

PLATE COMPACTOR

C-100

INSTRUCTION MANUAL



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WARNING

To reduce the risk of injury, all operators and maintenance personal must read and understand there instructions before operating, changing accessories, or performing maintenance on there products. All possible solution cannot be covered in these instructions. Care must be exercised by everyone using, maintaining or

1. INSTRUCTION

Thanks for your selection of our products, with the technology introduced from Japan. This series of products have the advantages of small volume, light weight, grace appearance and durable mechanical structure.

General safety instructions for the operation of power equipment

Our goal is to supply light construction machinery that helps operator work safely and efficiently. The most important safety device for this or any tools is the operator. Care and good judgment are the best protection against injury. All possible hazards cannot be covered here. But we have tried to highlight some of the important items. Individuals should look for abundant caution, warning and danger signs placed in equipment and displayed in the workplace; operators should read and follow safety instructions packed with each product.

Learn how each machine works. Even if you have previously used similar machines, carefully check out each machine before you use it. Get the “FEEL” of it and know its capabilities, limitations, potential hazards, how it operates, and how it stops.

2. APPLICATION

Trench compaction	Earthworks
Road maintenance	Landscaping
Brick paving	Driveway toppings

3. FUNCTIONS AND CONTROLS

MOTOR

Please read the attached instruction manual for gasoline engine motor carefully before using it.

DRIVE BELT

Tension of the drive belt is adjustable. Loosen the four nuts on the bolts which secure the motor to the base plate. Adjust the set screws which bear against the motor crankcase to achieve the required belt tension. Ensure that four nuts and the set screw locknuts are tightened after adjustment.

4. ACCESSORIES

Transport trolley – facilitates handling, hooks into the base-plate. Fitted with 200mm rubber types.

Water tank kit – for dust reduction. Cement stablished soil, bitumen hot mix. (There are just model C-77W have the water tank kit attached on the machine.)

5. HAZARDS AND RISKS

Never allow any person to operate the machine without adequate instruction.

Ensure all operators read understand and follow the operating instructions.

Serious injury could result from improper or careless use of machine

Plate compactors are heavy units and should be positioned by two people of appropriated strength, using the lifting handles provided on the machine. Along with correct lifting techniques.

5.1 Mechanical hazards

Don't operate the machine unites all protective guards are in place.

Keep hands and feet clear of rotating and moving parts as they will cause injury if contacted.

Ensure that the motor operation switch is in the off position and the spark plug ignition lead is disconnected before removing the guards or making adjustments.

Ensure both the machine and the operator are stable by setting up on level terrain and the machine will not tip over. Slide or fall while in operation and unattended.

DO NOT leave the machine in operation while it is unattended.

Ensure that the walls of a trench are stable and will not collapse due to the action of the vibration. Prior to commencing compaction.

Ensure that the area to be compacted does not contain any "LIVE " electrical cables, gas, water or communication service's which may be damaged by the action of the vibration.

Exercise care when operating unit, exposure to vibration or repetitive work actions may be harmful to hands and arms

Never stand on the unit while it is operating.

DO NOT increase the governed no-load motor speed above 3500RPM. Any increase may result in personal injury and damage to the machine.

BE CAREFUL not to come in contact with the muffler when the engine is hot, since it can cause severe burn.

Ensure that repairs to the motor and machine are carried out by competent personnel.

5.2 Fire and explosion hazards

Petrol is extremely flammable and explosive under certain conditions.

Ensure that petrol is only stored in an approved storage container.

Do not refuel the motor while it is in operation or hot.

Do not refuel the motor in the vicinity of sparks. A naked flame or a person smoking.

Do not over fill the fuel tank and avoid spilling petrol when refueling, spilled petrol or petrol vapor may ignite if spillage occurs, ensure that the area is dry before starting the motor.

Ensure that the fuel tank cap is securely fitted after refueling.

5.3 Chemical hazards

Do not operate or refuel a petrol or diesel motor in a confined area without adequate ventilation.

Carbon monoxide exhaust gases from internal combustion motor driven units can cause death in confined spaces.

5.4 Noise hazards

Excessive noise can lead to temporary or permanent loss of hearing.

Wearing an approved hearing protection device to limit noise exposure. As required by occupational health and safety regulations.

5.5 Protective clothing

Always wear approved hearing protection when working in a confined work space. Protective goggles and a dust mask should be worn when working in a dusty environment. Protective clothing and footwear may also be desirable when working with hot mix miturmen.

