

OPERATION AND PARTS MANUAL





Mikasa SERIES
MODEL MVC82VE/VEW
ONE-WAY PLATE COMPACTOR
(ROBIN EX170D40103 ENGINE)

Revision #0 (02/05/09)

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publication, visit our website at:
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THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

**WARNING**

CALIFORNIA — Proposition 65 Warning

Gasoline engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

[illegible]

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PARTS ORDERING PROCEDURES

Ordering parts has never been easier! Choose from three easy options:

Effective:
January 1st, 2006



Order via Internet (Dealers Only):

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Use the **internet** and qualify for a **5% Discount** on *Standard orders* for all orders which include complete part numbers.*

Note: Discounts Are Subject To Change



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1-800-6-PARTS-7 (800-672-7877)

Fax your order in and qualify for a **2% Discount** on *Standard orders* for all orders which include complete part numbers.*

Note: Discounts Are Subject To Change



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1-800-427-1244

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Contact your local Multiquip Dealer for parts or call 800-427-1244 for help in locating a dealer near you.



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|--|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> Dealer Account Number <input type="checkbox"/> Dealer Name and Address <input type="checkbox"/> Shipping Address (if different than billing address) <input type="checkbox"/> Return Fax Number <input type="checkbox"/> Applicable Model Number <input type="checkbox"/> Quantity, Part Number and Description of Each Part | <ul style="list-style-type: none"> <input type="checkbox"/> Specify Preferred Method of Shipment: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> UPS/Fed Ex <input checked="" type="checkbox"/> DHL <input checked="" type="checkbox"/> Priority One <input checked="" type="checkbox"/> Truck <input checked="" type="checkbox"/> Ground <input checked="" type="checkbox"/> Next Day <input checked="" type="checkbox"/> Second/Third Day |
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NOTICE

All orders are treated as *Standard Orders* and will ship the same day if received prior to 3PM PST.

WE ACCEPT ALL MAJOR CREDIT CARDS!



SAFETY INFORMATION

Do not operate or service the equipment before reading the entire manual. Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the safety messages and operating instructions could result in injury to yourself and others.



SAFETY MESSAGES

The four safety messages shown below will inform you about potential hazards that could injure you or others. The safety messages specifically address the level of exposure to the operator and are preceded by one of four words: **DANGER**, **WARNING**, **CAUTION** or **NOTICE**.

SAFETY SYMBOLS



DANGER

Indicates a hazardous situation which, if not avoided, **WILL** result in **DEATH** or **SERIOUS INJURY**.



WARNING

Indicates a hazardous situation which, if not avoided, **COULD** result in **DEATH** or **SERIOUS INJURY**.










CAUTION

Indicates a hazardous situation which, if not avoided, **COULD** result in **MINOR** or **MODERATE INJURY**.

NOTICE

Addresses practices not related to personal injury.

Potential hazards associated with the operation of this equipment will be referenced with hazard symbols which may appear throughout this manual in conjunction with safety messages.

Symbol	Safety Hazard
	Lethal exhaust gas hazards
	Explosive fuel hazards
	Burn hazards
	Respiratory hazards
	Accidental starting hazards
	Eye and hearing hazards
	Rotating parts hazards

SAFETY INFORMATION

GENERAL SAFETY

⚠ CAUTION

- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, respiratory protection, hearing protection, steel-toed boots and other protective devices required by the job or city and state regulations.



- **NEVER** operate this equipment when not feeling well due to fatigue, illness or when under medication.



- **NEVER** operate this equipment under the influence of drugs or alcohol.



- **ALWAYS** check the equipment for loosened threads or bolts before starting.
- **DO NOT** use the equipment for any purpose other than its intended purposes or applications.
- **ALWAYS** clear the work area of any debris, tools, etc. that would constitute a hazard while the equipment is in operation.

NOTICE

- This equipment should only be operated by trained and qualified personnel 18 years of age and older.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- Manufacturer does not assume responsibility for any accident due to equipment modifications. Unauthorized equipment modification will void all warranties.
- **NEVER** use accessories or attachments that are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.
- **ALWAYS** know the location of the nearest **fire extinguisher**.
- **ALWAYS** know the location of the nearest **first aid kit**.
- **ALWAYS** know the location of the nearest phone or **keep a phone on the job site**. Also, know the phone numbers of the nearest **ambulance**, **doctor** and **fire department**. This information will be invaluable in the case of an emergency.



SAFETY INFORMATION

COMPACTOR SAFETY

DANGER

- **NEVER** operate the equipment in an explosive atmosphere or near combustible materials. An explosion or fire could result causing severe bodily harm or even death.



WARNING

- **NEVER** disconnect any **emergency or safety devices**. These devices are intended for operator safety. Disconnection of these devices can cause severe injury, bodily harm or even death. Disconnection of any of these devices will void all warranties.

CAUTION

- **NEVER** lubricate components or attempt service on a running machine.

NOTICE

- **ALWAYS** keep the machine in proper running condition.
- Fix damage to machine and replace any broken parts immediately.
- **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children and unauthorized personnel.

ENGINE SAFETY

DANGER

- The engine fuel exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled.
- The engine of this equipment requires an adequate free flow of cooling air. **NEVER** operate this equipment in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause injury to people and property and serious damage to the equipment or engine.



WARNING

- **DO NOT** place hands or fingers inside engine compartment when engine is running.
- **NEVER** operate the engine with heat shields or guards removed.
- Keep fingers, hands hair and clothing away from all moving parts to prevent injury.
- **DO NOT** remove the radiator cap while the engine is hot. High pressure boiling water will gush out of the radiator and severely scald any persons in the general area of the compactor.
- **DO NOT** remove the coolant drain plug while the engine is hot. Hot coolant will gush out of the coolant tank and severely scald any persons in the general area of the compactor.
- **DO NOT** remove the engine oil drain plug while the engine is hot. Hot oil will gush out of the oil tank and severely scald any persons in the general area of the compactor.



CAUTION

- **NEVER** touch the hot exhaust manifold, muffler or cylinder. Allow these parts to cool before servicing equipment.



NOTICE

- **NEVER** run engine without an air filter or with a dirty air filter. Severe engine damage may occur. Service air filter frequently to prevent engine malfunction.
- **NEVER** tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result if operating in speed ranges above the maximum allowable.
- **NEVER** tip the engine to extreme angles during lifting as it may cause oil to gravitate into the cylinder head, making the engine start difficult.

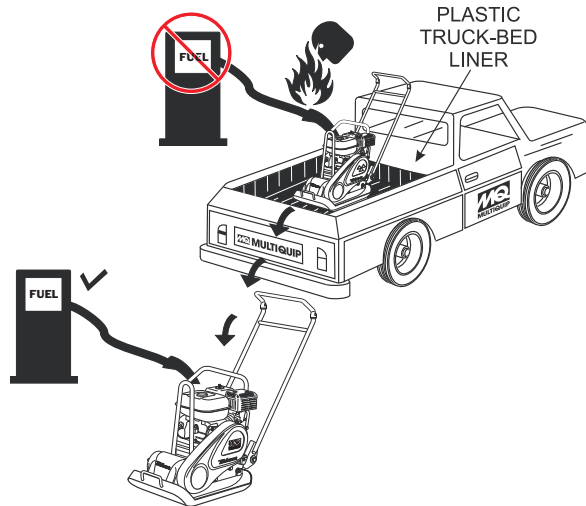


SAFETY INFORMATION

FUEL SAFETY

DANGER

- **DO NOT** add fuel to equipment if it is placed inside truck bed with plastic liner. Possibility exists of explosion or fire due to static electricity.



- **DO NOT** start the engine near spilled fuel or combustible fluids. Diesel fuel is extremely flammable and its vapors can cause an explosion if ignited.
- **ALWAYS** refuel in a well-ventilated area, away from sparks and open flames.
- **ALWAYS** use extreme caution when working with **flammable** liquids.
- **DO NOT** fill the fuel tank while the engine is running or hot.
- **DO NOT** overfill tank, since spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system.
- Store fuel in appropriate containers, in well-ventilated areas and away from sparks and flames.
- **NEVER** use fuel as a cleaning agent.
- **DO NOT** smoke around or near the equipment. Fire or explosion could result from fuel vapors or if fuel is spilled on a hot engine.



BATTERY SAFETY (ELECTRIC START ONLY)

DANGER

- **DO NOT** drop the battery. There is a possibility that the battery will explode.
- **DO NOT** expose the battery to open flames, sparks, cigarettes, etc. The battery contains combustible gases and liquids. If these gases and liquids come into contact with a flame or spark, an explosion could occur.



WARNING

- **ALWAYS** wear safety glasses when handling the battery to avoid eye irritation. The battery contains acids that can cause injury to the eyes and skin.
- Use well-insulated gloves when picking up the battery.
- **ALWAYS** keep the battery charged. If the battery is not charged, combustible gas will build up.
- **DO NOT** charge battery if frozen. Battery can explode. When frozen, warm the battery to at least 61°F (16°C).
- **ALWAYS** recharge the battery in a well-ventilated environment to avoid the risk of a dangerous concentration of combustible gases.
- If the battery liquid (dilute sulfuric acid) comes into contact with **clothing or skin**, rinse skin or clothing immediately with plenty of water.
- If the battery liquid (dilute sulfuric acid) comes into contact with **eyes**, rinse eyes immediately with plenty of water and contact the nearest doctor or hospital to seek medical attention.



CAUTION

- **ALWAYS** disconnect the **NEGATIVE battery terminal** before performing service on the equipment.
- **ALWAYS** keep battery cables in good working condition. Repair or replace all worn cables.

[illegible]

Table 1. MVC82VE/VEW Specifications

Centrifugal Force	3,080 lbf (13.7 kN)
Vibration Frequency	5600 vpm (93.3 Hz)
Traveling Speed	0 to 82 ft/min (0 to 25 m/min)
Plate Size (L x W)	22.4 x 17.7 in (570 x 450 mm)
Max. Area of Compaction	7,262 sq. ft./h (675 sq. meters/h)
Operating Weight (MVC82VE)	181 lbs. (82 kg)
Operating Weight (MVC82VEW)	198 lbs. (90 kg)
Vibrating Oil Capacity	0.15 quart (0.14 liter)
Water Tank Capacity (MVC82VEW)	11.6 quarts (11 liters)

Table 2. Engine Specifications

Model	ROBIN EX170D40103
Type	Air-cooled, 4-stroke, slant single cylinder horizontal shaft, gasoline engine
Valve Arrangement	OHC
Bore X Stroke	2.64 in. X 1.89 in. (67 mm x 48 mm.)
Displacement	10.3 cu. in. (169 cc)
Max Power Output	4.3 HP (4.2 KW) @ 4000 R.P.M.
Fuel Tank Capacity	3.8 quarts (3.6 liters)
Fuel	Gasoline
Speed Control Method	Centrifugal Flyweight Type
Lube Oil Capacity	0.63 quarts (0.6 liters)
Starting Method	Recoil Start

DIMENSIONS

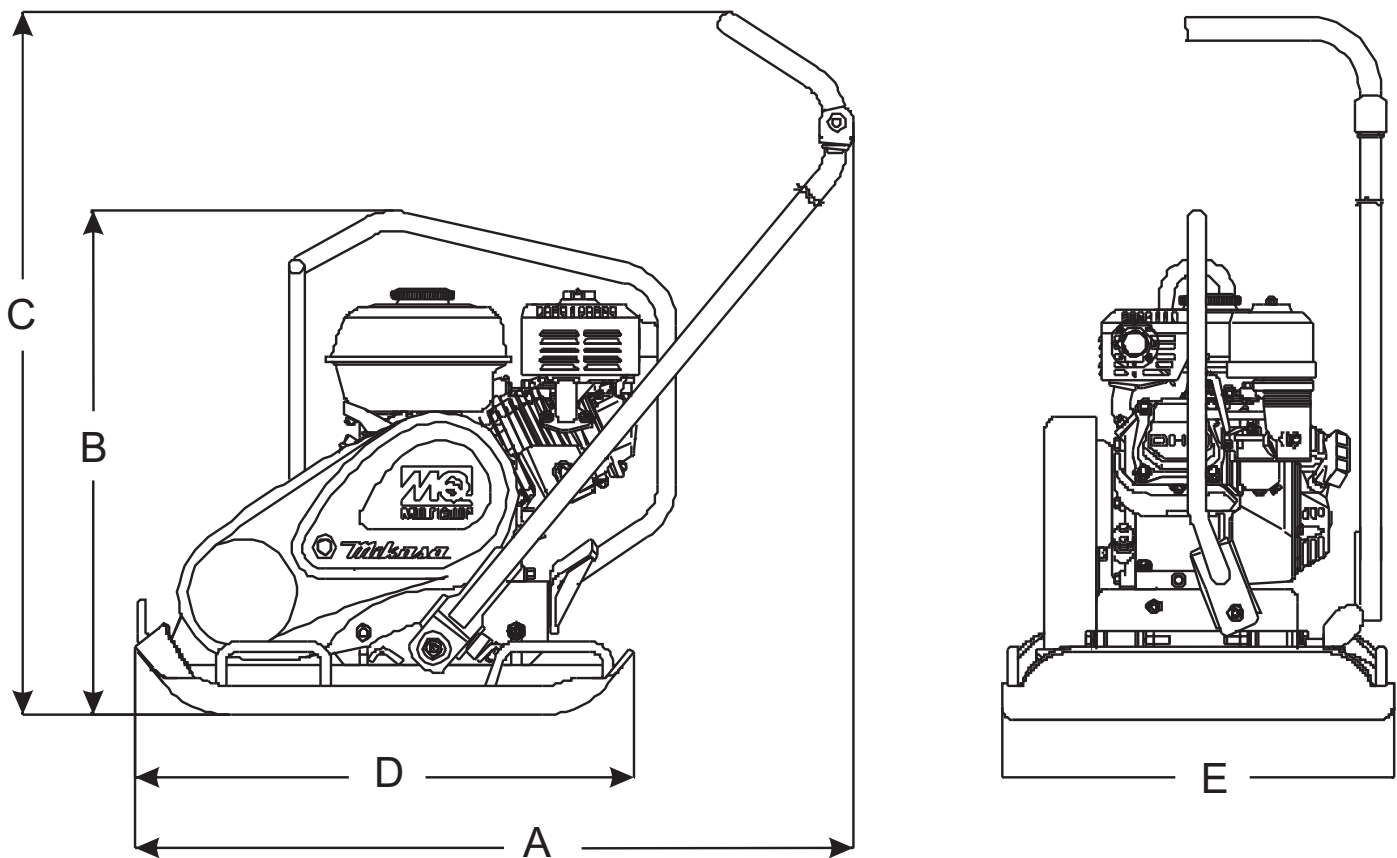


Figure 1. MVC82VE/VEW Dimensions

Table 3. Dimensions

Reference	Description	Measurement
A	Length (including handle)	38.2 in. (970 mm)
B	Height (without handle)	22.4 in. (570 mm)
C	Height (including handle)	38 in (965 mm)
D	Length of Plate	22.4 in (570 mm)
E	Width of Plate	17.7 in (450 mm)

GENERAL INFORMATION

DEFINITION OF PLATE COMPACTOR

The Mikasa MVC82VE/VEW is a walk-behind, one-way plate compactor designed for the compaction of sand, mixed soils and asphalt. This plate compactor is a powerful compacting tool capable of applying a tremendous force in consecutive high frequency vibrations to a soil surface. Its applications include soil compacting for road, embankments and reservoirs as well as backfilling for gas pipelines, water pipelines and cable installation work.

