

OPERATION AND PARTS MANUAL



***Mikasa* SERIES**
MODEL MT76D
TAMPING RAMMER
(YANMAR L40ADRM DIESEL ENGINE)



Revision #7 (07/14/16)

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

FUEL AND CHEMICAL EXPOSURE WARNINGS

 WARNING 
Diesel engine exhaust and some of its constituents are known to cause cancer, birth defects and other reproductive harm.

[illegible]

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MT76D Tamping Rammer

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NOTICE

Specifications and part numbers are subject to change without notice.

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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Goto www.multiquip.com and click on

Order Parts to log in and save!

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



Order via Fax (Dealers Only):

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Domestic (US) Customers dial:

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.*

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- ☐ Applicable Model Number
- ☐ Quantity, Part Number and Description of Each Part

☐ Specify Preferred Method of Shipment:

- ☒ UPS/Fed Ex
- ☒ Priority One
- ☒ Ground
- ☒ Next 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.

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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

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.



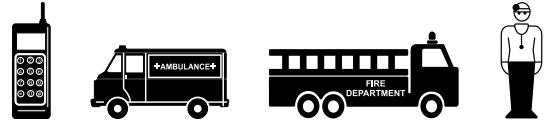
- **ALWAYS** check the equipment for loosened threads or bolts before starting.
- **DO NOT** use the equipment for any purpose other than its intended purposes or applications.

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.



RAMMER 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.
- **DO NOT** use this machine on ground that is harder than the machine can handle, or for driving pilings or tamping rock beds. Furthermore, use of the machine on sloping ground, such as the side of an embankment, may make the machine unstable and can cause an accident. It can also result in premature machine wear due to uneven loads on the machine.

Use the machine with confidence for tamping earth and sand, soil, gravel, and asphalt. **DO NOT** use the machine for other types of jobs.

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

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.
- **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 rammer.



CAUTION

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



NOTICE

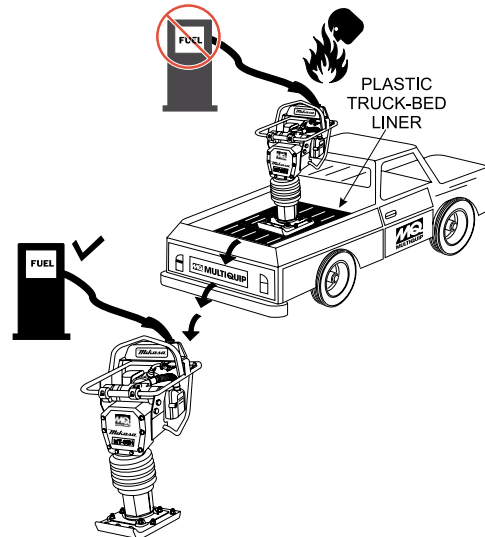
- **NEVER** run engine without an air filter or with a dirty air filter. Severe engine damage may occur. Service air filter frequently to prevent engine malfunction.
- **NEVER** tamper with the factory settings of the engine or engine governor. Damage to the engine or equipment can result if operating 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. 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.



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

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. Rammer Specifications

Overall Height	39.4 in. (1,000 mm)
Overall Width	16.1 in (410 mm)
Over Length	28.3 in (720 mm)
Shoe Size (W x L)	11 in. (285 mm)
Fuel Tank Capacity	.871 gal. (3.3 liters).
Lubrication Oil Bath Capacity	.85 qt. (.80 liters).
No. of Impacts Per Second	700
Impact Force	3,600 lbs./blow (1,623 kg/blow)
Engine Speed	3,250 ~ 3,300 rpm
Clutch	Automatic Centrifugal
Impact Plate Stroke	2 - 3.2 in. (50 - 80 mm)
Operating Weight	176 lbs. (80 kg)

Table 2. Engine Specifications

Model	YANMAR L40ADRM
Type	Air-Cooled 4 Stroke, Diesel Engine
Piston Displacement	12.14 cu. in. (199 cc)
Bore Stroke	2.67 x 2.16 in. (1.68 x 55 mm)
Max. Governed Speed, No Load	3,300 rpm
Output Continuous	3.8 HP (2.8 kW)
Output Maximum	4.2 HP (3.1 kW)
Cooling System	Forced Air Cooling By Flywheel Fan
Lubricant for Engine	Diesel Engine Lububricating Oil API Classification ""CC"" or ""CD"" Grade
Engine Oil Capacity	0.21 gal. (0.80 liters)
Fuel	No. 2 Diesel Fuel
Air Cleaner	Wet Type Paper Element Filter
Starting System	Recoil Starter with Auto-Return Decompression Device
Dry Weight	56.2 lbs. (25.5 kg.)

GENERAL INFORMATION

The Multiquip MT76D tamping rammer is a powerful compacting tool capable of applying a tremendous force in consecutive impacts 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.

The impact force of the MT76D levels and uniformly compacts voids between soil particles to increase dry density.

Circular motion is converted to create impact force. The MTX76D tamping rammer develops a powerful compacting force at the foot of the rammer. To maintain optimum performance, proper operation and service are essential.

The MT76D is equipped with an air cooled, four- cycle Yanmar diesel engine. Transmission of the power takes place by increasing the engine speed to engage the centrifugal clutch.

The MT76D uses an oil bath lubrication system. Always check the oil level through the oil level sight glass at the rear of the tamper foot.

Before starting the MT76D Tamping Rammer identify and understand the function of the controls.

CAUTION



Before starting operation check the lifting handle to:

1. Make sure that there is no damage on the bolts.
2. Make sure that there is no crack or breakage on handle.
3. Make sure that there is no fissure on the surface. If there is any abnormality or damage, replace with new one.

For operation:

This handle is to be used to lift up the shoe part of the machine with the body laid down on the ground or truck bed.

1. Use proper lifting techniques to avoid back injury. This handle is for manual lifting only.
2. Do not use this handle as a rammer lift point. Use the lifting point on the top of the machine.
3. Do not move the rammer with the lifting handle and the front rollers more than 16 feet (5 meters).

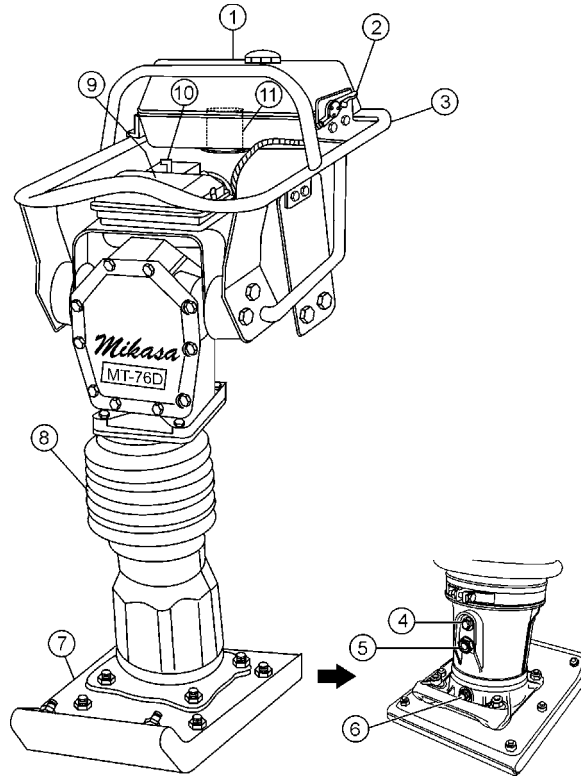


Figure 1. MT76D Major Components

Figure 1 shows the location of the controls and components for the MT76D Tamping Rammer. The functions of each control is described below:

1. **Fuel Tank/Cap** – Remove this cap to add diesel fuel. Refill with No. 2 diesel fuel only. Fuel tank capacity is .871 gallons (3.3 liters)
2. **Throttle Lever** – Controls engine speed and the tamping action of the rammer.
3. **Handle** – To operate rammer, grip handle assembly firmly on both sides
4. **Oil Bath Fill Plug** – Open this plug to add oil to the oil bath reservoir.
5. **Oil Level Sight Glass** – Indicates the level of oil in the oil bath reservoir.
6. **Drain Valve** – Open this valve to remove oil from the bellows.
7. **Foot** – Laminated wood with tempered steel plate for superior shock absorption.

8. **Bellows** – Reservoir for oil bath.

9. **Engine Air Cleaner** – Prevents dirt and other debris from entering the engine.

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.

10. **Decompression Lever** – Use in the starting of the engine. Press down on lever to engage. After engine starts lever will return to original position.

11. **Fuel Filter** – Located inside fuel tank. Prevents dirt and debris from entering fuel system.

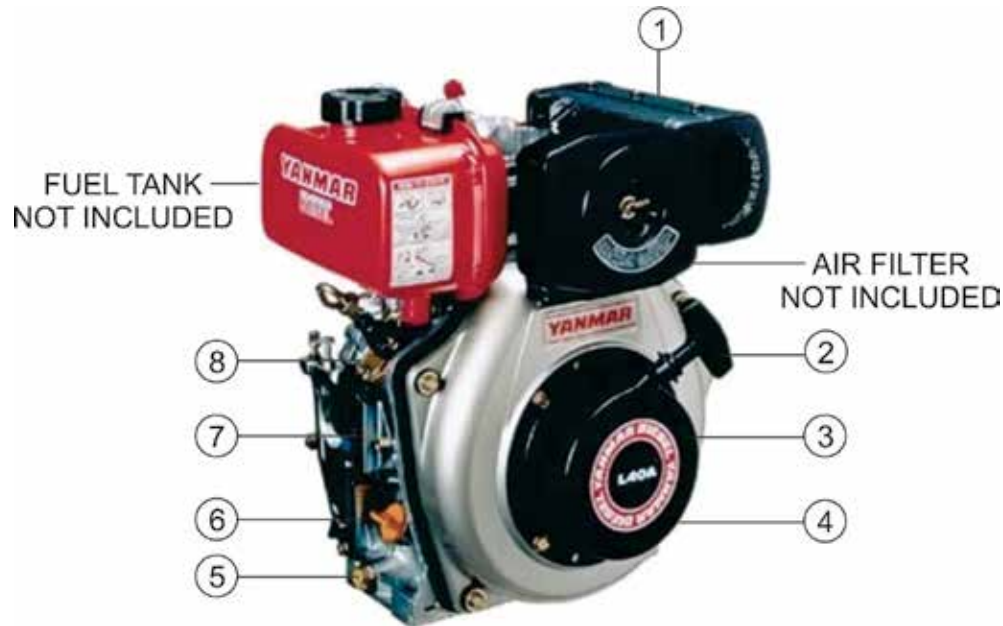


Figure 2. Yanmar L40ADRM Diesel Engine

The engine (Figure 2) must be checked for proper lubrication and filled with fuel prior to operation. Refer to the engine manufacturer's manual for detailed operation and service information.

1. **Muffler** — Used to reduce noise and emissions. Never touch muffler when it is hot.

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.

2. **Starter Grip** — To start engine, pull the starter grip until resistance is felt, then pull briskly and smoothly.
3. **Recoil Starter (pull rope)** — Manual-starting method.
4. **Engine Oil filter** — Prevents dirt and other debris from entering the engine.
5. **Oil Drain Plug** — Remove this plug to remove oil from the engine's crankcase.
6. **Dipstick/Oil Filler Cap** — Remove this cap to determine if the engine oil is low. Add oil through this filler port as recommended in Table 3.
7. **Engine Speed Lever** — Controls engine speed.
8. **Fuel Injection Pump** — Pumps fuel to the injector.

It is extremely important that this section be read carefully before attempting to operate the rammer. **DO NOT** use your rammer until this section is thoroughly understood.

GENERAL INSPECTION

1. Check all nuts, bolts fasteners for tightness. Retighten as necessary.
2. Clean any dirt from the recoil starter and foot pedestal. Wipe the entire unit clean before operating.
3. Replace any missing or damaged Safety Operation decals.
4. Adjust height of handle. Adjust handle by loosening nuts and moving handle to suit operation. Retighten nuts.

CRANKCASE AND SPRING CYLINDER OIL BATH

This unit uses an oil bath lubrication system. Perform the following:

5. Check the oil level through the oil level sight glass (Figure 3) at the rear of the tamper foot.

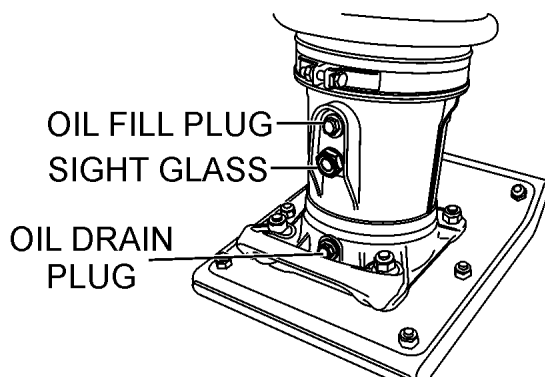


Figure 3. Foot Housing Sight Glass

NOTICE

The oil level should be kept at the half way point of the sight glass.

6. If oil is not visible, add 10W-30 SE, SF or higher grade motor oil into the oil fill plug opening (Figure 3). The bath contains approximately 0.85 qt. (0.80 liter).

ENGINE

1. Fill the fuel tank (Figure 4) with No. 2 diesel fuel. At the same time, check the engine oil and make it a habit to replenish it often (Figure 5).

WARNING



Adding fuel to the tank should be accomplished 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.

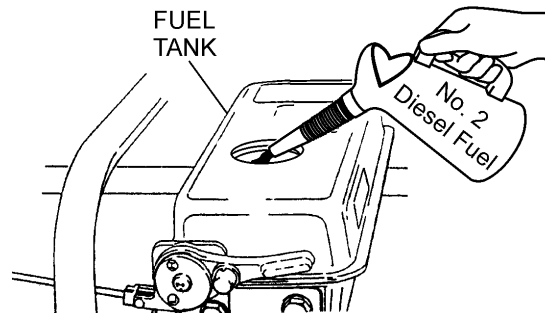


Figure 4. Fuel Tank

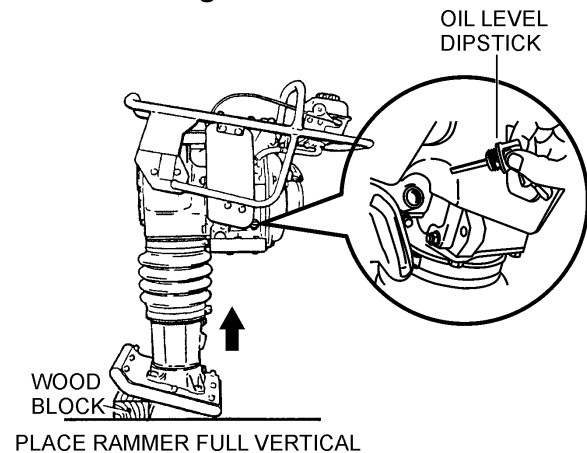


Figure 5. Engine Oil Dipstick

2. Low levels of oil may result in engine seizure due to high levels of consumption during operation.
3. Check the engine oil level and if the engine oil level is low, it should be refilled. Use the proper motor oil as suggested in the Table 3 below.

