

OPERATION AND PARTS MANUAL



Mikasa SERIES
MODEL MVH150VD2
REVERSIBLE PLATE COMPACTOR
(YANMAR L48V6AF3R4AAW4 DIESEL ENGINE)

Revision #0 (10/10/08)

THIS MANUAL MUST ACCOMPANY THE EQUIPMENT AT ALL TIMES.

TABLE OF CONTENTS

MVH150VD2 PLATE COMPACTOR

Proposition 65 Warning	2
Table of Contents.....	4
Parts Ordering Procedures.....	5
Safety Information	6-9
Specifications	11
Dimensions.....	12
General Information.....	13
Components	14
Basic Engine.....	15
Inspection	16-17
Operation.....	18-19
Maintenance	20-22
Troubleshooting	23-24
Explanation of Code in Remarks Column.....	26
Suggested Spare Parts	27

COMPONENT DRAWINGS

Nameplate and Decals	28-29
Vibrating Plate Assy	30-31
Body Assy.....	32-33
Vibrator Assy	34-35
Control Assy	36-39
Hand Pump Assy.....	40-41

YANMAR L48V6AF3R4AAW4 Drawings

Cylinder Block Assy.....	42-45
Air Cleaner Assy.....	46-47
Muffler Assy.....	48-49
Crankshaft and Camshaft Assy	50-51
Piston Assy.....	52-53
Lub Oil Pump and Governor Assy.....	54-55
Cooling/Starting Device Assy	56-57
Fuel Tank/Fuel Line Assy.....	58-59
Tools, Labels, Gasket Assy.....	60-61
Terms and Conditions of Sale — Parts	62

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.



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 to 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.



COMPACTOR 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.



- **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.


SAFETY INFORMATION

ENGINE SAFETY


⚠ 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. 

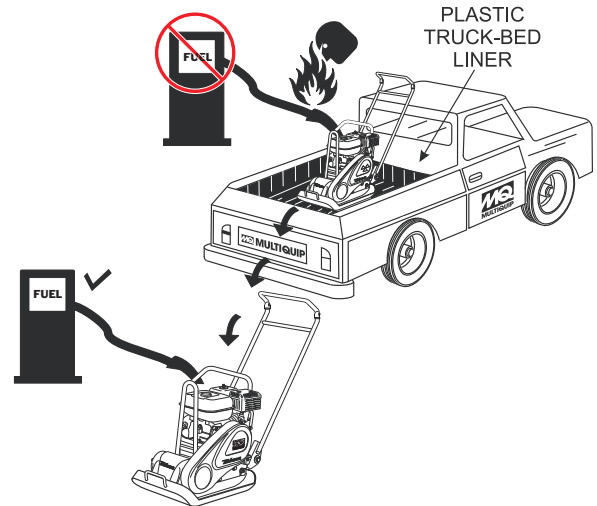
NOTICE


- **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. 

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. 

SAFETY INFORMATION

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.

TRANSPORTING SAFETY

CAUTION

- **NEVER** allow any person or animal to stand underneath the equipment while lifting.

NOTICE

- Before lifting, make sure that the equipment parts (hook and vibration insulator) are not damaged and screws are not loose or missing.
- Always make sure crane or lifting device has been properly secured to the lifting bail (hook) of the equipment.
- **ALWAYS** shutdown engine before transporting.
- **NEVER** lift the equipment while the engine is running.
- Tighten fuel tank cap securely and close fuel cock to prevent fuel from spilling.
- Use adequate lifting cable (wire or rope) of sufficient strength.
- Use one point suspension hook and lift straight upwards.
- **DO NOT** lift machine to unnecessary heights.
- **ALWAYS** tie down equipment during transport by securing the equipment with rope.

ENVIRONMENTAL SAFETY

NOTICE

- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, fuel and fuel filters.
- **DO NOT** use food or plastic containers to dispose of hazardous waste.
- **DO NOT** pour waste, oil or fuel directly onto the ground, down a drain or into any water source.



SPECIFICATIONS

Table 1. MVH150VD2 Specifications

Centrifugal Force	6,070 lbf (27 kN)
Vibration Frequency	5400 vpm (90 Hz)
Traveling Speed	0 to 82 ft/min (0 to 25 m/min)
Plate Size (L x W)	27.6 x 16.9 in (700 x 430 mm)
Max. Area of Compaction	6,942 sq. ft./h (645 sq. meters/h)
Operating Weight	331 lbs. (150 kg)
Vibrating Oil Capacity	0.37 quart (0.35 liter)

Table 2. Engine Specifications

Model	YANMAR L48V6AF3R4AAW4
Type	Air-cooled, 4-cycle Diesel Engine
Bore X Stroke	2.76 in. X 2.24 in. (70 mm x 57 mm.)
Displacement	13.4 cu. in. (219 cc)
Max Power Output	4.4 HP (3.3 KW) @ 4,000 R.P.M.
Fuel Tank Capacity	2.5 quarts (2.4 liters)
Fuel	Diesel
Operating Speed	3,600 rpm
Lube Oil Capacity	0.85 quarts (0.8 liters)
Starting Method	Recoil Start

DIMENSIONS

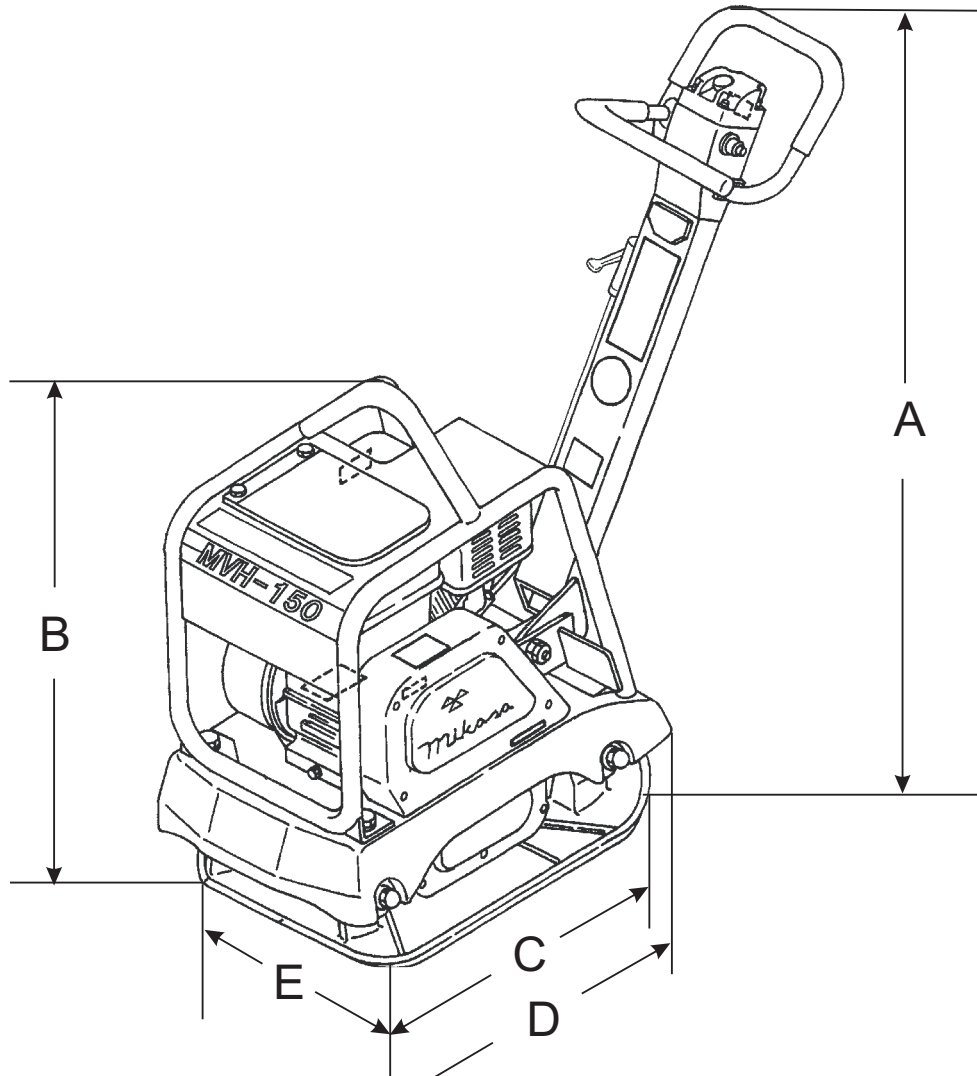


Figure 1. MVH150VD2

Table 3. Dimensions

Reference	Description	Measurement
A	Height (Handle in Vertical Position)	46.9 in (1,190 mm)
B	Height of Main Body	30.4 in (771 mm)
C	Length of Plate	27.6 in (700 mm)
D	Length (Handle in Vertical Position)	30.3 in (770 mm)
E	Width of Plate	16.9 in (430 mm)

GENERAL INFORMATION

PRODUCT DESCRIPTION

The Mikasa MVH150VD2 is a walk-behind, reversible plate compactor designed for the compaction of sand and clay. 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.

ECCENTRIC WEIGHTS

A set of rotating eccentric weights within the vibrator case produces low amplitude high frequency vibrations, designed to compact granular soil. The rotation of the weights are controlled hydraulically through a lever on the control handle. Changing the position of the lever allows smooth transition between forward and reverse travel.

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 5,400 vpm (vibrations per minute). The forward and reverse travel speed of the compactor is approximately 82 feet/minute (25 meters/minute).

ENGINE

The plate compactor is equipped with a Yanmar L48V6AF3R4AAW4 air-cooled, 4-cycle, diesel engine.

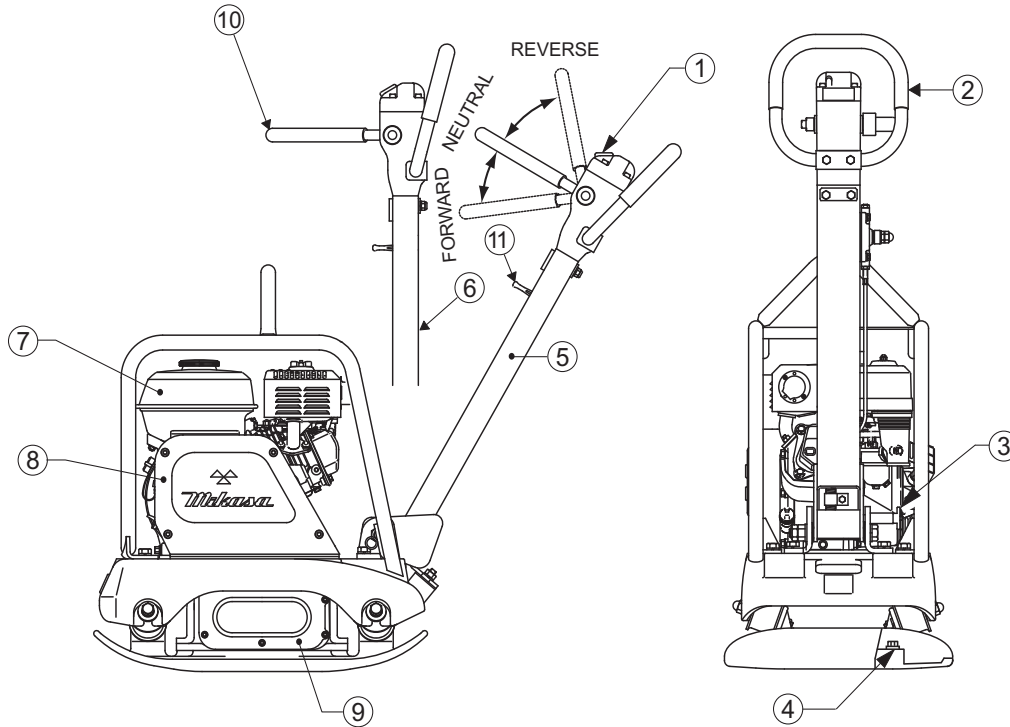


Figure 2. Compactor Components

Figure 2 shows the location of the controls, indicators and general maintenance parts. The function of each control is described below:

1. **Breather Cap** — Remove this cap to bleed (remove air) the hydraulic system. When replacing hydraulic oil, use "Shell Tellus #46" or equivalent.
2. **Hand Grip** — When operating the compactor use this hand grip to maneuver the compactor.
3. **Handle Lock** — Pull handle bar downward (working position), then pull handle lock to lock handle bar in place.
4. **Vibration Case Oil Level Check Plug** — Remove this plug to check the vibration case oil. Oil level should be all the way up to the filler port. When replacing vibration case oil, use 10W-30 engine oil.
5. **Handle Bar (working position)** — When operating the compactor, this handle is to be in the downward position.
6. **Handle Bar (stored position)** — When the compactor is to be stored, move the handle bar to the upright position.
7. **Diesel Engine** — This plate compactor uses a YANMAR L48V6AF3R4AAW4 engine. Refer to the YANMAR owner's manual for engine information.
8. **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, your hand may get caught between the V-belt and clutch, thus causing serious injury and bodily harm.
9. **Vibration Case** — Encloses the eccentric gears and counter weights.
10. **Forward & Reverse Lever** — Push the lever forward, the compactor will move in a forward direction. Pull the lever backwards, the compactor will move in backwards direction. Placing the lever in the middle (midway) will cause the compactor not to move (neutral).
11. **Throttle Control** — Move the throttle lever to the rabbit position for full throttle (max RPMs). For engine idle, move the throttle lever to the turtle position.

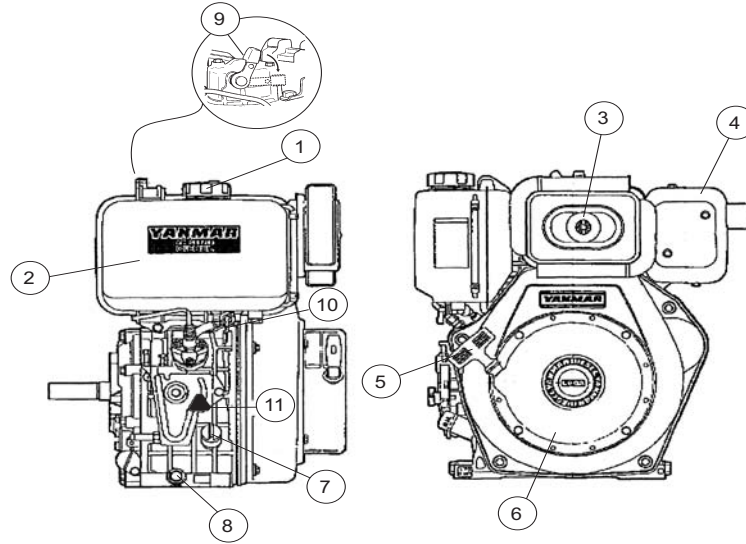



Figure 3. Compactor Components

Figure 3 shows the basic Yanmar engine. The engine 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. Each component is described below:

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.
2. **Fuel Tank** — Capacity is 2.5 quarts (2.4 liters) of diesel fuel.

! 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.


3. **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.

4. **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.