5.6 Additional hazards

Slip/trip/fall is a major cause of serious injury or death. Beware of uneven or slippery work surfaces.

Exercise care when working in the vicinity of unprotected holes or excavation.

6. Inspection & Operation

The machine is best suited to the compaction of bituminous and granular material E.G. granular soils, gravels and sands or mixtures of both, cohesive soil such as silt and clay are best compacted using the impact force produced by a vibrating rammer.

Where possible the site should be graded and leveled before commencing compaction.

Correct moisture content in soil is vital to proper compaction. Water acts as a lubricant to help slide soil particles together. Too little moisture means inadequate compaction too much moisture leaves water-filled voids that weaken the soil's load-bearing ability.

Compaction of dry materials will be facilitated by moistening with a water hose fitted with a sprinkler.

Excessive watering or water content will cause the machine to stall.

The optional water tank kit is recommended when the machine is used on bituminous surfaces as the water film prevents a build up of material on the underside of the plate.

The vibratory motion provides a self propelling action. Position the handle at the opposite end of the machine to the vibrator, start the motor using the recoil starter. (If the motor is fitted with an ON/OFF switch this must first be turned to ON before starting).

For more information on starting and correct operating procedures refer to the motor operation manual supplied with the unit.

Increase the motor speed to the maximum setting using the hand throttle lever, before commencing compacting.

The machine should be controlled by grasping the handle with both hands and applying restraint to control the forward motion.

Steer the machine by moving the handle sideways to the right or left.

Always maintain good footing so that you do not slip and lose control when starting or operating the machine.

If the optional water tank is fitted, the flow rate can be controlled by adjusting the cock in the supply hose to the sprinkler bar.

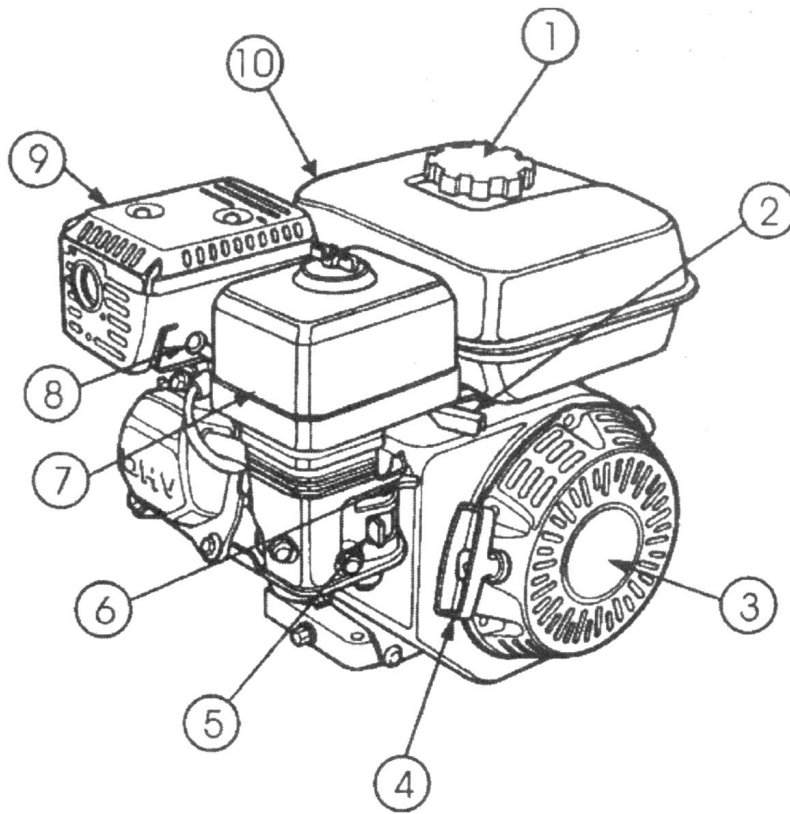


Figure 2.Engine Controls & Components

1. Fuel Filler Cap –Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightening security. DO NOT over fill.
2. Throttle Lever-Used to adjust engine speed (fast-slow).
3. Recoil Starter (pull rope)-Type of engine starting method. Alternate type would be electric start (ignition key).
4. Starter Grip-Grip this handle to start engine. See engine starting section of this manual.
5. Fuel Valve Lever-OPEN to let fuel flow. CLOSE to stop the flow of fuel.
6. Choke Lever-Used in the starting of a cold engine, or in cold weather conditions, the choke enriches the fuel mixture.
7. Air Cleaner-Prevents dirt and other debris from entering the fuel system. Remove wing-nut on top of air filter consisted to gain access to filter element.
8. Spark Plug-Provides sparks to the ignition system. Set spark plug gap to 0.6-0.7 mm (0.028-0.03 inch) clean spark plug once a week.
9. Muffler-Used to reduce noise and emissions.
10. Fuel Tank-Holds 3.6 liter (approximately 1 gallon) of unleaded gasoline.