Table 3. Oil Type

Season	Temperature	Oil Type
Summer	25°C or Higher	SAE 10W-30
Spring/Fall	25°C~10°C	SAE 10W-30/20
Winter	0°C or Lower	SAE 10W-10

CAUTION

Failure to understand the operation of the Tamping Rammer could result in severe damage to the unit or personal injury.

INITIAL STARTUP

When starting the MT76D Tamping Rammer perform the following:

1. The throttle lever is used only at three positions (**stop**, **idle** and **operation**). When moving the lever from the stop to idle position, press button on lever at same time lever is moved.

NOTICE

In cold weather, the engine should be started at the operation position or between the idle and operation position on the throttle lever. Use caution as higher engine RPM may engage clutch, when engine starts. Return throttle lever from starting position to idle position when engine starts

2. Move the throttle lever (Figure 6) to the **idle** position.

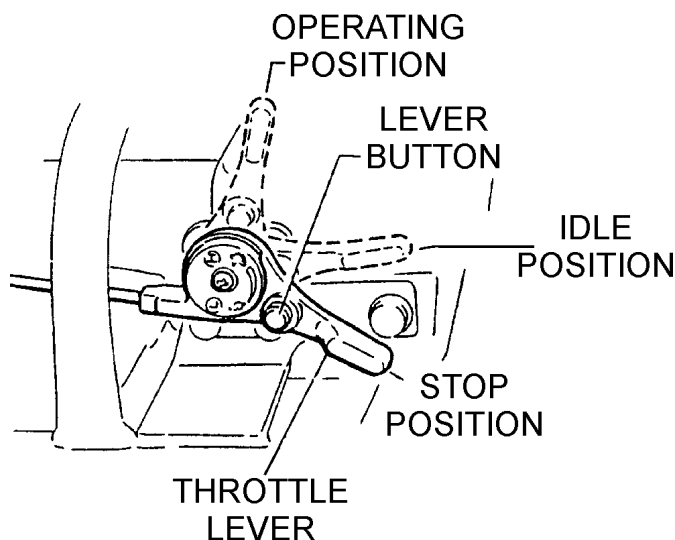


Figure 6. Throttle Lever (Idle Position)

3. Grip the recoil starter handle (Figure 7) and pull it until you feel a slight resistance.

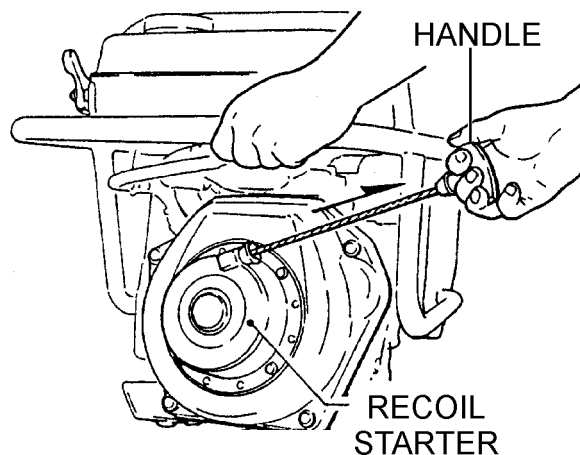


Figure 7. Recoil Starter

NOTICE

DO NOT pull the starter rope all the way to the end and do not let the starter rope snap back as damage may result.

4. Press the decompression lever (Figure 8) to release decompression. The decompression lever will return automatically when the recoil starter is pulled.

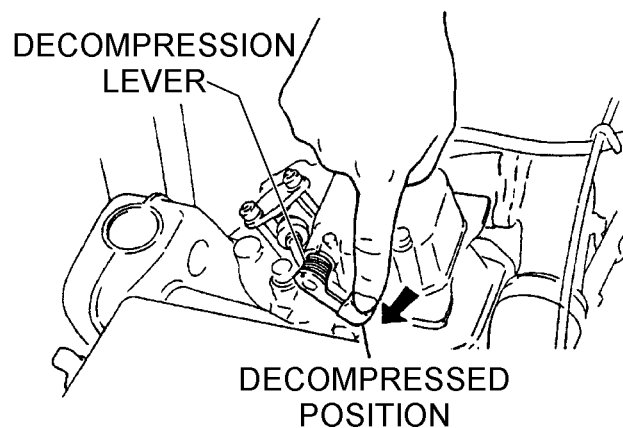


Figure 8. Decompression Lever

OPERATION

5. Return the recoil starter, and pull the handle sharply and quickly. Warm up the engine by running at low speed for three to five minutes, while checking for fuel leakage or abnormal sounds.
6. Repeat steps 1 thru 5.
7. If the engine does not start after repeated attempts, check the fuel injection system.

OPERATION

CAUTION

Make sure that the throttle lever is moved to the **OPERATION** position. Operating the rammer at less than full speed can result in damage to the clutch springs or foot.

1. To start the rammer tamping action, move the throttle lever (Figure 9) **quickly** from **IDLE** to the **OPERATION** position. **DO NOT** move the throttle lever slowly as this may cause damage to the clutch or spring.

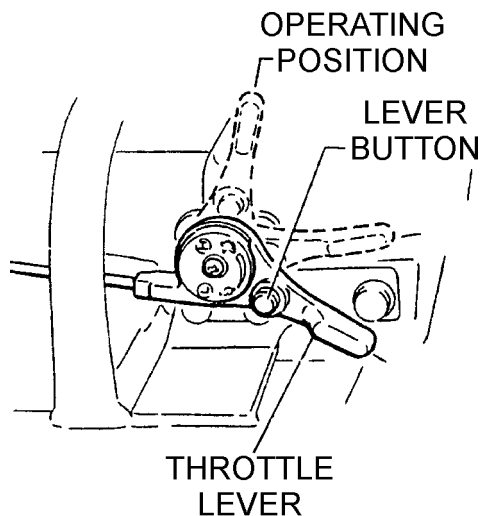


Figure 9. Throttle Lever (Start Position)

2. The MT76D tamping rammer is designed to run at 3,250 to 3,300 rpm. At optimum rpm the foot hits at a rate of 700 impacts per minute. Increasing throttle speed past factory set rpm does not increase impacts and may damage unit.

3. The MT76D is designed to advance while tamping. For faster advance, pull back slightly on the handle so that the rear of the foot contacts the soil first.
4. The rammer can be warmed by quickly moving the throttle lever from the **OPERATION** to the **IDLE** position several times until the rammer operates smoothly.
5. To stop tamping, quickly move the throttle lever from the **OPERATION** to **IDLE** position. Do not move the lever **slowly** as irregular action and damage may result.

STOPPING THE ENGINE

NOTICE

Following the procedure below will prevent improper cylinder lubrication caused by a overheated engine.

1. Move throttle lever quickly from the **OPERATION** to **IDLE** position while pressing the throttle lever button.
2. Run the engine for three minutes at low speed.
3. After the engine **cools**, move throttle lever quickly from **IDLE** to **STOP** (Figure 10) while pressing the throttle lever button.

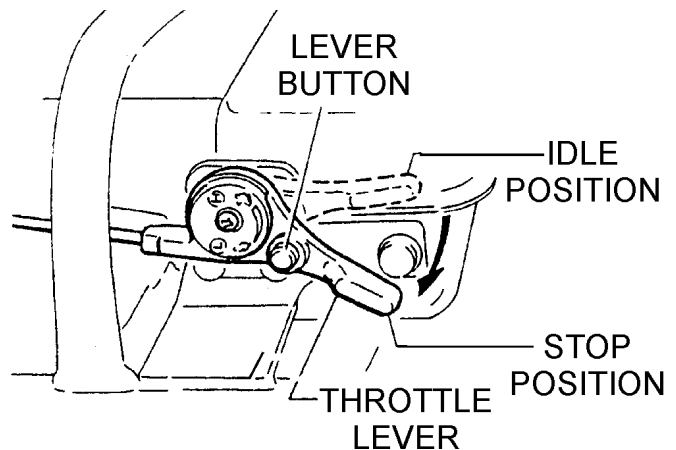


Figure 10. Throttle Lever (Stop Position)

DAILY

- Thoroughly remove dirt and oil from the engine and control area.
- Clean or replace the air cleaner elements as necessary.
- Check and retighten all fasteners as necessary.
- Check the spring box and bellows for oil leaks. Repair or replace as needed.

FUEL FILTER (EVERY 50 HOURS)

1. Remove fuel hose from outlet port on fuel filter. Drain fuel into a suitable container.
2. Remove fuel filter mounting hardware (Figure 11) from the fuel tank.

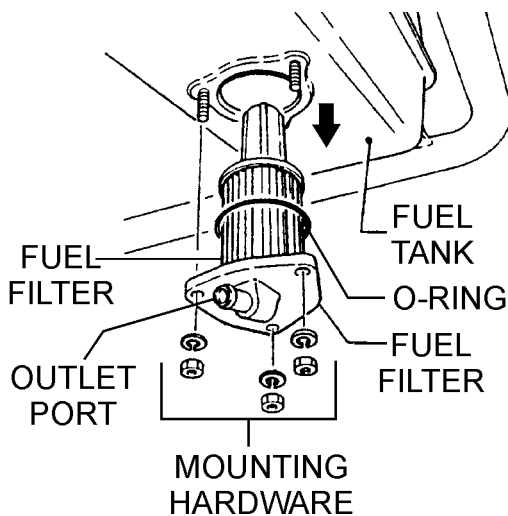


Figure 11. Removing Fuel Filter

3. Next, remove fuel filter from fuel tank (Figure 11).
4. Remove the fuel tank cap and inspect for dirt inside the fuel tank. If dirty, clean fuel tank.
5. Replace fuel filter and o-ring.
6. Reinstall fuel filter and o-ring back into fuel tank. Secure fuel filter with mounting hardware.
7. Reconnect fuel hose to fuel filter outlet port.

NOTICE

Replace fuel lines every 2 years even if there is no visible damage.

FUEL STRAINER (EVERY 50 HOURS)

1. Thoroughly clean the area around the fuel cap.
2. Remove the fuel cap from the fuel tank.
3. Next, remove, inspect and clean the fuel strainer (Figure 12) with solvent.

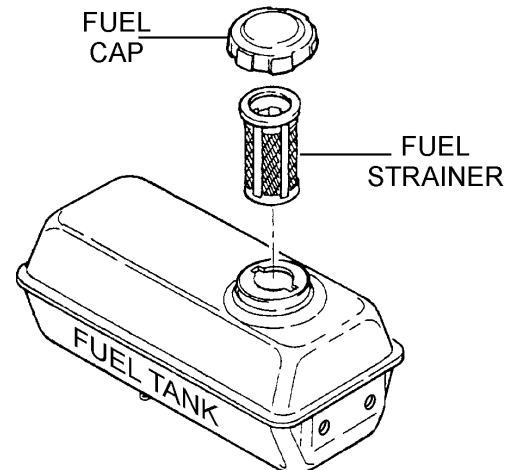


Figure 12. Fuel Strainer Removal

4. Reinstall fuel strainer and fuel cap.

REPLACEMENT OIL BATH LUBRICANT

1. Remove the drain plug at the rear of tamper foot and drain the dirty oil. Refill with clean oil to the middle of the sight glass.

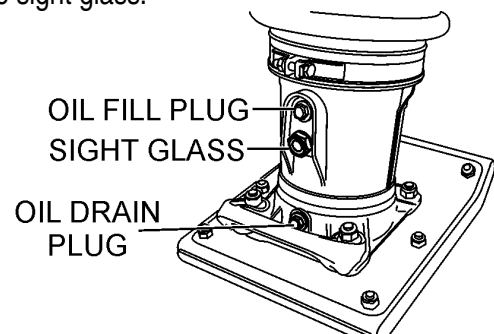


Figure 13. Draining Oil Bath Lubricant

2. Remove the oil drain plug on foot housing (Figure 13) and drain the oil. Refill with approximately 0.85 qt. (0.80 liter) of 10W-30 SE, SF or higher grade motor oil. Oil should be midway in sight glass. **Break in oil** should be changed after first **50 hours** of operation.
3. Second oil change and/or later, every 200 hours of operation.

ENGINE OIL REPLACEMENT

1. Remove oil guage/dipstick from its holder.
2. Using a wrench remove the engine oil drain plug (Figure 14) and let oil drain into a suitable container. Always drain engine oil while it is warm.

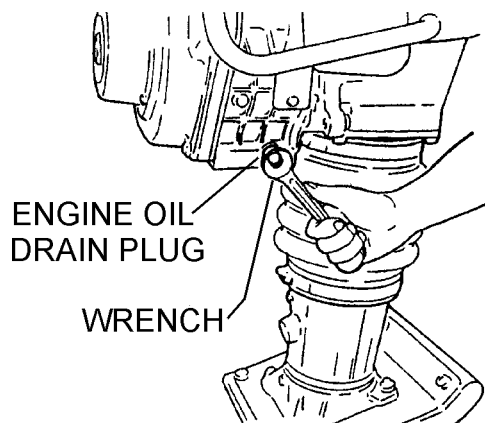


Figure 14. Draining Engine Oil

3. Reinstall oil drain plug and fill with recommended type oil as listed in Table 2. **DO NOT** overfill.
4. **Break in oil** should be changed after first **20 hours** of operation.
5. Second oil change and/or later, every 100 hours of operation.

ENGINE OIL FILTER REPLACEMENT

1. Remove and replace the engine oil filter and o-ring (Figure 15) every 1,000 hours of operation.

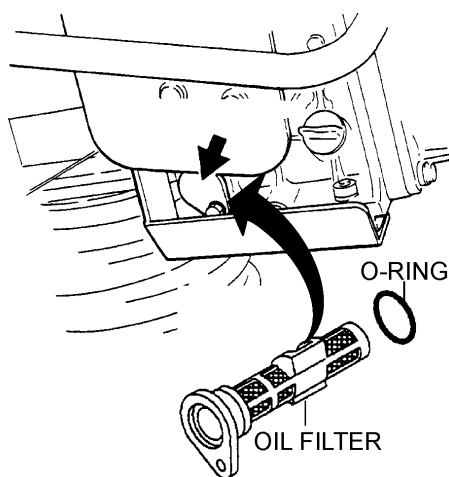


Figure 15. Engine Oil Filter

ENGINE AIR CLEANER

! DANGER



DO NOT use gasoline as a cleaning solvent, the possibility exists of fire or explosion which can cause damage to the equipment and severe bodily harm or even **DEATH!**

NOTICE

If the engine is operating in very **dusty** or **dry** grass conditions, a clogged air cleaner will result. This can lead to a loss of power, excessive carbon buildup in the combustion chamber and high fuel consumption. Change air cleaner more **frequently** if these conditions exist.

