

GROUNDSMAN[®]
INDUSTRIES LTD

Leading by design

Operators Manual

MODEL TIM49
Reel Insertion Machine



**Exceptional build quality,
machines you can rely on
& great aftersales care...**



To see our full range visit
our website or give us a
call, there are no pushy
salesmen, just good
honest help & advice...



Tel : +44(0) 28 2766 7049

Email : info@groundsmanindustries.com

www.groundsmanindustries.com

SERIAL NUMBER

DELIVERY DATE

It is essential to quote the machine model and serial number when making service enquiries or ordering spare parts to avoid any delay.

The serial number of your Groundsman Pedestrian Operated Turf Multi Cutter is located **on the front right side body panel if viewed from the rear of the machine.**

This machine was supplied by:

Dealer address:

If you require any further advice or assistance you can contact Groundsman Industries directly on:

Tel: +44 (0) 28 2766 7049 Fax: +44 (0) 28 2766 6855

Email: info@groundsmanindustries.com

Website: www.groundsmanindustries.com

INDEX

<u>CONTENTS</u>	<u>PAGE</u>
SERIAL NUMBER	1
INDEX	2
SAFETY FIRST	3
WARRANTY	4
TECHNICAL INFORMATION	5
OPERATOR LEVERS AND CONTROLS	6, 7
BASIC SET-UP & OPERATING INSTRUCTIONS	8 , 9, 10 & 11
RUNNING MAINTENANCE	12, 13 & 14
BLADES AND ACCESSORIES	15

SAFETY FIRST

1. All guards must be in place.

Always ensure that all guards are in position, properly fitted and maintained. Do not attempt to operate the machine before making this check each time the machine is used.

2. Beware of bystanders.

Operators should be aware that it is possible that debris can exit from the sides of the machine, so this area is best kept clear.

3. Always operate safely.

Never remove any guards or work at the any part of the mechanism while the engine is running. When tilting the machine up to rest on the chassis nose to gain access to the cutter blade, always select a stable and level surface. Be aware that in this forward tilted position, petrol can leak through the filler cap if the tank is full. Take care not to allow petrol spillage or cause to ignite.

4. Never operate the machine with any parts missing.

Check the machine periodically for loose or damaged parts. Always use genuine Groundsman Industries replacement parts. Failures caused by the use of spurious replacement parts will **not** be covered by the factory warranty, nor will any liability be accepted for damages or injury thus incurred.

5. Modifications.

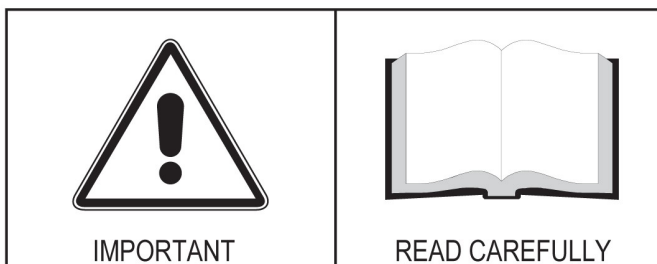
No liability will be accepted in respect of machines modified without specific **written** permission from Groundsman Industries.

6. Observe the manual.

No liability will be accepted where injury or damage is caused by using the machine in a manner other than detailed in this manual.

Always disengage blade drive before transporting the machine

Do not start this machine or carry out any maintenance until you have read and understand the safety and operating instructions contained in this manual.



No liability will be accepted for any damage caused to persons or property through failure to observe the operating and safety instructions

WARRANTY

Examination of the goods has been made by or on behalf of the purchaser and no warranty condition, description or representation on the part of the manufacturer is given or is to be implied or has been given from anything said or written in the negotiations between the parties or their representative beyond those mentioned below. Any statutory or other warrant condition, description or representation expressed or implied as to the goods is hereby expressly excluded.

In lieu, thereof the manufacturer undertakes to make good by repair or replacement at its option free of all charge during normal working hours. Any defects in the goods arising in the manufacturer's opinion from faulty design, materials or workmanship which shall become apparent within a period of 24 months in the case of machines, and 12 months in the case of spares from the date of receipt of the goods. At the termination of which period, all liability on the manufacturer's part ceases. Provided always and the above warranty is subject to the following conditions:

- A. The manufacturer's liability extends only to the repair or replacement and it accepts no liability for any consequential or other loss, damage or injury resulting directly or indirectly from any defect in the goods.
- B. The manufacturers warranty does not extent to failures, defects or damage attributable to wear and tear, improper adjustments, neglect, and alteration of specification or accident.
- C. All defective parts must be returned to the dealer immediately together with full particulars of the defects, the machine number, the hours worked and the date machine was supplied.
- D. The manufacturers warranty does not extend to proprietary or other components not of its manufacture, but it will as far as possible pass to the purchaser any benefits of any guarantee given to the manufacturer in respect of such components.
- E. In the event of the rejection by the manufacturer of any claim, the part or parts returned will be destroyed unless specific instructions to the contrary were given when part or parts were returned.
- F. No claim will be considered if other than genuine parts manufactured by the manufacturer or its order and listed in its catalogue are used.
- G. This warranty should only be construed as strictly limited in its application and is valid only in the country of purchase. If the goods shall change hands during the period of this warranty, this warranty will cease to have effect.
- H. The manufacturer accepts no responsibility for damage by fire or accident of any kind to any goods returned under the terms of this warranty. The manufacturer does not accept responsibility for any accident occurring to such goods whilst on the premises.
- I. This warranty shall cease to have effect if the purchaser removes, defaces or alters the manufacturer's number plate (serial number) or any other numbers or marks affixed to any Groundsman Industries Ltd product.
- J. In respect to machines sold which have been used since the date of manufacture for commercial, contract, hire, rental or demonstrator purposes, the warranty on this product is limited in duration to 12 months from the date of purchase.