VIBRATORY PLATES

The vibratory plates produce low amplitude high frequency vibrations, designed to compact granular soils and asphalt.

The resulting vibrations cause forward motion. The engine and handle are vibration-isolated from the vibrating plate. The heavier the plate, the more compaction force it generates.

ANTI-VIBRATION HANDLE SYSTEM (AVT)

This compactor is equipped with advanced anti-vibration handle design that reduces vibration to the operator by up to 50% compared to other plate compactors.

FREQUENCY/SPEED

The compactor's vibrating plate has a frequency of 5,600 vpm (vibrations per minute). The travel speed of the compactor is approximately 82 feet/minute (25 meters/minute).

ENGINE

The plate compactor is equipped with a Robin EX170D40103 air-cooled, 4-stroke, gasoline engine.

WATER TANK

The MVC82VEW is equipped with a removable plastic water tank (optional for MVC82VE). The tank provides lubrication to the base plate when compacting asphalt and may be used for dust control in dry work environments. It is intended only for use with water.

DO NOT FILL WITH DIESEL FUEL OR GASOLINE AS THIS CREATES BOTH A SAFETY AND ENVIRONMENTAL HAZARD!

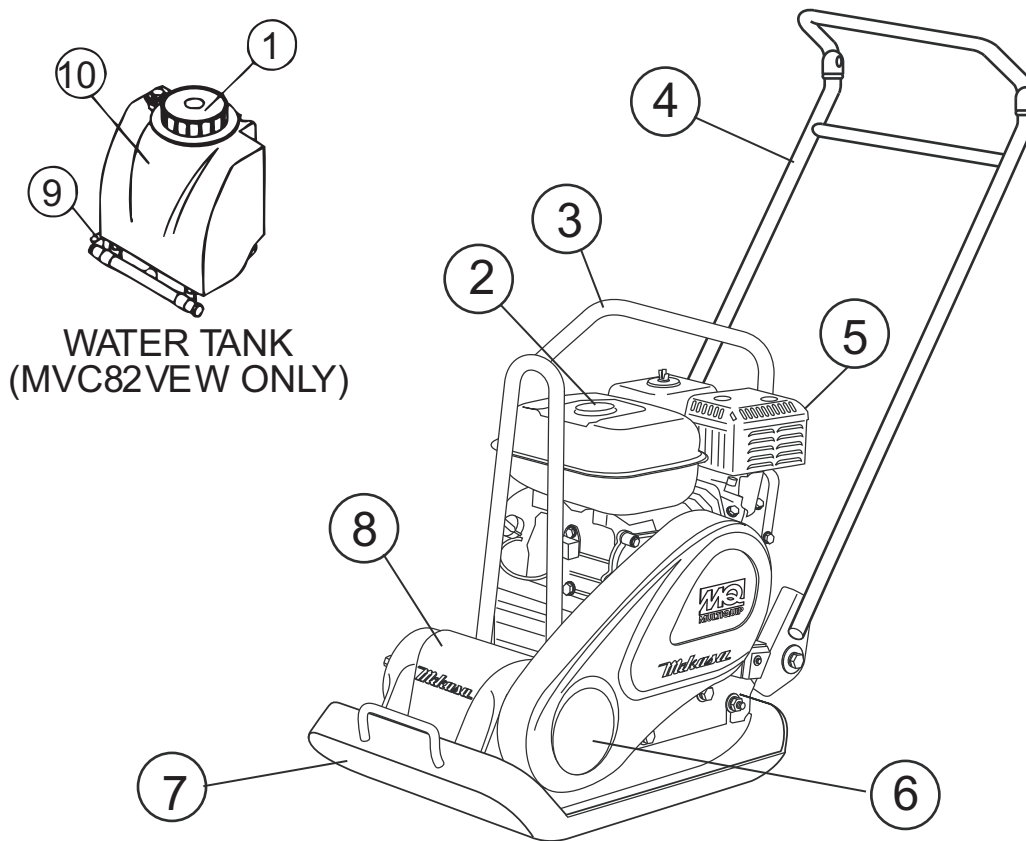


Figure 2. MVC82VE/VEW Controls and Components

Figure 2 shows the location of the basic controls and components of the MVC82VE/VEW Plate Compactor. The function of each control is described below:

1. **Water Tank Cap (VEW Only)** — Remove this cap to add water to the water tank.
2. **Fuel Tank Cap** — Remove this cap to add fuel.
3. **Lifting Bale** — When lifting of the compactor is required either by forklift, crane, etc., tie rope or chain around this lifting point.
4. **Handle Bar** — When operating the compactor use this handle bar to maneuver the compactor.
5. **Gasoline Engine** — This plate compactor uses a ROBIN EX170D40103 engine. Refer to the ROBIN owner's manual for engine information and related topics.
6. **Belt Cover** — Remove this cover to gain access to the V-belts. NEVER run the compactor without the V-belt cover. If the V-belt cover is not installed, the possibility exists that your hand may get caught between the V-belt and clutch, causing serious injury and bodily harm.
7. **Vibrating Plate** — A flat, open plate made of durable cast iron construction used in the compacting of soil.
8. **Vibration Case** — Encloses the eccentric, gears and counter weights.
9. **Water Shut-Off Valve (VEW only)** — Turn this valve downward to let water flow from the water tank to the water tube.
10. **Water Tank (VEW only)** — Holds 11.6 quarts of water (removable, no tools required). *DO NOT FILL WITH DIESEL FUEL OR GASOLINE AS THIS CREATES BOTH A SAFETY AND ENVIRONMENTAL HAZARD!*

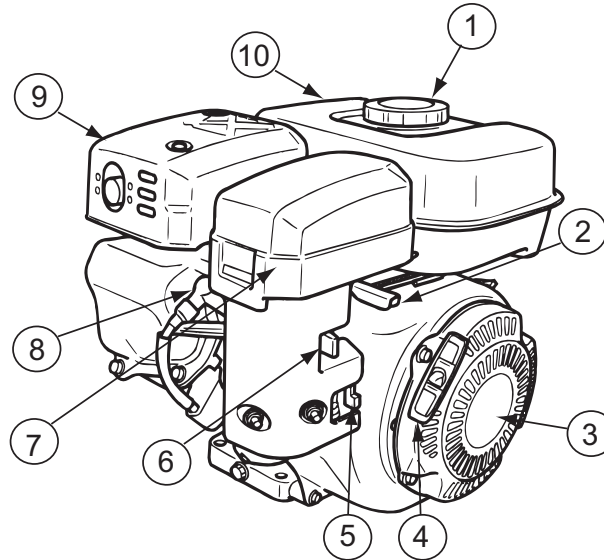


Figure 3. Robin Engine Components

The engine (Figure 3) must be checked for proper lubrication and filled with fuel prior to operation. Refer to the manufacturer's engine manual for instructions and details of operation and servicing.

1. **Fuel Filler Cap** — Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. DO NOT over fill.

DANGER



Adding fuel to the tank should be done only when the engine is stopped and has had an opportunity to cool down. In the event of a fuel spill, **DO NOT** attempt to start the engine until the fuel residue has been completely wiped up and the area surrounding the engine is dry.

2. **Throttle Lever** — Used to adjust engine RPM speed (lever advanced forward - **SLOW**, lever back toward operator - **FAST**).
3. **Engine ON/OFF Switch** — **ON** position permits engine starting, **OFF** position stops engine operations.
4. **Recoil Starter (pull rope)** — Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
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 canister to gain access to filter element.

NOTICE

Operating the engine without an air filter, with a damaged air filter, or a filter in need of replacement will allow dirt to enter the engine, causing rapid engine wear.

8. **Spark Plug** — Provides spark to the ignition system. Set spark plug gap to 0.6 - 0.7 mm (0.028 - 0.031 inch). Clean spark plug once a week.
9. **Muffler** — Used to reduce noise and emissions.

WARNING



Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas while the engine is running or immediately after operating. **NEVER** operate the engine with the muffler removed.

10. **Fuel Tank** — Holds unleaded gasoline. For additional information refer to engine owner's manual.

BEFORE STARTING

1. Read safety instructions at the beginning of manual.
2. Clean the compactor, removing dirt and dust, particularly the engine cooling air inlet, carburetor and air cleaner.
3. Check the air filter for dirt and dust. If air filter is dirty, replace air filter with a new one as required.
4. Check carburetor for external dirt and dust. Clean with dry compressed air.
5. Check fastening nuts and bolts 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 pump on secure level ground with the engine stopped.
2. Remove the filler dipstick from the engine oil filler hole (Figure 4) and wipe clean.

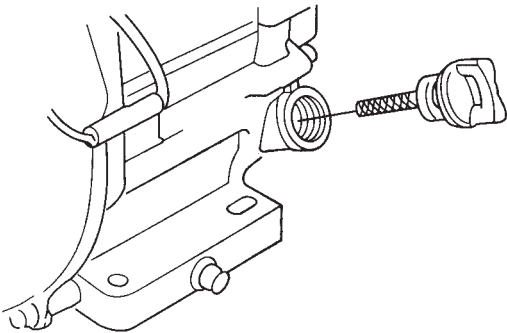


Figure 4. Engine Oil Dipstick (Removal)

3. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.
4. If the oil level is low (Figure 5), fill to the edge of the oil filler hole with the recommended oil type (Table 4). Maximum oil capacity is 0.63 quarts (0.60 liters).

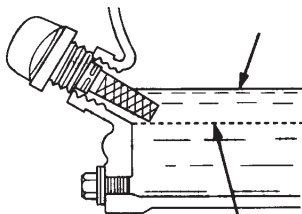


Figure 5. Engine Oil Dipstick (Oil Level)

NOTICE

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 4. 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	0° C	SAE 10W-10

! DANGER



Adding fuel to the tank should be done only when the engine is stopped and has had an opportunity to cool down. In the event of a fuel spill, **DO NOT** attempt to start the engine until the fuel residue has been completely wiped up and the area surrounding the engine is dry.

FUEL CHECK

5. Remove the gasoline cap located on top of fuel tank.
6. Visually inspect to see if the fuel level is low. If fuel is low, replenish with unleaded fuel.
7. When refueling, be sure to use a strainer for filtration. **DO NOT** top-off fuel. Wipe up any spilled fuel immediately!

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 and the clutch. Always use safety gloves.

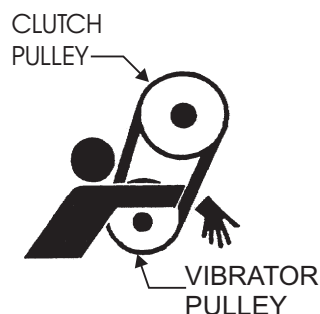


Figure 6. V-Belt Hazard

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

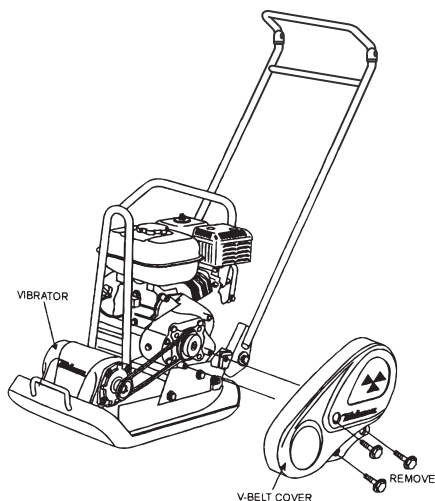


Figure 7. V-Belt Cover Removal

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

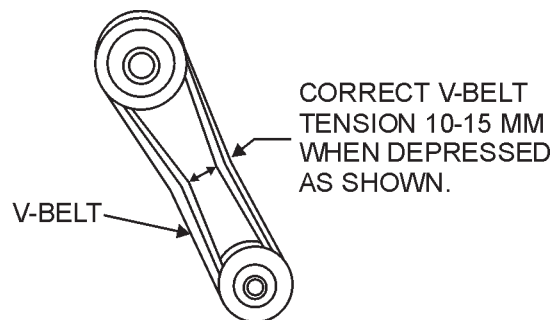


Figure 8. V-Belt Tension

3. A loose V-belt will decrease the power transmission output causing reduced compaction and premature wear of the belt.
4. If the V-belt becomes worn or loose, replace it.

VIBRATOR OIL CHECK

1. Place the plate compactor 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 oil plug (vibrator oil gauge) as shown in Figure 9. The oil level should be up to the oil plug. The vibrator holds 140 cc (approximately 0.3 pint). If oil is required, replace using only SAE10W-30 motor oil.

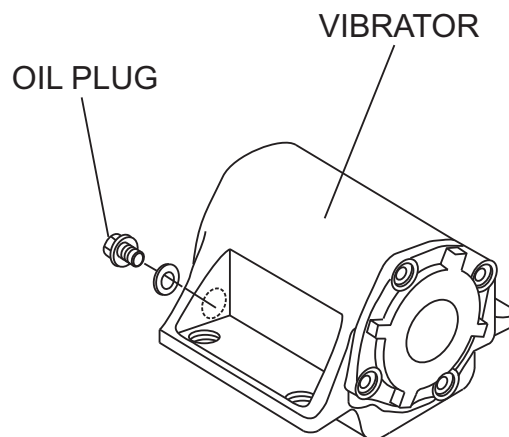


Figure 9. Vibrator Oil Plug

CAUTION



DO NOT attempt to run the compactor until the Safety and Initial Start-up sections have been read and understood.

INITIAL STARTUP

1. Place the fuel valve lever (Figure 10) in the "ON" position.

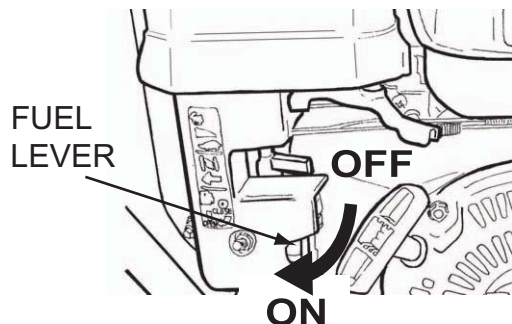


Figure 10. Fuel Valve Lever

2. Place the Engine ON/OFF switch (Figure 11) in the "ON" position.

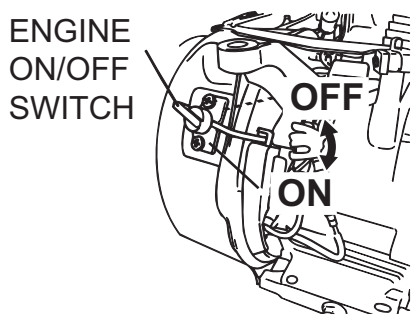


Figure 11. Engine ON/Off Switch

3. Place the Choke Lever (Figure 12) in the "OPEN" position.

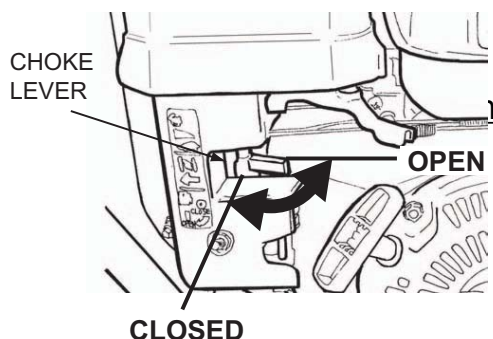


Figure 12. Choke Lever

NOTICE

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 13) halfway between fast and slow.