5. **Recoil Starting Handle (pull rope)** — Type of engine starting method.
6. **Recoil Starter** — Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
7. **Oil Filler Cap / Dipstick** — Remove this cap to add oil to the engine crankcase. Read dipstick to determine if oil level is low. **DO NOT** over fill.
8. **Oil Drain Plug** — Unscrew plug to drain oil from engine crankcase. Dispose of oil in a safe manner.
9. **Decompression Lever** — Press down before starting engine. To prevent damage to engine, **DO NOT** use for any other purpose.
10. **Fuel Cock** — Controls the flow of diesel fuel to the carburetor. Must be in the ON position when starting and running the engine.
11. **Speed Control Lever** — Regulates engine speed.

BEFORE STARTING

1. Read safety instructions at the 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 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 plate compactor on secure level ground with the engine stopped.
2. Remove the filler cap/dipstick from the engine oil filler hole (Figure 4) and wipe it clean.

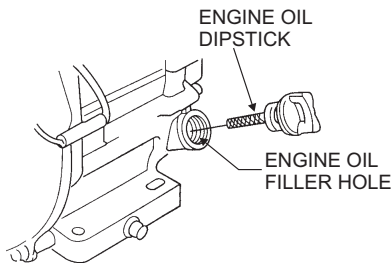


Figure 4. Engine Oil Dipstick

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 0.85 quart.

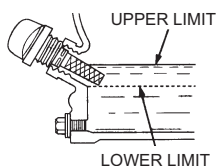


Figure 5. Engine Oil Level

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

FUEL CHECK

1. Remove the fuel cap located on top of fuel tank.
2. Visually inspect to see if fuel level is low. If fuel is low, replenish with diesel 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 compactor horizontally on a flat surface.
2. Check vibrator oil level by removing bolt (vibrator oil gauge) as shown in Figure 6. Use a 14-mm wrench to remove bolt. The vibrator oil level should be maintained between the two markings as shown in Figure 6. If oil is required, replace using SAE 10W-30.

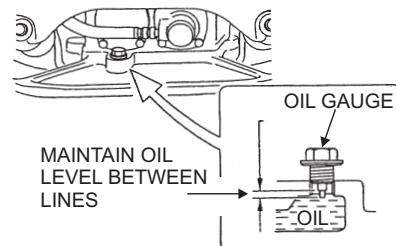


Figure 6. Vibrator Oil Gauge

HYDRAULIC OIL CHECK

1. With handle bar positioned vertically (storage position), remove the breather cap (Figure 7) from the breather plug.

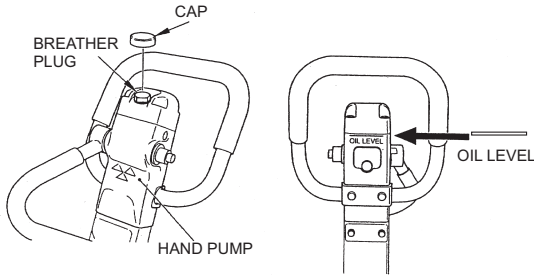


Figure 7. Hydraulic Oil Check

2. Use a 24 mm wrench and remove breather plug (Figure 7). Visually check to see if hydraulic oil comes up to the oil level line that is etched on the back side of the handle.
3. If the hydraulic oil level is low, replace with "Shell Tellus" oil #46 or equivalent.

V-BELT CHECK

CAUTION

Never attempt to check the V-belt with the engine running. Severe injury can occur if your hand (Figure 8) gets caught between the V-belt and clutch. Always use safety gloves.

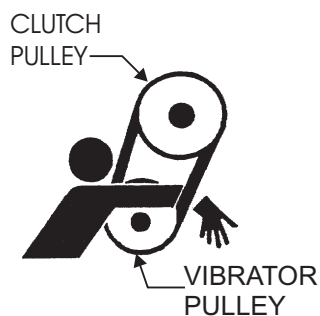


Figure 8. V-belt Hazard

1. To check the V-belt tension (Figure 9), remove upper belt cover.

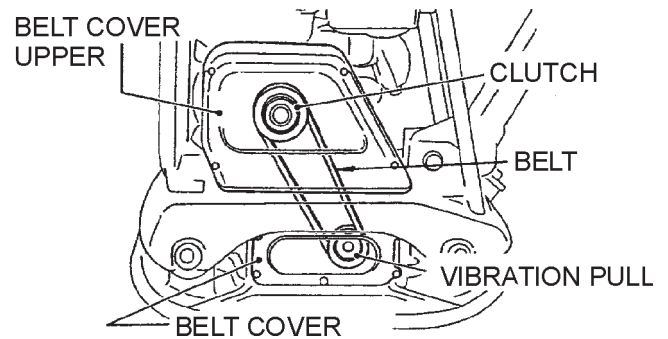


Figure 9. V-Belt Location

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

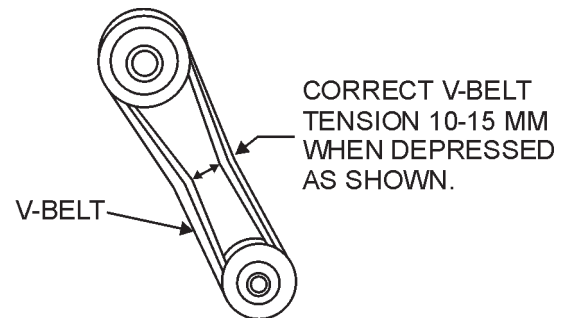


Figure 10. V-Belt Tension

3. A loose belt will decrease the power transmission output, causing reduced compaction and premature wear of the belt. V-belt in use is RPF-3320 (A-32 can also be used).
4. If the V-belt becomes worn or loose, replace it by using V-belt part number RPF-3320 or A-32.

OPERATION

CAUTION

Never attempt to check the V-belt with the engine running. Severe injury can occur if your hand (Figure 8) gets caught between the V-belt and clutch. Always use safety gloves.

INITIAL STARTUP

1. Open the fuel cock (Figure 11).

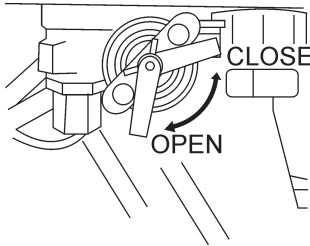


Figure 11. Fuel Cock

2. Move the engine speed control lever (Figure 12) to the IDLE position.

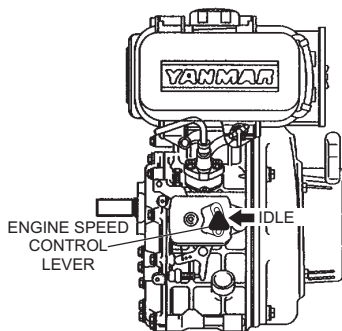


Figure 12. Engine Speed Control Lever (Idle Position)

3. Push down the decompression lever (Figure 13) and release.

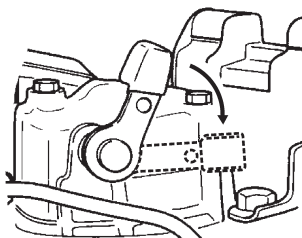


Figure 13. Decompression Lever

4. Grasp the starter grip (Figure 14) and slowly pull it out. The resistance becomes the hardest at a certain position, corresponding to the compression point. Pull the starter grip briskly and smoothly for starting.

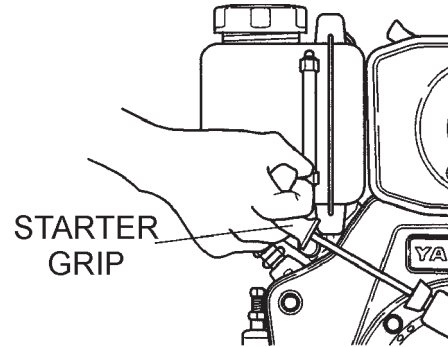


Figure 14. Starter Grip

5. If the engine does not start, repeat steps 1 thru 4.

OPERATION

1. Once the engine has started, move the engine speed lever quickly to the FAST (Figure 15) position.

NOTICE

Always move the speed control lever quickly without hesitation because increasing the engine speed slowly causes the clutch to slip.

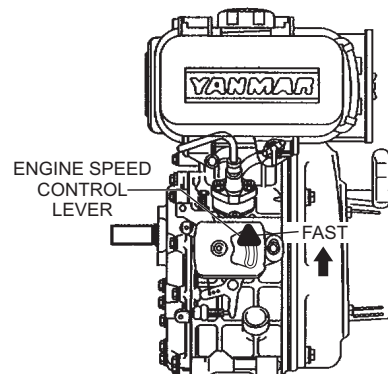


Figure 15. Speed Control (Fast Position)

2. With the engine speed control lever placed in the FAST position, the engine speed should be between 2,300 ~2,600 RPM's, therefore engaging the centrifugal clutch.

3. To make the compactor move in the forward direction push the travel lever (Figure 16) forward. To make the compactor move in the reverse direction pull the travel lever backwards.

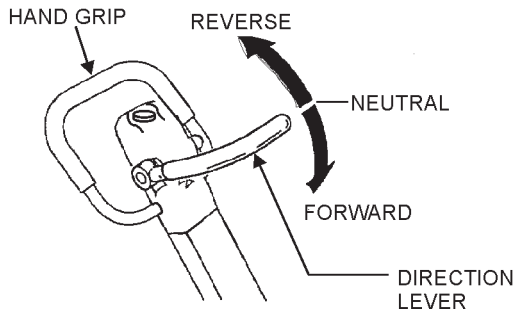


Figure 16. Direction Lever

4. Firmly grasp the compactor's handle bar with both hands, the compactor will begin moving forward.
5. 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.
6. 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.

NOTICE

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

NORMAL SHUTDOWN PROCEDURE

1. Place the speed control lever in the IDLE position. Allow the engine to cool down for 2 to 3 minutes.
2. Next, place the speed control lever in the STOP position (Figure 17) to stop the engine.

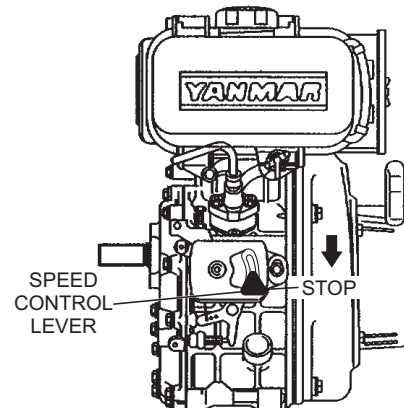


Figure 17. Speed Control Lever (Stop Position)

3. Close the fuel cock (Figure 11).

EMERGENCY SHUTDOWN PROCEDURE

1. Move the speed control lever quickly to the STOP position (Figure 17).
2. Close the fuel cock.

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 18.

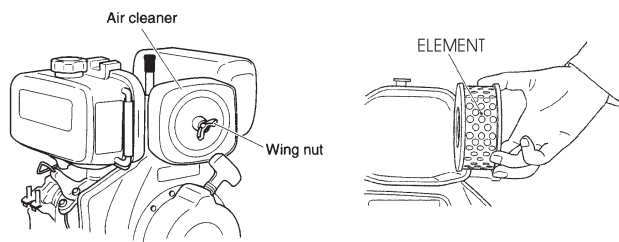


Figure 18. Air Filter

2. Tap the paper filter element (Figure 18) 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

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 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.

CAUTION

Make sure hydraulic oil in hand pump is at normal safe operating level. Do not overfill. Overfilling (excessive oil) will cause excess oil to blow out of the breather plug.

HYDRAULIC OIL

1. Check hydraulic oil in every 100 hours of operation. With handle bar positioned vertically (storage position), remove breather plug (Figure 1) off the top of hydraulic pump and check for proper oil level.
2. Replace hydraulic oil after first 200 hours and in every 1,000 hours of operation.

Replacing Hydraulic Oil

1. After removing plug cap of hand pump (Figure 7), remove plug of breather (24 mm wrench) and disconnect vibrator side of hydraulic hose (Figure 19) at vibrator cylinder. With travel lever placed in the FORWARD position, drain hydraulic oil in the pump.

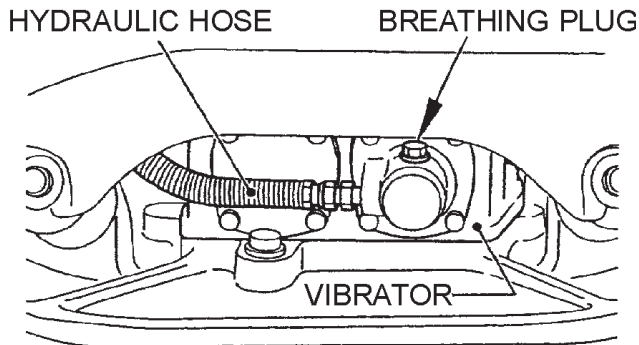


Figure 19. Hydraulic Hose

2. After draining, reconnect the hydraulic hose to vibrator.
3. Fill oil through breather hole of hand pump. (capacity: about 300 cc). Use Shell Tellus Oil #46 or equivalent.
4. Removing breather plug at vibrator cylinder causes oil to flow out of breather hole in a while. When aeration disappears, replace the plug and tighten securely.
5. Replace breather plug of hand pump and fit the plug cap. After making sure that oil in pump is at proper level, replace the breather plug.

STORAGE

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

1. Drain the fuel tank completely.
2. Run the engine until the fuel in the injection system is completely consumed.
3. Completely drain the oil from the engine crankcase and follow procedures described in the engine's Owner's Manual for engine storage.
4. Completely drain 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.

TROUBLESHOOTING

Table 8. Engine Troubleshooting

Symptom	Possible Problem	Solution
Engine will not start or start is delayed, although engine can be turned over.	Speed control lever is in "STOP" position?	Set speed control lever to "START" position.
	No fuel reaching injection pump?	Add fuel. Check entire fuel system.
	Defective fuel pump?	Replace fuel pump.
	Fuel filter clogged?	Replace fuel filter and clean tank.
	Faulty fuel supply line?	Replace or repair fuel line.
	Compression too low?	Check piston, cylinder and valves. Adjust or repair per engine repair manual.
	Fuel injector not working correctly?	Repair or replace injector in accordance with engine repair manual.
	Oil pressure too low?	Check engine oil pressure.
	Low starting temperature limit exceeded?	Comply with cold starting instructions and proper oil viscosity.
At low temperatures, engine will not start.	Fuel separates has inadequate resistance to low temperatures?	Check whether clear (not turbid) fuel emerges from the fuel line (detach from injection pump). If the fuel is turbid or separated, warm up the engine or drain the complete fuel supply system. Refuel with winter grade diesel fuel.
	Engine oil too thick?	Refill engine crankcase with correct type of oil for winter environment.
Engine fires but stops as soon as starter is switched off.	Throttle lever in STOP position?	Reposition throttle lever to RUN position.
	Fuel filter blocked?	Replace fuel filter.
	Fuel supply blocked?	Check the entire fuel system.
Engine stops by itself during normal operation.	Fuel tank empty?	Add fuel.
	Fuel filter blocked?	Replace fuel filter.
Low engine power, output and speed.	Fuel tank empty?	Fill with No.2 diesel fuel.
	Fuel filter clogged?	Replace fuel filter.
	Fuel tank venting is inadequate?	Ensure that tank is adequately vented.
	Speed control lever does not remain in selected position?	See engine manual for corrective action.
	Engine oil level too full?	Correct engine oil level.
Low engine power output and low speed, black exhaust smoke.	Air filter blocked?	Clean or replace air filter.
	Incorrect valve clearances?	Adjust valves per engine specification.
	Malfunction at injector?	See engine manual.

