

MGRYK TILLER



**AC. 3481/3491**      **SUPER MAJOR**

(Series 367)

**AC. 3482/3492**      **SPARTAN**

(Series 368)

**AC. 3483/3493**      **CENTAUR**

(Series 369)

**AC. 3484/3494**      **TITAN**

(Series 370)

**AC. 3485/3495**      **TITAN G.T.**

(Series 371)

OPERATING INSTRUCTIONS  
MODE D'EMPLOI  
GEBRUIKSAANWIJZINGEN  
BETRIEBSANWEISUNG  
DRIFTSANVISNINGAR  
BRUGSANVISNING  
INSTRUCCIONES DE OPERACIÓN

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INSTRUCTION BOOK FOR TILLERS  
LIVRE D'INSTRUCTION POUR LES CULTIVATEURS  
INSTRUCTIEBOEK VOOR CULTIVATORS  
BEDIENUNGSANLEITUNG FÜR MOTORHACKEN  
INSTRUKTIONBOK FÖR JORDFRÄS  
BRUGSANVISNING TIL FRÆSERE  
FOLLETO DE INSTRUCCIONES PARA MOTOCULTORES

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## Introductory notes

Before using the cultivator read the instructions carefully, ensuring that you know your controls and know how to stop the engine quickly in any emergency.

The terms 'left hand' and 'right hand' refer to the machine when viewed from the operating position.

## Assembly of the cultivator

**Handles:** Swing the lower handle assembly around to the central position. Insert handle spacer 'A' inside the right hand serrated casting of the upper handle bar assembly as shown in Fig. 1. Locate upper handle assembly onto the lower handle assembly and insert cup square bolt 'B' from left to right and secure with handle clamping nut 'C'. Attach clutch cables and throttle cable to handle tubes with cable ties provided.

**Rotors:** The rotors with red identification mark are fitted to the left hand drive shaft. The rotors with the green identification mark are fitted to the right hand drive shaft. Rotors are attached to the drive shaft with rotor pins which should be assembled so that the spring clip trails the head of the pin as shown in Fig. 2.

**Rotor Fenders:** Left hand and right hand rotor fenders are supplied with the machine. To assemble fenders insert the long bolt through the rear hitch as shown in Fig. 3 and loosely assemble the washer and nut.

Attach the front bracket of the fender to the machine using the short bolt, with the washer and nut fitted on the inside of the angle iron chassis.

Tighten all three nuts securely.

**Extended Skid Bar Frame:** Assemble skid bar frame to rear hitch and insert hitch pin 'A' as shown in Fig. 4. Fit spring clip 'B' and then adjust bolts 'C' in skid bar casting to eliminate any free play. Tighten up locknuts.

**Rear Skid:** Assemble skid bar into skid frame and locate in position with rotor pin assembly supplied as shown in Fig. 4.

**Transport Wheel:** Assemble wheel on to each axle of the wheel arch ensuring that there is a washer on either side of the wheel hub. Fit split cotter pin at end of shaft to secure wheel. The transport wheel is attached to the rear hitch as shown in Fig. 5.

**Air Cleaner Assembly (Super Major):** Assemble air cleaner onto carburettor and secure with fixing bolt as shown in Fig. 6a.

(All other models): Screw spindle into carburettor body with the longer threaded portion uppermost. Assemble air cleaner assembly onto carburettor with metal base of the filter at the bottom. Assemble dished washer and secure with small wing nut. Assemble air cleaner cover and secure with hand nut. See Fig. 6b.

**Engine Cowl:** Fit cowl to engine with two screws provided.

## Preparation for use

**Transmission Case:** There is no oil in the transmission case. With machine in a horizontal position fill up with SAE 40 oil or equivalent until level reaches the threads of the oil filler hole.

Titan G.T.	5 pints (2.8 litres)
All other models	2½ pints (1.6 litres)

**Engine Unit:** With the engine level fill the sump with SAE 30 oil to the level of the threads in the filler hole 'A' (see Fig. 7). The sump holds approximately 1½ pints (0.7 litres). See engine manufacturers leaflet for further details on engine.

