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UNDERSTANDING YOUR NEW TROWELLING MACHINE

FORWARD

It is important that the following information be read carefully in order that the operational performance of your new power trowel is fully understood. Proper maintenance procedures will ensure long life and top performance of your trowelling machine.

SAFETY PRECAUTIONS

CAUTION
Always keep unauthorised, inexperienced, untrained people away from this machine. Never leave machine unattended while the engine is running.

CAUTION
Rotating and moving parts will cause injury if contacted. Make sure guards are in place, keep hands and feet away from rotating parts.

CAUTION
Fuel the machine only when the motor is stopped, using all necessary safety precautions.

CAUTION
Be sure the safety cut off switch provided on your trowelling machine is working properly so that if the handle should slip away from your control, the ignition supply will be cut off instantly.

CAUTION
Be careful not to come in contact with the muffler when the motor is hot since it can cause severe burns.

CAUTION
Always maintain a good footing so that you do not slip and lose control of the handle when starting the engine or operating the trowelling machine.

CAUTION
Keep feet and hands away from inside of the guard ring, as serious injury could occur to operator. We highly recommend that the operator of the trowelling machine wear safety boots.

CAUTION
It is important that the operator retains a firm grip with the left hand at some point on the handle when starting motor, preferably close to throttle control.

CAUTION
When starting the trowel use minimum throttle. A higher setting may cause the centrifugal clutch to immediately engage causing the handle to rotate which could cause serious injury to operator.

CAUTION
Be careful with the trowel around stub pipes sticking up out of the floor. Should the trowel blade catch on a stub pipe or any other obstacle, it can be very dangerous and may damage the machine.

PRE STARTING INSTRUCTIONS

1. Before starting motor check
   - oil level in motor
   - petrol in motor
   - operation of blade tilt
   - switch to 'on' position

   Read the motor manufacturers instruction. Start the motor, leave choke closed and check the operation of the cut out switch. If it is operating satisfactorily restart the motor, open the choke and run the machine. NB. Always keep a firm hold on the handlebars whilst the motor is being started and run. Depending on the surface of the floor the blades may need some coaxing to rotate. This can be done by a second person taking some of the weight by lifting the front of the machine and by tilting the blades slightly or by breaking the friction by quickly pushing or pulling.

   Ensure that the full range of throttle control from idle to 3600 RPM is available.

2. TO STOP
   Throttle motor down then set the switch to 'off' position. Do not switch off motor before throttling down as this may cause motor damage.

OPERATING INSTRUCTIONS:

THE FLOATING OPERATION:

When the slab has set sufficiently firm that the operator's footprint leaves a very slight depression on the surface of the slab, it is ready for the floating operation.

Under normal operating conditions the machine should cover as much as 300 metres in about 15 minutes. It is recommended to have a slight tension on the blade control cable (but not a definite tilt) during the floating operation, this will cause the machine to operate more smoothly. After the floated slab has set sufficiently it is ready for the finishing operation.

CAUTION - Do not let the machine stand in one spot on the soft cement. Lift from the slab when the floating is done.

THE FINISHING OPERATION

When starting the finishing operation never set the blades up over 6mm pitch, this is important. Guiding the machine on the slab is very simple, a slight upward lift of the handle causes the machine to travel to the left. Holding the handle in neutral position, the machine rotates in one spot. Slight downward pressure on the handle causes the machine to travel to the right. Best results are obtained by covering approximately 100mm with each turn. In other words, let the machine move right or left, backwards or forwards, approximately 100mm with each revolution of the trowels. To fill a hole or cut down a hump, move the unit back and forth over the hole or hump.

After the first pass over the slab, the waiting time between operations is determined in the same manner as if you were hand trowelling. The pitch of the blades is determined by the hardness of the slab in like manner. To repeat: the entire application and action of the trowelling machine in regard to getting on the slab, and the correct pitch of the blades, is determined in the same manner as would be used by a concrete finisher when trowelling by hand.