TROUBLESHOOTING

Table 9. Plate Compactor Troubleshooting

Symptom	Possible Problem	Solution
Engine will not start or start is delayed, although engine can be turned over.	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.
Travels forward or reverse, but impossible to switch direction.	Directional components defective?	Check all directional components
	Reversing lever adjustment?	Adjust or repair reversing lever.
	Hydraulic oil hose broken?	Repair or replace hydraulic oil hose.
	Aeration in hydraulic oil for reversing system?	Bleed hydraulic oil system.
	Check valve in hand pump clogged with dust?	Clean or replace hand pump check valve.
	Piston or bearing in cylinder (vibrator assy.) is defective?	If worn, replace cylinder piston or bearing.
Does not travel either forward or reverse.	V-belt slips?	Replace V-belt.
	Clutch slips?	Check clutch springs and shoes.
	Vibrator locked?	Check vibrator housing (eccentric, gears and counterweights)
	Piston or bearing in cylinder defective?	If worn, replace cylinder piston or bearing.
Travel lever operating resistance is high.	Air in hydraulic line?	Bleed hydraulic oil system.
	Piston or bearing in cylinder defective?	If worn, replace cylinder piston or bearing.

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.

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 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.



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 time of publication.

A blank entry generally indicates that the item is not sold separately or is not sold by Multiquip. Other entries will be clarified in the "Remarks" Column.

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.

"Not Sold Separately" - Indicates that an item cannot be purchased as a separate item and is either part of an assembly/kit that can be purchased, or is not available for sale through Multiquip.

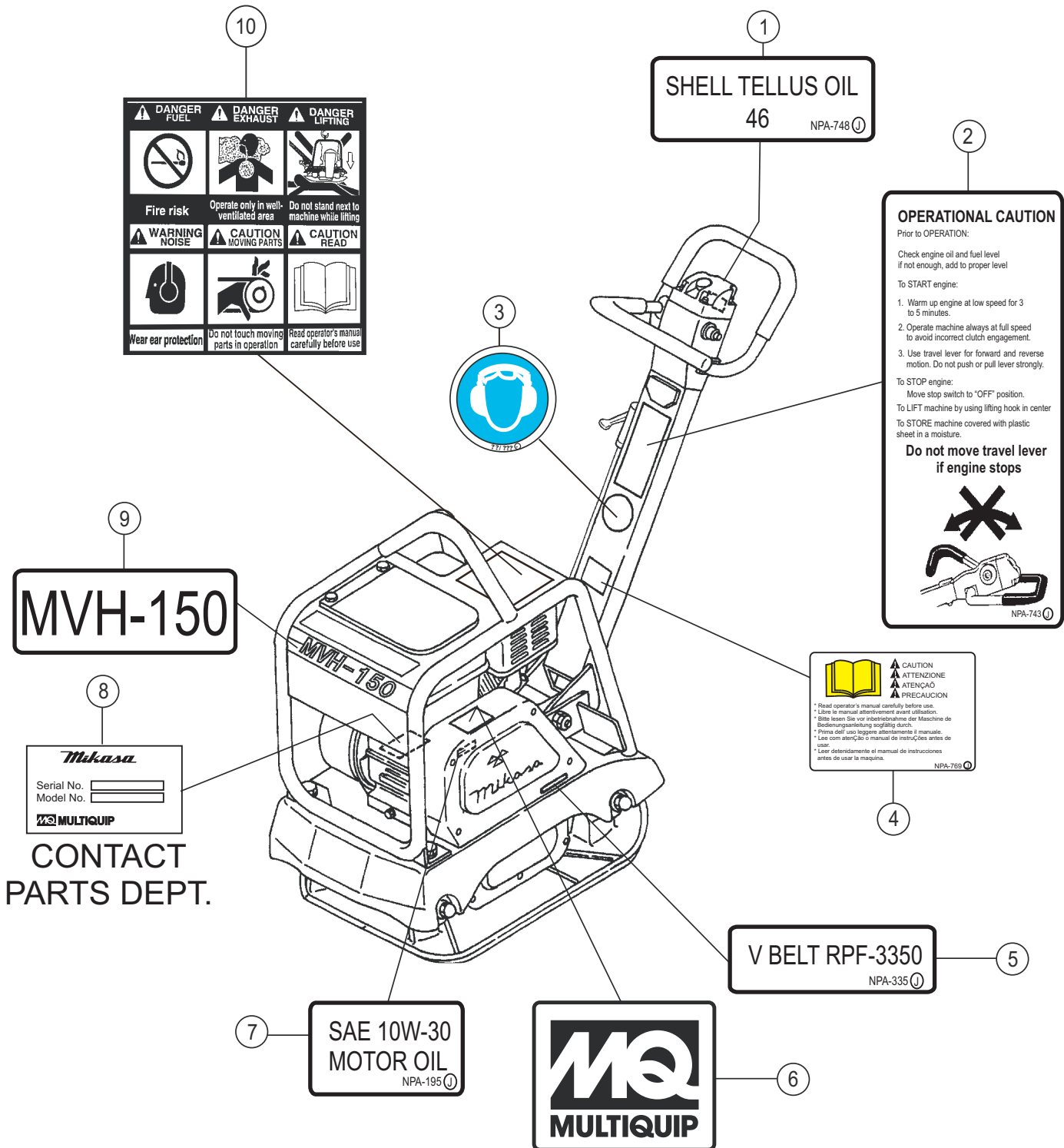
SUGGESTED SPARE PARTS

MVH150VD2 PLATE COMPACTOR WITH YANMAR L48V6F3R4AAW4 ENGINE

1 to 3 units

<u>QTY.</u>	<u>P/N</u>	<u>DESCRIPTION</u>
3.....	070100352.....	V-BELT
2.....	956100047.....	THROTTLE WIRE
3.....	11465012590.....	ELEMENT, AIR CLEANER
1.....	11429955040.....	CAP. FUEL TANK
1.....	11429976630.....	ROPE, RECOIL STARTER
2.....	11429935110.....	LUB OIL FILTER
2.....	11425055121.....	FILTER, FUEL STRAINER
1.....	11429955100.....	FILTER , FUEL OIL
4.....	939010130.....	SHOCK ABSORBER

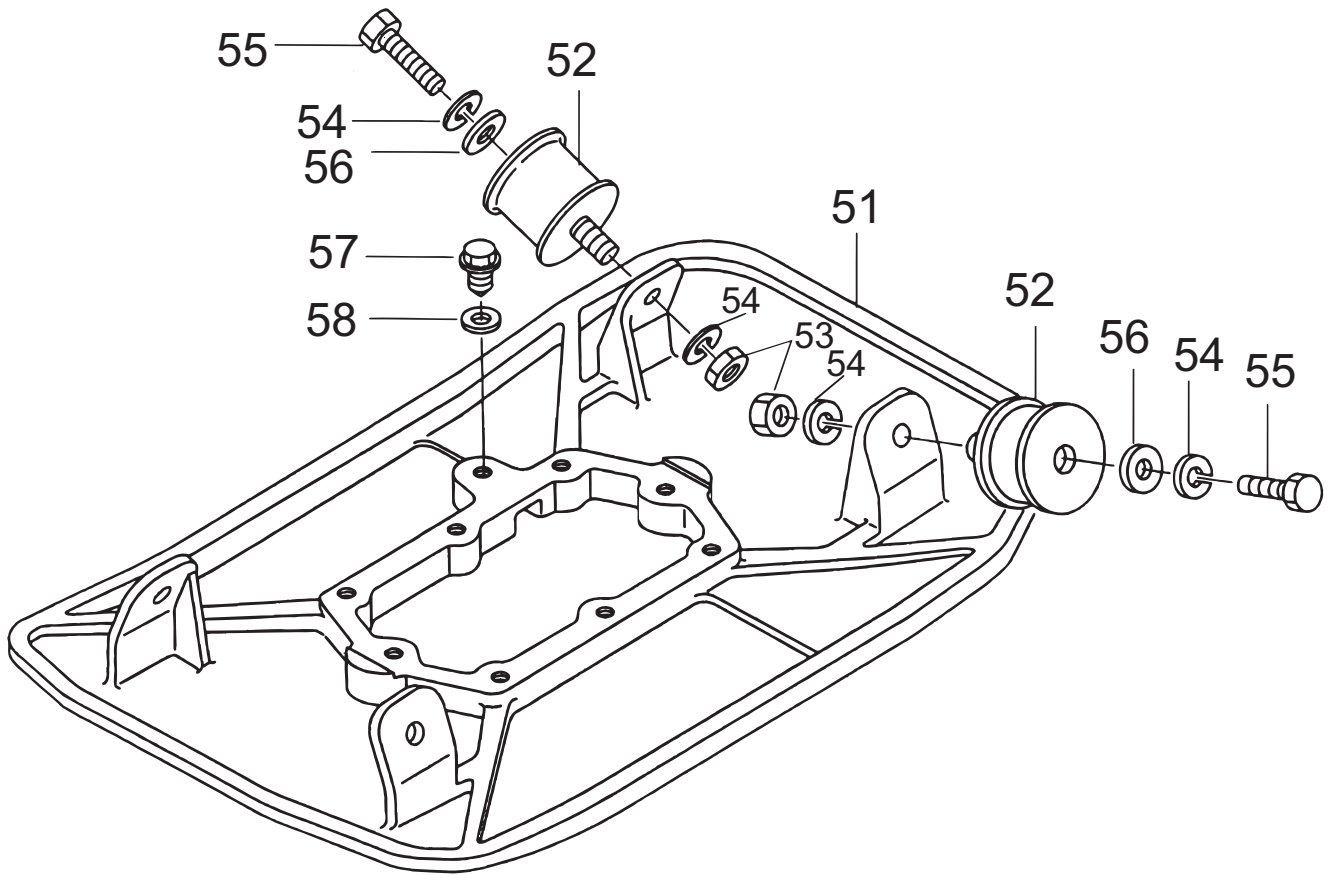
NAMEPLATE AND DECALS



NAMEPLATE AND DECALS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	920207480	DECAL,SHELL TELLUS OIL 46.....	1	NPA-748
2	920207430	DECAL, CAUTION	1	NPA-743
3	920203330	EAR PROTECTION LABEL	1	DCL333
4	920207690	DECAL, CAUTION (MANUAL)	1	NPA-769
5	920207670	DECAL, V-BELT RPF-3350	1	NPA-335
6	920201580	DECAL,MQ MARK 71X55	1	
7	920201950	DECAL,OIL SAE 10W-30.....	1	NPA-195
8		PLATE, SERIAL NO	1	CONTACT MQ PARTS DEPT.
9	920207660	DECAL, MODEL MVH-150	1	
10	920207400	DECAL, DANGER-CAUTION	1	

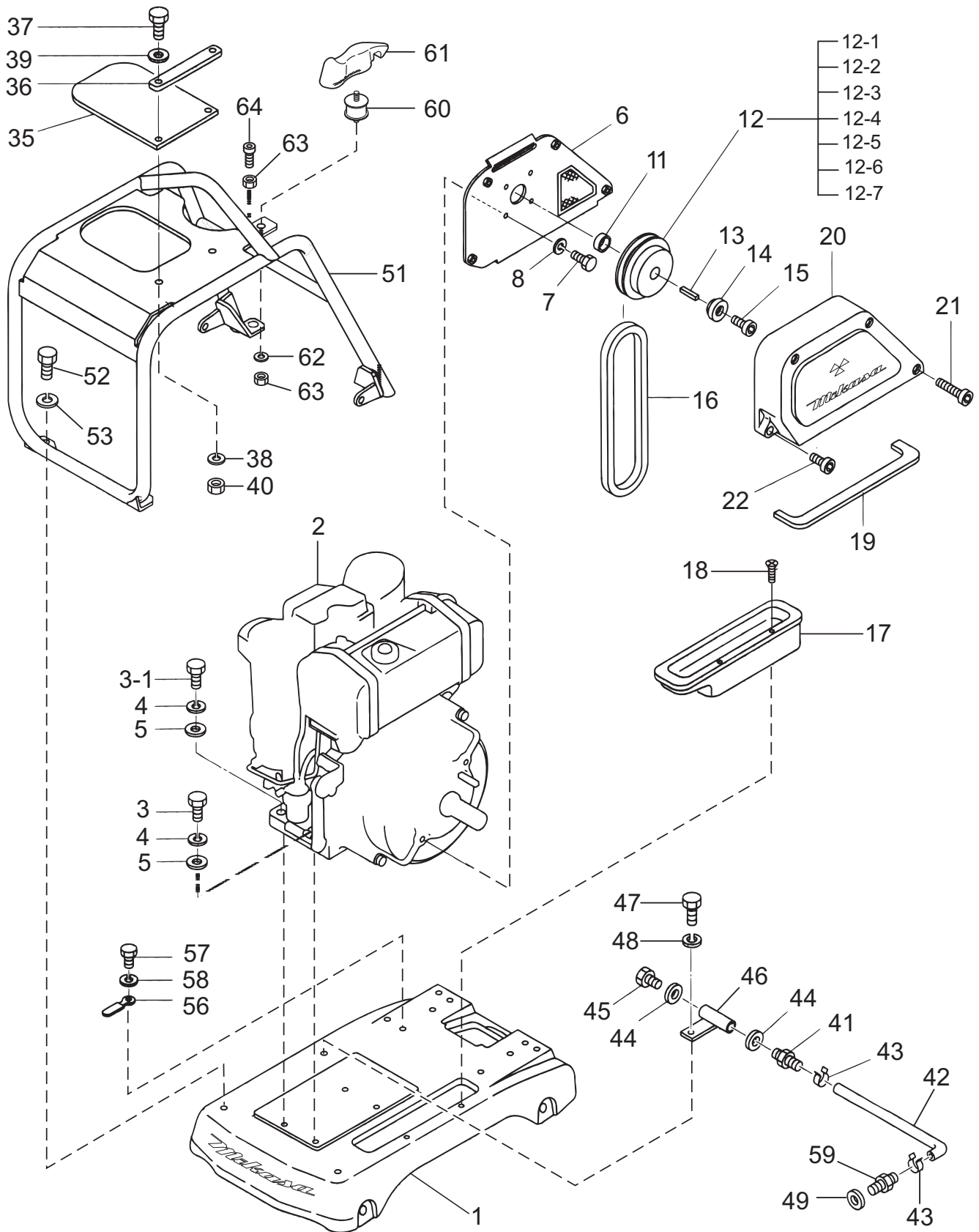
VIBRATING PLATE ASSY



VIBRATING PLATE ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
51	459115390	VIBRATING PLATE	1	
52	939010130	SHOCK ABSORBER MED70S	4	
53	020312100	NUT M12	4	
54	030212300	WASHER, LOCK M12	8	
55	001221230	BOLT 12X30 T	4	
56	952405600	WASHER 12.5X35X4.5	4	
57	460449160	OIL GAUGE	1	
58	953405260	PACKING 1/4 (CU)	1	

