

SPECTRUM

Products

Owners Manual



TG60FTTR

Cultivator



Attention! Danger!
This machine, if not used
properly, can be dangerous
to yourself and others.



Wear hearing protection,
safety glasses, and a
protective helmet.



Wear boots or closed-toe shoes.
The risk of foot injuries is high.



Carefully read the operating
and maintenance instructions!



Wear protective gloves!

1. SAFETY NOTES

1.1 SAFETY LABELS

The following safety labels appear on the machine. They are there to remind you of the care and attention required in use. This is what the symbols mean:

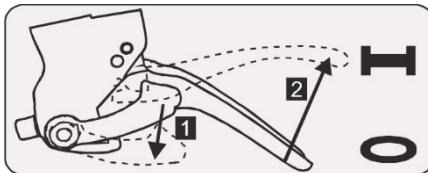
- 1) DANGER, READ THE MANUAL, SHARP BLADES NEAR FEET, STAY AT A DISTANCE.



- 2) DANGER, READ THE MANUAL, SHARP BLADES NEAR FEET, STAY AT A DISTANCE.



- 3) "O": stop position (clutch disengage), "I": move on position (clutch engage).



- 4) DANGER, CRUSHING BETWEEN COUNTER-ROTATING PARTS AND BELT.



1.2 SAFETY ITEMS

1. The machine shall always be used in accordance with the manufacturer's instructions laid down in the instruction handbook.
2. The engine should be stopped when carrying out maintenance and cleaning operations, when changing parts and when being transported by means other than under its own power.
3. The machine should only be operated by suitably trained persons.
4. Read the instructions carefully. Be familiar with the controls and the proper use of the equipment.
5. Never allow children or people unfamiliar with these instructions to use the machine. Local regulations can restrict the age of the operator.
6. Never work while people, especially children, or pets are nearby.
7. Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property.
8. While working, always wear substantial footwear and long trousers. Do not operate the equipment when barefoot or wearing open sandals.
9. Thoroughly inspect the area where the equipment is to be used and remove all objects which can be thrown by the machine.
10. WARNING – Petrol is highly flammable:
 - Store fuel in containers specifically designed for this purpose.
 - Refuel outdoors only and do not smoke while refuelling.
 - Add fuel before starting the engine.
 - Never remove the cap of the fuel tank or add petrol while the engine is running or when the engine is hot.
 - If petrol is spilt, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until petrol vapours have dissipated.
 - Replace all fuel tank and container caps securely.
11. Replace the exhaust if faulty.
12. Before using, always visually inspect to see that the tools are not worn or damaged. Replace worn or damaged elements and bolts in sets to preserve balance.
13. Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
14. Work only in daylight or in good artificial light.
15. Always be sure of your footing on slopes.
16. Walk, never run with the machine.
17. Exercise extreme caution when changing direction on slopes.
18. Do not work on excessively steep slopes.
19. Use extreme caution when reversing or pulling the machine towards you.
20. Do not change the engine governor settings or overspeed the engine.
21. Start the engine carefully according to manufacturer instructions and with feet well away from the working parts.
22. Do not put hands or feet near or under rotating parts.
23. Never pick up or carry a machine while the engine is running.
24. Stop the engine:
 - Whenever you leave the machine.
 - Before refuelling.
25. Reduce the throttle setting during engine shut down and, if the engine is provided with a shut-off valve, turn the fuel off at the conclusion of working.
26. Keep all nuts, bolts and screws tight to ensure the equipment is in safe working condition.
27. Never store the equipment with petrol in the tank inside a building where fumes can reach an open flame or spark.
28. Allow the engine to cool before storing in any enclosure.
29. To reduce the fire hazard, keep the engine, exhaust, battery compartment (where applicable) and petrol storage area free of material and excessive grease.
30. Replace worn or damaged parts for safety.
31. If the fuel tank has to be drained, this should be done outdoors.

WARNING:

Failure to follow these instructions carefully could result in serious injury or even loss of life.

The use of the machine is forbidden to persons younger than 16 years.

