

PARTS AND OPERATION MANUAL



Mikasa

Tamping Rammer Model MT-60HS

© COPYRIGHT 2001, MULTIQUIP INC.

Revision #7 (03/02/01)



MULTIQUIP INC.

18910 WILMINGTON AVE.
CARSON, CALIFORNIA 90746
310-537-3700
800-421-1244
FAX: 310-537-3927

E-mail: mq@multiquip.com • **www:** multiquip.com

PARTS DEPARTMENT:

800-427-1244
FAX: 800-672-7877

SERVICE DEPARTMENT/TECHNICAL ASSISTANCE:

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

Atlanta • Boise • Dallas • Houston • Newark
Montreal, Canada • Manchester, UK
Rio De Janeiro, Brazil • Guadalajara, Mexico



WARNING



CALIFORNIA — Proposition 65 Warning

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

HERE'S HOW TO GET HELP

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

PARTS DEPARTMENT

800-427-1244 or 310-537-3700

FAX: 800-672-7877 or 310-637-3284

SERVICE DEPARTMENT/TECHNICAL ASSISTANCE

800-478-1244 or 310-537-3700

FAX: 310- 537-4259

WARRANTY DEPARTMENT

888-661-4279, or 310-661-4279

FAX: 310- 537-1173

MAIN

800-421-1244 or 310-537-3700

FAX: 310-537-3927

TABLE OF CONTENTS

Here's How To Get Help	3
Table Of Contents	4
Parts Ordering Procedures	5
Rules For safe Operation	6-7
Operation and Safety Decals	8
General Information	9

MT-60HS

Specification	10
Controls and Components	11
Operation	12-14
Maintenance	15-16
Troubleshooting Guide	17-18
Explanation Of Codes In Remarks Column	20
Suggested Spare Parts	21
Name Plate and Decals	22-23
Crankcase and Engine Assembly	24-25
Guide Cylinder and Foot Assembly	26-27
Tank and Handle Assembly	28-31

ROBIN EC-08GH ENGINE

Crankcase and Cylinder Assembly	32-33
Crankshaft and Piston Assembly	34-35
Governor Assembly	36-37
Muffler Assembly	38-39
Carburetor and Oil Pump Assembly	40-41
Recoil Starter and Blower Assembly	42-43
Air Cleaner Assembly	44-45
Carburetor Components Assembly	46-47
Recoil Starter Components Assembly	48-49
Magneto Assembly	50-51

Terms and Condition of Sale — Parts	52
---	----

NOTE

*Specification and part number
are subject to change without
notice.*

PARTS ORDERING PROCEDURES

- Dealer account number
- Dealer name and address
- Shipping address (if different than billing address)
- Return fax number
- Applicable model number
- Quantity, part number and description of each part
- Specify preferred method of shipment:
 - UPS Ground
 - UPS Second Day or Third Day*
 - UPS Next Day*
 - Federal Express Priority One (please provide us with your Federal Express account number)*
 - Airborne Express*
 - Truck or parcel post

**Normally shipped the same day the order is received, if prior to 2PM west coast time.*

Earn Extra Discounts when you order by FAX!

All parts orders which include complete part numbers and are received by fax qualify for the following extra discounts:

<u>Number of line items ordered</u>	<u>Additional Discount</u>
1-9 items	3%
10+ items**	5%

Get special freight allowances when you order 10 or more line items via FAX! **

- UPS Ground Service at no charge for freight
- PS Third Day Service at one-half of actual freight cost

No other allowances on freight shipped by any other carrier.

**Common nuts, bolts and washers (all items under \$1.00 list price) do not count towards the 10+ line items.

DISCOUNTS ARE SUBJECT TO CHANGE

Fax order discount and UPS special programs revised June 1, 1995

**Extra Fax Discount
for Domestic USA
Dealers Only**

**Up to 5%
extra savings!**

**UPS
Special**
For faxed orders only

**Now! Direct TOLL-FREE access
to our Parts Department!**

Toll-free nationwide:

800-421-1244

Toll-free FAX:

800/6-PARTS-7 • 800-672-7877

RULES FOR SAFE OPERATION

CAUTION:



Failure to follow instructions in this manual may lead to serious injury or even death! This equipment is to be operated by trained and qualified personnel only! This equipment is for industrial use only.

