TMG INDUSTRIAL®

TMG-GVT40
PRODUCTMANUAL
v.2026.06.05

Ride-On Tiller



⚠ WARNING



Please read and understand the product manual completely before assembly
- Check the parts list to make sure all parts are received.
- Wear safety goggles or other protective gear while assembling.
- Do not return products to dealers, who are not equipped to handle returns.

Missing parts or have questions on assembly?
Email: cs@tmgindustrial.com
Or visit: tmgindustrial.com

TABLE OF CONTENTS

Preface 3

Chapter 1: Safety Operating Rules 5

Chapter 2: Main Technical Parameters 6

Chapter 3: Main Components and Installation Adjustments 8

(1) Structure 8

(2) Post-Unboxing Installation 9

(3) Blade Adjustment 10

(4) Universal Joint Drive Shaft Connection 10

(5) Blade and Travel Wheel Installation/Removal 10

(6) Cable Adjustment 11

Chapter 4: Usage and Operating Methods 13

(1) Pre-Operation Inspection 13

(2) Startup 15

(3) Rotary Tiller Operation Methods 15

(4) Tillage Operations 17

(5) Usage Precautions 17

Chapter 5: Lubrication and Maintenance 18

(1) Technical Maintenance Schedule 18

(2) Technical Maintenance Operations 20

(3) Fuel Tank Inspection and Maintenance 21

(4) Battery Maintenance 21

(5) Air Filter Maintenance 22

Chapter 6: Storage and Transportation 23

(1) Causes of Damage During Storage 23

(2) Preservation Procedures 23

(3) Storage Maintenance 24

(4) De-preservation 25

(5) Transportation 25

Chapter 7: Common Faults and Troubleshooting 26

(1) Engine Faults 26

(2) Drivetrain & Chassis Faults 26

Chapter 8: Wear Parts List 28

Chapter 9: Accessories List 29

Chapter 10: Standard Tools 29

PREFACE

Before using this product, users should carefully read the parts catalog and operating instructions related to the product. Assemble, operate, debug, maintain, and service the machine as required to ensure proper usage, guarantee personal safety, avoid mechanical failures, extend the service life, save energy, and minimize maintenance costs to achieve maximum economic benefits.

This manual provides a detailed and easy-to-understand introduction to the TMV-GVT40 ride-on rotary tiller (hereinafter referred to as the "rotary tiller"), including safety precautions, main parameters, the names and functions of each component, daily inspections before use, operating essentials, correct usage methods, maintenance, and common troubleshooting. It serves as a reference for users and maintenance personnel.

The machine features a compact structure and lightweight design. Additionally, it is equipped with a manually operated clutch lever at the rear, allowing the operator to hold the handrail frame for safer operation on slopes and uneven terrain, with strong off-road performance. The low-center-of-gravity design of the driving position significantly reduces driver bumps when traveling on rough roads. The steering wheel is power -assisted for effortless turning. The machine's lifting mechanism is simple and easy to operate, facilitating the interchangeability of tires and blades.

The units of measurement used in this manual are metric. Non-metric parts and standard components are not permitted to be used arbitrarily. Correct parts and standard components must be used during replacements. The use of non-standard parts and components may cause damage to the machine.

Three-Warranty Service

The three-warranty service is part of the support provided by our company to users. Users are required to perform regular maintenance and servicing of the machine in accordance with the manual. For details on the three-warranty terms, please refer to the three-warranty certificate in the appendix.

Scope of Application

The TMV-GVT40 rotary tiller can easily be fitted with various agricultural implements to perform operations such as rotary tilling, trenching, ridging, earthing up, and weeding. It is suitable for rotary tilling and field management in mountainous areas, hills, orchards, vegetable gardens, and greenhouses.

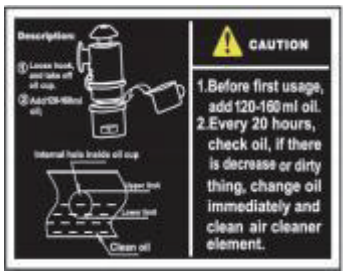
The actual product sold shall prevail, and changes may be made without prior notice.