INSPECTION

Before Starting

1. Read safety instructions at beginning of manual.
2. Clean the compactor, removing dirt and dust. Particularly, the bottom of the plate, engine cooling air inlet, carburetor and air cleaner.
3. Check the air filter for dirt and dust if the air filter is dirty, blow through the air filter cartridge from the inside. Moving a jet of dry compressed air up and down until all dust is removed. Otherwise replace air filter with a new one.
4. Check carburetor for external dirt and clean with dry compressed air.
5. Check fastening nuts and bolt for tightness. Loosened screws or bolts due to vibration. Could lead to unexpected accident.

Engine oil check

1. To check the engine oil level. Place the plate compactor on secure level ground with the engine stopped.
2. Remove the filter cap/dipstick from the engine oil filler hole (Figure 3) and wipe & clean.

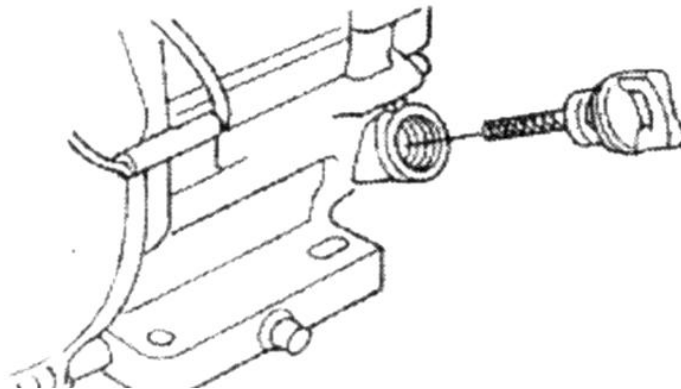


Figure 2.Engine Oil Dipstick

3. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level show on the dipstick.
4. If the oil level is low (Figure 4), fell to the edge of the oil filler hole with the recommended oil type (table 3) maximum oil capacity is 400cc.

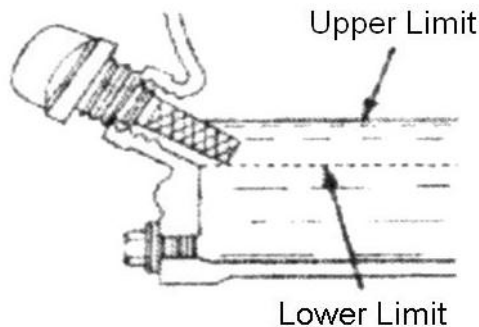


Figure 3.Engine Oil Dipstick

V-belt check

CAUTION:

Never attempt to check the V-belt with the engine running. Severe injury can occur if your hand (figure 6) gets caught between the V-belt the clutch. Always use safety gloves.

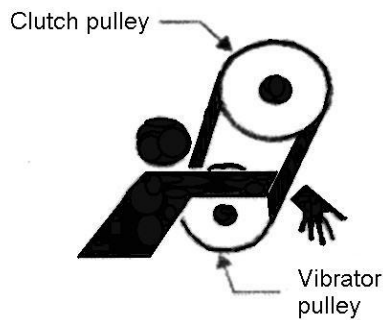


Figure 6.V-belt Hazard

To check the V-belt tension, remove the three bolts that secure the belt cover to the frame as shown in Figure 7.

NOTE

The oil alert system will automatically stop the engine before the engine falls below safe limits. Always be sure to check the engine oil level prior to starting the engine.

Table 3. Oil Type

season	Temperature	Oil Type
summer	25°C or higher	SAE 10W-30
spring/fall	25°C-10°C	SAE 10W-30,20
winter	10°C or lower	SAE 10W-10

Gasoline check

1. Remove the gasoline cap located on top of fuel tank
2. Visually inspect to see if fuel is low, replenish with unleaded fuel.
3. When refueling, be sure to use a strainer for filtration. DO NOT top-off fuel. Wipe up any spilled fuel.