The operator is responsible of any possible damage and he should always drive the machine carefully and safely.

Before carrying the machine always empty the fuel tank.

Before leaving the machine be sure that it is fully stopped.

Never use the machine without heavy shoes and long trousers. Always inspect the area where you want to work

Removing stones, branches, cables and any other things which can be dangerous.

Before start working, make sure that a radius of minimum 5m is completely free.

Clean any possible leakage of fuel.

Fill up when the engine is off and not hot, always in an open space far from fires or any heating source and refrain

from smoking during this operation.

Before starting the machine make sure that you can quickly stop the engine and that you are familiar with the

control levers.

Never allow the engine to run in enclosed spaces where the highly toxic carbon monoxide cannot escape.

Never start or use the machine not completely assembled especially concerning the safety devices and the cultivator

protection guards which should always be completely assembled with all its extensions.

Never fix or clean the cultivator blades or any other tools when the engine is running.

ATTENTION:

Don't use the machine on sloping grounds exceeding 30%.

We are not responsible for accidents due to the wrong use of the machine neglecting the above basic instructions.

2. INTRODUCTION

This machine has a high efficiency for turning soil, working in dry land, paddocks, orchard, vegetable garden and greenhouse, etc.

Dear user, thank you for choosing a Spectrum Product. It should provide top performance and the easy use of our machine should give you any satisfaction.

This machine is the result of a long experience working at the top quality standard and using first quality material. Proper use and regular servicing of this machine will ensure its longevity.

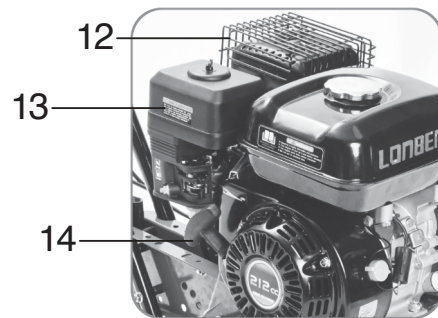
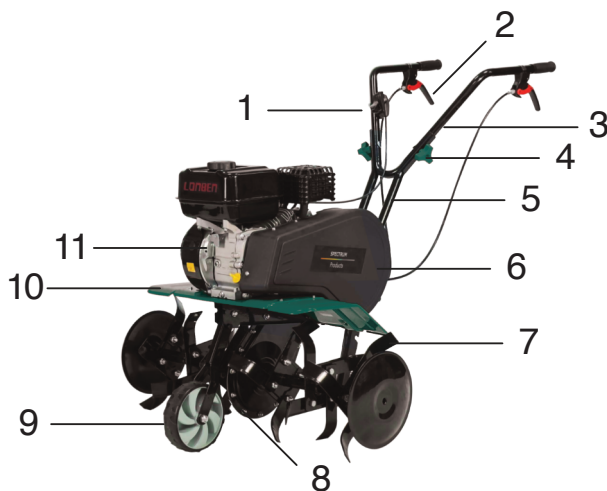
Please read this manual carefully before using your cultivator.

The greater attention you give to our technical instructions the more reliable your machine will be. Pay special attention to the instructions marked out by the following sign.



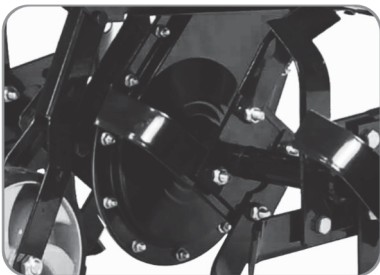
Failure to comply with these instructions may result in serious or even cause fatal injury.