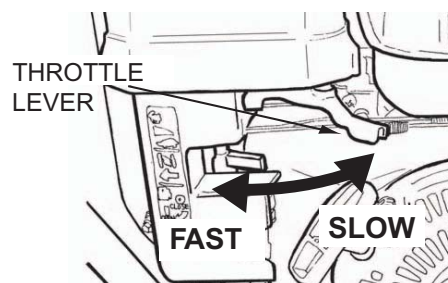


Figure 13. Throttle Lever

5. Grasp the starter grip (Figure 14) 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.

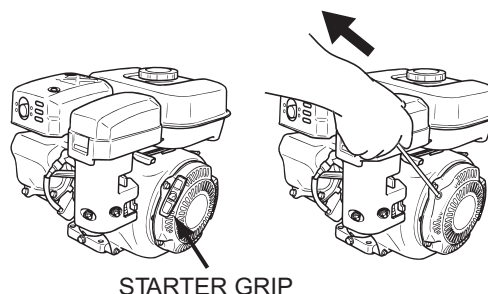


Figure 14. Starter Grip

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.

6. If the engine has started, slowly return the choke lever (Figure 11) to the **CLOSED** position. If the engine has not started repeat steps 1 through 5.
7. Before the compactor is put into operation run the engine for 3-5 minutes.
8. Check for abnormal engine noises or fuel leaks.

OPERATION

1. Once the engine has started, move the engine throttle lever quickly to the fast position.
2. With the throttle lever in the fast position, the engine speed should be around 2,300 RPM, therefore engaging the centrifugal clutch.

NOTICE

ALWAYS move the throttle lever quickly without hesitation, because increasing the engine speed slowly causes the clutch to slip.

3. Firmly grasp the compactor's handle bar with both hands. The compactor will begin moving forward.
4. Slowly walk behind the compactor and be on the lookout for any large objects or foreign matter that might cause damage to the compactor or bodily injury.
5. Compactor traveling speed may drop on soils which contain clay, however there may be cases where traveling speed drops because the compaction plate does not leave the ground surface easily due to the composition of the soil. To rectify this problem, do the following:
 - Check the bottom plate to see if clay or equivalent material has been lodged in the plate mechanism. If so, wash with water and remove.
 - Remember the compactor does not work as efficiently on clay or soils that have a high moisture content level.
 - If the soil has a high moisture level, dry soil to appropriate moisture content level or carry out compaction twice.

STOPPING THE ENGINE



CAUTION

NEVER stop the engine suddenly while working at high speeds.

1. Place the throttle lever (Figure 13) in slow position, and listen for the engine speed to decrease.
2. Place the Engine ON/OFF switch (Figure 11) in the "**OFF**" position.
3. Place the fuel valve lever (Figure 10) in the "**OFF**" position.

CAUTION

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

INSPECTION AND MAINTENANCE TABLES

To make sure your plate compactor is always in good working condition before using, carry out the maintenance inspection in accordance with Tables 5 and 6.

Table 5. Machine Inspection

Item	Frequency of Inspection
Loose or Missing Screws	Every 8 hours (daily)
Damaged Parts	Every 8 hours (daily)
Function of Controlling System Part	Every 100 hours
Vibrator Oil Check	Every 100 hours
Vibrator Oil Replacement	Every 300 hours
Hydraulic Oil Check	Every 100 hours
Hydraulic Oil Replacement	After first 200 hours, then every 1,000 hours
V-belt (clutch) Check	Every 200 hours

NOTICE

These inspection intervals are for operation under normal conditions. Adjust your inspection intervals based on the number of hours the plate compactor has been in use, and the type of working conditions it is being used.

NOTICE

Fuel piping and connections should be replaced every 2 years.

Table 6. Engine Check

Item	Frequency of Inspection
Oil or Fuel Leak	Every 8 hours (daily)
Tightness of Fastening Threads	Every 8 hours (daily)
Engine Oil Check and Replenishment	Every 8 hours (daily) (Replenish to specified maximum level)
Engine Oil Replacement	After first 25 hours then every 50 to 100 hours
Valve Clearance (Check/Adjust)	After first 25 hours then every 200 hours or every year.
Air Filter Cleaning	Every 100 hours
See separate engine manual for details on engine check.	

DAILY SERVICE

1. Check for leakage of fuel or oil.
2. Check for loose screws including tightness. See Table 7 (Tightening Torque) for retightening.

Table 7. Tightening Torque (kg cm)

Material	Diameter							
	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	300-350	650-700					
* (for aluminum counterpart) (Threads in use with this machine are all right-handed) Material and quality of material is marked on each bolt and screw.								

3. Remove soil and clean the bottom of compaction plate.
4. Check hydraulic pump, piping and hose for any leakage. A loosened hydraulic hose can be a cause for leakage. Check hydraulic hose connections with wrench applied for tightness.
5. Check engine oil.

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 (For more details, see separate engine Owner's Manual).

AIR FILTER

1. Remove the air cleaner cover and foam filter element as shown in Figure 15.

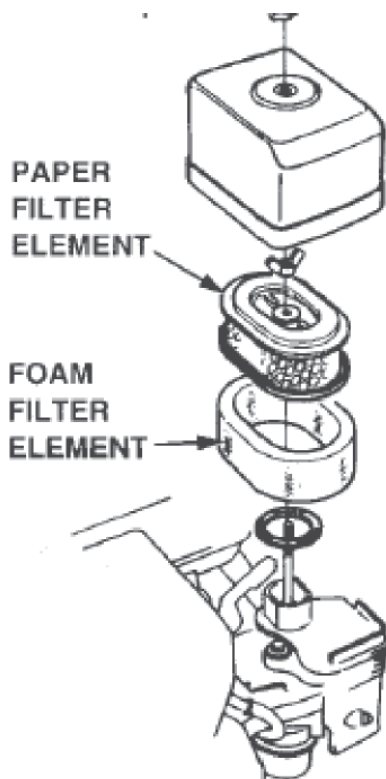


Figure 15. Air Filter

2. Tap the paper filter element (Figure 15) several times on a hard surface to remove dirt, or blow compressed air [not exceeding 30 psi (207 kPa, 2.1 kgf/cm²)] through the filter element from the air cleaner case side.

3. Clean foam element in warm, soapy water or nonflammable solvent. Rinse and dry thoroughly. Dip the element in clean engine oil and completely squeeze out the excess oil from the element before installing.

CHECKING AND REPLACING V-BELT AND CLUTCH

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

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.

Reinstalling the V-belt

Engage V-belt to lower vibrator pulley and push the V-belt to left side of upper clutch. 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, visually check outer drum of the clutch for seizure and "V" groove for wear or damage. Clean the "V" groove as necessary. Regularly check the lining or shoe for wear. If the shoe is worn, power transmission becomes deficient and slipping will result.

NOTICE

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

VIBRATOR OIL LEVEL CHECK

1. In every 300 hours of operation, with the machine positioned horizontally, remove vibrator oil level check plug (Figure 6) off vibrator (14 mm wrench) and see if oil is up to filler port. Be sure to clean area around check hole to prevent dirt and dust from entering.
2. In every 300 hours of operation, replace oil (capacity 400 cc). For draining oil through level check hole, have the machine inclined with a sleeper or the like placed under the compaction plate on opposite side.

* Use engine oil 10W-30 for this lubrication.

NOTICE

Always clean the area around the vibrator oil level check hole before removing oil check plug. This will prevent dirt and debris from entering the system.

SPARK PLUG

3. Remove and clean the spark plug (Figure 16).

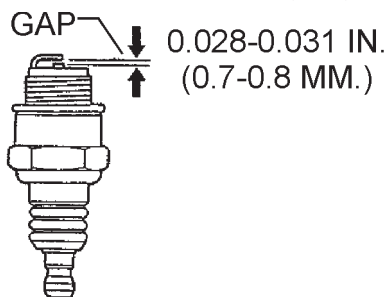


Figure 16. Spark Plug Gap

4. Adjust the spark gap to 0.028 ~0.031 inch (0.7~0.8 mm).

PLATE COMPACTOR STORAGE

For storage of the plate compactor for over 30 days, the following is required:

1. Drain the fuel tank completely or add STA-BIL to the fuel.
2. Run the engine until the fuel is completely consumed.
3. Completely drain the oil from the engine crankcase and follow procedures described in the engine Owner's Manual for engine storage.
4. Completely drain the compactor's hydraulic oil from the vibrating case.
5. Clean entire plate compactor, especially the bottom plate removing all dirt and foreign matter.
6. Cover plate compactor and engine with plastic covering or equivalent and store in a clean, dry place.

Table 8. Engine Troubleshooting

Symptom	Possible Cause	Solution
Difficult to start. Fuel is available but no SPARK at spark plug.	Spark plug bridging?	Check gap, insulation or replace spark plug.
	Carbon deposit on spark plug?	Clean or replace spark plug.
	Short circuit due to deficient spark plug insulation?	Check spark plug insulation. Replace if worn.
	Improper spark plug gap?	Set to proper gap.
Difficult to start. Fuel is available and SPARK is present at the spark plug.	ON/OFF switch is shorted?	Check switch wiring. Replace switch.
	Ignition coil defective?	Replace ignition coil.
	Improper spark gap, points dirty?	Set correct spark gap and clean points.
	Condenser insulation worn or short circuiting?	Replace condenser.
	Spark plug wire broken or short circuiting?	Replace defective spark plug wiring.
Difficult to start. Fuel is available, SPARK is present at the spark plug and compression is normal.	Wrong fuel type?	Flush fuel system and replace with correct type of fuel.
	Water or dust in fuel system?	Flush fuel system.
	Air cleaner dirty?	Clean or replace air cleaner.
Difficult to start. Fuel is available, SPARK is present at the spark plug and compression is low.	Suction/exhaust valve stuck or protruded?	Reseat valves.
	Piston ring and/or cylinder worn?	Replace piston rings or piston.
	Cylinder head and/or spark plug not tightened properly?	Torque cylinder head bolts and spark plug.
	Head gasket and/or spark plug gasket damaged?	Replace head and spark plug gaskets.
No fuel present at carburetor.	Fuel not available in fuel tank?	Fill with correct type of fuel.
	Fuel cock does not open properly?	Apply lubricant to loosen fuel cock lever. Replace if necessary.
	Fuel filter clogged?	Replace fuel filter.
	Fuel tank cap breather hole clogged?	Clean or replace fuel tank cap.
	Air in fuel line?	Bleed fuel line
Weak in power. Compression is proper and does not misfire.	Air cleaner dirty?	Clean or replace air cleaner.
	Improper level in carburetor?	Check float adjustment. Rebuild carburetor.
	Defective spark plug?	Clean or replace spark plug.

TROUBLESHOOTING

CONTINUED...

Symptom	Possible Cause	Solution
Weak in power. Compression is proper but misfires.	Water in fuel system?	Flush fuel system and replace with correct type of fuel.
	Dirty spark plug?	Clean or replace spark plug
	Ignition coil defective?	Replace ignition coil.
Engine overheats.	Spark plug heat value improper?	Replace with correct type of spark plug.
	Incorrect type of fuel?	Replace with correct type of fuel.
	Cooling fins dirty?	Clean cooling fins.
Rotational speed fluctuates.	Governor adjusted correctly?	Adjust governor
	Governor spring defective?	Replace governor spring.
	Fuel flow restricted?	Check entire fuel system for leaks or clogs.
Recoil starter malfunction.	Recoil mechanism clogged with dust and dirt?	Clean recoil assembly with soap and water.
	Spiral spring loose?	Replace spiral spring.

Table 9. Plate Compactor Troubleshooting

Symptom	Possible Problem	Solution
Travel speed too low and vibration is weak.	Engine speed too low?	Set engine speed to correct RPM.
	Clutch slips?	Check or replace clutch.
	V-belt slips?	Adjust or replace V-belt.
	Excessive oil in vibrator?	Drain excess oil and fill to proper level.
	Malfunction in vibrator housing?	Check eccentric, gears and counter weights.
	Bearing Failure?	Replace bearing.
	Insufficient engine output?	Check engine, compression.

[illegible]

EXPLANATION OF CODE IN REMARKS COLUMN

The following section explains the different symbols and remarks used in the Parts section of this manual. Use the help numbers found on the back page of the manual if there are any questions.

NOTICE

The contents and part numbers listed in the parts section are subject to change **without notice**. Multiquip does not guarantee the availability of the parts listed.

SAMPLE PARTS LIST

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	12345	BOLT.....	1	INCLUDES ITEMS W/%
2%		WASHER, 1/4 IN.....		NOT SOLD SEPARATELY
2%	12347	WASHER, 3/8 IN.....	1	MQ-45T ONLY
3	12348	HOSE		A/R ...MAKE LOCALLY
4	12349	BEARING	1	S/N 2345B AND ABOVE

NO. Column

Unique Symbols — All items with same unique symbol

(@, #, +, %, or >) in the number column belong to the same assembly or kit, which is indicated by a note in the “Remarks” column.

Duplicate Item Numbers — Duplicate numbers indicate multiple part numbers, which are in effect for the same general item, such as different size saw blade guards in use or a part that has been updated on newer versions of the same machine.

NOTICE

When ordering a part that has more than one item number listed, check the remarks column for help in determining the proper part to order.

PART NO. Column

Numbers Used — Part numbers can be indicated by a number, a blank entry, or TBD.

TBD (To Be Determined) is generally used to show a part that has not been assigned a formal part number at the time of publication.

QTY. Column

Numbers Used — Item quantity can be indicated by a number, a blank entry, or A/R.

A/R (As Required) is generally used for hoses or other parts that are sold in bulk and cut to length.

A blank entry generally indicates that the item is not sold separately. Other entries will be clarified in the “Remarks” Column.

REMARKS Column

Some of the most common notes found in the “Remarks” Column are listed below. Other additional notes needed to describe the item can also be shown.

Assembly/Kit — All items on the parts list with the same unique symbol will be included when this item is purchased.

Indicated by:

“INCLUDES ITEMS W/(unique symbol)”

Serial Number Break — Used to list an effective serial number range where a particular part is used.

Indicated by:

“S/N XXXXX AND BELOW”

“S/N XXXX AND ABOVE”

“S/N XXXX TO S/N XXX”

Specific Model Number Use — Indicates that the part is used only with the specific model number or model number variant listed. It can also be used to show a part is NOT used on a specific model or model number variant.

Indicated by:

“XXXXX ONLY”

“NOT USED ON XXXX”

“Make/Obtain Locally” — Indicates that the part can be purchased at any hardware shop or made out of available items. Examples include battery cables, shims, and certain washers and nuts.