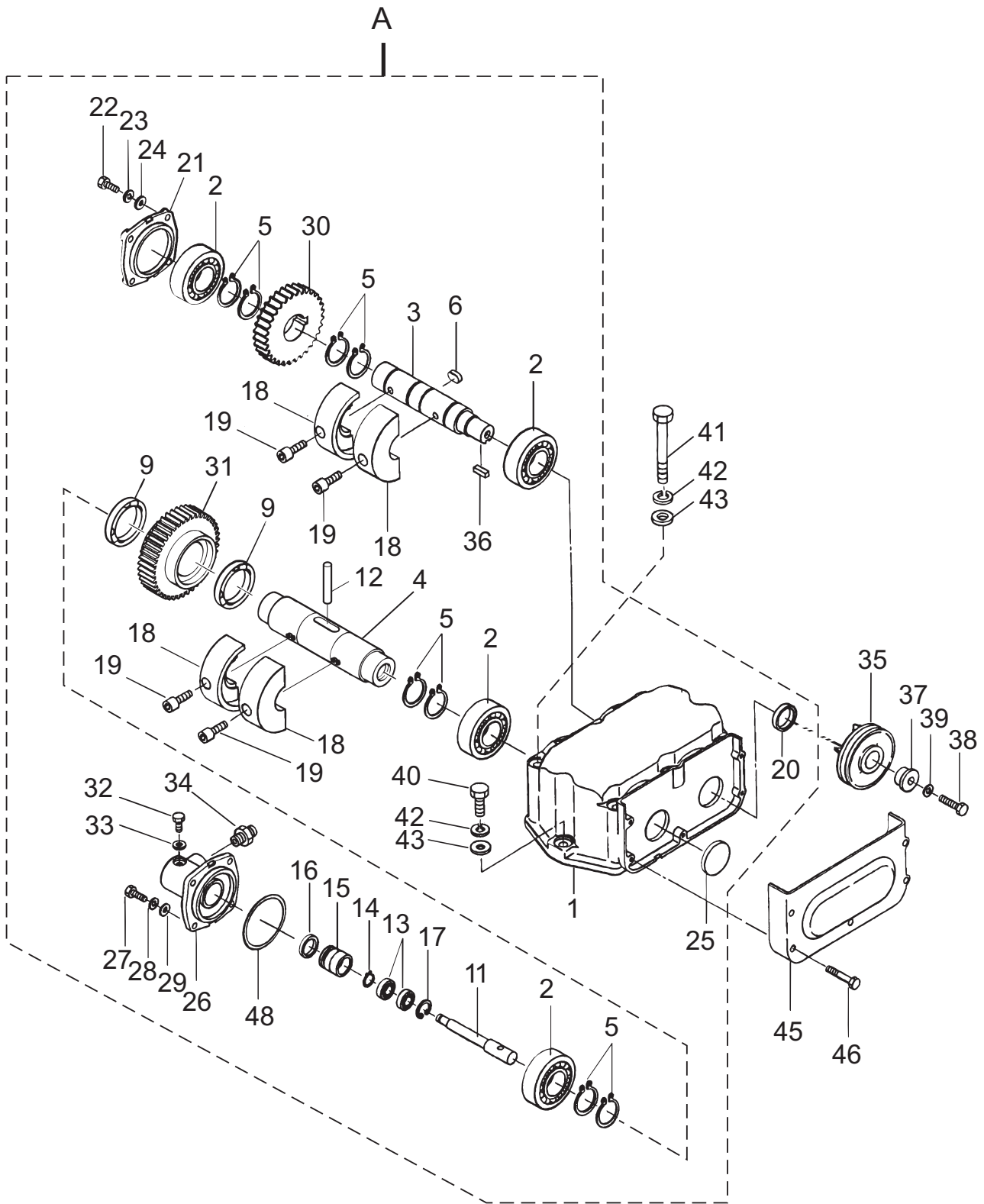
BODY ASSY



BODY ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	459116670	BASE	1	
2	914410024	ENGINE ASSY, L48V6AF3R4AAW4	1	
3	001221040	BOLT 10X40 T	3	
3-1	001221035	BOLT 10X35 T	1	
4	030210250	WASHER, LOCK M10	4	
5	031110160	WASHER, FLAT M10	4	
6	459216380	BELT COVER PLATE	1	
7	001220820	BOLT 8X20 T	4	
8	030208200	WASHER, LOCK M8	4	
11	458451370	SPACER 202512	1	
12	458337770	CLUTCH ASSY A1-124-20.....	1	INCLUDES ITEMS W/ *
12-1*	941040510	CLUTCH SHAFT S20D-45	1	
12-2*	941010390	CLUTCH PULLEY A1-124	1	
12-3*	941020030	CLUTCH SHOE T90T	3	
12-4*	941030230	CLUTCH SPRING	2	
12-5*	080200300	STOP RING S-30	1	
12-6*	080600550	STOP RING AR-55	1	
12-7*	046006006	BEARING 6006DDU	1	
13	951406780	KEY 5X5X30 RR	1	
14	458451380	CLUTCH WASHER	1	
15	001520825	SOCKET HEAD BOLT 8X25 T	1	
16	070100352	V-BELT A-35 BLUE/RPF3350	1	
17	459214530	DUST COVER	1	
18	092006010	FLAT HEAD SCREW 6X10	2	
19	459338190	SPONGE, DUST COVER	1	
20	459115420	BELT COVER (UPPER)	1	
21	001520852	SOCKET HEAD BOLT 8X60 T	3	
22	001520820	SOCKET HEAD BOLT 8X20 T	1	
35	458450830	RUBBER COVER	1	
36	458450810	PLATE, RUBBER COVER	1	
37	001220825	BOLT 8X25 T	2	
38	030208200	WASHER, LOCK M8	2	
39	031108160	WASHER, FLAT M8	2	
40	022710809	NYLON NUT M8	2	
41	2556390111	UNION	1	
42	2556380103	DRAIN HOSE	1	
43	0091720000	HOSE CLAMP	2	
44	0211140020	GASKET	2	
45	0401140030	PLUG	1	
46	459454460	JOINT	1	
47	001220820	BOLT 8X20 T	1	
48	030208200	WASHER, LOCK M8	1	
49	221901600002	SEAL WASHER 16S	1	
51	459119660	GUARD FRAME	1	
52	001221225	BOLT 12X25 T	4	
53	030212300	WASHER, LOCK M12	4	
56	16080278260	CLAMP	1	
57	001220610	BOLT 6X10 T	1	
58	030206150	WASHER, LOCK M6	1	
59	459455560	UNION, OIL DRAIN	1	
60	930103521	SHOCK ABSORBER ME35 15X15	1	
61	458347660	LOCK LEVER	1	
62	030208200	WASHER, LOCK M8	1	
63	020408050	NUT M8, H=5	2	
64	001520830	SOCKET HEAD BOLT 8X30 T	1	

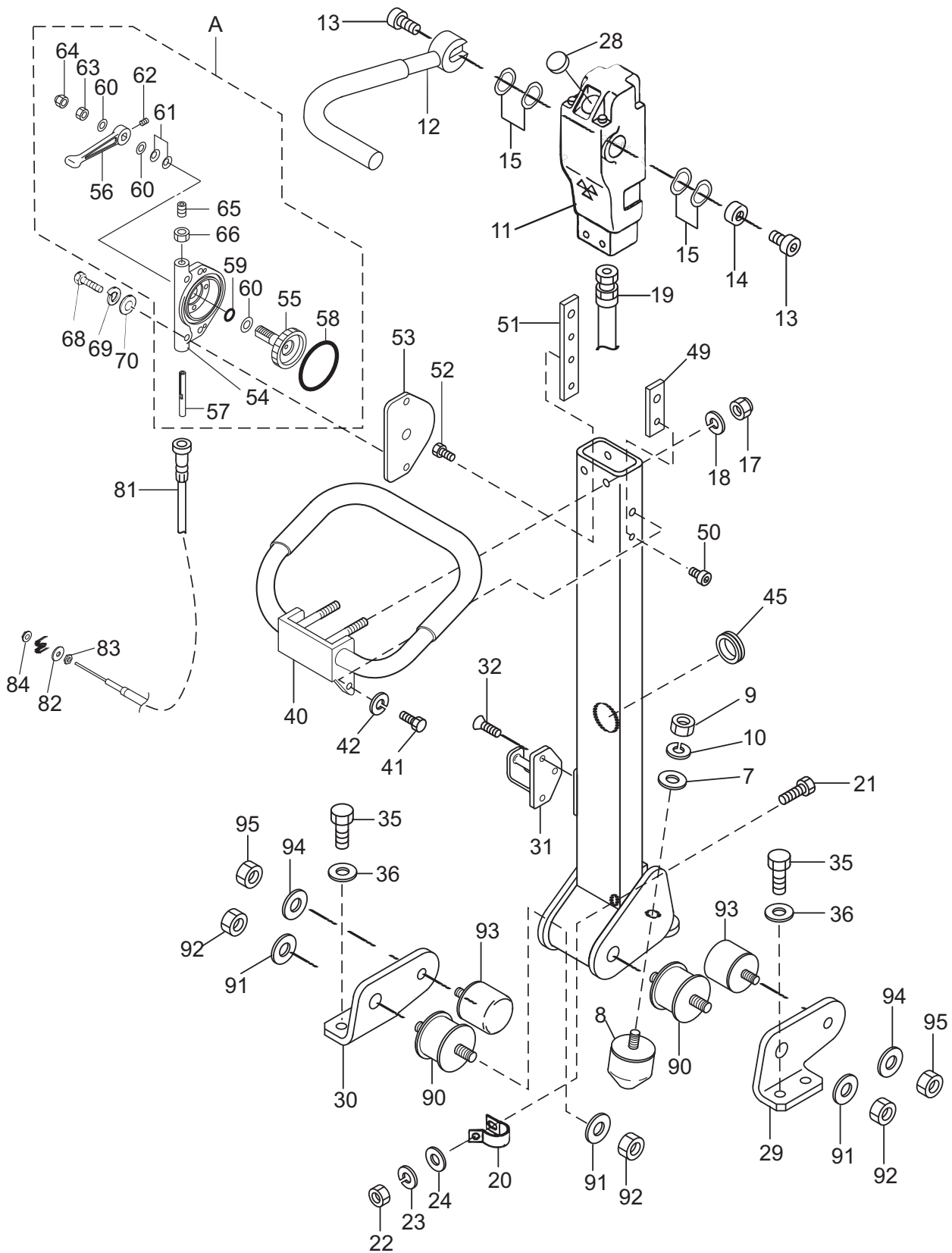
VIBRATOR ASSY



VIBRATOR ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	459910013	VIBRATOR ASSY	1	INCLUDES ITEMS W/ *
1*	458115150	VIBRATING CASE	1	
2*	047920090	ROLLER BEARING NJ307MC4	4	
3*	458337700	ROTARY SHAFT, DRIVE	1	
4*	458342580	ROTARY SHAFT, DRIVEN/NEW	1	
5*	080200350	STOP RING S35	8	
6*	951405460	KEY 10X8X19 RR	1	
9*	040306907	BEARING 6907C3	2	
11*	458337730	PISTON ROD	1	
12*	025508050	PIN 8X50	1	
13*	042506000	BEARING 6000ZZSG	2	
14*	080200100	STOP RING S10	1	
15*	455435051	PISTON, 22.4D	1	
16*	455010070	PACKING USH22.4X30X5	1	
17*	080100260	STOP RING R26	1	
18*	459451850	ECCENTRIC ROTATOR	4	
19*	009120306	SOCKET HEAD BOLT 10X30T	4	
20*	060202040	OIL SEAL SC28458	1	
21*	458337740	BEARING COVER	1	
22*	031108160	WASHER, FLAT M8	4	
23*	030208200	WASHER, LOCK M8	4	
24*	031108160	WASHER, FLAT M8	4	
25*	953405580	SEAL CAP SC458	1	
26*	458214370	CYLINDER	1	
27*	001220820	BOLT 8X20 T	4	
28*	030208200	WASHER, LOCK M8	4	
29*	031108160	WASHER, FLAT M8	4	
30*	460347340	GEAR (DRIVE)	1	
31*	458342590	GEAR (DRIVEN)	1	
32*	001200812	BOLT 8X12	1	
33*	953404600	COPPER PACKING 8X16X2	1	
34*	954010020	CONNECTOR PT, PF1/4	1	
35	459341310	PULLEY 90D W/ FAN	1	
36*	951400990	KEY 7X7X20	1	
37	459452100	WASHER 9X(2430)X17	1	
38	001220835	BOLT 8X35 T	1	
39	030208200	WASHER, LOCK M8	1	
40*	001221240	BOLT 12X40 T	2	
41	001221264	BOLT 12X120 T	6	
42	030212300	WASHER, LOCK M12	8	
43	031112230	WASHER, FLAT M12	8	
45	459214510	BELT COVER (LOWER)	1	
46	001520645	SOCKET HEAD BOLT 6X45 T	5	
48*	952406180	SHIM 70800.2T	1	