Fill petrol tank with low grade (\*\*) petrol. The engine is a four stroke and no oil should be put in the petrol tank.

**IMPORTANT:** Petrol is highly inflammable.

Add fuel before starting the engine. Avoid spilling petrol, this can damage paintwork. Do not refill the petrol tank while the engine is running or while you are smoking. If petrol is spilled, do not attempt to start the engine, but move the machine away from the area of spill and avoid creating any source of ignition until petrol vapours have dissipated.

Store fuel in a cool place in a container specifically designed for the purpose.

## Use of controls and adjustments

**Engine Speed Control:** The engine speed control is situated on the right hand handlebar.

To increase engine speed pull control backwards. To stop engine push control forwards to Stop position.

**Main Clutch Control (Super Major, Spartan, Centaur, Titan):** The main clutch control lever is situated on the left hand handlebar. With the engine running pulling up the lever will cause the rotors to rotate in a forward direction. (Note: On Titan model direction of rotors is controlled by gear lever position.)

The clutch lever can be locked in position by depressing the lock button 'A' (see Fig. 8). To release lock button, pull up clutch lever slightly and then release.

**Reverse Clutch Control (Super Major, Centaur models only):** The reverse clutch lever is situated on the right hand handlebar. With the engine running, pulling up the lever will cause the rotors to rotate in a backwards direction. The reverse lever is not fitted with a lock button.

**WARNING:** Before operating reverse lever, disengage main clutch control lever, i.e., lever down. Do not pull up both levers simultaneously.

**Gear Lever (Titan):** The Titan is equipped with a forward gear, neutral position and reverse gear within the transmission case. The gear lever positions are shown in Fig. 9, and are also illustrated on the machine itself.

**IMPORTANT:** Before changing gear, disengage the main clutch control lever and allow drive to come to rest before selecting an alternative gear.

**WARNING:** Before engaging reverse gear reduce engine speed by pushing engine speed control forwards.

When using reverse gear do not engage lock button on main clutch control lever.

**Main Clutch Control (Titan G.T.):** The main clutch control lever is situated on the crossbar of the handlebars. Pushing the lever forwards will tension the V-Belt and cause the rotors/wheels to rotate.

The main clutch control lever can be operated in either one of two positions to provide two different speed ratios.

The clutch control can be locked in position by moving the lever to the left (or right) when pushed fully forward.

To release lever from the locked position, push lever slightly forward and then move to centre of control panel and pull back.

**WARNING:** When using reverse gears do not put lever into locked position.

**High/Low Ratio Gear Lever:** On the right hand side of the machine there is a lever that provides a high ratio, a neutral position and a low ratio within the transmission case. The positions of the gear lever are shown in Fig. 10 and are also illustrated on the machine itself.

**First, Second and Reverse Gear Lever:** On the left hand side of the machine there is a lever that provides two gear ratios in the forward direction and one gear ratio in reverse. First gear ratio is illustrated "↑", second gear "↑↑" and reverse gear "↓".



A total of 8 forward speeds and 4 reverse speeds can be obtained using any combination of the three controls/levers mentioned above.

An illustration of the gear positions and the speeds obtainable at the rotor shaft are shown in Fig. 11 and are illustrated on the machine itself.

The high and low ratio for the V-Belt drive is designated by the red coloured hare and tortoise.

The high and low ratio for the gear selection is designated by the black coloured hare and tortoise.

**Rotor Shaft/Axle Side Clutches:** The Titan G.T. is also equipped with clutch levers on the left hand and right hand handlebars. When the left hand lever is pulled up, the drive to the left hand rotor shaft/axle is disengaged. On releasing, the lever to the drive will automatically be re-engaged. Similarly with the right hand lever operation.

**Handlebar Adjustments** (all models): The handlebars can be adjusted up and down and sideways. For vertical adjustments slacken-off handle clamping nut and adjust handles to required height. The handles can be folded down or folded over the top of the machine for storage or transportation. When folding over handles take care not to trap the clutch cables. Sideways adjustment is achieved by pushing down on the handle lever 'A' Fig. 12 and moving the handles to either left or right.