PARTS OF THE PETROL POWER CULTIVATOR

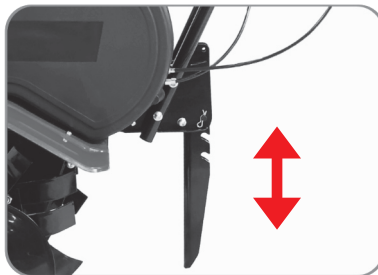


- | | | | | | | |
|-------------------|------------------|---------------|-------------|----------------|----------------|------------------|
| 1. Throttle Lever | 2. Clutch Handle | 3. Handle Bar | 4. Arm Lock | 5. Handle Base | 6. Belt Cover | 7. Rotor |
| 8. Gearbox Assy | 9. Walking Wheel | 10. Fender | 11. Engine | 12. Exhaust | 13. Air filter | 14. Recoil Start |

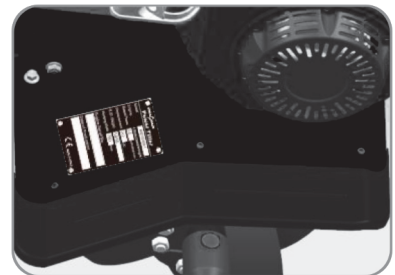
Pic.1



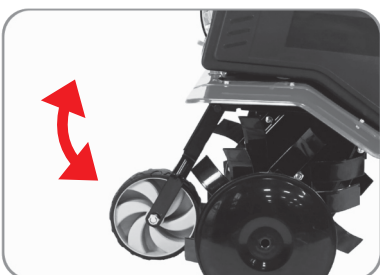
Pic.2



Pic.3



Pic.4



Pic.5



Pic.6



Pic.7



Pic.8



Pic.9



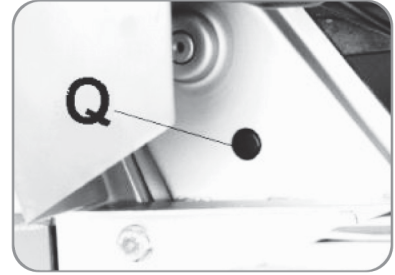
Pic.10



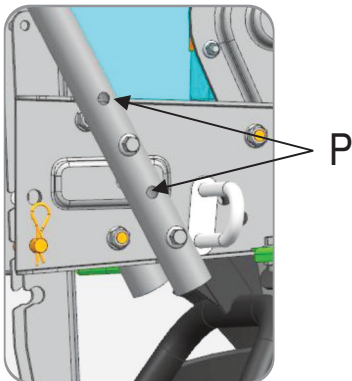
Pic.11



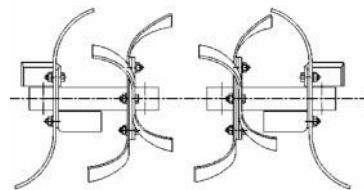
Pic.12



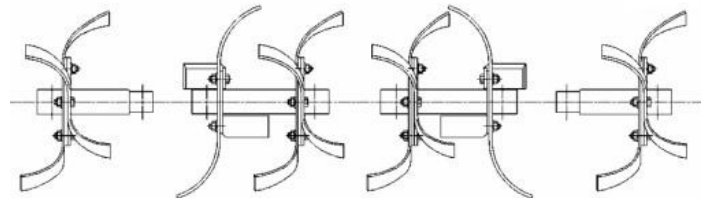
Pic.13



Pic.15

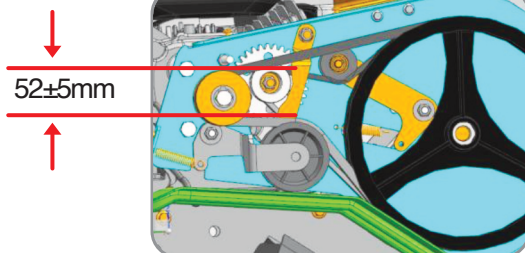


550mm



800mm

Pic.14



3. MAIN TECHNICAL PARAMETERS

Model	TG60FTTR
Engine type	LB170F
Rated engine power	4.5kW
Rated speed	3600/min
Displacement	212cc
Tilling Width	850mm
Tilling Depth	≥100mm
Blade Type	3-4
Tyre Model	8×1.75
Carton dimensions	620mm×380mm×690mm
Net weight	54kg
Gross weight	56kg
Sound power level	99 dB(A); K=2.37dB(A)
Vibration level	6.14 m/s ² ; K=6.48 m/s ²

The engine fitted on this cultivator have following features:

Exhaust guard

Recoil starter

Dry air filter

ENGINE LUBRICATION WITH: 5W30, 10W30 or 10W40 premium oil.