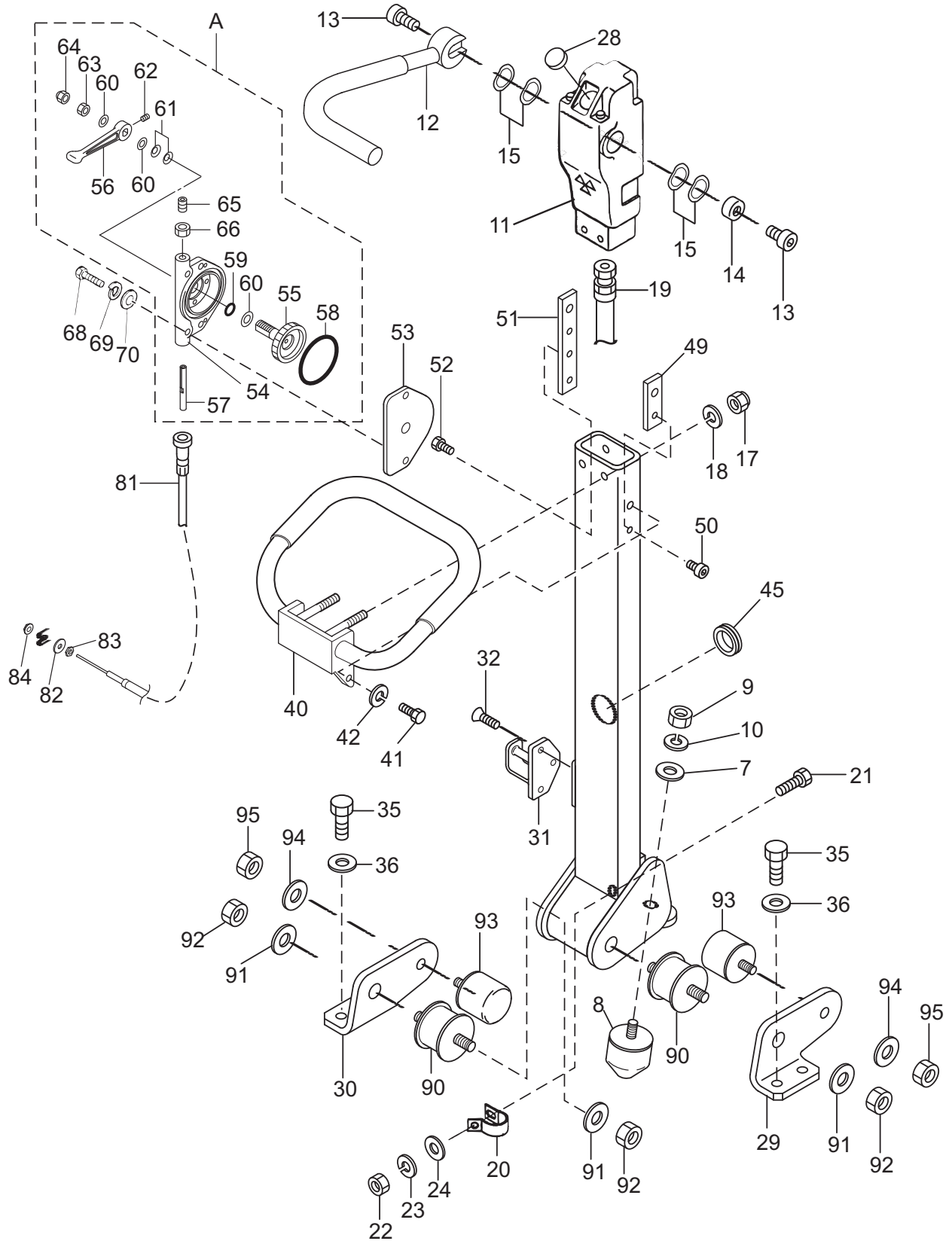
CONTROL ASSY



CONTROL ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
7	031110160	WASHER, FLAT M10	1	
8	939010320	STOPPER RUBBER 45X36H	1	
9	020410060	NUT M10, H=6	1	
10	030210250	WASHER, LOCK M10	1	
11	458338001	PUMP ASSY	1	
12	459337960	TRAVEL LEVER	1	
13	001520820	SOCKET HEAD BOLT 8X20 T	2	
14	458451420	COLLAR	1	
15	033910030	WAVE WASHER 15.5X20X0.3	4	
17	022710809	NYLON NUT M8	2	
18	030208200	WASHER, LOCK M8	2	
19	954002860	OIL HOSE 1040L	1	
20	954404230	CLAMP SA12018	1	
21	001220625	BOLT 6X25 T	1	
22	020306050	NUT M6	1	
23	030206150	WASHER, LOCK M6	1	
24	031106100	WASHER, FLAT M6	1	
28	458451630	BREATHER CAP	1	
29	458347640	HANDLE BRACKET, L	1	
30	458347650	HANDLE BRACKET, R	1	
31	458461430	LOCK CATCH	1	
32	009120408	SUNK HEAD BOLT 8X20 T	3	
35	001221230	BOLT 12X30 T	4	
36	030212300	WASHER, LOCK M12	4	
40	458217830	HANDLE GRIP	1	
41	001220825	BOLT 8X25 T	2	
42	030208200	WASHER, LOCK M8	2	
45	953406280	GROMMET NG790	1	
49	458461450	MOUNT NUT, HANDLE	1	

CONTROL ASSY



CONTROL ASSY

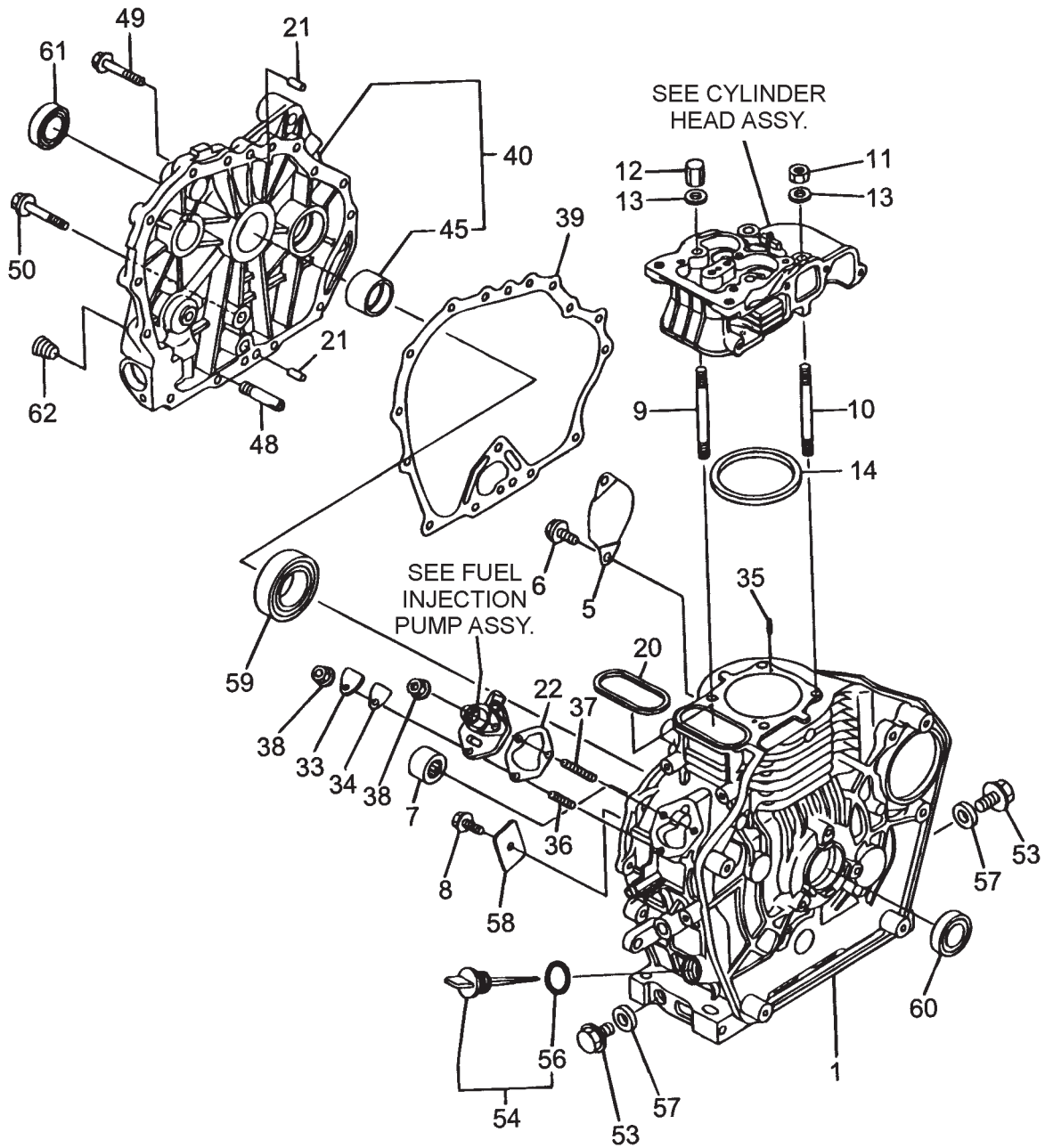
CONTINUED

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	362910060	THROTTLE LEVER ASSY	1	INCLUDES ITEMS W/ *
50	001520610	SOCKET HEAD BOLT 6X10 T	1	
51	458461440	MOUNT NUT, THROTTLE	1	
52	001520510	SOCKET HEAD BOLT 5X10 T	1	
53	463455950	SPACER, THROTTLE	1	
54*	362341550	THROTTLE BODY	1	
55*	362910090	THROTTLE,GEAR CP,W/ BOLT	1	
56*	362455630	THROTTLE LEVER	1	
57*	362455620	SLIDER	1	
58*	050100450	O-RING G45	1	
59*	050200100	O-RING P10	1	
60*	031110160	WASHER, FLAT M10	3	
61*	032110180	CONICAL SPRING WASHER M10	2	
62*	096206006	SOCKET HEAD SCREW 6X6	1	
63*	020410060	NUT M10, H=6	1	
64*	022131008	CAP NUT M10	1	
65*	096208020	SOCKET HEAD SCREW 8X20	1	
66*	020408050	NUT M8, H=5	1	
68	001220625	BOLT 6X25 T	2	
69	030206150	WASHER, LOCK M6	2	
70	031106100	WASHER, FLAT M6	2	
81	956100047	THROTTLE WIRE 845-925	1	
82	16067066350	WASHER, THROTTLE	1	
83	26756060002	LOCK NUT M6 PLATED	1	
84	26366060002	NUT M6	1	
90	930106511	SHOCK ABSORBER ME65 M12	2	
91	030212300	WASHER, LOCK M12	4	
92	020312100	NUT M12	4	
93	939010310	STOPPER RUBBER 45X33H	2	
94	030210250	WASHER, LOCK M10	2	
95	020410060	NUT M10, H=6	2	

HAND PUMP ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	458338001	PUMP ASSY	1	INCLUDES ITEMS W/ *
B*	458010150	CAM COMP	1	INCLUDES ITEMS W/ #
2*	458010100	COVER (HAND PUMP)	1	
4*	458010170	PISTON CP (PUMP)	1	
7*	458010110	CONTROL SHAFT (PUMP)	1	
8*	458010120	BUSH	2	
10*#	042500607	BEARING 607ZZSG	2	
11*#	458010190	SPACER	2	
12*#	458010090	PIN 7X30	1	
13*	025406025	SPRING PIN 6X25	1	
14*	458010200	SPRING (PUMP)	1	
16*	458010210	STOPPER (PUMP)	1	
17*	458010220	PLUG	1	
18*	458010131	STOP PLUG	1	
19*	458010140	HOSE JOINT	1	
20*	001540635	SOCKET HEAD BOLT 6X35 S	4	
21*	458010080	BREATHER (PUMP)	1	INCLUDES ITEM W/ \$
22*	458451630	BREATHER CAP	1	
25*	050100250	O-RING G-25	1	
26*	050200200	O-RING P-20	2	
27*	050200150	O-RING P-15	2	
28*	050300670	O-RING S-67	1	
29*	050300080	O-RING S-8	1	
30*	050200220	O-RING P-22	1	
31*\$	050200180	O-RING P-18	1	

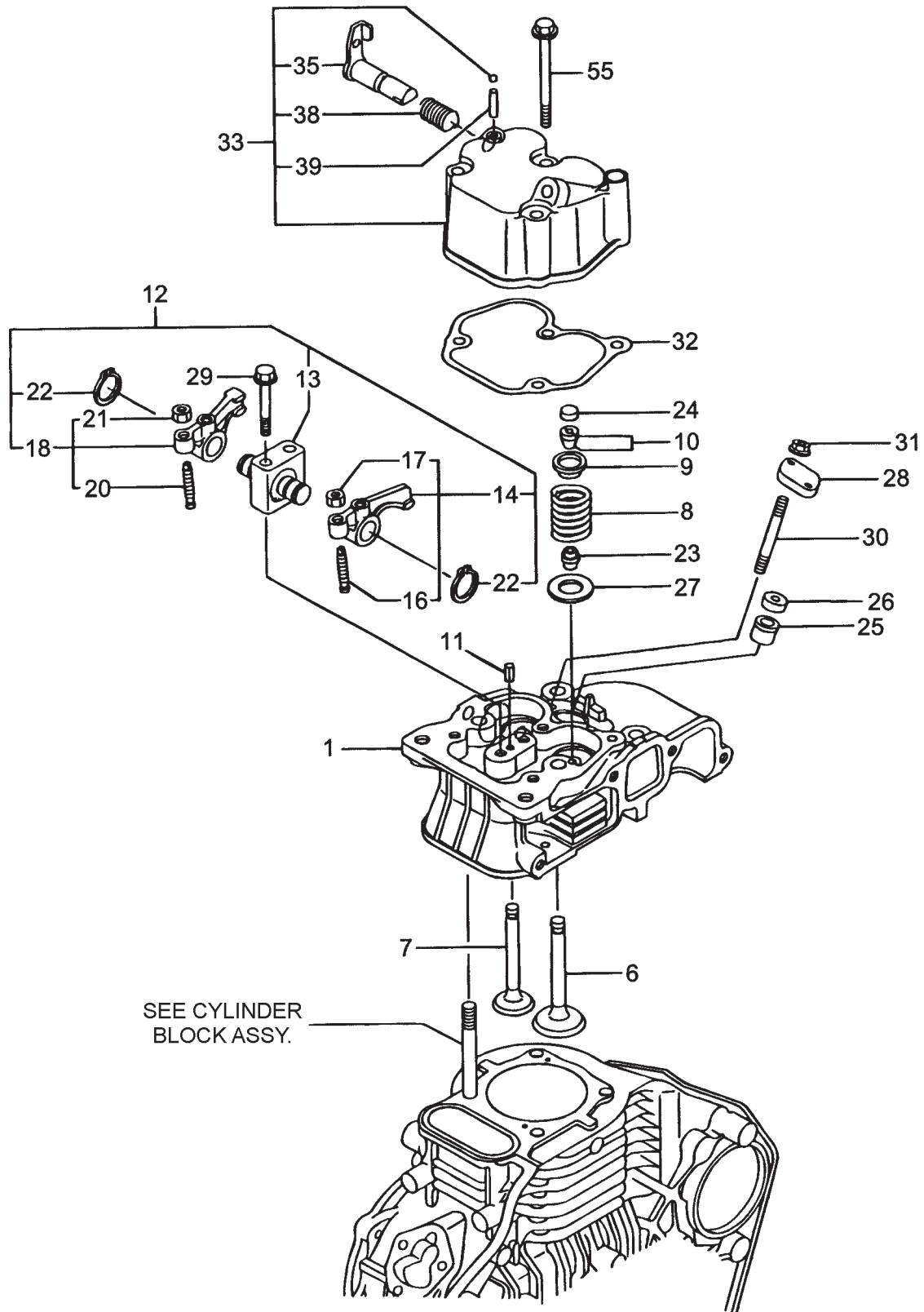
YANMAR L48V6AF3R4AAW4 — CYLINDER BLOCK ASSY