NOTICE

Operating the engine with loose or damaged air cleaner components could allow unfiltered air into the engine causing premature wear and failure.

Foam Element

2. Release the retaining latches (Figure 16) on both sides of the air cleaner **upper** body (cover).
3. Next, remove the foam filter element and paper element from the air cleaner **lower** body.

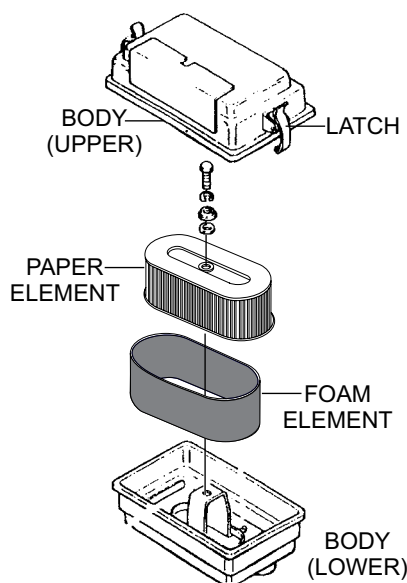


Figure 16. Engine Air Cleaner

4. Clean foam element (Figure 17) in warm, soapy water or non-flammable solvent. Rinse and dry thoroughly.
5. Next, dip the element in clean engine oil and completely squeeze out the excess oil from the element before installing.

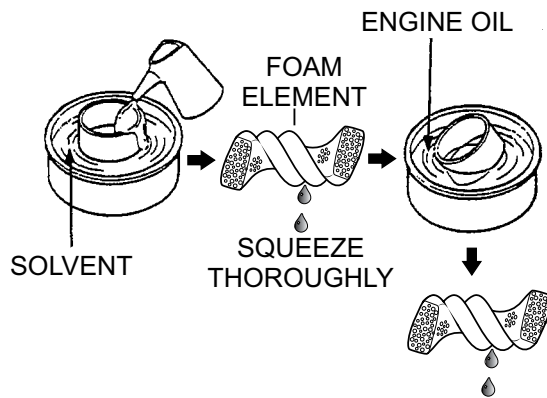
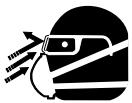


Figure 17. Cleaning Foam Element

Paper Air Filter Element

CAUTION



Wear protective equipment such as approved safety glasses or face shields and dust masks or respirators when cleaning air filters with compressed air.

1. Check the paper element daily or before starting the engine
2. Check for and correct heavy buildup of dirt and debris along with loose or damaged components.
3. To clean the paper air filter element as referenced in (Figure 18), tap the filter element several times on a hard surface to remove dirt, or blow compressed air (not to exceed 30 psi (207 kPa, 2.1 kgf/cm²) through the filter element from the inside out.

NOTICE

DO NOT use **excessive** air pressure or the paper air filter element will be damaged and will need to be replaced.

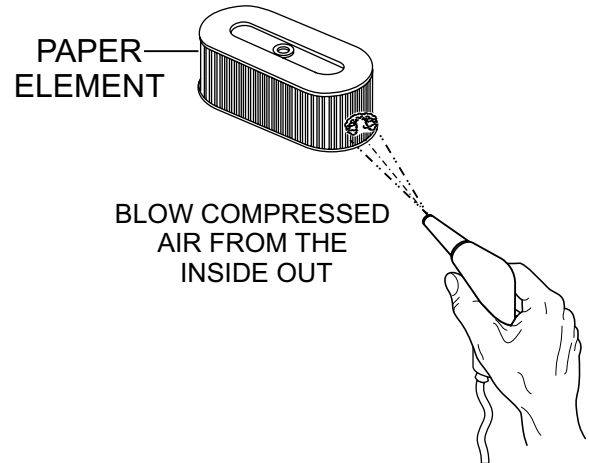


Figure 18. Cleaning Paper Element

TRANSPORTATION

Maintain upright position of rammer at all times. Transport rammer in upright position. If rammer must be laid down for transportation, drain the diesel fuel first and lay rammer with muffler side down (Figure 19).

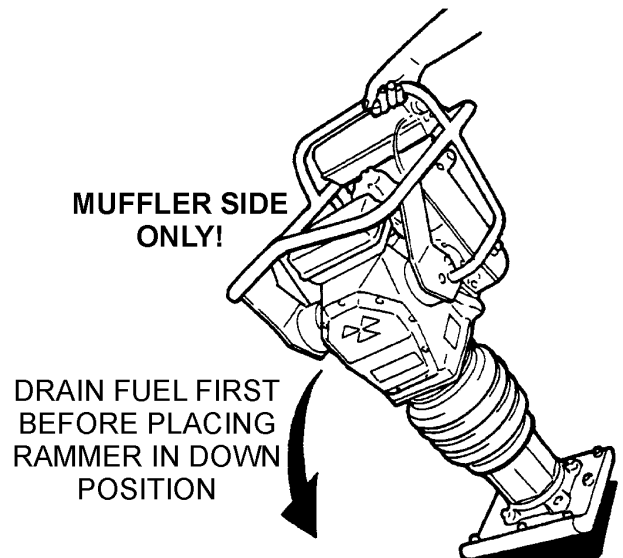


Figure 19. Transporting Rammer

The fuel filter is installed at the bottom of fuel tank. Should the rammer be laid on its side, dirt from the fuel filter may contaminate the injection nozzle, causing damage to the fuel pump.

MAINTENANCE/TROUBLESHOOTING

LONG TERM STORAGE

- Place the throttle lever in the **STOP** position.
- Drain the fuel tank completely, including fuel lines or add STA-BIL to the fuel,
- Replace lubrication fresh oil.
- Cover the air intake on the air cleaner and the exhaust outlet on the muffler.
- Clean exterior of rammer with an oil moistened cloth.
- Store rammer indoors covered with plastic sheet in moisture free and dust free location out of direct sunlight.

Troubleshooting (Rammer)		
Symptom	Possible Problem	Solution
Engine runs but rammer jumps erratically or not at all.	Operating speed of throttle lever is incorrectly set?	Set throttle lever to correct position.
	Oil in excess?	Drain excess oil. Bring to correct level.
	Clutch slips?	Replace or adjust clutch.
	Spring Failure?	Replace spiral spring.
	Speed of engine improper?	Adjust engine speed to correct operating RPM setting.
	Soil over-compacted?	Shut down machine and test soil.

TROUBLESHOOTING

Troubleshooting (Engine)		
Symptom	Possible Problem	Solution
Engine will not start or start is delayed, although engine can be turned over.	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 pump not working correctly?	Repair or replace fuel pump.
	Oil pressure too low?	Check engine oil pressure.
	Low starting temperature limit exceeded?	Comply with cold starting instructions and proper oil viscosity.
	Injection nozzle clogged?	Clean or replace injection nozzle.
	Throttle lever in wrong position (stop)?	Place throttle lever in idle position.
	Air or water mixed in fuel system?	Check carefully for loosened fuel line coupling, loose cap nut, etc.
At low temperatures engine will not start.	Engine oil too thick?	Refill engine crankcase with correct type of oil for winter environment.
	Defective battery?	Replace battery.
Engine fires but stops soon as starter is switched off.	Fuel filter blocked?	Replace fuel filter.
	Fuel supply blocked?	Check the entire fuel system.
	Defective fuel pump?	Replace fuel pump.
Engine stops by itself during normal operation.	Fuel tank empty?	Add fuel.
	Fuel filter blocked?	Replace fuel filter.
	Defective fuel pump?	Replace fuel pump.
Low engine power, output and speed.	Fuel tank empty?	Replace fuel filter.
	Fuel filter clogged?	Replace fuel filter.
	Fuel tank venting is inadequate?	Ensure that tank is adequately vented.
	Leaks at pipe unions?	Check threaded pipe unions tape and tighten unions as required.
	Speed control lever does not remain in selected position?	See engine manual for corrective action.
	Engine oil level too full?	Correct engine oil level.
	Injection pump wear?	Use No. 2-D diesel fuel only. Check the fuel injection pump element and delivery valve assembly and replace as necessary.

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.

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

MT76D TAMPING RAMMER WITH YANMAR L-40ADRM DIESEL ENGINE

1 to 3 units

Qty.	P/N	Description
1.....	956200040.....	THROTTLE LEVER ASSY.
1.....	956108040.....	THROTTLE WIRE
3.....	371010060.....	ELEMENT ASSY.
3.....	954405080.....	STRAINER, FUEL TANK
2.....	18325455120.....	STRAINER ASSY, FUEL
1.....	0430430015.....	CAP, FUEL TANK
1.....	16071001760.....	CAP, W/LUB OIL GA.
2.....	11425035070.....	STRAINER, OIL LUB.
2.....	24341000224.....	O-RING, OIL LUB. STRAINER

3 to 5 units

Qty.	P/N	Description
5.....	956200040.....	THROTTLE LEVER ASSY.
3.....	956200040.....	THROTTLE LEVER ASSY.
3.....	956108040.....	THROTTLE WIRE
5.....	371010060.....	ELEMENT ASSY
5.....	954405080.....	STRAINER, FUEL TANK
4.....	18325455120.....	STRAINER ASSY, FUEL
3.....	0430430015.....	CAP, FUEL TANK
3.....	16071001760.....	CAP, W/LUB. OIL GA.
4.....	11425035070.....	STRAINER, OIL LUB.
4.....	24341000224.....	O-RING, OIL LUB. STRAINER
2.....	71425053101.....	INJECTOR ASSY, FUEL
1.....	71425092602.....	GASKET SET, ENGINE
1.....	354332780.....	BELLOWS, ORANGE
1.....	371447630.....	CLUTCH ASSY
1.....	71425061500.....	LEVER ASSY, GOVERNOR
1.....	24421304508.....	SEAL, OIL, ENGINE
1.....	16021002220.....	SEAL, OIL, ENGINE

5 to 10 units

Qty.	P/N	Description
5.....	956200040.....	THROTTLE LEVER ASSY.
5.....	956108040.....	THROTTLE WIRE
10.....	371010060.....	ELEMENT ASSY.
10.....	954405080.....	STRAINER, FUEL TANK
8.....	18325455120.....	STRAINER ASSY, FUEL
6.....	0430430015.....	CAP, FUEL TANK
6.....	16071001760.....	CAP, W/LUB OIL GAUGE
8.....	11425035070.....	STRAINER, OIL LUB
8.....	24341000224.....	O-RING, OIL LUB STRAINER

4.....	71425053101.....	INJECTOR ASSY, FUEL
2.....	11425053001.....	NOZZLE, FUEL
4.....	71425092602.....	GASKET SET, ENGINE
3.....	24421304508.....	SEAL, OIL
3.....	16021002220.....	SEAL, OIL
3.....	354332780.....	BELLOWS, ORANGE
4.....	354329380.....	BELLOWS CLAMP
2.....	371447630.....	CLUTCH ASSY.
2.....	943020060.....	CLUTCH SHOE (4)
4.....	943030060.....	CLUTCH SPRING
2.....	71425061500.....	LEVER ASSY, GOVERNOR
1.....	050201500.....	O-RING, UPPER GUIDE CYL.
2.....	050931500.....	O-RING, MIDDLE GUIDE CYL.
1.....	050101100.....	O-RING, LOWER GUIDE CYL.
1.....	050100950.....	O-RING, FOOT PLT. GUIDE CYL.

