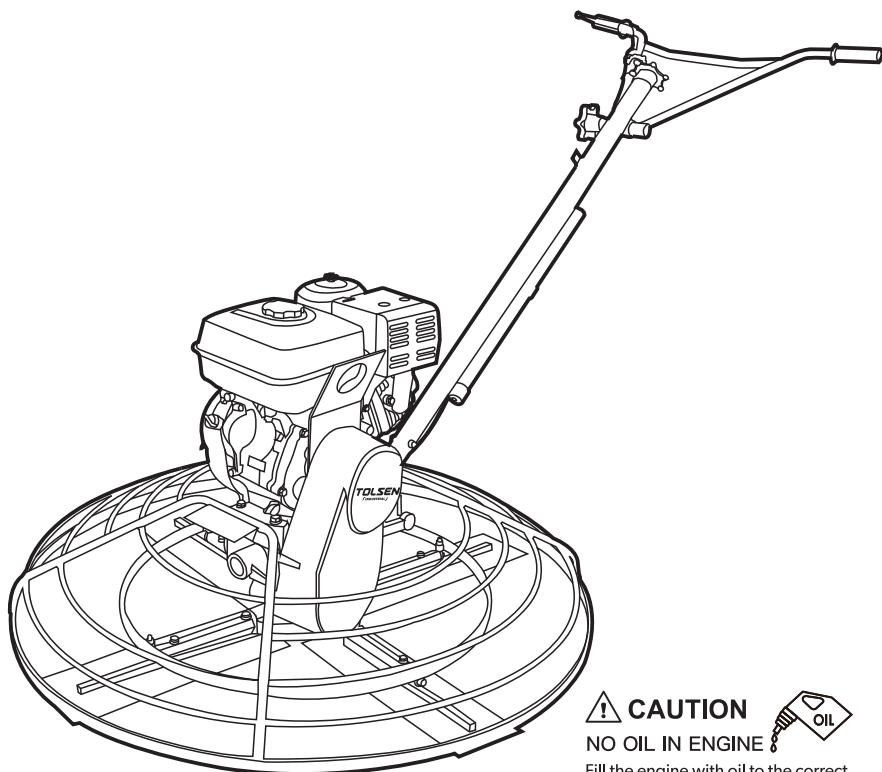


# TOLSEN

## 86161/86162 POWER TROWEL

### INSTRUCTION MANUAL



#### **CAUTION**

**NO OIL IN ENGINE**



Fill the engine with oil to the correct level before starting the engine.

#### **SAVE THIS MANUAL !**

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 equipment we produced. All possible situations cannot be covered in these instructions. Care must be exercised by everyone using, maintaining or work near this equipment.

## GENERAL SAFETY GUIDELINES

Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be used by qualified and trained personnel only. This equipment should not be operated by people under 18 years of age.

Always use proper heavy lifting techniques when moving equipment.

Always make sure that machine is kept in proper operating condition.

Always have throttle position at idle while starting engine.

Always check to make sure that operating area is clear before starting engine.

Always test safety equipment including the engine stop mechanisms before operating equipment.

Never place feet on or inside the guard cover while starting the engine.

Never operate this equipment without proper protective clothing including footwear.

Always keep clear of rotating parts when operating.

Never operate with belt guard or any other guards removed.

Never leave machine unattended while running.

Never refuel while engine is running or while engine is hot.

Always refuel in a well ventilated area, away from sparks and open flames.

Never smoke while refueling.

Exhaust fumes are lethal! Operate machine in a well ventilated area, away from places where fumes can accumulate.

## SAFETY INFORMATION

### Follow All Safety Instructions

Read all safety instructions carefully. Safety instructions will be found throughout this manual and on the machine. Keep all safety information in good, readable condition. If needed, replacement safety information is available.

The proper machine operation includes training operators. Operators should clearly know the machine safety and operation. Never allow a person who is not properly trained to operate the equipment.

Keep this machine in the proper working condition. This includes keeping all safety labels on the machine clean and visible.

Do not modify this machine. Doing so may cause improper operation and may not be safe.

This may also reduce machine life. Modifying this machine in any way will void the warranty.

### Operate Machine Safety

**CAUTIONS!** Disconnect spark plug wires before attempting service.

Before attempting maintenance on this machinery, know the procedure and use the correct tools.