Vibrator oil check

1. Place the MVC-88GH horizontally on a flat surface. Make sure the compactor is level when checking the oil in the vibrator assembly.
2. Check vibrator oil level by removing the plug (vibrator oil gauge) as shown in Figure 5. The oil level should be up to the oil plug. The vibrator holds 140cc (approximately 1 pint). **IMPORTANT!** If oil is required, replace using only SAE 10w-30 motor oil.

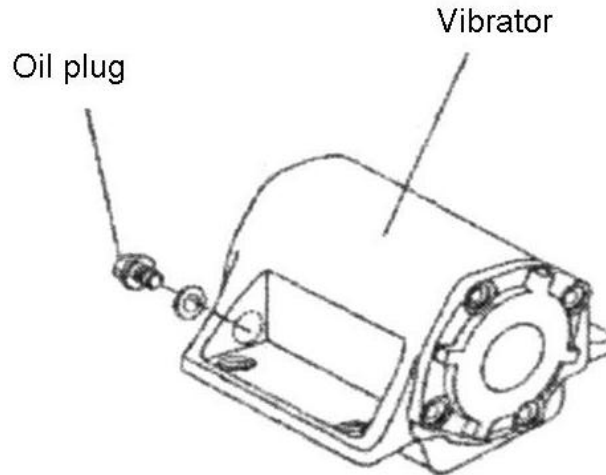


Figure 5.Vibrator Oil Plug

3. The V-belt tension is proper if the V-belt bends 10 to 15 mm (Figure 8) when depressed with finger at midway between the clutch and vibration pulley shafts.

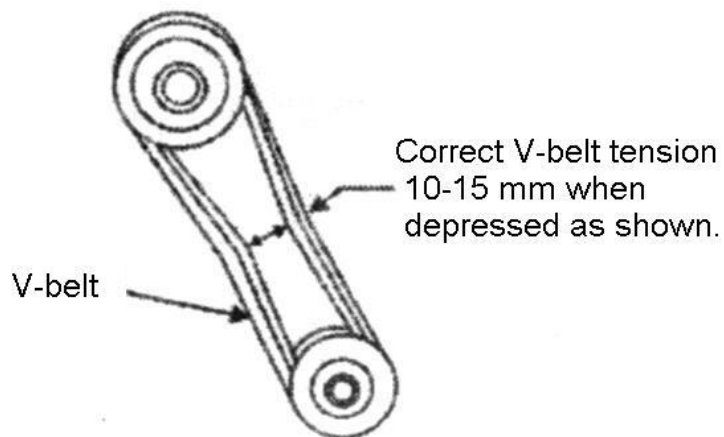


Figure 8.V-belt Tension

4. A loose V-belt will increase the power transmission output. Cause reduced compaction and premature wear of the belt.
5. If the V-belt becomes worn or loose, replace it by using V-belt part number RPF-3320 or A-32.

CAUTION:

Do NOT attempt to run the compactor until the safety and initial start-up sections have been read.

