TITAN pro
Gives You The Edge

TP500
6.5HP Petrol Tiller Rear-Tine Rotavator
User Manual

Contents

Foreword

Thank you for purchasing the **Titan Pro TP500 Petrol Rotavator**.

This manual contains important information regarding the safe operation and maintenance of your tiller. The information provided is based on the most recent product data available at the time of printing. Titan Pro reserves the right to make amendments to specifications or design at any time without notice and without incurring any obligation.

Please consider this manual a permanent part of the machine. It should remain with the tiller if it is resold to a new owner.

Safety Symbols & Signal Words

Pay special attention to statements preceded by the following words:

- **WARNING:** Indicates a strong possibility of severe personal injury or death if instructions are not followed.
- **CAUTION:** Indicates a possibility of personal injury or equipment damage if instructions are not followed.
- **NOTE:** Provides helpful information or tips.

If a problem arises, or if you have any questions about the tiller, please contact Titan Pro or an authorised dealer.

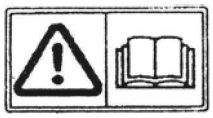
WARNING - Read the Manual: This tiller is designed to give safe and dependable service if operated according to the instructions.

Read and understand this Owner's Manual before operating the tiller. Failure to do so could result in personal injury or equipment damage.

Note: Illustrations in this manual are for reference purposes only and may differ slightly from your actual model.

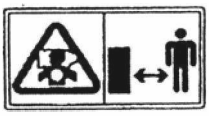
Safety Instructions

WARNING: TO ENSURE SAFE OPERATION For your safety and the safety of others, please pay special attention to these precautions. This tiller is designed to give safe and dependable service if operated according to the instructions.



Read and understand this Owner's Manual before operating the tiller. Failure to do so could result in personal injury and/or equipment damage.

MAJOR HAZARDS



Carbon Monoxide Poisoning Hazard

DANGER: Engine exhaust contains carbon monoxide, a colourless, odorless, and poisonous gas. Breathing exhaust fumes can cause loss of consciousness and even death.

Never run the tiller in enclosed or partially enclosed areas (such as garages or sheds). Always ensure adequate ventilation.

Rotating Tines Hazard

Danger: The rotating tines are sharp and move at high speed. Accidental contact can cause severe injury or amputation.

Keep Clear: Keep hands and feet away from the tines while the engine is running.

Maintenance: Stop the engine and disengage the clutch before inspecting or clearing the tines.

Safety Lock: Disconnect the spark plug cap to prevent accidental starting before performing any maintenance. Wear heavy-duty gloves when cleaning or replacing tines.

Fire and Burn Hazard

Petrol is highly flammable and explosive. Handle with extreme care.

Refueling: Refuel in a well-ventilated area with the engine **stopped**. Allow the engine to cool before refueling.

Hot Surfaces: The engine and exhaust system become extremely hot during operation and remain hot after stopping. Touching these components can cause severe burns. Allow the engine to cool before storing the tiller indoors.

Operator Responsibility

- **Training:** Do not allow anyone to operate this tiller without proper training. Understand how to stop the engine and disengage the tines quickly in an emergency.
- **Condition:** Keep the tiller in good operating condition. Operating a damaged or poorly maintained machine could result in serious injury.
- **Safety Devices:** Ensure all safety covers (Fan cover, Recoil starter cover, Tine shields) are in place and working correctly. Never disable safety interlocks.
- **Control:** Keep a firm hold on the handlebars. The machine may lift or jump during clutch engagement ("kickback").
- **Alertness:** Do not operate the tiller if you are tired, ill, or under the influence of alcohol or medication.
- **Drag Bar:** Ensure the Drag Bar (Depth Gauge) is in place and properly adjusted before starting.

Protective Clothing (PPE)

- **Footwear:** Wear sturdy, full-coverage safety boots. Never operate the tiller barefoot or when wearing sandals/open-toed shoes.
- **Clothing:** Dress sensibly. Do not wear loose clothing or jewelry that could get caught in moving parts.

Site Safety & Children

Thrown Object Hazard

- **Inspect the Area:** Before tilling, clear the area of sticks, large stones, wire, glass, and other debris. Objects hit by the tines can be thrown with great force.
- **Tine Condition:** Inspect tines before use. Damaged or worn tines can break off and become dangerous projectiles.
- **Visibility:** Operate only in daylight or good artificial light.
- **Bystanders:** Keep all persons and pets away from the tilling area.

Child Safety

- **Keep Children Away:** Keep children indoors and under adult supervision while the machine is being used. They are often attracted to the noise and activity of the machine.
- **Stay Alert:** Never assume children will remain where you last saw them. Turn the machine off immediately if a child enters the area.
- **No Operation:** Children should **never** be allowed to operate the tiller, even under supervision.

Operation on Slopes

- **Fuel Level:** When working on slopes, keep the fuel tank less than half full to minimize spillage.
- **Direction:** Till **across** the slope (at equal intervals) rather than up and down.
- **Turning:** Exercise extreme caution when changing direction on a slope.
- **Maximum Angle: Do not use the tiller on a slope of more than 10° (18%).**
- **Stability:** Ensure good footing at all times. If the slope feels unsafe or the machine is unstable, do not till it.

Technical Specifications

Feature	Specification
Model	TP500 Petrol Tiller
Dimensions (L x W x H)	1380 x 650 x 970 mm
Packaging Dimensions	820 x 375 x 780 mm
Weight (Net / Gross)	45 kg / 60 kg
Colour	Red / Black / Silver
Transmission Type	Twin Belt Drive
Gears	0 (Neutral), 1 (Forward Slow), 2 (Forward Fast), -1/R (Reverse)
Tilling Width	640 mm – 840 mm
Tilling Depth	150 mm – 250 mm
Tow Hitch	Yes
Standard Accessories	Transport Wheels and Mudguard (Fender)
Engine Model	TP168FB
Engine Type	Single cylinder, 4-stroke, OHV, forced air-cooled
Maximum Power Output	4.8 kW (6.5 HP) @ 3600 RPM
Maximum Torque	13.2 N.m @ 2500 RPM
Ignition System	Transistor Magneto (Electronic Ignition)
Starting System	Recoil Pull Start
Fuel Tank Capacity	3.6 Litres (Unleaded Petrol)
Engine Oil Capacity	0.6 Litres (SAE30)
Gearbox Oil Capacity	1.5 Litres (SAE 80W-90 Gear Oil)

Safety Label Locations

These labels warn you of potential hazards that can cause serious injury. Read the labels and the safety notes and precautions described in this manual carefully. If a label comes off or becomes hard to read, contact your dealer for a replacement.

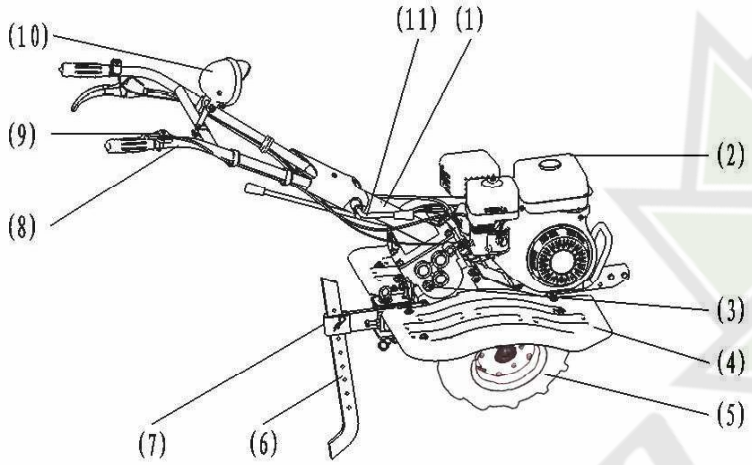
Intended Use

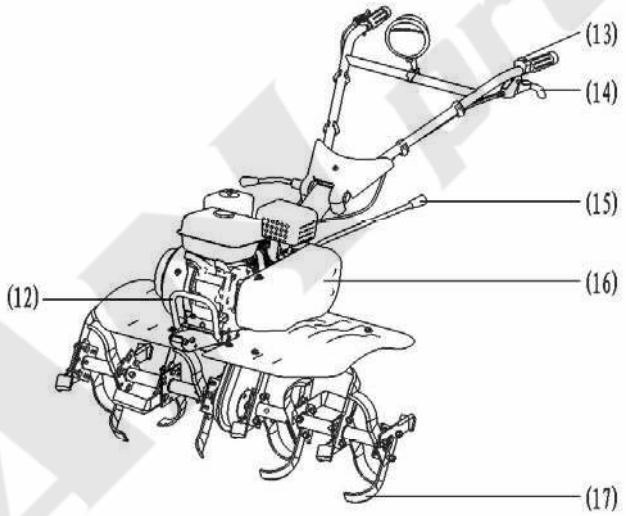
Applications The Titan Pro TP500 is designed for cultivating and tilling operations in the following conditions:

- **Soil Types:** Sandy soil, loamy soil, and clayey soil.
- **Locations:** Vegetable patches, greenhouses, polytunnels ("canopied bases"), and general dry land.
- **Slopes:** Suitable for slopes with a gradient of **less than 10%**.
- **Wet Ground:** Can be used in wet or muddy soil, provided the depth of the mud/water to the hard ground layer does not exceed **250mm**.

Site Preparation: Important: For plots with tall grass or heavy weeds, you **must** clear the vegetation before using the tiller. Failure to remove long weeds/grass will cause them to wrap around the tines and gearbox, leading to overheating and damage.