June 2025

CHAPTER 1: SAFETY OPERATING RULES

1. Includes a set of standard tools.
2. Avoid loose clothing to prevent entanglement with moving parts. Ensure all rotating parts connected to the power output are properly guarded.
3. Ensure all components are correctly installed before operation. Regularly check fasteners, especially bolts, for looseness and ensure no damage from accidental impacts.
4. Disconnect the "+" terminal of the battery before performing any maintenance on the electrical system.
5. During inspections, cleaning, adjustments, repairs, or maintenance of the tiller and blades, ensure the engine is off and fully cooled, the transmission lever is in neutral "N," the parking brake is engaged, and all moving parts have stopped.
6. When working under strong sunlight, do not fill the fuel tank completely, as fuel may expand and overflow. Wipe off any spilled fuel immediately.
7. Engine fuel is flammable and hazardous. Do not refuel while the engine is running, hot, near open flames, or while smoking.
8. Safety warning labels must remain clear. Replace missing or unclear labels promptly (contact the dealer). When replacing parts during repairs, ensure new parts include the manufacturer's specified safety labels.

   Safety warning label locations and contents:

		
Rotary blade safety label Attached to front and rear fenders (4 labels total)	Power warning label Attached to the gasoline tank top	Air filter warning label Attached to the air filter housing

CHAPTER 2: MAIN TECHNICAL PARAMETERS

No.	Item	Unit	Design Value
1	Dimensions (L×W×H):	mm	1915×1114×1200
2	Engine Model	/	WM190FE/P-2
3	Engine Power	kW	9
4	Engine Speed	r/min	3600
5	Fuel Type	/	gasoline
6	Steering Method	/	Steering wheel + articulated steering
7	Transmission Gears	/	3 forward, 1 reverse
8	Steering Angle	°	±26
9	Minimum Turning Radius	m	≤2.1
10	Clutch Type	/	Friction plate (reverse clutch)
11	Power Transmission Method	/	Direct drive
12	Drive Wheel Transmission	/	Gear
13	Blade Roller Transmission	/	Gear
14	Braking Method	/	Internal expanding drum
15	Wheelbase	mm	800
16	Track Width	mm	600
17	Minimum Ground Clearance	mm	115
18	Approach Angle	°	>35

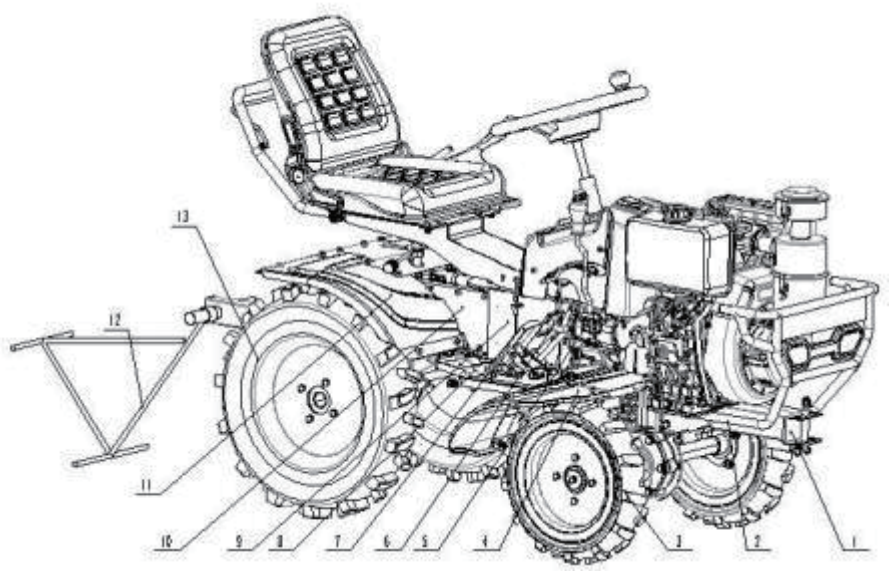
No.	Item	Unit	Design Value
19	Blade Roller Max Diameter	mm	32 blades (4 groups), 360mm diameter
20	Working Width	mm	1115
21	Rear Wheel Diameter	mm	568
22	Front Wheel Diameter	mm	415
23	Working Iron Wheel Diameter	mm	480 (430mm optional)
24	Drive Wheel Speed (Travel Gearbox)	r/min	1st: 3; 2nd: 7.6; 3rd: 10.8; Reverse: 3
25	Blade Roller Speed (Tillage Gearbox)	r/min	1st: 44; 2nd: 110; 3rd: 157; Reverse: 44
26	Working Travel Speed	km/h	1st: 0.24; 2nd: 0.62; 3rd: 0.87; Reverse: 0.24
27	Travel Speed (4WD)	km/h	1st: 3.5; 2nd: 8.8; 3rd: 12.5; Reverse: 3.5
28	Net Weight	kg	205 (with tires, without blades); 235 (with tires, blades, and iron wheels)

Note: Technical parameters are subject to change without notice!