1. Place the ***fuel valve lever*** (Figure 9) in the “ON” position.

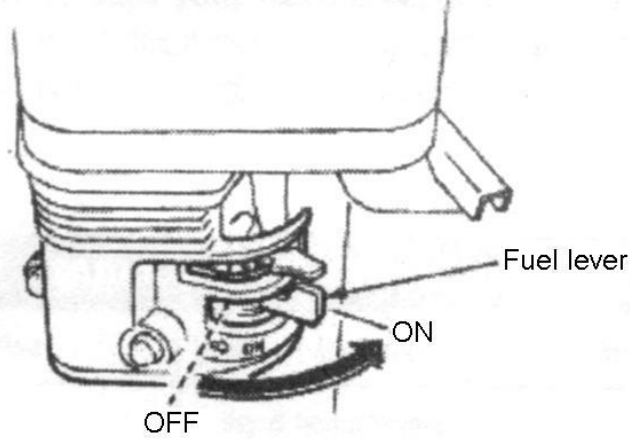


Figure 9. Fuel Valve Lever

2. Place the engine ON/OFF switch (Figure 10) in the “ON” position.

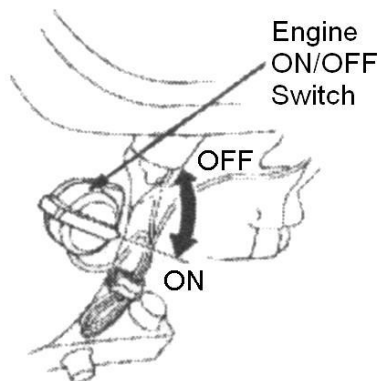


Figure 10. Engine ON/OFF Switch

3. Place the ***choke lever*** (Figure 11) in the “OPEN” position.

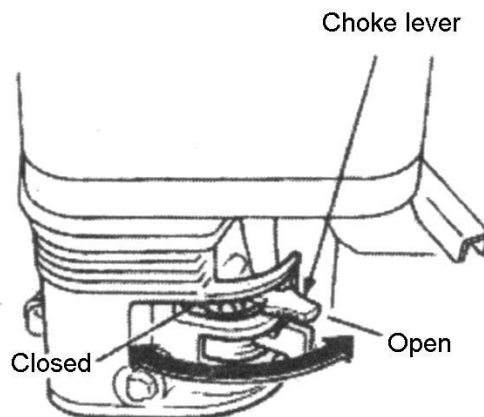


Figure 11. Choke Lever

NOTE

The CLOSED position of the choke lever enriches the fuel mixture for starting a COLD engine the OPEN position provides the correct fuel mixture for normal operation after starting and for restarting a warm engine.

4. Place the **throttle lever** (figure 12) halfway between fast and slow.

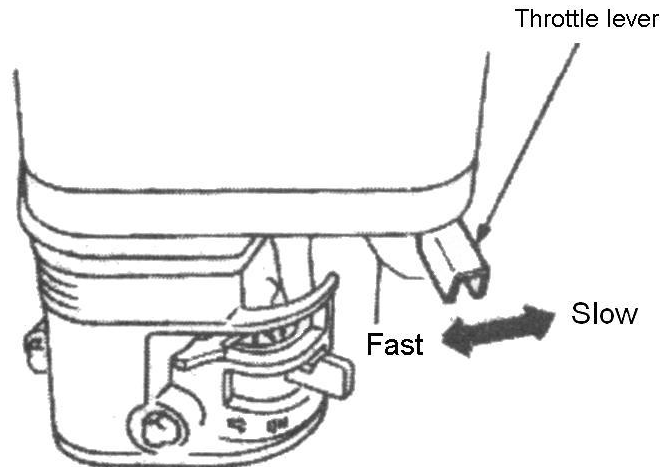


Figure 12. Throttle Lever

5. Grasp the starter grip (figure 13) and slowly pull it out. The resistance becomes the hardest at a certain position, corresponding the compression point. Rewind the rope a little from that point and pull out sharply.

CAUTION:

- Do not pull the starter rope all the way to the end.
- Do not release the starter rope after pulling. Allow it to rewind as soon as possible.

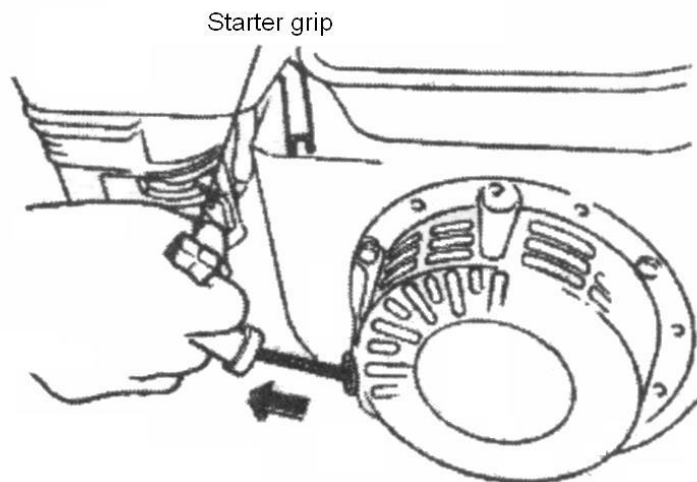


Figure 13. Starter Grip

7. MAINTENANCE & SERVICE

CAUTION:

Inspection and other services should always be carried out on hard and level ground with the engine shutdown.

Inspection and maintenance service tables.

To make sure your plate compactor is always in good working condition before using carry out the maintenance inspection in accordance with tables 4 through 6.