TIM49 Technical Specification

BLADES

Blade Mounting :	Three Bolt Tri-Pad Mounting		
Wedge Trench Blade :	Width	20mm to 40mm	
	Depth	Down to 15cm	

MACHINE

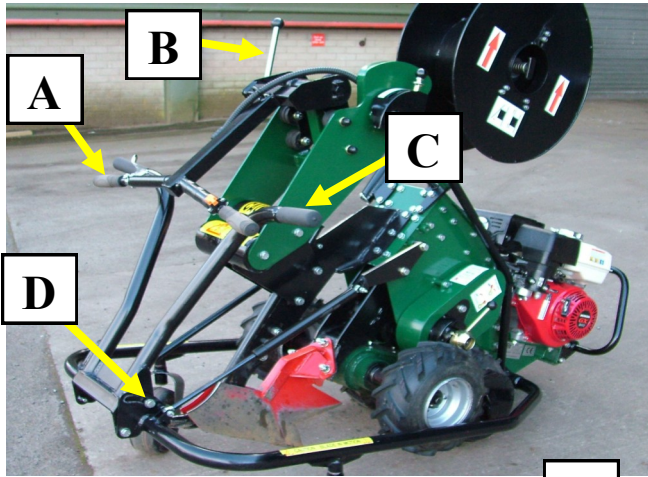
Overall Dimensions :	Width	95cm (38")
	Length	180cm (71")
	Height	160cm (63")

Machine Weight :	280kg (616lbs) blade fitted
Engine	9 HP Honda GX270
Primary Drive	Triple Shoe Centrifugal Clutch & Twin V Belt Drive.
Blade Drive	Central Connecting Rod & Counter Balanced Crank with Sealed Bearings Throughout.
Ground Drive	Worm Gear Clutch Driven Front Axle. Oil bath Chain Driven Rear Axle.
Wheels Front & Rear	Stud Mounted 13 x 650 - 6 pneumatic Tractor Tyres. Staggered Tracking

PERFORMANCE CHART

Depth Adjustable (Maximum)	Forward Speed	Blade Speed	HAV Levels (Handle Bar Vibration)
Trench Insertion (15cm (6"))	18 mtrs/min (18yds)	904 cuts/min 50cuts per metre (46 per yard)	6.68 (m/s ²) Maximum Operating Time 1.12 Hours