YANMAR L48V6AF3R4AAW4 — CYLINDER BLOCK ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11429501050	CYLINDER BLOCK ASSY.	1	
5	11439901700	STARTER COVER	1	
6	26106100122	BOLT M10X 12 PLATED	2	
7	24162152112	NEEDLE BEARING	1	
8	26106080122	BOLT M 8X 12 PLATED	1	
9	11429901200	CYLINDER HEAD BOLT A	2	
10	11429901210	CYLINDER HEAD BOLT B	2	
11	11429901220	CYLINDER HEAD NUT A	2	
12	11429901230	CYLINDER HEAD NUT B	2	
13	12495001250	WASHER	4	
14	11429501330	CYLINDER HEAD GASKET ASSY.	1	
20	11429901380	O- RING	1	
21	11429901600	PIN 8X12	2	
22	11429901800	SHIM SET	1	
33	11429901830	COVER, (FO PUMP)	1	
34	11425001841	GASKET	1	
35	22312040080	PIN 4X8 STRAIGHT	2	
36	26226060182	STUD M 6X 18 PLATED	1	
37	26226060222	STUD M 6X 22 PLATED	2	
38	26366060002	NUT M 6	3	
39	11429901410	CRANK CASE GASKET	1	
40	11428401452	CRANK CASE COVER	1	INCLUDES ITEMS W/ *
45*	11425002100	MAIN BEARING US=STD.	1	
45	11425002200	BEARING US=0.25, MAIN	1	
45	11425002210	BEARING US=0.50, MAIN	1	
48	11429935150	L.O. INLET PIPE	1	
49	26106060252	BOLT M 6X 25 PLATED	14	
50	26106080352	BOLT M 8X 35 PLATED	1	
53	11429901690	PLUG M16	2	
54	11429901760	CAP, W/LUBE OIL GAUGE	1	INCLUDES ITEMS W/#
56#	11429901950	O- RING	1	
57	22190160002	SEAL WASHER 16S	2	
58	11429902030	RETAINER	1	
59	11425002113	BALL BEARING	1	
60	11429902220	OIL SEAL	1	
61	16021002220	OIL SEAL	1	
62	23876010000	PLUG PT 1/8, SCREW	1	

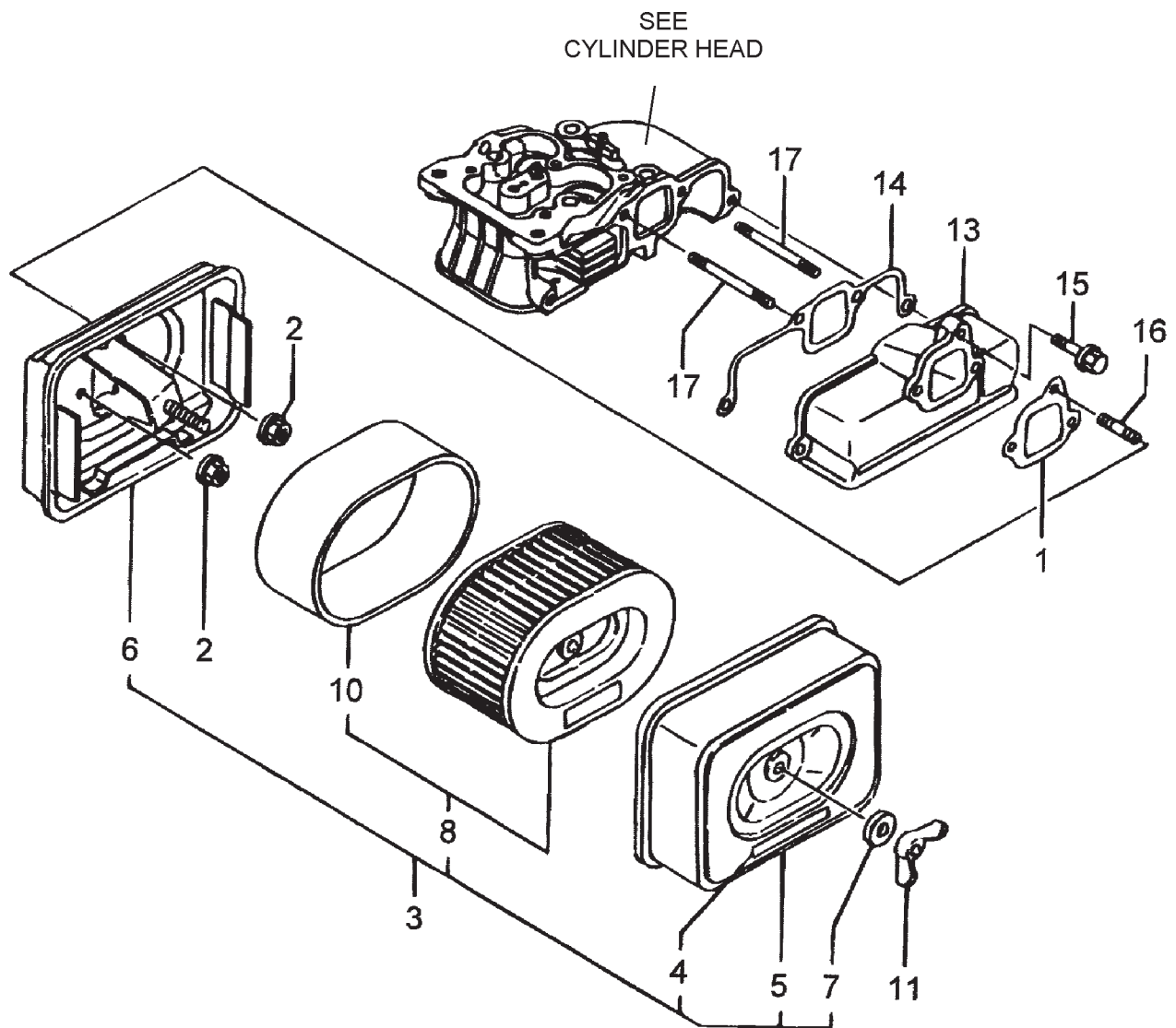
YANMAR L48V6AF3R4AAW4 — CYLINDER HEAD ASSY



YANMAR L48V6AF3R4AAW4 — CYLINDER HEAD ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11477111020	CYLINDER HEAD	1	
6	11477111100	SUCTION VALVE	1	
7	11477111110	EXHAUST VALVE	1	
8	11429911120	VALVE SPRING	2	
9	1142511180	SPRING RETAINER	2	
10	27310055001	COTTER	2	
11	22351040008	SPRING PIN 4X8	1	
12	11477111250	ARM SUPPORT CAM	1	INCLUDES ITEMS W/ *
13*	11477111260	ROCKER ARM SUPPORT	1	
14*	11477111650	INTAKE ARM ASSY.....	1	INCLUDES ITEMS W/ %
16*%	11425011240	VALVE ADJUST. SCREW	1	
17*%	26856060002	LOCK NUT 6	1	
18*	11477111660	EXHAUST ARM ASSY.....	1	INCLUDES ITEMS W/ \$
20*\$	11425011240	VALVE ADJUST. SCREW	1	
21*\$	26856060002	LOCK NUT 6	1	
22*	22242000120	CIR CLIP 12	2	
23	11425011340	VALVE STEM SEAR	2	
24	11926011370	VALVE CAP	2	
25	11477111461	NOZZLE GASKET	1	
26	11429511470	NOZZLE SPACER	1	
27	11429911600	VALVE SPRING WASHER	2	
28	11429911901	NOZZLE RETAINER	1	
29	26106060452	BOLT M 6X45 PLATED	2	
30	11471811910	STUD BOLT M6X65	2	
31	26366060002	NUT M 6	2	
32	11477111310	BONNET GASKET	1	
33	11429511951	BONNET COMPLETE.....	1	INCLUDES ITEMS W/ #
35#	11425003591	SHAFT ASSY. DECOMP.	1	
38#	11429903640	SPRING, DECOMP.	1	
39#	22312030160	PARALLEL PIN 3X16	1	
55	26106060552	BOLT M 6X 55 PLATED	3	

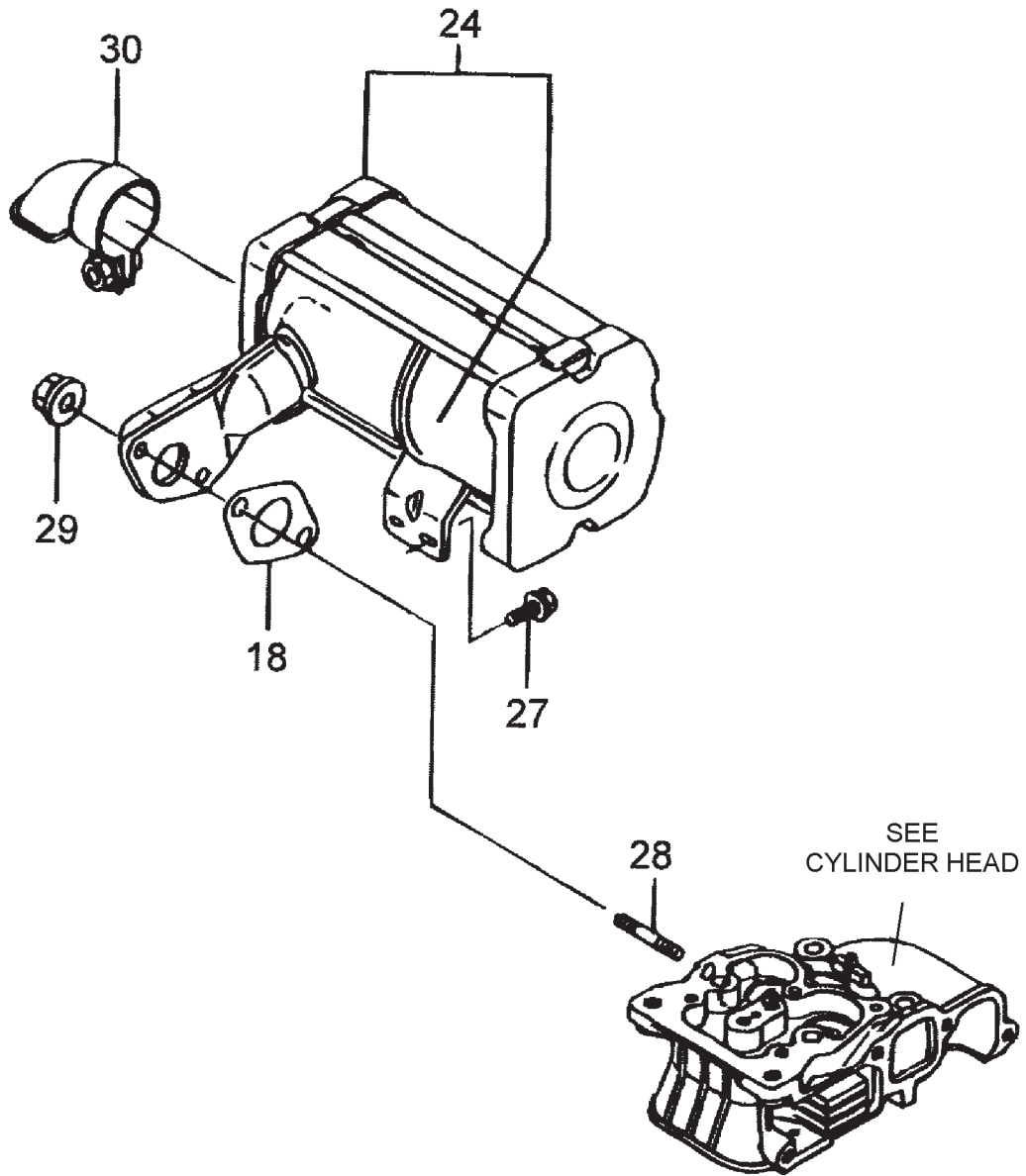
YANMAR L48V6AF3R4AAW4 — AIR CLEANER ASSY



YANMAR L48V6AF3R4AAW4 — AIR CLEANER ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11429912210	GASKET, AIR CLEANER	1	
2	11429912300	U- NUT	3	
3	11428812511	CLEANER, AIR ASSY.	1	INCLUDES ITEMS W/ *
4*	11465007450	LABEL, AIR CLEANER	1	
5*	11428812520	COVER COMPL.	1	
6*	11428812532	CASE, AIR CLEANER	1	
7*	11425212560	SEAL WASHER M8	1	
8*	11465012590	ELEMENT W/ PRE- FILTER.....	1	INCLUDES ITEMS W/ \$
10*\$	11465012550	PRE- FILTER	1	
11	11425212550	WING NUT M8		
13	11477112010	INTAKE MANIFOLD	1	
14	11477112200	AIR INTAKE GASKET	1	
15	26106060252	BOLT M 6X 25 PLATED	2	
16	26226060142	STUD M 6X14 PLATED	1	
17	26226060552	STUD M 6X 55	2	

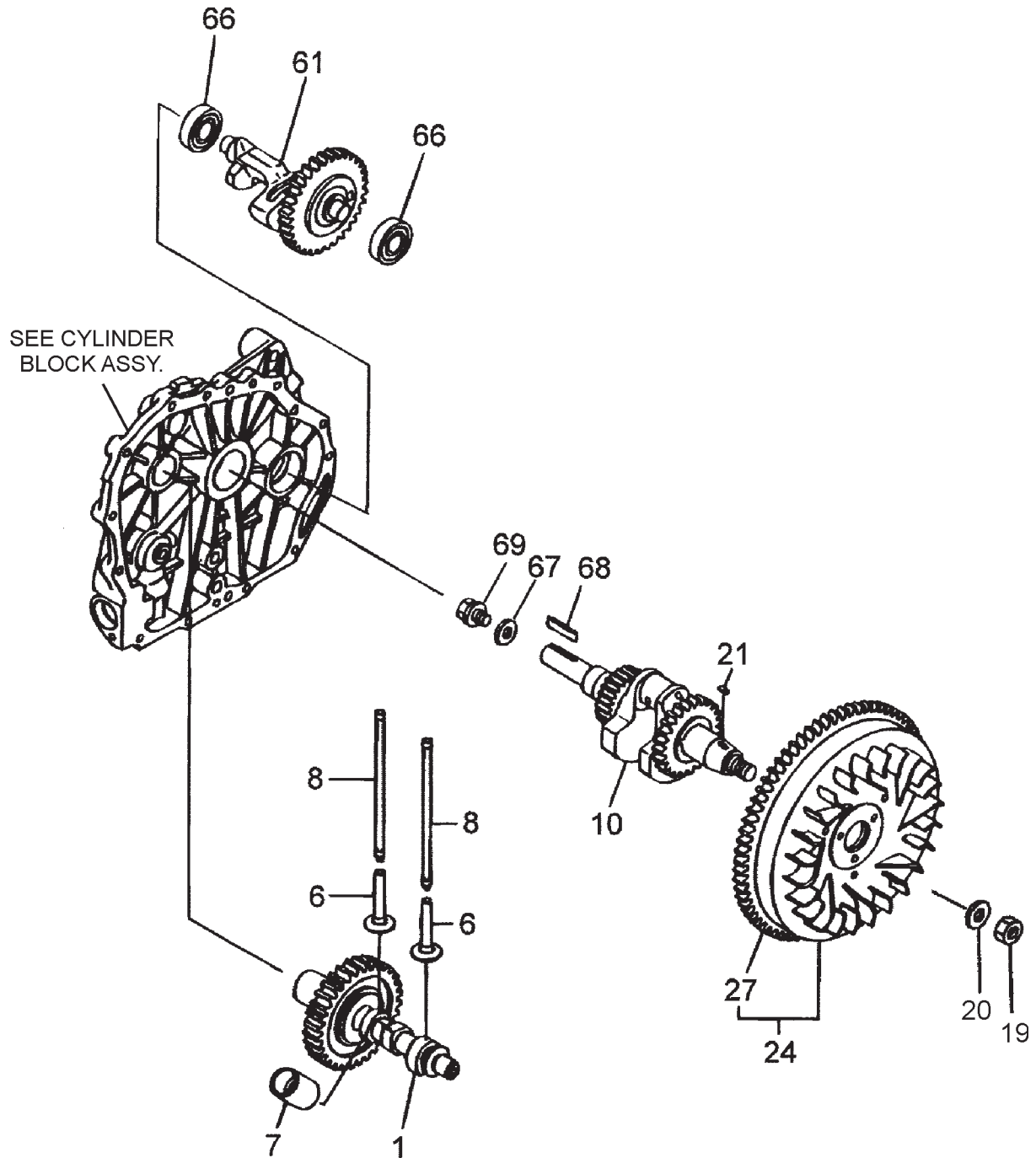
YANMAR L48V6AF3R4AAW4 — MUFFLER ASSY



YANMAR L48V6AF3R4AAW4 — MUFFLER ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
18	11429913200	MUFFLER GASKET	1	
24	11428813500	MUFFLER ASSY.	1	
27	26106060142	BOLT M6X14 PLATED	2	
28	26216080182	STUD M 8X 18 PLATED	2	
29	26366080002	NUT M 8	2	
30	11429913800	EXHAUST DEFLECTOR	1	