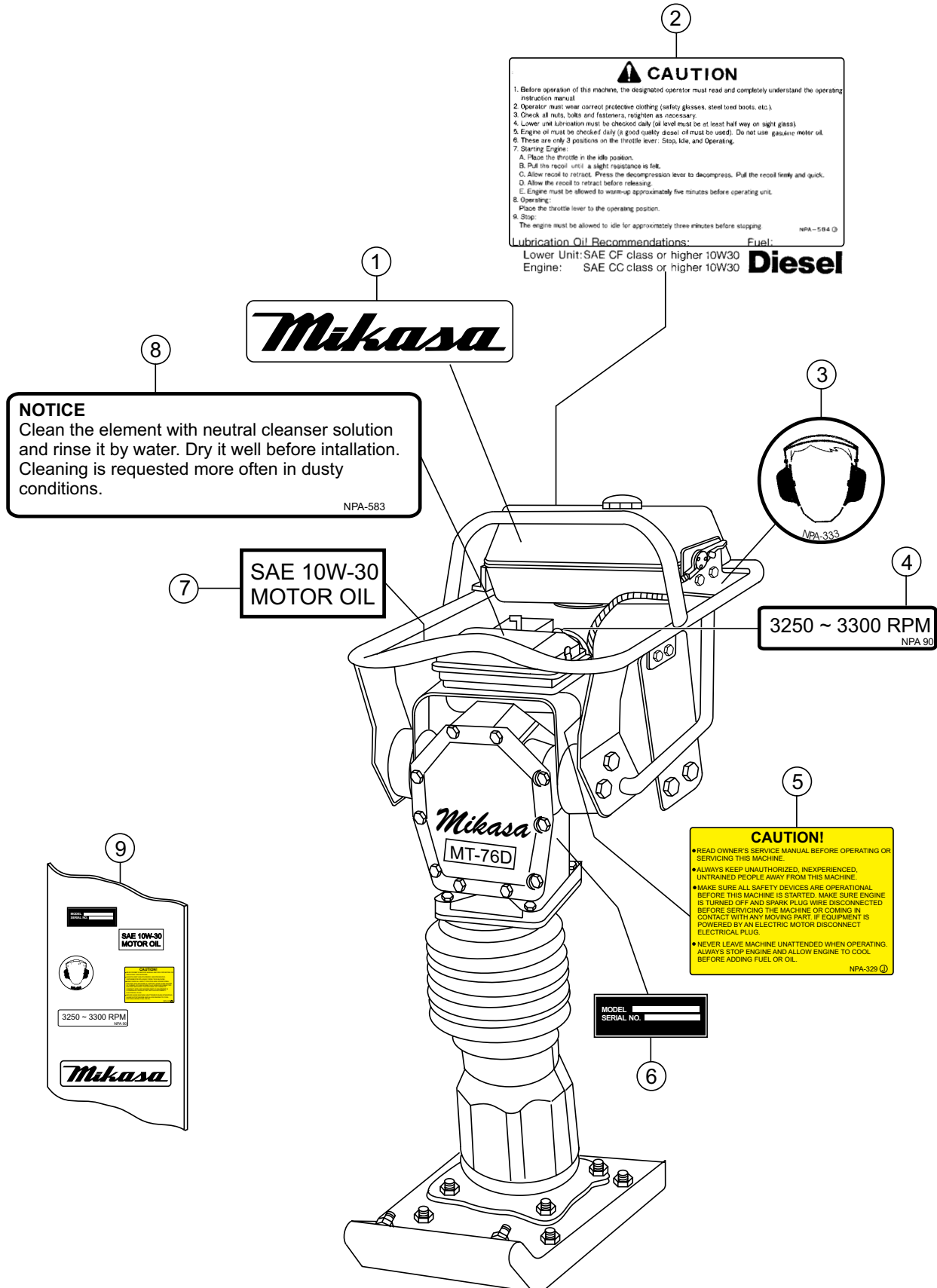
10+ units

Qty.	P/N	Description
5.....	956200040.....	THROTTLE LEVER ASSY.
8.....	956200040.....	THROTTLE LEVER ASSY
8.....	956108040.....	THROTTLE WIRE
15.....	371010060.....	ELEMENT ASSY
15.....	954405080.....	STRAINER, FUEL TANK
11.....	18325455120.....	STRAINER ASSY, FUEL
8.....	0430430015.....	CAP, FUEL TANK
8.....	16071001760.....	CAP, W/LUB OIL GA
11.....	11425035070.....	STRAINER, OIL LUB.
11.....	24341000224.....	O-RING, OIL LUB. STRAINER
8.....	71425053101.....	INJECTOR ASSY, FUEL
4.....	11425053001.....	NOZZLE, FUEL
8.....	71425092602.....	GASKET SET, ENGINE
8.....	24421304508.....	SEAL, OIL, ENGINE
8.....	16021002220.....	SEAL, OIL, ENGINE
6.....	354332780.....	BELLOWS, ORANGE
8.....	354329380.....	BELLOWS CLAMP
3.....	371447630.....	CLUTCH ASSY
4.....	943020060.....	CLUTCH SHOE (4)
8.....	943030060.....	CLUTCH SPRING
4.....	71425061500.....	LEVER ASSY, GOVERNOR
4.....	050201500.....	O-RING, UPPER GUIDE CYL.
8.....	050931500.....	O-RING, MIDDLE GUIDE CYL.
4.....	050101100.....	O-RING, LOWER GUIDE CYL.
4.....	050100950.....	O-RING, FOOT PLT. GUIDE CYL.
1.....	71426076821.....	RECOIL STARTER ASSY.

NOTICE

Part numbers on this Suggested Spare Parts list may supersede/replace the part numbers shown in the following parts lists.

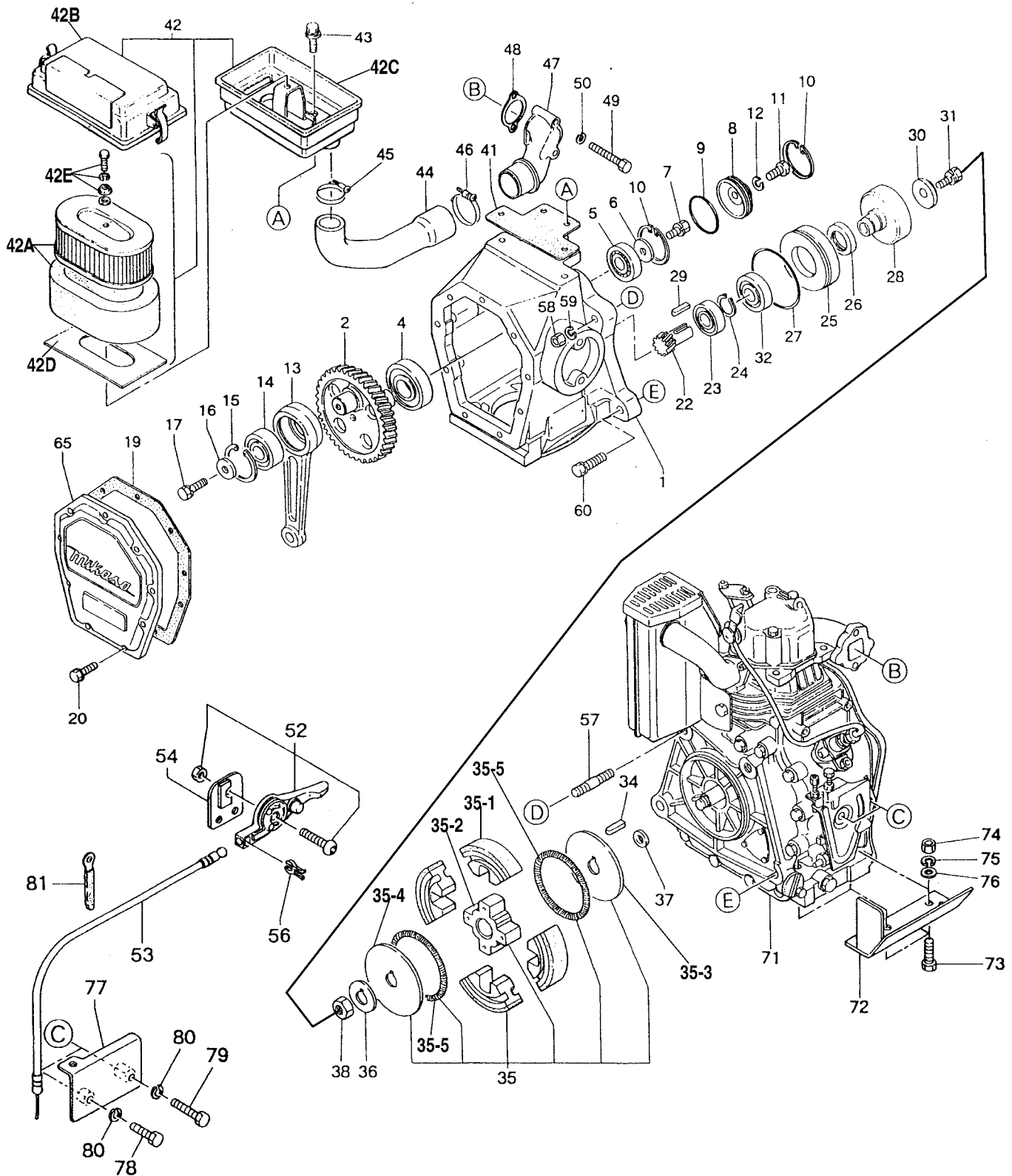
NAMEPLATE AND DECAL ASSY.



NAMEPLATE AND DECAL ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1#	920101580	DECAL: MIKASA MARK	1	
2#	920205840	DECAL: FUEL DIESEL	1.....	NPA-584
3#	920203330	DECAL: EAR PROTECTION	1.....	NAA-333
4#	920205820	DECAL ENGINE R.P.M 3250-3300	1	NPA-90
5#	920203290	DECAL: READ OWNER'S MANUAL.....	1.....	NPA-329
6		PLATE: SERIAL NO.	1.....	CONTACT MQ PARST DEPT.
7#	920201950	DECAL: MOTOR OIL	1	
8#	920205830	DECAL, AIR CLEANER.....	1.....	NPA-583
9	DCL86D/76D	DECAL KIT	1.....	INCLUDES ITEMS W/#

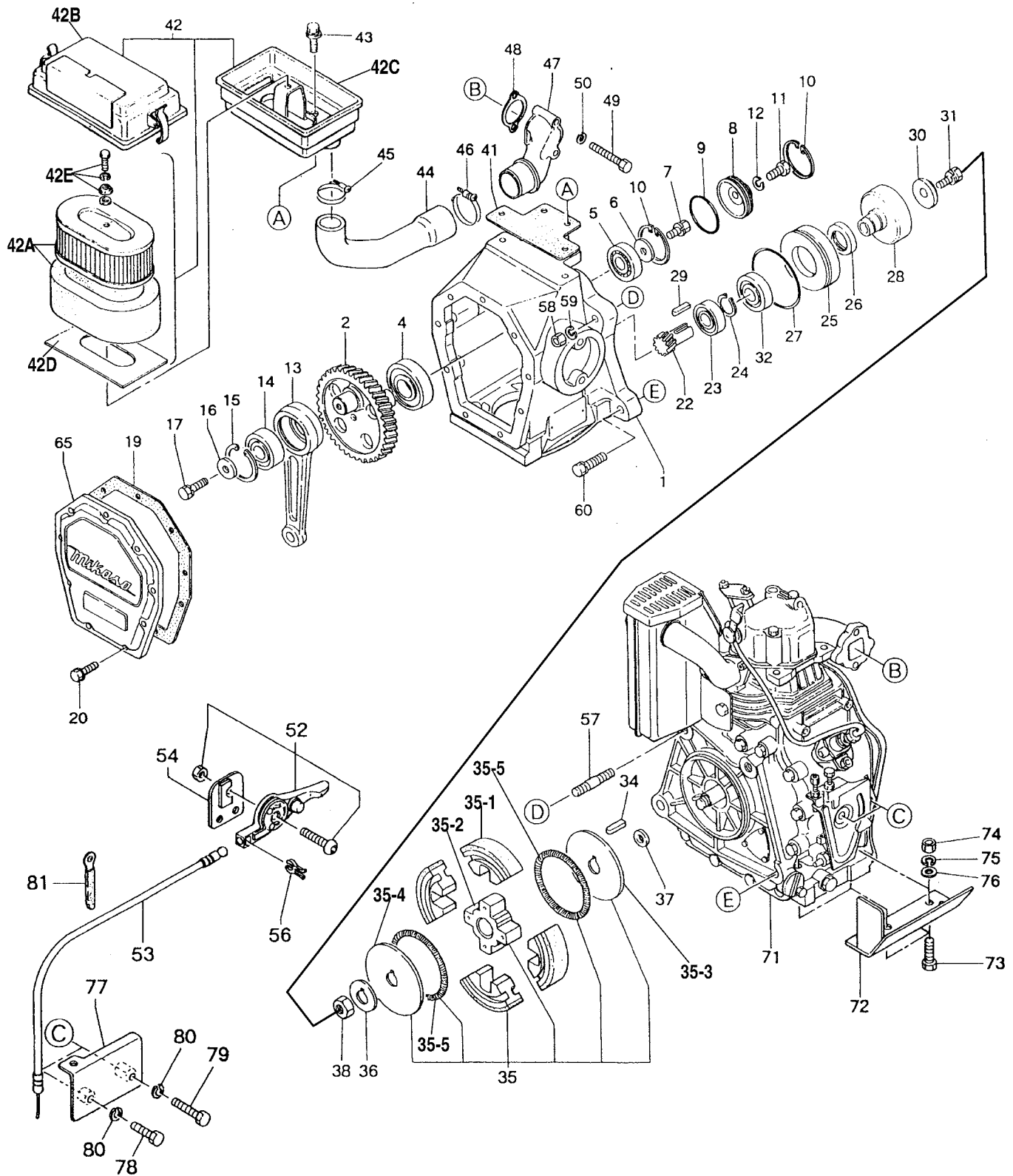
CRANKCASE AND ENGINE ASSY



CRANKCASE AND ENGINE ASSY

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	371113330	CRANKCASE	1	
2	371334400	CRANK GEAR	1	
4	040006207	BEARING 6207	1	
5	040006204	BEARING 6204	1	
6	952400130	WASHER	1	
7	011708025	BOLT 8X25H.....	1	REPLACES P/N 002210825
8	371447650	BEARING COVER	1	
9	050300480	O-RING	1	
10	080100480	STOP RING	2	
11	001210610	BOLT 6X10	1	
12	030206150	WASHER	1	
13	371334730	CONNECTING ROD	1	
14	040006304	BEARING 6304	1	
15	080100520	STOP RING	1	
16	952400130	WASHER	1	
17	011708025	BOLT 8X25.....	1	REPLACES P/N 002210825
19	352444450	PACKING, FRONT COVER	1	
20	011706020	BOLT 6X20.....	9	REPLACES P/N 002210620
22	371447620	PINION	1	
23	040006204	BEARING 6204	1	
24	080200350	STOP RING	1	
25	371449600	SPACER.....	1	REPLACES P/N 371335280
26	060404010	OIL SEAL	1	
27	050101000	O-RING	1	
28	371447640	CLUTCH DRUM	1	
29	952405610	KEY 5X5X19R	1	
30	952405490	LOCK WASHER	1	
31	002210820	BOLT 8X20	1	
32	041006007	BEARING 6007Z	1	
34	22512040120	KEY 4X12	1	
35	371447630	CLUTCH ASSY.	1	INCLUDES ITEMS W/#
35-1#	943020060	CLUTCH SHOE (4)	1	
35-2#	943950120	CLUTCH BOSS	1	
35-3#	943060070	CLUTCH GUIDE (A)	1	
35-4#	943060080	CLUTCH GUIDE (B)	1	
35-5#	943030060	CLUTCH SPRING.....	2	REPLACES P/N 943030090
36	301010210	LOCK WASHER, CLUTCH	1	

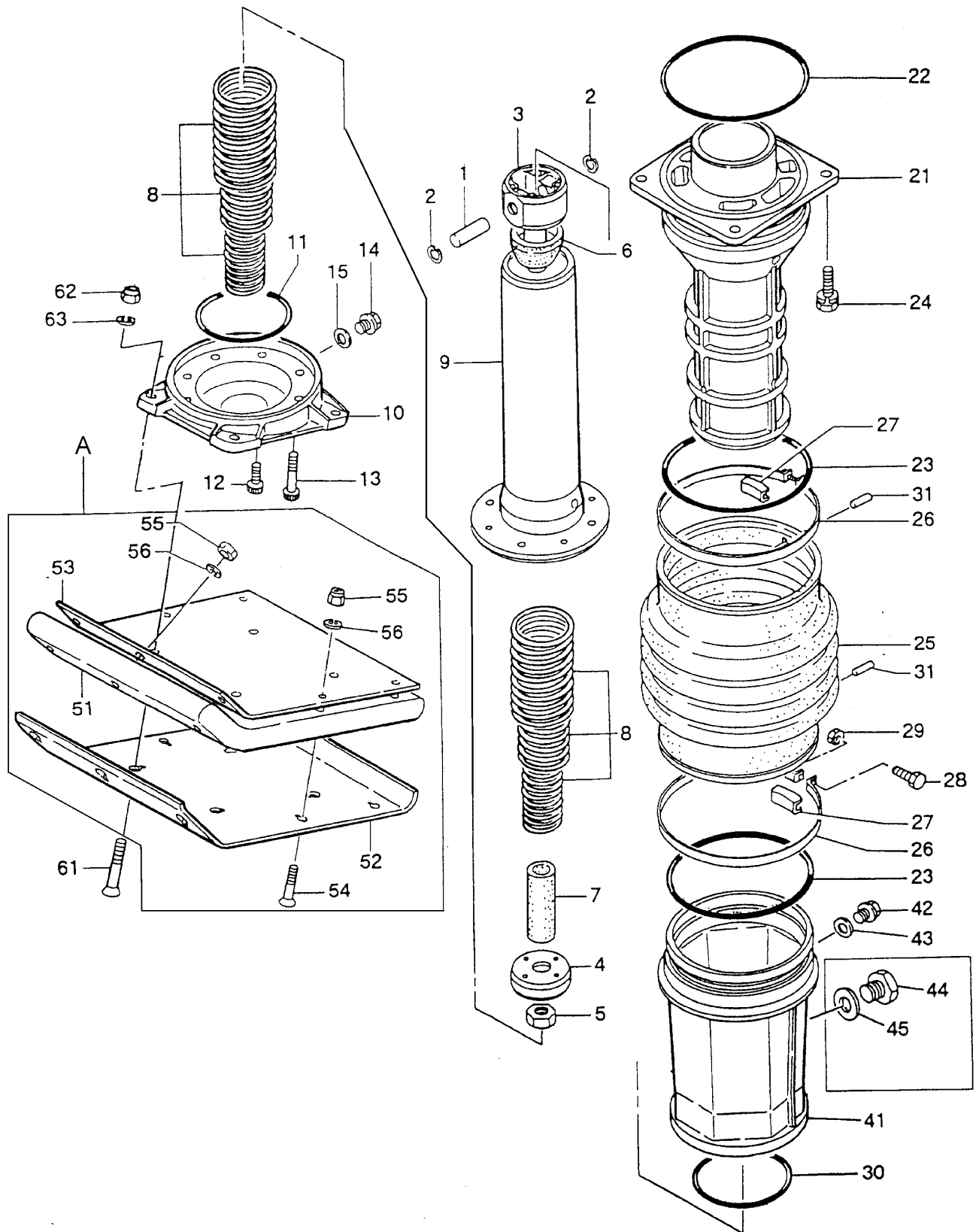
CRANKCASE AND ENGINE ASSY.