Operator Levers and Controls



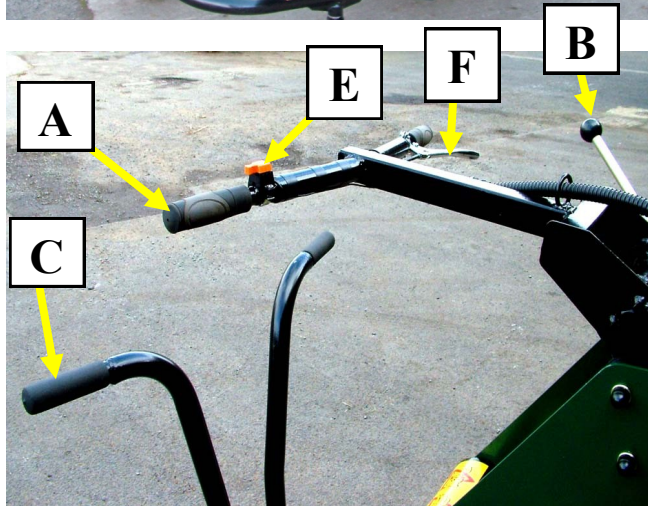
OPERATORS HANDLES FOLDED

'A' OPERATORS HANDLES

'B' OPERATORS HANDLES CLAMP BAR

'C' CASTER FRAME HANDLES

'D' CASTER FRAME HANDLES CLAMP BOLT



OPERATORS HANDLE UNFOLDED

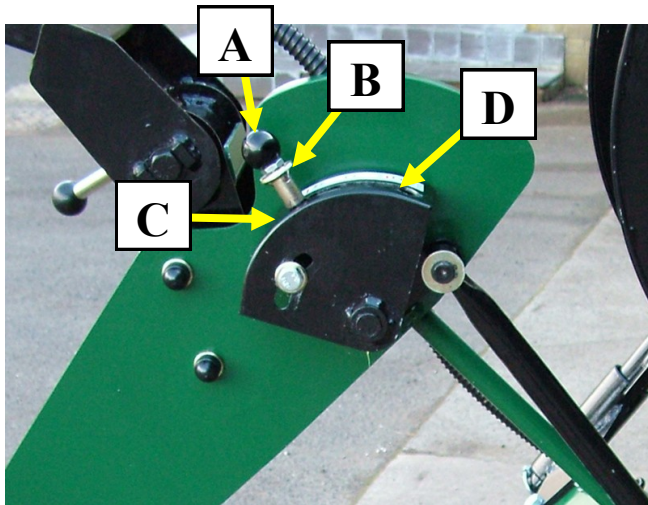
'A' OPERATORS HANDLES

'B' OPERATORS HANDLES CLAMP BAR

'C' CASTER FRAME HANDLES

'E' ENGINE KILL SWITCH

'F' TROTTLE LEVER



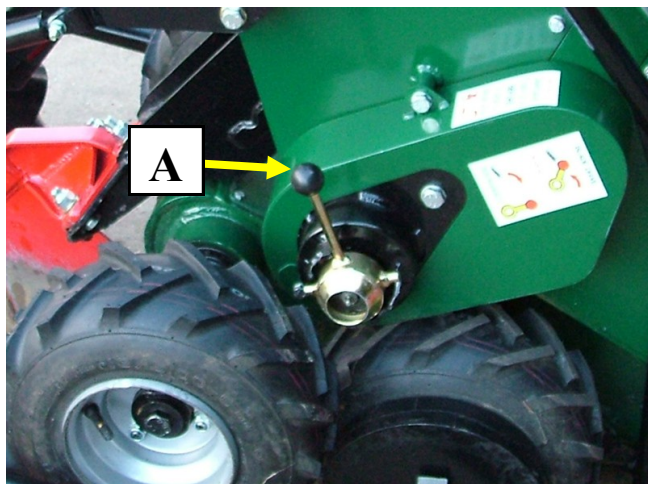
GROUND-DRIVE ENGAGEMENT LEVER

'A' GROUND DRIVE ENGAGEMENT LEVER

'C' GROUND DRIVE STEM-LOCK PLUNGER

'C' GROUND DRIVE DIS-ENGAGED POSITION

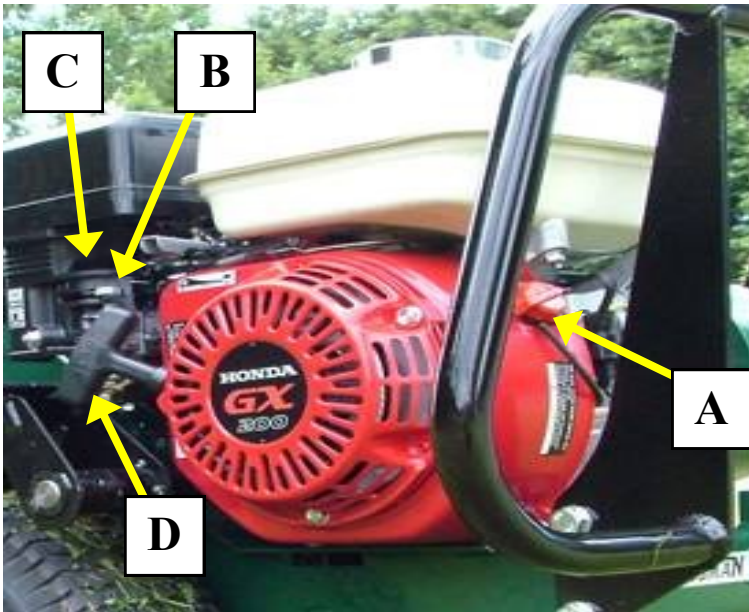
'D' GROUND DRIVE ENGAGED POSITION



BLADE-DRIVE ENGAGEMENT LEVER

'A' BLADE-DRIVE LEVER (forward to engage)

Operator Levers and Controls



HONDA PETROL ENGINE

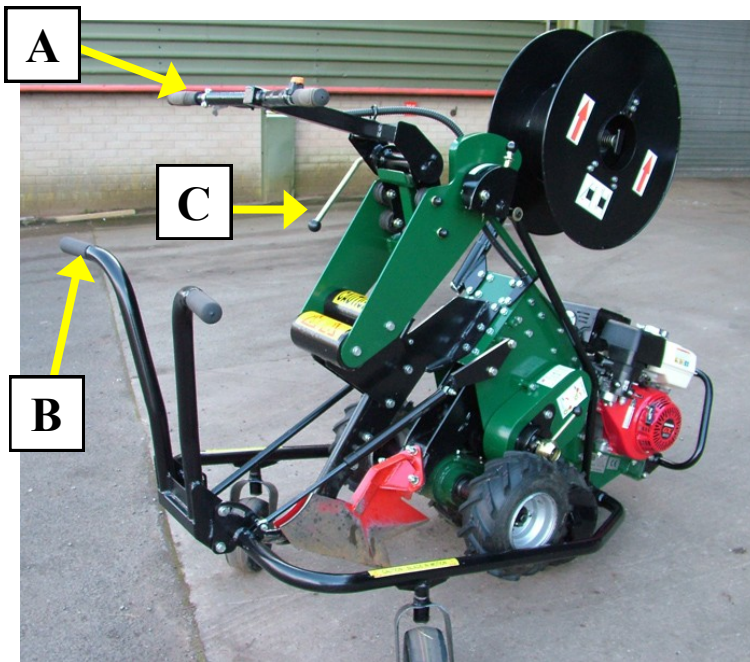
'A' ON OFF SWITCH

'B' CHOKE LEVER

'C' FUEL ON OFF LEVER

'D' PULL STARTER HANDLE

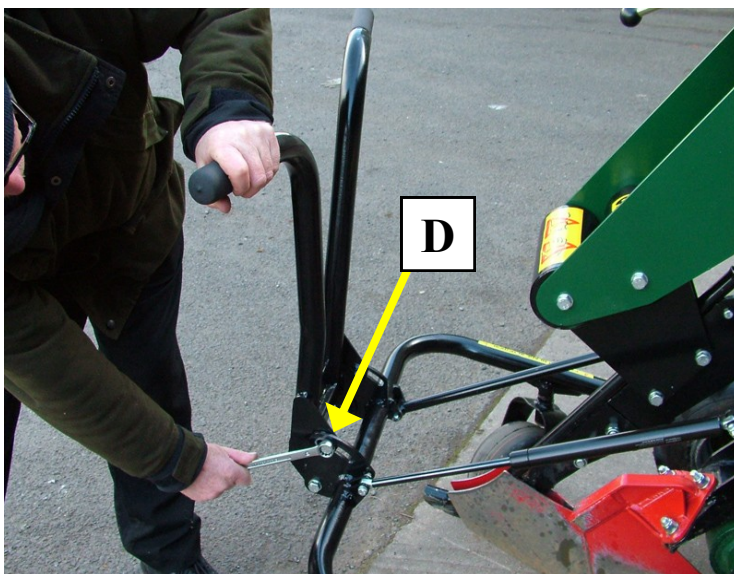
Basic Setting Up and Operating Instructions



OPERATORS HANDLES

The TIM49 has two sets of handles, the upper anti vibration mounted tee-bar handles 'A' are for operating the machine in work. The lower set of handles 'B' are rigidly mounted to the caster-wheel frame, these handles are for pulling the machine backwards in the raised out of work position and to assist manoeuvring and turning the machine.