CHAPTER 3: MAIN COMPONENTS AND INSTALLATION ADJUSTMENTS

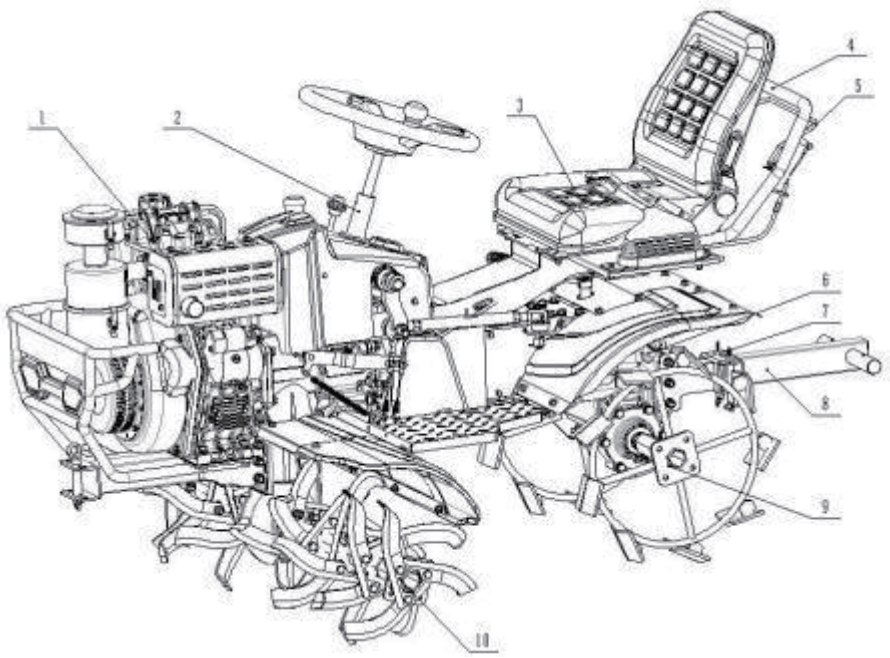
(1)Structure

The rotary tiller mainly consists of the front hitch, engine, transmission and gearbox, front fender , steering mechanism, front connection box, footrest, steering linkage box, rear fender, seat, travel gearbox, rear hitch, blade frame, lifting frame, clutch pedal, brake pedal,front and rear wheels , rotary blades, and travel wheels (see Figures 1 and 2).



Figures 1

1. Front Hitch | 2. Front Bumper | 3. Front Tire | 4. Front Fender | 5. Transmission | 6.Brake Pedal | 7. Clutch Pedal | 8. Footrest | 9. Front Connection Box | 10.Steering Linkage Box | 11. Rear Fender | 12. Lifting Frame



Figures 2

1. Engine | 2. Steering Mechanism | 3. Seat | 4. Handrail | 5. Manual Clutch Handle | 6. Travel Gearbox | 7. Rear Hitch | 8. Blade Frame | 9. Travel Wheel | 10. Rotary Blade

(2)Post-Unboxing Installation

The tiller is pre-assembled and debugged before leaving the factory. However, users need to install components like fenders and tires and perform checks and adjustments for optimal performance.

Installation steps:

1. Mount the wheels on the hexagonal output shafts (front: 4.0-8 tires; rear: 5.0-12 tires). Ensure the tire tread direction is correct, and left/right tires are not reversed. Secure with two 8×50 pins and R-clips.
2. Fix the left and right outer fenders to the inner fenders and tighten the bolts.
3. Connect the handrail to the seat frame using M10×30 bolts, spring washers, and flat washers, then tighten.
4. Check all external bolts for tightness.

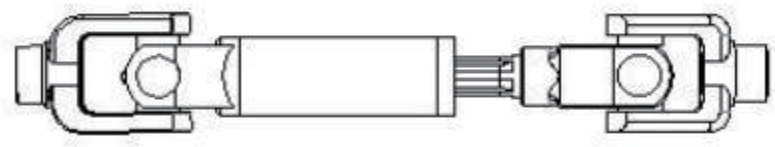
(3)Blade Adjustment

The blade boxes are welded to the blade drum in an alternating pattern to ensure even force distribution and prevent missed tilling or clogging. Incorrect blade installation affects performance and machine lifespan. Left and right curved blades must be symmetrically staggered and securely bolted.