CRANKCASE AND ENGINE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
37	371448260	SPACER 15X24X4	1	
38	022910170	NUT M12	1	
41	371448220	PACKING, AIR CLEANER	1	
42	371213390	AIR CLEANER ASSY.....	1	INCLUDES ITEMS W/%
42A%	371010060	ELEMENT ASSY.	1	
42B%	371010030	BODY ASSY.	1	
42C%	371010040	BACK PLATE	1	
42D%	371010050	SEAT, AIR CLEANER	1	
42E%	371010070	BOLT ASSY.	1	
43	002210820	BOLT 8X20	4	
44	371335110	INTAKE PIPE	1	
45	371000010	HOSE BAND	1	
46	371000020	HOSE BAND	1	
47	371335270	INTAKE FLANGE	1	
48	11428412200	GASKET, AIR INTAKE	1	
49	001200652	BOLT 6X60	2	
50	030206150	WASHER, LOCK M6	2	
52	956200040	THROTTLE LEVER ASSY	1	
53	956108040	THROTTLE WIRE	1	
54	371448000	LEVER STAY	1	
56	371448300	CLIP	1	
57	26226100402	STUD M10X20	2	
58	020310080	NUT M10	2	
59	030210250	WASHER, LOCK M10	2	
60	002211050	BOLT 10X50	2	
65	371010020	FRONT COVER	1	
71	914410003	ENGINE ASSY., L40 ADRM	1	
72	371335100	UNDER PROTECTOR	1	
73	001211040	BOLT 10X40 H	2	
74	020310080	NUT M10	2	
75	030210250	WASHER, LOCK M10	2	
76	031110160	WASHER, FLAT M10	1	
77	371448020	LINK PROTECTOR	1	
78	001200630	BOLT 6X30	1	
79	001200635	BOLT 6X35	1	
80	030206150	WASHER, LOCK M6	2	
81	16026078700	CLAMP WIRE	2	

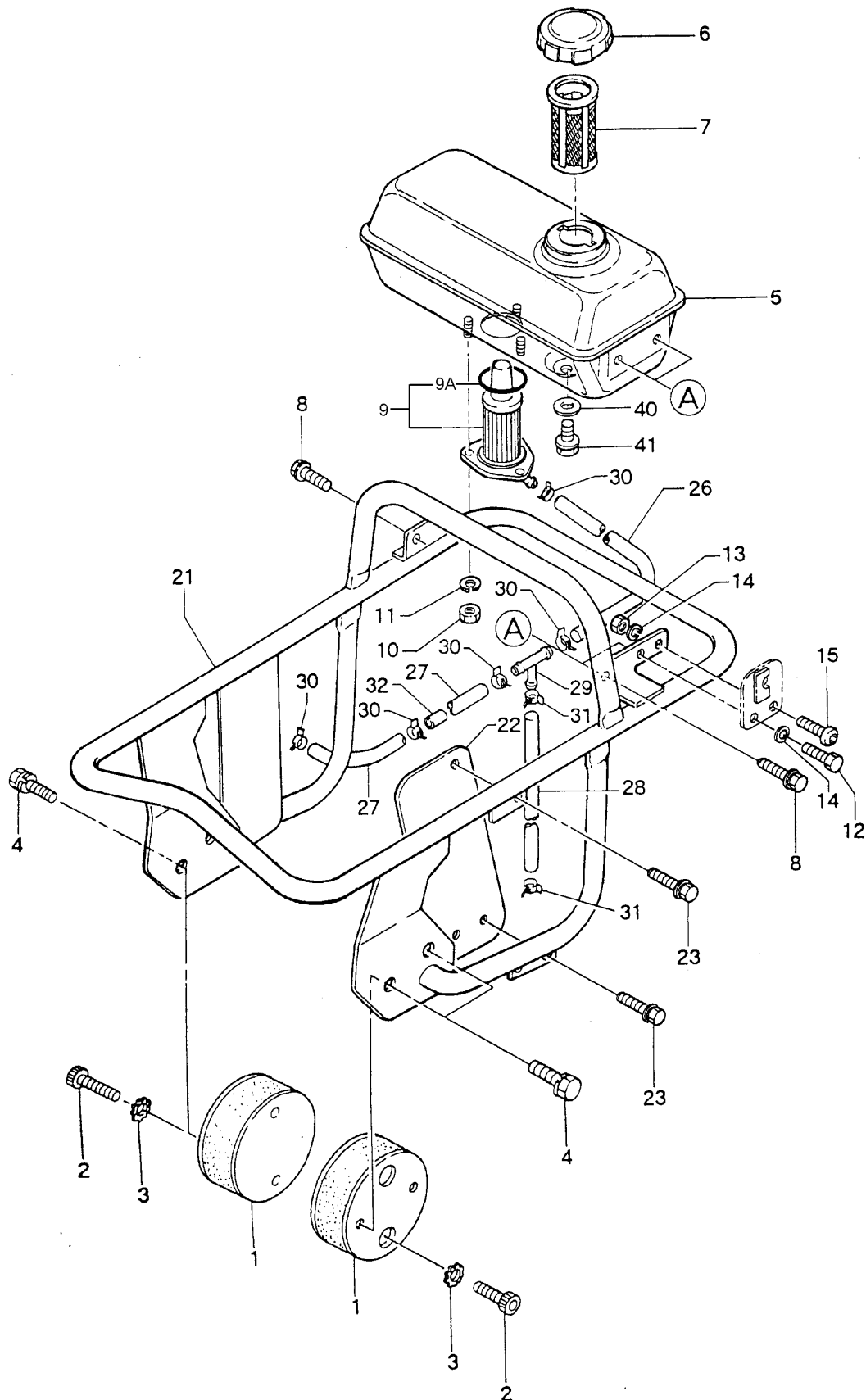
GUIDE CYLINDER ASSY



GUIDE CYLINDER ASSY

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	352423290	PISTON PIN	1	
2	080100150	STOP RING	2	
3	355334300	PISTON ROD	1	
4	355447240	PISTON END	1	
5	020316130	NUT M16.....	1	REPLACES P/N 020116130
6	355447250	STOPPER, UPPER	1	
7	355447260	STOPPER, LOWER	1	
8	371335250	MAIN SPRING	2	
9	355334310	SPRING CYLINDER	1	
10	355213000	FOOT PLATE	1	
11	050100900	O-RING	1	
12	014210020	SOCKET HEAD BOLT 10X20.....	4	REPLACES P/N 001521020
13	014210040	SOCKET HEAD BOLT 10X40.....	4	REPLACES P/N 001521040
14	953405270	PLUG 1/4X14 13L	1	
15	953405260	PACKING 1/4"	1	
21	355213010	GUIDE CYLINDER	1	
22	050201500	O-RING	1	
23	050931500	O-RING	2	
24	012710035	BOLT 10X35.....	4	REPLACES P/N 002211035
25	354332780	BELLOWS, ORANGE	1	
26	354329380	BELLOWS CLAMP	2	
27	354442340	BAND GUIDE, BELLOWS	2	
28	001210840	BOLT 8X40	2	
29	020108060	NUT M8.....	2	REPLACES P/N 020308060
30	050100950	O-RING	1	
31	354446170	PIN 6D-8.5L	2	
41	355113130	PROTECTION SLEEVE	1	
42	953405270	PLUG 1/4X14 13L	1	
43	953405260	PACKING 1/4"	1	
44	959010150	LEVEL GAUGE, PLUG TYPE	1	
45	953404670	COPPER PACKING 17X25.5X1	1	
A		FOOT ASSY.....	1	INCLUDES ITEMS W/# CONTACT UNIT SALES DEPT./ACCESSORY ITEM
51#	352108220	FOOT	1	
52#	352108230	METAL SHEET	1	
53#	352333380	FOOT COVER	1	
54#	015110055	SUNK HEAD BOLT 10X55.....	7	REPLACES P/N 001611051
55#	021110120	NYLON NUT M10	7	REPLACES P/N 002711012
56#	030210250	WASHER, LOCK M10	7	
61	015112060	SUNK HEAD BOLT 12X65.....	4	REPLACES P/N 001611253
62	021112140	NYLON NUT M12	4	REPLACES P/N 022711214
63	030212300	WASHER, LOCK M12	4	

