade arms.
- Grease arm bearing through the grease fittings in the spider. Pump grease into each fitting until clean grease comes out of spider at either end, thoroughly clean excess grease off from spider when all arms has been greased.

Yearly (2000-2500 Hours)

- Check and replace if necessary the arm bushings, thrust collar bushings and shaft seals.
- Check pitch control cables for wear.
- Adjust blade speed.

TECHNICAL DATA

Motor

Model	Engine type	Output
MT24-2	Chinese Petrol Engine	4.8 kW
MT24-3	Petrol, Robin EX17	4.2 kW
MT24-4	Petrol, Honda GX160	4.0 kW
MT30-2	Chinese Petrol Engine	4.8 kW
MT30-3	Petrol, Robin EX17	4.2 kW
MT30-4	Petrol, Honda GX160	4.0 kW

Operation Mass (kg):

Model	Operation Mass	Model	Operation Mass
MT24-2	63	MT30-2	68
MT24-3	62	MT30-3	67
MT24-4	62	MT30-4	67

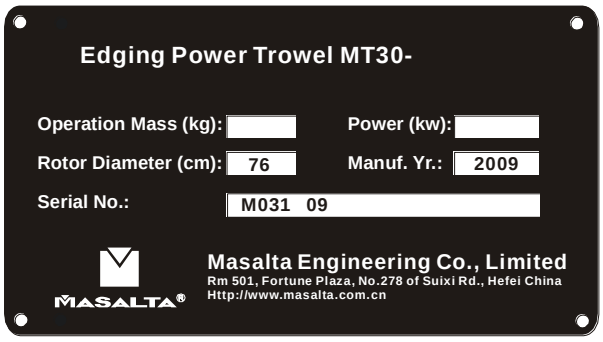
Model	MT24 series	MT30 series
Rotor Diameter	61cm (24')	76cm (30')
Guard Diameter	61cm (24')	76cm (30')
Finish Blades	4.7" x 9"	6" x 10.5"
Combination Blades	4.7" x 9"	6" x 10.5"
Pans	----------	76cm (30')

Acoustic Noise (According to 2000/14/EC)

	MT24-2/3/4	MT30-2/3/4
Measured sound power level	95dB	95dB
Guaranteed sound power level	98dB	98dB
Uncertainty	3dB	3dB

Hand-Arm-Vibration(as per ISO8662, Part 1, m/s^2): 6.0 m/s^2

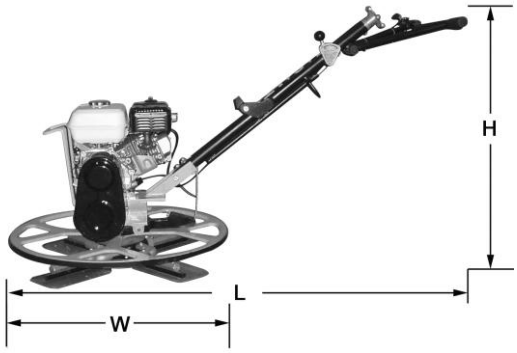
Nameplate



WORKING SIZE (L x W x H) **:**

MT24 series: 150 x 70 x 90 CM

MT30 series: 158 x 76 x 90 CM



TRANSPORTATION

1. Always shut off engine when transporting machine.
2. Make sure lifting device has enough capacity to hold machine (see identification plate on machine for weight).
3. Use lifting point (b) when lifting machine.