Always make sure that machine is stopped and the spark plug wires are disconnected before attempting service.

Securely support any machine components that must be raised for service (e.g. trowel handle).

Never lubricate the machine or attempt service on a running machine. Always allow the machine proper time to cool before servicing.

Keep machinery in the proper running condition. Make sure that there is no buildup of concrete, grease, oil or debris. Keep all parts properly installed. Fix damage immediately and always replace worn or broken parts.

Dispose of potentially hazardous waste properly. Examples of potentially hazardous waste are: motor oil, fuel and filters. Use rigid containers for trapping these items. Do not use old food or beverage containers. Do not pour waste oil or fuel directly onto the ground, down a drain or into any water source. Inquire what the proper disposal procedures are for waste fuel and oil in your local area.

## OPERATION

Before packing and shipping, this power trowel was run and tested at the factory. If there are any problems, please let us know.

Before putting your new finisher into service, read all manuals and instructions carefully.

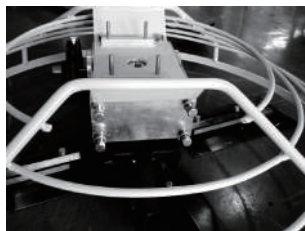
Improper setup, use or maintenance of your equipment could result in personal injury or damage to equipment.

The purpose of this section of the manual is to explain the setup, use and maintenance of this equipment.

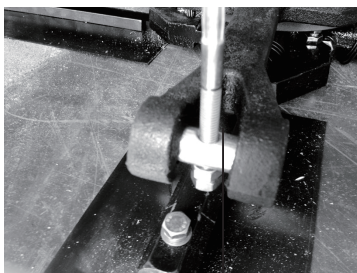
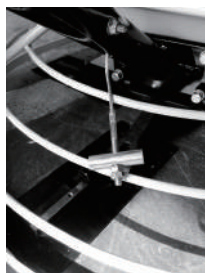
## Assembly

**NOTE: READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE ANY COMPONENTS.**

1. Remove 4 bolts from gear case, connect handle pipe and fasten bolts.



2. Remove bolts from adjusting cable, connect cable to knock pin and fasten the bolts.



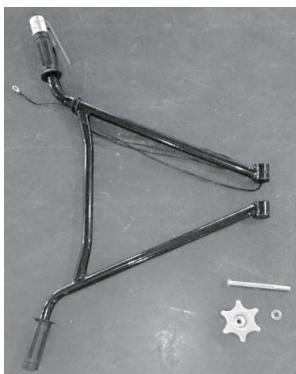
knock pin

3. Put lifting pipe in correct position of handle pipe.



lifting pipe

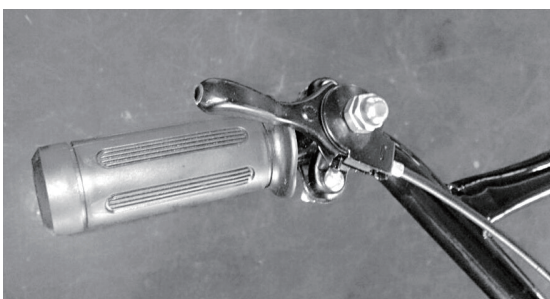
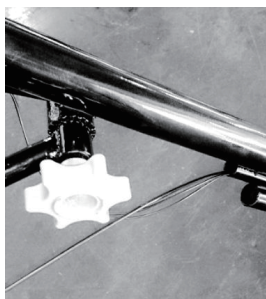
4. Remove bolts from handle, connect to handle pipe and fasten bolts.

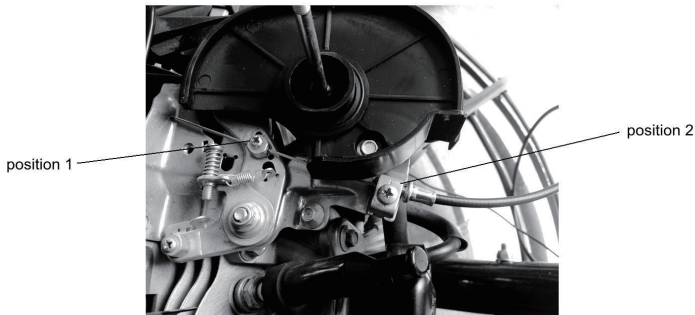
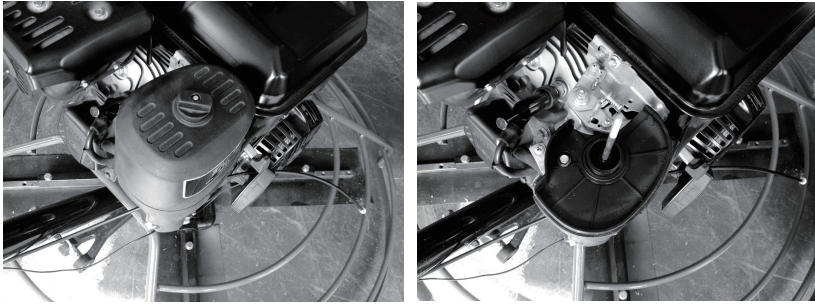