Component Identification





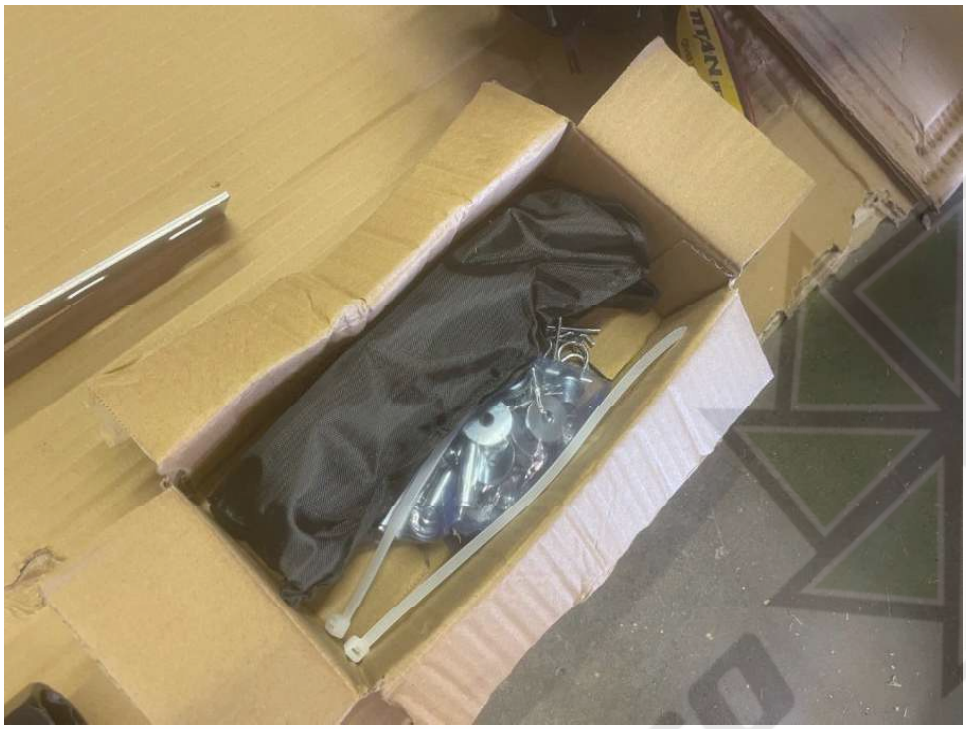
1) Chassis Serial Number	**2) Fuel Tank**	**3) Gearbox Oil Filler Cap**
4) Mudguard/Tine Shield	**5) Transport Wheel**	**6) Depth Gauge/Drag Bar**
7) Depth Gauge Bracket	**8) Handlebars**	**9) Throttle Lever**
10 Work Light (Sold Separately)	**11) Handlebar Height Adjustment Handle**	**12) Safety Bar**
13) Engine ON/OFF Switch	**14) Main Clutch Lever**	**15) Gear Shift Lever**
16) Belt Guard	**17) Rotary Tines**	

Assembly Instructions/Guide

First, remove the outer cardboard packaging to gain access to the metal cage and contents. This image also shows the ridger attachment – this item is sold separately but included here for completion. You can also remove the top of the metal cage to increase your access at this point. Remove all loose items from the carton, including those pictured above.

Next comes removing the chassis and engine of the machine from the cage. This will require two people to lift this out. As pictured above, the axle is bolted into two brackets to ensure the machine doesn't move in transport (one of these have been removed in the image to illustrate.) To undo these bolts, you will require a 13mm spanner, which can be found in the toolkit. After undoing these bolts, you can now lift the machine.

The next step is fitting the wheels to give the machine a steady base to rest on. To secure these, you will need to open the small box of fixings (pictured below) and locate the 2 x small pins and 2 x r-clips.



Position the machine with axle (pictured below) clearing the ground, so you can slide both wheels onto the shaft.

After sliding a wheel on, secure this using the pin and r-clip mentioned previously. When both are in place, it will appear as below. It is also important to ensure the tread on your wheels faces the correct way (again, as shown below.)

With these wheels on, you have a more solid base to assemble the rest of the unit. Next is the front wheel. The fixings (a cotter pin and a bolt, as well as washers, split pins, and castle nuts) are already in place on the wheel, so it is a case of removing these, positioning the wheel outside the bracket, and replicating how they were previously set up with the wheel in position.

When removing them initially, you will need to close these split pins to push them out of the hole; when replacing them after, you will need to open them again on the other side.

After affixing the front wheel, the machine will now be stable to sit on the three wheels.

The next step is to attach the handlebars (upper and lower parts). These are secured by tightening the handle lever at the bottom where it seats onto the chassis, as pictured above. You can then secure the handlebars at the top to the bottom section, as shown below.

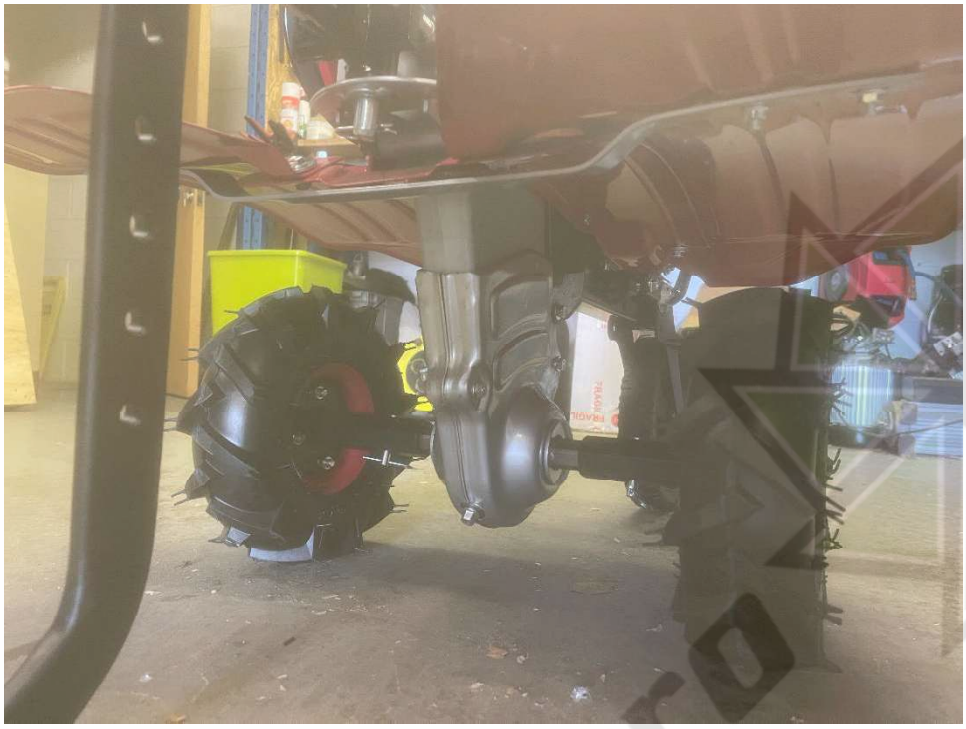
Next comes fitting the mudguards. Ensure these are fitted before the belt guard to ensure you have adequate clearance for the left-hand mudguard (from behind the machine; pictured below.)

You will require a 10mm socket and 10mm spanner. On both sides, you should install the bolts in the following order, from the position standing behind the machine/handlebars:

1. Front bolt
2. Back bolt
3. Middle bolt

After fitting the mudguards, the next step is to install the bracket beneath these (pictured below.)

This bracket sits underneath the mudguards. As seen in the image above, there are four bolts, two on either mudguard which the bracket is secured by. T he image below shows the bracket secured in place.

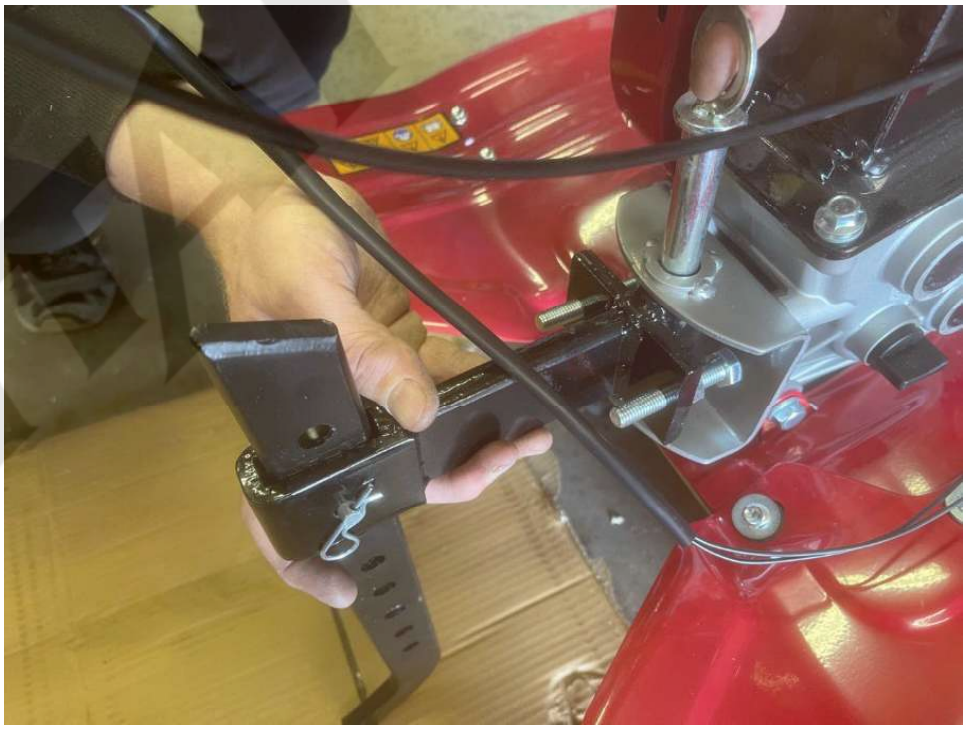


After attaching this bracket, the next step is to fit the handlebar cover/guard. This bolts on with two 10mm bolts.

Next, fit the belt cover. This should line up with the static parts of the machine and can be secured with the three-pronged bolt shown in the centre of the picture below.

