



## BCX650 Plate Compactor

### User Manual

[Revision 1.0 June 2017]

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READ THIS MANUAL CAREFULLY BEFORE USE – FAILURE TO DO SO MAY RESULT IN INJURY, PROPERTY DAMAGE AND MAY VOID WARRANTY. • KEEP THIS MANUAL FOR FUTURE REFERENCE. • Products covered by this manual may vary in appearance, assembly, inclusions, specifications, description and packaging.

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The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Checking and Changing Engine Oil](#). **Failure to add engine oil will void the product warranty.**

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# Safety

Safety messages are designed to alert you to possible dangers or hazards that could cause death, injury or equipment or property damage if not understood or followed. Safety messages have the following symbols:

	You WILL be KILLED or SERIOUSLY INJURED if you do not follow instructions.		You CAN be KILLED or SERIOUSLY INJURED if you do not follow instructions.		You CAN be INJURED if you do not follow instructions or equipment damage may occur.
<p>It is important that you read and understand the instruction manual before use and keep the manual in a safe place for future reference. Safety information presented here is generic in nature – some advice may not be applicable to every piece of equipment.</p> <p>All safety precautions must be observed to reduce the risk of personal injury when operating the equipment.</p> <p>The term "equipment" refers to your product, be it electrical mains, battery or petrol engine powered.</p> <p><b>IMPORTANT</b> – Handle the equipment safely and carefully.</p> <p><b>BEFORE USE</b> - If you are not familiar with the safe operation/handling of this equipment, or are in any way unsure of any aspect of suitability or correct use it for your application, you should complete training conducted by a person or organization qualified in safe use and operation of this equipment, including fuel/electrical handling and safety.</p>	<p><b>General Work Area Safety</b></p> <p>Work areas should be clean and well lit. Do not operate the equipment if bystanders, animals etc are within operating range of the equipment or the general work area.</p>	<p><b>Personal Safety</b></p> <p>Keep packaging away from children - risk of suffocation! Operators must use the equipment correctly. When using the equipment, consider conditions and pay due care to persons and property.</p> <p>Prevent unintentional starting of the equipment - ensure equipment and power source switches are in the OFF position before connecting or moving the equipment. Do not carry equipment with hands/fingers touching any controls.</p> <p>Remove any tools or other items that are not a part of the equipment from it before starting or switching on.</p> <p>Stay alert and use common sense when operating equipment. Do not overreach. Keep proper footing and balance at all times. Do not use equipment when tired or under the influence of drugs, alcohol or medication. This equipment is not intended for use by persons with reduced physical, sensory or mental capabilities.</p> <p>You must wear appropriate protective equipment when operating, servicing, or when in the operating area of the equipment to help protect from serious injury, including eye injury, inhalation of toxic fumes, burns, and hearing loss. Always wear eye protection. Protective equipment such as respirators, non-skid safety shoes, hard hat, hearing protection etc should be used for appropriate conditions. Other people nearby should also wear appropriate personal protective equipment. Do not wear loose clothing or jewellery, which can be caught in moving parts. Keep hair and clothing away from the equipment.</p> <p>If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.</p>	<p>Use the equipment and accessories etc. in accordance with these instructions, considering working conditions and the work to be performed. Using the equipment for operations different from those intended could result in hazardous situations.</p> <p>Before use, inspect the equipment for misalignment or binding of moving parts, loose components, damage or any other condition that may affect its operation. If damaged, have the equipment repaired by an authorized service centre or technician before use.</p> <p>Always keep the equipment and accessories (cutting tools, nozzles, bits etc) properly maintained. Keep the equipment, controls and handles dry and free from dirt, oil and grease.</p> <p>Store the equipment out of reach of children or untrained persons. To avoid burns or fire hazards, let the equipment cool completely before transporting or storing. Never place the equipment in places where there are flammable materials, combustible gases or combustible liquids etc.</p> <p>The equipment is not weather proof, and should not be stored in direct sunlight, at high ambient temperatures or locations that are damp or very humid.</p>	<p><b>Product Use and Care</b></p> <ul style="list-style-type: none"> <li>The machine is not intended to be used on cohesive soils such as clay or hard surfaces like concrete.</li> <li>To avoid injury, keep hands, fingers and feet away from the base plate. Grip the handle firmly with both hands.</li> <li>Always operate the machine from behind, never pass or stand in front of the machine when the engine is running.</li> <li>Never place tools or any other items under or on the machine.</li> <li>If the machine strikes a foreign object, stop the engine, disconnect the spark plug, thoroughly inspect the machine for any damage, and repair the damage before using the machine again.</li> <li>Do not overload the machine capacity by compacting too deep in a single pass or at too fast a rate.</li> <li>Never operate the unit at high transport speeds on hard or slippery surfaces.</li> <li>Exercise extreme caution when operating on or crossing gravel surfaces, or roads.</li> <li>Never leave the operating position while using the machine or leave the machine unattended when the engine is running.</li> <li>When finished, place the machine on a firm and level surface and shut it off.</li> </ul>	<p><b>General Equipment Use and Care</b></p> <p>Do not force the equipment. Use the correct equipment for your application. The correct equipment will perform better and be safer within its design parameters. Do not use the equipment if the ON/OFF switch malfunctions – any equipment that cannot be controlled with the ON/OFF switch is dangerous and must be repaired.</p>

General Fuel Safety	General Service Information	Product Use and Care
 <p>Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources.</p> <ul style="list-style-type: none"> <li>Do not spill fuel. If you spill fuel, wipe it from equipment immediately – if fuel gets on your clothing, change them immediately</li> <li>Do not smoke near fuel.</li> <li>Always shut off the engine before refuelling.</li> <li>Do not refuel a hot engine.</li> <li>Open the fuel cap carefully to allow any pressure build-up in the tank to release slowly.</li> <li>Always refuel in well ventilated areas.</li> </ul> <p>Always check for fuel leakage. If fuel leakage is found, do not start or run the engine until all leaks are fixed.</p>	<ul style="list-style-type: none"> <li>Have the equipment serviced or repaired at authorized service centres by qualified personnel only.</li> <li>Replacement parts must be original equipment manufacturer (OEM) to help ensure that equipment safety is maintained.</li> <li>Do not attempt any maintenance or repair work not described in this instruction manual.</li> <li>After use, the equipment and components may still be hot – allow the equipment to cool and disconnect spark plugs and/or electrical power sources and/or batteries from it before making adjustments, changing accessories or performing repair or maintenance.</li> <li>Do not make adjustments while the equipment is running.</li> <li>Perform all service related activities under suitable conditions, such as a workshop etc.</li> <li>Replace any worn, damaged or missing warning labels immediately.</li> </ul> <p>Do not clean equipment with solvents, flammable liquids or harsh abrasives.</p>	<ul style="list-style-type: none"> <li>Always stop the engine when you stop using the machine or when walking it to another location.</li> <li>Stay away from the edges of ditches and be careful not to cause the machine compactor to topple over.</li> <li>Always ascend slopes carefully, in a direct path and in reverse to prevent the plate compactor from toppling over onto the operator.</li> <li>To reduce exposure to vibration, limit the hours of operation and take periodic breaks to minimise repetition and rest your hands. Vary the speed and force in which you perform repetitive movements, and attempt to limit how often you use the machine.</li> </ul>