**Rear Skid** (all models): The rear skid may be adjusted up or down to give different depths of cultivation as shown in Fig. 4.

**Transport Wheel** (all models): The transport wheel assembly is attached to the rear hitch as shown in Fig. 5.

When at the area to be cultivated the transport wheels should be removed from the machine.

## Starting the engine

Before starting the engine, ensure that the oil is up to the prescribed level and that there is sufficient fuel in the petrol tank. Ensure that the main clutch control lever is in the disengaged position.

Pull out the choke plunger 'A' (see Fig. 13) and set the engine speed control to fast position. Pull the starter cord evenly without jerking. Never allow the starter cord to fly back into the housing.

Once the engine starts, push in choke plunger and set engine speed to suit conditions prevailing.

Do not overspeed the engine or alter governor settings.

Excessive engine speed is dangerous and shortens cultivator life.

## Using the cultivator

On the Super Major, Spartan and Centaur there is only one pulley ratio, providing a rotor shaft/axle speed suitable for cultivating and inter-row work with wheels up to 12" (30cm) diameter.

The Titan is equipped with two pulley ratios. The shorter belt for fitting to the large engine pulley and the small transmission pulley is the ratio used for cultivating. The longer belt for fitting to the small engine pulley and the large transmission pulley is the ratio used for inter-row work or ploughing. Maximum diameter of wheels that are recommended for this machine is 22" (56cm).

**IMPORTANT:** The Titan must not be used with both belts fitted.

On the Titan G.T. the machine is used with both V-Belts fitted. The higher speed ratios are used for cultivating and the lower speeds for inter-row work and ploughing. Maximum diameter

of wheels that are recommended for this machine is 24" (61cm). The drive to the rotor shaft/axle can be disengaged by pulling up either the left hand or right hand clutch lever enabling the machine to be power steered. This facility makes the machine very manoeuvrable for all applications.

For cultivating on all models the depth to which the rotors will dig is controlled by the position of the rear skid bar. For the majority of applications the skid bar is fitted in any one of the top three notches. In order to dig as deep as possible the skid is mounted in the top notch. The depth is also controlled by the downward pressure applied at the handlebars. With the skid bar set at the required depth, start the engine and set to about half speed. Engage main clutch to set the rotors turning and apply downward pressure on the handles. The skid bar acts as a brake and will stop the machine from moving forward, allowing the rotors to dig down. Releasing the pressure on the handles will enable the machine to move forwards.

## Hints and tips on using the cultivator

When you are first learning to use your cultivator it is possible that it will tend to buck and move from side to side. This tendency will soon be overcome with use. To acquire the knack of letting the machine do the work without effort on the part of the operator we offer the following suggestions:

1. Concentrate on keeping your arms relaxed.
2. Do not try to dig too deep in one pass if ground is hard. Break up the top few inches first and then dig deeper on a second pass.
3. Keep handlebars adjusted to provide most comfortable working position.
4. Proceed at a slow walk to give the machine time to do the work.
5. Keep the machine horizontal to the ground when operating. If necessary adjust rear skid bar to maintain correct working position.
6. When working across a slope turn the machine slightly uphill.
7. Do not cultivate when ground is frozen or waterlogged.
8. Ensure that the rotors and rotor pins are correctly assembled to the machine.
9. Do not leave engine idling for long periods as this could result in damage to V-Belts.

## Adjustments

**Main Clutch Adjustments** (All models except Titan G.T.): The clutch should engage when the lever is raised about two-thirds. When disengaged, i.e., lever released, the belt should be completely slack and not binding on the pulley.

There are two adjusters on the main clutch cable. The one at the bottom end of the cable is set at the factory and should not require altering. The mid-cable adjuster is the one used for normal running adjustments. Screwing the adjuster outwards will increase the tension on the V-Belts. After carrying out adjustment remember to re-tighten the locknut on adjuster screw.

When all adjustment has been used up, screw the mid adjuster pulley in and slacken off the 4 engine fixing bolts, plus the one carrier plate bolt situated by the rear left hand engine fixing bolt. The engine can be moved forward to eliminate slackness in belt length. Re-tighten the 5 bolts ensuring that the engine is mounted square to the chassis, and carry out final belt adjustment on clutch cable.

