

Operator's Manual

Walk-Behind Trowel

MCT36-5



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Original instructions

This Operator's Manual presents the original instructions. The original language of this Operator's Manual is American English.

Foreword

SAVE THESE INSTRUCTIONS—This manual contains important instructions for the machine models below. These instructions have been written expressly by Wacker Neuson Machinery (China) Co., Ltd. and must be followed during installation, operation, and maintenance of the machines.

Machine	Item Number
MCT36-5	5100041760

Machine documentation

- From this point forward in this documentation, Wacker Neuson Machinery (China) Co., Ltd. will be referred to as Wacker Neuson.
- Keep a copy of the Operator's Manual with the machine at all times.
- For spare parts information, please see your Wacker Neuson Dealer, or visit the Wacker Neuson website at <http://www.wackerneuson.com/>.
- When ordering parts or requesting service information, be prepared to provide the machine model number, item number, revision number, and serial number.

Expectations for information in this manual

- This manual provides information and procedures to safely operate and maintain the above Wacker Neuson model(s). For your own safety and to reduce the risk of injury, carefully read, understand, and observe all instructions described in this manual.
- Wacker Neuson expressly reserves the right to make technical modifications, even without notice, which improve the performance or safety standards of its machines.
- The information contained in this manual is based on machines manufactured up until the time of publication. Wacker Neuson reserves the right to change any portion of this information without notice.
- The illustrations, parts, and procedures in this manual refer to Wacker Neuson factory-installed components. Your machine may vary depending on the requirements of your specific region.

Manufacturer's approval

This manual contains references to *approved* parts, attachments, and modifications. The following definitions apply:

- **Approved parts or attachments** are those either manufactured or provided by Wacker Neuson.
- **Approved modifications** are those performed by an authorized Wacker Neuson service center according to written instructions published by Wacker Neuson.
- **Unapproved parts, attachments, and modifications** are those that do not meet the approved criteria.

Foreword

Unapproved parts, attachments, or modifications may have the following consequences:

- Serious injury hazards to the operator and persons in the work area
- Permanent damage to the machine which will not be covered under warranty

Contact your Wacker Neuson dealer immediately if you have questions about approved or unapproved parts, attachments, or modifications.



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1 Safety Information

1.1 Signal Words Used in this Manual

This manual contains DANGER, WARNING, CAUTION, *NOTICE*, and NOTE signal words which must be followed to reduce the possibility of personal injury, damage to the equipment, or improper service.



This is the safety alert symbol. It is used to alert you to potential personal hazards.

- ▶ Obey all safety messages that follow this symbol.
-



DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

- ▶ To avoid death or serious injury from this type of hazard, obey all safety messages that follow this signal word.
-



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

- ▶ To avoid possible death or serious injury from this type of hazard, obey all safety messages that follow this signal word.
-



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

- ▶ To avoid possible minor or moderate injury from this type of hazard, obey all safety messages that follow this signal word.
-

NOTICE: Used without the safety alert symbol, NOTICE indicates a situation which, if not avoided, could result in property damage.

Note: A Note contains additional information important to a procedure.

1.2 Machine Description and Intended Use

This machine is a walk-behind concrete finishing trowel. It consists of a frame onto which are mounted a gasoline engine, a fuel tank, a gearbox, and a control handle. A set of four metal alloy blades is connected to the gearbox and is surrounded by a ring guard. The engine rotates the blades through the gearbox and clutch mechanism. The rotating blades ride on the surface of curing concrete, creating a smooth finish. The operator walks behind the machine and uses the handle to control speed and direction of the machine. The handle can be adjusted due to the stature of operator, and it offers maximum control and comfort during operation. A low center of gravity provides workers with safe and stable operation.

This machine is intended to be used for finishing curing concrete.

This machine has been designed and built strictly for the intended use described above. Using the machine for any other purpose could permanently damage the machine or seriously injure the operator or other persons in the area. Machine damage caused by misuse is not covered under warranty.

The following are some examples of misuse:

- Using the machine as a ladder, support, or work surface
 - Using the machine to carry or transport passengers or equipment
 - Using the machine to finish inappropriate materials such as slurries, sealers, or epoxy finishes
 - Operating the machine outside of factory specifications
 - Operating the machine in a manner inconsistent with all warnings found on the machine and in the Operator's Manual
-

This machine has been designed and built in accordance with the latest global safety standards. It has been carefully engineered to eliminate hazards as far as practicable and to increase operator safety through protective guards and labeling. However, some risks may remain even after protective measures have been taken. They are called residual risks. On this machine, they may include exposure to:

- Heat, noise, exhaust, and carbon monoxide from the engine
- Chemical burns from curing concrete
- Fire hazards from improper refueling techniques
- Fuel and its fumes, fuel spillage from improper lifting technique
- Personal injury from improper lifting techniques or operating techniques
- Cutting hazards from sharp or worn blades

To protect yourself and others, make sure you thoroughly read and understand the safety information presented in this manual before operating the machine.

1.3 Safety Guidelines for Operating the Machine

Operator training

Before operating the machine:

- Read and understand the operating instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Contact Wacker Neuson for additional training if necessary.

When operating this machine:

- Do not allow improperly trained people to operate the machine. People operating the machine must be familiar with the potential risks and hazards associated with it.
-

Operator qualifications

Only trained personnel are permitted to start, operate, and shut down the machine. They also must meet the following qualifications:

- have received instruction on how to properly use the machine
- are familiar with required safety devices

The machine must not be accessed or operated by:

- children
 - people impaired by alcohol or drugs
-

Application area

Be aware of the application area.

- Keep unauthorized personnel, children, and pets away from the machine.
- Remain aware of changing positions and the movement of other equipment and personnel in the application area/job site.
- Identify whether special hazards exist in the application area, such as toxic gases or unstable ground conditions, and take appropriate action to eliminate the special hazards before using the machine.

Be aware of the application area.

- Do not operate the machine in areas that contain flammable objects, fuels, or products that produce flammable vapors.
-

Dust precaution

Dust created by construction activities may cause silicosis or respiratory harm. To reduce the risk of exposure:

- Work in a well ventilated area.
- Use a dust control system.
- Wear an approved dust/particle respirator.

Safety devices, controls, and attachments

Only operate the machine when:

- All safety devices and guards are in place and in working order.
- All controls operate correctly.
- The machine is set up correctly according to the instructions in the Operator's Manual.
- The machine is clean.
- The machine's labels are legible.

To ensure safe operation of the machine:

- Do not operate the machine if any safety devices or guards are missing or inoperative.
 - Do not modify or defeat the safety devices.
 - Only use accessories or attachments that are approved by Wacker Neuson.
-

Safe operating practices

When operating this machine:

- Remain aware of the machine's moving parts. Keep hands, feet, and loose clothing away from the machine's moving parts.

When operating this machine:

- Do not operate a machine in need of repair.
 - Do not consume the operating fluids used in this machine. Depending on your machine model, these operating fluids may include water, wetting agents, fuel (gasoline, diesel, kerosene, propane, or natural gas), oil, coolant, hydraulic fluid, heat transfer fluid (propylene glycol with additives), battery acid, or grease.
-

Personal Protective Equipment (PPE)

Wear the following personal protective equipment (PPE) while operating this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear



1.4 Service Safety

Service training

Before servicing or maintaining the machine:

- Read and understand the instructions contained in all manuals delivered with the machine.
- Familiarize yourself with the location and proper use of all controls and safety devices.
- Only trained personnel shall troubleshoot or repair problems occurring with the machine.
- Contact Wacker Neuson for additional training if necessary.

When servicing or maintaining this machine:

- Do not allow improperly trained people to service or maintain the machine. Personnel servicing or maintaining the machine must be familiar with the associated potential risks and hazards.

Precautions

Follow the precautions below when servicing or maintaining the machine.

- Read and understand the service procedures before performing any service to the machine.
- All adjustments and repairs must be completed before operation. Do not operate the machine with a known problem or deficiency.
- All repairs and adjustments shall be completed by a qualified technician.
- Turn off the machine before performing maintenance or making repairs.

Machine modifications

When servicing or maintaining the machine:

- Use only accessories/attachments that are approved by Wacker Neuson.
- Do not defeat safety devices.
- Do not modify the machine without the express written approval of Wacker Neuson.

Replacing parts and labels

- Replace worn or damaged components.
- Replace all missing and hard-to-read labels.
- When replacing electrical components, use components that are identical in rating and performance to the original components.
- When replacement parts are required for this machine, use only Wacker Neuson replacement parts or those parts equivalent to the original in all types of specifications, such as physical dimensions, type, strength, and material.

Cleaning

When cleaning and servicing the machine:

- Keep machine clean and free of debris such as leaves, paper, cartons, etc.
- Keep labels legible.
- Clean with soapy water only.

When cleaning the machine:

- Do not clean the machine while it is running.
- Never use gasoline or other types of fuels or flammable solvents to clean the machine. Fumes from fuels and solvents can become explosive.