## DANGER

<p><b>Running combustion engines in confined areas CAN KILL IN MINUTES.</b> Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see.</p>   <p><b>NEVER</b> run a combustion engine in confined areas <b>EVEN IF</b> windows and doors are open. <b>ONLY</b> run engines <b>OUTDOORS</b> and away from doors, windows and vents.</p>	<p>Do not operate the equipment in hazardous locations, such as where there may be a risk of fire or explosions from flammable liquids, gases or dust.</p> <p>Do not operate the equipment in confined areas where exhaust gases, smoke or fumes could reach dangerous concentrations.</p> <p>Do not refuel a combustion engine while it is running, on or hot.</p> <p>Never smoke while refuelling combustion engines or handling flammable substances.</p> <p>Handle any flammable substance with extreme caution.</p> <p>For generators, the electrical output is potentially lethal and must only be connected to a fixed electrical installation by an appropriately licensed person.</p> <p>Be aware that the equipment may include hazardous components, such as blades, hot surfaces and moving parts.</p>
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# Parts Identification



No.	Name	No.	Name
1	Engine / Plate / Exciter / Throttle Cable Assembly	6	Tools / Accessories / Fasteners:
2	Handle		Spark Plug Tool
3	Trolley		Handle Stopper
4	Plate Compactor Pad		Handle Tube Chock
5	Plate Pad Bracket (2)		M10x65 Bolt (2)
			M10x30 Bolt (6)
			M8x20 Bolt (1)
			M10 Flat Washer (6)
			M10 Spring Washer (6)
			M8 Flat Washer (1)

## Engine and Machine Components



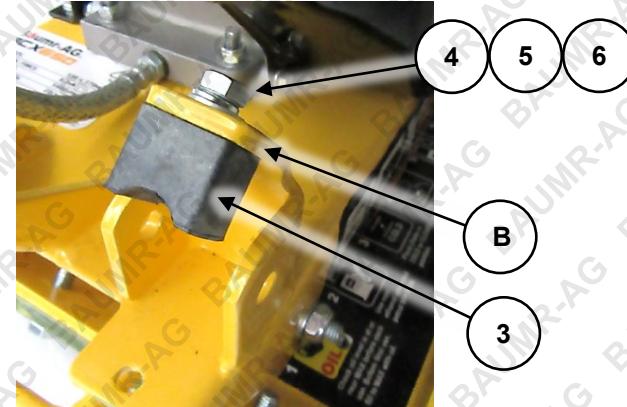
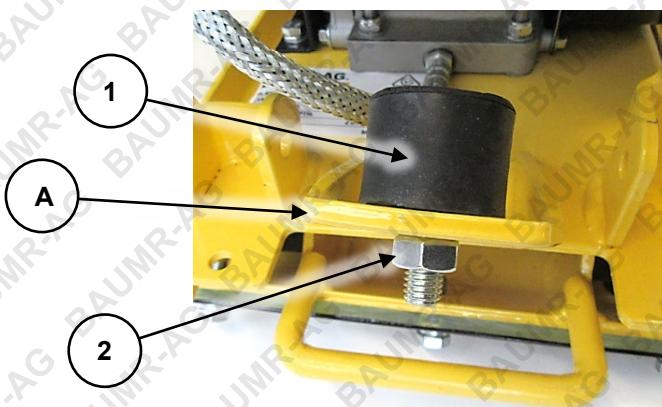
No.	Name	No.	Name
1	Engine ON / OFF Switch	9	Exhaust
2	Throttle Control	10	Air Filter Assembly (air filter inside)
3	Choke Lever	11	Spark Plug (not visible)
4	Starter Cord	12	Handle
5	Fuel Tank	13	Exciter Housing
6	Fuel Tap	14	Exciter Drive Belt Cover
7	Oil Drain Hose	15	Compactor Plate (with plate compactor pad installed)
8	Oil Filler Cap (not visible)	16	Trolley Wheel

# Assembly

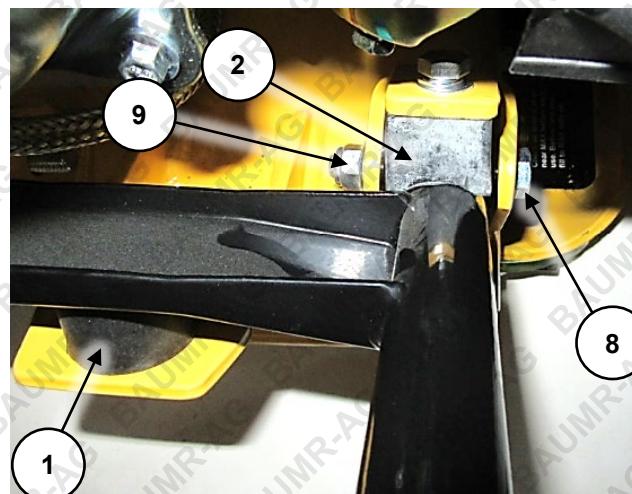
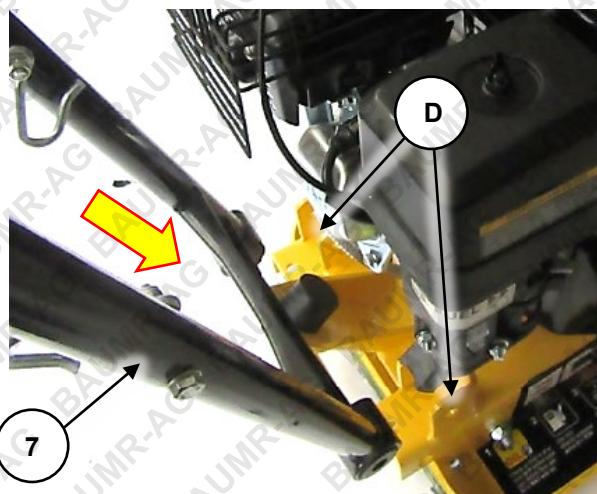


Some parts, such as the throttle control, have the necessary fasteners pre-assembled – these will need to be removed during the assembly process. • Suitable tools (not supplied) are required for assembly.