The following safety guidelines should always be used when operating the MT-60HS Tamping Rammer:

GENERAL SAFETY

- **DO NOT** operate or service this equipment before reading this entire manual.



- This equipment should not be operated by persons under 18 years of age.

- **NEVER** operate this equipment without proper protective clothing, shatterproof glasses, steel-toed boots and other protective devices required by the job.



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



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



- **NEVER** use accessories or attachments, which are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.

- Manufacture does not assume responsibility for any accident due to equipment modifications.

- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.

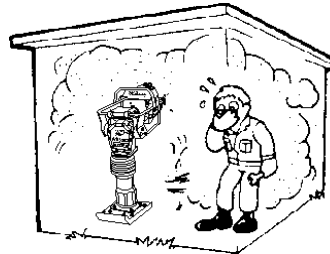
- Always check the machine for loosened threads or bolts before starting.

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



- **High Temperatures** – Allow the engine to cool before adding fuel or performing service and maintenance functions. Contact with *hot* components can cause serious

- The engine section of this rammer requires an adequate free flow of cooling air. Never operate the rammer in any enclosed or narrow area where free flow of the air is restricted. If the air flow is restricted it will cause serious damage to the rammer or engine and may cause injury to people. Remember the rammer's engine gives off **DEADLY** carbon monoxide gas.



- Always refuel in a well-ventilated area, away from sparks and open flames.



- Always use extreme caution when working with **flammable** liquids. When refueling, **stop the engine** and allow it to cool. **DO NOT** smoke around or near the machine. Fire or explosion could result from fuel vapors, or if fuel is spilled on a hot engine.

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

RULES FOR SAFE OPERATION

- **NEVER** Run engine without air filter. Severe engine may occur.
- Always service air cleaner frequently to prevent carburetor malfunction.
- Always be sure the operator is familiar with proper safety precautions and operations techniques before using rammer.
- 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.
- **NEVER** use accessories or attachments, which are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.
- **NEVER** Run engine without air cleaner. Severe engine damage may occur.
- Always read, understand, and follow procedures in Operator's Manual before attempting to operate equipment.
- Always be sure the operator is familiar with proper safety precautions and operations techniques before using pump.
- 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.
- Refer to the **ROBIN Engine Owner's Manual** for engine technical questions or information recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.

Transporting

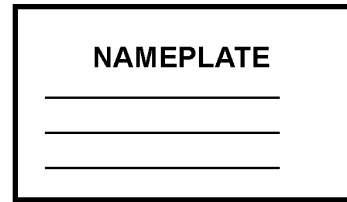
- Always shutdown engine before transporting.
- Tighten fuel tank cap securely and close fuel cock to prevent fuel from spilling.
- Drain fuel when transporting rammer over long distances or bad roads.
- When placing the rammer inside a truck-bed for transport, always tie-down the rammer.

Emergencies

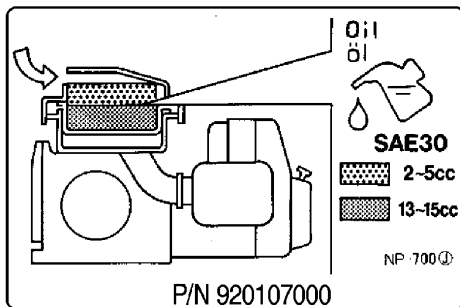
- Always know the location of the nearest **fire extinguisher** and **first aid kit**. Know the location of the nearest telephone. Also know the phone numbers of the nearest **ambulance**, **doctor** and **fire department**. This information will be invaluable in the case of an emergency.

Maintenance Safety

- **NEVER** lubricate components or attempt service on a running machine.
- Always allow the machine a proper amount of time to cool before servicing.
- Keep the machinery in proper running condition.
- Fix damage to the machine immediately and always replace broken parts.
- Dispose of hazardous waste properly. Examples of potentially hazardous waste are used motor oil, fuel and fuel filters.
- **DO NOT** use plastic containers to dispose of hazardous waste.