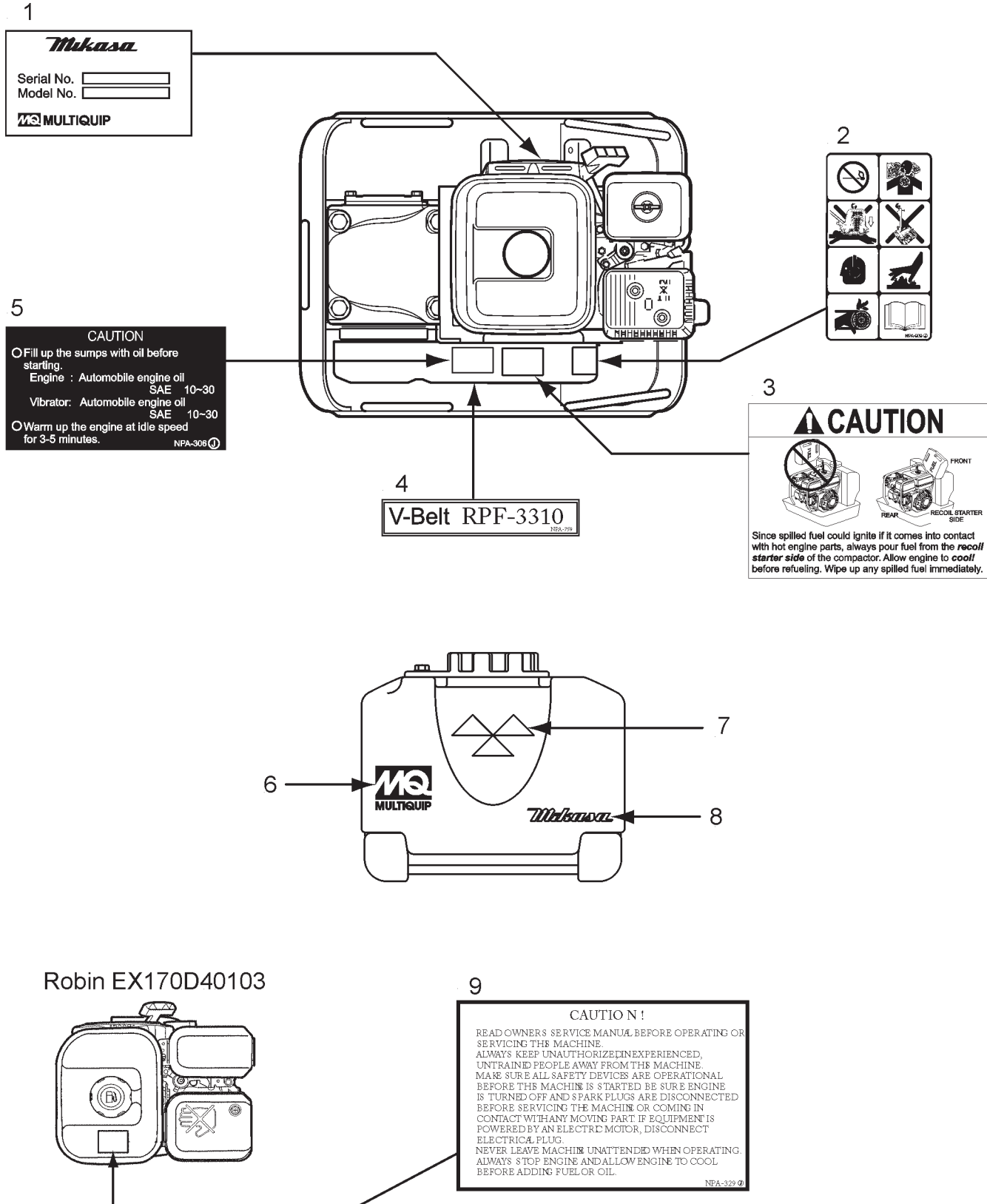
SUGGESTED SPARE PARTS

MVC82VE/VEW PLATE COMPACTOR WITH ROBIN EX170D40103 ENGINE

1 to 3 units

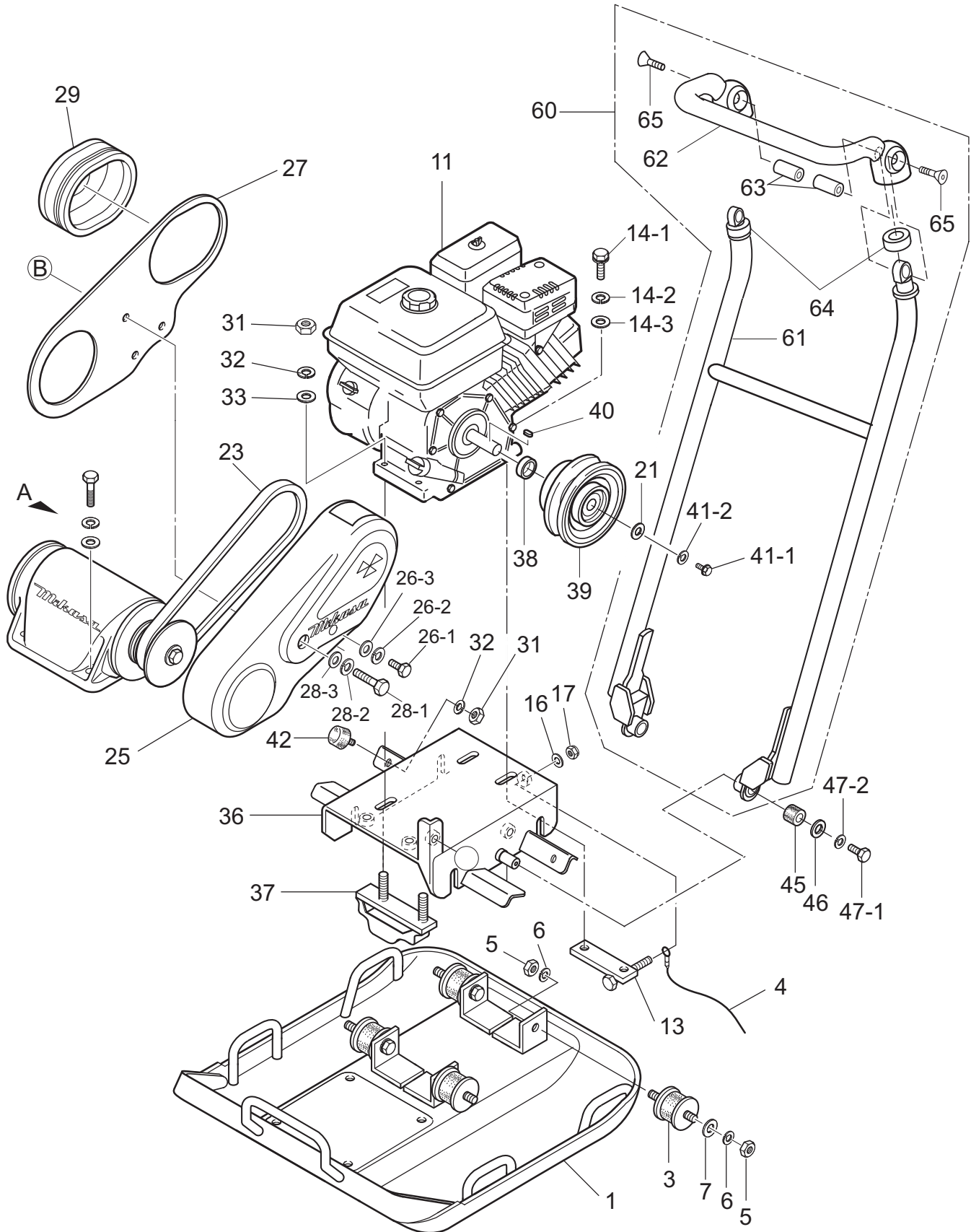
<u>QTY.</u>	<u>P/N</u>	<u>DESCRIPTION</u>
3.....	070100312.....	V-BELT
4.....	939010254.....	SHOCK ABSORBER
3.....	0650140150.....	SPARK PLUG
1.....	2825011118.....	ROPE, RECOIL STARTER
3.....	2773261107.....	ELEMENT, AIR CLEANER
1.....	0430430060.....	CAP, FUEL TANK
1.....	X641360010	FUEL FILTER, FUEL TANK

NAMEPLATE AND DECALS



NAMEPLATE AND DECALS

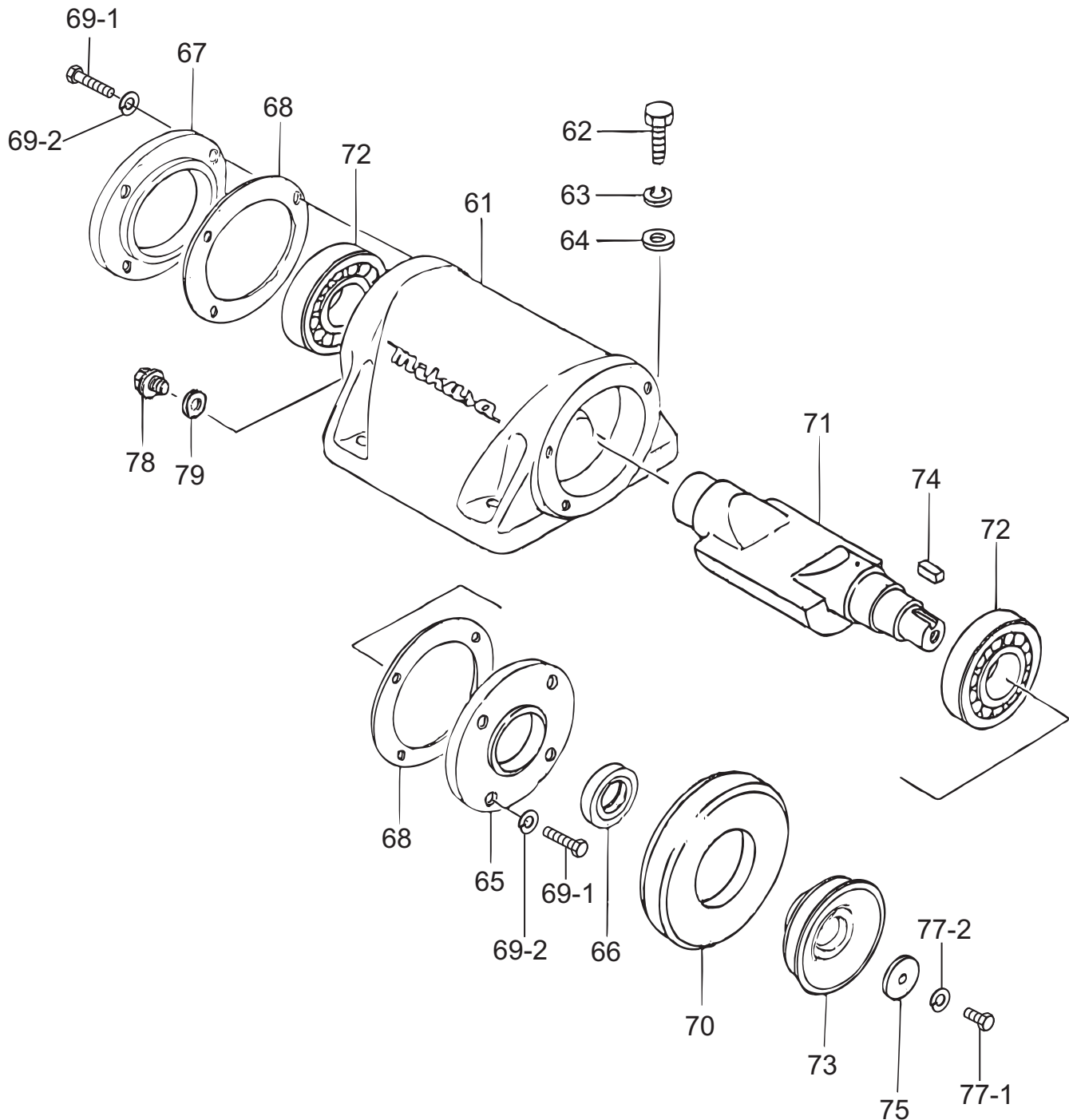
<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1		PLATE, SERIAL NO.....	1	CONTACT MQ PARTS DEPT.
2	920209890	DECAL, CAUTION (ICON)	1	NPA-989
3	920212320	DECAL, FUEL CAUTION	1	NPA-1232
4	920207590	DECAL, V-BELT (RPF-3310).....	1	NPA-759
5	920203060	DECAL, CAUTION	1	NPA-306
6	920201580	DECAL, MQ MARK 71X55	1	
7	920101410	DECAL, MIKASA MARK 120X60	1	
8	920105070	DECAL, MIKASA MARK 125MM	1	
9	920203290	DECAL, CAUTION	1	NPA-329



BODY ASSY

NO.	PART NO.	PART NAME	QTY.	REMARKS
1	419119550	VIB. PLATE 570X450	1	
3	939010254	SHOCK ABSORBER D45H41	4	
4	959404350	EARTH WIRE	1	
5	020310080	NUT M10	8	
6	030210250	WASHER, LOCK M10	8	
7	031110160	WASHER, FLAT M10	4	
11	911221703	ENGINE ASSY, EX170D40103	1	
13	413436870	ENGINE NUT, REAR	1	
14-1	001220840	BOLT 8X40 T	2	
14-2	030208200	WASHER, LOCK M8	2	
14-3	031108160	WASHER, FLAT M8	2	
16	031108160	WASHER, FLAT M8	1	
17	022710809	NYLON NUT M8	1	
21	952400130	WASHER 9304	1	
23	070100312	V-BELT RPF3310	1	
25	418216470	BELT COVER	1	
26-1	001221035	BOLT 10X35 T	1	
26-2	030210250	WASHER, LOCK M10	1	
26-3	031110160	WASHER, FLAT M10	1	
27	418216480	BELT COVER (IN)	1	
28-1	001221053	BOLT 10X65 T	1	
28-2	030210250	WASHER, LOCK M10	1	
28-3	031110160	WASHER, FLAT M10	1	
29	418343420	COVER SEAL (E/G)	1	
31	020308060	NUT M8	4	
32	030208200	WASHER, LOCK M8	4	
33	031108160	WASHER, FLAT M8	2	
36	419217800	BASE	1	
37	418457750	BOLT, ENGINE	1	
38	408421270	CLUTCH SPACER 20.2X25X9.4	1	
39	413332920	CLUTCH ASSY S20A1-124	1	
40	0053005201	KEY	1	
41-1	001220820	BOLT 8X20 T	1	
41-2	030208200	WASHER, LOCK M8	1	
42	939010290	RUBBER, HANDLE	2	
45	404433430	RUBBER 20X32X28.5/52H	2	
46	952403450	WASHER 11X35X4.5	2	
47-1	001221020	BOLT 10X20 T	2	
47-2	030210250	WASHER, LOCK M10	2	
60	419910010	VAS HANDLE ASSY	1	INCLUDES ITEMS W/ #
61#	419219560	VAS HANDLE BODY	1	
62#	419217810	GRIP, VAS HANDLE	1	
63#	416459320	HANDLE NUT, VAS HANDLE	2	
64#	416459340	RUBBER, VAS HANDLE	2	
65#	009120407	SUNK HEAD BOLT 10X20 T	2	