1. Take all parts out of the carton and place them on a firm, flat surface. Remove all packing materials.
2. Screw the handle stopper (1) to the hole in the tab (A) at the rear of the machine. Secure the stopper using an M10 nut (2) and tighten firmly.
3. Insert the handle tube chock (3) through the hole in the tab (B) on the right-handle handle mount (C) at the rear of the machine, and secure using the M8 bolt (4), flat washer (5) and spring washer (6).



4. Lower the ends of the handle assembly (7) (the handle ends contain vibration isolating rubbers) into the handle mounts (D) at the rear of the machine. Insert the handle so it is "trapped" between the handle stopper (1) and the handle tube chock (2).
5. Secure the handle using 2 M10x65 bolts (8) and lock nuts (9). Tighten firmly, but do not over-tighten and bind the handle.



6. Attach the throttle control (10) to the upper section of the handle in a comfortable position and secure it using the supplied fasteners. Use cable ties (not supplied) to tie the throttle cable to the handle.



## Plate Compactor Pad (Optional)

The plate compactor pad can be used for compacting concrete paving slabs and stones. It provides a slight cushioning effect to the compactor that may assist in reducing scratching / cracking or chipping of pavers. To attach it:

1. Place the machine on its side – ensure that there is no fuel in the tank before-hand.
2. Bring the plate compactor pad (1) up to the machine compactor plate (A) and align the mounting slots in the pad with the holes in the plate.
3. Secure the pad to the base by placing a plate pad bracket (2) against the plate compactor pad, then securing the bracket and pad to the machine compactor plate using 3 M10x30 bolts (3), flat washers (4) and spring washers (5). Firmly tighten the bolts, then repeat for the other pad bracket.



## Trolley Wheel (Optional)

The trolley wheel makes moving the machine easier when it is not being used. The design of the trolley also allows the machine to be left stationary without it resting on the compactor plate. To attach it:

1. Remove the pre-assembled bolts from the trolley (1) end brackets (A).
2. Attach the trolley end brackets to the holes at the rear of the machine (B) using the previously removed fasteners. Do not fully tighten the trolley fasteners – the trolley components must pivot freely. Over-tightening may make using the trolley difficult.



# Before Use Checklist



Ensure that you carry out all procedures below before starting the engine or operating the equipment. All procedures described are generic in nature and slight variations between different models may exist. **Failure to follow the checklist and carry out the procedures correctly may result in making the product warranty void.** The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Checking and Changing Engine Oil](#). **Failure to add engine oil will void the product warranty.**

## Engine Oil

Four-stroke engines require engine oil in the crankcase for lubrication of internal components. Severe or irreparable damage may occur if the engine is allowed to run without engine oil. The engine oil level requires regular maintenance. Check the engine oil level and ensure that the oil level is at or just under the maximum level indicator.

Always check the engine oil level before starting the engine. See [Checking and Changing Engine Oil](#).

## Air Filter

The air filter is used to prevent dirt and other particles from possibly entering the engine and causing internal damage to it. The air filter requires regular maintenance.

Always check the air filter before starting the engine. See [Checking, Cleaning and Replacing the Air Filter](#).

## Fuel



Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • The engine must be cool before refuelling.

Adequately fill the fuel tank with the correct fuel type.

- Use non-ethanol unleaded petrol (higher RON values will provide best engine performance). Do not use old or contaminated fuel.

To fill or top up fuel:

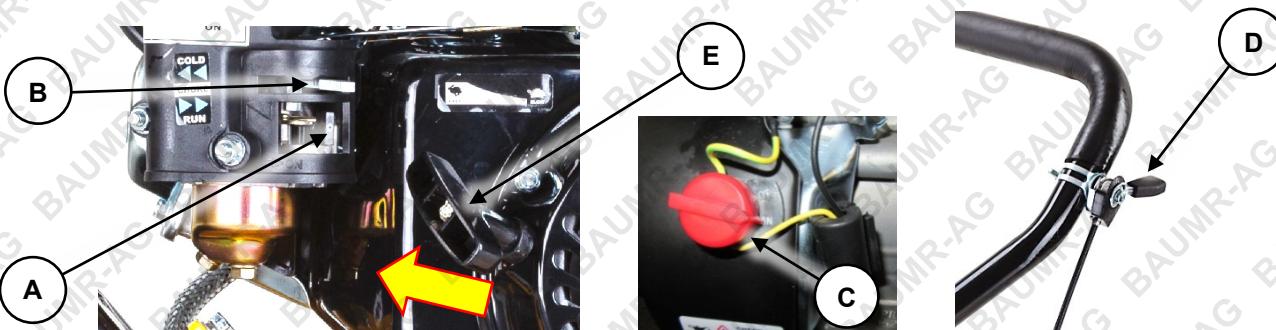
1. Place the machine in an upright position on a flat and level surface.
2. Clean the machine around the fuel filler so that no dirt or other material enters the engine when the cap is removed.
3. Remove (rotate left) the fuel filler cap.
4. Using a funnel, carefully fill the tank with fuel. Do not fill above the top of the strainer (if equipped) or otherwise overfill the tank.
5. When finished, reinstall (rotate right) the fuel filler cap until firm. Wipe away any residual fuel from the machine. If fuel has been spilt, move the machine away from the spillage before starting the engine.

# Engine Starting and Compactor Operation

## Starting the Engine

1. **FUEL** – Place the fuel tap (**A**) in the "ON" position.
2. **CHOKE** – If the engine is cold, place the choke (**B**) in the "COLD" position. If the engine is warm or the ambient temperature is high, place the choke in the "RUN" position.
3. **IGNITION** – Place the engine ON/OFF switch (**C**) in the "ON" ("I") position.
4. Move the throttle lever (**D**) approximately 1/3 of the way toward the "FAST" position.
5. **START** – Slowly pull out the starter cord (**E**) until you feel it engage with the engine, then pull it out rapidly (use both hands if necessary). The engine should start. Allow the starter cord to rewind slowly – do not let it "snap" back.
6. **WARM-UP** – Allow the engine to warm-up and run smoothly. If choke is being applied, place the choke (**B**) in the "RUN" position.
7. **THROTTLE** – Adjust the throttle control (**D**) for the required engine speed.

If the engine does not start, repeat step 5 onward. If the engine fails to start after several attempts, refer to [Troubleshooting](#).



## Stopping the Engine

### Stopping in an Emergency

1. To stop the engine immediately, place the engine ON/OFF switch or key switch in the "OFF" position.

### Stopping in Normal Use

1. Rotate the throttle control lever so the engine is idling (slowest running speed).
2. Place the engine ON/OFF switch in the "OFF" position.
3. Place the fuel tap in the "OFF" position.