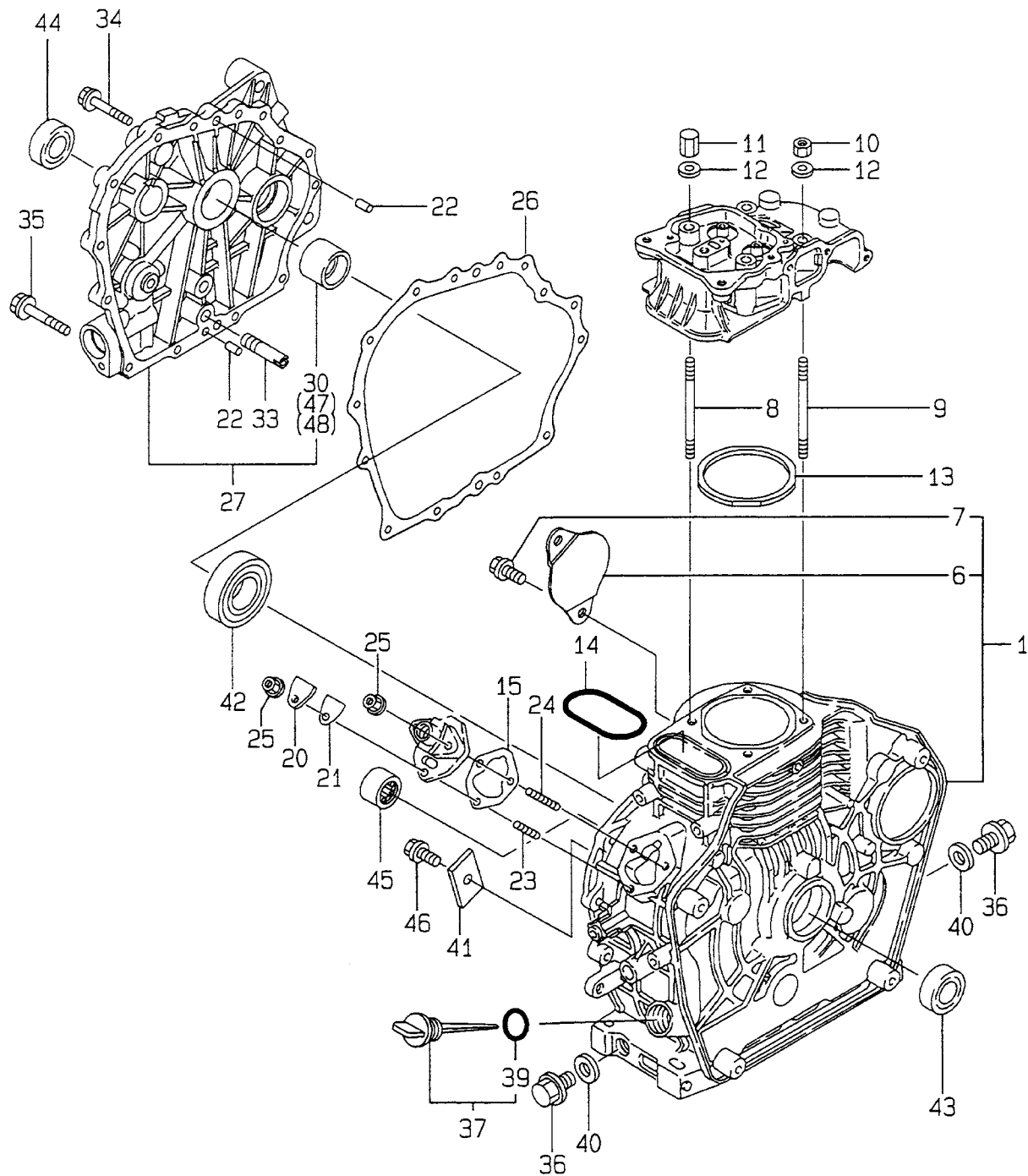
FUEL TANK AND HANDLE ASSY



FUEL TANK AND HANDLE ASSY

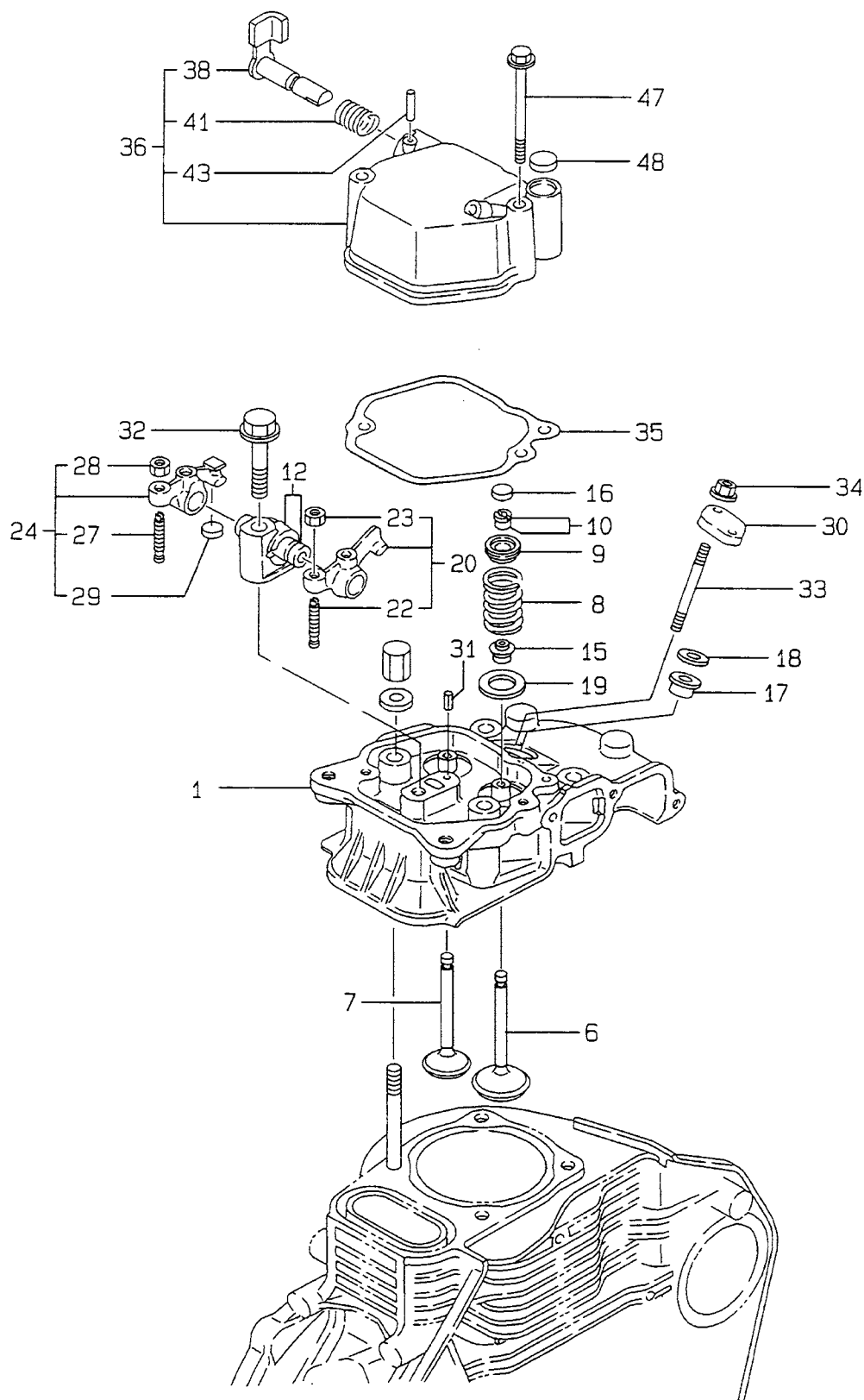
<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	351319900	SHOCK ABSORBER	2	
2	014210020	SOCKET HEAD BOLT 10X20.....	4.....	REPLACES P/N 001521020
3	033121009	TOOTHED LOCK WASHER	4	
4	012210020	BOLT 10X20.....	4.....	REPLACES P/N 002211020
5	371113650	FUEL TANK	1	
6	0430430015	FUEL TANK CAP	1.....	REPLACES P/N 953404650
7	954405080	STRAINER	1	
8	011808015	BOLT 8X15.....	3.....	REPLACES P/N 002410815
9	18325455120	STRAINER ASSY, FUEL	1.....	INCLUDES ITEM W/#
9A#	24341000450	O-RING	1	
10	020106050	NUT M6.....	3.....	REPLACES P/N 020306050
11	030206150	WASHER, LOCK	3	
12	001210815	BOLT 8X15H	1	
13	020108060	NUT M8.....	1.....	REPLACES P/N 020308060
14	030208200	WASHER, LOCK M8	2	
15	009110011	SOCKET HEAD SCREW 8X20	1	
21	371113560	HANDLE	1	
22	371448010	SIDE PROTECTOR	1	
23	011808015	BOLT 8X15.....	3.....	REPLACES P/N 002410815
26	18366659330	PIPE, FUEL DRAIN	1	
27	18325059050	PIPE, FUEL OIL	1	
28	11435459070	PIPE, FUEL RETURN	1	
29	11428459710	JOINT	1	
30	10699044660	CLAMP	5	
31	12472259050	CLAMP	2	
32	18325059040	PIECE	1	
40	953405810	PACKING 1/8"	1	
41	953405800	FLANGE PLUG 1/8"	1	

YANMAR L40ADRM ENGINE — CYLINDER BLOCK ASSY.



YANMAR L40ADRM ENGINE — CYLINDER BLOCK ASSY.

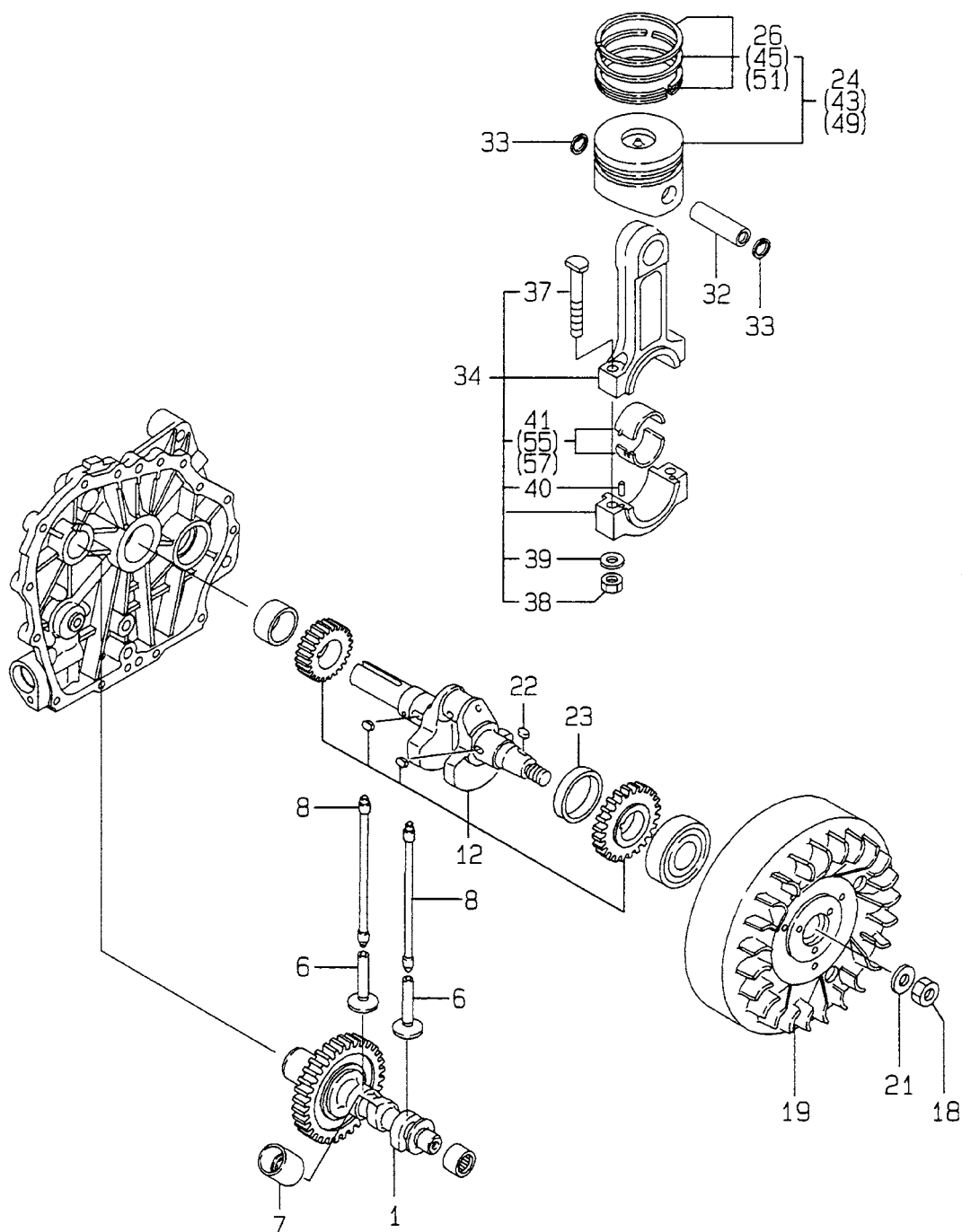
NO.	PART NO.	PART NAME	QTY.	REMARKS
1	71427001560	BLOCK ASSY., CYLINDER	1.....	INCLUDES ITEMS W/@
6@	11435001700	COVER, STARTER	1	
7@	26106100122	BOLT M10X 12	2	
8	11425001200	STUD, CYLINDER HEAD	2	
9	11425001210	STUD, CYLINDER HEAD	2	
10	11425001220	NUT M8	2	
11	11425001250	NUT M8	2	
12	12495001250	WASHER	4	
13	11425001340	GASKET, CYLINDER HEAD	1	
14	11425001380	O-RING	1	
15	11425001800	SHIM SET	1	
20	11425001830	COVER, INSPECTION WINDOW	1	
21	11425001841	GASKET	1	
22#	11427001600	PARALLEL PIN 8X12	2	
23	26226060182	STUD M 6X18	1	
24	26226060222	STUD M 6X22	2	
25	26366030002	NUT M6	3	
26	11425001412	GASKET, CRANKCASE	1	
27	11428401451	COVER ASSY., CASE	1.....	INCLUDES ITEMS W/#
30#	11425002100	BEARING, MAIN	1	
33	11425035150	PIPE, L.O. INLET	1	
34	26106060252	BOLT M6X25	14	
35	26106080352	BOLT M8X35	1	
36	10542501690	PLUG M16	2	
37	16071001760	CAP, W/LUB. OIL GAUGE.....	1.....	INCLUDES ITEM W/%
39%	24311000180	O-RING	1	
40	22190160002	SEAL WASHER	2	
41	11425002030	RETAINER, BEARING	1	
42	11425002113	BALL BEARING	1	
43	24421304508	SEAL, OIL	1.....	REPLACES P/N 16011002220
44	16021002220	SEAL, OIL	1	
45	24162152112	NEEDLE BEARING	1	
46	26106080122	BOLT M8X12 PLATED	1	
47	11425002200	MAIN BEARING US=0.25 O/S	1	
48	11425002210	MAIN BEARING US=0.50 O/S	1	



YANMAR L40ADRM ENG. — CYL. HD AND BONNET ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11477011020	HEAD ASSY., CYLINDER	1	
6	11425011101	VALVE, SUCTION	1	
7	11425011113	VALVE, EXHAUST	1	
8	11425011120	SPRING, VALVE	2	
9	11425011180	RETAINER, SPRING	2	
10	71425011570	COTTER ASSY.	2	
12	11425011290	SUPPORT, ROCKER ARM	1	
15	11425011340	SEAL, VALVE STEM	2	
16	11926011370	CAP, VALVE	1	
17	11425011460	GASKET, NOZZLE	1	
18	11435011470	SPACER, NOZZLE	1	
19	11425011600	WASHER	2	
20	11425011651	ARM ASSY., INTAKE	1	INCLUDES ITEMS W/@
22@	11425011240	SCREW, VALVE ADJUST.	1	
23@	26756060002	LOCK NUT M6	1	
24	71427011660	ARM ASSY, EXHAUST	1	INCLUDES ITEMS W/#
27#	11425011240	SCREW, VALVE ADJUST.	1	
28#	26756060002	LOCK NUT M6	1	
29#	11926011370	CAP, VALVE	1	
30	11425011900	RETAINER, NOZZLE	1	
31	22351040008	SPRING PIN 4X8	1	
32	26106080452	BOLT M8X45	1	
33	26226060502	STUD M6X50	2	
34	26366060002	NUT M6	2	
35	11425011311	GASKET, BONNET	1	
36	11428811960	BONNET ASSY.....	1	INCLUDES ITEMS W/%
38%	11428803580	SHAFT ASSY., DECOMPRESSION	1	
41%	11428803640	SPRING	1	
43%	22312030160	PARALLEL PIN 3X16	1	
47	26106060552	BOLT M6X55	2	
48	12910061850	PLUG 12", BORE	1	

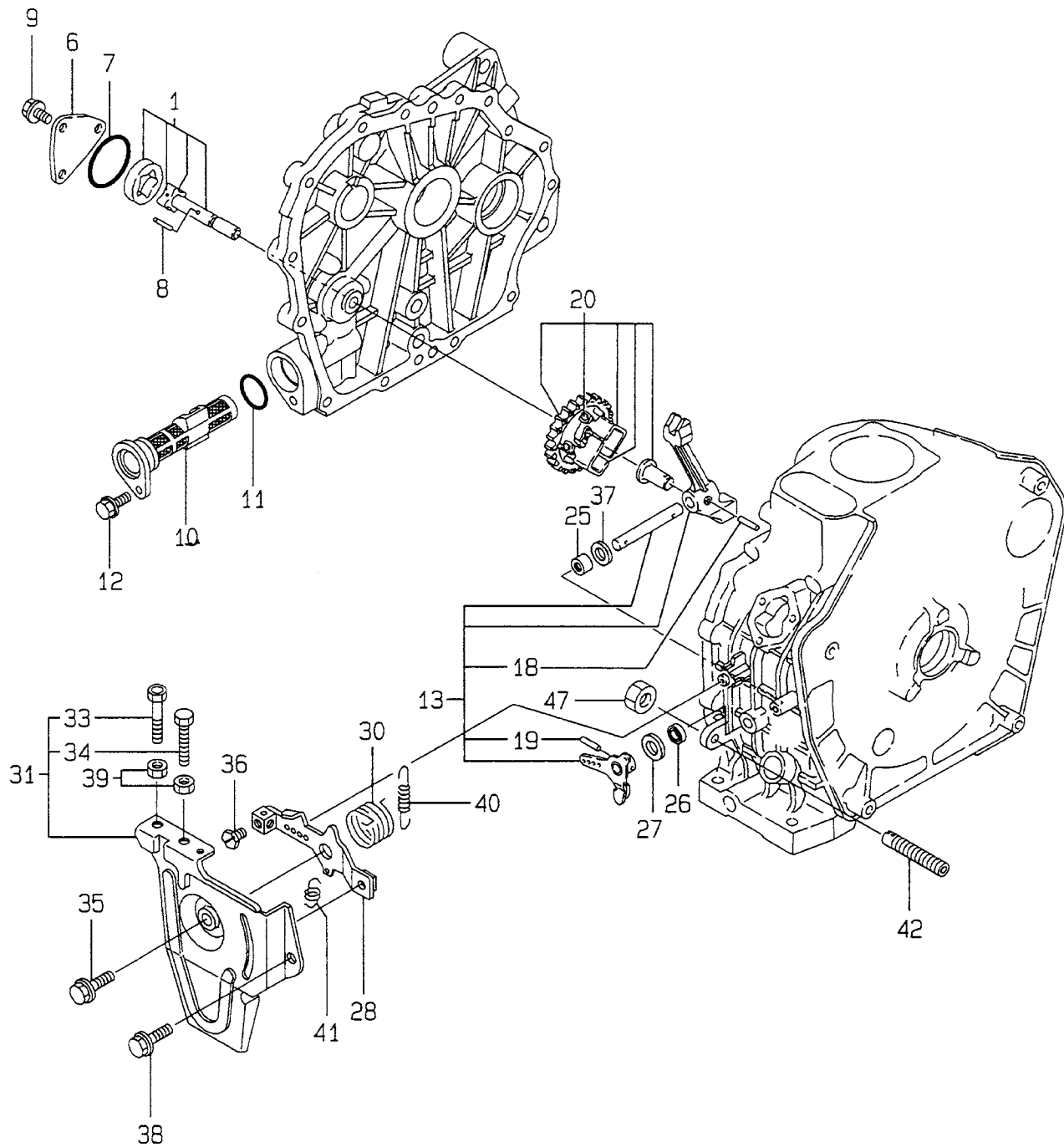
YANMAR L40ADRM ENG. — CRANKSHAFT, PIS., CAM. ASSY.