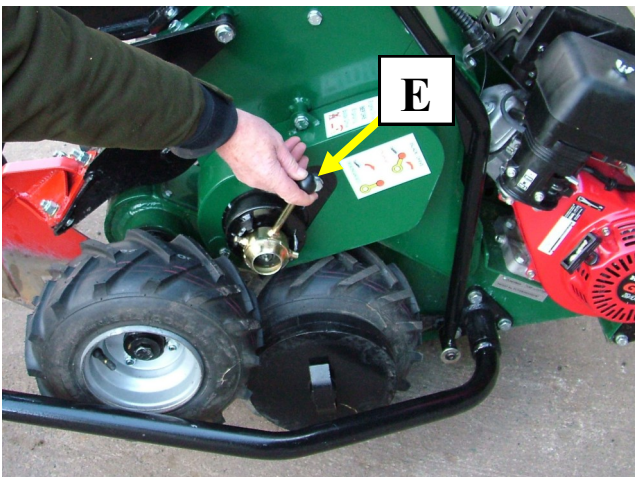
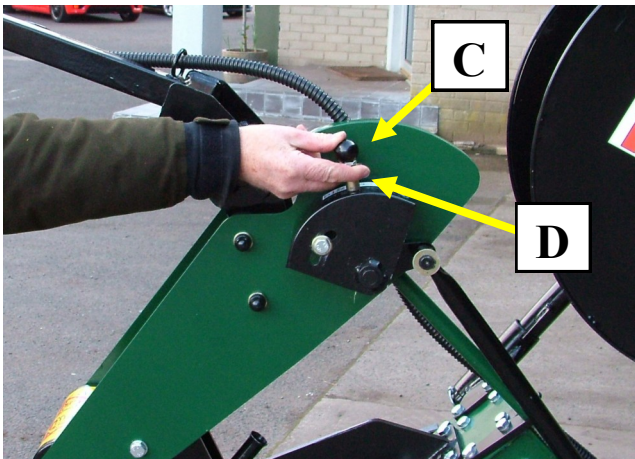
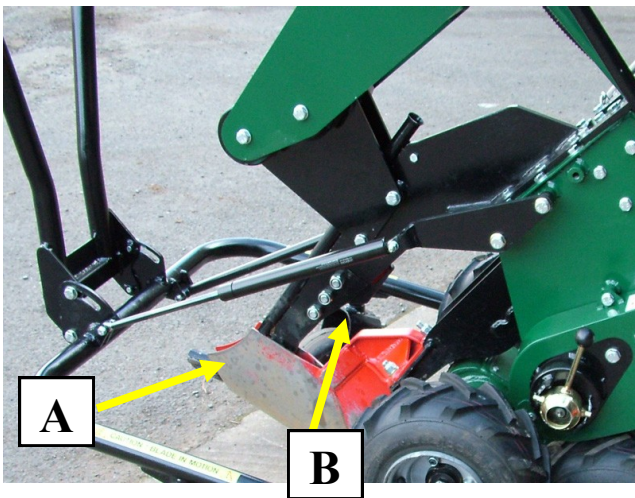
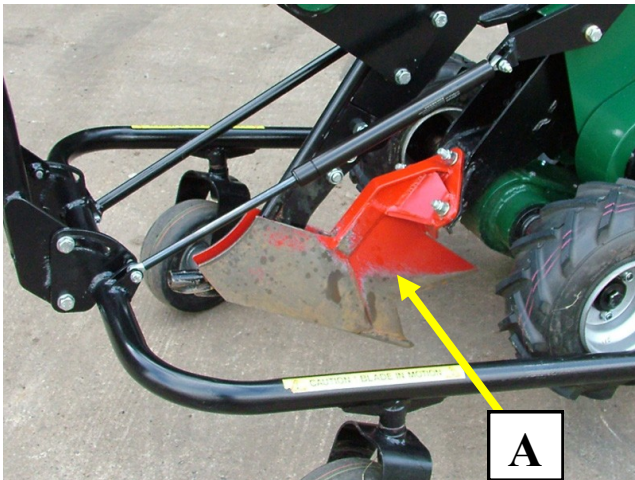
The caster frame handles 'B' can be adjusted back and forth to suit the operator or tilted forward to the back of the machine for compact storage by loosening the slot clamp bolts 'D' at the base.



The operating tee handles 'A' are attached to the machine by four double jointed rubber mounts which are flexible in the vertical plane to isolate the operator from the working vibrations while stiffer on the horizontal plane for better lateral control to steer and guide the machine in work. These handles can be adjusted up and down for operating comfort or folded down over the lower folded handles for compact storage and carriage. This is done by slackening handle clamp lever 'C' allowing the handles to pivot.

Re-clamp both handles firmly when operating the machine.

Basic Setting Up and Operating Instructions



BLADES

The TIM49 creates a trench by displacing the soil rather than removing it. This method makes the insertion job much quicker with less surface disruption and clean-up. The soil displacement trench is created with a Wedge Blade 'A'. A range of Wedge Blades are available to create trenches up to 40mm wide and down to 15cm deep to insert cable or pipe up to 20mm diameter. The standard blade will create a trench 13cm deep x 34mm wide to insert 16mm diameter dripper-line irrigation pipe 13cm under-ground. The blade is attached to the blade drive Tri-Pad mounting on the machine by three high tensile fine thread bolts. **Use only the bolts recommended by the manufacturer.** They should be tightened thoroughly and checked and tightened periodically during use. If in doubt, check with your dealer or contact Groundsman Industries.

INSERTION TUBE

The insertion tube 'A' places the pipe or cable into the bottom of the trench. It is bolted to the mounting bracket on the back of the machine extending between the wedge plates on the blade to the bottom of the trench. Use only the correct insertion tube to match the blade, it must be the correct length and width and is designed to place a 16mm diameter pipe into the bottom of the trench. Non-standard insertion tubes are available to order along with the wedge blades. The insertion tube is attached to the mounting bracket with three bolts 'B'. These bolts must be high tensile, tightened thoroughly and checked periodically.

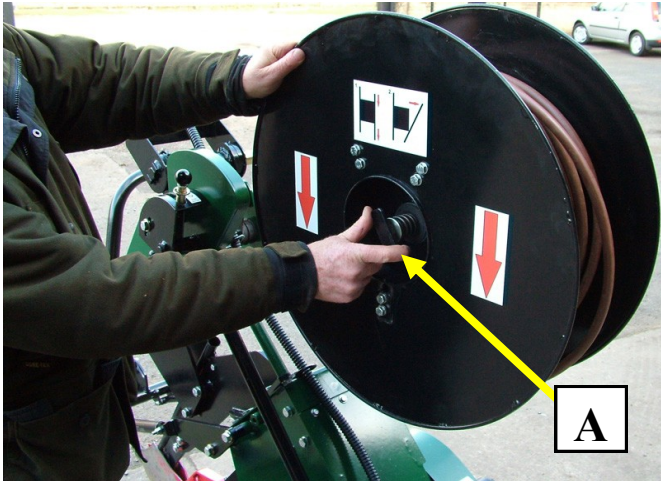
ENGAGE AND DISENGAGE GROUND DRIVE

Ground wheel drive can be engaged or disengaged by pulling upwards on the stem-lock plunger 'D' and moving the lever 'C' forward to engage and rearward to disengage the Ground drive. If the lever resists moving forward, rock the machine back and forth slightly, or gently pull up on the throttle lever to align the gears for engagement. When the ground Drive Clutch Lever is in the rearward neutral position the wheels are free to turn for wheeling or manoeuvring the machine. The ground drive is set independent of blade drive