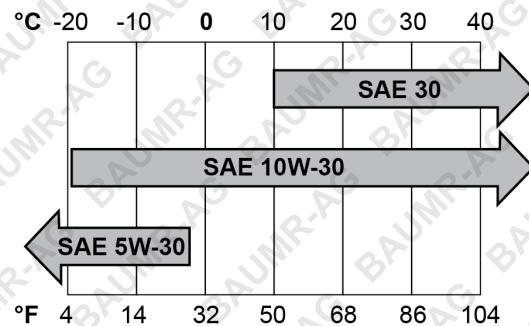
## Environmental Considerations

### Altitude

If the engine is being used in altitudes at or above 1500m (approximately 5000'), adjustments to the carburettor may be required. This is because there is less oxygen in the air as altitude increases, which effectively "enriches" the ratio of fuel to air going into the engine and the higher the altitude, the richer the fuel mixture becomes. If the engine is being permanently operated at high altitude, it is recommended to have an authorized service centre make the necessary carburettor adjustments. If the engine is used occasionally at altitude (not extreme altitudes), no adjustments should be required, however, a slight decrease in engine performance can be expected.

## Temperature

If the engine is being used in extremely cold or hot environments; for example, desert or snow conditions, the type of engine oil may need to be changed to suit environmental temperatures. Oil thickens as the temperature decreases and thins as temperature increases, which means that if the engine oil is not suited to the temperature its ability to properly lubricate the engine may be affected. Use the following chart to determine the correct engine oil:



## Compactor Operation



Do not operate the machine on concrete or on extremely hard, dry, or compacted surfaces.

The plate will jump rather than vibrate and could damage both the plate and engine. • When using a compactor on asphalt, a water sprinkler should be used to help prevent the compacting plate from adhering to the hot asphalt surface. • When using the plate on paving stones, attach the plate compactor pad to the machine to prevent chipping, scratching or cracking the surface of the stones. • While a certain amount of moisture in the soil is necessary, excessive moisture may cause soil particles to stick together and prevent good compaction. If soil is extremely wet, allow it to dry somewhat before compacting. • If soil is so dry as to create dust clouds while operating the machine, some moisture should be added to the ground material to improve compacting.

When the machine is being used, an eccentric (off-centre) weight contained within the exciter housing is driven at high speed by a clutch and belt drive system. This high-speed shaft revolution causes the rapid lifting and downward ramming motion of the machine as well as imparting a forward motion. The exciter motion provides the high-frequency vibration and force to compacting plate.

After the engine warms up, use the throttle control to increase engine speed. The plate will begin vibrating and the machine will tend to move forward. The plate compactor is designed to run at an engine speed of 3600RPM (normally considered full throttle). Note the following:

- Running the engine at lower speeds will result in a decrease of compaction force and slower travel speed. It may also create excessive "unsynchronised" vibrations, resulting in poor compaction, low manoeuvrability, increased machine wear, and operator discomfort.
- In operation, guide the machine, but let the compactor do the work. Putting pressure on the handle is unnecessary and causes wear to the vibration isolation rubbers.
- On level surfaces the machine moves forward rapidly. On uneven surfaces or inclines, light forward pressure on handle may be required to assist the machine in moving forward.
- The number of passes required to reach a desired compaction level will depend on the type and moisture content of soil. Maximum soil compaction has been reached when excessive kickback or bounce is noticed.

# Maintenance



Running combustion engines in confined areas **CAN KILL IN MINUTES**.

Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see. NEVER run a combustion engine in confined areas EVEN IF windows and doors are open. ONLY run combustion engines OUTDOORS and away from doors, windows and vents. •

Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see

[Checking and Changing Engine Oil](#). **Failure to add engine oil will void the product warranty.**

• Do not have the engine running during inspection and maintenance unless specifically required. • The engine should be cool enough to touch before performing maintenance activities. • Some maintenance activities described may be beyond the scope of some users. For procedures that you are not comfortable with or have the tools or experience for, have the unit serviced by a service centre or qualified technician. • Do NOT use a "pressure washer" to clean the machine. Water can penetrate areas of the unit and cause damage to spindles, pulleys, bearings, or the engine. The use of pressure washers will result in shortened life and reduce serviceability. • Harsh operating environments such as extreme temperatures, dust etc may necessitate more frequent maintenance. • Maintenance frequencies are based on general factors including a maximum use of approximately 300 hours per year. Apply common-sense when following the maintenance schedule based on your actual use of the product. • Keep reasonable records of maintenance activities for reference. **Failure to follow the maintenance schedule, using incorrect or non-compatible accessories or replacements parts, or general negligence may result in making the product warranty void.**

To keep the engine performing at optimal efficiency, regular checks and maintenance is required. Proper care and maintenance ensures best performance and longest service life.

The maintenance schedule below specifies preventative maintenance checks and necessary maintenance tasks and how often they should be performed. The schedule applies to multiple engines; some engines may not include some components, so maintenance on those components is not applicable.

## Maintenance Schedule

Component/Task	Every Use	Frequency – Whichever Comes First			
		First Month or 20 Hours Use	Every 3 Months or 50 Hours Use	Every 6 Months or 100 Hours Use	Every Year or 300 Hours Use
Engine Oil	Check	Replace		Replace	
Oil Leaks	Check/repair as necessary				
Air Cleaner	Check	Clean and replace as necessary			
Spark Plug			Check	Replace	
Valve Clearance					Adjust as necessary
Combustion Chamber					De-coke as necessary
Idle Speed				Check/adjust as necessary	
Fasteners	Check/tighten as necessary				
Fuel Tank					Flush and clean
Fuel Line		Replace as necessary			
Fuel Strainer	Check				
Exciter Drive Belt	Check/adjust as necessary		Check/tighten as necessary		
Exciter Fluid					Replace