YANMAR L40ADRM ENG. — CRANKSHAFT, PIS., CAM. ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	71478014580	CAMSHAFT ASSY.	1	
6	11425014200	TAPPET	2	
7	11425014260	TAPPET, FUEL	1	
8	11425014450	ROD, PUSH	2	
12	71428421710	CRANKSHAFT ASSY.....	1.....	INCLUDES ITEM W/%
18	10385401221	NUT M16	1	
19	11428821401	FLYWHEEL	1	
21	11425021550	WASHER, FLYWHEEL	1	
22%	22512040120	KEY 4X12	1	
23%	18325021350	SPACER	1	
24	71428022720	PISTON W/RINGS	1.....	INCLUDES ITEM W/#
26#	71425022502	RING SET, PISTON	1	
32	11425022302	PIN, PISTON D=19	1	
33	22252000190	CIRCLIP	2	
34	71425023703	ROD ASSY, CONNECTING.....	1.....	INCLUDES ITEMS W/@
37@	11425023200	BOLT, ROD	2	
38@	11425023220	NUT, ROD BOLT	2	
39@	11425023250	WASHER	2	
40@	22312030080	BARREL PIN 3X8	2	
41@	71425023600	BEARING, CRANKPIN	1	
43	71428022620	PISTON W/RING OS=.25	1	
45	71425022542	RING SET O.S=0.25	1	
49	71428022580	PISTON W/RING OS=0.50	1	
51%	71425022550	RING SET O.S=0.50	1	
55	71425023610	BEARING, PIN (U.S=0.25)	1	
57	71425023620	BEARING, PIN (U.S=0.50)	1	

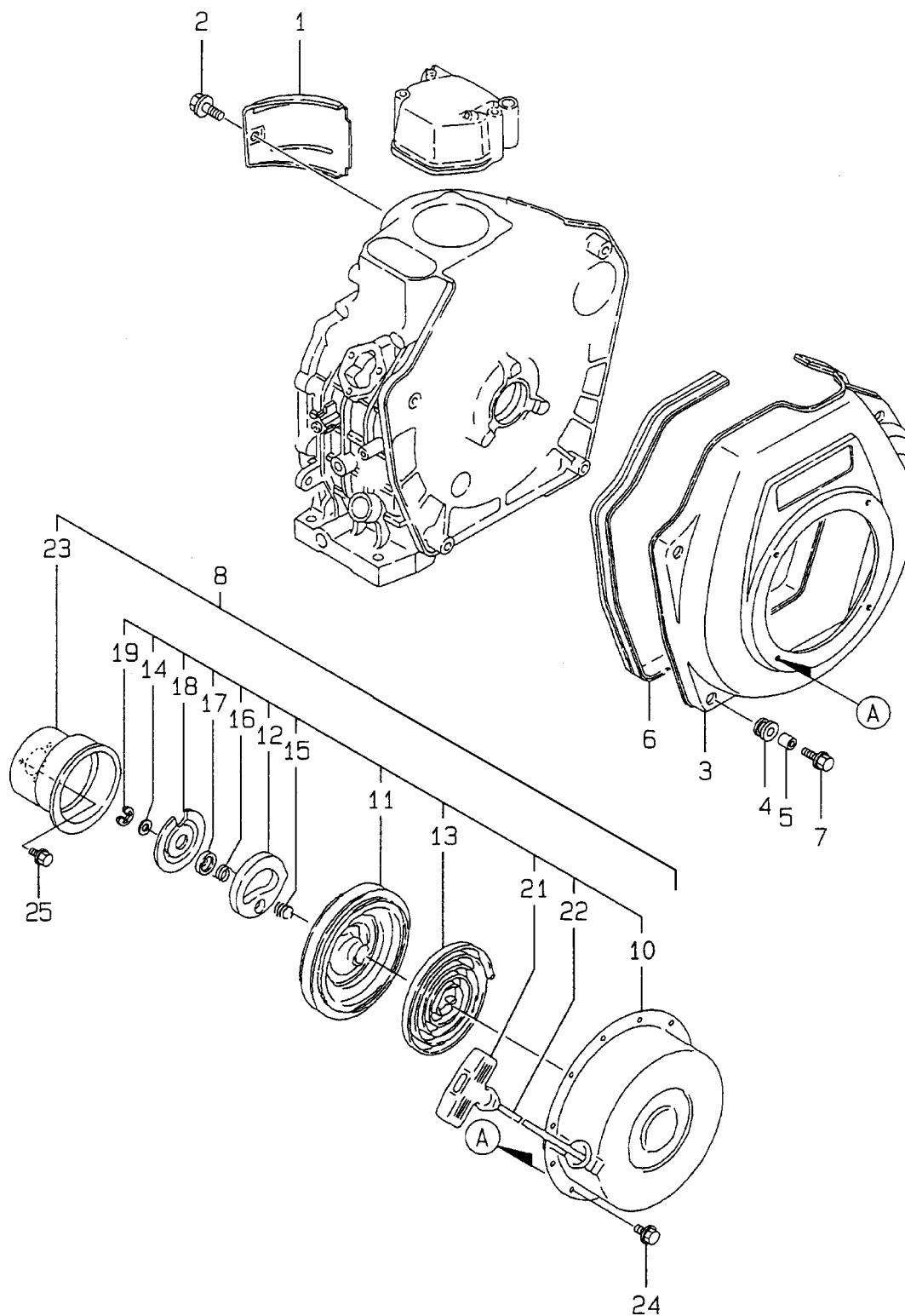
YANMAR L40ADRM ENGINE — LUB. OIL PUMP/GOV. ASSY.



YANMAR L40ADRM ENGINE — LUB. OIL PUMP/GOV. ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11425032010	PUMP ASSY, LUBRICATION OIL	1	
6	11425032070	COVER, LUB. OIL PUMP	1	
7	10333832570	O-RING	1	
8	22312030160	BARREL PIN 3X16	1	
9	26476060142	BOLT M6X14, TAPPING	3	
10	11425035070	STRAINER, LUB. OIL	1	
11#	24341000224	O-RING	1	
12	26106060162	BOLT M6X16	1	
13	71425061500	LEVER ASSY, GOVERNOR	1	INCLUDES ALL ITEMS W/#
18#	22322030200	TAPER PIN 3X20	1	
19#	22322030200	TAPER PIN 3X20	1	
20	71477061700	GOVERNOR ASSY.	1	
25	11427061520	NEEDLE BEARING	2	
26	11477061600	SEAL, OIL	1	
27	11477061610	WASHER, THRUST	1	
28	11425066050	HANDLE, REGULATOR	1	
30	11425266252	SPRING, RETURN	1	
31	11426866500	BRACKET ASSY., REGULATOR	1	INCLUDES ALL ITEMS W/%
33%	11425066440	BOLT, ADJUSTING	1	
34%	10210067080	BOLT ,ADJUSTING	1	
35	26106060202	BOLT M6X20	1	
36	26117040088	BOLT	1	
37	11477061190	WASHER	1	
38	26476060142	BOLT M6X14, TAPPING	1	
39	26757060002	NUT M6	2	
40	11477066010	SPRING, REGULATOR	1	
41	11425066200	SPRING, RETURN	1	
42	11425066550	TORQUE SPRING ASSY.	1	
47	26696100002	NUT M10	1	

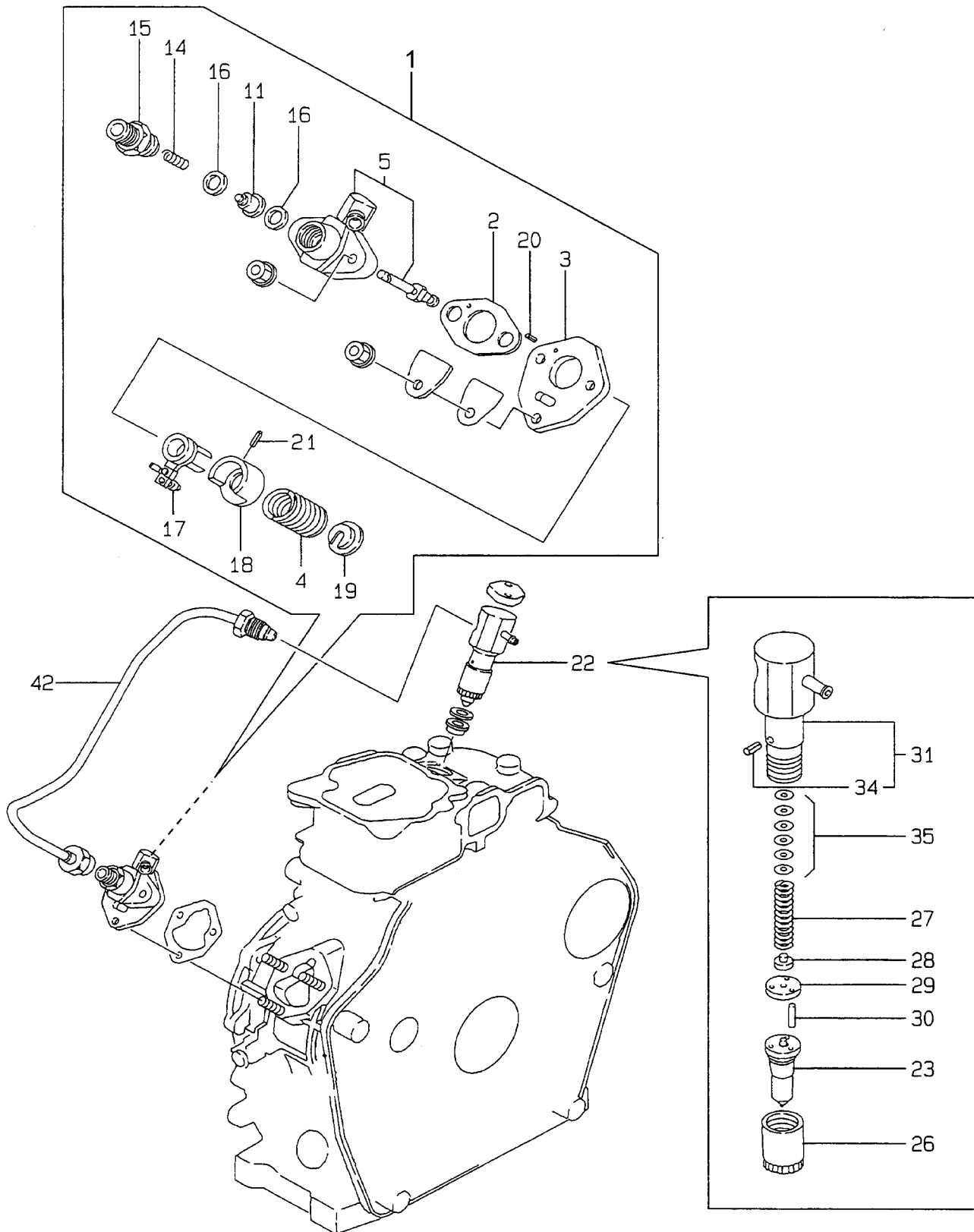
YANMAR L40ADRM ENGINE — COOLING/STARTING ASSY.