CONTACT MULTQUIP
SERVICE DEPT.



CAUTION !

- READ OWNER'S SERVICE MANUAL BEFORE OPERATING OR SERVICING THIS MACHINE.
- ALWAYS KEEP UNAUTHORIZED, INEXPERIENCED, UNTRAINED PEOPLE AWAY FROM THIS MACHINE.
- MAKE SURE ALL SAFETY DEVICES ARE OPERATIONAL BEFORE THIS MACHINE IS STARTED. MAKE SURE ENGINE IS TURNED OFF AND SPARK PLUG WIRE DISCONNECTED BEFORE SERVICING THE MACHINE OR COMING IN CONTACT WITH ANY MOVING PART. IF EQUIPMENT IS POWERED BY AN ELECTRIC MOTOR, DISCONNECT ELECTRICAL PLUG.
- NEVER LEAVE MACHINE UNATTENDED WHEN OPERATING. ALWAYS STOP ENGINE AND ALLOW ENGINE TO COOL BEFORE ADDING FUEL OR OIL.

NPA-329

P/N 920203290

First, remove the element from the pre-cleaner located at the top of the machine. Clean the element with solvent. Apply SAE-30 motor oil as follows: top element (yellow) with 2 to 5 cc and the bottom element (gray) with 13 to 15 cc. Be sure to squeeze out excess oil before reinstalling.

NPA 437

P/N 920204370

5mm (3/16")

**PROPER SPONGE
INSTALLATION**

NPA-398

P/N 920203980

3650 ~ 3850 RPM

NPA 90

P/N 920203540

When you stop the engine, be sure to close the fuel cock.

NPA-399

P/N 920203990

**SAE 10W-30
MOTOR OIL**

P/N 920201950



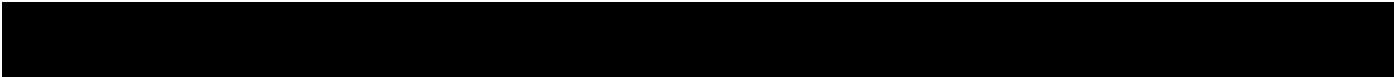
P/N 920203330

CAUTION

1. Check all bolts and nuts for tightness
2. Before operation, check oil level at the gauge located on the back side of the protect sleeve. If not enough, fill with motor oil (SAE 10W-30 to maintain specific oil level).
3. Fill the fuel tank with a fuel mixture of gasoline and outboard oil (25:1) 1/3 pint outboard oil to 1 gal. regular gas.
4. To start engine, open fuel filter located under the fuel tank. close choke lever on carburetor and pull starter rope. When engine starts, open choke fully.
5. when difficult to start engine up, open the drain cock located on lower part of crankcase and discharge excess fuel by cranking the engine two or three times.
6. Allow the engine to warm up for 4 to 5 minutes before operation.
7. When starting to operate the machine, move the throttle lever on the handle quickly from "off" to "on" position.
8. Be sure the fuel filter is closed after operation to avoid irregular jumping.

NPA-91

P/N 920205810



Definition of Tamping Rammer

The Mikasa MT-60HS 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 backfilling for gas pipelines, water pipelines and cable installation work.

The impact force of the MT-60HS levels and uniformly compacts voids between soil particles to increase dry density.

Circular motion is converted to create impact force. The MT-60HS tamping rammer develops a powerful compacting force at the foot of the rammer. To maintain optimum performance, proper operation and service are essential.

Construction of Tamping Rammer

The Mikasa MT-60HS is equipped with an Robin air cooled, oil-injected two cycle gasoline engine. Transmission of the power takes place by increasing the engine speed to engage the centrifugal clutch.

Rammer Gearbox and Spring Cylinder

The Mikasa MT-60HS uses an oil bath lubrication system. Always check the oil level through the oil level sight glass at the rear of the tamper foot.