Personal Protective Equipment (PPE)

Wear the following personal protective equipment (PPE) while servicing or maintaining this machine:

- Close-fitting work clothes that do not hinder movement
- Safety glasses with side shields
- Hearing protection
- Safety-toed footwear

In addition, before servicing or maintaining the machine:

- Tie back long hair.
 - Remove all jewelry (including rings).
-

After use

- Stop the engine when the machine is not being operated.
- Close the fuel valve on engines equipped with one when the machine is not being operated.
- Ensure that the machine will not tip over, roll, slide, or fall when not being operated.
- Store the machine properly when it is not being used. The machine should be stored in a clean location out of the reach of children.



1.5 Operator Safety while Using Internal Combustion Engines



WARNING

Internal combustion engines present special hazards during operation and fueling. Failure to follow the warnings and safety standards could result in severe injury or death.

- ▶ Read and follow the warning instructions in the engine owner's manual and the safety guidelines below.



DANGER

Exhaust gas from the engine contains carbon monoxide, a deadly poison. Exposure to carbon monoxide can kill you in minutes.

- ▶ NEVER operate the machine inside an enclosed area, such as a tunnel, unless adequate ventilation is provided through such items as exhaust fans or hoses.

Operating safety

When running the engine:

- Keep the area around exhaust pipe free of flammable materials.
- Check the fuel lines and the fuel tank for leaks and cracks before starting the engine. Do not run the machine if fuel leaks are present or the fuel lines are loose.

When running the engine:

- Do not smoke while operating the machine.
- Do not run the engine near sparks or open flames.
- Do not touch the engine or muffler while the engine is running or immediately after it has been turned off.
- Do not operate a machine when its fuel cap is loose or missing.
- Do not start the engine if fuel has spilled or a fuel odor is present. Move the machine away from the spill and wipe the machine dry before starting.

Refueling safety

When refueling the engine:

- Clean up any spilled fuel immediately.
- Refill the fuel tank in a well-ventilated area.
- Reinstall the fuel tank cap after refueling.
- Do not smoke.
- Do not refuel a hot or running engine.
- Do not refuel the engine near sparks or open flames.
- Use suitable tools for refueling (for example, a fuel hose or funnel).
- Do not refuel if the machine is positioned in a truck fitted with a plastic bed liner. Static electricity can ignite the fuel or fuel vapors.

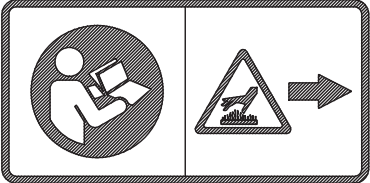

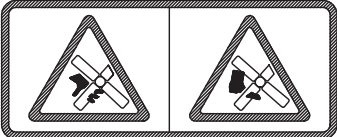

2 Labels

2.1 Label Locations



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2.2 Label Meanings

<p>A</p>	 <p>5100042128</p>	<p>CAUTION Read and understand the supplied Operator's Manual before operating this machine. Failure to do so increases the risk of injury to yourself and others.</p> <p>WARNING Hot surface</p>
<p>B</p>	 <p>178712</p>	<p>WARNING Hand injury if caught in moving belt. Always replace belt guard.</p>
<p>C</p>	 <p>178740</p>	<p>WARNING Cutting hazard. Keep hands and feet away from blades. Always replace blade guard.</p>
<p>D</p>	 <p>5100042126</p>	<p>NOTICE Lifting point</p>

3 Lifting and Transporting

3.1 Lifting the Machine



CAUTION

Do not lift the machine solely by the handle. The component may fail, causing the machine to fall, possibly injuring bystanders.

Note: See *Dimensions and Weight for the weight of the machine.*

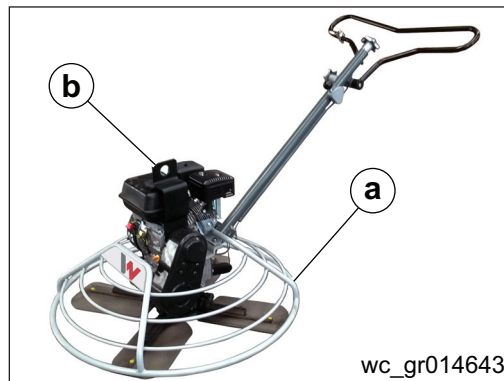


CAUTION

To reduce the risk of back injury while lifting, keep your feet flat on the ground and shoulder width apart. Keep your head up and back straight.

Lifting the machine manually

1. Stop the engine.
2. Obtain a partner and plan the lift.
3. Balance the weight between the partners and lift the machine by the guard ring **(a)**, or proceed as follows:
 - a. Insert an object that can support the weight of the machine (such as a piece of lumber) into the lifting bracket **(b)**.
 - b. Balance the weight between the partners and lift the machine by the handle and the chosen lifting object.



Lifting the machine mechanically

1. Stop the engine.
2. See *Dimensions and Weight* for the weight of the machine and be sure that the lifting device(s) can safely lift the weight.
3. Attach a hook, harness, or cable to the lifting bracket on the machine and lift as desired.



CAUTION

Do not lift the trowel overhead with any additional components attached, as those components could fall off and strike personnel working in the vicinity.

4 Operation

4.1 Preparing the Machine for First Use

1. Make sure all loose packaging materials have been removed from the machine.
2. Check the machine and its components for damage. If there is visible damage, do not operate the machine! Contact your Wacker Neuson dealer immediately for assistance.
3. Take inventory of all items included with the machine and verify that all loose components and fasteners are accounted for.
4. Attach component parts not already attached.
5. Add fluids as needed and applicable, including fuel and engine oil.
6. Move the machine to its operating location.

4.2 New Machine Set-up

Trowels are shipped from the factory with the handle removed. Follow the instructions in *Installing the Blades*, *Installing the Handle*, and *Adjusting the Handle* when setting up new machines or when installing new handles and blades.

4.3 Recommended Fuel (Gasoline)

The engine requires regular grade unleaded gasoline with a pump octane rating of 86 or higher. Observe the following regarding fuel:

- Use only fresh, clean gasoline.
- Never use stale or contaminated gasoline or an oil/gasoline mixture.
- Do not allow dirt or water to enter the fuel tank.

Occasionally there may be a light “spark knock” or “pinging” (metallic rapping noise) while operating under heavy loads. This is no cause for concern. If spark knock or pinging occurs at a steady engine speed, under normal load, change brands of gasoline. If spark knock or pinging persists, see an authorized servicing dealer.

Consult the engine owner's manual for complete fuel specifications.

Use of oxygenated fuels

Some conventional gasolines are blended with alcohol or an ether compound. These gasolines are collectively referred to as oxygenated fuels. If using an oxygenated fuel, be sure it is unleaded and meets the minimum octane rating requirement.

Before using an oxygenated fuel, confirm the fuel's contents. Some states and provinces require this information to be posted on the fuel pump.

The following is the Wacker Neuson approved percentage of oxygenates:

Ethanol (ethyl or grain alcohol) 10% by volume—You may use gasoline containing up to 10% ethanol by volume (commonly referred to as E10 or “Gasohol”). Do not use gasoline containing more than 10% ethanol (such as E15, E20, or E85) because it could damage the engine.

MTBE (methyl tertiary butyl ether) 15% by volume—You may use gasoline containing up to 15% MTBE by volume.

Methanol (methyl or wood alcohol) 5% by volume—You may use gasoline containing up to 5% methanol by volume, as long as it also contains cosolvents and corrosion inhibitors to protect the fuel system.

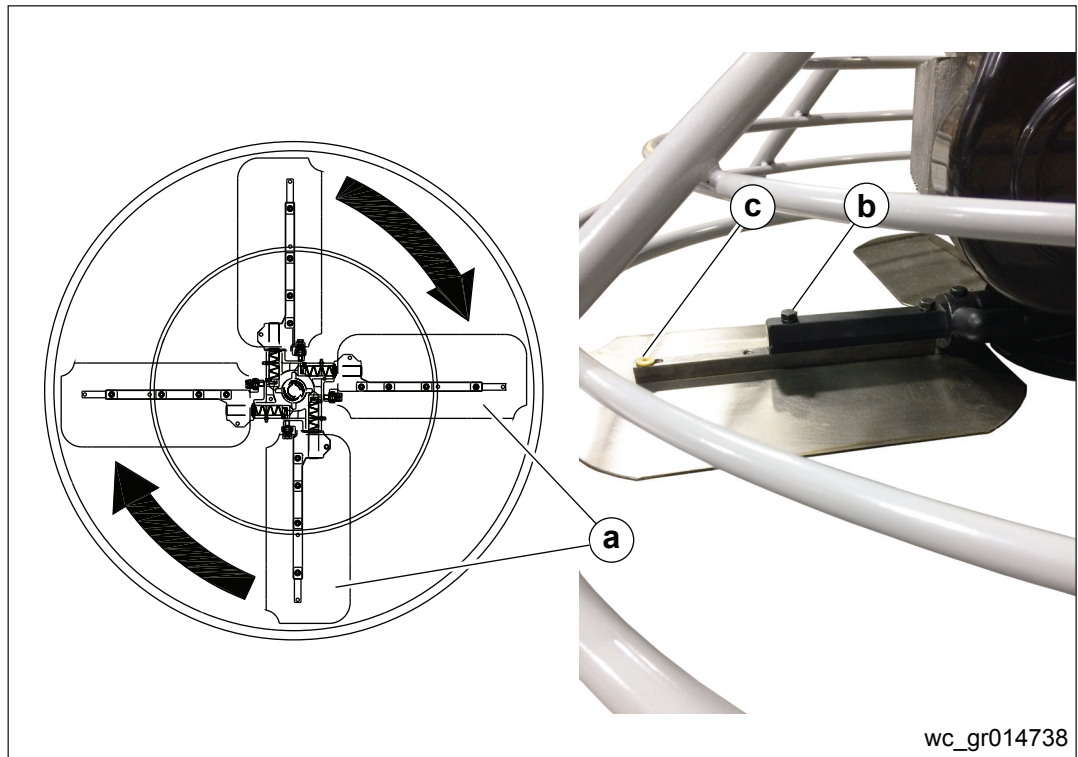
If there are any undesirable operating symptoms, try another service station, or switch to another brand of gasoline.