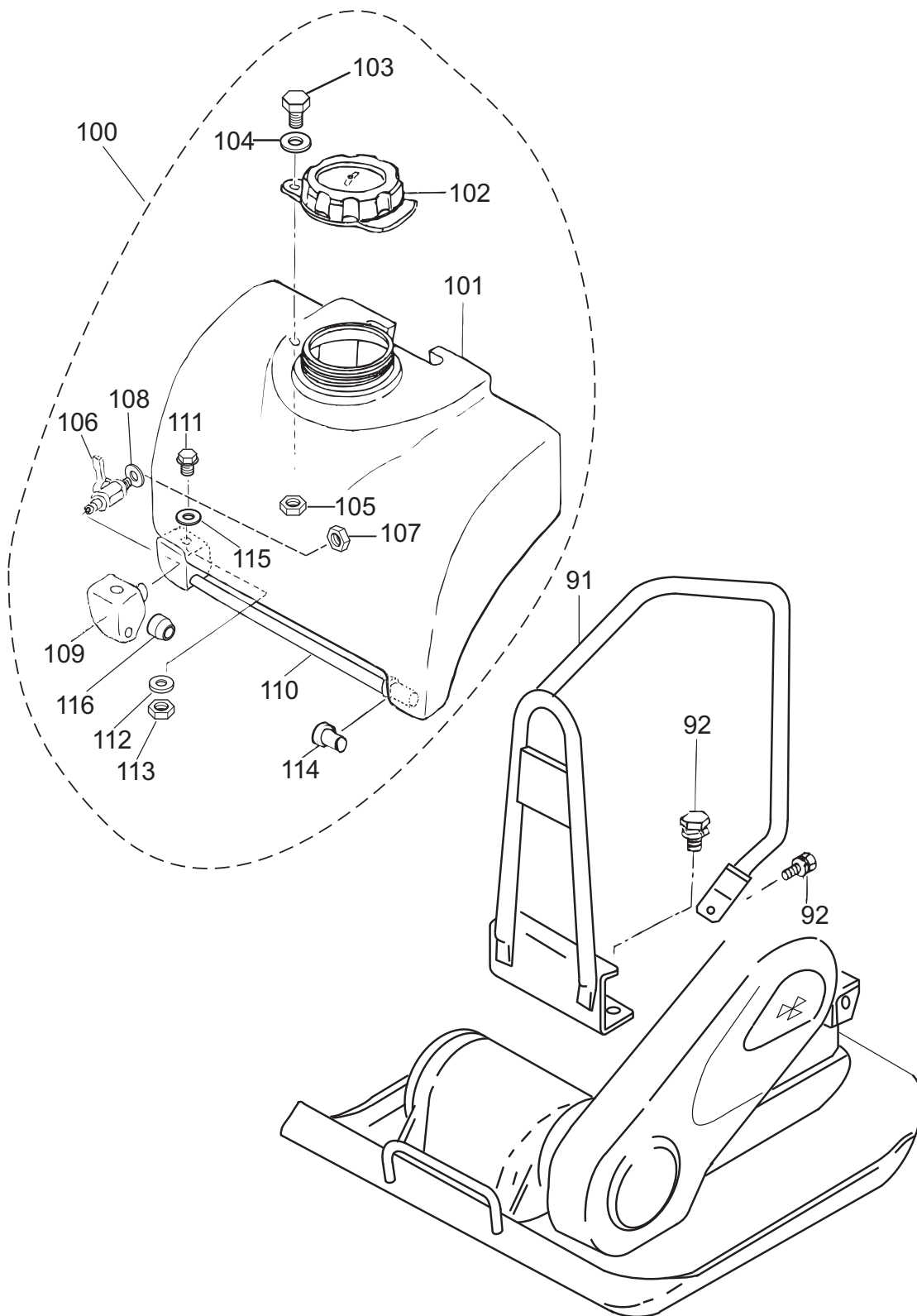
VIBRATOR ASSY



VIBRATOR ASSY

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
61	418117730	VIBRATING CASE	1	
62	001221445	BOLT 14X45 T	4	
63	030214350	WASHER, LOCK M14	4	
64	031114260	WASHER, FLAT M14	4	
65	418456950	CASE COVER/PULLEY	1	
66	060403020	OIL SEAL TC-30458	1	
67	418456960	CASE COVER/SHUT OFF	1	
68	418456970	PACKING	2	
69-1	001220820	BOLT 8X20 T	8	
69-2	030208200	WASHER, LOCK M8	8	
70	418460130	COVER SEAL, VIBRATOR	1	
71	418343630	ECC. ROTOR SHAFT	1	
72	040406307	BEARING 6307C4	2	
73	418456981	PULLEY/VIB.	1	
74	951401920	KEY 7X7X30	1	
75	952403450	WASHER 11X35X4.5	1	
77-1	001221030	BOLT 10X30 T	1	
77-2	030210250	WASHER, LOCK M10	1	
78	953400270	PLUG 1/4X14 10L	1	
79	953405260	PACKING 1/4 (CU)	1	

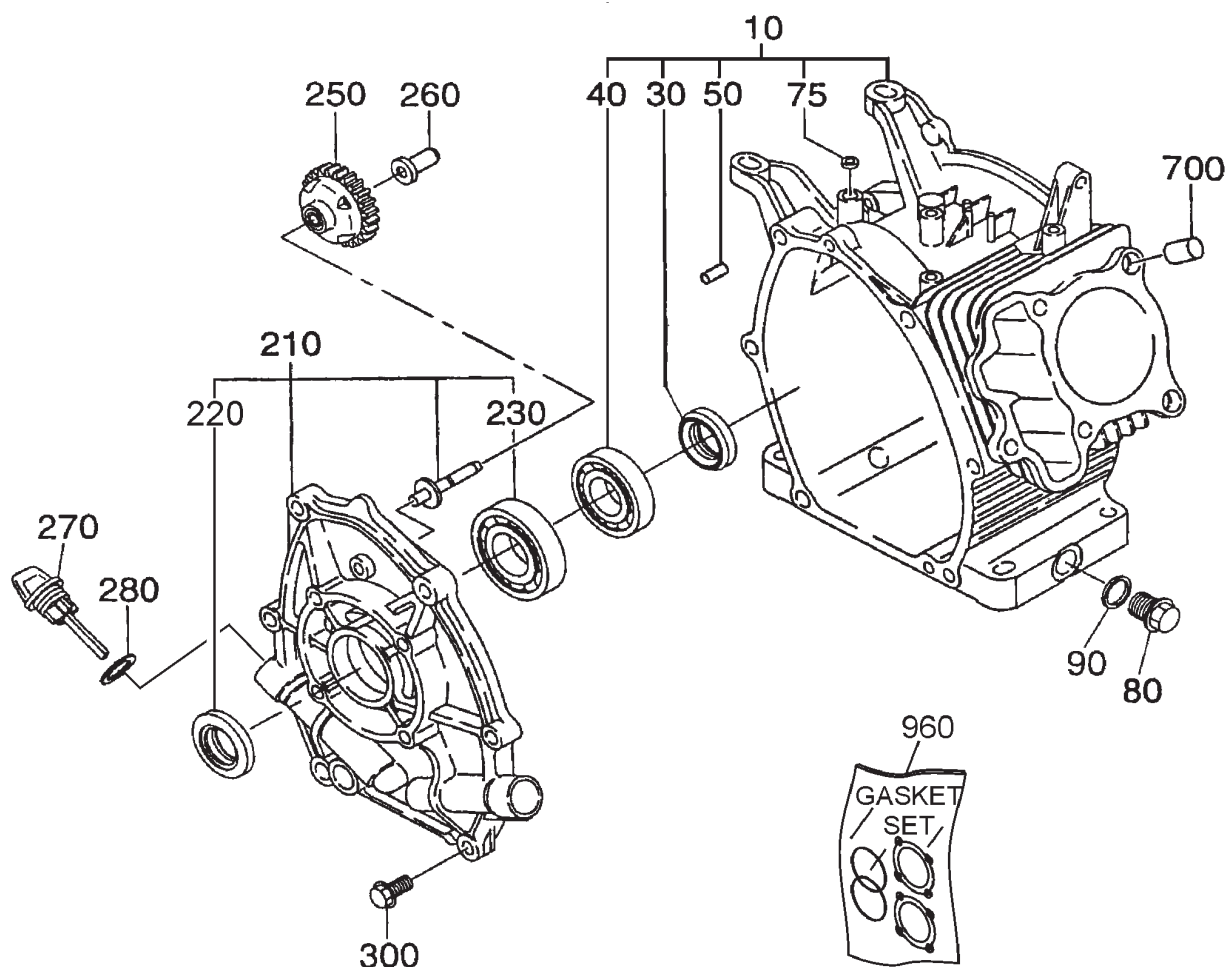
WATER TANK ASSY (MVC82VEW ONLY)



WATER TANK ASSY (MVC82VIEW ONLY)

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
91	418118581	GUARD HOOK	1	
92	002211025	BOLT 10X25 H, SW	3	
100	52693	WATER TANK ASSY	1	INCLUDES ITEMS W/ \$
101\$	418910080	WATER TANK W/CAP (ORANGE)	1	INCLUDES ITEMS W/ #
102#\$	954300342	CAP, WATER TANK (NBR)	1	
103#\$	001241030	BOLT 10X30 U	1	
104#\$	033910010	WASHER 10.5X21X2 SUS	2	
105#\$	022910180	NYLON NUT M10 (SUS)	1	
106\$	954403241	COCK PT1/4, BH-1211(AL)	1	
107\$	959403790	NUT PS-1/4	1	
108\$	418458320	PACKING 11.5X19.5X2	1	
109\$	418345150	PIPE HOLDER	1	
110\$	418345160	SPRINKLING PIPE	1	
111\$	001740825	FLANGE BOLT 8X25 (SUS)	1	
112\$	033910110	WASHER, FLAT M8 (SUS)	2	
113\$	020308064	NUT M8 (SUS)	1	
114\$	418459330	RUBBER CAP	1	
115\$	416453780	PACKING 8X19X2T	1	
116\$	418457890	RUBBER (SPRINKLINK)	2	

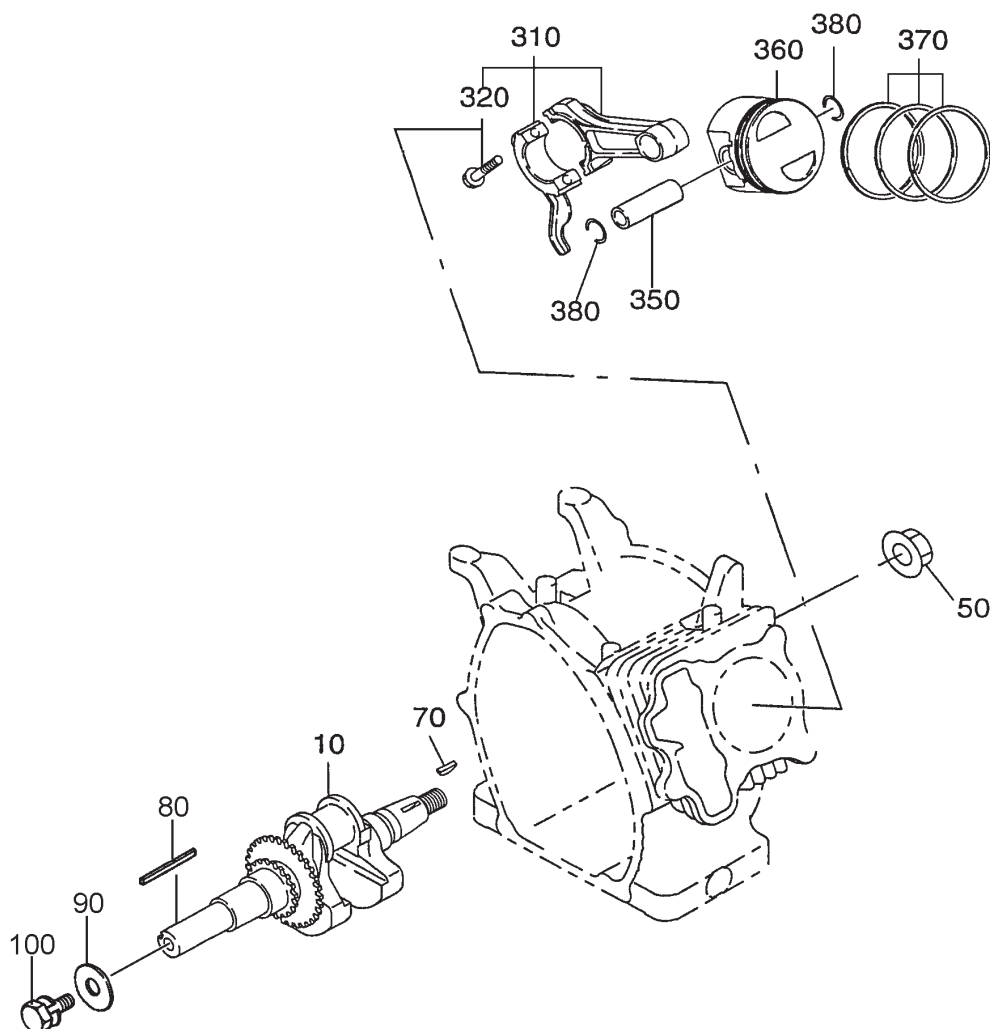
ROBIN EX170D40103 ENGINE — CRANKCASE ASSY.



ROBIN EX170D40103 ENGINE — CRANKCASE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2771010241	CRANK CASE CP W/OIL SENSOR.....	1	INCLUDES ITEMS W/ #
30#	0440250200	OIL SEAL	1	
40#	0600280021	BALL BEARING	1	
50#	2771501103	PIPE KNOCK	2	
75#	0440060020	OIL SEAL	1	
80	0401140030	PLUG	2	
90	0211140020	GASKET	2	
210	2771100131	MAIN BEARING COVER C	1	INCLUDES ITEMS W/ \$
220\$	0440250210	OIL SEAL	1	
230\$	0600250140	BALL BEARING	1	
250	27745004J1	GOVERNOR GEAR CP	1	
260	2774190103	GOVERNOR SLEEVE	1	
270	2776360123	OIL GAUGE	2	
280	0213160020	GASKET	2	
300	0010408350	FLANGE BOLT	6	
700	2771501103	PIPE KNOCK	2	
960	2779900127	GASKET SET	1	

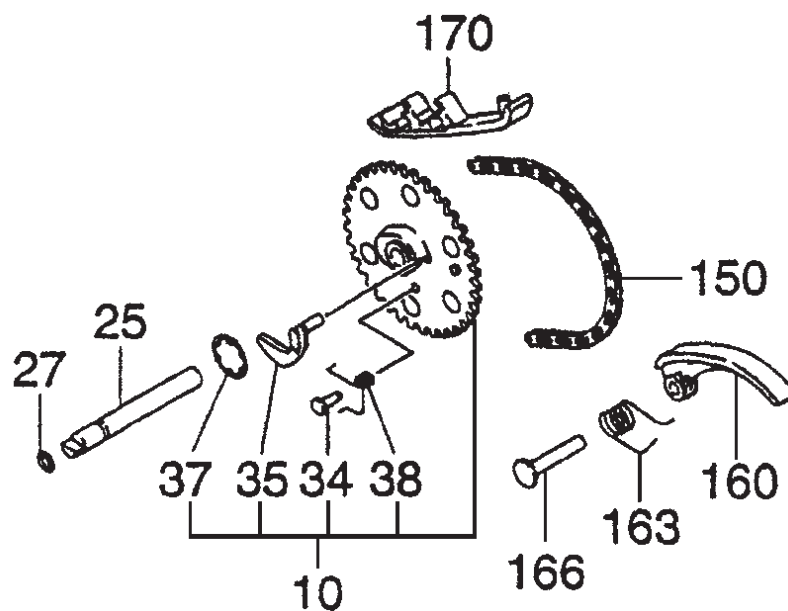
ROBIN EX170D40103 ENGINE — CRANKSHAFT, PISTON ASSY.