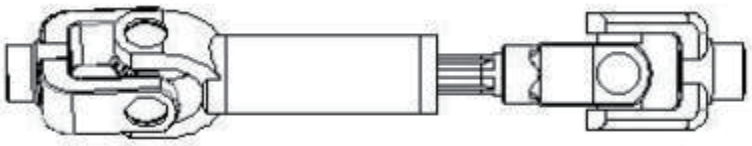
(4) Universal Joint Drive Shaft Connection

The drive shaft is critical for power transmission. If removed for maintenance, ensure the two yokes are aligned in the same plane during reinstallation. Misalignment causes noise.

vibration, and part damage. Apply grease to the bearings and spline shaft. The engaged spline length must be ⩾15 cm during operation.



Correct Installation



Incorrect Installation

(5) Blade and Travel Wheel Installation/Removal





Blade Installation:

. Mount the blade frame to the front hitch and insert two pins (16×110).

. Slide the lifting frame onto the blade frame shaft until it contacts the rectangular tube side (to prevent slipping).

. Step on the lifting frame to raise the machine, then pull the front bumper to lift the machine off the ground.

. Once stable, remove the wheel pins and take off the tire.

. Install the blades (ensure left/right orientation is correct) and secure with pins and R-clips.

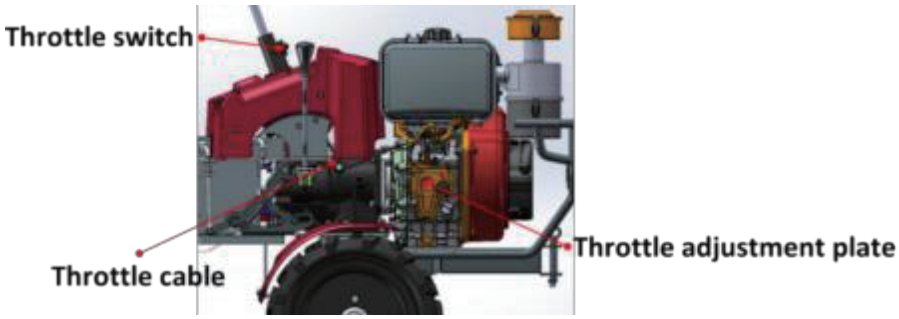
. Repeat for the other side.

Note: Blades, tires, and travel wheels have left/right orientations and must not be reversed.

(6) Cable Adjustment

Throttle Cable Adjustment:

1) Turn the throttle switch clockwise to the minimum position.
2) Thread the cable through the throttle adjustment plate and fixing bracket on the gasoline engine.
3) Tighten the cable and secure the fixing screw.
4) Adjust until the throttle lever reaches full range.



Operation of Clutch and Brake Systems

In this rotary tiller, both travel and braking are controlled via cables.

. When neither the clutch pedal nor the manual clutch handle is engaged, the clutch remains disengaged, keeping the machine stationary.

. Depressing the clutch pedal or pulling the manual clutch handle transfers power through gears and drive shafts to activate the implement.

Clutch Cable Adjustment:

Symptoms & Solutions:

1. **Incomplete Disengagement** (clutch drags):

   Solution: Increase the exposed cable length slightly.

   Method:

   . Loosen the **locknut** on the cable sleeve with a wrench.

   . Extend the cable gradually until the clutch fully disengages.

2. **Clutch Slippage** (power loss):

   . **Solution:** Shorten the exposed cable length moderately.

   . **Method:** Adjust the cable until slippage ceases.

   Note: If adjustments fail to resolve the issue, contact your dealer for professional service immediately.

Brake Cable Adjustment:

. Follow the **same procedure** as clutch cable adjustment.

CHAPTER 4: USAGE AND OPERATING METHODS

(1) Pre-Operation Inspection

1. **Checks and Refueling**

Inspect all bolts for looseness and tighten them according to the torque specifications listed in the table below. Refer to the gasoline engine manual for bolt and nut torque requirements.

Bolt Diameter (mm) at Connection Points	Tightening Torque (N·m)	Remarks
Flange-to-engine screws (Hex M8)	27 ± 3	
Flange-to-transmission bolts (M10)	40 ± 4	
Engine mounting bolts (M10)	40 ± 4	
Transmission-to-front gearbox bolts (M10)	40 ± 4	
Steering linkage-to-travel gearbox bolts (M10)	40 ± 4	
Wheel axle mounting bolts (M10)	40 ± 4	

2. **Check Operating Controls**

Ensure all handles and pedals (throttle, clutch, gearshift lever, and brake) operate smoothly and without obstruction. Address any issues found.