**NOTE:** On model Super Major and Centaur moving the engine forward will necessitate re-adjustment of the clutch cable for the reverse drive V-Belt.

**Reverse Drive Adjustment** (Super Major and Centaur): As the reverse drive is only used for a fraction of the time to that of the main forward drive belt, only periodic adjustment will be necessary. Adjustment is carried out by altering the mid adjuster on the right hand clutch cable. Screwing the adjuster outwards will increase tension on the V-Belt. Re-tighten adjuster locknut.

**NOTE:** If V-Belts continue to turn with clutch levers disengaged the adjustment is incorrect. Re-adjust cable to move jockey pulley away from the V-Belt.

Insufficient V-Belt tension will result in loss of drive. Adjust cable to move jockey pulley toward V-Belt as described above.

#### Clutch Cable Adjustments (Titan G.T.)

**Main Clutch Adjustment:** The main clutch is operated by the lever mounted at the crossbar of the handles. This lever will tension the high speed belt or the low speed belt. Two independent clutch cables connect the main lever mechanism to the two independent jockey pulleys, one for each V-Belt.

If the belt drive starts to slip increased tension can be achieved by extending the mid-adjuster of the respective clutch cable connecting the clutch control mechanism to the jockey pulley.

When viewed from the operating position the left hand cable operates the high speed belt and the right hand cable operates the low speed belt.

When all adjustment has been used up, screw in adjusters and move engine forward on its mounting as previously described.

**Clutch Cable Adjustment for Rotor Shaft/Axle Clutches:** If either the left hand or right hand drives fail to disengage when the levers are pulled up, adjustment is required to clutch cables. Adjustment is achieved by screwing out the respective mid-adjuster on the clutch cables. Re-tighten locknuts after carrying out adjustment.

**IMPORTANT:** Always use the correct V-Belt as supplied originally with the machine. These are manufactured to specific lengths for the machines.

Do not carry out any belt adjustments with the engine running.

**Horizontal Handle Adjustments:** If any excessive play occurs between the handle mounting bracket and the lower handle assembly this can be eliminated by removing the cover 'B' (see Fig. 12) and tightening the large nut.

## Maintenance

Before carrying out any maintenance on the machine remove the engine cowl and disconnect spark plug lead.

Regular maintenance and cleaning of the machine will extend the life of the cultivator.

**Lubrication:** Apply lubricating oil to clutch levers, clutch cables, throttle control cable, jockey pulley, pivot arm, handle pivot points and linkages on Titan G.T. at regular intervals.

**Transmission Cases:** Providing there are no leaks the oil level in the transmission cases should remain constant. Check oil level at regular intervals and top up if necessary. With machine horizontal the correct oil level is when the oil reaches the threads of the oil filler hole.

**Engine Maintenance:** Refer to the engine manufacturers leaflet supplied.

**Changing Engine Oil:** After the initial filling, the engine oil should be changed after the first 5 hours' use, thereafter change the oil after every 25 hours' use.

**NOTE:** In dusty conditions it is advisable to change the oil at more frequent intervals.

To change engine oil remove drain plug 'B' (Fig. 7), leave for a time to drain off, then replace drain plug. Refill with fresh SAE 30 oil. The oil level should be checked after every 5 hours' use and topped up as required.

**Air Filter:** This should be serviced at the same time as the engine oil change is carried out.

Full details of the maintenance procedure are printed on the air cleaner cover. In dusty conditions clean the air filter more regularly.

Never use the cultivator without the air filter.