Fuel system damage or performance problems resulting from the use of an oxygenated fuel containing more than the percentages of oxygenates mentioned above are not covered under warranty.

4.4 Installing the Blades

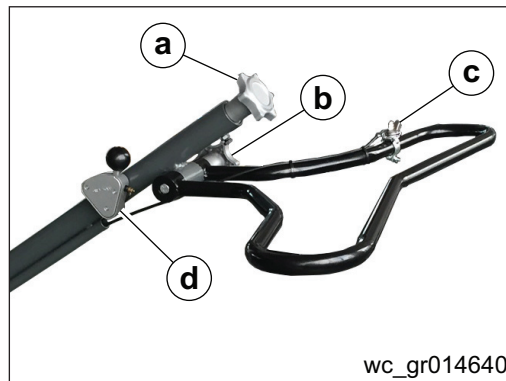
NOTICE: Trowel blades must NOT be interchanged, i.e., do NOT put larger diameter blades on a smaller diameter trowel.

1. When installing combination blades, orient the blades **(a)** as shown. This positions the raised edges of the blade correctly for the clockwise rotation of the machine.
2. Secure the blades to the trowel arms with screws **(b)**. Dip the threads of the screws in grease prior to installation. This will prevent concrete from cementing the screws in place and will make removal of the blades easier later on.
3. Plug the remaining threaded holes in the blade brace with plastic plugs **(c)** to prevent them from filling with concrete.



4.5 Installing the Handle

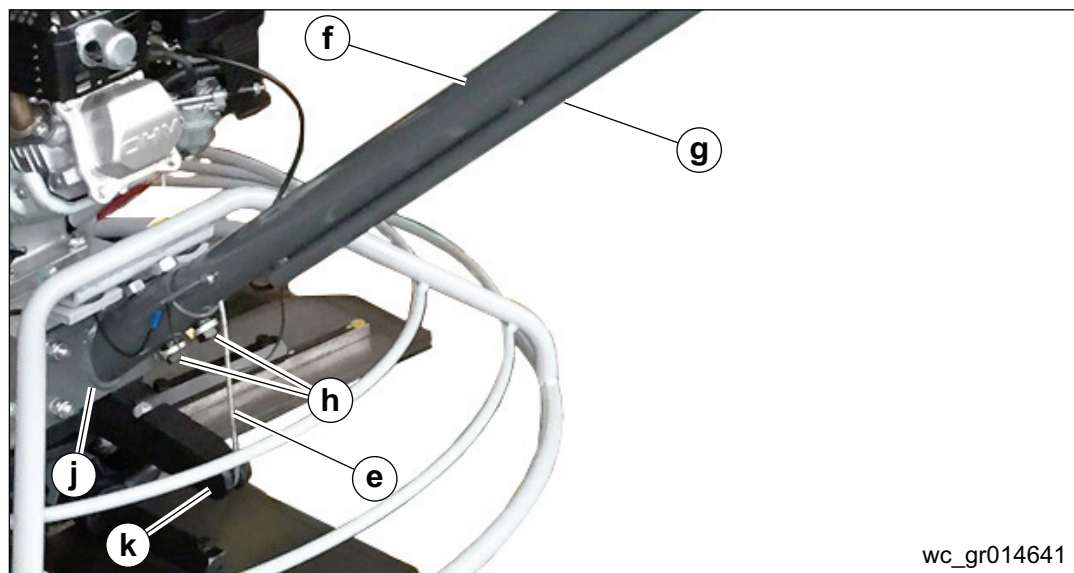
The handle comes assembled with the pitch control knob (a), handle adjustment knob (b), throttle (c), and centrifugal stop (d).



Installing the handle

1. Make sure the throttle cable, pitch control cable (e), and centrifugal stop wires are accessible at the bottom of the handle (f).

Note: The throttle cable and centrifugal stop wires are routed through the smaller tube (g) on the bottom of the handle. The pitch control cable is routed through the main handle tube.



2. Remove the two bolts (h) and two nuts from the bottom end of the handle.
3. Route the pitch control cable out the slot in the bottom of the handle.
4. Install the handle to the handle base (j).
5. Install the two bolts and two nuts to secure the handle to the handle base.
6. Route the pitch control cable around the yoke arm lever (k) and attach it to the yoke.

This procedure continues on the next page.

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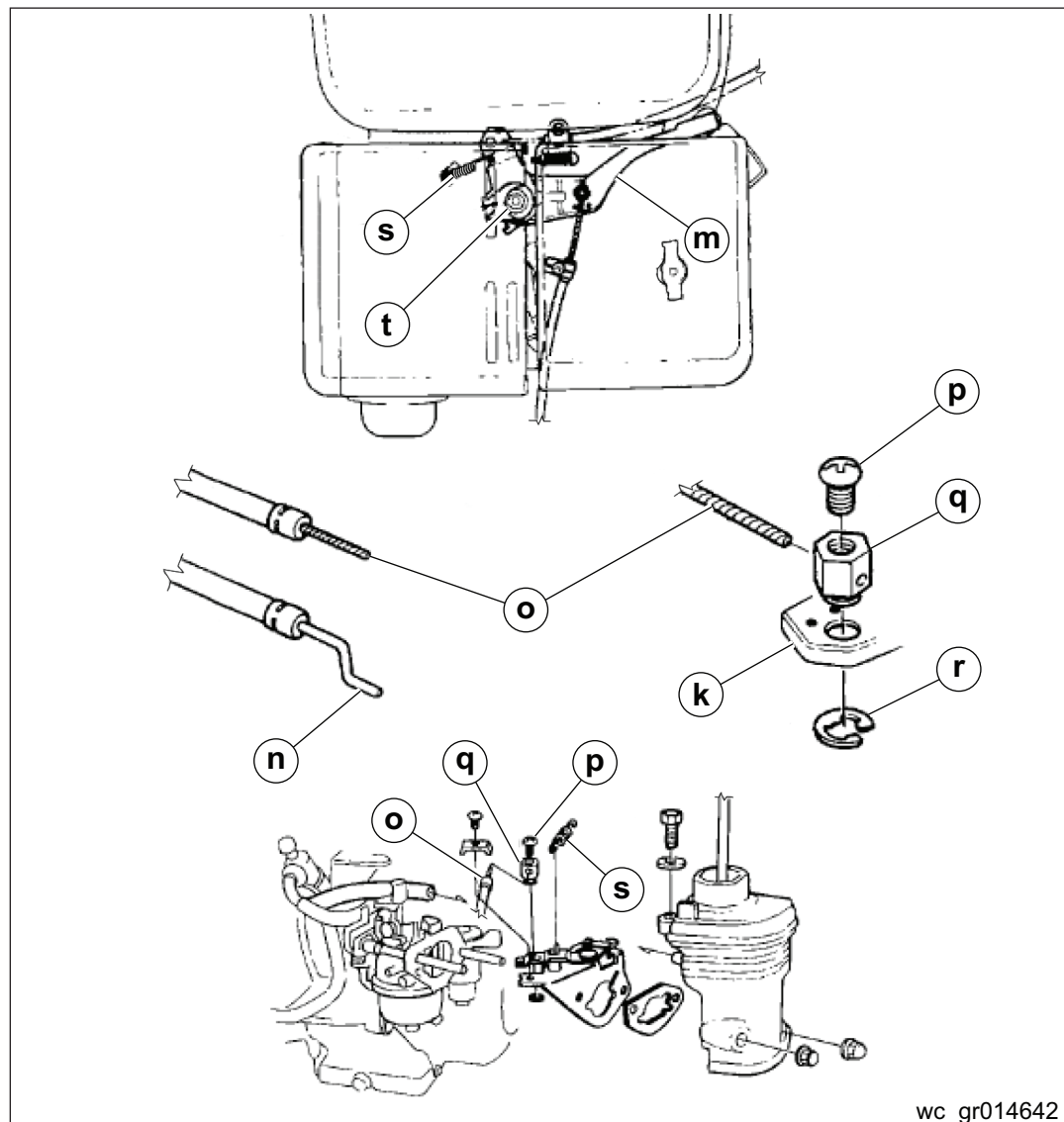
Installing the throttle cable

The engine's throttle lever (**m**) has a hole used for attaching a cable. The illustration below shows examples of attaching a solid wire cable (**n**) and a flexible, braided cable (**o**). Use a screw (**p**), wire holder (**q**), and circlip (**r**) if using a flexible cable.