3. **Engine Oil Refill**

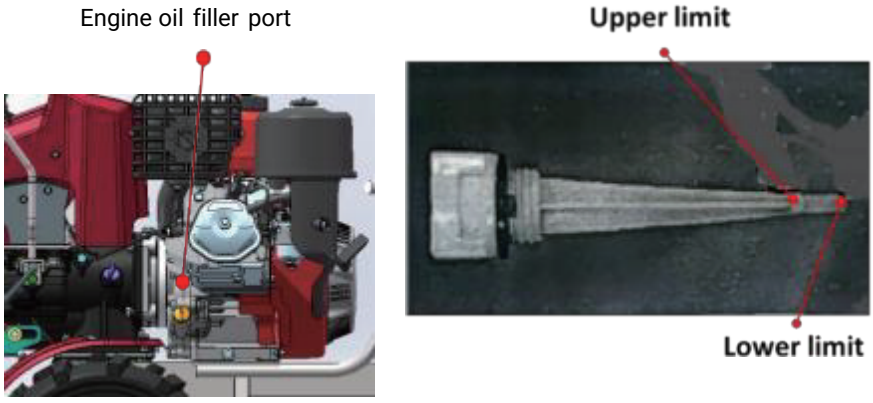
①In regions with normal temperatures (-20°C to +40°C), fill the engine crankcase with SAE 15W-40 gasoline engine lubricating oil.

- Place the machine on a level surface.
- Add oil through the oil filler port (see diagram).
- To check oil level:

Wipe the dipstick clean.

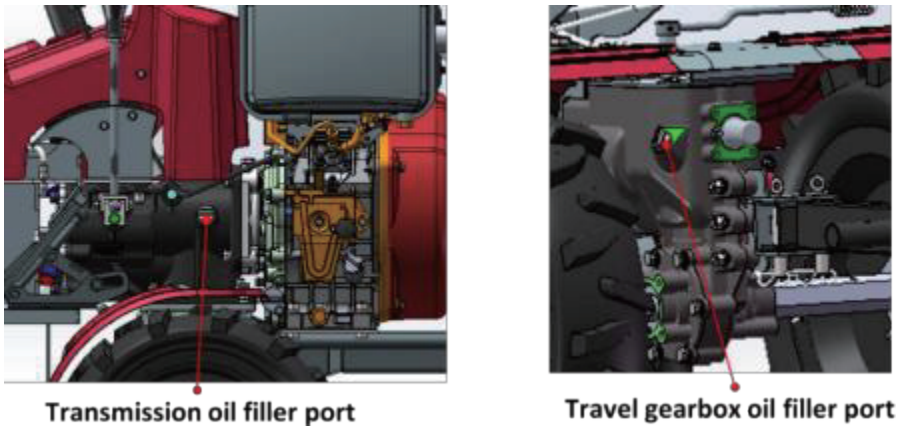
Fully insert it (do not rotate), then remove it.

The oil level should be between the upper and lower limits on the dipstick.



② Fill the transmission and travel gearbox with 5W/80 GL-4 gear oil.

- Keep the machine level.
- Add oil through the filler hole on the right side of the transmission.
- Check the oil level using the dipstick (same method as above).
- The initial oil filling volume for the transmission and travel gearbox is approximately 2 liters.



4. **Fuel Refill**

- Fuel Refilling: Fill the engine fuel tank with the specified grade of gasoline. For details, refer to the gasoline engine instruction manual.
- **Warnings:**

1. Fuel is flammable—keep away from open flames.
2. Turn off the engine before refueling.
3. No smoking during refueling or fuel system maintenance.
4. Wipe up any spilled fuel or oil immediately with a clean cloth.

(2)Startup

Make pre-start preparations according to the engine instruction manual.

Note: During engine startup, the transmission control lever must be in the neutral position, and the clutch must be disengaged.

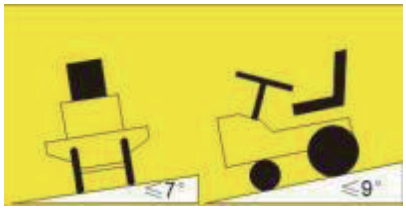
1. Start the gasoline engine following the procedures specified in the gasoline engine instruction manual.
2. Allow the gasoline engine to idle without load for 2–3 minutes.
3. Check whether the gasoline engine operates normally. If not, stop the engine and perform troubleshooting.

(3) Rotary Tiller Operation Methods

WARNING!