Controls

Before starting the MT-60HS Tamping Rammer identify and understand the function of the controls, see Figure 1 on page 11.

Table 1. MT-60HS Rammer Specifications

MODEL	MT-60HS U.S. (metric)
Overall Height	39.4 in. (1,000 mm)
Overall Width	15.4 in. (390 mm)
Over Length	27.6 in. (700 mm)
Shoe Size	10.4 X 13.4 in. (265 X 340 mm)
Blows/minute	675
Impact Force	2,610 lbs./blow (1,179 kg/blow)
Clutch	Automatic Centrifugal
Operating Weight	129 lbs. (58.5 kg)

Table 2. ROBIN EC-08GH Engine Specifications

MODEL	ROBIN EC-08GH ENGINE
Type	Air-Cooled 2 Stroke Gasoline Engine
Piston Displacement	1.12 cu.in. (78.5 cc)
Max. Output	3.3 hp/5,500 rpm
Max. Governed Speed (Installed)	3850 rpm
Cooling System	Air-Cooled By Fan
Lubrication System	Fuel-Lubrication Oil Spraying System
Fuel	Gasoline and 2-Stroke Oil
Starting System	Recoil Starter

NOTE

Specifications are general and are subject to change without notice. If exact measurements are required, equipment should be weighed and measured.

MT-60HS — CONTROLS AND COMPONENTS

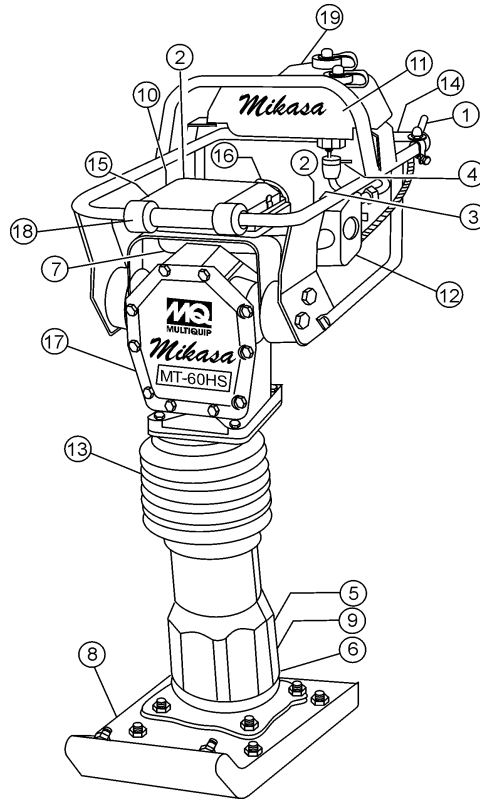


Figure 1. MT-60HS Rammer

Figure 1 shows the location of the controls and components for the MT-60HS Tamping Rammer. The functions of each control is described below:

1. **Throttle Lever** – Controls engine speed and the tamping action of the rammer.
2. **Engine Stop Switch** – Controls the starting and stopping of the engine. Switch must be in the "ON" position when starting the engine.
3. **Choke Lever** – Used when starting the engine. Normally used in cold weather conditions. In cold weather turn the choke lever to the fully closed position, in warm weather set choke lever half way or completely open.
4. **Fuel Shut-Off Valve** – Supplies fuel from the fuel tank to the engine. To begin fuel flow move the fuel shut-off valve downward.
5. **Oil Bath Fill Plug** – Open this plug to add oil to the oil bath reservoir.
6. **Drain Valve** – Open this valve to remove oil from the bellows.
7. **Pre-Cleaner** – Pre-cleans (first stage) dirt and other debris from entering the engine.
8. **Foot** – Laminated wood with tempered steel plate for superior shock absorption.
9. **Oil Level Sight Glass** – Indicates the level of oil in the oil bath reservoir.
10. **Recoil Starting Handle** – Used when starting the engine. Pull starter handle sharply and quickly, then return starter handle to starter case before releasing.
11. **Fuel Tank/Cap** – Poly fuel tank to avoid rust and corrosion, remove this cap to add gasoline.
12. **Engine Air Cleaner** – Prevents dirt (second stage) and other debris from entering the engine.
13. **Bellows** – Reservoir for oil bath.
14. **Handle** – To operate rammer **GRIP** handle assembly firmly on both sides.
15. **Muffler** – Used to reduce noise and emissions.
16. **Spark Plug** – Provides spark to the ignition system, replace with engine manufactures recommended type spark plug.
17. **Name Plate** – Displays information regarding the rammer.
18. **Roller Bar** – Used when transporting rammer onto a truck bed. Place rammer on this roller bar then slide.
19. **Oil Tank** – Fill oil tank with 2-stroke motor oil.