Note: Add a return spring (**s**) as shown if using a flexible cable.

A special bend at the end of the solid wire cable allows it to slip into the hole on the engine's throttle lever. No special hardware is required for this installation.

NOTICE: Loosen the throttle lever pivot nut (**t**) when operating the throttle via a remote control.



Final assembly and check

1. Connect the electrical wires from the handle to the electrical wires from the engine.
2. Start the engine and check the idle RPM. The specification is 1400 ± 150 RPM.
3. Flip the centrifugal switch (**d**) to the OFF position to make sure the engine stops if the handle is released.

4.6 Adjusting the Handle

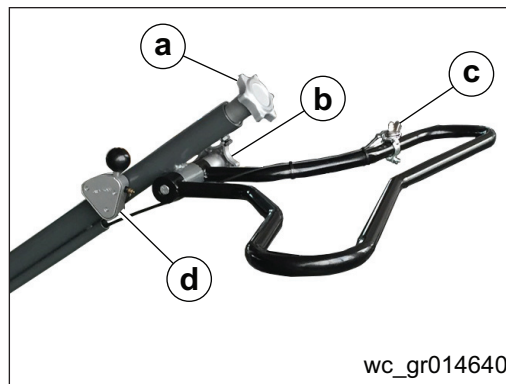
1. Loosen the handle adjustment knob (a) on the right side of the handle.



2. Adjust the handle up or down to the desired position.
3. Tighten the handle adjustment knob to secure the handle in position.

4.7 Controls

Ref.	Description	Ref.	Description
a	Pitch control knob	c	Throttle lever
b	Handle adjustment knob	d	Centrifugal stop



4.8 Operation Elements

The engine drives a V-belt via a clutch assembly. The V-belt then drives the gearbox, which transmits torque to the trowel. The trowel blades can be adjusted due to the stature of operator through the pitch control assembly.

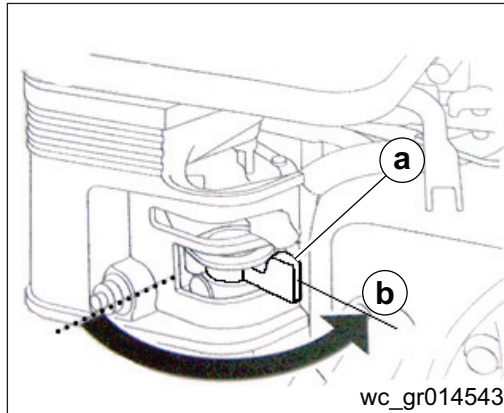
4.9 Pre-operation Checks

Before starting the machine, perform these pre-operation checks according to the information in this manual. Check the following:

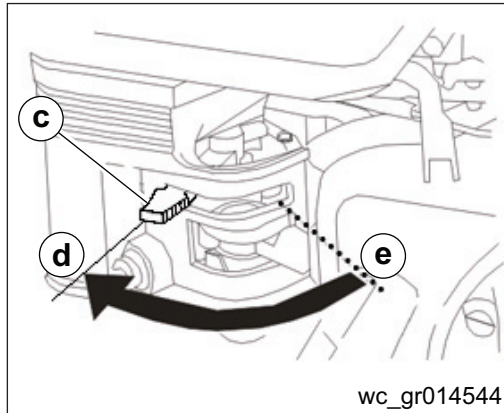
- Oil level in engine
- Oil level in gearbox
- Fuel level
- Condition of air filter
- Condition of fuel lines
- Condition of trowel arms and blades
- Condition of ring guard
- Label descriptions
- Handle height (should suit operator)

4.10 Starting the Engine

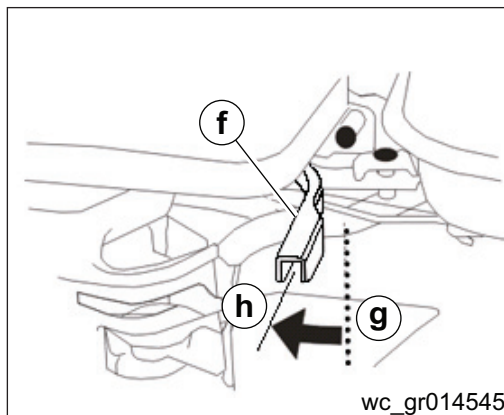
1. Move the fuel valve lever **(a)** to the ON position **(b)**.



2. Move the choke lever **(c)** to the CLOSED position **(d)**. If the engine is warm or the air temperature is high, move the choke lever to the OPEN position **(e)** as soon as the engine starts.



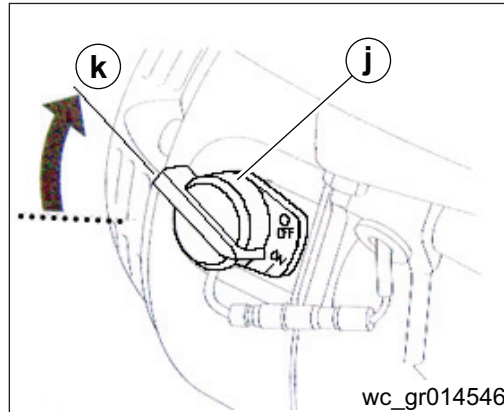
3. Move the throttle lever **(f)** away from the SLOW position **(g)**, about 1/3 of the way **(h)** to the FAST position.



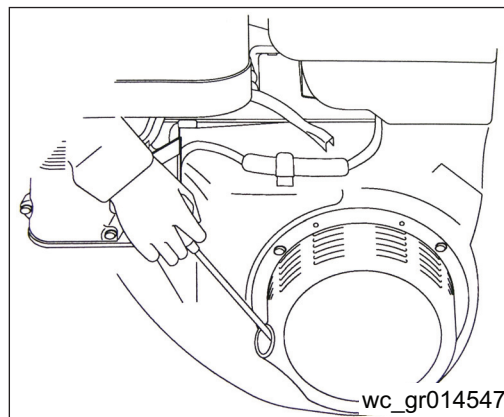
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- Turn the engine switch (j) to the ON position (k).

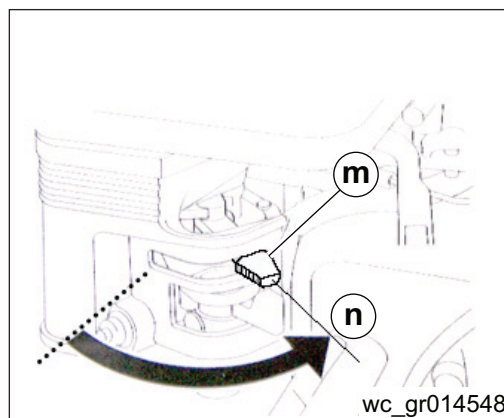


- Pull the starter grip lightly until you feel resistance, then pull briskly. Return the starter grip gently.



NOTICE: Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the starter.

- If the choke lever (m) has been moved to the CLOSED (n) position to start the engine, gradually move it to the OPEN position as the engine warms up.

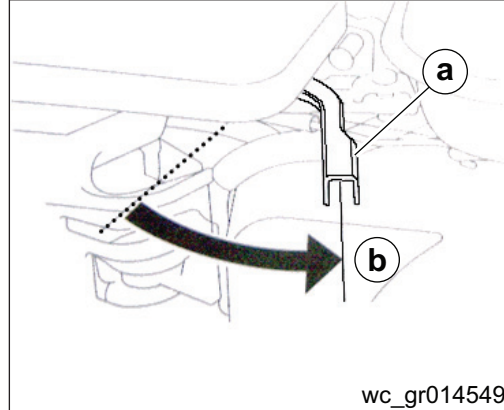


- Adjust the throttle lever the desired position to set the engine speed.

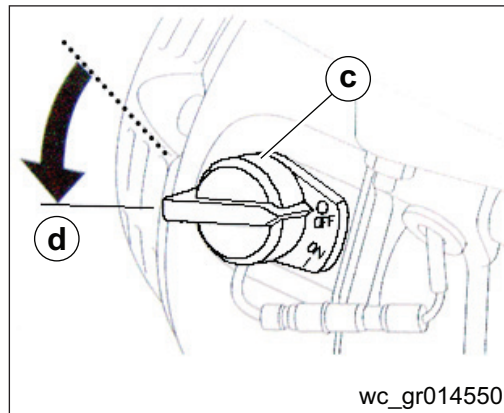
4.11 Stopping the Engine

NOTICE: In an emergency situation where the machine needs to be shut down quickly, simply turn the engine switch to the OFF position. Under normal shut-down circumstances, perform the following procedure.

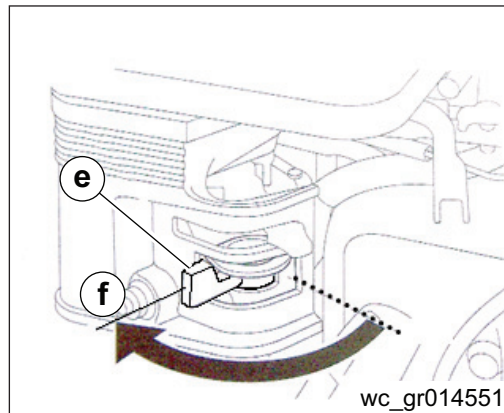
1. Move the throttle lever (a) to the SLOW position (b).