ENGAGE AND DIS-ENGAGE BLADE DRIVE

To disengage the blade drive, push the lever 'E' forward until it locks into the neutral position. **When engaging the cutter drive ensure the engine is idling** then pull the lever back to release it from the locked neutral position. **Pull up gently on the throttle lever to allow the blade clutch to fully engage drive before increasing the power.**

Basic Setting Up and Operating Instructions



ATTACHING THE PIPE REEL

The pipe reel is mounted on a support column which provides a spindle on which the reel rotates. The spindle incorporates an adjustable damper to prevent the reel from over-running keeping the coil of pipe tight. The damper is adjusted by turning the bolt lever bar 'A' clockwise to stiffen the damper and anti clockwise to loosen it.

The reel and column are attached to the machine by sliding the column into a mounting bracket 'B' on the back of the machine engaging with two slots which keep the reel in line. The column is secured in the mounting bracket by a lynch pin.



When attaching or removing the reel, ensure that the removable reel side is taken off the reel to reduce the weight for easier lifting and handling.

LOADING THE PIPE

When the reel is securely attached to the machine with the reel side removed, the coil of pipe can be installed. With the machine in the raised out of work position install the coil of pipe so as the pipe-end uncoils over the top of the reel and down the back of the machine into the insertion tube. Feed the pipe through the insertion tube pulling about a metre tail of pipe out the bottom.

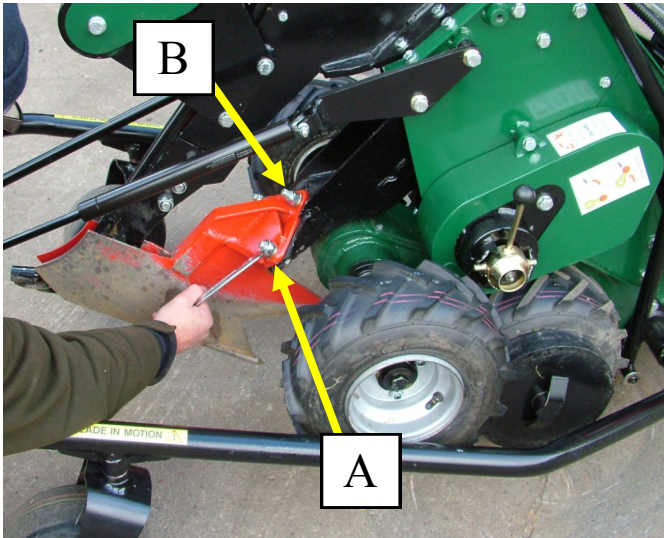


The reel side is removed by rotating the reel so as the two arrows on the reel side are pointing down. With both hands push down on the reel side to release it and tilt out-wards at the top to remove it from the reel. Ensure that the coil of pipe is fully located on the reel and replace the reel-side.



The reel can be at any position in its rotation but the reel-side arrows must point down for re-attaching. Tilt the reel-side outwards at the top and latch the lower spring-loaded latch onto the reel lip. Push downward to compress the springs and tilt the top in towards the reel and release to engage the two upper fixed latches to the reel lip. Lift upwards in the opposite direction to the arrows to ensure the reel-side latches are fully engaged and the reel-side is securely attached to the reel.

Basic Setting Up and Operating Instructions



FITTING THE BLADE AND INSERTION TUBE

BEFORE COMMENCING TO WORK ON ANY OF THE MECHANISMS IN THE MACHINE SWITCH THE ENGINE OFF.

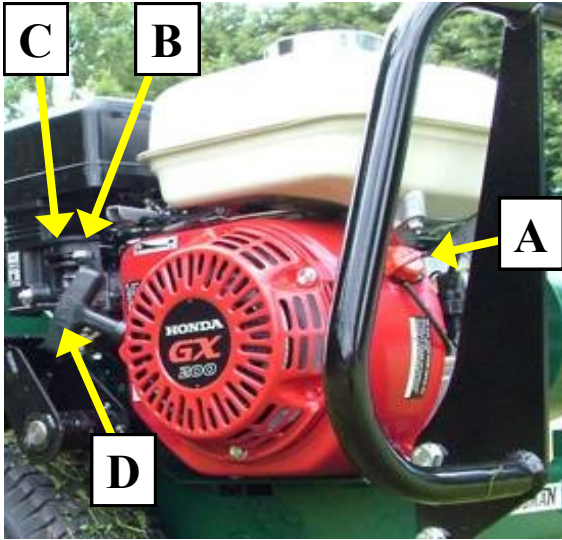
Remove and fitting the cutter blade

Tilt the machine forward to rest the chassis nose on the ground. The Sod Cutting Blade is attached by three bolts, two long bolts 'A' and one short bolt 'B'. Adjust the blade cutting angle if necessary to give better access to the blade mounting bolts. Loosen the blade mounting nuts using the tee wrench provided and allow the bolts to slip forward into the mounting pad to enable the blade to slide downwards for removal. The two longer bolts are located in the lower two holes and the shorter bolt at the top. Ensure that the heavy washers are re-fitted and that the nuts are tightened firmly. Ensure that the blade angle is re-set and the clamp lever tightened firmly.

Do Not Allow the blade mounting bolts to work loose, re-check that the nuts are tight periodically when in use.