## Storage

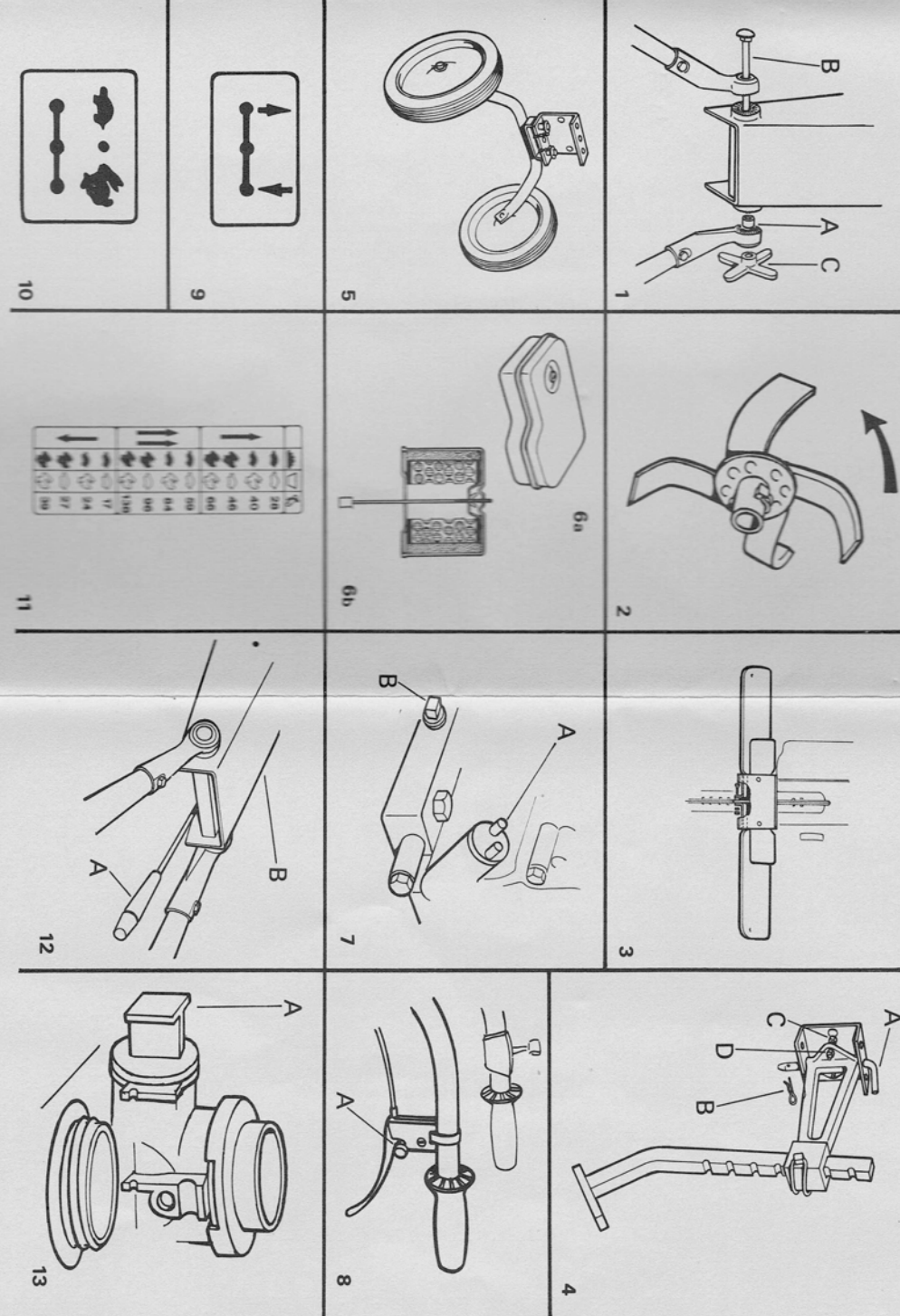
When the machine is not to be used for any length of time, it should be thoroughly cleaned. Examine belts, clutch cables, etc., for any signs of wear or damage which may require rectification.

To protect the engine from internal corrosion empty the fuel tank and run the engine until the carburettor is dry. Inject a small amount (5ml) of oil through the spark plug hole and rotate the engine a few times by hand. Replace spark plug. The cultivator should be stored in a dry place.

## Service

When the machine requires servicing we advise that this be entrusted to a competent repairer. Further information regarding servicing facilities and spare parts can be obtained from Wolseley Webb Limited.

In any communication regarding the machine the model number and machine number, as specified on the serial number plate, should be quoted.



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**TITAN G.T.**

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