ROBIN EX170D40103 ENGINE — CRANKSHAFT, PISTON ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2772020141	CRANKSHAFT CP	1	
50	0180140020	FLANGE NUT	1	
70	0323030010	WOODRUFF KEY	1	
80	0320050150	KEY	1	
90	0200080140	WASHER	1	
100	0110080250	FLANGE BOLT	1	
310	2772250110	CONNECTING ROD ASSY, 84.5CDX25B 30D-16D ...	1	INCLUDES ITEM W/ #
310	2772250200	CONNECTING ROD ASSY, 0.25 U.S.	1	INCLUDES ITEM W/ #
320#	2772300103	CONNECTING ROD BOLT	2	
350	2772330113	PISTON PIN	1	
360	27723401J3	PISTON, STD (67Dx40H)	1	
360	27723403J3	PISTON, 0.25 O.S. (67Dx40H)	1	
360	27723404J3	PISTON, 0.50 O.S. (67Dx40H)	1	
370	2772351137	PISTON RING SET, STD(67D)	1	
370	2772351217	PISTON RING SET, 0.25 O.S.	1	
370	2772351317	PISTON RING SET, 0.50 O.S.	1	
380	0565160010	CLIP	2	

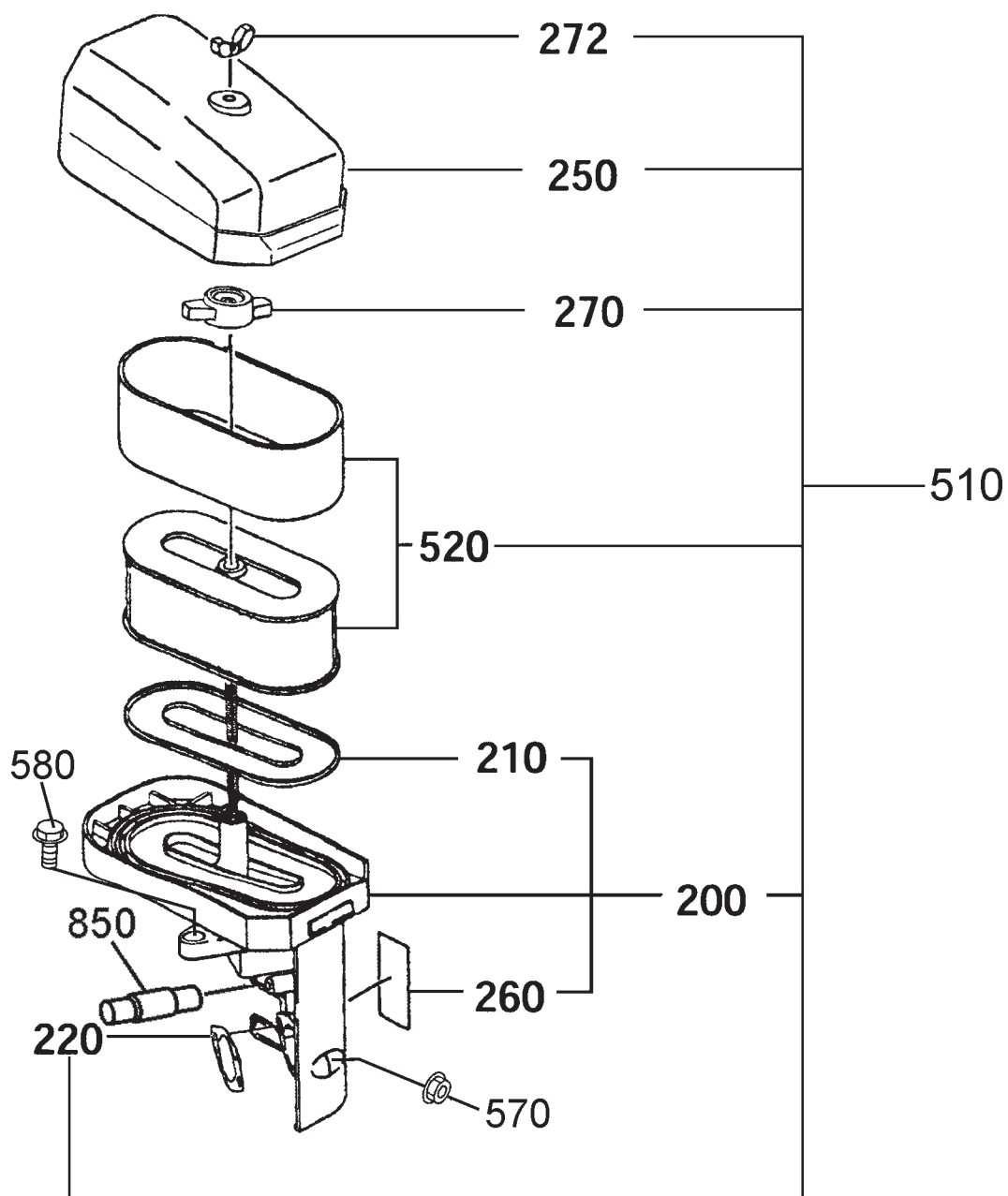
ROBIN EX170D40103 ENGINE — CAMSHAFT ASSY.



ROBIN EX170D40103 ENGINE — CAMSHAFT ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2773160131	CAMSHAFT CP.....	1	INCLUDES ITEMS W/ #
25	2773510103	PIN (CAMSHAFT)	1	
27	0240060010	O RING	1	
34#	2773860103	PIN (SPRING)	1	
35#	2773640103	RELEASE LEVER	1	
37#	2773650103	CLIP	1	
38#	2773870203	RETURN SPRING	1	
150	2773560111	TIMING CHAIN CP	1	
160	2773691103	TENSIONER	1	
163	2773710103	SPRING (TENSIONER)	1	
166	2773690203	PIN (TENSIONER)	1	
170	2773691313	CHAIN GUIDE	1	

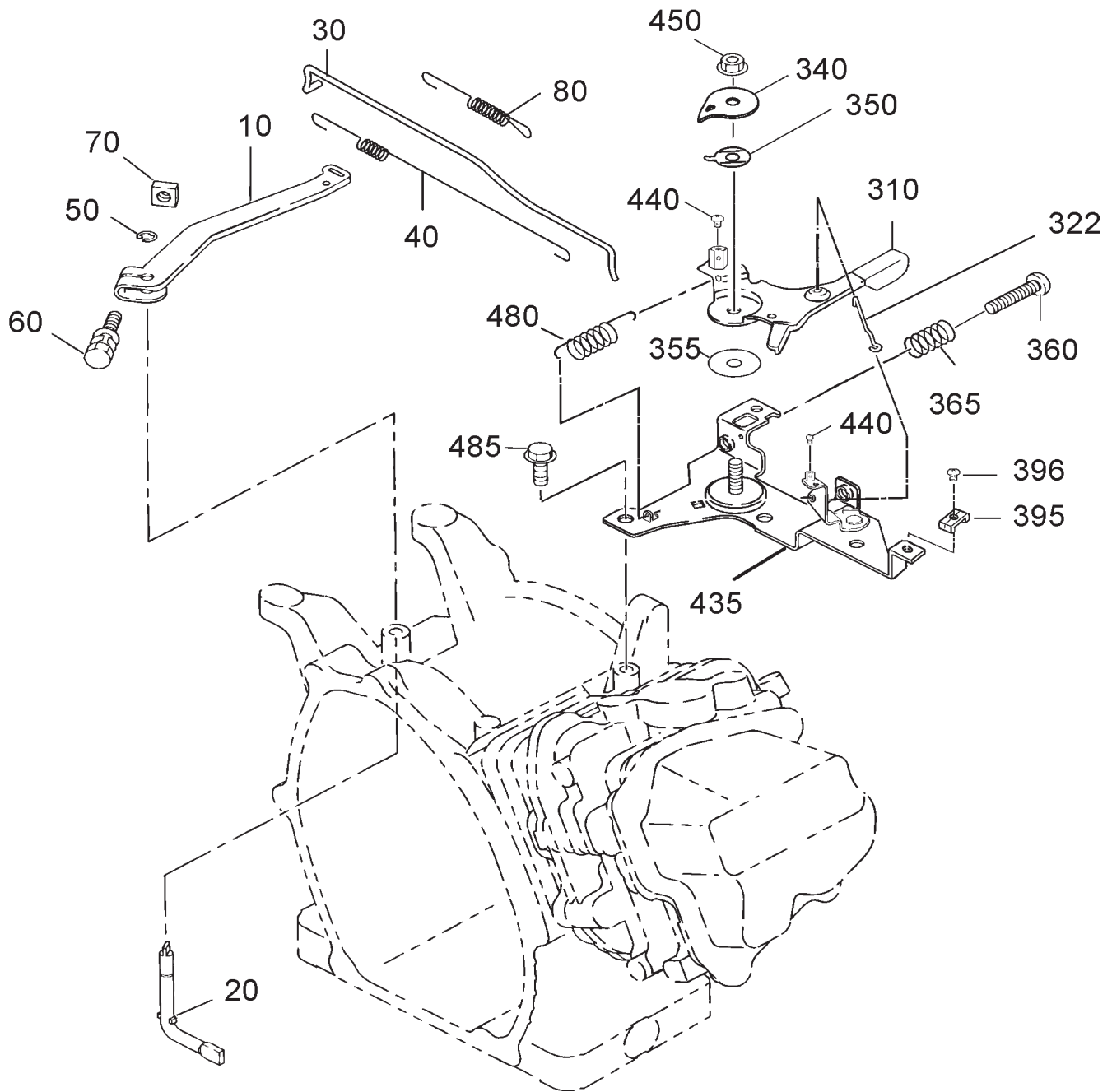
ROBIN EX170D40103 ENGINE — AIR CLEANER ASSY.



ROBIN EX170D40103 ENGINE — AIR CLEANER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
510	2773261520	AIR CLEANER ASSY	1INCLUDES ITEMS W/ #
200#	2773263018	BASE CP	1INCLUDES ITEMS W/ \$
210#\$	2773261008	PACKING	1	
220#	2773260408	PACKING	1	
250#	2773264008	COVER CP	1	
260#\$	2773260908	LABEL	1	
270#	2773274118	WING NUT	1	
272#	2773260708	WING NUT	1	
520#	2773261107	ELEMENT SET	1	
570	0023806000	FLANGE NUT	2	
580	0110060050	FLANGE BOLT	1	
850	2773276008	BREATHER PIPE	1	

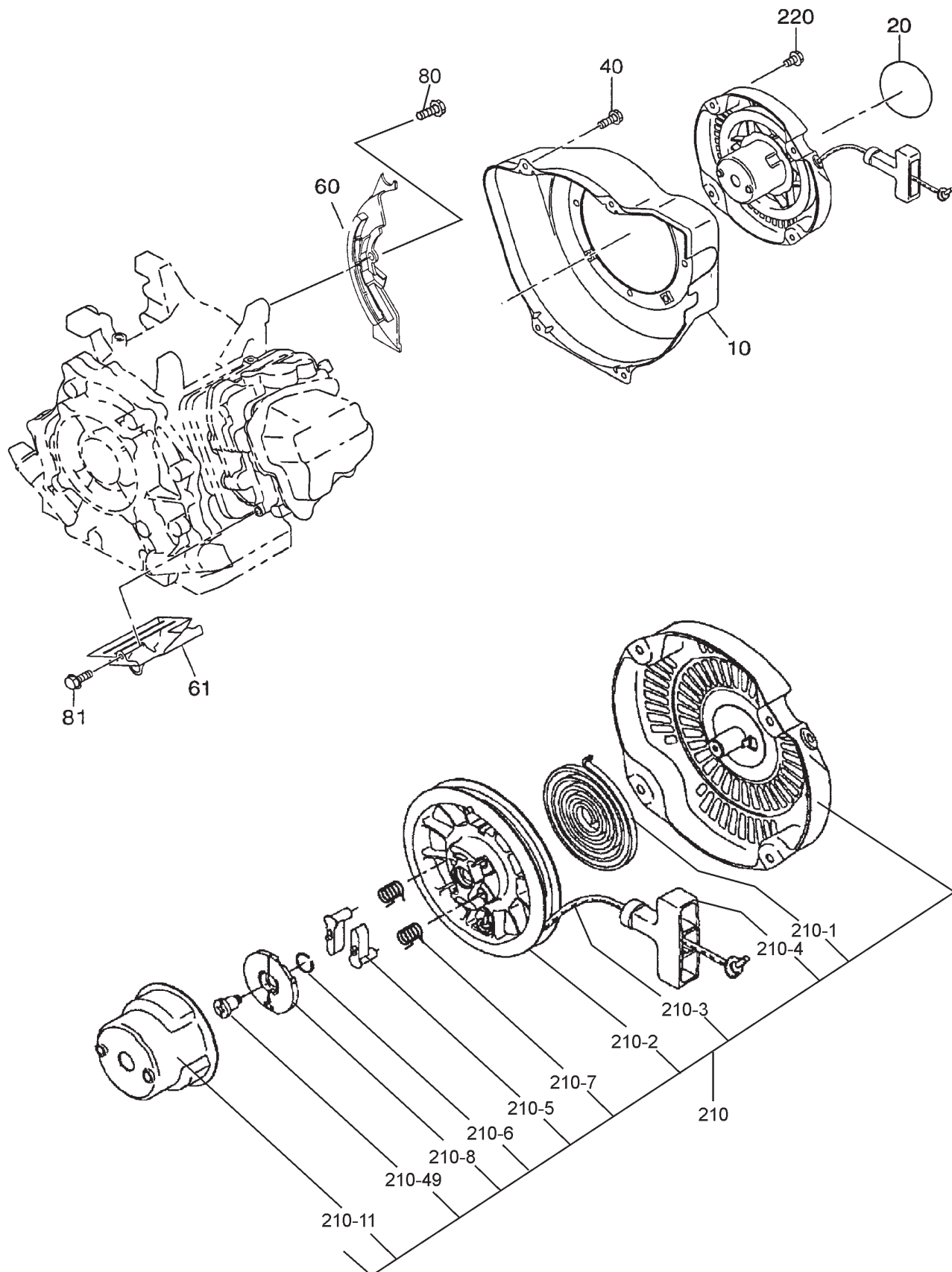
ROBIN EX170D40103 ENGINE — GOVERNOR ASSY.



ROBIN EX170D40103 ENGINE — GOVERNOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2774230123	GOVERNOR LEVER	1	
20	2774220133	GOVERNOR SHAFT	1	
30	2774270111	GOVERNOR ROD CP	1	
40	2774280123	ROD SPRING	1	
50	0031305000	CLIP	1	
60	0130060240	BOLT AND WASHER ASSY	1	
70	0186060020	NUT	1	
80	2794250263	GOVERNOR SPRING	1	
310	2774330601	SPEED CONT.LEVER CP2	1	
322	2774370101	LINK ROD CP	1	
340	2774350203	STOP PLATE	1	
350	2774450103	WASHER	1	
355	0217060070	FRICTION WASHER	1	
360	0043106250	SCREW	1	
365	2374500423	SPRING (ADJUST)	1	
395	2774390203	CLAMP	1	
396	0131050030	SCREW AND WASHER ASSY	1	
435	2774600201	SPEED CONT. BRACKET CP	1	
440	0043104080	SCREW	1	
450	0023506000	SELF LOCK NUT	1	
480	2774510303	RETURN SPRING	1	
485	0110060020	FLANGE BOLT	2	

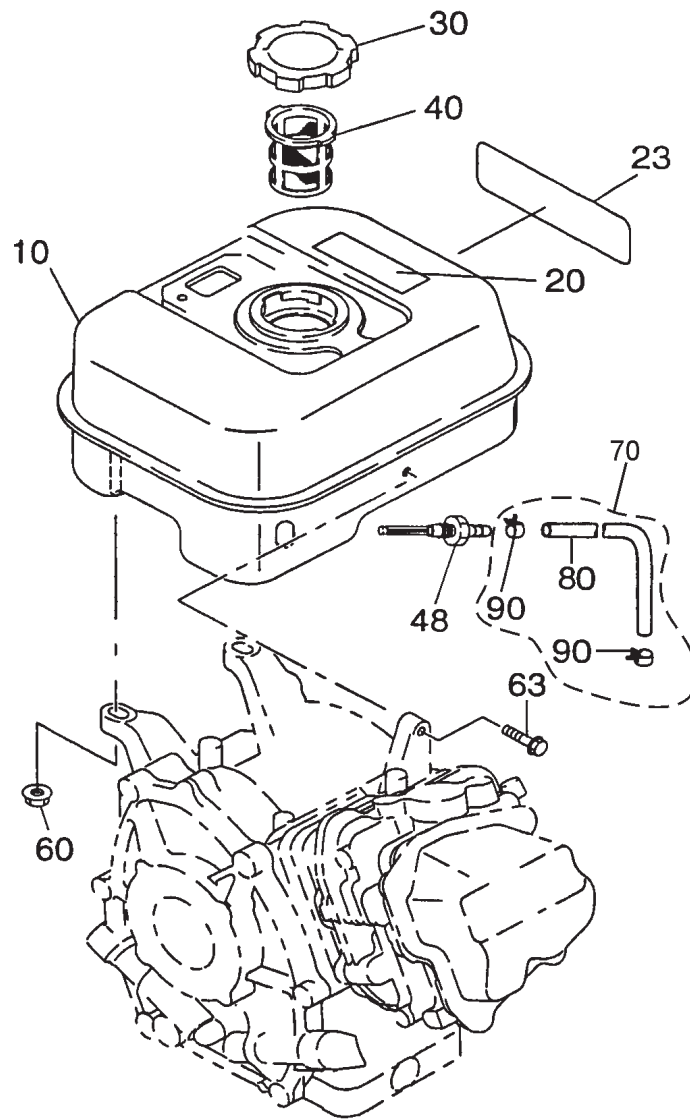
ROBIN EX170D40103 ENGINE — COOLING, STARTING ASSY.