Table 4. Machine Inspection

Item	Hours of Operation	Remarks
Starting Check	Every 8 hours (every day)	
Loosened or lost Screws	Every 8 hours (every day)	
Damage of any part	Every 8 hours (every day)	
Function of controlling system part	Every 8 hours (every day)	
Vibrator Oil Check	Every 100 hours	See Page 19
Vibrator Oil Replacement	Every 200 hours	See Page 19
V-belt (Clutch) Check	Every 200 hours	See Page 19

Table 5. Engine Check

(For details see separate Engine Manual)

Leakage of Oil or Fuel	Hours of Operation
Tightness of Fastening threads	Every 8 hours (every day)
Engine Oil Check and Replenishment	Every 8 hours (every day)(Replenish to Specified Max Level)
Engine oil replenishment	At first 20 hours, then every 100 hours
Air Cleaner Cleaning	Every 50 hours

CAUTION:

These inspection intervals are for operation under normal conditions. Adjust your inspection intervals based on the number hours plate compactor is in use, and particular working conditions.

CAUTION:

Fuel piping and connections should be replaced every 2 years.

Daily service

- Check for leakage If fuel or oil.
- Remove soil and clean the bottom of compaction plate.
- Check engine oil, see page 13.
- Check for loose screws including tightness see table 6 below (tightening torque), for retightening:

Table 6. Tightening Torque (in.kg/cm)Diameter

material	6mm	8mm	10mm	12mm	14mm	16mm	18mm	20mm
4T	70	150	300	500	750	1,100	1,400	2,000
6-8T	100	250	500	800	1,300	2,000	2,700	3,800
11T	150	400	800	1,200	2,000	2,900	4,200	5,600
*	100(6mm)300-350(8mm)650-700(10mm)							
*(In case counter-part is of aluminum)								
(Threads in use with this machine are all right handed)								
Material and quality of material is marked on each bolt, and screw.								

Engine oil replacement:

1. Replace engine oil in first 20 hours of operation and every 100 hours afterwards.
2. Oil may be drained more easily when it is warm after operation.
3. When changing the engine oil, then old oil can be drained by removing the oil filler cap and un-screwing the engine oil drain plug located at the base of the engine.
4. Remember to refill engine crankcase with the recommended type of oil as listed in table 3.

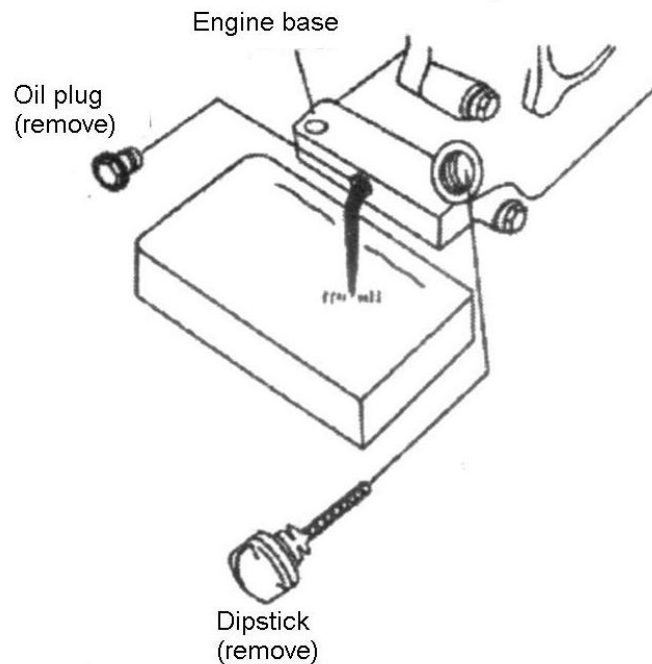


Figure 14.Engine Oil Plug

Changing vibrator oil

1. When changing the vibrator oil, remove the drain plug located at the bottom-right of the vibrator (Figure 5), and simply tip the compactor to drain the oil. Note that the oil will drain more easily while it is hot. Remember to use only 10w-30 motor oil when replacing vibrator oil.

Air Filter

1. The air filter element should be cleaned because a clogged air cleaner can cause poor engine starting. Lack of power and shorten engine life substantially.
2. To clean or replace air filter loosen the wing nut on the air filter housing (figure 15), remove the cover and take out air filter cartridge. If only cleaning of the air filter is desired blow through the air filter cartridge from the inside, moving a jet of dry compressed air up and down until all dust is removed.