BLADE PITCH SETTING

The blade pitch adjustment feature of the trowelling machine permits quick and accurate pitch changes of the finishing blades, without having to stop the machine. Turning the adjustment knob at end of handle enables the operator to change the blade pitch whenever necessary to take care of varying conditions over the slab surface, and thus do the work faster and more expertly.

LUBRICATION

The long life and successful operation of any piece of machinery is dependent on frequent and thorough lubrication. Before using the trowelling machine always check your motor for oil. Use proper engine oil as recommended in manufacturer's manual.

GEARBOX

Remove the oil level plug to make frequent inspections of the gearbox oil level. Use EP90 gear oil or equivalent only.

AIR CLEANER

Maintaining a clean engine will extend engine life. Keep air filter clean at all times. Wash the element clean in a non-oil based cleaning solvent. Let the filter dry before re-installing it in the air cleaner.

SPARK PLUG

Check and clean the spark plug regularly. A fouled, dirty or carboned spark plug causes hard starting and poor engine performance. Set spark plug gap to recommended clearance. Refer to engine manual.

MAINTENANCE INSTRUCTIONS

Keep engine oil clean, change accordingly.
Maintain the oil levels in the engine and gearbox assembly.
Use only clean fuel.
Check for loose nuts and bolts on the trowelling machine and tighten as necessary.
Check V-belts for wear, replace if worn.
Grease the nipples located on the blade arms after each use, so that they respond properly when you change their pitch.
Clean off the machine after each use to prevent hardening of sludge. Hard concrete is very difficult to remove, greatly increases weight and reduces efficient subsequent operation of unit.

If using a water blaster to clean your trowelling machine, do not aim directly where the blade arms enter the base housing. The pressure may force water and dirt into the base housing, causing the blade arms to stiffen or cease up. This can also cause internal damage to tilt plate because of the resistance.

TROUBLE SHOOTING

PROBLEMS	CAUSES
WONT START	- No petrol - Switched off - Wire grounded - Clutch seized - Other engine problems- see engine manual
STARTS BUT NO HIGH SPEED	- Engine problems - Throttle cable broken or seized - Throttle lever and connectors loose or out of adjustment
BLADE CONTROL WILL NOT OPERATE BLADES	- Cable broken or out of adjustment - Blade arm seized - Tilt push flanged rod broken or badly worn
STARTS AT HIGH SPEED, WONT SLOW DOWN	- Refer - Starts but no high speed
ENGINE WON'T STOP	- Safety switch, wire or connectors not making good contact
ENGINE STARTS BUT WONT TURN BLADES AT ANY SPEED	- Clutch seized - No weight in clutch - Wrong belt - Broken or missing - Clutch - Pulley - Worm shaft - Worm wheel - Driveshaft - Gearbox seized
BLADES TURN WHEN ENGINE AT IDLE	- Idle too fast - Belt too tight - Clutch seized - Pulley out of alignment
MACHINE VIBRATES	- This is generally due to motor vibration being translocated through the "rigid" new machine. This vibration usually occurs over a limited revolution range. Use the throttle to adjust engine revs so vibration is eliminated. As the machine "loosens up" this vibration will disappear. If you are uncertain or if the vibration is consistant at all speeds please phone 0800 657 156.

PROBLEMS	CAUSES
BELT WEARING RAPIDLY	- Pulley out of alignment - Wrong belt - Clutch sticking - Gearbox seizing
BLADES WEARING UNEVENLY	- Blade arms seized - Arms bent - Adjusting screws incorrectly set
BASE HOUSING HARD TO GREASE	- Grease nipples blocked - Cement in grease grooves of blade arms
OIL LEAKS (1)	**Top of gearbox** - Engine leaks - Too much oil in gearbox - Large oil seal
(2)	At mainshaft or countershaft - Shaft too loose - Shaft and/or seals worn
MACHINE JUMPS ON FLOOR	- Concrete hardened on bottom of base housing - Base housing seized - Arms bent - Adjusting screws incorrectly set - Mainshaft bent - Tilt push flanged rod broken - Trowels unevenly worn