ROBIN EX170D40103 ENGINE — COOLING, STARTING ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2775120201	BLOWER HOUSING CP	1	
20	0732005470	LABEL (TRADEMARK)	1	
40	0110060030	FLANGE BOLT	4	
60	2775271121	BAFFLE 1 (CASE) CP	1	
61	2775270203	BAFFLE 2 (HEAD)	1	
80	0010406160	FLANGE BOLT	1	
81	0110060020	FLANGE BOLT	1	
210	2695020130	RECOIL STARTER ASSY	1	INCLUDES ITEMS W/ #
210-1#	2705011508	SPIRAL SPRING	1	
210-2#	2695012008	REEL	1	
210-3#	2825011118	STARTER ROPE	1	
210-4#	2615010008	STARTER KNOB	1	
210-5#	2705012508	RATCHET	2	
210-6#	2275013108	FRICTION SPRING	1	
210-7#	2275013508	RETURN SPRING	2	
210-8#	2705026108	RATCHET GUIDE	1	
210-11#	2695014518	STARTER PULLEY	1	
210-49#	2275015208	SET SCREW	1	
220	0110060010	FLANGE BOLT	4	

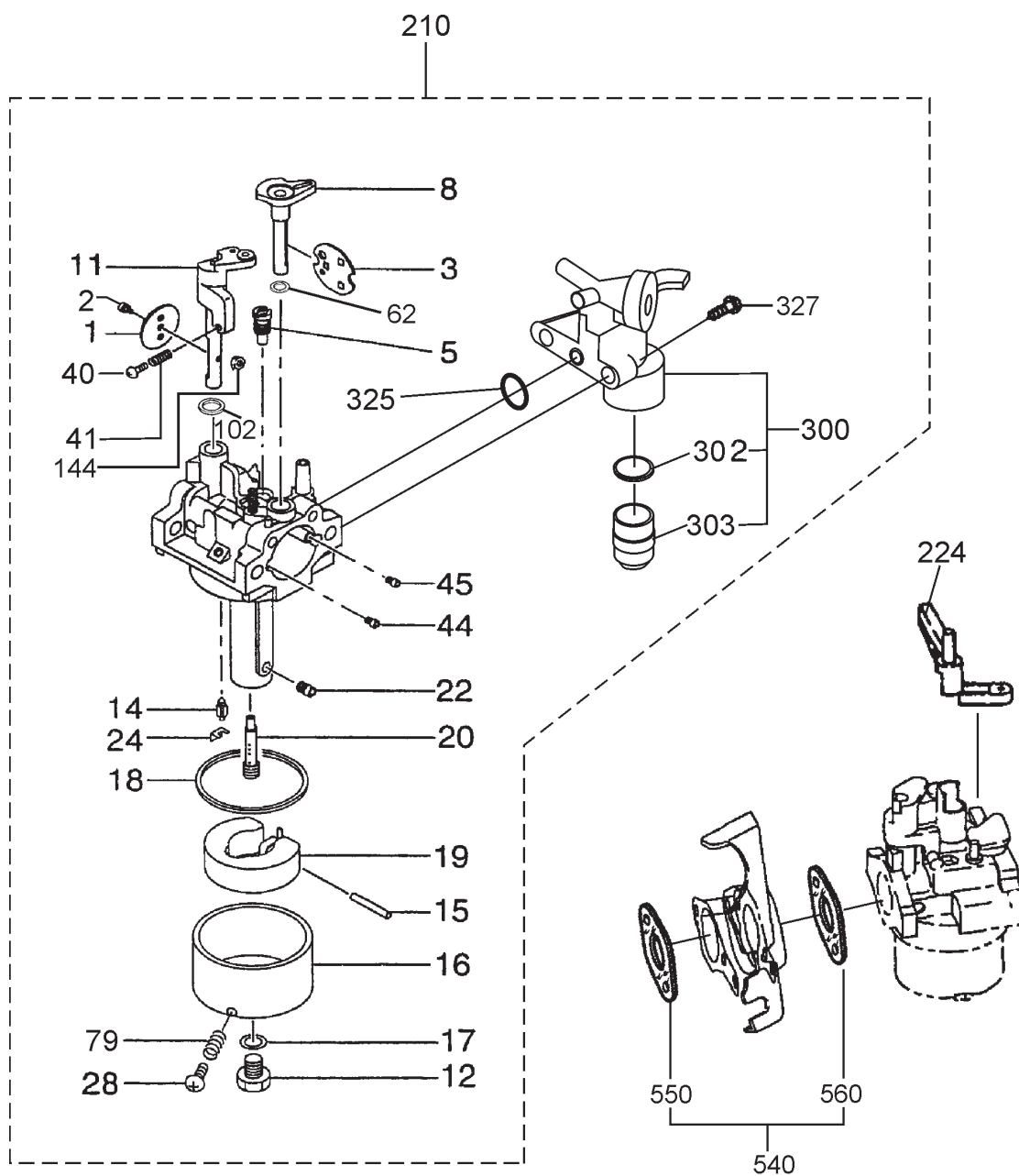
ROBIN EX170D40103 ENGINE — FUEL TANK ASSY.



ROBIN EX170D40103 ENGINE — FUEL TANK ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2776010211	FUEL TANK CP	1	
20	0732005181	LABEL (WARNING)	1	
23	2779511103	LABEL (MODEL)	1	
30	0430430060	FUEL TANK CAP CP	1	
40	X641360010	FUEL FILTER	1	
48	X505120020	UNION	1	
60	0023806000	FLANGE NUT	2	
63	0110060130	FLANGE BOLT	1	
70	2776260111	FUEL PIPE CP	1	INCLUDES ITEMS W/ #
80#	X851061351	RUBBER PIPE	1	
90#	X561110060	HOSE CLAMP	2	

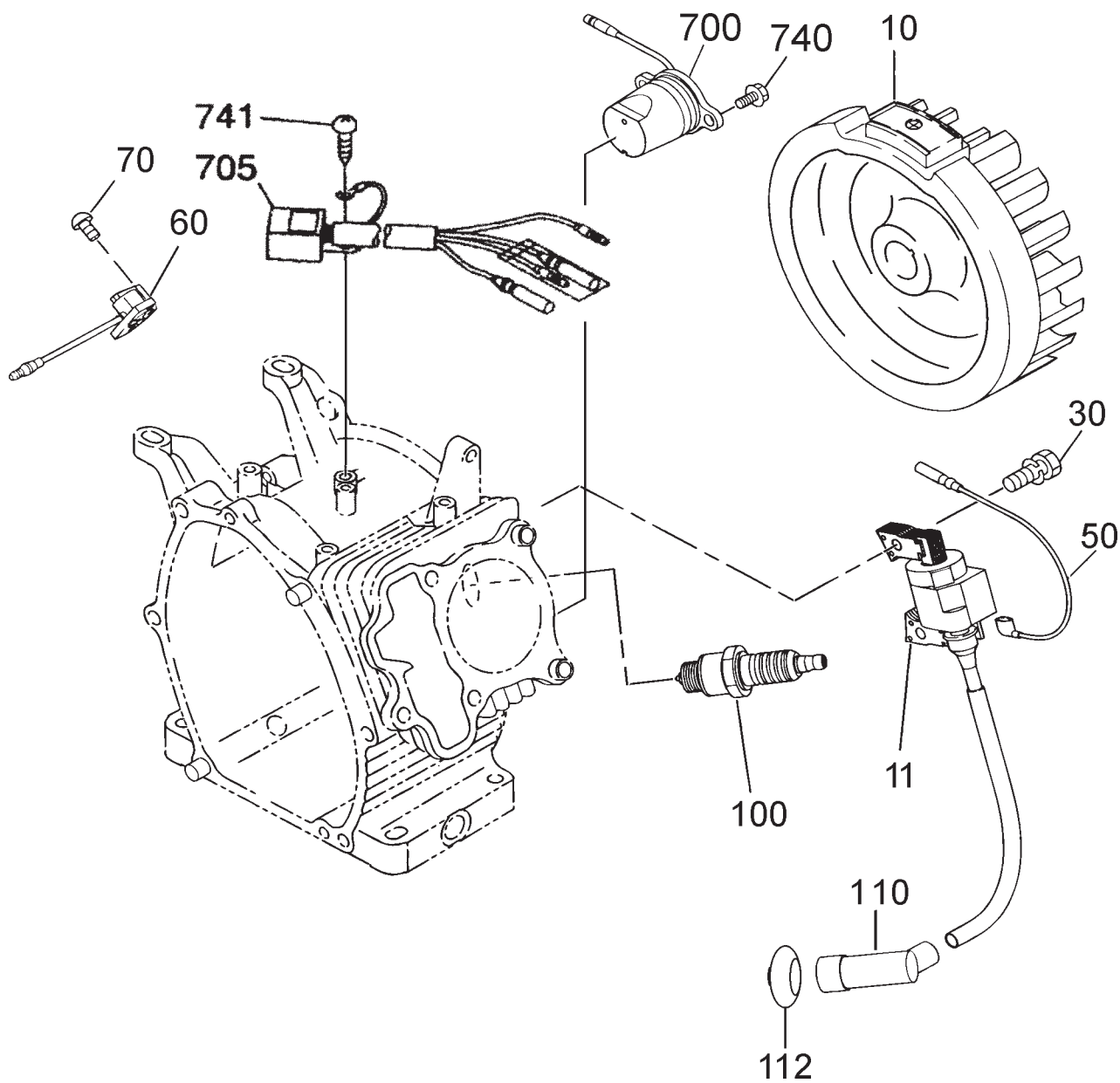
ROBIN EX170D40103 ENGINE — CARBURETOR ASSY.



ROBIN EX170D40103 ENGINE — CARBURETOR ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
210	2776230230	CARBURETOR ASSY	1	INCLUDES ITEMS W/ #
1#	2776253508	THROTTLE VALVE	1	
2#	2096235108	SCREW	1	
3#	2776252508	CHOKE VALVE	1	
5#	2466242008	PILOT JET	1	
8#	2776252008	CHOKE LEVER	1	
11#	2776253118	THROTTLE SHAFT A	1	
12#	2276245108	BOLT	1	
14#	2776250008	NEEDLE	1	
15#	2776251508	PIN	1	
16#	2776250608	FLOAT BODY ASSY	1	
17#	2146245008	PACKING	1	
18#	2146254008	CHAMBER PACKING	1	
19#	2266250608	FLOAT	1	
20#	2776244008	MAIN NOZZLE	1	
22#	2266241208	MAIN JET	1	
24#	2266270118	CLIP	1	
28#	2776236008	BOLT	1	
40#	1066255608	SCREW	1	
41#	2836235708	SPRING	1	
44#	2486241008	AIR JET	1	
45#	1066241008	AIR JET (PILOT)	1	
62#	2366268008	SEAL	1	
79#	2366254108	PACKING	1	
102#	2466239008	SEAL	1	
144#	2776255308	NUT	1	
224	2774380101	CHOKE LEVER CP	1	
300#	2796210310	COCK BODY A.....	1	INCLUDES ITEMS W/ \$
302#\$	2776211018	PACKING	1	
303#\$	2776210018	CUP	1	
325#	2776255208	O RING	1	
327#	1656237708	SCREW	2	
540	27732902J1	INSULATOR CP	1	INCLUDES ITEMS W/ &
550&	27735903J3	GASKET2 (INSULATOR)	1	
560&	27735902J3	GASKET1 (INSULATOR)	1	

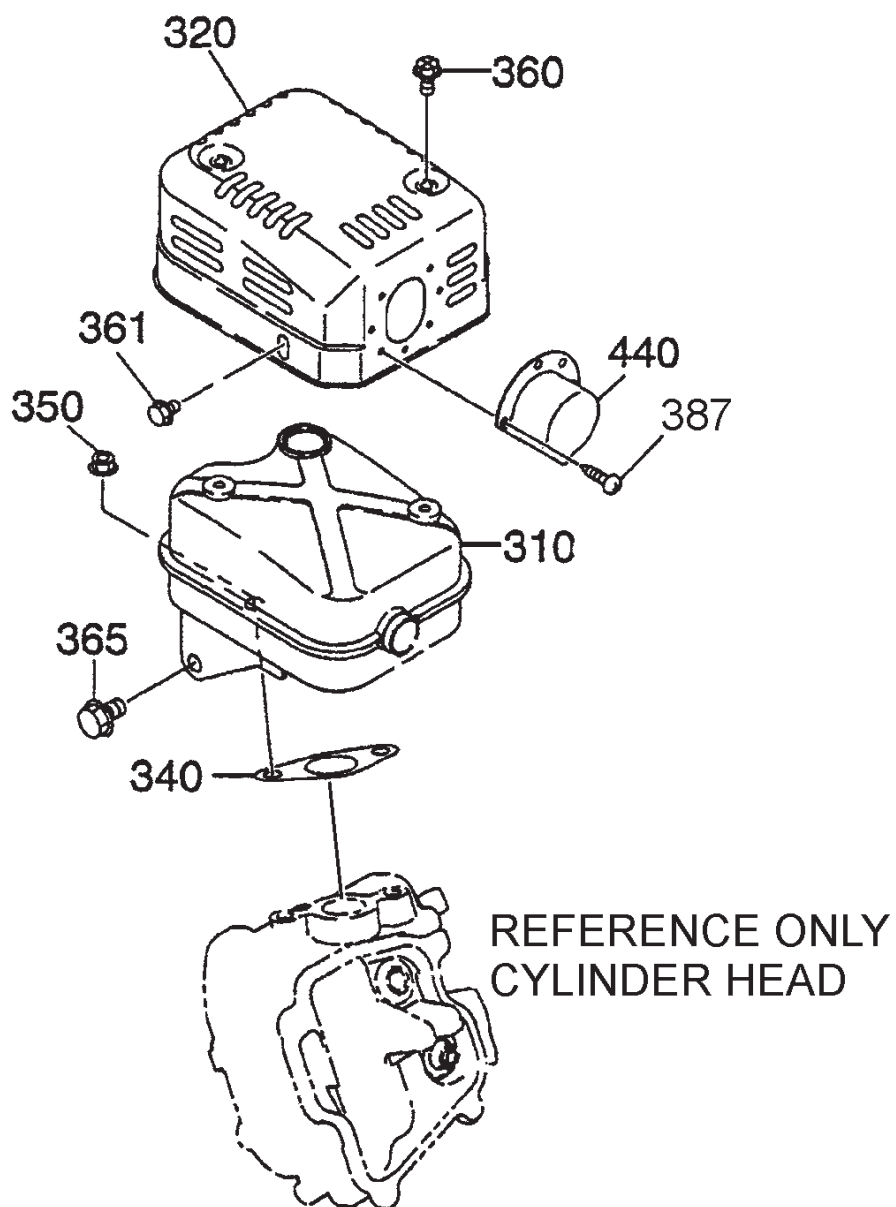
ROBIN EX170D40103 ENGINE — FLYWHEEL ASSY.