The next step is to attach the depth rod bracket and the depth rod to the machine. This slides through the bracket and is fitted with a pin and r-clip. As shown below, the vertical pin on the rear bracket is used to lock the depth rod bracket in place, while the two horizontal pins help to locate this.

The depth rod is pictured in situ below; this is the standard positioning when using it as a depth rod.

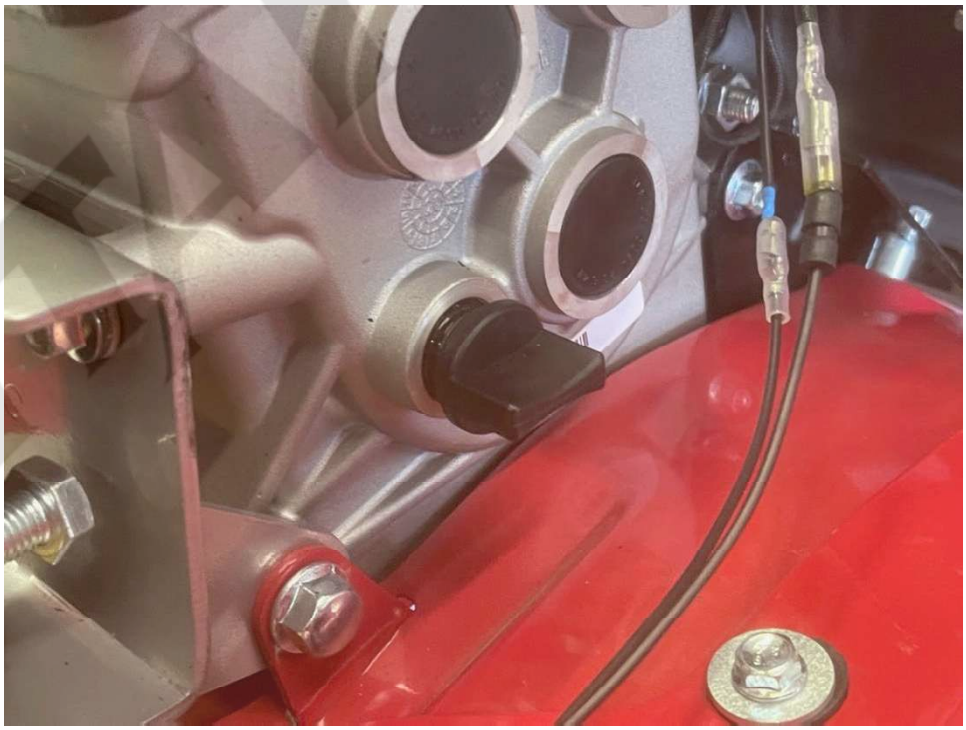


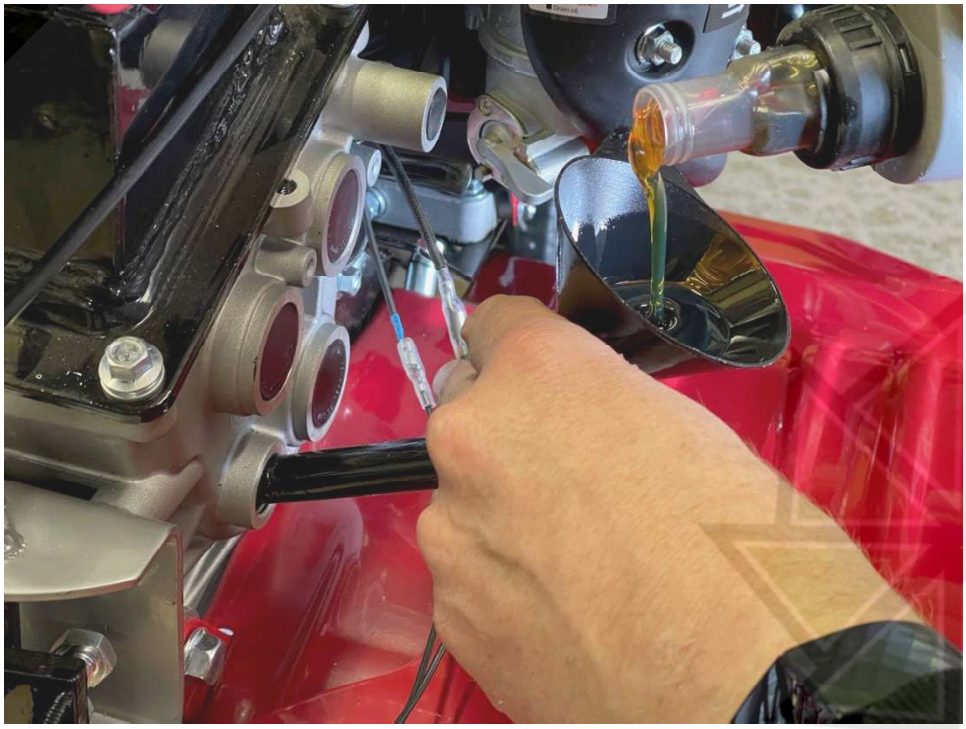
This rod can also be turned upside down, with the curved end at the uppermost point to utilise this with the ridger attachment (sold separately.)

The final step of the main body build is attaching the gear lever. The handle extension screws on to the bottom part of the lever which is already in place at the gearbox shifter.

Now that the build is complete, you can add the engine oil and gearbox oil to the machine. Firstly, the engine oil can be added to the fill plug area as shown in the picture below. We recommend SAE30 engine oil; you will require approximately 0.6 to 0.65 litres of oil. A sticker showing how and where to fill the oil to is also displayed on the belt guard cover, next to the fill plug.

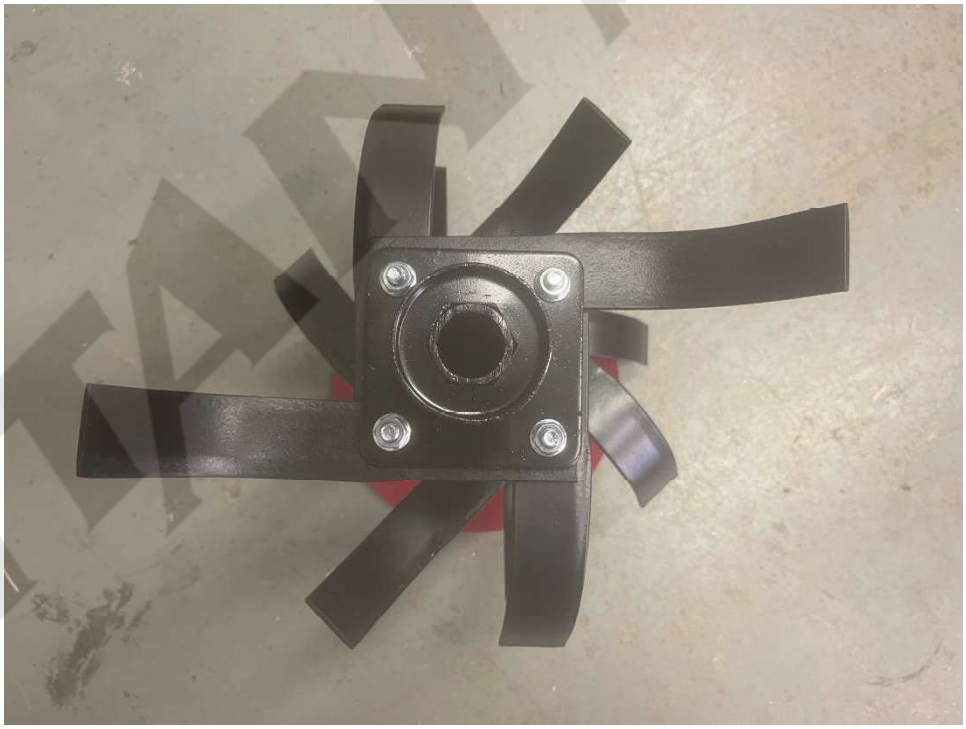
The gearbox oil should be added to the hole covered by the drain plug in the picture below. We recommend EP80w/90 GL5 gear oil; you will need approximately 1.5 litres of this. Below you can see the fill plug, whilst the first picture on the next page shows this being filled.





The last step after ensuring the oil levels are correct is to add the fuel. Ensure that you always use unleaded petrol. Below is a picture showing the fuel tank to illustrate.

Now the machine is ready, the final step is the assembly of the tines; affixing these to the tine holder bar. You can see the formation in which these should be bolted on in the two images below. You will require a 10mm spanner and 13mm socket to tighten the tines. The tines are left and right-handed, you will require two of each for each section of four tines.



When the tines are assembled on either side of the machine, these can be fitted in place of the transport wheels we attached to the machine earlier (see the third page of the assembly section.)

Pre-Operation Checks

Engine Oil Level

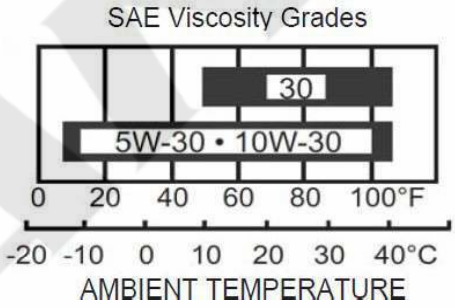
CAUTION Running the engine with a low oil level will cause severe engine damage. This type of damage is not covered under warranty. Check the oil level before every use with the engine stopped and on level ground.