2. Turn the engine switch (c) to the OFF position (d).



3. Turn the fuel valve lever (e) to the OFF position (f).



4.12 Position of the Operator

Safe and efficient use of this machine is the operator's responsibility. Full control of the machine is not possible unless the operator maintains the proper working position at all times.

While operating this machine the operator must:

- stand or walk behind the machine, facing forward
- have both hands on the control handle
- guide the motion of the trowel by applying downward pressure to the control handle

4.13 Operation



WARNING

Test the function of the engine control module before operating the trowel. DO NOT operate the trowel if the engine control module is not functioning properly.

Notes:

1. Confirm proper attachment of the blades to the trowel arms.
 - When operating on soft concrete, do not let the trowel stand in one spot too long. Always lift the trowel from the slab when operation is complete.
 - “Left” and “right” references are made from the operator's position.

2. Adjust the handle height to suit the operator. See *Adjusting Handle*.

NOTICE: Do not attempt to adjust the handle height on the trowel while it is running.

3. Adjust the blade pitch (angle) by turning the pitch control knob. See *Controls*. Turn the pitch control knob clockwise to increase pitch and counterclockwise to decrease pitch.
4. Start the engine and engage the blades by increasing the engine speed. Set the speed with the throttle on the handle to the appropriate speed for the job conditions.
5. To move the trowel forward, twist the handle clockwise **(a)**.
6. To move backward, twist the handle counterclockwise **(b)**.
7. To move left, lift up slightly on the handle **(c)**.
8. To move right, press down slightly on the handle **(d)**.
9. Clean the trowel after each use to remove concrete splatter.



WARNING

Allow the muffler to cool before cleaning or servicing the machine. A hot muffler could ignite the fuel and start a fire.

This procedure continues on the next page.

Continued from the previous page.

It is recommended that each set of work passes be at 90° to the previous set of work passes. This will help prevent the creation of valleys in the slab surface.

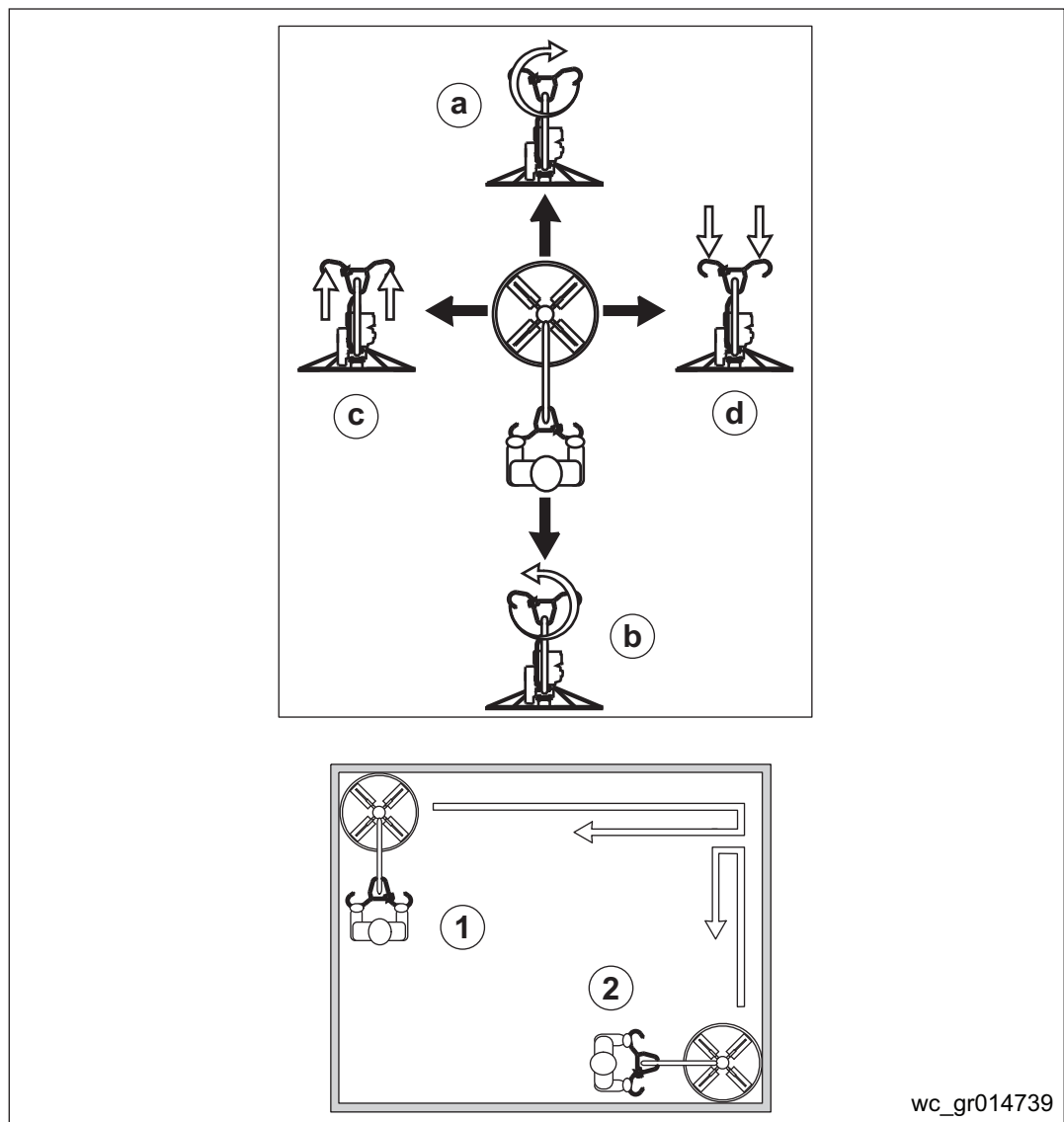
For example, in the illustration, the second set of work passes (2) is 90° to the first set of work passes (1).



WARNING

Personnel other than the trowel operator should not be allowed in the work area, as severe injury can occur from contact with operating trowel blades.

Do not attempt to clean, service or perform adjustments on the trowel while it is running.



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4.14 Emergency Shutdown Procedure

Procedure If a breakdown or accident occurs while the machine is operating, follow the procedure below:

1. Stop the engine.
2. Close the fuel valve.
3. Remove the machine from the job site using correct lifting techniques.
4. Clean concrete from the blades and the machine.
5. Contact the rental yard or machine owner for further instructions.



5 Maintenance

5.1 Maintaining the Emission Control System

Normal maintenance, replacement, or repair of emission control devices and systems may be performed by any repair establishment or individual; however, warranty repairs must be performed by a dealer/service center authorized by the engine manufacturer. See the supplied engine owner's manual for the applicable emission warranty information.

5.2 Periodic Maintenance Schedule

Due to the nature and environment of use, trowels could be exposed to severe operating conditions. Some general maintenance guidelines will extend the useful life of the trowel.

1. The initial service for the trowel should be performed after 20 hours of use, at which time a mechanic (or authorized repair shop) should complete all of the recommended checks in the schedule on the following pages. The chart is handy for keeping a record of the maintenance performed.
2. Regular service according to the schedule on the following pages will prolong the life of the trowel and prevent expensive repairs.
3. Keeping the trowel clean and free from debris is an extremely important maintenance operation. After each use, the trowel should be cleaned to remove any dust and debris from the undercarriage and surrounding components. Use of a power washer will make clean up quick and easy, especially if a non-stick coating was applied prior to use.

NOTICE: Over time, if the blades become more than 3/4 worn, the blades must be changed.

The chart on the following pages lists basic machine and engine maintenance. Refer to the engine owner's manual for additional information.