ROBIN EX170D40103 ENGINE — FLYWHEEL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2777923011	FLYWHEEL CP	1	
11	2777943111	IGNITION COIL CP 7527	1	MARK BM3803
11	2777943101	IGNITION COIL CP 7526	1	MARK BM3790 2777943111
30	0011406250	BOLT AND WASHER ASSY	2	
50	27773102H1	WIRE 2 CP	1	
60	0660000470	SWITCH ASSY	1	
70	0150040090	TAPPING SCREW M4X12L	2	
100	0650140150	SPARK PLUG, NGK BR6HS	1	
110	0655000270	SPARK PLUG CAP	1	
112	2795520103	GROMMET (PLUG CAP)	1	
700	2777630121	OIL SENSOR CP	1	
705	KU31104311	FLOAT C/U CP3	1	
740	0011406160	BOLT AND WASHER ASSY	2	
741	0152050010	TAPPING SCREW	1	

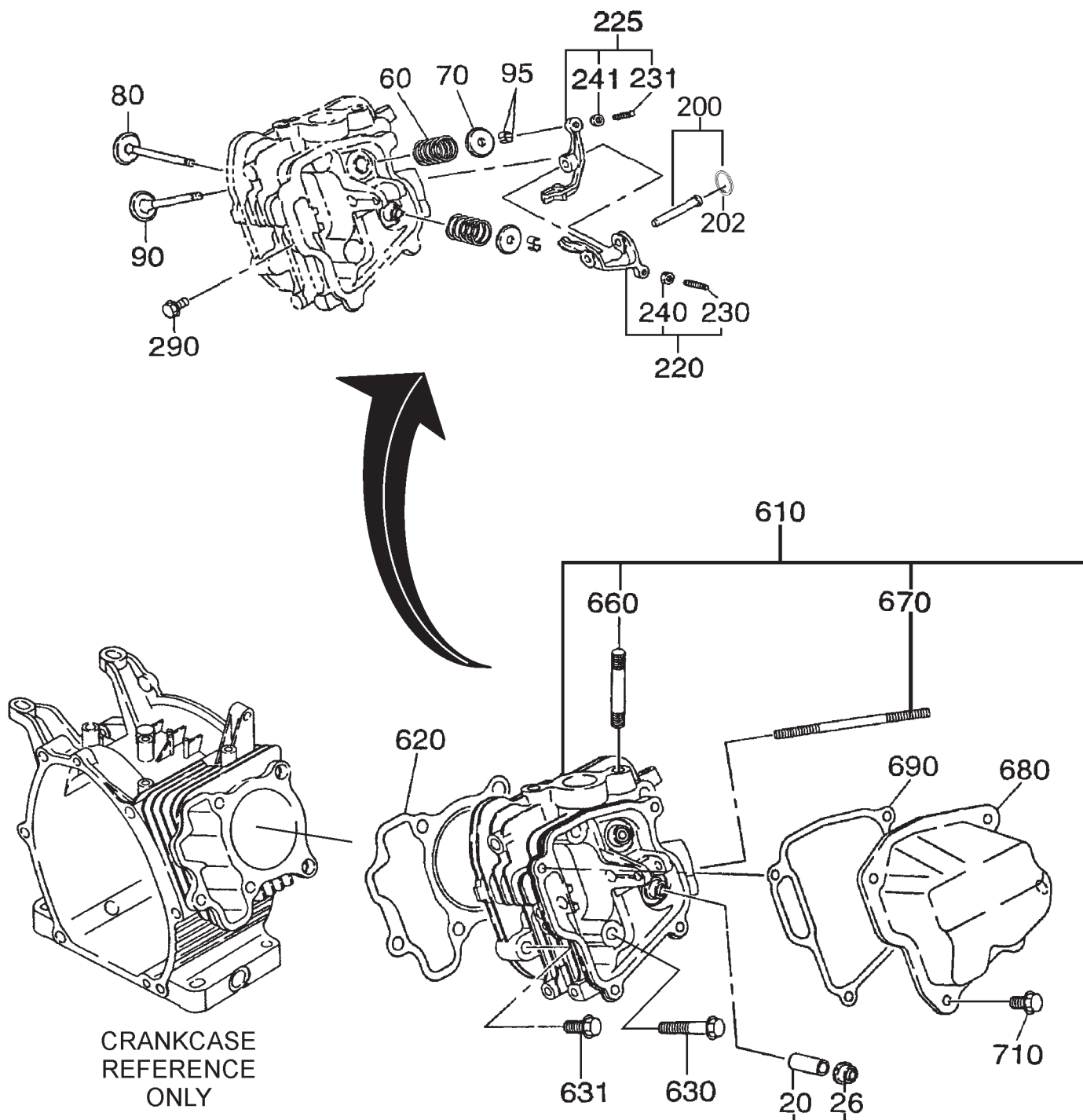
ROBIN EX170D40103 ENGINE — MUFFLER ASSY.



ROBIN EX170D40103 ENGINE — MUFFLER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
310	27730101J1	MUFFLER CP	1	
320	2773420131	MUFFLER COVER CP	1	
340	2773520203	GASKET (MUFFLER)	1	
350	9802008280	FLANGE NUT	2	
360	0152060090	TAPPING BOLT	2	
361	0110060010	FLANGE BOLT	1	
365	0110080320	FLANGE BOLT	1	
387	0150040060	TAPPING SCREW	2	
440	27737001H1	DEFLECTOR CP	1	

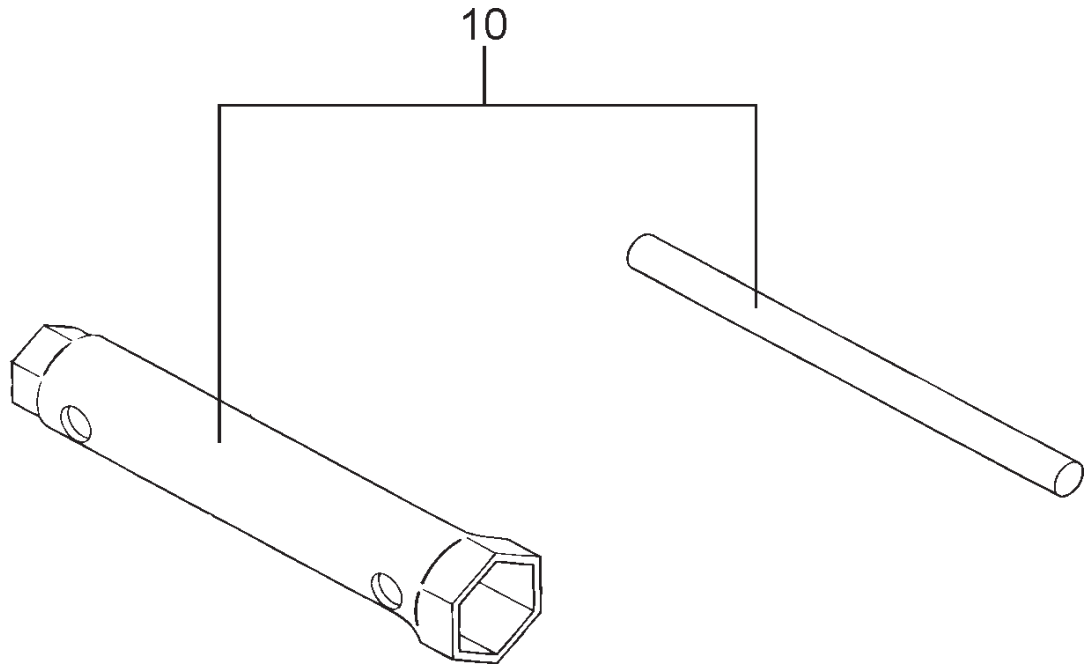
ROBIN EX170D40103 ENGINE — CYLINDER HEAD ASSY.



ROBIN EX170D40103 ENGINE — CYLINDER HEAD ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
20&	2371420203	VALVE GUIDE	2	
26&	2771601001	STEM SEAL	1	
60	2793360103	VALVE SPRING	2	
70	2693370103	SPRING RETAINER	2	
80	27733401H3	INTAKE VALVE	1	
90	27733501H3	EXHAUST VALVE	1	
95	13210KA031	COLLET VALVE	4	
200	2773500201	PIN (ROCKER) CP	1	INCLUDES ITEMS W/ \$
202\$	0031305000	CLIP	1	
220	2773620100	ROCKER ARM (IN) ASSY	1	INCLUDES ITEMS W/ %
225	2773620200	ROCKER ARM (EX) ASSY	1	INCLUDES ITEMS W/ #
230%	0149050020	ADJUST SCREW	1	
231#	0149050020	ADJUST SCREW	1	
240%	0170050030	NUT	1	
241#	0170050030	NUT	1	
290	0110060020	FLANGE BOLT	1	
610	2771300111	CYLINDER HEAD CP	1	INCLUDES ITEMS W/ &
620	2771500123	GASKET (HEAD)	1	
630	0110080240	FLANGE BOLT	4	
631	0110080310	FLANGE BOLT	1	
660&	0105080250	STUD	2	
670&	0105060351	STUD	2	
680	2771550301	ROCKER COVER CP	1	
690	2771600113	GASKET (ROCKER COVER)	1	
710	0110060020	FLANGE BOLT	4	

ROBIN EX170D40103 ENGINE — ACCESSORIES



ROBIN EX170D40103 ENGINE — ACCESSORIES

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	27790301H0	ACCESSORY TOOL KIT	1	

TERMS AND CONDITIONS OF SALE — PARTS

PAYMENT TERMS

Terms of payment for parts are net 30 days.

FREIGHT POLICY

All parts orders will be shipped collect or prepaid with the charges added to the invoice. All shipments are F.O.B. point of origin. Multiquip's responsibility ceases when a signed manifest has been obtained from the carrier, and any claim for shortage or damage must be settled between the consignee and the carrier.

MINIMUM ORDER

The minimum charge for orders from Multiquip is \$15.00 net. Customers will be asked for instructions regarding handling of orders not meeting this requirement.

RETURNED GOODS POLICY

Return shipments will be accepted and credit will be allowed, subject to the following provisions:

1. A Returned Material Authorization must be approved by Multiquip prior to shipment.
2. To obtain a Return Material Authorization, a list must be provided to Multiquip Parts Sales that defines item numbers, quantities, and descriptions of the items to be returned.
 - a. The parts numbers and descriptions must match the current parts price list.
 - b. The list must be typed or computer generated.
 - c. The list must state the reason(s) for the return.
 - d. The list must reference the sales order(s) or invoice(s) under which the items were originally purchased.
 - e. The list must include the name and phone number of the person requesting the RMA.
3. A copy of the Return Material Authorization must accompany the return shipment.
4. Freight is at the sender's expense. All parts must be returned freight prepaid to Multiquip's designated receiving point.

5. Parts must be in new and resalable condition, in the original Multiquip package (if any), and with Multiquip part numbers clearly marked.
6. The following items are not returnable:
 - a. Obsolete parts. (If an item is in the price book and shows as being replaced by another item, it is obsolete.)
 - b. Any parts with a limited shelf life (such as gaskets, seals, "O" rings, and other rubber parts) that were purchased more than six months prior to the return date.
 - c. Any line item with an extended dealer net price of less than \$5.00.
 - d. Special order items.
 - e. Electrical components.
 - f. Paint, chemicals, and lubricants.
 - g. Decals and paper products.
 - h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for five working days from notification, pending instructions. If a reply is not received within five days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted, for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

PRICING AND REBATES

Prices are subject to change without prior notice. Price changes are effective on a specific date and all orders received on or after that date will be billed at the revised price. Rebates for price declines and added charges for price increases will not be made for stock on hand at the time of any price change.

Multiquip reserves the right to quote and sell direct to Government agencies, and to Original Equipment Manufacturer accounts who use our products as integral parts of their own products.

SPECIAL EXPEDITING SERVICE

A \$35.00 surcharge will be added to the invoice for special handling including bus shipments, insured parcel post or in cases where Multiquip must personally deliver the parts to the carrier.

LIMITATIONS OF SELLER'S LIABILITY

Multiquip shall not be liable hereunder for damages in excess of the purchase price of the item with respect to which damages are claimed, and in no event shall Multiquip be liable for loss of profit or good will or for any other special, consequential or incidental damages.

LIMITATION OF WARRANTIES

No warranties, express or implied, are made in connection with the sale of parts or trade accessories nor as to any engine not manufactured by Multiquip. Such warranties made in connection with the sale of new, complete units are made exclusively by a statement of warranty packaged with such units, and Multiquip neither assumes nor authorizes any person to assume for it any other obligation or liability whatever in connection with the sale of its products. Apart from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.

Effective: February 22, 2006

[illegible]

OPERATION AND PARTS MANUAL

HERE'S HOW TO GET HELP

PLEASE HAVE THE MODEL AND SERIAL
NUMBER ON-HAND WHEN CALLING

UNITED STATES

Multiquip Corporate Office

18910 Wilmington Ave. Tel. (800) 421-1244
Carson, CA 90746 Fax (800) 537-3927
Contact: mq@multiquip.com

Mayco Parts

800-306-2926 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Service Department

800-421-1244 Fax: 310-537-4259
310-537-3700

MQ Parts Department

800-427-1244 Fax: 800-672-7877
310-537-3700 Fax: 310-637-3284

Warranty Department

800-421-1244, Ext. 279 Fax: 310-537-1173
310-537-3700, Ext. 279

Technical Assistance

800-478-1244 Fax: 310-631-5032

MEXICO

MQ Cipsa

Carr. Fed. Mexico-Puebla KM 126.5 Tel: (52) 222-225-9900
Momoxpan, Cholula, Puebla 72760 Mexico Fax: (52) 222-285-0420
Contact: pmastretta@cipsa.com.mx

CANADA

Multiquip

4110 Industriel Boul. Tel: (450) 625-2244
Laval, Quebec, Canada H7L 6V3 Fax: (450) 625-8664
Contact: jmartin@multiquip.com

UNITED KINGDOM

Multiquip (UK) Limited Head Office

Hanover Mill, Fitzroy Street, Tel: 0161 339 2223
Ashton-under-Lyne, Fax: 0161 339 3226
Lancashire OL7 0TL
Contact: sales@multiquip.co.uk

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This manual MUST accompany the equipment at all times. This manual is considered a permanent part of the equipment and should remain with the unit if resold.

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