TROUBLE SHOOTING (TROWEL)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine running rough or not at all.	Safety switch malfunction?	Make sure that the safety switch is ON or replace switch if necessary.
	Fuel?	Look at the fuel system. Make sure there is fuel being supplied to the engine. Check to ensure that the fuel filter is not clogged.
	Ignition?	Check to ensure that the ignition switch has power and is functioning correctly.
Safety switch not functioning.	Bad contacts?	Replace switch.
	Loose wire connections?	Check wiring. Replace as necessary.
	Other problems?	Consult engine manufacturer's manual.
If trowel "bounces, rolls concrete, or makes uneven swirls in concrete".	Blades?	Make certain blades are in good condition, not excessively worn. Finish blades should measure no less than 2" (50mm) from the blade bar to the trailing edge, combination blades should measure no less that 3.5" (89mm).
	Spider?	Check that all blades are set at the same pitch angle as measured at the spider.
	Bent trowel arms?	Check the spider assembly for bent trowel arms. If one of the arms is even slightly bent, replace it immediately.
	Trowel arm bushings?	Check the trowel arm bushings for tightness. This can be done by moving the trowel arms up and down. If there is more than 1/8" (3.2mm) of travel at the tip of the arm, the bushings should be replaced. All bushings should be replaced at the same time.
	Thrust collar?	Check the flatness of the thrust collar by rotating it on the spider. If it varies by more than 0.02" (0.5mm) replace the thrust collar.
	Thrust collar bushing?	Check the thrust collar by rocking it on the spider. If it can tilt more than 3/32" (2.4mm) [as measured at the thrust collar O.D.], replace the bushing in the thrust collar.
	Thrust bearing worn?	Check the thrust bearing to see that it is spinning free. Note: Thrust cap, replace if necessary.
Machine has a perceptible rolling motion while running.	Main shaft?	The main output shaft of the gearbox assembly should be checked for straightness. The main shaft must run straight and cannot be more than 0.003" (0.08mm) out of round at the spider attachment point.
	Yoke?	Check to make sure that both fingers of the yoke press evenly on the wear cap. Replace yoke as necessary.
	Blade Pitch?	Check to ensure that each blade is adjusted to have the same pitch as all other blades. Adjust per maintenance section in manual.
Clutch slipping or sluggish response to engine speed change.	Worn V-belts?	Replace V-belt.
	Dirty centrifugal clutch?	Disassemble and clean clutch.
	Defective or worn out centrifugal clutch?	Replace entire clutch.
	Worn bearings in gearbox?	Rotate input shaft by hand. If shaft rotates with difficulty, check the input and output shaft bearings. Replace as necessary.
	Worn or broken gears in gearbox?	Verify that the gearbox shaft rotates when the input shaft is rotated. Replace both the worm and worm gear as a set.

WARRANTY

These products are covered by warranty for a period of six (6) months from the date of purchase against defects in material or workmanship provided that:

· The product concerned has been operated and maintained in accordance with the operating instructions.

· Has not been damaged by accident, misuse or abuse.

· Has not been tampered with or repaired by any unauthorized person.

The owner is responsible for the cost of transportation to and from the authorized repairer and the unit is at the owners risk while in transit to and from the repairer.

Impact damage is not covered under warranty. Clutches are not covered under any warranty. Engines are warranted by their manufacturer.

MAINTENANCE RECORD

PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN

This Edgine Power Trowel has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your Edging Power Trowel. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your MASALTA dealer. For your convenience we have provided this space to record relevant data about your Edging Power Trowel.

Invoice Number:		Type of Machine:	
Date Purchased:		Dealer Name:	
Serial Number:		Dealer Phone:	

REPLACEMENT PARTS USED					MAINTENANCE LOG	
PART NO.	DESCRIPTION	QUANTITY	COST	DATE	DATE	OPERATION

EC DECLARATION OF CONFORMITY
CE-KONFORMITÄTSERKLÄUNG
DECLARACIÓN DE CONFORMIDAD DE LA CE
DÉCLARATION DE CONFORMITÉ C.E.

MASALTA ENGINEERING CO., LTD
Weisi Road, Baohe Industrial Estate, HeFei 230051, China

hereby certifies that the construction equipment specified hereunder / bescheinigt, da. das Bauger.t / certifica que la máquina de construcción / atteste que le matériel :

1. Category / Art / Categoría **/** Catégorie:
   Power Trowel

2. Type / Typ / Tipo / Type:
MT24 / MT30

has been produced in accordance with the following standards:/in übereinstimmung mit folgenden Richtlinien hergestellt worden ist:/ha sido fabricado en conformidad con las siguientes normas: / a été produit conformément aux dispositions des directives européennes ci-après :

2006/42/EC
2004/108/EC/EN55012:2007 (EMC)
EN12649

15.02.10 Hermann Josef Lensing
---------- Research and Development Manager
Date / Datum / Fecha / Date

Distributed By

MASALTA ENGINEERING CO., LTD

Add: Weisi Road, Baohe Industrial Estate, Hefei 230051,China
Tel: 86-551-4846601, 4846580 Fax: 86-551-4846616, 4846626
E-mail: sales@masalta.com.cn, masalta@mail.hf.ah.cn
Http://www.masalta.com.cn

Version: 01/09/02 Printed: 06/2009