5. Insert connection part into correct position on engine and insert both oil sensor cable from engine and engine stop switch cable from handle into connection part.

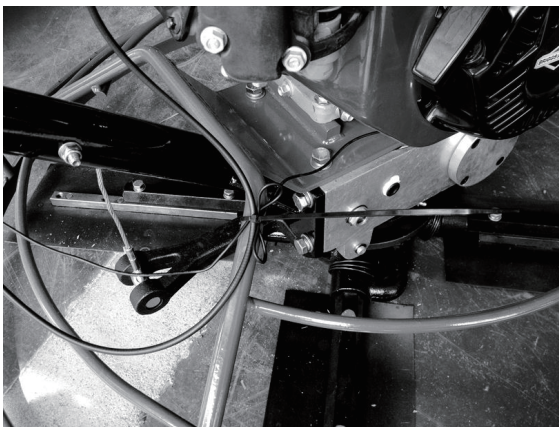


6. Thread throttle cable through handle pipe and fix throttle at proper position on handle.  
Remove air filter on engine, fix throttle cable through 2 positions and assembly air filter again.





7. Fix engine stop switch cable and throttle cable at proper position with plastic tie.



Machine is heavy and awkward to move around. Use proper heavy lifting procedures and **DO NOT LIFT THE MACHINE BY GUARD RINGS.**

## Machine Main Parts

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### Engine stop switch

Your trowel has been equipped with an engine stop switch. Engine stop switch should be tested every time the engine is started.

**NOTE: NEVER** disable or disconnect the engine stop switch. It is provided for operator safety. Injury may result if it is disabled, disconnected or improperly maintained.

Some finisher models are equipped with a hand operated clutch. These units are not equipped with an engine stop switch since the unit automatically stops rotating when the clutch lever is released.

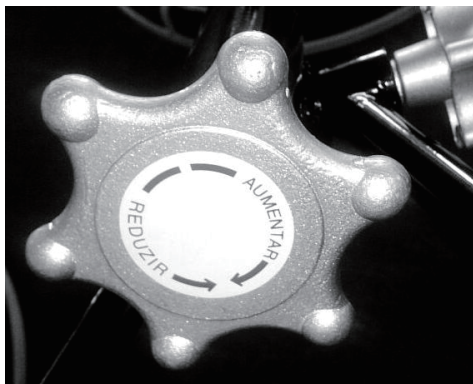
Clutch operation should be tested each time the machine is started.

Do not let the machine sit unused with the engine at high speed for an extended period of time. It will cause premature belt wear or may destroy the belt. Always set the engine speed to idle when the hand clutch is disengaged.



### Blade Pitch---Standard Handle

The pitch control on machine equipped with the standard handle is a big star-wheel knob at the operator end of the main handle tube. Pitch is controlled by turning the knob. Clockwise rotating is for increasing blade pitch, and counter-clockwise is for decreasing blade pitch.



### Engine Operation

Check the lever before starting the engine. Because of the number of engine options, please refer to engine user's manual for specific instructions regarding engine operation.

#### Gearbox Oil Lever

Check the gearbox oil lever daily.

Check the gearbox oil lever level by removing the plug located on the side of the gearbox. It will be clearly marked by the "check" label. Take care when removing plugs on the gearbox. There are two of them. Removal of the bottom of the fill plug hole, located approximately halfway up the side of the gearbox.

## Machine Operation

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The following steps are intended as a basic guide to the machine operation, and are not to be considered as a complete guide to concrete finishing.