## Checking and Changing Engine Oil

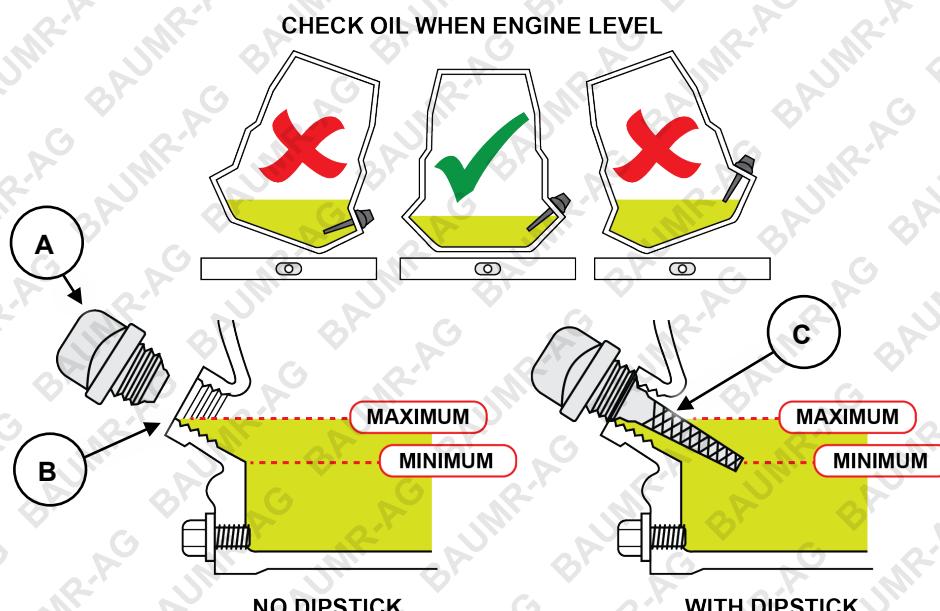


The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use. **Failure to add engine oil will void the product warranty.** • Always check engine oil level when the machine is in an upright position on a flat and level surface. • Do not use used or contaminated engine oils. • Use only engine oils of the correct type (see [Specifications](#)). • Perform the first oil change within the first 20 hours of use. Subsequently, change the oil every 20 hours of use. • It is recommended that the engine be warm, but not hot, when performing oil changes. When the oil is warm it drains faster. • **Using dirty or incorrect engine oil may cause engine damage and void any warranty.** • Always use suitable tools. • Always dispose of used oil in an environmentally responsible manner and according to regulations. • Some engines feature oil level detection, which will prevent the engine being started or automatically stop a running engine if there is insufficient oil. • **Always check the oil level and ensure it is at or near the "MAX" indicator before using the machine.** • Some models may have 2 oil drain plugs and fillers on either side of the engine – it does not matter which one is used.

Four-stroke engines require engine oil in the crankcase for lubrication of internal components. Severe or irreparable damage may occur if the engine is allowed to run without engine oil. The engine oil level requires regular maintenance as per the maintenance schedule.

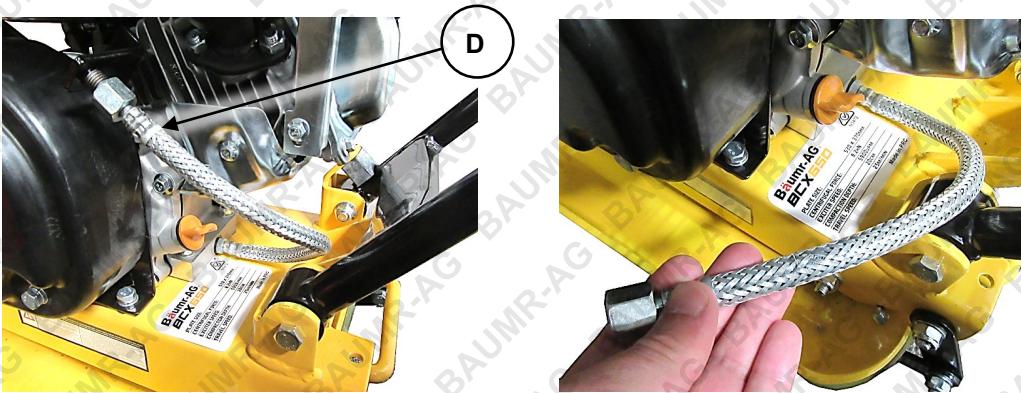
To check engine oil level:

1. Place the machine in an upright position on a flat and level surface.
2. Clean the machine around the oil filler cap (A) so that no dirt or other material enters the engine when the cap is removed.
3. Remove the oil filler cap (rotate left) until fully unscrewed. For machines without a dipstick, the oil level is determined by how close the oil is to the edge of the filler hole (B). For machines equipped with an oil level dipstick:
  - a. Remove the dipstick (C) and wipe clean with a piece of cloth or paper.
  - b. Insert the dipstick into the oil filler but do not screw it in.
  - c. Remove and inspect the dipstick – the oil level is determined by where oil can be seen on it.
4. Ensure that the oil level is at or just under the "maximum". If the oil level is low, add additional oil until the correct level is reached. If the oil level is too high, drain some oil until the correct level is reached.
5. When finished, re-install (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.



To change the engine oil:

1. Place the machine on a suitable work surface that is flat and level and have a container ready to catch drained oil.
2. Clean the machine around the oil filler cap/dipstick so that no dirt or other material enters the engine when the plug or cap is removed.
3. Unscrew (rotate left) the oil drain hose (**D**) from its bracket.
4. Lower the oil drain hose below the level of the machine and drain all oil from the engine.
5. Screw (rotate right) the oil drain hose to its bracket and firmly tighten.
6. Remove the oil filler cap (rotate left) until fully unscrewed. Wipe the oil level indicator clean with a piece of cloth or paper.
7. Using a funnel, carefully add oil to the engine until the "maximum" level is reached. Double-check the oil level (described above).
8. When finished, re-install (rotate right) the oil filler cap until firm. Wipe off any residual oil from the machine.



## Checking , Cleaning or Replacing the Air Filter



Operating the machine without a functional air filter may cause severe engine damage and will void any warranty. • A dirty or oil saturated air filter will restrict air flow, which can be mistaken as fuel system problems. Check the condition of the air filter before adjusting engine idle speed, where applicable. • If the air filter is damaged (torn, broken, disintegrating), replace it.

The air filter is used to prevent dirt and other particles from possibly entering the engine and causing internal damage to it. The air filter requires regular maintenance as per the maintenance schedule.

### Air Filter Inspection and Cleaning

Inspect the air filter for dirtiness and debris, damage etc. Clean or replace the filter element as necessary. To clean air filters:

- For foam filters, wash the filter in warm water and mild detergent, then rinse and allow to dry.
- For paper filters, use compressed air to blow particles from it. The air should be blown from the engine side of the filter.
- Clean all other air filter assembly components using water and mild detergent, then dry them.
- For foam filters, place a few drops of clean engine oil on the filter then squeeze it a few times to spread the oil through the filter material and remove any excess oil.

### Air Filter Removal/Installation

To remove the air filter:

1. Unscrew (rotate left) the wing nut (**B**) securing the air filter cover (**C**) and remove the cover from the air intake assembly (**A**).
2. Unscrew (rotate left) the wing nut (**D**) and remove the filter element (**E**).



To install the air filter:

1. Re-install the filter element and ensure it is seated correctly on the air intake assembly.
2. Re-install (rotate right) the wing nut and tighten by hand so that the filter element is secure. Do not over-tighten.
3. Re-install the filter cover and secure it with the wing nut (rotate right). Tighten the nut by hand. Do not over-tighten.

## Spark Plug



If the spark plug is damaged (cracked insulator, broken or eroded electrodes etc), replace it. •  
Always use spark plugs of the correct "heat range" - see [Specifications](#).

The spark plug is used to ignite the air/fuel mixture inside the engine. The spark plug has electrodes on one end and an electrical terminal on the other. The spark plug requires regular maintenance.