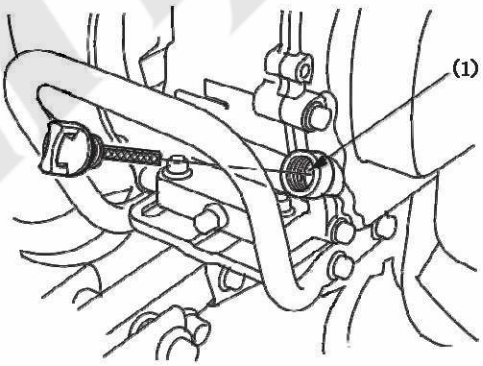
Inspection Procedure:

- **Level Ground:** Ensure the tiller is on a flat, level surface.
- **Remove Dipstick:** Unscrew the oil filler cap/dipstick and wipe it clean with a rag.
- **Check Level:** Insert the dipstick back into the oil filler neck, but **do not screw it in**. Note: If you screw it in, you will get a false high reading.
- **Inspect:** Remove the dipstick again to check the oil level.
- **Top Up:** If the level is near or below the lower limit, top up with the recommended oil. Fill to the **edge of the oil filler neck** (Upper Level).
- **Secure:** Reinstall the dipstick and tighten securely.

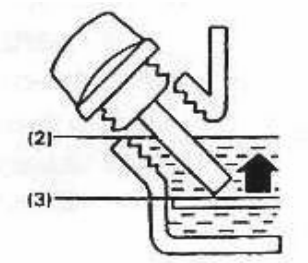
Oil Specifications:

- **Recommended Oil:** SAE 10W-30 (General purpose, all-temperature use).
- **Type:** High-detergent, premium quality 4-stroke automotive engine oil.
- **API Standard:** API Service Classification SF, SG or higher (e.g., SJ, SL).
- **Do Not Use:** Non-detergent oil or 2-stroke engine oil (this will shorten engine life).





1: Oil Filler

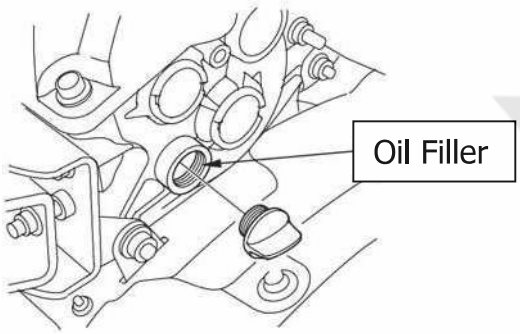


2: Upper Level (Maximum)
3: Lower Level (Minimum)

Transmission Oil Level

Check Level:

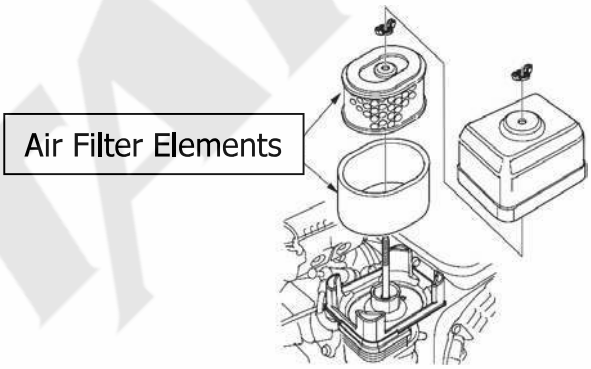
- Place the tiller on a flat, level surface.
- Remove the Transmission Oil Filler Cap.
- **Oil Level:** The oil should be level with the **lower edge** of the oil filler hole.
- **Top Up:** If the level is low, add high-quality **SAE 80W-90 Gear Oil** (or the specific oil recommended for your climate) until it reaches the edge of the hole. **DO NOT** overfill.



Air Cleaner Inspection

Check Condition: Remove the air cleaner cover and inspect the filter elements for dirt or obstructions.

- **Clean:** If the element is dirty, clean it according to the Maintenance section.
- **Replace:** If the element is damaged, replace it immediately.
- **Never** run the engine without the air cleaner installed. Rapid engine wear will result.



Fuel & Refuelling

Fuel Type:

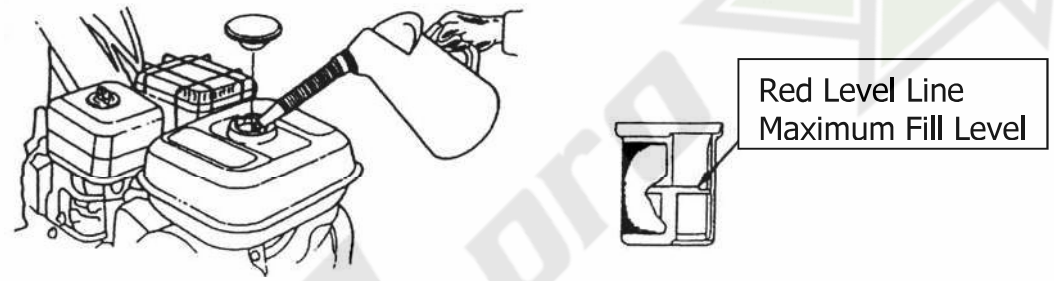
- **Unleaded Petrol:** Use standard automotive unleaded petrol (Minimum 86 Octane).
- **Ethanol Content (E10):** This engine is compatible with petrol containing up to 10% ethanol (E10). **Do not** use petrol with more than 10% ethanol (e.g., E15 or E85).
- **Clean Fuel:** Never use an oil/petrol mixture (2-stroke mix) or stale/dirty petrol. Prevent dirt, dust, or water from entering the fuel tank.

Refuelling Procedure:

- **Stop Engine:** Ensure the engine is stopped and cooled down before opening the cap.
- **Ventilation:** Refuel in a well-ventilated area, away from sparks, flames, or cigarettes.
- **Fill Level:** Fill the tank to the **Red Level Line** (Maximum Level) inside the strainer.
    - **Capacity:** 3.6 Litres
    - **Do not overfill.** There should be no fuel in the filler neck to allow for expansion.
- **Secure:** After refuelling, tighten the fuel cap securely.
- **Spills:** Wipe up any spilled fuel immediately. Ensure the area is dry before starting the engine.

WARNING - Fire & Explosion Hazard: Petrol is extremely flammable and explosive.

- Avoid repeated or prolonged contact with skin or breathing of vapours.
- If fuel spills on your clothes, change them immediately.



Important Note on Ethanol & Methanol

Fuel System Warranty Notice: Damage to the fuel system or engine performance problems resulting from the use of fuels that contain alcohol (ethanol/methanol) exceeding the recommended limits is **not covered under warranty.**

- **Methanol:** Do not use petrol containing methanol (wood alcohol). This will cause corrosion and damage to rubber components.
- **Unfamiliar Stations:** If buying fuel from an unfamiliar station, check the pump label to ensure it does not contain more than 10% ethanol or any methanol. If you notice engine knocking or poor performance, switch to a known high-quality unleaded petrol.

Tools and Attachments

Installation: To install a tool or attachment on the tiller (such as a plough, ridger, or potato lifter), please follow the specific instructions provided with that accessory.

Assistance: If you encounter any difficulty or are unsure about compatibility, please contact your authorised dealer for advice before attempting installation.

Starting the Engine

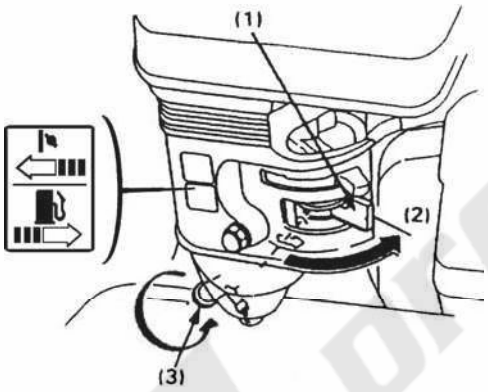
Pre-Start Safety Check

CAUTION Prevent Sudden Movement: Before starting the engine, ensure the **Clutch Lever** is disengaged (released) and the **Gear Shift Lever** is in the **NEUTRAL** position.

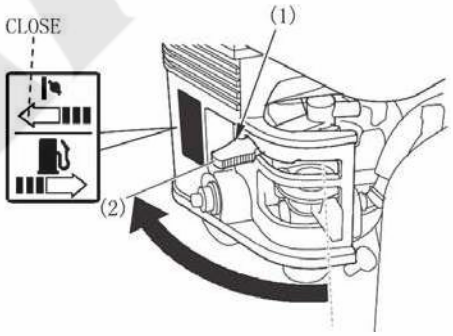
- **Disengaged:** Release the handle (Tines stop).
- **Engaged:** Squeeze the handle (Tines rotate).

Starting Procedure:

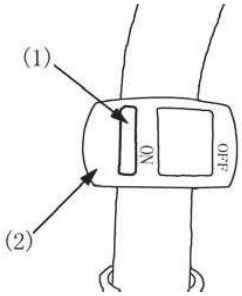
- **Open Fuel Valve** Turn the Fuel Valve to the **ON** position.
- Check: Ensure the carburetor drain bolt is tightened securely to prevent leaks.
- **Diagram Key:** (1) Fuel Valve | (2) ON Position | (3) Drain Bolt



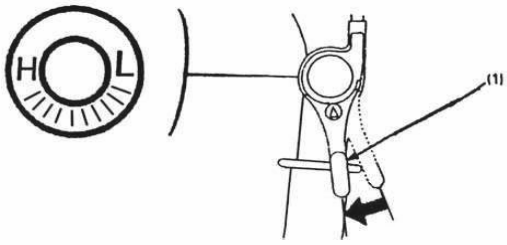
- **Close Choke (Cold Start)** Move the Choke Lever to the **CLOSED** position.
- Note: Do not use the choke if the engine is already warm or if the air temperature is high.
- **Diagram Key:** (1) Choke Lever | (2) CLOSED Position



- **Turn Ignition ON** Turn the Engine ON/OFF Switch to the **"ON"** position.
- **Diagram Key:** (1) ON Position | (2) Engine Switch