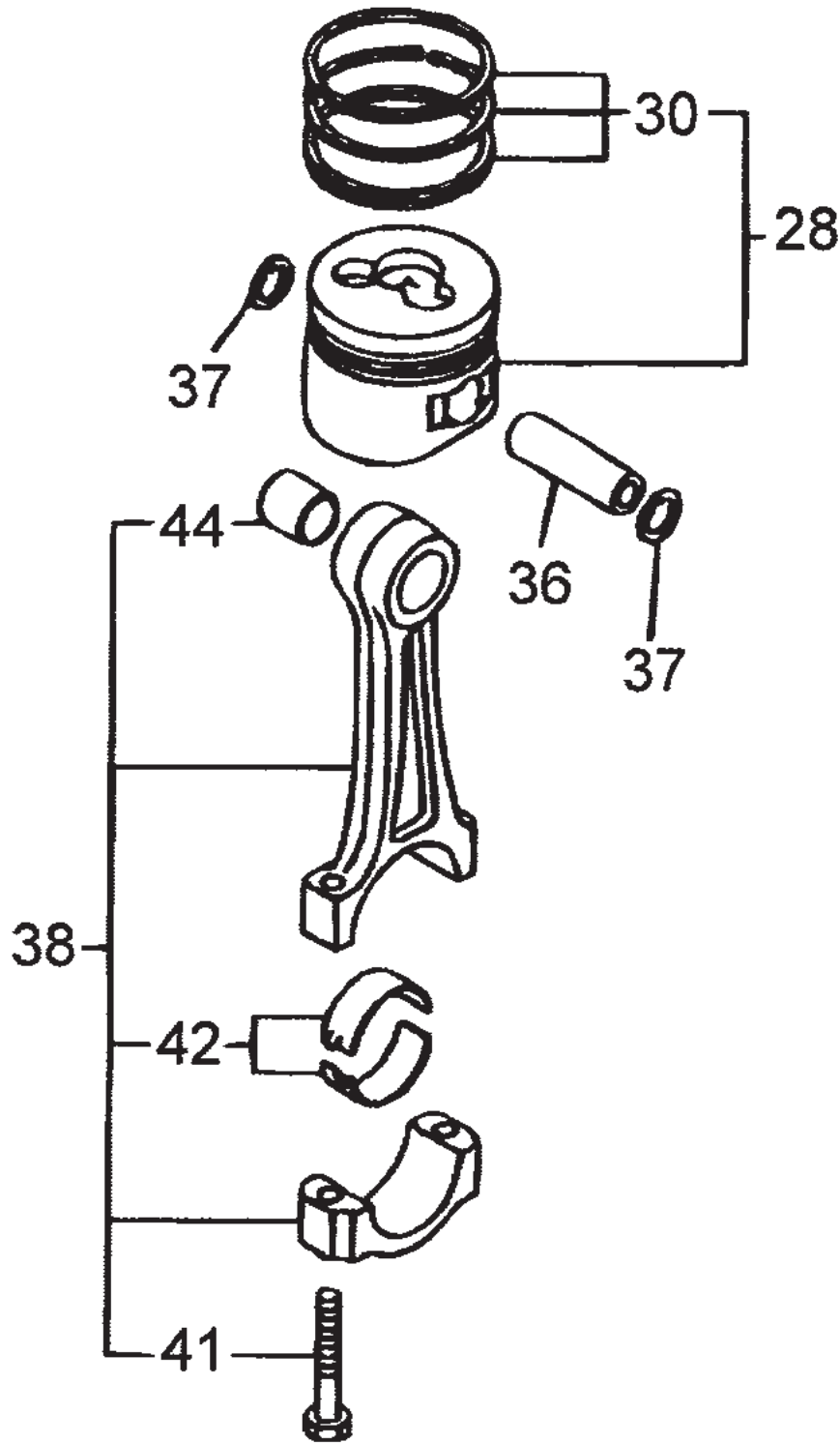
YANMAR L48V6AF3R4AAW4 — CRANKSHAFT AND CAMSHAFT ASSY



YANMAR L48V6AF3R4AAW4 — CRANKSHAFT AND CAMSHAFT ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	71429514580	CAMSHAFT (D) ASSY.	1	
6	11429914200	TAPPET	2	
7	11477114260	TAPPET, F.O.	1	
8	11425014451	PUSH ROD	2	
10	71477221701	CRANKSHAFT ASSY.	1	
19	11429921220	NUT	1	
20	11429921550	FLYWHEEL WASHER	1	
21	22512040120	KEY 4X 12	1	
24	11429921590	FLYWHEEL ASSY.....	1	INCLUDES ITEMS W/ *
27*	11426221600	RING GEAR	1	
61	71477028531	SHAFT ASSY. BEARING	1	
66	24101062020	BEARING 6202	2	
67	16031014550	WASHER	1	
68	22512050300	KEY 5X30	1	
69	26106080202	BOLT M8 X20 PLATED	1	

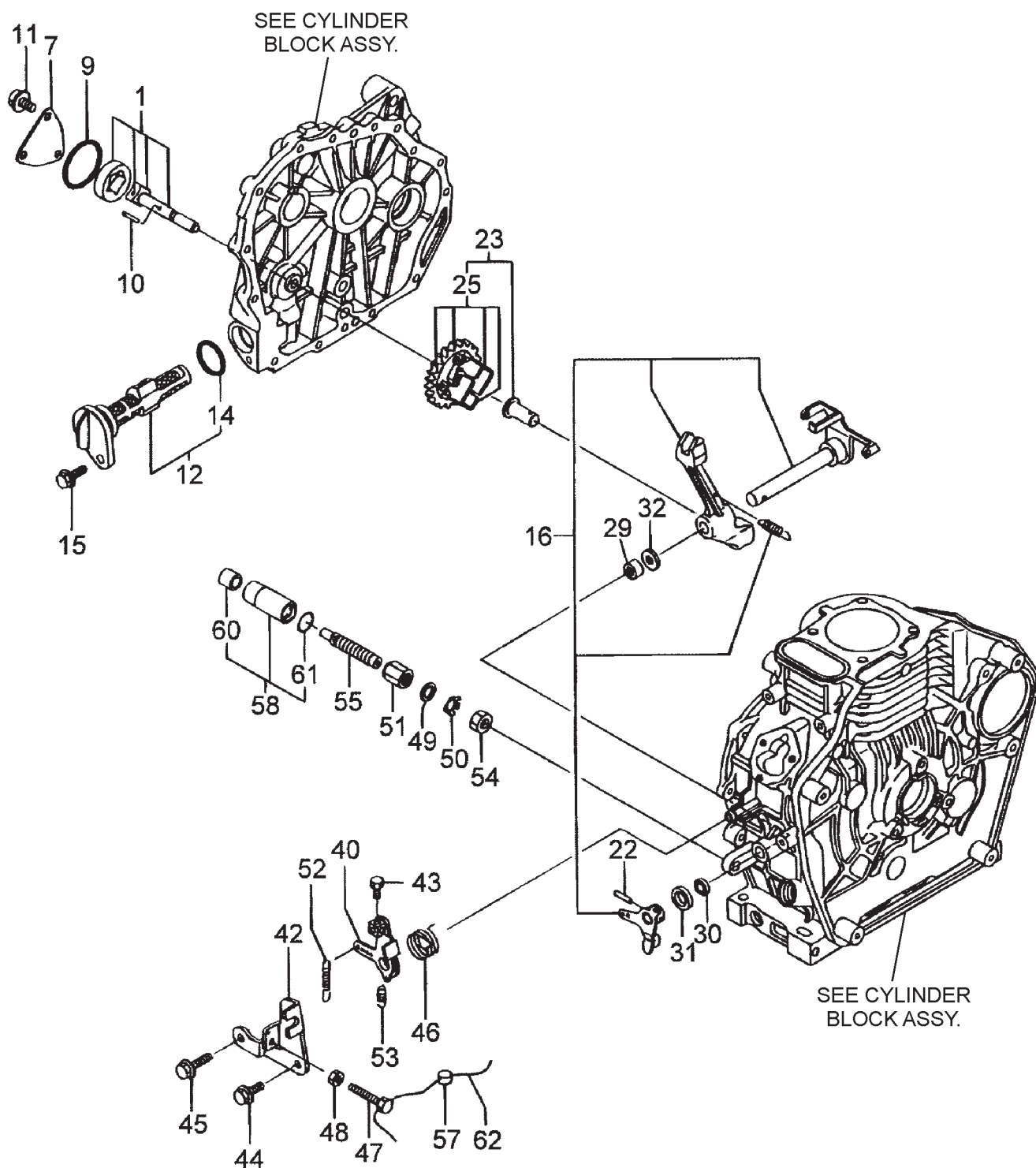
YANMAR L48V6AF3R4AAW4 — PISTON ASSY



YANMAR L48V6AF3R4AAW4 — PISTON ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
28	71429522720	PISTON W/RINGS (D) STD.....	1	INCLUDES ITEMS W/#
28	71429522620	PISTON W/RING OS=0.25.....	1	INCLUDES ITEMS W/#
28	71429522580	PISTON W/RING OS=0.50.....	1	INCLUDES ITEMS W/#
30#	71429522500	PISTON RING SET STD.	1	
30#	71429522540	PISTON RING SET OS=0.25	1	
30#	71429522550	PISTON RING SET OS=0.50	1	
36	11429922300	PISTON PIN	1	
37	22252000190	CIRCLIP 19	2	
38	71429923700	CONNECTING ROD ASSY.	1	INCLUDES ITEMS W/ *
41*	11926523200	ROD BOLT	2	
42*	71477023600	CRANKPIN BEARING U.S=STD.	1	
42	71477023610	CRANKPIN BEARING U.S=0.25	1	
42	71477023620	CRANKPIN BEARING U.S=0.50	1	
44*	11477023100	PISTON PIN BUSH	1	

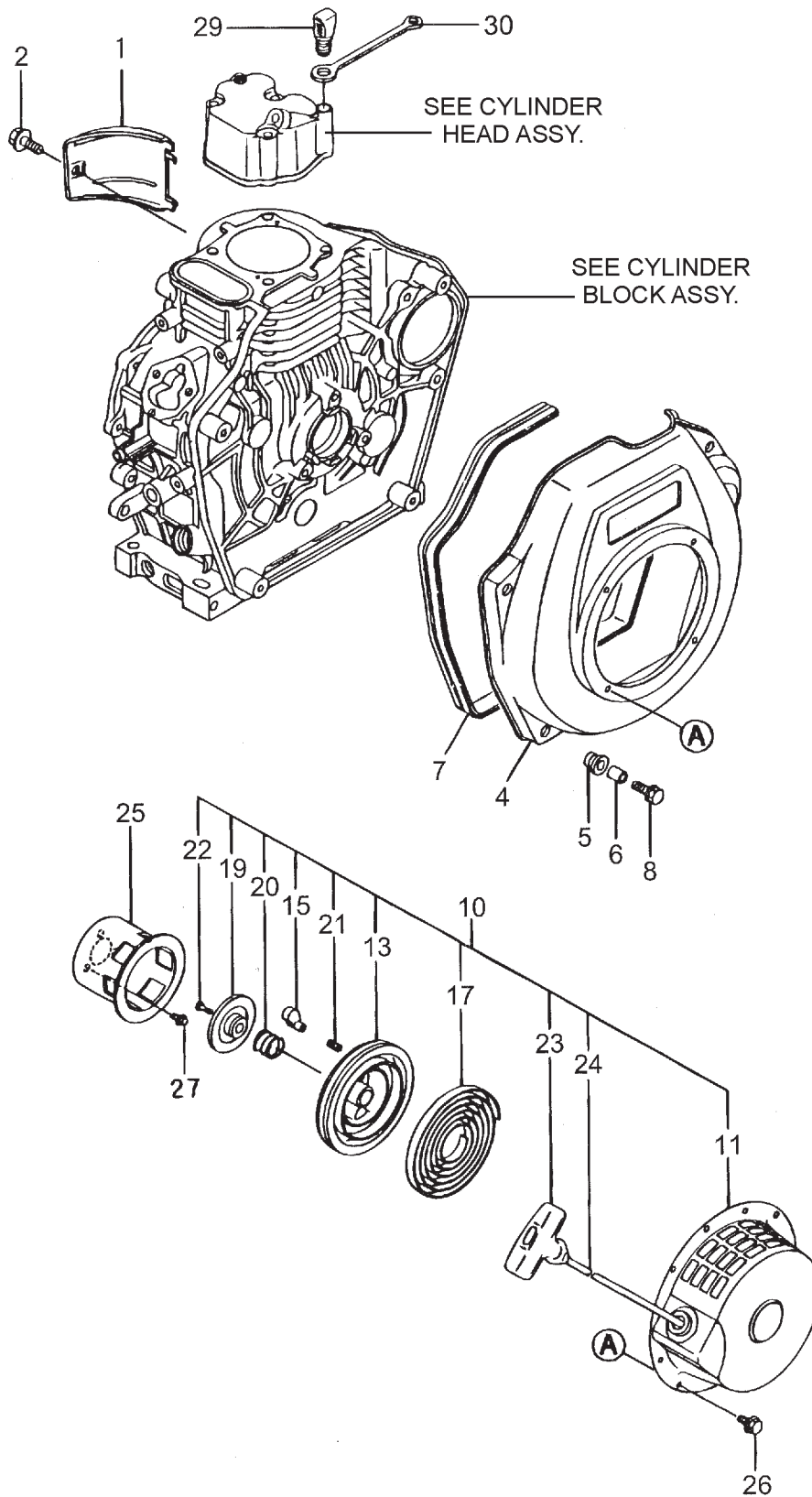
YANMAR L48V6AF3R4AAW4 — LUB OIL PUMP AND GOVERNOR ASSY