YANMAR L40ADRM ENGINE — COOLING/STARTING ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11425045211	COVER, CYLINDER	1	
2	26476060142	BOLT M6X14, TAPPING	1	
3	11427445100	CASE, COOLING FAN	1	
4	11425045301	RUBBER, CUSHION	4	
5	11425045310	COLLAR	4	
6	11465045330	SEAL, FAN CASE	1	REPLACES P/N 11425045330
7	11437045350	BOLT, FAN CASE	4	
8	71426076821	RECOIL STARTER ASSY.	1	INCLUDES ITEMS W/#
10#	11426076520	CASE (NO LABEL)	1	
11#	16026076520	REEL, RECOIL	1	
12#	16026076530	RATCHET	1	
13#	16026076540	SPRING, SPIRAL	1	
14#	16026076550	WASHER, THRUST	1	
15#	16026076560	SPRING, FRICTION	1	
16#	16029076570	SPRING, RETURN	1	
17#	16026076580	COVER, SPRING	1	
18#	16026076590	PLATE, FRICTION	1	
19#	16026076600	CIRCLIP	1	
21#	16026076620	KNOB, STARTER	1	
22#	16026076630	ROPE, STARTER	1	
23#	11425076590	PULLEY, STARTER	1	
24	26106060082	BOLT M6X8 PLATED	4	
25	26106060122	BOLT M6X12 PLATED	3	

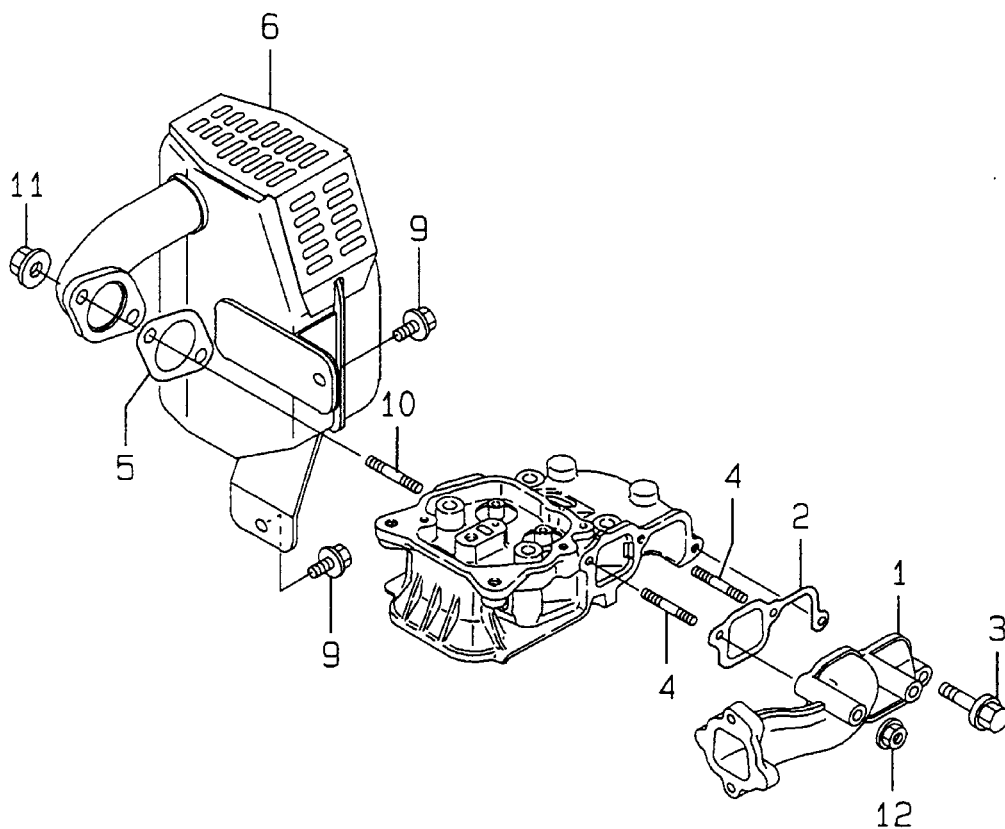
YANMAR L40ADRM ENG. — FUEL INJECTION PUMP ASSY.



YANMAR L40ADRM ENG. — FUEL INJECTION PUMP ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	71425051710	PUMP ASSY., FUEL INJECTION	1.....	INCLUDES ITEMS W/#
2#	10554651020	GASKET	1	
3#	11425051080	PLATE	1	
4#	11425051160	SPRING	1	
5#	11425051200	BODY, PUMP	1	
11#	11425051300	VALVE ASSY., DELIVERY	1	
14#	10554651330	SPRING, DELIVERY VALVE	1	
15#	11425051340	HOLDER, DELIVERY	1	
16#	12455051350	GASKET, DELIVERY	2	
17#	11425051600	LEVER ASSY., CONTROL	1	
18#	11425051640	SEAT (A), SPRING	1	
19#	11425051650	SEAT (B), SPRING	1	
20#	22351020006	SPRING PIN 2X6	2	
21#	22351030008	SPRING PIN 3X8	1	
22	71425053101	VALVE ASSY, FUEL INJECTION.....	1.....	INCLUDES ITEMS W/%
23%	11425053001	NOZZLE ASSY., FUEL INJECTION	1	
26%	11425053080	NUT, NOZZLE CASE	1	
27%	11425053120	SPRING, NOZZLE	1	
28%	11425053130	SEAT, NOZZLE SPRING	1	
29%	11425053140	PLATE, STOP	1	
30%	11425053210	PIN	2	
31%	11425053300	HOLDER ASSY., NOZZLE.....	1.....	INCLUDES ITEM W/@
34%@	11425053331	PIN, SPRING	1	
35%	11425053400	SHIM PACK	1	
42	11425059800	PIPE, FUEL INJECTION	1	

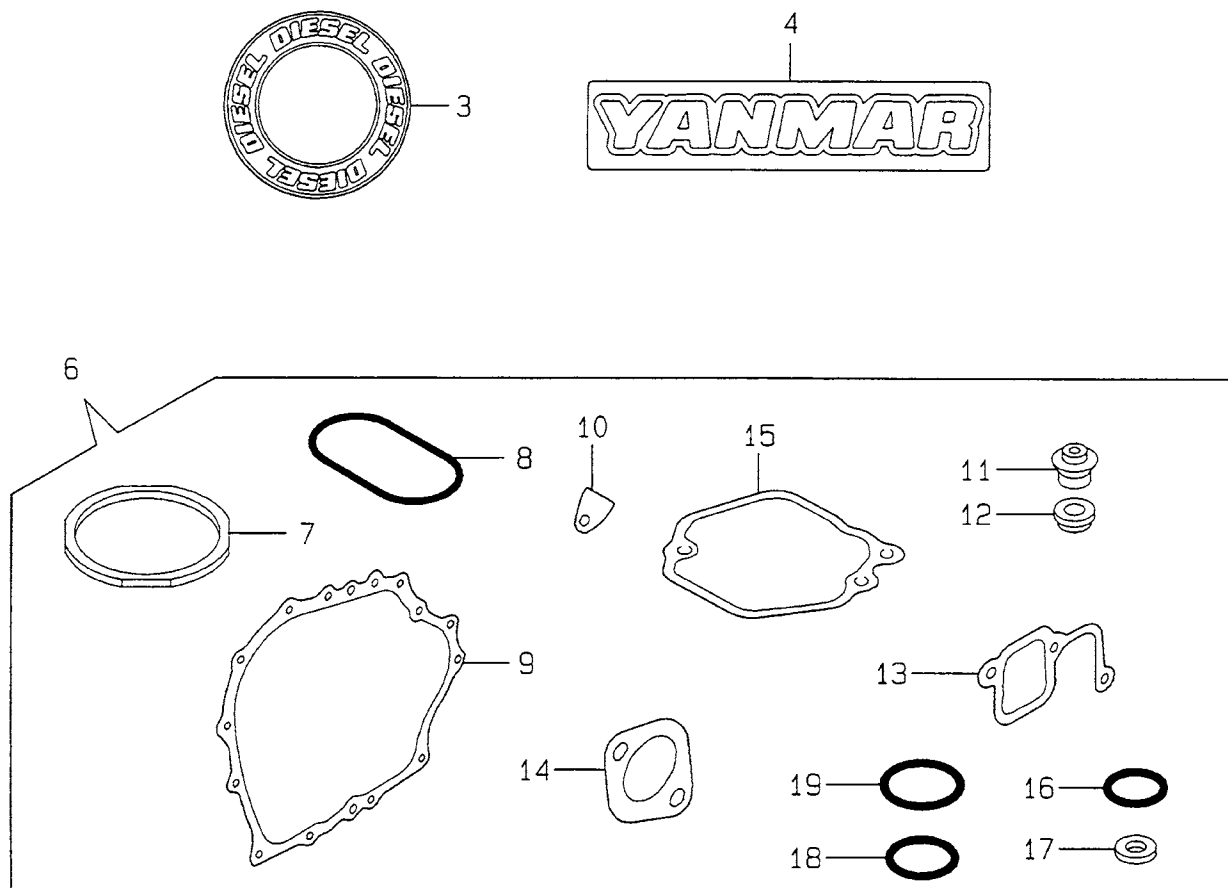
YANMAR L40ADRM ENG. — AIR CLEANER/MUFFLER ASSY.



YANMAR L40ADRM ENG. — AIR CLEANER/MUFFLER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	11428412010	PIPE, AIR INTAKE	1	
2	11425012201	GASKET, AIR INTAKE	1	
3	26106060252	BOLT M6X25	1	
4	26226060552	STUD M6X55	2	
5	11425013201	GASKET	1	
6	11428413500	MUFFLER ASSY.	1	
9	26106060122	BOLT M6X12	2	
10	26216080182	STUD M8X18	2	
11	26366080002	NUT M8	2	
12	26366060002	NUT M6	2	

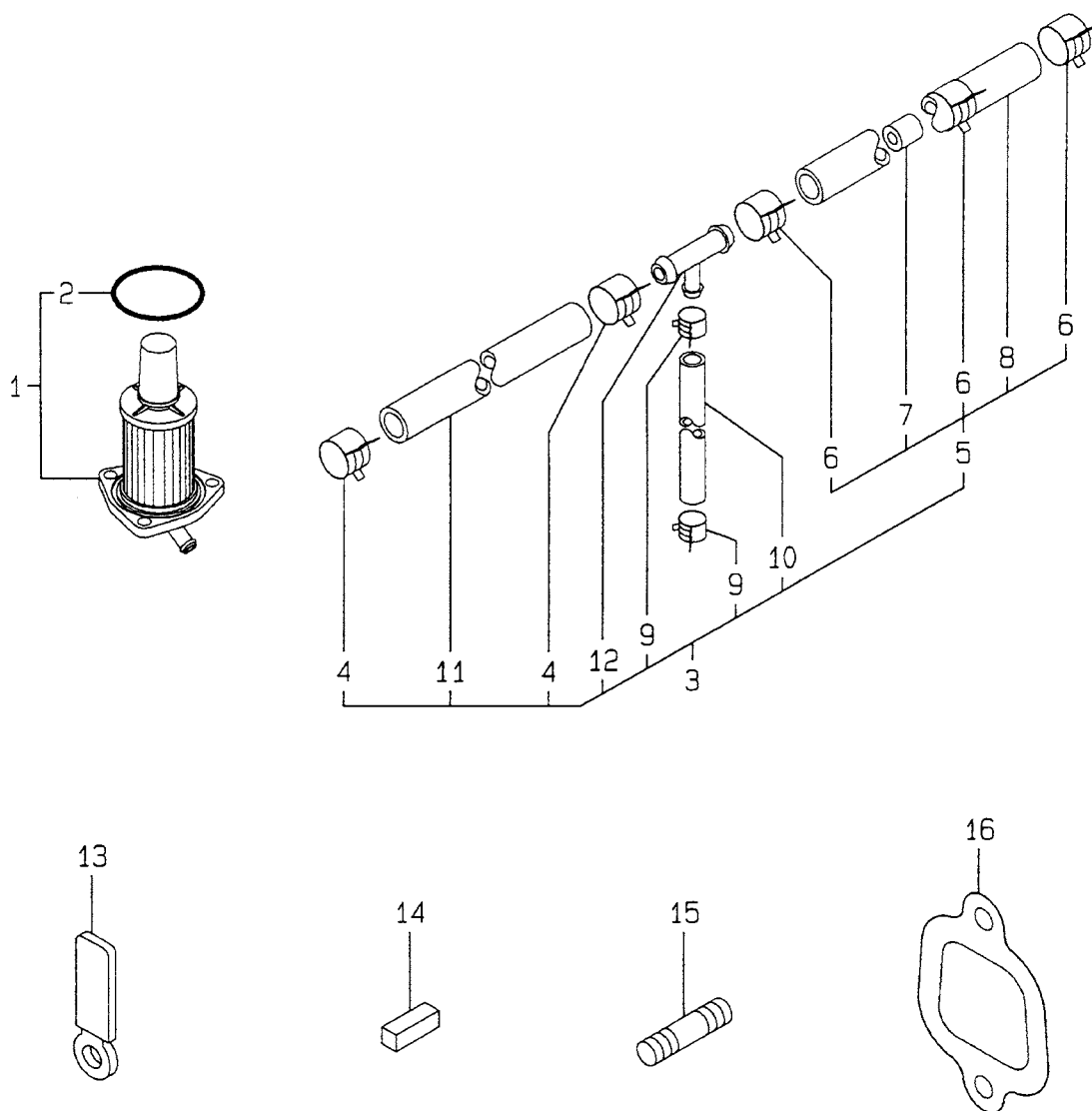
YANMAR L40ADRM ENGINE — LABEL AND GASKET ASSY.



YANMAR L40ADRM ENGINE — LABEL AND GASKET ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
3	11426107350	LABEL	1	
4	11425007111	LABEL, YANMAR	1	
6	71425092602	GASKET SET	1	INCLUDES ITEMS W/#
7#	11425001340	GASKET, CYLINDER HEAD	1	
8#	11425001380	O-RING	1	
9#	11425001412	GASKET, CRANKCASE	1	
10#	11425001841	GASKET	1	
11#	11425011340	SEAL, VALVE STEM	2	
12#	11425011460	GASKET, NOZZLE	1	
13#	11425012201	GASKET, AIR INTAKE	1	
14#	11425013201	GASKET	1	
15#	11425011311	GASKET, BONNET	1	
16#	24311000180	O-RING	2	
17#	22190160002	SEAL WASHER	2	
18#	24341000224	O-RING	1	
19#	10333832570	O-RING	1	

YANMAR L40ADRM ENGINE — LOOSE PARTS ASSY.



YANMAR L40ADRM ENGINE — LOOSE PARTS ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	18325455120	STRAINER ASSY., FUEL	1.....	INCLUDES ITEM W/%
2%	24341000450	O-RING	1	
3	11428459100	PIPE ASSY, FUEL OIL.....	1.....	INCLUDES ITEMS W/#
4#	10699044660	BAND, HOSE	2	
5#	18325059010	PIPE ASSY, FUEL OIL.....	1.....	INCLUDES ITEMS W/@
6#@	1069904460	BAND, HOSE	3	
7#@	18325059040	PIECE	1	
8#@	18325059050	PIPE, FUEL OIL	1	
9#	12472259050	CLAMP	2	
10#	11465459070	PIPE, FUEL RETURN	1	
11#	18366659330	PIPE, FUEL DRAIN	1	
12#	11428459710	JOINT	1	
13	16071078710	CLAMP, WIRE	1	
14	22512040120	KEY 4X12	1	
15	26226100402	STUD M10X20 PLATED	2	
16	11428412200	GASKET, AIR INTAKE	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.
Carson, CA 90746
Contact: mq@multiquip.com

Tel. (800) 421-1244
Fax (310) 537-3927

Service Department

800-421-1244
310-537-3700

Fax: 310-537-4259

Technical Assistance

800-478-1244

Fax: 310-943-2238

MQ Parts Department

800-427-1244
310-537-3700

Fax: 800-672-7877
Fax: 310-637-3284

Warranty Department

800-421-1244
310-537-3700

Fax: 310-943-2249

CANADA

Multiquip

4110 Industriel Boul.
Laval, Quebec, Canada H7L 6V3
Contact: infocanda@multiquip.com

Tel: (450) 625-2244
Tel: (877) 963-4411
Fax: (450) 625-8664

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