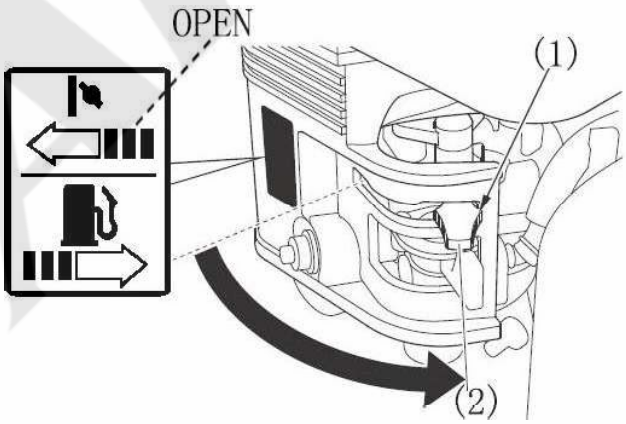


- **Set Throttle** Move the Throttle Lever slightly to the right (towards the Fast/Hare symbol).
- **Diagram Key:** (1) Throttle Lever



- **Pull Starter** Grip the starter handle. Pull the cord slowly until you feel resistance (compression), then pull briskly and forcefully to start the engine.
- **CAUTION** Do not allow the starter grip to snap back against the engine. Return it gently to prevent damage to the recoil mechanism.
- **Diagram Key:** (1) Starter Grip

- **Open Choke (Warm Up)** As the engine warms up, gradually move the Choke Lever to the **OPEN** position.
- **Diagram Key:** (1) Choke Lever | (2) OPEN Position



Tiller Operation

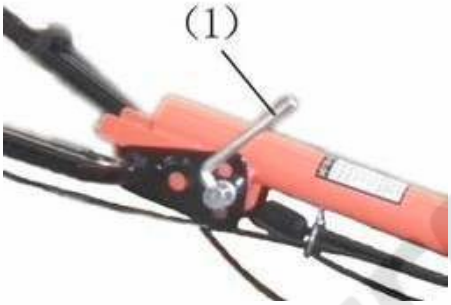
Handlebar Height Adjustment

Adjust the handlebar height to a comfortable operating position (usually waist height).

CAUTION Before adjusting the handlebar, place the tiller on firm, level ground to prevent the machine from tipping or collapsing accidentally.

Procedure:

- Loosen the **Handlebar Height Adjuster Handle**.
- Move the handlebars to the desired height (aligning with the appropriate holes).
- Tighten the adjuster handle securely.
- **Diagram Key:** (1) Adjuster Handle

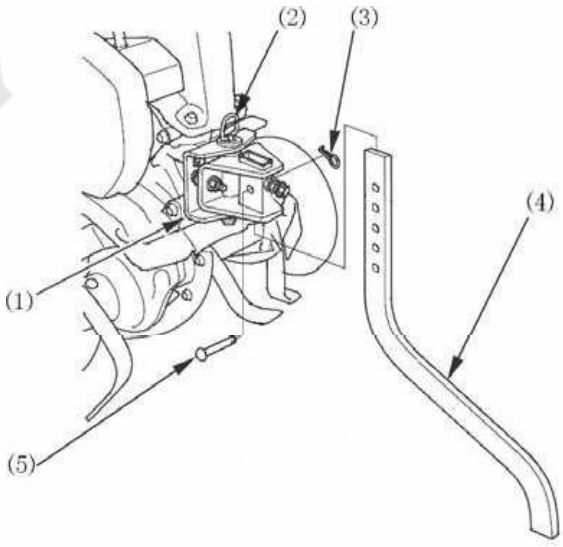


Tilling Depth Adjustment (Drag Bar)

The tilling depth is controlled by the **Drag Bar** (Depth Gauge) located at the rear of the machine.

Adjustment:

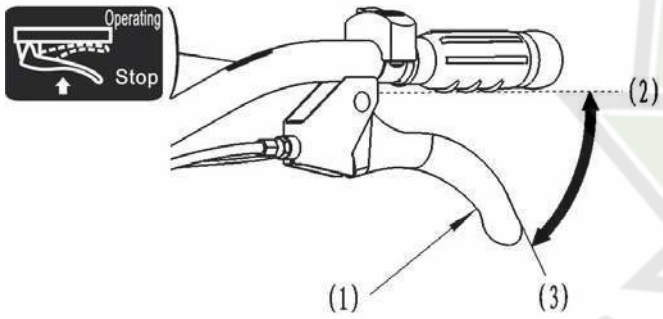
- Remove the Lock Pin and Hitch Pin holding the Drag Bar in the Hitch Bracket.
- **For Deeper Tilling:** Lower the Drag Bar (move the bar down so it digs deeper into the soil).
- **For Shallower Tilling:** Raise the Drag Bar.
- Reinsert the Hitch Pin and Lock Pin to secure the bar in the new position.
- **Diagram Key:** (1) Hitch Bracket | (2) Hitch Pin | (3) Lock Pin | (4) Drag Bar | (5) Pin



Clutch Operation

The clutch engages and disengages power from the engine to the tines/wheels.

- **ENGAGED (Go):** Squeeze the clutch lever against the handlebar. Power is transmitted, and the tines will rotate.
- **DISENGAGED (Stop):** Release the clutch lever. Power is cut, and the tines will stop rotating.
- **CAUTION** Reduce engine RPM (Throttle) slightly before engaging the clutch to prevent sudden jumping and excessive wear on the belt.
- **Diagram Key:** (1) Clutch Lever Disengaged | (2) Engaged | (3) Disengaged

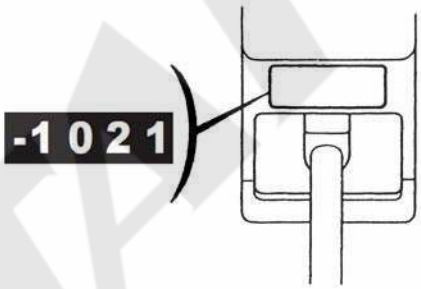


Gear Selection & Shifting

Available Gears: The tiller transmission has **four gears** available for selection.

- **Forward (2 & 1):** (Usually Low (1) and High (2) speed).
- **Reverse (-1):** (For manoeuvring).
- **Neutral (0):** (For starting and idling).

Important: Always refer to the **Gear Shifting Plate** (label) attached to the machine to confirm the specific gear positions for your model.



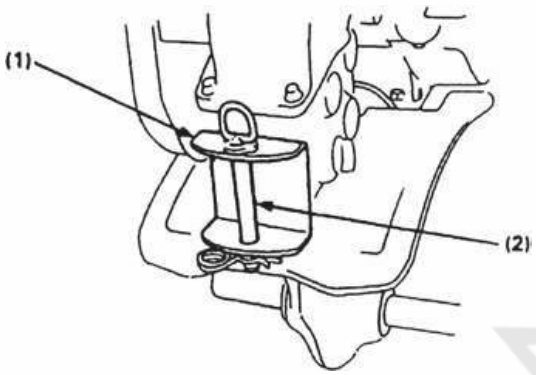
Shifting Procedure (How to Change Gear): Follow these steps strictly to prevent damage to the transmission (gearbox).

- **Reduce Speed:** Move the throttle lever to the extreme right (Idle position).
- **Disengage Clutch:** Release the clutch lever fully. The tines/wheels must stop rotating.
- Warning: Never attempt to force the gear lever while the clutch is engaged.
- **Select Gear:** Move the Gear Shift Lever firmly into the desired notch as shown on the Gear Shifting Plate.
    - Troubleshooting: If the lever will not engage the desired gear smoothly, do not force it. Squeeze the clutch lever briefly to spin the gears, release it again, move the tiller slightly, and then try shifting again.
- **Engage Drive:** Once the gear is fully selected, slowly squeeze the clutch lever to engage the drive and resume work.

Hitch Bracket (Accessory Mount)

To install attachments (such as a plough or ridger), insert the attachment into the Hitch Bracket and secure it with the Hitch Pin.

- **Diagram Key:** (1) Hitch Bracket | (2) Hitch Pin



Front Transport Wheel

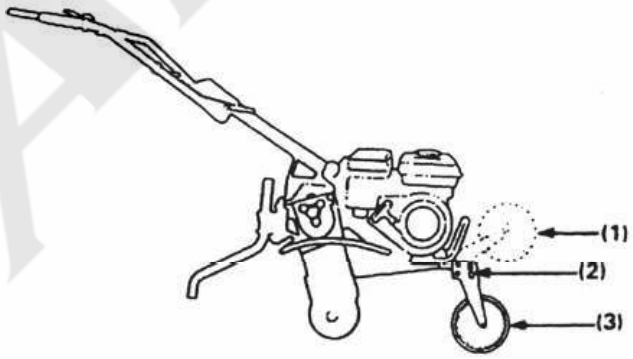
The front wheel has two positions: **Transport** and **Field (Work)**.

For Transport:

- Remove the lock pin.
- Lower the wheel down until it locks into the vertical position.
- Secure with the pin. Lift the handlebars to roll the machine on the wheel.

For Field Use (Tilling):

- Remove the lock pin.
- Raise the wheel up (out of the way).
- Secure with the pin.
- **Diagram Key:** (1) Field Position (Up) | (2) Lock Pin | (3) Transport Position (Down)



Handling Tips & Techniques

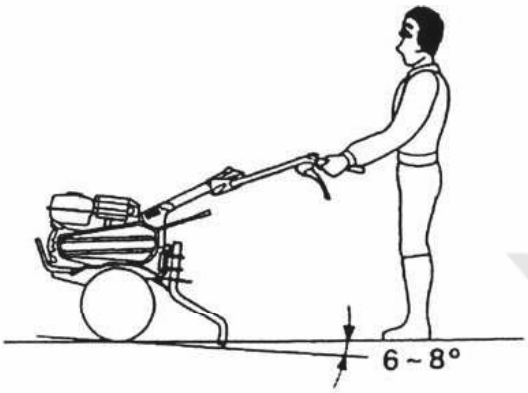
Machine Handling:

- **Machine Jumps Forward:** If the tiller skips or jumps across the ground, **push down** on the handlebars. This forces the Drag Bar into the soil, slowing the machine and allowing the tines to dig.
- **Machine Digs Too Deep (Wont Move):** If the tiller gets stuck or won't move forward, rock the handlebars gently from **side to side.** This helps the tines climb out of the hole.