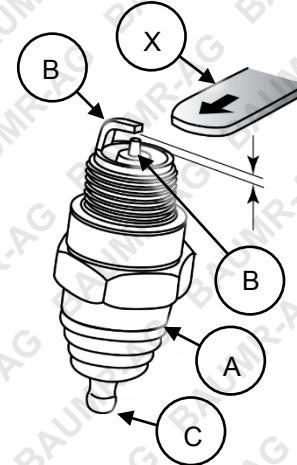
### Spark Plug Cleaning and Gap Checking

The spark plug should be checked and cleaned as per the maintenance schedule.

1. Remove any carbon deposits on the spark plug (A) electrodes (B) with a wire brush.
2. Clean the spark plug threads and the electrical terminal (C) on the top.

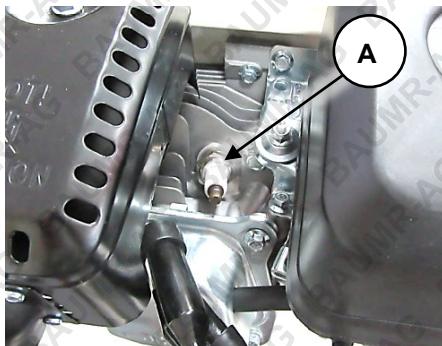
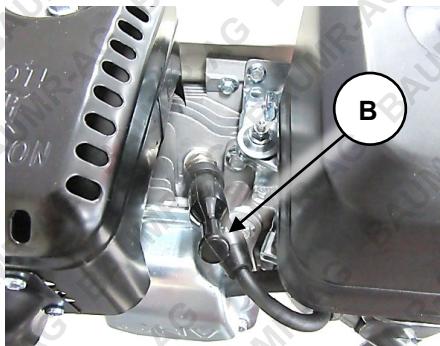
To check and adjust the spark plug "gap":

1. Use "feeler" or "thickness" gauges (X) to measure the existing gap. The gauge must drag a little when being slid between the electrodes (2) – this means the measurement is fairly accurate.
2. Adjust the gap to within specification (see [Specifications](#)). If the gap needs to be reduced, gently tap the electrode as required. If the gap needs to be increased, use pliers to gently pull the electrode as required.
3. Measure the gap again and ensure it is within the specified range before re-installing the spark plug.



### Spark Plug Removal/Installation

1. Pull the electrical lead (B) from the terminal on top of the spark plug (A).
2. Clean the area around the spark plug so that no dirt or other material can enter the engine when the spark plug is removed.
3. Use the spark plug tool (C) to remove the spark plug (rotate left).



To re-install the spark plug:

1. Place the spark plug in its hole and screw it in (rotate right) until "finger tight".
2. Use the spark plug tool to tighten the spark plug approximately one quarter turn (do not over-tighten).
3. Place the electrical lead over the spark plug terminal and push it down so that it connects firmly with the terminal.

## Exciter Drive Belts



On new machines or after installing new belts, check the belt tension after the first 20 hours of operation. Check and adjust the belt every 50 hours thereafter. • When replacing belts, always replace both belts at the same time. • When installing or adjusting belt(s), ensure that the clutch and exciter pulleys are aligned.

To ensure optimum power transmission from the engine to the exciter, the drive belts must be in good condition and be correctly tensioned.

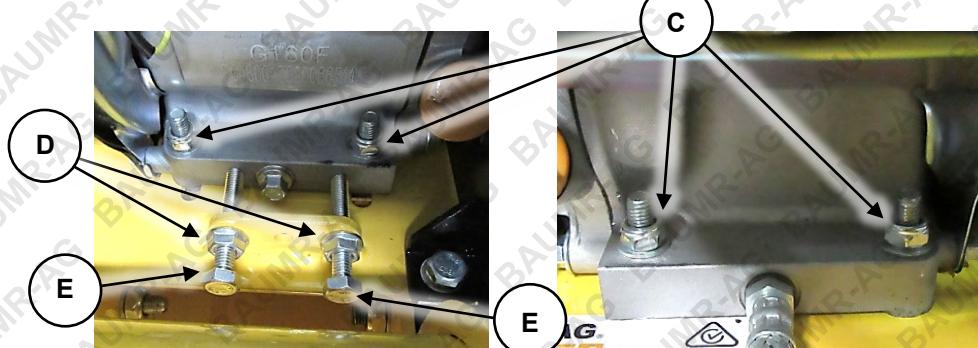
### Checking and Adjusting Belt Tension

Correct belt tension is critical to machine performance and how long the belts will last. Inadequate tension may cause the belts to slip, which will prevent the exciter from vibrating at the correct speed and will cause excessive belt wear, glazing etc. Too much tension will cause premature belt failure and place unnecessary stress on other machine parts. To check belt tension:

1. Remove the 2 bolts (**A**) securing the drive belt cover (**B**).
2. Check belt condition – if there is any cracking, fraying, or glazing, replace both belts.
3. Squeeze the belts together in the centre – belt deflection on each side should be 9 to 13mm (3/8 to 1/2") with moderate pressure from your thumb or finger.



4. If the tension requires adjustment, loosen the 4 engine mounting bolts (**C**) slightly (do not remove) – just enough to allow the engine to be moved.
5. Loosen the engine adjustment lock nuts (**D**), leaving sufficient space between the nuts and bracket for the required engine movement.
6. Shift the engine toward the rear of the machine by rotating the adjustment bolts (**E**) right (clockwise) until the belt tension is correct. Rotate both adjustment bolts the same amount so that the engine and belt pulleys remain in alignment. If the engine cannot be moved any further and the belts remain "loose", replace the belts.



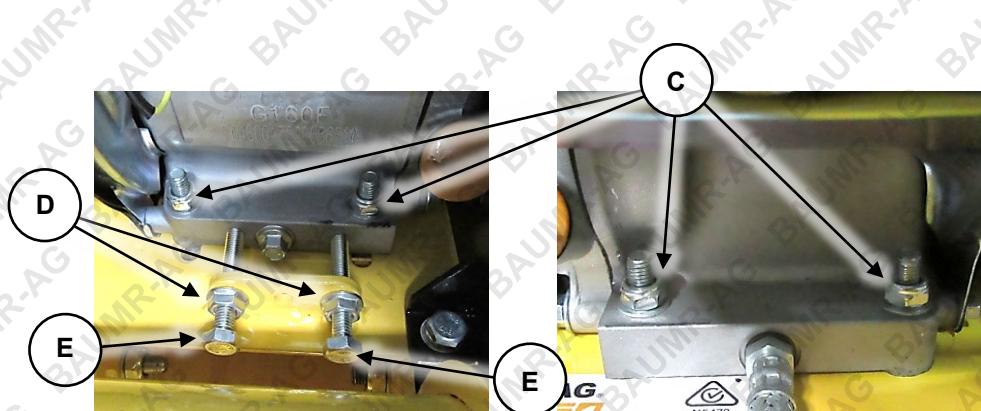
7. Tighten engine adjustment lock nuts against the bracket.
8. Tighten the engine mounting bolts.
9. Re-install the drive belt cover.