Quantity of engine oil: see instruction manual of the engine.

Fuel: unleaded petrol

Safety device for forward gear stopping the tiller.

The model TG60FTTR has a front belt transmission for the engine and a greased chain for the tiller.

The handlebar can be:

1. adjustable in 1 vertical position
2. adjustable in different positions (height and side)

The tiller can be of 55 cm or 78 cm.

The gear-box is screwed (Pic.1).

The Resistance plough can be adjustable (Pic.2).

All the identification references (code number, engine, weight, power) are printed on the number plate on the machine (Pic.3).

4. INSTRUCTIONS FOR ROTOR ASSEMBLY

The machine is packed in a box of the following dimensions :

LENGTH: 58CM	WIDTH: 40CM	HEIGHT: 74CM
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Take the machine out of the carton box.

Fit the two rotor sets to the main shaft using the delivered screws and nuts.

Fit the rear spur in its place using the delivered bolt and both pins which are on the spur holder.

Fit the handlebar on the support:

- The model with the vertical adjustment is fitted with two screws and nuts already fitted on the handlebar.
- The model with the full-side adjustment (rack, wheel system) is fitted with the parts already mounted on the handlebar holder.

The back wheel holder is fitted to the frame by means of two pins with cotter and spring. The handlebar has to be fitted on the holder through screw and nut. The wheels can be adjusted up and down (see Pic.4).

Fit the two guard-extensions to the main tiller protections fitted on the body of the machine using the proper screws and nuts. The fender should reach a width of 60 cm according to CE norms.

To make the transport easier it is possible to keep the handlebar disassembled, by means of the two screws in one version or by means of the thread bushing in the other one, that fix it to the handlebar holder.

5. STARTING AND STOPPING

Starting the engine of the machine always follow these instructions very carefully:

Check the oil in the engine:

THE BRAND NEW MACHINE IS DELIVERED WITHOUT OIL IN THE ENGINE, THEREFORE YOU SHOULD FILL IT UP TO THE LEVEL ON THE DIP STICK OF THE OIL CUP.

Please check the engine USE AND MAINTENANCE concerning the "operations before starting".

Start the engine only in open spaces.

1. Turn the accelerator lever to the "FAST" position (Pic.7). Turn the engine switch to the ON position (Pic.5).
2. The clutch lever should be released (Pic.8).
3. Pull the starting rope by the handle smoothly first then strongly: when you feel some resistance, pull with force to start the engine (Pic.11).
4. For stopping the engine move the accelerator lever in "LOW" position (Pic.5). Turn the engine switch to OFF position (Pic.6).

6. USE AND ADJUSTMENT

Move the clutch locker to the left, then hold the forward clutch handle down, the blades will engage; release the clutch handle to stop the blades.

Move the clutch locker to the right, then hold the reverse clutch handle, the blades rotate backwards; release the clutch handle, the blades stopped.

In the model TG60FTTR this space should be of 52 ± 5 mm (Pic.14). Note that you can check this space only after removing the side plastic cover through the fixing screws.

The best adjustment is when the lever of the forward gear in the position shown in picture 10, at a distance of about 10 mm from the knob, tightens the belt. Should this not be the case, please proceed with the adjustments mentioned below.

If the distance is different, you should adjust the tension of the idlers by means of the screws, so that the belts do not slide when the idlers are tightened. If this adjustment is still not enough, you can move the engine on its guides after having loosened the clamping bolts: move the engine towards the handlebar if you have to reduce the space, or viceversa.

In the type with full side and vertical adjustment (Pic.13) you have to release the blocking lever "P" then adjust the handlebar position as you prefer and lock it again.

The standard tiller is 55 cm wide (Pic.15), with two sets of knives on each side.