Turning: To turn the tiller easily:

1. Push down on the handlebars to shift the weight backward onto the Drag Bar.
2. This lifts the tines/front of the machine slightly off the ground.
3. Pivot the machine around the Drag Bar to make the turn.

Normal Operating Angle: For best performance, lower the handlebars slightly so the front of the machine is raised about **6-8°**.



Operating Safety Precautions

CAUTION

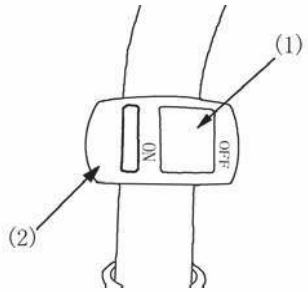
- **Rotor Size:** Do not use tines/rotors with a diameter exceeding 300mm.
- **Slopes:** Operating on steep grades may cause the tiller to tip over. (Max 10°).
- **Training:** Do not allow untrained persons to operate the tiller.
- **Footwear:** Always wear sturdy, full-coverage boots. Never operate barefoot or in sandals.
- **Visibility:** Do not use the tiller at night or in poor light.
- **Transport:** If a vehicle is not available, use two people to transport the tiller safely.
- **Cleaning:** If the tines become clogged with mud, weeds, or stones, **stop the engine immediately**. Disconnect the spark plug wire and use heavy gloves to clear the debris.
- **Post-Operation:** Check the tiller for loose bolts or damage after every use.

Stopping the Engine

Emergency Stopping

To stop the engine immediately in an emergency situation:

- Turn the Engine ON/OFF Switch directly to the **"OFF"** position.
- **Diagram Key:** (1) OFF Position **|** (2) Engine Switch

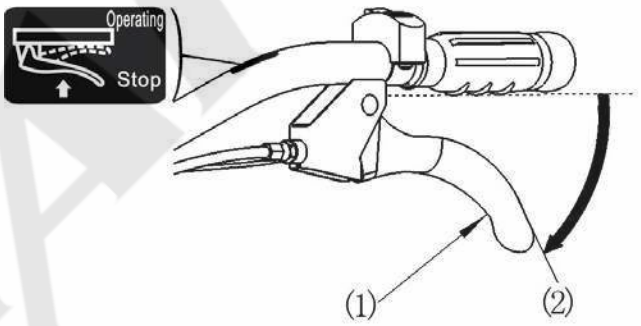


Normal Stopping Procedure

In normal situations, follow these steps to shut down the machine safely and prolong the life of the engine:

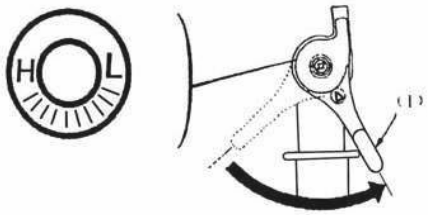
Step 1: Disengage the Drive

- Release the **Clutch Lever** fully to the **DISENGAGED** position so the tines stop rotating.
- Move the Gear Shift Lever into the **Neutral** position.
- **Diagram Key:** (1) Clutch Lever **|** (2) DISENGAGED Position



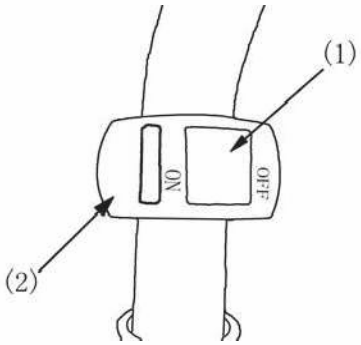
Step 2: Reduce Engine Speed

- Move the **Throttle Lever** fully to the right (the lowest speed / idle position).
- **Diagram Key:** (1) Throttle Lever



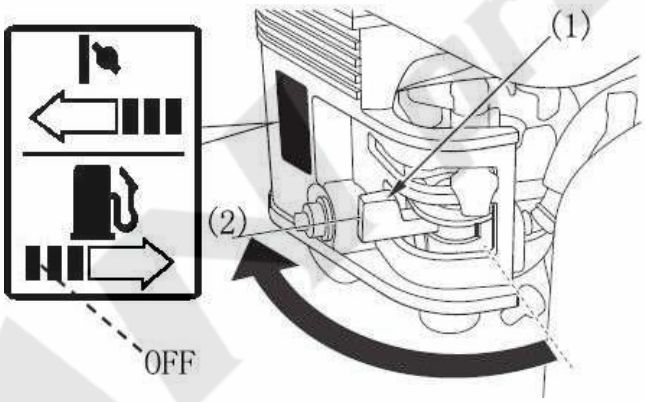
Step 3: Turn Off Ignition

- Turn the **Engine ON/OFF Switch** to the **"OFF"** position.
- **Diagram Key:** (1) OFF Position | (2) Engine Switch



Step 4: Shut Off Fuel Supply

- Turn the **Fuel Valve** (Fuel Tap) to the **"OFF"** position.
- Note: Always remember to turn the fuel valve off when the machine is not in use to prevent carburetor flooding and fuel leaks.
- **Diagram Key:** (1) Fuel Valve | (2) OFF Position



Maintenance

The purpose of the maintenance schedule is to keep the tiller in its best working condition. Please inspect and service the machine as scheduled in the table below.

WARNING Safety First: Always turn off the engine and disconnect the spark plug before performing any maintenance. If the engine *must* be run for a specific check, ensure the area is well-ventilated. The exhaust contains poisonous carbon monoxide gas.

CAUTION Parts: Use only genuine Titan Pro replacement parts or their exact equivalents. The use of inferior quality replacement parts may damage the machine and invalidate your warranty.

Maintenance Schedule

Perform at every indicated month or operating hour interval, whichever occurs first.

Component	Action	Daily	1st Month (or 20 Hrs)	Every 3 Months (or 50 Hrs)	Every 6 Months (or 100 Hrs)	Every Year (or 300 Hrs)
Engine Oil	Check Level	✓				
	Change		✓		✓	
Air Cleaner Element	Check	✓				
	Clean			✓ (1)		
Transmission Gear Oil	Check Level	✓				
Clutch Cable	Adjust		✓		✓	
Belt Tension	Adjust		✓		✓	
Fuel Strainer Cup	Clean				✓	
Spark Plug	Clean/Readjust				✓	
Throttle Cable	Adjust					✓
Tappet Clearance	Check/Readjust					✓ (2)
Fuel Tank & Strainer	Clean					✓ (2)
Fuel Line	Check	Every 2 years (2) (Replace if necessary)				

Schedule Notes:

- **(1) Dusty Conditions:** Service the air cleaner more frequently when operating the tiller in dusty areas. A clogged filter will rapidly increase engine wear.
- **(2) Dealer Service:** These items require specialised tools and mechanical knowledge. They should be serviced by an authorised Titan Pro dealer unless the owner is mechanically qualified.

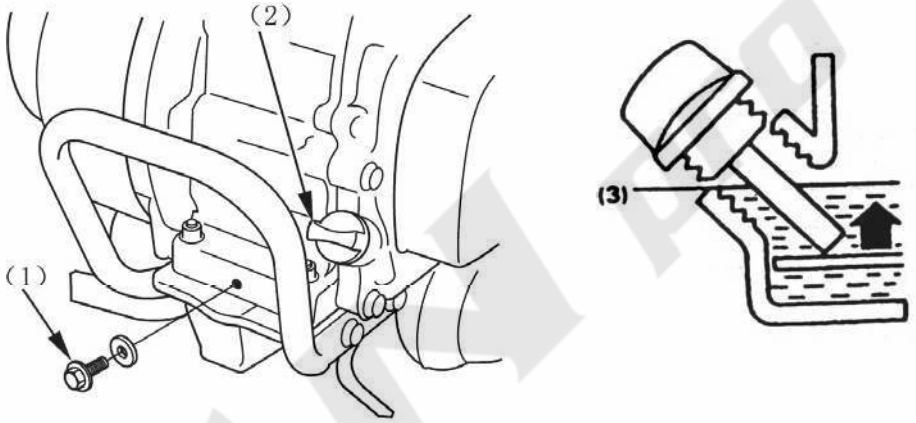
Changing the Engine Oil

Drain the oil while the engine is still warm. Warm oil drains more rapidly and completely than cold oil, ensuring all impurities are removed.

Procedure:

1. Place a suitable container below the engine to catch the used oil.
2. Remove the **Oil Filler Cap/Dipstick** and the **Drain Plug**.
3. Allow the oil to drain completely into the container.
4. Reinstall the Drain Plug and tighten it securely.
5. Refill with the recommended oil (SAE 10W-30) to the upper limit mark on the dipstick. The **Oil Capacity** is **0.6 Litres**.
6. Reinstall the Oil Filler Cap securely.

- **Environmental Note:** Please dispose of used motor oil responsibly. Put it in a sealed container and take it to your local council recycling centre. Do not throw it in the bin or pour it down drains or onto the soil. Wash your hands with soap and water after handling used oil.
- **Diagram Key:** (1) Drain Plug | (2) Oil Filler Cap | (3) Upper Level



Air Filter (Cleaner) Service

A dirty air filter restricts airflow to the carburettor, reducing engine performance. To prevent carburettor damage, service the air filter regularly. Service it more frequently if operating in very dusty environments.