YANMAR L48V6AF3R4AAW4 — LUB OIL PUMP AND GOVERNOR ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11425032010	LUB. OIL PUMP ASSY.	1	
7	11429932070	LUB. OIL PUMP COVER	1	
9	11429932570	O- RING COVER	1	
10	22312030160	PARALLEL PIN 3X16	1	
11	26106060122	BOLT M 6X 12 PLATED	3	
12	11429935110	LUB. OIL FILTER COMPLETE	1	INCLUDES ITEM W/ #
14#	24341000224	O- RING 1A S- 22.4	1	
15	26106060162	BOLT M 6X 16 PLATED	1	
16	11429561190	GOVERNOR LEVER ASSY.	1	
22	22322030200	TAPER PIN 3X20	1	
23	71477061100	GOVERNOR ASSY.....	1	INCLUDES ITEM W/ *
25*	11477061220	GOVERNOR WEIGHT ASSY.	1	
29	11477061520	NEEDLE BEARING	2	
30	11429961600	OIL SEAL	1	
31	11477061610	THRUST WASHER	1	
32	11429961190	GOVERNOR WASHER	1	
40	11425266051	REGULATOR HANDLE	1	
42	18336060202	REGULATOR BRACKET	1	
43	10522566990	SCREW	1	
44	26106060142	BOLT M 6X 14 PLATED	1	
45	26106060202	BOLT M6X20 PLATED	1	
46	11429966440	RETURN SPRING	1	
47	11429966440	ADJUSTING BOLT	1	
48	26757060002	LOCK NUT M 6 PLATED	2	
49	11477161810	PLAIN WASHER 14	1	
50	11477161830	PLATE	1	
51	11429561940	NUT	1	
52	11429966010	REGULATOR SPRING	1	
53	11429966200	RETURN SPRING	1	
54	11477166690	NUT M14	1	
55	11481866600	FUEL LIMITER ASSY.	1	
57	13521061090	LEAD	1	
58	11477161890	PROTECTOR CMP	1	INCLUDES ITEMS W/ +
60+	11477161960	SPACER	1	
61+	24311000180	O- RING 1A P-18.0	1	
62	22451060000	WIRE 0.6	1	

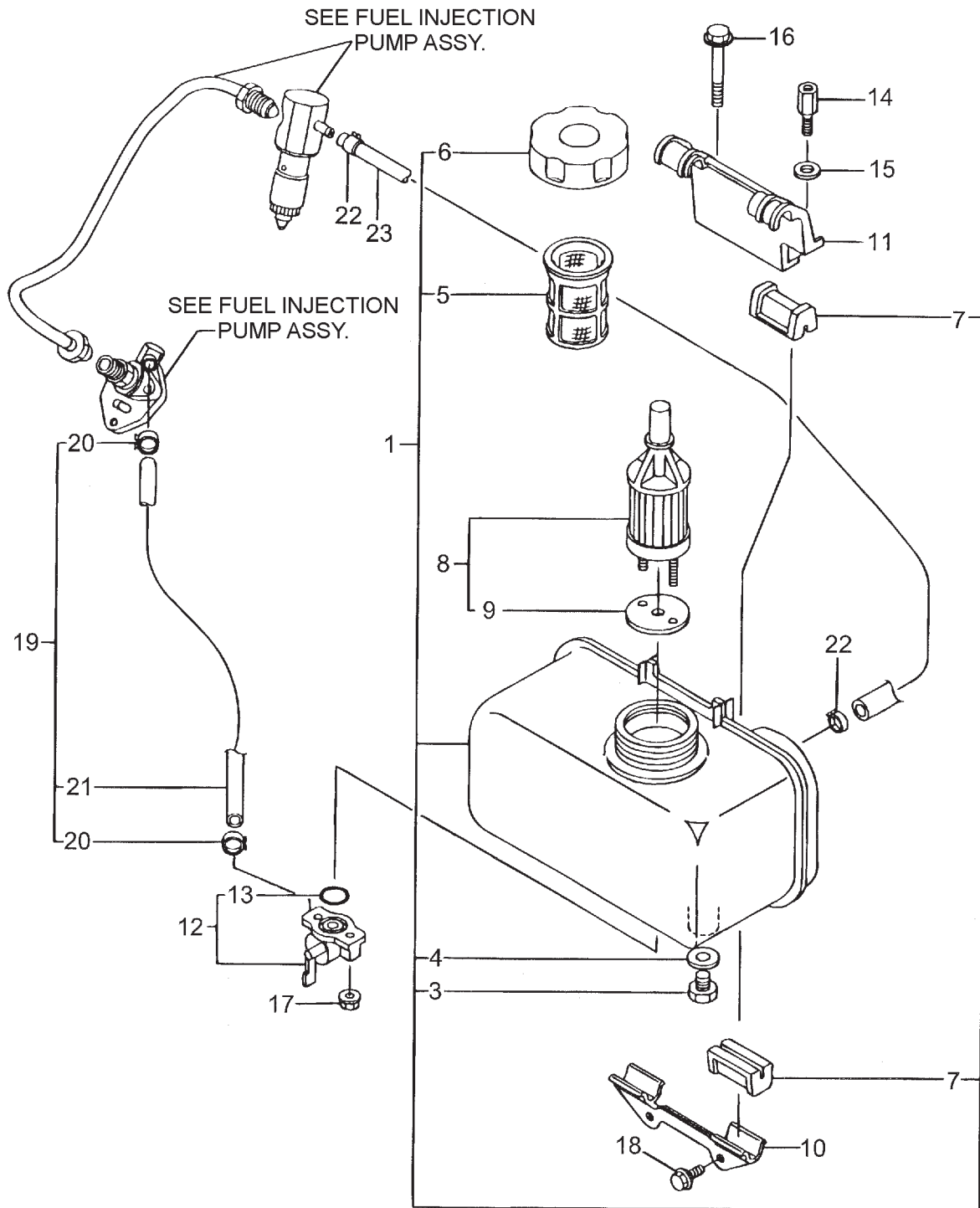
YANMAR L48V6AF3R4AAW4 — COOLING/STARTING DEVICE ASSY



YANMAR L48V6AF3R4AAW4 — COOLING/STARTING DEVICE ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11429945210	CYLINDER COVER	1	
2	26106060122	BOLT M 6X12 PLATED	1	
4	11429545100	COOLING FAN CASE	1	
5	11429945300	CUSHION RUBBER	4	
6	11429945310	FAN CASE COLLAR	4	
7	11429945330	FAN CASE SEAL	1	
8	11429945350	FAN CASE BOLT	4	
10	11429976250	RECOIL STARTER (D) ASSY.....	1	INCLUDES ITEMS W/ *
11*	11429976500	STARTER CASE	1	
13*	11429976520	REEL	1	
15*	11439976530	RATCHET	1	
17*	11439976540	SPIRAL SPRING	1	
19*	11439975550	RATCHET COVER	1	
20*	11439976560	SPRING	1	
21*	11439976570	RETURN SPRING	1	
22*	11439976580	SCREW	1	
23*	11439976620	STARTER KNOB	1	
24*	11429976630	STARTER ROPE	1	
25	11429976590	STARTER PULLEY	1	
26	26106060082	BOLT M 6X8 PLATED	4	
27	26106060122	BOLT M 6X12 PLATED	3	
29	11429976600	PLUNGER	1	
30	11429976610	PLUNGER HOLDER	1	

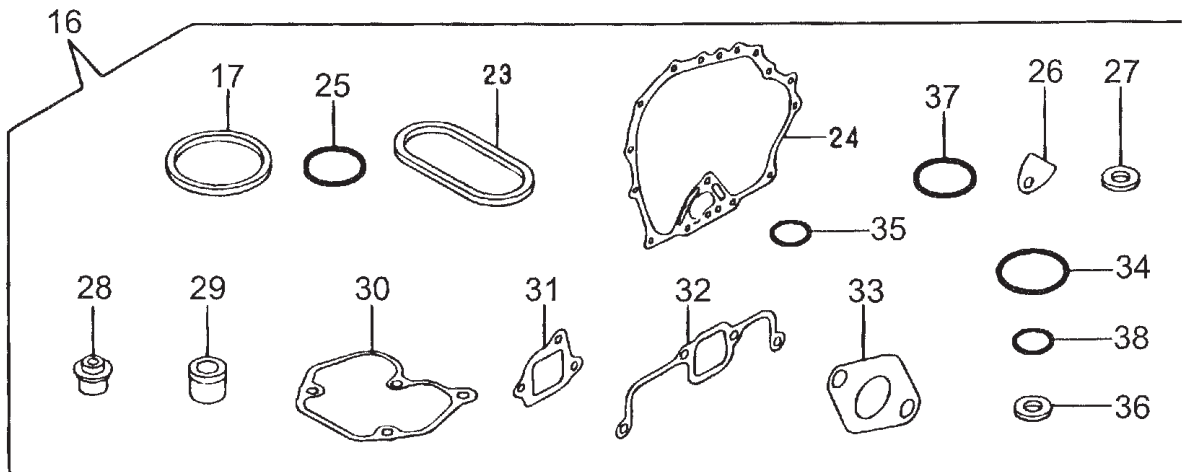
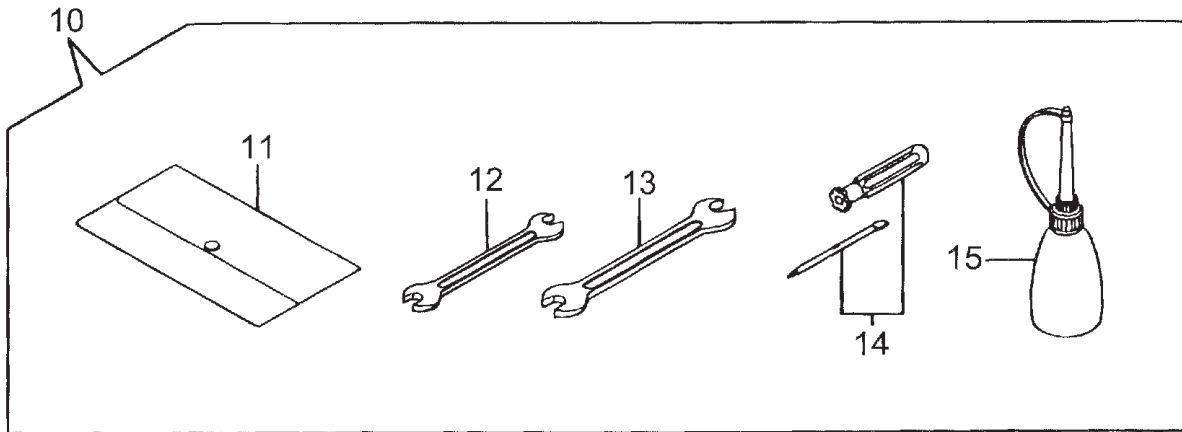
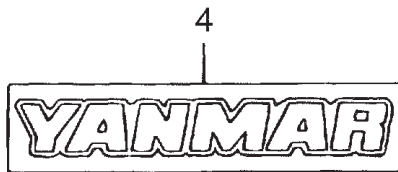
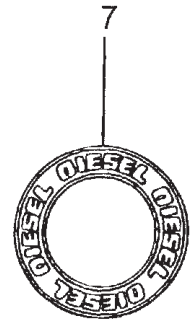
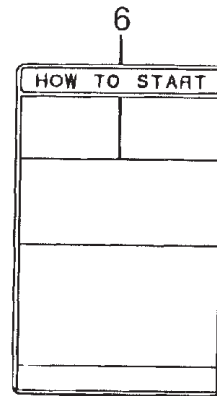
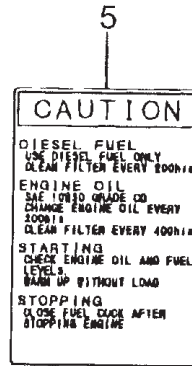
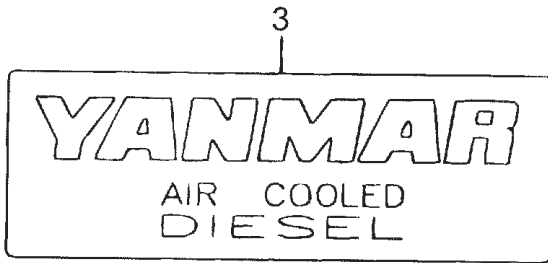
YANMAR L48V6AF3R4AAW4 — FUEL TANK/FUEL LINE ASSY



YANMAR L48V6AF3R4AAW4 — FUEL TANK/FUEL LINE ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	71429955720	FUEL TANK, BLACK	1	INCLUDES ITEMS W/ #
3#	10530055080	DRAIN PLUG	1	
4#	23414080000	ROUND GASKET 8	1	
5#	11429955100	FILTER, FUEL OIL	1	
6#	11429955040	FUEL TANK CAP ASSY.	1	
7#	11429955201	FUEL TANK DAMPER	4	
8	11425055121	FILTER, FUEL STRAINER	1	INCLUDES ITEM W/ %
9%	11425055130	GASKET	1	
10#	11429955210	STAY	1	
11	11429955230	STAY (B)	1	
12	11425055301	COCK	1	INCLUDES ITEM W/ +
13+	24341000150	O- RING 1A S- 15.0	1	
14	11429955810	LIFTING BOLT	1	
15	22117080000	WASHER 8	1	
16	26106080452	BOLT M 8X 45 PLATED	1	
17	26368060002	NUT M6	2	
18	26106060162	BOLT M6X 16 PLATED	2	
19	11477059030	FUEL OIL PIPE ASSY.	1	INCLUDES ITEMS W/ *
20*	11427059010	HOSE CLIP	2	
21*	11426859061	FUEL OIL PIPE	1	
22	12472259050	CLAMP 9	2	
23	11425059060	FUEL RETURN PIPE	1	

YANMAR L48V6AF3R4AAW4 — TOOLS, LABELS, GASKET ASSY



YANMAR L48V6AF3R4AAW4 — TOOLS, LABELS, GASKET ASSY

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
3	11429907100	AIR COOLED LABEL	1	
4	11429907110	YANMAR LABEL	1	
5	11421007120	CAUTION LABEL	1	
6	11421007130	HOW TO START - E LABEL	1	
7	11429907160	DIESEL LABEL	1	
10	11429992590	TOOL ASSY.....	1	INCLUDES ITEMS W/ *
11*	11429992600	TOOL BAG	1	
12*	11429992710	SPANNER	1	
13*	11429992720	SPANNER	1	
14*	11429992730	DRIVER	1	
15*	11429992740	FUEL FITTING	1	
16	71411092600	GASKET SET.....	1	INCLUDES ITEMS W/ #
17#	11429501330	CYLINDER HEAD GASKET ASSY.	1	
23#	11429901280	O- RING	1	
24#	11429901410	CRANKCASE GASKET	1	
25#	11429901950	O- RING	2	
26#	11425001841	GASKET	1	
27#	22190160002	WASHER SEAL 16S	2	
28#	11425011340	VALVE STEM SEAL	2	
29#	11477111461	NOZZLE GASKET	1	
30#	11477111310	BONNET GASKET	1	
31#	11429912210	AIR CLEANER GASKET	1	
32#	11477112200	AIR INTAKE GASKET	1	
33#	11429913200	MUFFLER GASKET	1	
34#	11429932570	O- RING, COVER	1	
35#	24341000100	O- RING 1A S-10.0	1	
36#	23414080000	PACKING 8	1	
37#	24341000224	O- RING 1A S- 22.4	1	
38#	24341000150	O- RING 1A S- 15.0	1	