Adding other two sets of blades you can extend the tiller to 78 cm (Pic.15). The blades of the tiller-knives should always be directed ahead, towards the front of the machine.

7. MAINTENANCE

For the normal maintenance(oil, filter, spark plug) check the booklet for the engine included.

The chain for the final transmission is lubricated with normal grease.

 Every year you should introduce some grease through the hole “Q” (Pic.12) in the main body.

Keep the machine and the rotors clean and check that all the screws and nuts are well tied, especially the screws of the cultivator (always wear protection gloves working on the cultivator).

In case of damage or wear, you can replace the belt after taking off the side protection cover fixed to the frame near the engine shaft by two screws.

Remove the belt from the pulleys, install the new belt and adjust it following the instructions mentioned in the chapter 'USE AND ADJUSTMENT' by checking the distance between both sides of the belt, then replace the cover. The pin fixing the big pulley has also a safety purpose: in case of heavy obstacle it will break avoiding damages to other parts of the machine.

The replacement of the pin is very easy: you have to insert the new pin in the hole using a hammer.

For any technical repair especially during the warranty period, it is recommendable to apply to the specialised service dealer.



CAUTION:

It is advised not to keep the engine running when the machine is not being used

8. BREAKDOWN LIST

A. Petrol engine

(1) Hard to start machine or fail to start

Breakdown phenomenon	Cause	Solution
no spark at plug	carbon deposition of spark plug	clear away carbon
	excessive or too small clearance of spark plug	adjust clearance to 0.7~0.8mm
	Insulation damage of spark plug	replace spark plug
	breakdown of ignitor	replace ignitor
	weak magnetic force of flywheel	replace flywheel
Sparkling at plug	good compression	suck excessive fuel into cylinder
		poor quality of fuel with water and dirt
	Loosen oil drain screw at the bottom of Carburetor. No oil shedding.	needle valve block
	normal oil supply but poor compression	clean or replace carburetor
		piston ring abrasion, loose spark plug
		replace
	normal ignition and oil supply	Air leak of cylinder head
		screw tight
		wrong air valve clearance or timing
		clean, readjust and reassemble
	normal ignition and oil supply	poor contact of high voltage cable and spark plug
		replace and connect
		Failure of stop switch, short circuit
		clean
	breakdown of oil alert	replace

(2) Abnormal conditions in the movement

Breakdown phenomenon	Cause	Solution
Insufficient power , Low rotation	damper closed, poor ventilation of muffler	open damper, replace muffler
	moving parts abrasion	check, replace
	speed adjustment mechanism failed to reach the best equilibrium	adjust speed adjustment mechanism
	low ignition power	replace ignitor or flywheel
	excessive clearance of air valve	regulate to the required scope
	carbon deposition	Clear away carbon
excessive fluctuation of speed	speed adjustment mechanism failed to reach the most optimized combination	adjust speed adjustment mechanism
	wrong carburetor	replace carburetor
	wrong space of spark plug	adjust clearance
excessively high speed of rotation	speed adjusting handle failed to press adjust cap tightly or Speed adjust cap lost	Readjust or install speed adjustment cap
abnormal sound	wrong clearance of air valve	adjust clearance of air valve
	cam gear injured	replace camshaft
oil leaking of carburetor	needle valve and oil dirt attached	lightly tap carburetor or clean it.
	O-ring deformation	replace

B. Tiller

Abnormalities	Common Causes	Measures to be taken
Strange noises	Stuck blade	Turn off the tiller until the engine is completely stopped.
	Leakage of lubricating oil	Fix it in the repair shop
	Loose bolts, nuts and other components	Tighten all the components, if strange noises remain, please contact repair shop
Strong vibration	Damage or wear of the blade	Change blade or fix it in repair shop
	Excessive tillage depth	Adjust the tillage depth
Poor tillage effect	Shallow tillage	Adjust the tillage depth
	Blunt or worn blade	Change blade or fix it in repair shop

My Spectrum Product Details

MODEL NUMBER	TGTG60FTTR
SERIAL NUMBER	
DATE OF PURCHASE	

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