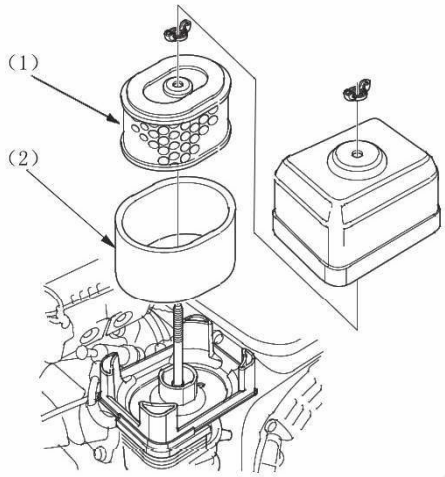
WARNING Fire Hazard: Never use petrol or low flash-point solvents to clean the air filter element. A fire or explosion could result.

CAUTION Engine Damage: Never run the engine without the air filter installed. Rapid engine wear will occur, voiding the warranty.

Procedure:

1. Remove the wing nut and the air filter cover.
2. Remove the filter elements and separate the foam layer from the paper layer. Carefully check both for holes or tears, and replace immediately if damaged.

3. **Foam Element:** Wash in warm soapy water, rinse thoroughly, and allow to air dry completely. Once dry, dip the element in clean engine oil and squeeze out all the excess. Note: The engine will smoke during initial start-up if too much oil is left in the foam.
4. **Paper Element:** Tap the element lightly several times on a hard surface to dislodge loose dirt, or gently blow compressed air through the filter from the *inside out*. Never try to brush the dirt off; brushing forces dirt deeper into the fibres.
5. **Diagram Key:** (1) Paper Element | (2) Foam Element

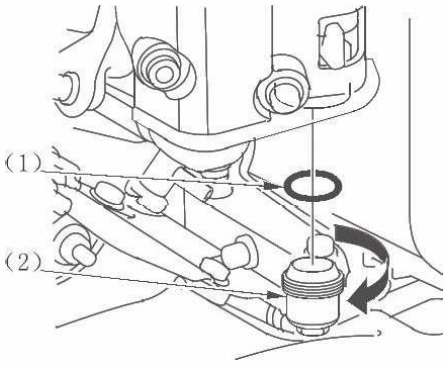


Fuel Strainer Cup Cleaning

WARNING Petrol is highly flammable and explosive. Do not smoke or allow flames or sparks in the work area.

Procedure:

1. Turn the Fuel Valve to the **OFF** position.
2. Unscrew and remove the Fuel Strainer Cup and the O-ring seal.
3. Wash the cup and O-ring in a non-flammable solvent and dry them thoroughly.
4. Reinstall the O-ring and Strainer Cup, tightening securely.
5. Turn the Fuel Valve **ON** and check carefully for leaks before starting the machine.
6. **Diagram Key:** (1) O-Ring | (2) Fuel Strainer Cup



Spark Plug Service

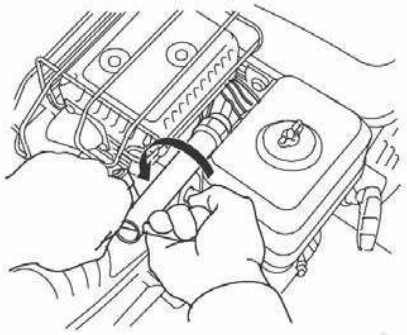
Recommended Spark Plugs: These can be found on the **Titan Pro website**. If unavailable, suitable alternatives are the NGK BPR5ES or NIPPONDENSO W16EPR-U. To ensure proper engine operation, the spark plug must be correctly gapped and free of carbon deposits.

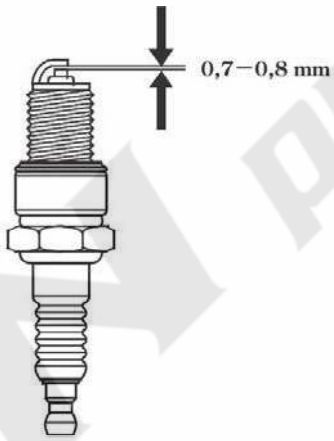
WARNING Burn Hazard: If the engine has been running, the exhaust/muffler will be extremely hot. Be careful not to touch it.

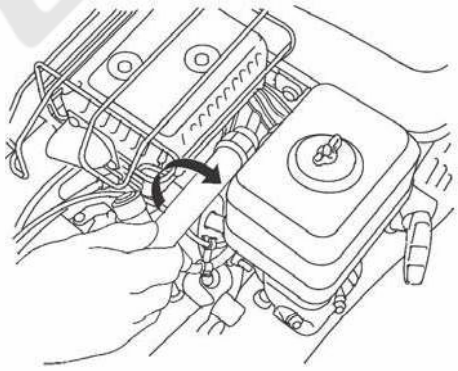
Procedure:

1. Disconnect the spark plug cap and clean any dirt from around the spark plug base.
2. Use a spark plug spanner to remove the plug.
3. **Inspect:** Visually inspect the plug. Discard it if the ceramic insulator is cracked or chipped.
4. **Measure Gap:** Measure the plug gap with a feeler gauge. The gap should be **0.7 - 0.8mm (0.028 - 0.031 in)**. Correct the gap if necessary by gently bending the side electrode.
5. **Reinstall:** Thread the plug in by hand first to prevent cross-threading.
6. **Tighten:** Once seated by hand, use the spanner to tighten it.
    a. *New Spark Plug:* Tighten an additional **1/2 turn** to compress the washer.
    b. *Used Spark Plug:* Tighten an additional **1/8 to 1/4 turn**.

CAUTION The spark plug must be securely tightened. A loose plug can become very hot and damage the engine. Never use a spark plug with an incorrect heat range.







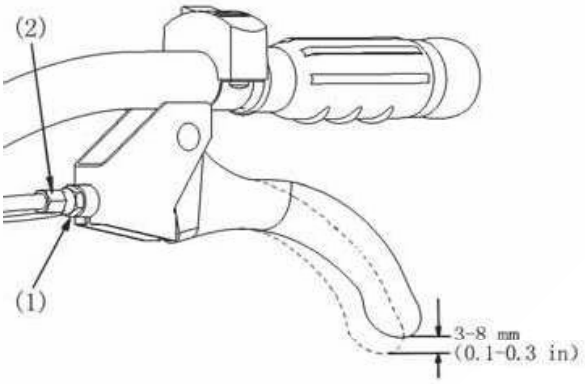
Clutch Cable Adjustment

Measure the free play at the tip of the clutch lever. **Standard Free Play:** 3 - 8mm (0.1 - 0.3 in).

Adjustment:

1. If the free play is incorrect, loosen the **Lock Nut** on the cable adjuster.
2. Turn the **Adjusting Bolt** in or out to achieve the correct tension.
3. Tighten the Lock Nut securely.
4. Start the engine and check that the clutch engages and disengages properly.

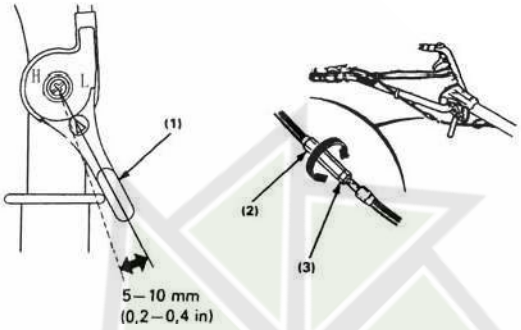
- **Diagram Key:** (1) Lock Nut | (2) Adjusting Bolt



Throttle Cable Adjustment

Measure the free play at the tip of the throttle lever. **Standard Free Play:** 5 - 10mm (0.2 - 0.4 in).

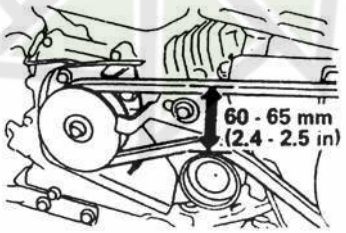
Adjustment:



1. Loosen the **Lock Nut** on the throttle cable adjuster.
2. Turn the **Adjusting Nut** in or out as needed to achieve the correct slack.
3. Tighten the Lock Nut securely.

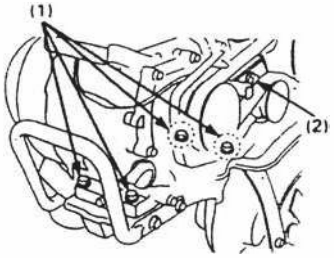
- **Diagram Key:** (1) Throttle Lever | (2) Adjusting Nut | (3) Lock Nut

Drive Belt Tension & Stopper Adjustment



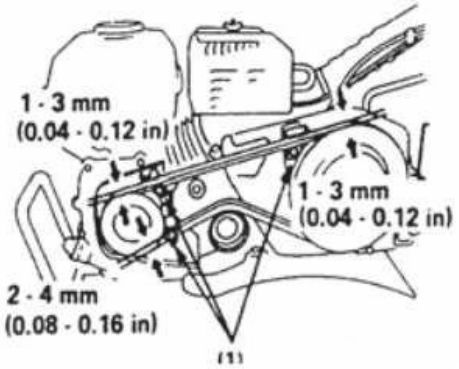
Part 1: Belt Tension The standard belt tension measurement is **60 - 65mm** (2.4 - 2.6 in) at the tension roller when the clutch lever is fully squeezed (engaged).

To adjust the tension:



1. Loosen the four **Engine Mounting Bolts** and the **Engine Adjustment Bolt**.
2. Slide the engine forward or backward on the chassis to achieve the proper belt tension.
3. **Alignment Check:** After adjusting, place a straight edge (like a metal ruler) across the outside face of the drive pulleys. They *must* be perfectly flush/aligned. If they are not straight, the belt will jump off or wear rapidly.
4. Retighten all engine mounting bolts securely.
5. **Diagram Key:** (1) Engine Mounting Bolts | (2) Engine Adjustment Bolt

Part 2: Belt Stopper Clearance The belt stoppers act as guides to stop the belt flying off the pulleys when the clutch is released.