- Perform a 30-**minute light-load break-in** before normal operation.
- During startup, ensure the **clutch remains disengaged** (clutch pedal fully raised/manual clutch handle in the released position). Any unauthorized modification or removal of clutch components may cause serious injury.
- Verify the **gearbox selector lever** (located below the seat's right side) is in:
  - **"TRAVEL" position** when moving
  - **"TILLAGE" position** when operating

  NEVER use blades during travel or tires during tillage—improper use risks machine damage and operator hazards.
- The machine must not operate or perform rotary tilling on slopes with a longitudinal gradient exceeding 16% (9°) or a lateral gradient exceeding 12% (7°).



1. 1st Gear Operation

① Lift the right foot from the clutch pedal (release the manual clutch handle) to disconnect the engine power.

② Pull the gearshift lever backward from **"N"** to engage **"1"**.

③ Lightly depress the clutch pedal → verify normal operation → fully engage the clutch → adjust the throttle. **Max speed: 3.5 km/h**.

2. 2nd Gear Operation

① Disengage power as above.

② Shift to **"2"**.

③ Engage clutch and throttle. **Max speed: 8.8 km/h**.

3. 3rd Gear Operation

① Disengage power.

② Shift to **"3"**.

③ Engage clutch and throttle. **Max speed: 12.5 km/h**.

4. Reverse Operation

① Disengage power.

② Shift to **"R"**.

③ Engage clutch gently → **avoid full throttle** in reverse.

CAUTION! Shift **ONLY** when stationary at idle. **NEVER** force gears during motion.

5. Steering

- **Forward**: Turn the wheel right → right turn; left → left turn.
- **Reverse**: Turn the wheel right → backward right; left → backward left.

6.Parking

① Disengage clutch.

② Fully depress the brake pedal.5

③ Shift to **"N"** → minimize throttle → engine stops.

④ Engage parking brake firmly.

⑤ Turn key to **"OFF"**.

(4) Tillage Operations

1. **Low-speed operation** ensures soil fragmentation and reduces wear. Monitor for abnormal noises/vibrations and check soil depth. **Stop immediately** if irregularities occur.2.

Match ground speed to soil conditions:

- **Sandy soil**: 0.87 km/h max (lower resistance)
- **Clay soil**: 0.24 km/h min (higher resistance)
- **Blade speed**: 44–157 rpm

Maintain a 100–160 mm working depth. Clear entangled debris promptly.

CRITICAL:

- Always **shut off the engine** for maintenance.
- Use the lowest **speed** for turns and reversing.
- **Replace blades with tires** when crossing ridges or relocating.

(5) Usage Precautions

1. Inspect connections/abnormal sounds during use → halt if detected.
2. **Never** apply heavy loads after cold start.
3. Maintain coolant/lubricant at specified levels.
4. **Do not** use cold water for engine cooling.
5. **Prohibit** road travel with engaged tillage tools.
6. Post-operation: Remove mud/weeds → apply an anti-rust treatment.

CHAPTER 5: LUBRICATION AND MAINTENANCE

(1) Technical Maintenance Schedule

This series of rotary tillers follows an **hour-based maintenance cycle**, divided into:

- **Post-shift maintenance** (every 10 operating hours)
- **20-hour maintenance**
- **100-hour maintenance**
- **200-hour maintenance**

1. Post-Shift Maintenance (10 h)

① Remove accumulated **dust and oil stains** from the tiller.

② Inspect and tighten **all external fasteners**—pay special attention to:

- Engine mounting bolts
- Wheel axle nuts
- Transmission-to-flange connections
- Steering linkage box fasteners

③ Check fluid levels in:

- Engine crankcase
- Fuel tank
- Transmission
- Rear travel gearbox

Note: Check engine oil level **15 minutes after shutdown** on level ground.

④ Lubricate according to **Maintenance Chart 5-1**.

⑤ Inspect tires for **cracking, damage, or excessive wear**.

⑥ Adjust **clutch and brake cable free play**.

⑦ Check for **oil leaks** and repair if found.

⑧ Perform daily engine maintenance per the Gasoline *Engine Manual*.

2. 20-Hour Maintenance

① Complete all **10h maintenance tasks**.

② Replenish grease per **Chart 5-1**.

③ Clean the air **filter** and remove dust.

④ Inspect the fuel **filter cartridge** for deformation/damage.

⑤ Replace the engine **lubricating oil**.

3. 100-Hour Maintenance

① Complete all **20h tasks**.

② Replace the fuel **filter cartridge**.

③ Install new **brake pads**.

④ Apply grease to **exposed cable sections**.

⑤ Lubricate:

- Driveshaft splines
- Universal joints (grease until fresh lubricant emerges)

⑥ Perform engine periodic maintenance per manual.