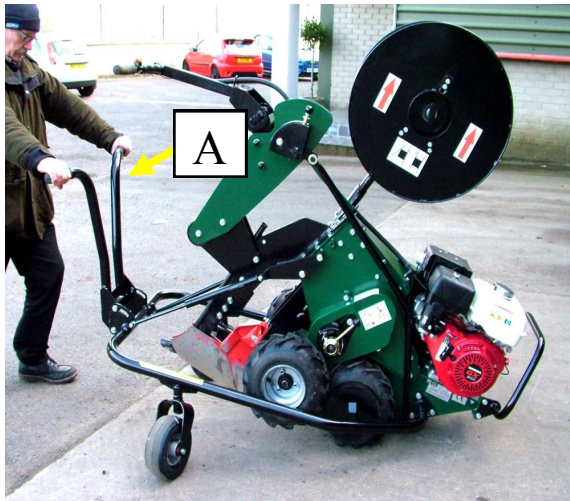
Basic Setting Up and Operating Instructions



THE ENGINE

The TIM49 Trench Insertion Machine is fitted with a Honda GX270 9 HP Engine. Unleaded or low leaded fuel is preferred to minimize combustion chamber deposits. **Before starting for the first time check that the engine has been filled to the correct level with engine oil** (see running maintenance section of this manual). To start the engine, ensure that the engine kill switch on the operators handles is on (centre position). Turn the ignition switch 'A' on, check that the fuel lever 'C' is turned on and if the engine is cold, turn on the choke lever 'B'. Pull the starter cord handle 'D' and when the engine starts, ease the choke lever off as the engine warms up..

BEFORE STARTING AND OPERATING THE ENGINE, FAMILIARISE YOURSELF WITH THE HONDA ENGINE MANUAL SUPPLIED WITH THIS OPERATORS MANUAL.



TRANSPORTING & MANOEUVRING OUT OF WORK

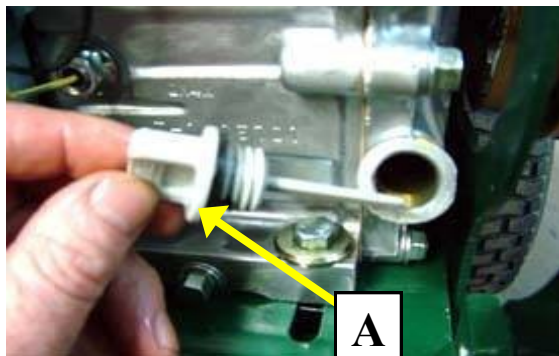
To transport the machine on site, ensure that it is raised out of work and the blade drive is disengaged. Engage the ground drive and pull the throttle lever gently. The TIM49 machine has one forward ground drive speed and no reverse, if it needs to be moved backwards or turned around without moving forward, raise the machine and disengage the ground-drive. In the raised out of work position the machine is supported by the caster wheels and can be pulled backward or turned around where it sits by the operator. To do this use the upright handles 'A' attached to the caster-wheel frame. If there is two or three metres of space in front the machine, it can be turn around between insertion runs while driving forward slowly under power. Do not try to push the machine forward, it is easier to engage ground drive to go forward under power. The blade drive should remain disengaged for transporting and manoeuvring.



OPERATING THE MACHINE

Engage the ground drive to transport the machine to location. Position the machine to begin insertion by driving forward under power and pulling backward or turning in neutral using the caster-wheel frame handles. When the machine is positioned and ready to begin insertion, pull some surplus pipe out of the insertion tube and anchor the pipe end on the ground to prevent it from being pulled under. Ground-peg anchors are available for this purpose. Engage the ground-drive and blade-drive clutches. Pull up on the throttle lever gently to commence drive then pull up all the way to full power and push down on the operators handles to lower the machine into work. **When the machine is in work the throttle lever should be fully depressed to keep the engine clutch fully engaged with the engine at full power.** To exit the cut, lift up on the operators handles tilting the machine forward while the drive is still engaged until the blade clears the ground. Pull some surplus pipe out of the insertion tube and cut to length.

Running Maintenance



ENGINE

Please refer to the Honda owners manual for instructions regarding maintenance.

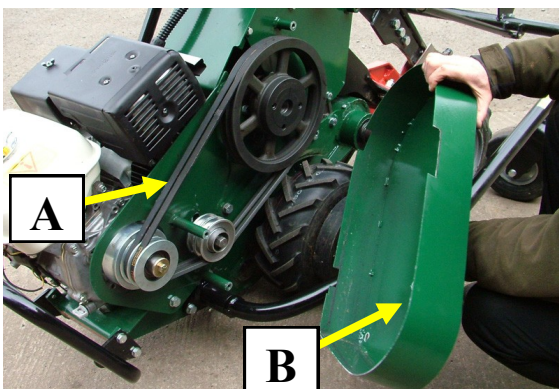
Engine Oil

The Groundsman Model TMC48 is fitted with a GX240 Honda 9 HP petrol engine. When filling or checking the oil level, the engine should be level. Lower the machine to in work position, unscrew the oil plug 'A' and dip stick located at the front of the engine. Fill with SAE 10 W 30 or equivalent until the oil is level with the threads on the filler hole. When the oil plug is removed the oil should be visible on the dip stick. Check the engine oil daily. Replace every 80 hrs or 6 months.



Air Filter

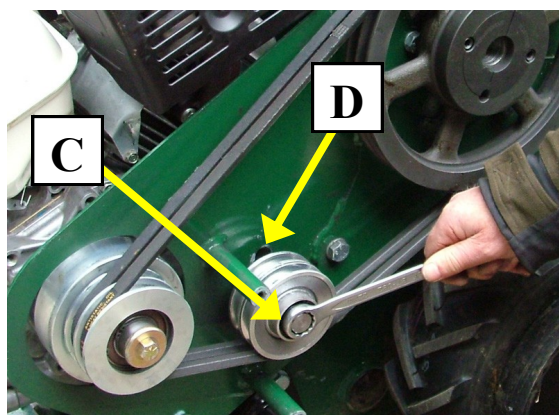
Check the air filter is clean. Undo the thumb-screw located on the top of the air filter cover 'B' located on top of the engine to expose the filter. Undo the second thumb-screw to remove the filter. Remove the filter outer foam 'C' and wash clean with petrol and squeeze in a few drops of oil. The paper element must be replaced when dirty or clogged. Check every 50 working hours depending on operating conditions.