## Replacing Belts

1. Remove the 2 bolts (**A**) securing the drive belt cover (**B**).



2. Loosen the 4 engine mounting bolts (**C**) slightly (do not remove) – just enough to allow the engine to be moved.
3. Loosen the engine adjustment lock nuts (**D**).
4. Shift the engine toward the front of the machine by rotating the adjustment bolts (**E**) left (anti-clockwise) until the belts can be removed from the pulleys. Rotate both adjustment bolts the same amount so that the engine and belt pulleys remain in alignment.



5. Place the new belts on to the pulleys, then [tension the belts](#).
6. Tighten engine adjustment lock nuts against the bracket.
7. Tighten the engine mounting bolts.
8. Re-install the drive belt cover.

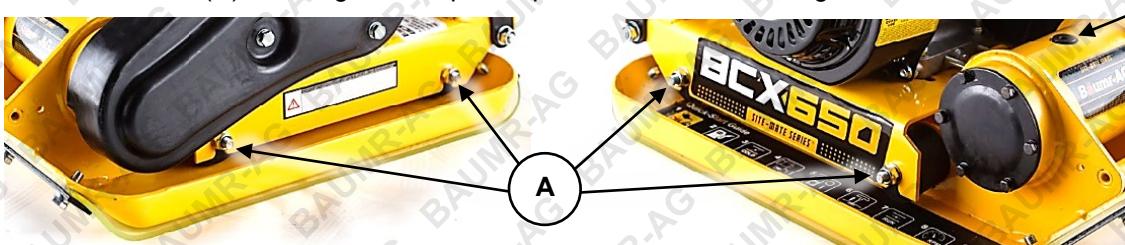
## Exciter Lubrication



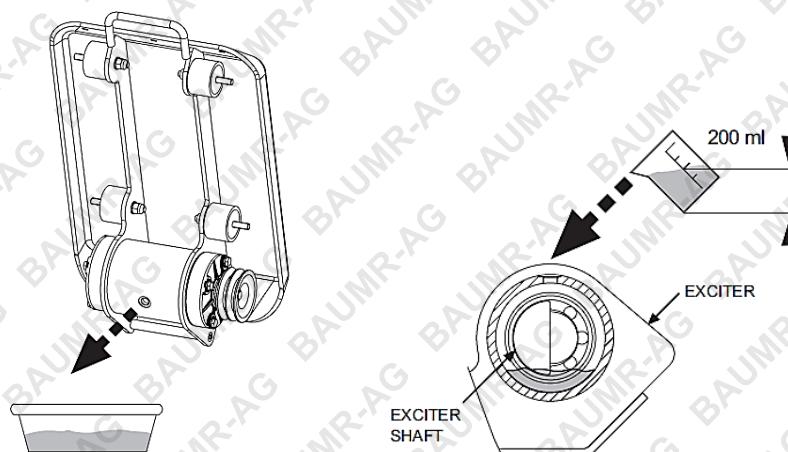
Do not overfill the exciter housing – overfilling can result in excessive temperature. • The oil should be replaced after each 200 hours of operation with Dextron III, Mercon, NUTO H-32 automatic transmission fluid or equivalent.

The exciter assembly comes pre-filled with oil, however, requires regular maintenance.

1. [Remove the exciter drive belts.](#)
2. Remove the 4 nuts (**A**) securing the compactor plate and exciter housing to the machine.



3. Separate the compactor plate and exciter housing from the machine.
4. Remove the plug (**B**) from the top of the exciter housing, then tilt the housing upside down drain all oil from it. Examine the oil for metal chips as a warning of future issues.



5. Return the compactor plate/exciter housing to a horizontal position.
6. Fill the exciter housing with 200ml of oil.
7. Apply pipe sealant to the plug and re-install it to the exciter housing.
8. Reassemble the compactor plate/exciter housing to the rest of the machine and firmly tighten the 4 nuts.
9. [Tension the exciter drive belts.](#)

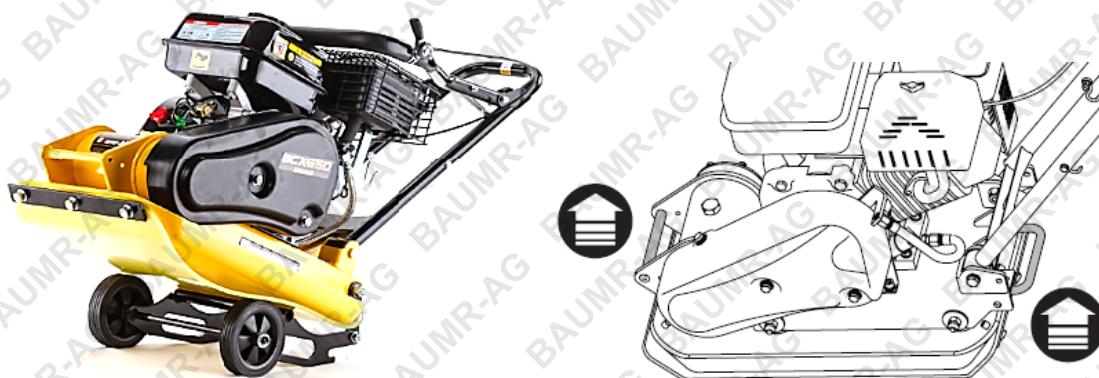
# Transportation and Storage



Always ensure that the machine is cool enough to touch before transporting or storing. • Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • Always transport the machine with the fuel tap and engine ON/OFF switch in the "OFF" position. • Drain the fuel tank before transportation or storage. • A minimum of 2 people is required to lift the machine. Take adequate precautions to ensure no injury when lifting or moving the machine.

## Preparing for Transport and Storage

- Drain the fuel system by allowing the engine to run until it stops.
- Ensure the engine ON/OFF switch is in the "OFF" position.
- Avoid exposing the equipment to direct sunlight, particularly during transportation.
- Fold the upper handle down. Do not allow control cables to become pinched or bent.
- Lift the machine using the handles at the front and rear as shown.
- Ensure the equipment is secure and upright during transport.
- Store the unit in a dry, well-ventilated area and out of the reach of children.