Routine service intervals		Interval (months/hours)					
		Each use	1/20	3/100	6/200	9/300	12/400
General inspection:							
Guards	Check		x	x	x	x	x
Test run	Check operation		x	x	x	x	x
Warning stickers	Check		x	x	x	x	x
Controls:							
Centrifugal stop operation	Check	x					
Pitch control assembly	Check	x					
	Lubricate		x	x	x	x	x
Engine:							
Air cleaner	Check/clean	x					
	Replace					x ¹	
Air intake line	Check				x		
	Replace						2 years
Combustion chamber	Clean					x ²	
Cooling fins	Clean		x	x	x	x	x
Engine oil	Check level	x					
	Change		x	x			
Engine oil filter	Replace				x		x
Engine wiring	Check						x
Fan belt	Check tightness				x		x
	Replace						500 hours
Fuel filter	Check/clean			x	x	x	x
	Replace				x		x
Fuel line	Check	Every two years; replace if necessary ²					
Fuel tank/strainer	Clean					x ²	
Idle speed	Check/adjust					x ²	
Oil cooler	Clean			x	x	x	x
Sediment cup	Clean			x			
Spark plug	Check/clean			x			
	Replace					x	
Valve clearance	Check/adjust					x ²	

Routine service intervals		Interval (months/hours)					
		Each use	1/20	3/100	6/200	9/300	12/400
Drivetrain:							
Clutch/pulley operation	Check	x					
Spider plate assembly	Check	x					
	Lubricate				x		x
V-belt	Check	x					
Blades	Check	x					
Gearbox:							
Gearbox oil	Check level	x					
	Check				x		x
Gearbox breathers	Check operation			x	x	x	x

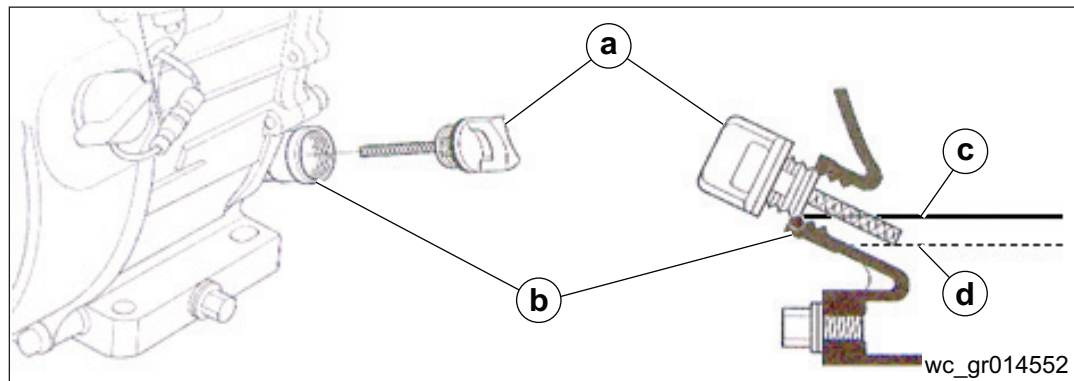
¹ Replace the paper element only.

² These items should be serviced by your servicing dealer unless you have the proper tools.

5.3 Checking the Engine Oil

Check the engine oil level with the engine stopped and in a level position.

1. Remove the filler cap/dipstick (a) and wipe it clean.



2. Insert and remove the dipstick without screwing it into the filler neck (b).

3. Check the oil level shown on the dipstick.

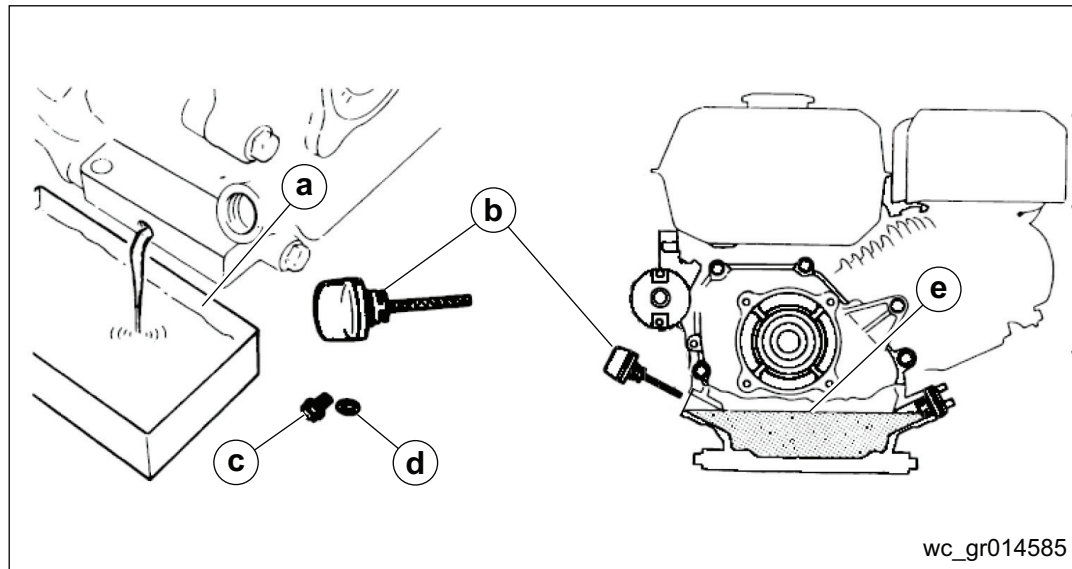
Note: In the cross-sectional view in the graphic, the upper (c) and lower (d) oil levels are noted.

4. If the oil level is low, fill to the edge of the oil filler hole with the recommended oil.
5. Screw in the filler cap/dipstick securely.

5.4 Changing the Engine Oil

It is recommended that you drain the engine oil while the engine is still warm since warm oil drains quicker and more completely.

1. Place a suitable container (a) below the engine to catch the used oil.



2. Remove the filler cap/dipstick (b), drain plug (c), and washer (d).
 3. Allow the used oil to drain completely.
 4. Install the drain plug and washer. Tighten the drain plug securely.
- Note:** Dispose of used engine oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground, or pour it down a drain.
5. With the engine in a level position, fill to the outer edge of the filler hole with the recommended oil. A cross-sectional view of the appropriate oil level (e) is shown.
- NOTICE:** Running the engine at a low oil level can cause engine damage.
6. Screw in the filler cap/dipstick securely.



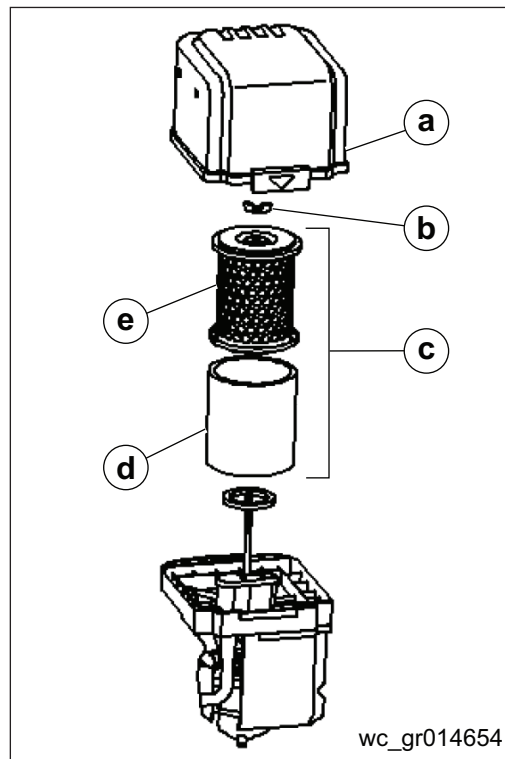
WARNING

Most used oil contains small amounts of materials that can cause cancer and other health problems if inhaled, ingested, or left in contact with skin for prolonged periods of time.

- ▶ Take steps to avoid inhaling or ingesting used engine oil.
- ▶ Wash skin thoroughly after exposure to used engine oil.

5.5 Inspecting the Air Filters

1. Remove the wing nut from the air cleaner cover (a) and remove the cover.



2. Remove the wing nut (b) from the air filter assembly (c) and remove the assembly.
3. Remove the foam air filter element (d) from the paper filter (e).
4. Inspect both air filter elements. If either of the elements are dirty or damaged, see *Servicing the Air Cleaner*.
5. If equipped with an oil-bath air cleaner, also check the oil level.
6. If the air filter elements are clean and the oil level is acceptable, assemble the air cleaner by reversing the steps in this procedure.

5.6 Servicing the Air Cleaner

A dirty air filter will restrict air flow to the carburetor, reducing engine performance. If you operate the engine in very dusty areas, clean the air filter more often than specified in the maintenance schedule.

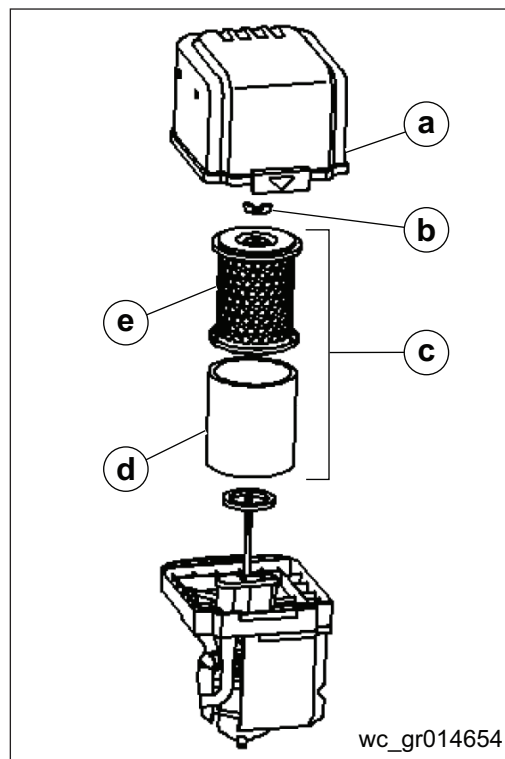


WARNING

Never use gasoline or low flammable point solvents for cleaning the air cleaner element. A fire or explosion could result.

NOTICE: Operating the engine without an air filter element, or with a damaged air filter element, will allow dirt to enter the engine, causing rapid engine wear.