1. Check oil levels in the engine and gearbox.
2. Check to make sure that the fuel control value is on and fuel is in the tank.
3. Set the throttle to idle position.  
**NEVER** start the engine with the throttle above the idle position.
4. Grasp the control handle with left hand. Pull slowly on starter rope until resistance is felt, then pull briskly to start the engine. If the engine fails to start after several tries, consult the engine user's manual.
5. After the engine starts, let it warm up by idling for a few minutes.
6. Test the engine stop switch. If your engine stop switch is working properly, the engine on your finisher should stop.
7. Get into the operator's position behind the handle. With a secure foothold and a firm grasp on the handle slowly increase the engine speed until the desired blades speed is obtained.
8. To maneuver the machine, gently lift up on or press down on the main trowel handle. Move the machine to the operator's left-lift up on the handle, and move to the right-push down on the handle.
9. The best method for finishing concrete is to slowly walk backwards with the machine, guiding the machine from side to side as you do so.

Always look behind you to avoid hazards before moving backwards.

### Cleanup

**NEVER** allow concrete to harden on the power trowel.

Immediately after use, wash any concrete off your trowel with water. Be careful not to spray water on the engine. An old paintbrush or broom may help loosen any concrete that has started to burden.

Coat the blades and blade arms with diesel fuel after cleaning. This should help prevent rusting and allow for easier cleanup in the future.

Maintenance (service, adjustment and repair)

### MAINTENANCE SCHEDULE

Daily (8-10 Hours)	Check the fluid levels in the engine and gearbox.
Weekly (50-60 Hours)	Lubricate arms, thrust collar and clutch.
	Replace the blades if necessary.
	Check and clean or replace the engine air filter as necessary.
Monthly (100-200 Hours)	Remove, clean, reinstall and lubricate the arms, thrust collar and clutch.
	Adjust the blade arms.
Yearly (200-2500 Hours)	Check and replace if necessary the arm bushings, thrust collar bushing, shaft seals and belt.
	Check adjusting cable for wear.

#### Checking Belt Tension

The first indication of belt wear is a reduced blade speed despite the engine running at full speed. Inspect belts often for signs of damage or excessive wear.

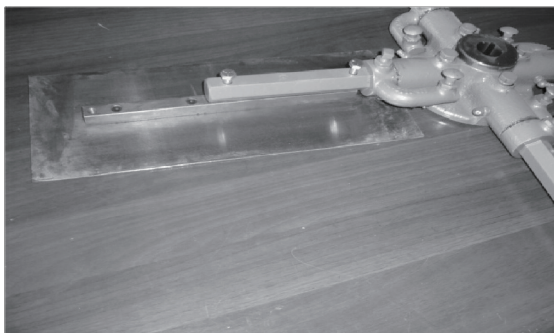
There is no method for manual adjustment of belt tension. Excessively worn belts must be replaced.

There are some things to look for when checking to see if adjustment is necessary. Is the machine wearing out blades unevenly (e.g. one blade is completely worn out while the others look new)? Does the machine have a perceptible rolling motion? Look at the machine while it is running. Does the guard cover "rock up and down" relative to the ground? These are some indications that the blade pitch needs to be adjusted.

#### Changing a Blade

We recommend that all the blades be changed at the same time. The machine may wobble or bounce if only some of the blades are changed at one time.

1. Place the machine on a flat, level surface. Adjust the blade pitch control to make the blades as flat as possible. Note the blade orientation on the trowel arm.
2. Remove the bolts and lock washers on the trowel arm, then remove the blade.
3. Scrape all concrete particles from the trowel arm,
4. Install the new blade, maintaining the proper orientation for direction of rotation.
5. Affix the bolts and lock washers.
6. Repeat steps 2-6 for all of the remaining blades.



## TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSES	CORRECTION
The engine can't be turned on	Flameout Switch of Engine	ON
	Engine Stop Switch of Handle	ON
	Block Wind Door Switch of Engine	Open
	Fuel Switch	Open
	Lack fuel	Need Add Gasoline Fully
	Improper Fuel	Use Lead-free Gasoline
	Fuel is unclean	Clean up and Renew to Change Gasoline
	Air Colander is unclean	Clean up the air Colander
	Air Colander is wet	Change the air colander
	Cumulate Carbon in Spark plug	Clean out Cumulate Carbon
	The Gap of Spark Plug is improper	Adjust the gap(0.6-0.8mm)
	The type of Spark Plug is incorrect	Change
	Spark plug is wet	Clean up and draw many times
The Power of Engine is precarious	Wasting Gasoline Machine is blocked	Professional person deal with the Wasting Gasoline Machine or Contact us
	Speedup pole is not orientated	Professional person deal with the Wasting Gasoline Machine or Contact us
The speed of Engine is too slow	Gasoline door line is improper position ( Enclose Picture C )	Adjust the Gasoline door line to proper position and fix up it or change
It is very exertive to start up the handle	Gasoline door line is improper position	Adjust the Gasoline door line to proper position and fix up it
	The speed of engine is too high	Adjust the engine
	Clutch trouble	Check or change
The angle of blades is improper	The tight wire of handle is loose	Fix up the tight wire newly or change
	The blade rest run primly	Maintain and Change
	The platen run primly	Maintain and Change
It is not good to operate and control the machine	The position of blades are improper	Fix up newly
	The blades are fixed incompletely	Fix up completely
	The ridge of blades are leaned	Change
	The blades are uneven	Change

## OPTIONAL ACCESSORIES

### Blades

**NOTE: BLADES SHOULD BE CHANGED WHEN THEY FAIL TO FINISH CONCRETE IN A SATISFACTORY MANNER.**

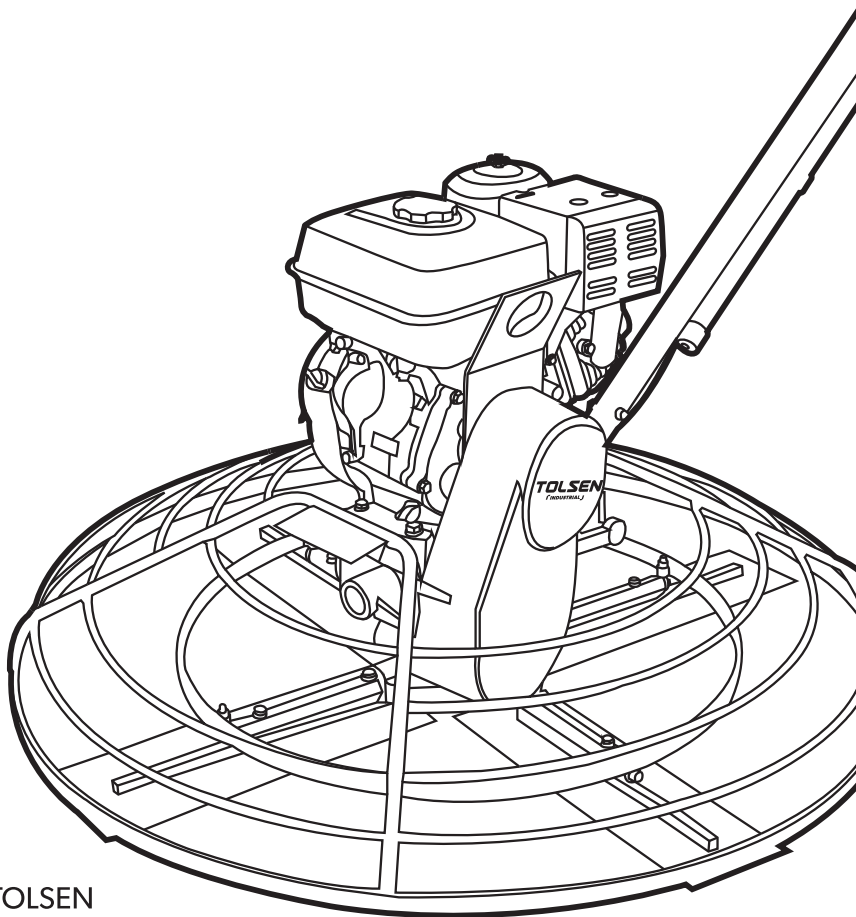
Blades are a vital part of finishing concrete. This trowel has been designed to finish concrete with blades that are built to strengthen quality standards out of the finest trowel steel. If you need replacement blades, consult your parts list in this manual for part numbers and order them from your parts dealer or importer.



### Float pan

The round pan attaches to the cross and allow the machine to “float” on “wet” concrete. The pan design allows early floating and easy movement from wet to dry areas. They are also quite effective in embedding large aggregates and surface hardeners.





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