MAIN DRIVE BELT

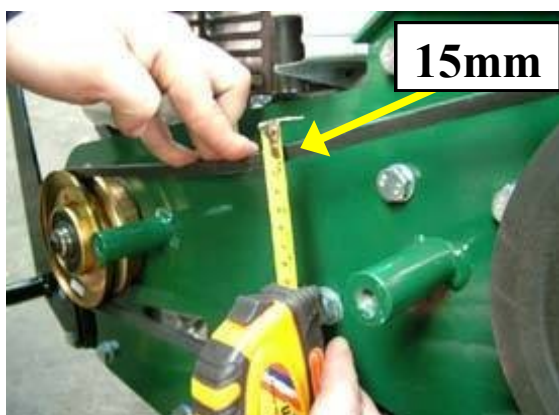
Removing the cover:

Check the main drive belt 'A' every 100 working hours. Undo the four retaining bolts to remove the main drive belt cover 'B'. If the belt is worn, split or cracked it must be replaced, otherwise, follow the instructions below to check and re-tension the belt if necessary.



Replacing and tensioning the belt:

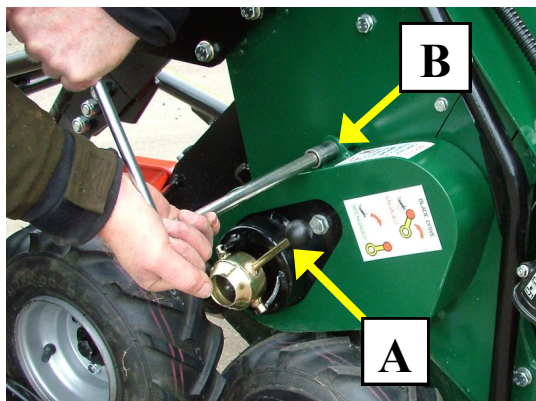
Slacken the belt tension pulley spindle bolt 'C' and slide the tension pulley upward in the slot 'D' to slacken the belt for easy removal and replacement. To re-tension the belt push the belt tension pulley downwards in the slot. Fine adjustment can be made to the belt tension by lightly tightening the tension pulley and tapping on the top of the spindle behind the pulley next to the slot using a suitable flat drift to achieve the correct belt tension.



The correct belt tension:

Placing your fingers on top of the belt half way between the pulleys and pressing downward, tension the belt to achieve 15mm deflection. Re-tighten the tension pulley spindle bolt firmly.

Running Maintenance

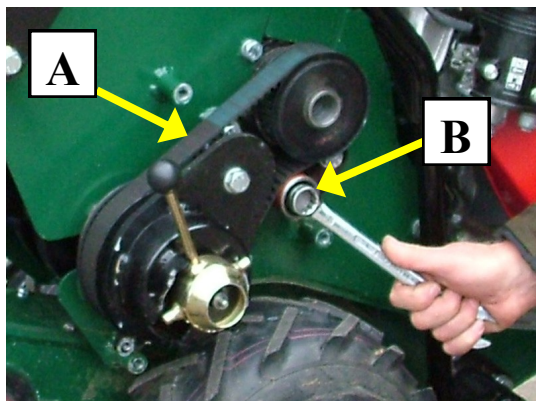


BLADE DRIVE BELT

Check and re-tension the blade-drive belt every 300 working hours. If it is worn, split or cracked the belt must be replaced. Access the blade-drive belt by removing the cover-guard.

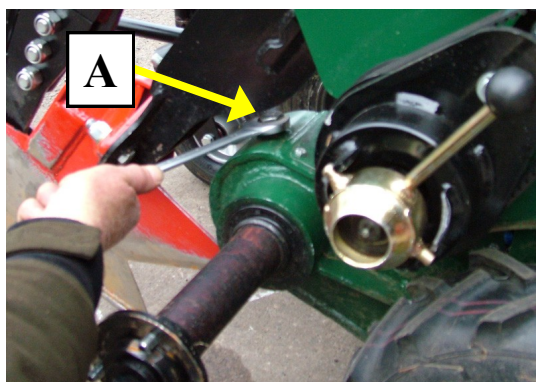
Removing the cover:

Place the blade-drive engagement lever 'A' in the forward neutral position. Undo the three main retaining bolts from guard lugs 'B' to remove the blade drive belt cover.



Replacing and tensioning the belt:

Using a socket wrench, slacken the belt tensioning roller spindle bolt 'B' and slide the tensioning roller along the slot to loosen the blade-drive belt 'A' for removal. Slide the belt off the pulleys and over the blade-drive lever and bracket. To re-tension the belt push the tensioning roller along the slot firmly against the belt and retighten the belt tensioning roller locking spindle bolt firmly. Replace the cover and tighten the four retaining bolts.



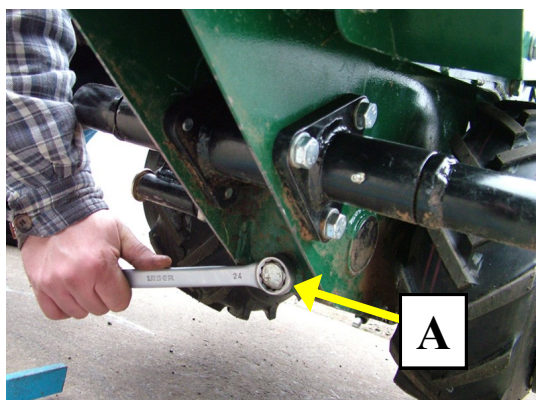
GROUND DRIVE GEAR-BOX

Checking and topping up the oil level:

Check the ground drive gear-box oil level every 300 working hours or if there is any sign of oil leakage under the machine. With the blade and insertion tube removed, ensure all four wheels are resting on a suitable level work surface. With a extension socket wrench, remove oil plug 'A' and using a container with a filler tube top up the gear-box oil level with EP 90 gear-oil until the oil is level with the lip of the gear-box filler hole. Replace the oil plug and tighten firmly.