1. Remove the wing nut from the air cleaner cover (a) and remove the cover.



2. Remove the wing nut (b) from the air filter assembly (c) and remove the assembly.
3. Remove the foam air filter element (d) from the paper air filter element (e).
4. Inspect both air filter elements. Clean them if they are dirty and replace them if they are damaged.

This procedure continues on the next page.

Continued from the previous page.

5. Clean the air filter elements if necessary. To clean the elements, perform the following:
 - Paper air filter element: Tap the filter element lightly several times on a hard surface to remove excess dirt, or blow compressed air (at no more than 207 kPa [30 psi]) through the filter element from the inside out. Never try to brush the dirt off. Brushing will force dirt into the fibers.
 - Foam air filter element: Clean the filter element in warm soapy water, rinse, and allow it to dry thoroughly. Alternatively, clean the filter element in a nonflammable solvent and allow it to dry. Dip the filter element in clean engine oil and squeeze out the excess oil. The engine will smoke when started if too much oil is left in the foam.
6. Using a moist rag, wipe any dirt from the inside of the air cleaner base and cover. Be careful to prevent dirt from entering the air duct that leads to the carburetor.
7. Place the foam air filter element over the paper air filter element.
8. Make sure the gasket is in place and install the air filter assembly.
9. Tighten the air filter wing nut securely.
10. Install the air cleaner cover and tighten the wing nut securely.

5.7 Checking/Replacing the Spark Plug

For proper engine performance, the spark plug must be free of deposits and the gap must be properly set.

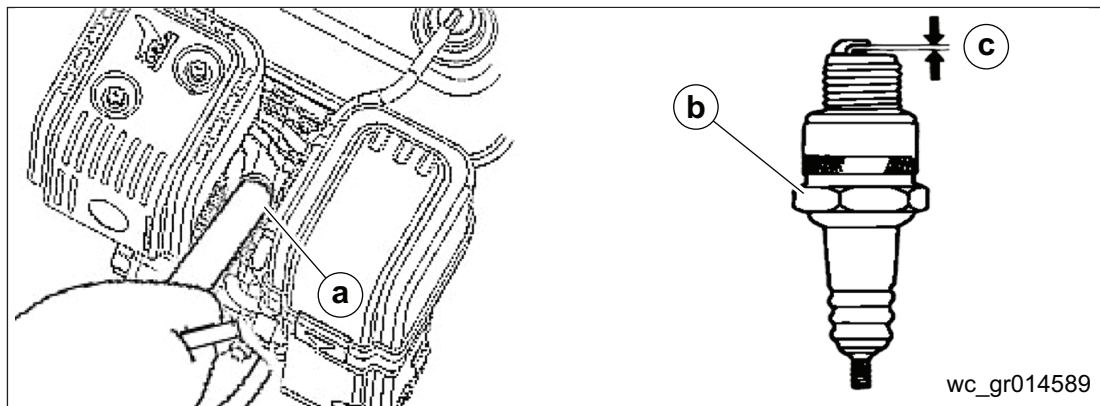
The recommended spark plug is F7RTC (or an equivalent).

NOTICE: An incorrect spark plug can cause engine damage.

1. Disconnect the spark plug cap and remove any dirt from around the spark plug area.
2. Using a spark plug wrench **(a)**, remove the spark plug **(b)**.
3. Inspect the spark plug. Replace it if the electrodes are worn, heavy carbon buildup is found, or if the insulator is cracked or chipped.
4. Measure the spark plug electrode gap with a suitable gauge. The gap **(c)** should be 0.70 to 0.80 mm (0.028 to 0.031 in.). Correct the gap, if necessary, by carefully bending the side electrode.
5. Make sure the spark plug washer is in good condition.
6. Install the spark plug carefully, by hand, to avoid cross-threading.

NOTICE: The recommended spark plug has the correct heat range for normal engine operating temperatures. A loose spark plug can overheat and damage the engine. Over-tightening the spark plug can damage the threads in the cylinder head.

7. Tighten the spark plug as follows:
 - If installing a new spark plug, tighten the spark plug 1/2 turn after it seats to compress the sealing washer.
 - If reinstalling the used spark plug, tighten the spark plug 1/8 to 1/4 turn after it seats to compress the sealing washer.
8. Attach the spark plug cap.



5.8 Cleaning the Sediment Cup

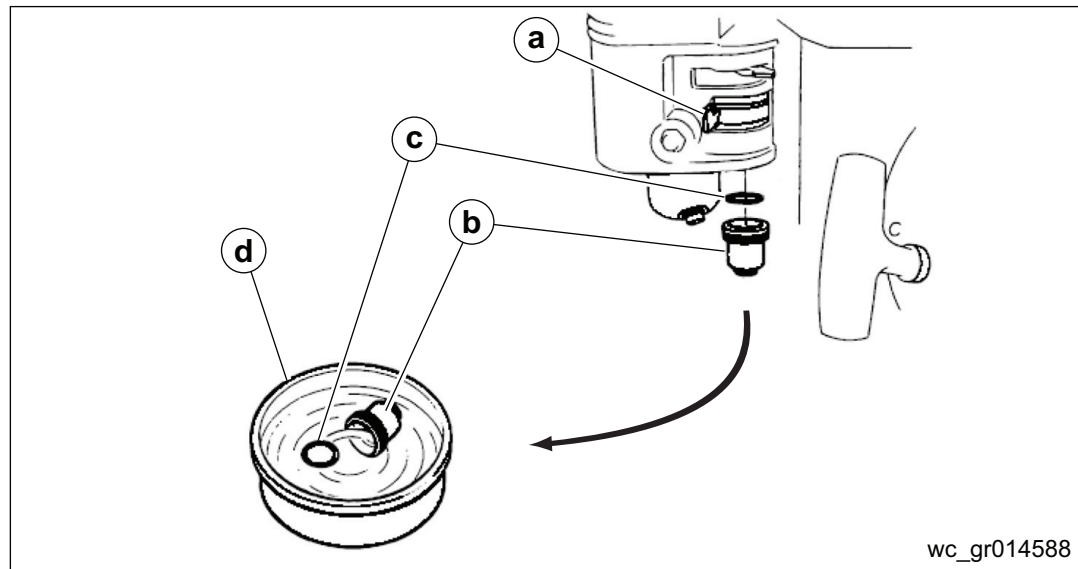


WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

- ▶ Keep heat, sparks, and flame away.
- ▶ Handle fuel only outdoors.
- ▶ Wipe up spills immediately.

1. Move the fuel valve **(a)** to the OFF position as shown.

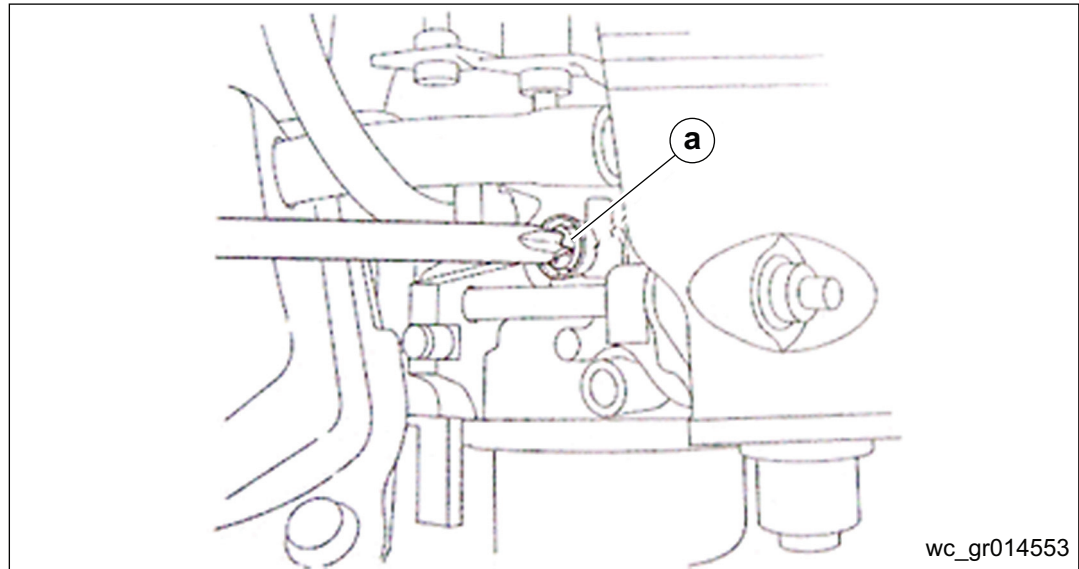


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2. Remove the sediment cup **(b)** and O-ring **(c)** and place them in a suitable container **(d)**.
3. Wash the sediment cup and O-ring in nonflammable solvent and dry them thoroughly.
4. Place the O-ring in the fuel valve.
5. Install the sediment cup and tighten it securely.
6. Move the fuel valve to the ON position and check for leaks. Replace the O-ring if there is any leakage.

5.9 Adjusting the Idle Speed

1. Start the engine outdoors and allow it to warm up to operating temperature.
2. Move the throttle lever to its slowest position.
3. Turn the throttle stop screw **(a)** to obtain the standard idle speed of 1400 ± 150 r/min.



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5.10 Replacing the Belt

The trowel is equipped with a self-adjusting clutch. This clutch automatically tightens the belt and compensates for belt wear. Replace the belt if the clutch can no longer tighten belt enough to engage gearbox without slipping.