⑦ Replace oil in the transmission **and rear travel gearbox**.

4. 200-Hour Maintenance

① Complete all **100h procedures**.

② Replace **clutch friction plates**.

5. Storage Maintenance

- **<1 month storage** (and <100 engine hours since last oil change):

No special precautions required.

- **>1 month storage**:

Mandatory **preservation maintenance** including:

- Fuel system drainage
- Rust prevention coating
- Battery removal

(2) Technical Maintenance Operations

The maintenance components, procedures, and intervals for the rotary tiller are listed in **Table 5-1**:

Table 5-1 Maintenance Schedule

No.	Maintenance Component	Operation	Points	Maintenance Interval
1	Engine Crankcase	Check fluid level	1	Every shift
2	Air Filter	Inspect for dust	1	Every shift
3	Fuel Tank	Check fuel level	1	Every shift
4	Transmission	Check oil level	1	Every shift
5	Rear Travel Gearbox	Check oil level	1	Every shift
6	Wheels	Clean dirt/debris	2	Every shift
7	Clutch Cable	Adjust free play	1	Every shift
8	Brake Cable	Adjust free play	1	Every shift
9	Engine Oil	Replace oil	1	First 20 operating hours
10	Air Filter	Remove dust	1	Every 20 operating hours
11	Fuel Filter	Inspect the cartridge	1	Every 20 operating hours

No.	Maintenance Component	Operation	Points	Maintenance Interval
12	Drive Shaft	Grease injection	1	Every 100 operating hours
13	All Cables	Lubricate exposed wires	1	Every 100 operating hours
14	Engine Oil	Replace oil	1	Every 100 operating hours
15	Brake Drum	Replace brake pads	1	Every 100 operating hours
16	Transmission	Replace oil	1	Every 100 operating hours
17	Rear Travel Gearbox	Replace oil	1	Every 100 operating hours
18	Clutch	Replace friction plates	1	Every 100 operating hours

(3) Fuel Tank Inspection and Maintenance

1. Park the tiller on **level ground** and **turn off the engine**.
2. Remove the **drain plug** at the bottom of the fuel tank to discharge sediment/water.3.

Regularly clean the tank interior to remove contaminants.

Note: The tank serves to store fuel while allowing water/impurities to settle.

(4) Battery Maintenance

This tiller uses **maintenance-free batteries** featuring:

- No water refilling required
- High durability
- Safe operation
- High starting current

Key Procedures:

① **Charging Safety:**

- Keep away from open flames.
- Ensure ventilation.
- **Disconnect the power supply first** after charging to prevent sparking.

② **Storage:**

- Store in a **clean, dry, ventilated** area (0–40°C).
- Avoid impacts or inversion during handling.

③ **Terminal Care:**

- Secure connections to prevent terminal melting during startup.
- Apply **petroleum jelly** to terminals to prevent oxidation.

④ **Charge Maintenance:**

- Keep battery fully charged; recharge when necessary.

(5) Air Filter Maintenance

1. Open the filter housing and remove the cartridge.
2. Gently tap to dislodge dust.
3. In a **well-ventilated area**, use compressed air (≤0.5 MPa) to blow debris **from the inside out**.

Maintain ≥1 cm distance between the nozzle and the filter paper.

Critical: Proper air filter maintenance **directly impacts engine lifespan**—always keep it clean.

CHAPTER 6: STORAGE AND TRANSPORTATION

WARNING! Proper storage and specialized maintenance during prolonged inactivity are **critical** for rotary tillers. Otherwise, mechanical deterioration may progress **faster** than during operational periods.

After field operations or when extended storage is required:

- **Thoroughly clean, adjust, and tighten all connections**
- Complete **scheduled maintenance** per Chapter 5
- Store in **dry, well-ventilated** conditions to prevent:

✓ Rust

✓ Material degradation

✓ Deformation

(1) Causes of Damage During Storage

1. **Corrosion**
   - Moisture/dust infiltration through gaps → internal component rust
   - Static metal surfaces (pistons, bearings, gears) lose lubricant protection → pitting/seizing 2. **Material Degradation**
   - UV exposure → rubber/plastic parts harden/crack
3. **Deformation**
   - Prolonged pressure → tire warping
4. **Other Risks**
   - Electrical component moisture absorption
   - Battery self-discharge

(2) Preservation Procedures

① **Pre-Storage Prep**

- Resolve all mechanical issues

- Degrease exterior surfaces

② **Fluid Management**

- Drain transmission/rear gearbox oil
- Replace engine oil → idle 5 mins to circulate