Draining the oil:

Drain and replace the gear-box oil every 900 working hours. With the blade and insertion tube removed, ensure all four wheels are resting on a suitable level work surface. Place a suitable shallow oil pan underneath the drain hole, remove the oil drain plug 'B' located underneath the front of machine between the front wheels. Tilt the machine forward to allow all the oil to drain from the gear-box. Retighten the oil-drain plug firmly and refill the gear-box as instructed in the topping up procedure above.

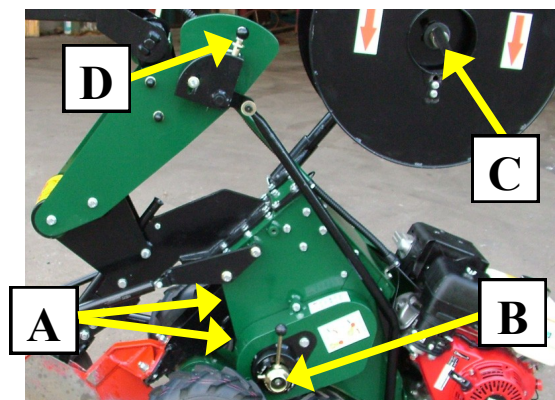


Grease

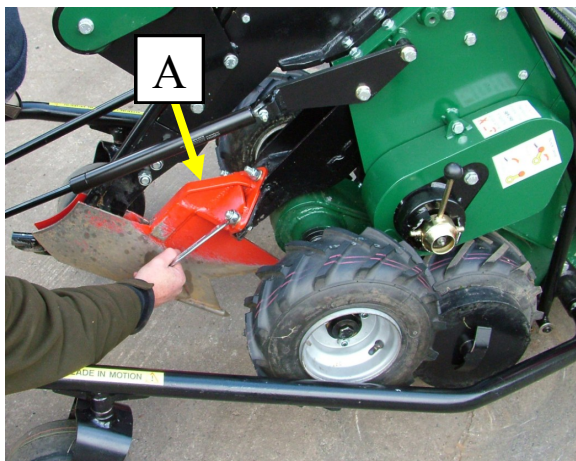
Using a grease gun apply two or three pumps of general purpose grease to the grease nipples 'A' on both crank bearing blocks bolted to the inside of the chassis plates and on lever-spindle 'B'. Do not over-greasing nipple 'B' to avoid the grease over-flowing onto the crank drive belt. Remove the pipe reel from the column spindle by undoing the damper adjustment bolt 'D' and pack the roller bearings with grease. Take care to replace the nylon and steel washers and the spring in the correct order when replacing the reel.

Oil

Apply a few drops of oil to the base of Levers and the locking plunger on Lever 'C'. Oil the upper end of the throttle cable.



Running Maintenance



BLADE

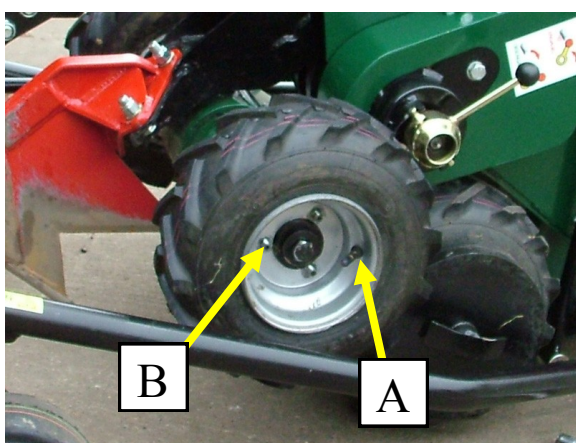
Check for wear and tighten the mounting bolts:
It is important not to allow the cutter blade to become loose

The three blade mounting bolts 'A' should be checked and tightened five working hours after initial fitting and every 30 working hours there after. On a level surface, tilt the machine forward in the raised out of work position and use the tee wrench supplied to tighten the bolts.. If the leading cutter and bullet on the blade are excessively worn, the blade should be replaced.



INSERTION TUBE

The insertion tube is protected from wear by reinforcing at the bottom lip where the pipe or cable exits the tube. It is also reinforced where to protect its sides where it comes in contact with the insides of the wedge blade plates. If the tube is worn through at any point it will damage the pipe or cable and must be replaced.



TYRES

Check for wear and tyre pressure:

Check the tyre pressure every 20 Hours or 3 weeks and maintain at 18 PSI, Over inflated tyres will effect traction. Under inflated tyres will effect the handling and stability of the machine. To check and top up the pressure remove the valve cap 'A' , ensure that the cap is refitted securely when completed. The maintain traction efficiency, replace the tyres when any part of the tractor tread is less than 3 millimetres proud. The wheel weights on the front axle must be removed to gain access to the tyre valve or the wheel mounting bolts.. The wheel can be removed to repair or replace the tyre by undoing the three stud mounting bolts 'B'. Ensure they are securely re-tightened.

MAINTENANCE SUMMARY

	Frequency	Operation	Type / Quantity
Tyres	20 hrs	Check Pressure/Condition	18 psi
Oil Can	20 hrs	See page 12	Penetrating Oil
Grease Gun	100 hrs	See page 12	General Purpose
Blade	30 hrs	Tighten or Replace	See page 15
Air Filter	50 hrs	Clean or Replace	See Honda Manual
Engine Oil	80 hrs	Top Up	SAE 10 W 30
Main Belt	100 hrs	Adjust or Replace	See parts manual
Blade Drive Belt	300 hrs	Adjust or Replace	See parts manual
Gear Oil	300 hrs	Top Up	EP 90

Blades and Accessories

WEDGE TRENCHING BLADES & INSERTION TUBES

Wedge blades create a trench by displacing the soil rather than removing it. The standard blade and insertion tube is designed to insert regular dripper-line irrigation pipe 16mm diameter to 13cm depth. Blades and insertion tubes are available to order for inserting cable and pipe up to 20mm diameter proving these are not too stiff to flow through the insertion tube. Contact Groundsman Industries directly with details about your requirement for further information. The maximum insertion depth is 15cm depending on the trench width and soil type.

WHEEL WEIGHTS

There are four wheel weights fitted to the front wheels, two on each wheel. These are mounted on the tubular spigot attached to the wheel hub and clamped by tightening the hammer nut clockwise.



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