To replace the drive belt:

1. Disconnect the spark plug lead.



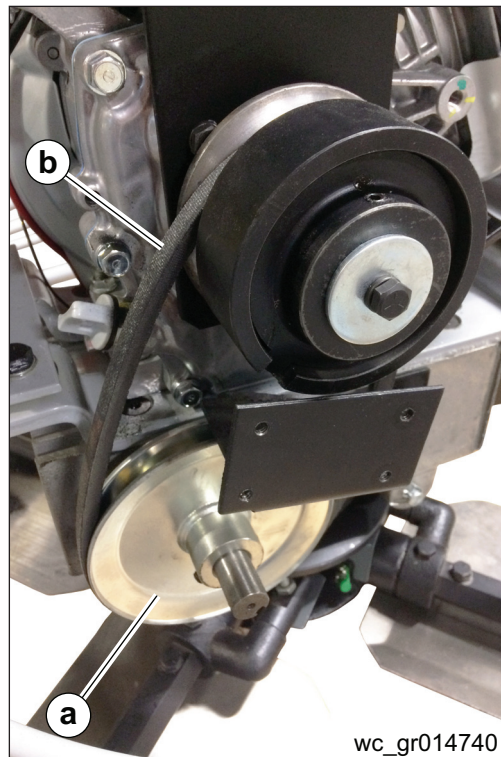
WARNING

To avoid accidental starting of the engine, always disconnect the spark plug lead before working on machine.

2. Loosen the screws and remove the belt guard.
3. Slowly turn the pulley **(a)** and roll the belt **(b)** off.

Note: *The clutch and the pulley are aligned at the factory and neither should be removed during belt replacement.*

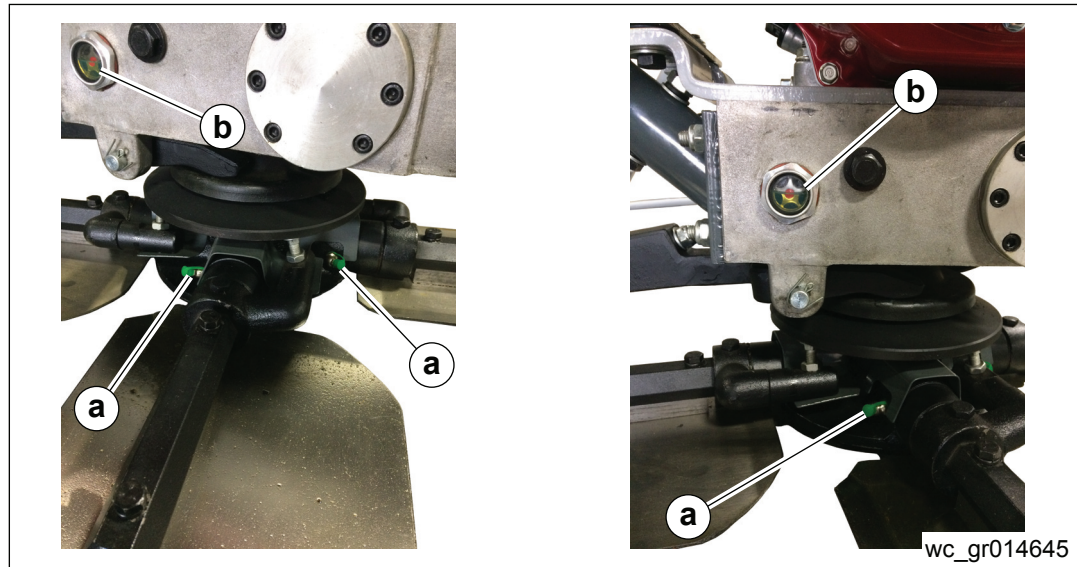
4. Install the new belt.
5. Reinstall the belt guard using the washers and screws.



5.11 Trowel Lubrication

Apply an appropriate grease to the trowel arm grease fittings **(a)**. Oil the pitch control cable and other parts of the trowel on an as-needed basis.

Oil in the gearbox should not require replacement unless it was drained to service the gearbox. Check the quantity through the sight glass **(b)** located on the side of the gearbox. The oil level should be centered on the red dot in the middle of the sight glass as shown. See *Technical Data* for the oil quantity and type.



5.12 Storing the Machine

The following steps should be taken to prepare the machine for extended storage:

1. Close the fuel shut-off valve.
2. Siphon excess gasoline from the tank.
3. Run the engine until it stops from lack of fuel. This will use up all the fuel in the carburetor and prevent formation of deposits due to evaporation of fuel.
4. Remove the spark plug and pour 60 mL (2 oz.) of SAE-30 or SAE-40 motor oil into the cylinder. Slowly crank the engine 2 or 3 times to distribute the oil throughout the cylinder. This will help prevent rust during storage. Replace the spark plug.
5. Store the unit in an upright position in a cool, dry, well ventilated area.

6 Troubleshooting

Problem/Symptom	Reason/Remedy
Machine will not start	Throttle fully open
	Hand lever wire broken
	No gas
	Dirty gas
	No oil
	Gas filter plugged
	Gas line plugged
	Hole in gas line
	Gas supply valve turned off
	Centrifugal stop is off
	Safety switch wire or connectors not making good contact
	Other engine problems (refer to engine manual)
Starts but no high speed	Engine problems
	Throttle cable broken or seized
	Throttle lever and connectors loose or out of adjustment
	Clutch shoes worn
Starts at high speed, will not slow down	Same as above
Engine will not stop	Safety switch, wire, or connectors not making good contact
	Micro-switch burned out
Engine starts but will not turn blades at any speed	Clutch seized
	No weights in clutch
	Wrong belt
	Broken or missing key <ul style="list-style-type: none"> ■ Clutch seized ■ Pulley ■ Worm gear (countershaft) ■ Main gear ■ Spider plate
	Gearbox seized

Problem/Symptom	Reason/Remedy
Blades turn, engine at idle	Idle too fast
	Belt too tight
	Clutch seized
	Pulley out of alignment
Blades wearing unevenly	Spider plate seized
	Arms bent
	Adjusting screws (carriage bolts) incorrectly set
Machine jumps on floor	Concrete hardened on bottom of spider plate
	Trowels unevenly worn/bent
	Spider plate seized
	Spider plate loose
	Trowel arms bent
	Adjusting screws (carriage bolts) incorrectly set
	Main shaft bent
Pitch controls will not operate blades	Cable broken or out of adjustment
	Pressure plate assembly contaminated with concrete debris
	Slot screw missing (under-side of handle)
	Spider plate seized
	Pressure plate and/or yoke arm broken or badly worn
	Hand crank adjuster malfunctioning
Belt wearing rapidly	Belt is too tight
	Pulley out of alignment
	Wrong belt/defective belt
	Clutch sticking
	Gearbox seizing
Oil leaks	Top of gearbox: <ul style="list-style-type: none"> ■ Gearbox seal worn ■ Engine leaks ■ Too much oil in gearbox
	At main shaft or countershaft: <ul style="list-style-type: none"> ■ Shaft and/or seal worn ■ Retaining screw(s) loose

Problem/Symptom	Reason/Remedy
Blades will not turn	Yoke arm broken
	Key sheared
	Gearbox malfunction

7 Technical Data

7.1 Dimensions

Model	Weight	Overall L x W x H	Blade diameter
MCT36-5	83 kg (183 lbs.)	1820 x 945 x 980 mm (72 x 37 x 38 in.)	915 mm (36 in.)

7.2 Engine

Engine Power Rating

Net power rating per SAE J1349. Actual power output may vary due to conditions of specific use.

MCT36-5 5100041760	
Engine	
Engine make	Loncin
Engine model	G200F(D)A
Max. rated power @ rated speed	4.1 kW (5.5 hp) @ 3600 rpm
Spark plug	F7RTC (or equivalent)
Electrode gap	0.70 to 0.80 mm (0.028 to 0.031 in.)
Operating speed	3600 rpm
Engine speed - idle	1400±150 rpm
Clutch engagement	1800 rpm
Valve clearance (cold)	
intake:	0.10 to 0.15 mm (0.004 to 0.006 in.)
exhaust:	0.10 to 0.15 mm (0.004 to 0.006 in.)
Air cleaner	Dual element
Engine lubrication	SAE 10W30, API SE or SF
Engine oil capacity	0.60 L (0.63 qt)
Fuel	Regular unleaded gasoline
Fuel tank capacity	3.6 L (1 gal)
Fuel consumption	230 g (8 oz.)/PS-hr
Running time	3 hr

7.3 Trowel

Model	Trowel Diameter*	Number of Blades	Gearbox Lubrication	Speed Range	Pitch Range
MCT36-5	915 mm (36 in.)	4	WA460 Approx. 1,000 ml (33.8 oz.)	70 to 137 rpm	0 to 15 degrees

Note: Trowel blades must NOT be interchanged, i.e., do NOT put larger diameter blades on a smaller diameter trowel.

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Important: For spare parts information, please see your Wacker Neuson Dealer, or visit the Wacker Neuson website at <http://www.wackerneuson.com/>.

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