## Long Term Storage

Follow the normal procedures for storage, then:

- Drain the fuel system. It is advised to have the fuel tank as empty as possible before draining.
  - a. Unscrew (rotate left) the carburettor drain plug. Use a suitable container to catch the draining fuel, and allow the fuel to drain. Store the drained fuel in a properly sealed container.
  - b. Re-install (rotate right) the carburettor drain plug and tighten.
- Remove the spark plug and put 30ml of clean engine oil into the cylinder. Pull the starter rope slowly to distribute the oil. Re-install the spark plug.
- Cover the equipment to protect it.

# Troubleshooting



Running combustion engines in confined areas **CAN KILL IN MINUTES**. Engine exhaust fumes contain carbon-monoxide – a deadly gas that you cannot smell or see.

NEVER run a combustion engine in confined areas EVEN IF windows and doors are open. ONLY run combustion engines OUTDOORS and away from doors, windows and vents. • Petrol/fuel/gasoline is extremely flammable – keep clear of naked flames or other ignition sources. • The product is NOT supplied with engine oil, although traces of oil from the manufacturing process may be present. It is essential to add adequate engine oil of the correct type to the engine before use – see [Checking and Changing Engine Oil](#).

**Failure to add engine oil will void the product warranty.** • Do not have the engine running during inspection and maintenance unless specifically required. • The engine should be cool enough to touch before performing maintenance activities. • Some maintenance activities may be beyond the scope of some users. Do NOT attempt procedures that you are not comfortable with, or do not have the necessary tools, experience or knowledge for – take the unit to an authorised service centre or qualified technician for servicing.

The following information may assist in identifying a problem and rectifying it.

## **Difficulty starting the engine.**

Possible Fault	Action
Lack of fuel	Check that there is fuel in the tank. • To further check if fuel is reaching the carburettor, remove the carburettor drain plug and check if fuel drains.
Engine "OFF"	Ensure engine ON/OFF switch is in the "ON" position.
Carbon build-up on spark plug	Remove the spark plug and clean any carbon from the electrodes before re-installing it.
Spark plug faulty	Remove the spark plug, then reconnect the plug lead to it. Place fuel tap in the "OFF" position and the engine ON/OFF switch in "ON" position. Touch the spark plug electrode to a part of the engine crankcase, away from the spark plug hole, and attempt to start the engine – a spark should be visible across the electrodes as the engine is rotated. If no spark is visible, replace the spark plug.
Engine "flooded" with fuel	Place choke in the "RUN" position. Leave the ON/OFF switch in the "OFF" position. Pull the starter cord several times to assist clearing excess fuel from engine before attempting to start engine.

## **Engine starts but runs erratically.**

Possible Fault	Action
Spark plug wire loose	Ensure the spark plug wire is securely connected.
Choke ON	Move the choke lever to "OFF" position.
Blocked fuel line or stale fuel.	Clean the fuel line. Fill the tank with clean, fresh petrol.
Water or dirt in fuel system	Drain fuel tank and carburettor. Refill with fresh fuel.
Dirty air cleaner	Clean the air filter element and air filter assembly.

**Engine overheats.**

Possible Fault	Action
Engine oil level low	Fill the crankcase with correct oil type to MAX indicator or just under.
Dirty air cleaner	Clean the air filter element and air filter assembly.

**Engine will not stop when throttle control is positioned at stop, or engine speed does not increase properly when the throttle control is adjusted.**

Possible Fault	Action
Debris interfering with the throttle linkage	Clean away dirt and debris.

**Compactor is difficult to control during use (machine jumps or lurches forward)**

Possible Fault	Action
Engine speed too great for surface hardness	Run the engine at a lower speed.

## Specifications

Engine Type	4-stroke, single cylinder
Fuel Type	Non-ethanol unleaded petrol
Fuel Tank Capacity	3.6l
Spark Plug Type	F7TC, F7RTC
Spark Plug Gap	0.7 to 0.8mm (0.028 to 0.032")
Valve Clearance	Inlet: $0.15\text{mm} \pm 0.02\text{mm}$ ( $0.006" \pm 0.001"$ ) Exhaust: $0.2\text{mm} \pm 0.02\text{mm}$ ( $0.008" \pm 0.001"$ )
Engine Oil Type	SAE 10W-30 automotive engine oil recommended for general use
Engine Oil Capacity	Approximately 0.5l (always check level)
Exciter Oil Type	Dextron III / Mercon / NUTO H-32 or equivalent
Exciter Oil Capacity	Approximately 0.2l
Exciter Drive Belt	A 725 LI (2)

# Service and Maintenance Record

Use the following tables as a record of machine servicing and maintenance. Keeping accurate records will help ensure better machine service life and may simplify fault diagnosis and any possible warranty claims. Place a tick in the required box for either clean or replace with the date, as required.

	<input type="checkbox"/> Date					
Replace Engine Oil						
Replace Spark Plug						
Replace Air Filter						
Replace Fuel Strainer						
Replace Fuel Lines						
Clean Fuel Tank						
Check/Adjust Valve Clearance						
De-Coke Combustion Chamber						

	<input type="checkbox"/> Date					
Replace Engine Oil						
Replace Spark Plug						
Replace Air Filter						
Replace Fuel Strainer						
Replace Fuel Lines						
Clean Fuel Tank						
Check/Adjust Valve Clearance						
De-Coke Combustion Chamber						



**Some experts believe that the incorrect or prolonged use of almost any product may cause serious injury or death. To help reduce your risk of serious injury or death, refer to the information below. For more information, see [www.datastreamserver.com/safety](http://www.datastreamserver.com/safety)**

- Consult all documentation, packaging and product labelling before use. Note that some products feature documentation available online. It is recommended to print and retain the documentation.
- Before each use, check the product for loose/broken/damaged/missing parts, wear or leaks (if applicable). Never use a product with loose/broken/damaged/missing parts, wear or leaks.
- Products must be inspected and serviced (if applicable) by a qualified technician every 6 months. This is based on average residential use by persons of average size and strength, and on a property of average metropolitan size. Use beyond these recommendations may require more frequent inspections/servicing.
- Ensure that all users of the product have completed a suitable industry recognised training course before being allowed access to the product.
- The product has been supplied by a general merchandise retailer that may not be familiar with your specific application or description of application. Be sure to attain third-party approval from a qualified specialist for your application before use, regardless of any assurances from the retailer or its representatives.
- This product is not intended for use where fail-safe operation is required. As with any product (for example, automobile, computer, toaster), there is the possibility of technical issues that may require the repair or replacement of parts, or the product itself. If the possibility of such failure and the associated time it may take to rectify could in any way inconvenience the user, business or employee, or financially affect the user, business or employee, then the product is not suitable for your requirements. This product is not intended for use where incorrect operation or a failure of any kind, including but not limited to, a condition requiring product return, replacement, parts replacement or service by a technician may cause financial loss, loss of employee time or an inconvenience requiring compensation.
- If this product has been purchased in error when considering the information presented here, contact the retailer directly for details of their returns policy, if required.

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