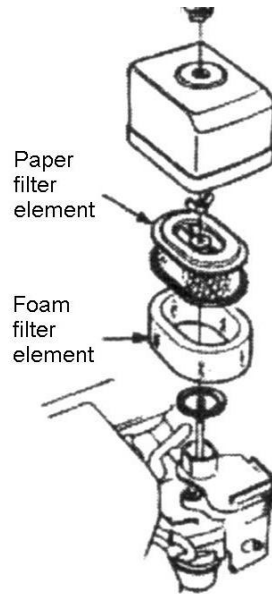


Figure 15. Air Filter

CAUTION:

Never attempt to check the V-belt with the engine running. Severe injury can occur if your hand (figure 6), gets caught between the V-belt and the clutch. Always use safety gloves.

Checking and replacing the V-belt and clutch

1. After 200 hours of operation, remove the upper belt cover to check the V-belt tension. Tension is proper if the belt bends about 10mm when depressed strongly with finger between shafts. Loose or worn V-belts reduce power transmission efficiency, causing weak compaction and reduce the life of the belt itself.

CAUTION:

Whenever the compactor's vibration becomes weak or lost during normal operation regardless of operation hours, check the V-belt and clutch immediately.

- **Replacing the V-belt**

Remove the upper and lower belt covers. Engage an offset wrench (13 mm) or the like to vibrator pulley (lower) fastening bolt. Engage waste cloth or the like at midway of V-belt on the left side and while pulling it back strongly, rotate the offset wrench clockwise so that the V-belt will come off.

- **Replacing the V-belt**

Engage V-belt to lower vibrator pulley and push the V-belt to left side of upper clutch and, in the same manner as in removal rotate offset wrench clockwise so that the V-belt goes back on.

- **Checking clutch**

Check the clutch simultaneously with V-belt checking. With belt removed, check outer drum of the clutch for seizure and "V" groove for wear or damage with your eyes. Clean the "V" groove as necessary. Wear of lining or shoe should be checked with running check. If the shoe is worn, power transmission becomes deficient and slipping will result.

8. SPECIFICATION

MODEL	C-100
PLATE SIZE(in)	23*19.5
WEIGHT(lbs,)	220
WALK SPEED (ft/min)	15
IMPACT FORCE (lbs.)	3375
POWER SOURCE	4.1 kW GASOLING ENGINE
IMPACTION DEPT (in.)	13.8
CLIMB CAPACITY(%)	20
VIBRATION FREQUENCY (HZ)	79
SOUND POWER LEVEL (dB)	108
SOUND PRESSURE (dB)	86
MEASUREMENT UNCERTAINTY (dB)	2
VIBRATION ON HANDLE (M/S ²)	10.26

9. TROUBLE SHOOTING

SYMPTOM	POSSIBLE CASES AND CORRECTION
MOTOR WILL NOT START	CHECK THE ON/OFF SWITCH TO ENSURE THAT IS SWITCHED 'ON' CHECK THE FUEL SUPPLY IF A GASOLINE ENGINE MOTOR IS FITTED CHECK THE CRANKCASE OIL AS AN OIL SENSOR DEVICE IS FITTED TO THE MOTOR WHICH PREVENTS STARTING AND STOPS THE MOTOR WHEN THE OIL LEVEL IS LOW ENSURE THE SPARK PLUG IGNITION LEAD IS CONNECTED CHECK THE CARBURETTOR JET AND BOWL TO ENSURE THEY ARE CLEAN
MOTOR STOPS	CHECK THE FUEL SUPPLY CHECK THAT THE FUEL COCK IS TURNED ON CHECK THE CONDITION OF THE AIR FILTER
PETROL MOTOR LACKS POWER	CHECK THE CONDITION OF THE AIR FILTER CHECK THE CONDITION OF THE SPARK PLUG
WATER FLOW STOPS	INSUFFICIENT WATER BLOCKAGE IN WATER HOSE OR SPRINKLER BAR
INSUFFICIENT VIBRATION	CHECK FOR A SLIPPING OR A MISSING VEE BELT CHECK THAT THE MOTOR GOVERNED SPEED IS 3500 RPM
MACHINE IS NOT MOVING FREELY	CHECK THE UNDERSIDE OF THE PLATE FOR A BUILD UP OF MATERIAL