1. With the clutch lever squeezed (engaged), loosen the attaching bolts of the belt stoppers.
2. Adjust the clearance between the stopper bars and the outside of the belt to match the gap illustrated in your diagram (usually approx. 2-3mm).
3. Retighten the stopper bolts securely.

- **Diagram Key:** (1) Belt Stoppers

Transporting & Storage

Transporting the Tiller

WARNING Fire & Spillage Hazard: When transporting the tiller in a vehicle, always turn the **Fuel Valve to the OFF position** and keep the machine completely level. Fuel vapour or spilled petrol can easily ignite.

Long-Term Storage

If the tiller will not be used for an extended period (such as over winter), proper storage preparation is essential to prevent starting problems and internal corrosion the following season.

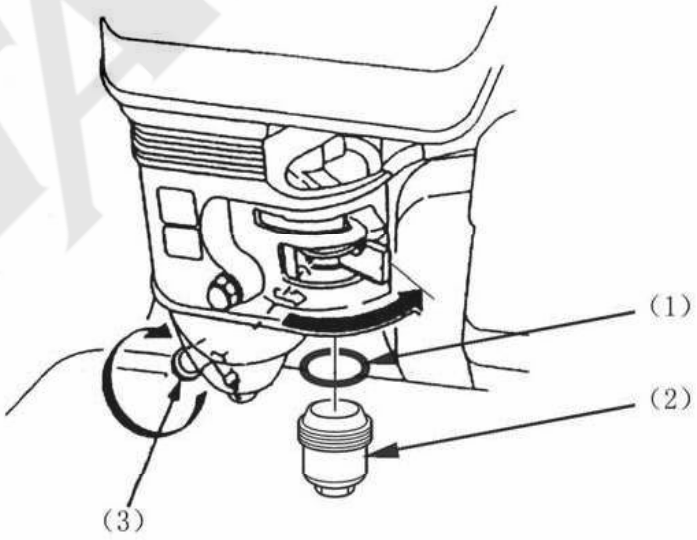
Step 1: Choose a Suitable Location Ensure the storage area is dry, well-ventilated, and free of excessive humidity and dust.

Step 2: Drain the Fuel System Modern petrol degrades quickly and can clog the carburettor if left in the machine.

WARNING Petrol is highly flammable and explosive. Do not smoke or allow flames or sparks in the area while draining fuel.

1. Turn the Fuel Valve to the **OFF** position.
2. Remove and empty the **Fuel Strainer Cup** and check the **O-Ring**.
3. Place a suitable, fuel-safe container beneath the carburettor.
4. Turn the Fuel Valve to the **ON** position to drain the petrol from the main tank into the container.
5. Reinstall the Fuel Strainer Cup and tighten it securely.
6. Locate the **Drain Bolt** at the base of the carburettor bowl. Loosen it to drain any remaining fuel from the carburettor into your container, then retighten the bolt securely.

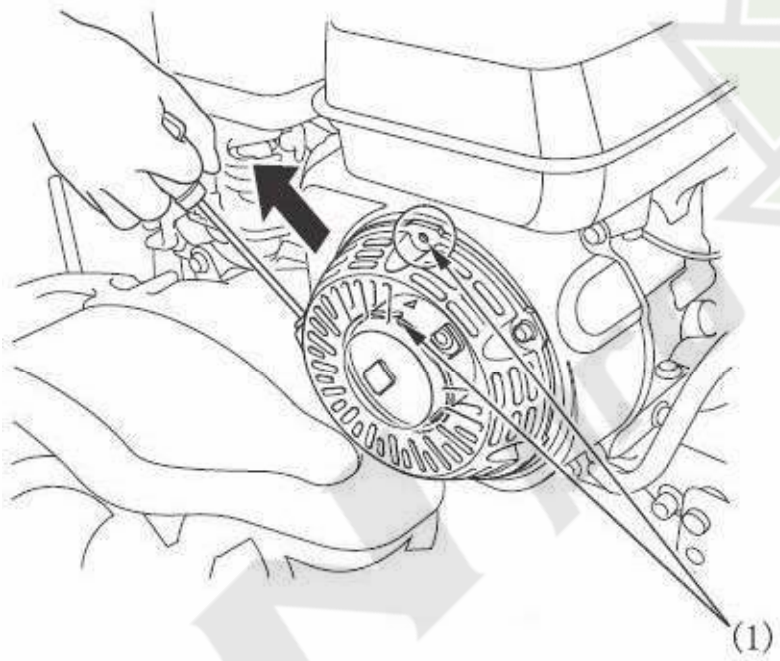
- **Diagram Key:** (1) O-Ring | (2) Fuel Strainer Cup | (3) Drain Bolt



Step 3: Position the Engine (Seal the Cylinder)

1. Gently pull the starter grip until you feel resistance (this indicates the piston is coming up on its compression stroke).
2. Continue pulling very slowly until the **notch on the starter pulley aligns with the hole at the top of the recoil starter housing**.
3. Stop pulling and let the handle return gently.
    a. *Why do this?* At this exact point, both the intake and exhaust valves are fully closed. This seals the combustion chamber, protecting the internal engine components from moisture and corrosion while in storage.

- **Diagram Key:** Align the notch on the starter pulley with the hole at the top of the recoil starter.



Step 4: Change the Engine Oil Change the engine oil while the engine is still slightly warm (see Maintenance section). Fresh oil prevents acidic buildup and internal corrosion over the winter.

Step 5: Cover and Store Cover the tiller with a breathable sheet or plastic tarp to protect it from dust.

CAUTION: DO NOT TIP THE MACHINE OVER Never store or transport the tiller by tipping it backwards with the handlebars resting on the ground. This will cause engine oil to flood the cylinder and carburettor, and fuel to spill. Always store the machine in its normal, upright operating position.

Troubleshooting

Engine Will Not Start

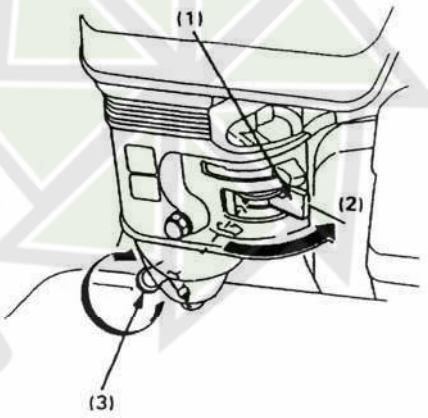
If the engine fails to start, work through the following diagnostic checks.

Basic Checks

- **Fuel Level:** Is there enough fresh, unleaded petrol in the fuel tank?
- **Fuel Tap:** Is the Fuel Valve turned to the **ON** position?
- **Ignition:** Is the Engine ON/OFF Switch turned to the **ON** position?
- **Choke:** If the engine is cold, is the Choke Lever in the **CLOSED** position?

Fuel Flow Check (Carburettor) Has fuel reached the carburettor?

- **Test:** Place a suitable container underneath the carburettor. With the Fuel Valve turned **ON**, slightly loosen the **Drain Bolt** at the base of the carburettor bowl. Clean fuel should flow out freely.
- **Secure:** Retighten the drain bolt securely once checked.



WARNING Fire Hazard: If any fuel is spilled during this test, wipe it up immediately and make sure the surface is completely dry before testing the spark plug or starting the engine. Fuel vapours can easily ignite.

- **Diagram Key:** (1) Fuel Valve | (2) ON Position | (3) Drain Bolt

Ignition System Check (Spark Plug Test) Is the spark plug producing a spark?

- **Remove:** Disconnect the spark plug cap. Clean any dirt from around the base, then remove the spark plug using a plug spanner.
- **Reconnect:** Push the removed spark plug firmly back into the plug cap.
- **Switch On:** Turn the Engine ON/OFF Switch to the ON position.
- **Ground the Plug:** Hold the metal threaded body of the spark plug firmly against a bare metal part of the engine block (e.g., the cylinder head).
- Test: Pull the recoil starter briskly and look at the tip of the plug. You should see a bright blue spark jump across the gap.
- **Result:** If there is **no spark**, the plug is dead. Replace the spark plug.
- If there is a spark, the ignition system is fine. Reinstall the plug and attempt the normal starting procedure again.

Professional Service If you have completed all the checks above (fuel is reaching the carburettor and the plug is sparking) and the engine *still* will not start, there may be an internal engine or carburettor fault. Please contact Titan Pro or an authorised dealer for service.

Spare Parts & Support

We stock a comprehensive range of spare parts and consumables for this machine to keep it running at peak performance. From air filters and spark plugs to replacement tines and cables, you can find everything you need on our website.

Customer Support & Resources

Need help with your TP500 tiller? We offer a comprehensive online support centre to ensure you get the most out of your machine. Please visit our website for the following resources:

- **Instructional Videos:** Step-by-step guides on assembly, operation, and maintenance.
- **Spare Parts:** Order official replacement parts directly from our store.
- **Technical Information:** Download digital copies of manuals and technical diagrams.
- **FAQs:** Answers to common questions and troubleshooting tips.
- **Aftersales Care:** Contact our support team for warranty and service enquiries.

VISIT OUR ONLINE SUPPORT CENTRE
https://www.titan-pro.co.uk/

UKCA DECLARATION OF CONFORMITY

We Titan Pro Ltd - DT11 7FP (Importer) declare that the product:

Designation: Petrol Tiller Cultivator 6.5HP (840mm Tilling Scope)
Model(s): TP500

Complies with the following machinery directives:
2006/42/EC – Machinery Directive

The conformity assessment procedure followed was in accordance with: EN 709:1997/A4:2009

Notified Bodies
TÜV SÜD Product Service GmbH

Address(es)
Ridlerstraße 65, 80339 München, Germany

Authorised Signatory & Technical File Holder
Date:
05/06/2020

Signature:

Name: Mr. Charles Abbott

Position: Director

Company: Titan Pro Ltd

Address
Unit 11 Glenmore Business Park, Wend-Al Road, Blandford Forum, Dorset, DT11 7FP