③ **Battery Care**

- Remove → coat terminals with grease → store ⩾10°C

④ **Corrosion Prevention**

- Apply **heated anhydrous vaseline** (100-200°C) to:
- Electrical contacts
- Unpainted metal
- Touch up paint damage

⑤ **Engine Protection**

- Seal intake/exhaust ports with waterproof fabric

⑥ **Storage Location**

- **Ideal**: Covered shed
- **Outdoor**: Elevate on a dry platform + tarp cover

(3) Storage Maintenance

- **Monthly**: Inspect for rust/deformation
- **Bimonthly**:

✓ Start engine

✓ Operate 20–30 mins at low speed

- **Quarterly**: Recharge batteries

MINIMUM Preservation (for basic storage):

- Change oil/filter
- Bimonthly test runs

(4) De-preservation

1. Unseal ports → clean tiller
2. Refill fluids/grease
3. Reinstall the charged battery
4. Verify cable tightness
5. Resume normal operation

(5) Transportation

Self-Transport:

- Maintain ⩾60 m following distance
- Observe traffic laws

Loading/Unloading:

① Use **ramps** (⩽30° incline)

② Engage **1st gear** + parking brake when secured

③ Block wheels with chocks

④ **Critical**: The assistant must guide the operator

Route Planning:

- Check clearance heights
- Reduce speed before turns

Disclaimer:

Damage occurring during storage due to improper preservation is **not covered** under warranty.

CHAPTER 7: COMMON FAULTS AND TROU-BLESHOOTING

(1) Engine Faults

Refer to the *Gasoline Engine Operation Manual* for engine-related faults and solutions.

(2) Drivetrain & Chassis Faults

Symptom	Cause	Solution
Clutch Failure	Clutch pedal jammed (bearing seized)	Repair/replace bearing
	Clutch fork pin broken/bent	Replace fork pin
	Spring failure	Replace spring
	Worn clutch friction surface/bearing	Contact dealer for replacement
	Cable detachment	Reinstall/replace cable
Blade Shaft Oil Leak	Seal damage from mud/grass entanglement	Replace oil seal
Hex Shaft Wear	Deformation from blade drum pressure	Replace shaft
Excessive braking distance	Brake cable over-adjusted	Readjust cable free play
	Worn brake pads	Replace pads
Starter Motor Failure	1. Low battery charge	Recharge the battery
	2. Dirty terminals/loose cables	Clean terminals and tighten connections
	3. Loose/corroded ground wire	Secure connections & remove

Symptom	Cause	Solution
	4. Broken starter circuit wiring	corrosion
		Repair wiring
	5. Internal motor short/open circuit	Service/replace starter
No power output	Drive shaft detached/broken	Reinstall/replace shaft
Broken blades	Impact with rocks/hard objects	Replace blades
Cable breakage	Normal wear	Replace with OEM cable
Steering failure	Ball joint detachment	Reinstall/replace joint
	Excessive worm gear clearance	Adjust gear mesh

CHAPTER 8: WEAR PARTS LIST

No.	Part Number	Component Name	Specification/Model	Qty	Installation Position
1	13.Z197.83.0422	Foot Clutch Cable	-	1	Clutch
2	13.Z197.83.0222	Hand Clutch Cable	-	1	Clutch
3	13.Z197.83.0222	Foot Brake Cable	-	1	Brake
4	13.Z197.83.0122	Hand Brake Cable	-	1	Brake
5	-	Oil Seal	35×62×8	4	Output shaft

Note: The list of wear parts for the power unit can be found in the 188FCV engine manual.

CHAPTER 9:ACCESSORIES LIST

No.	Item	Qty
1	Rotary Tiller Operation Manual	1 copy
2	WM190FE/P-2 Gasoline Engine Manual	1 copy
3	Warranty Certificate	1 copy
4	Tool Kit (incl. tools/funnel)	1 set

CHAPTER 10: STANDARD TOOLS

No.	Tool Name	Qty
1	Double-end Screwdriver (ϕ 5×100mm)	1 pc
2	Open-end Wrench (8–10 mm)	1 pc
3	Open-end Wrench (10–12 mm)	1 pc
4	Open-end Wrench (13–16 mm)	1 pc
5	Open-end Wrench (14–17 mm)	1 pc
6	Open-end Wrench (16–18 mm)	1 pc

NTY INFORMATION:

Please refer to our website for detailed warranty conditions and coverage.

For the most up-to-date and comprehensive warranty information, visit **www.tmgindustrial.com**