This section is intended to assist the operator with the initial start-up of the MT-60HS Tamping Rammer. 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.

CAUTION:



Failure to understand the operation of the MT-60HS Tamping Rammer could result in severe damage to the trowel or personal injury.

Rammer Gearbox and Spring Cylinder Oil Bath

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

1. Check the oil level through the oil level sight glass (Figure 2) at the rear of the tamper foot.

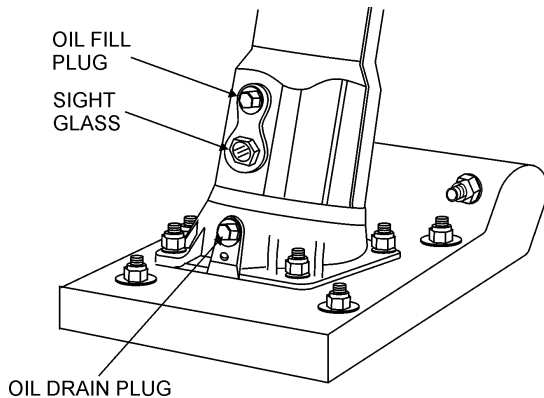


Figure 2. Foot Housing Sight Glass

2. If oil is not visible, add 10W-30 motor oil into the oil fill plug opening (Figure 2). The bath contains approximately 1.7 pints (800 cc.)

NOTE

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

CAUTION:



Failure to understand the operation of the MT-60HS Tamping Rammer could result in severe damage to the rammer or personal injury.

Engine

1. Fill the fuel tank (Figure 3) with unleaded gasoline. At the same time, check the engine oil level at the sight gauge located on the operator's side of the oil tank. Fill the oil tank to the "H" level using only outboard (2-stroke) oil. Replenish the oil regularly before the oil level reaches the "L" level of the oil tank.

CAUTION:



The oil hose is not to be depressed or damaged. A sensor detects lack of oil and shuts down the engine automatically.

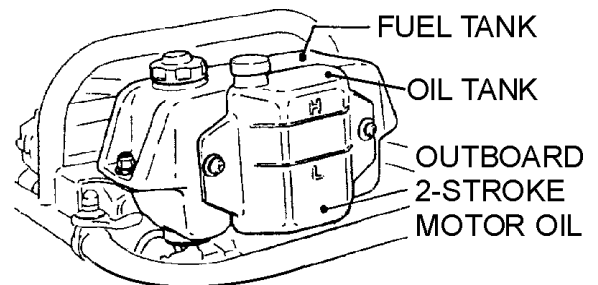


Figure 3. Fuel/Oil Tank

2. Low levels of oil may result in engine seizure due to high levels of consumption during operations.
3. Check the engine oil level (Figure 4) and if the oil level is low, it should be refilled. Use the proper motor oil as suggested in Table 3.

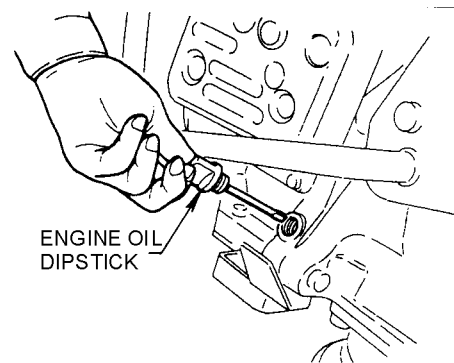


Figure 4. Engine Oil Dipstick

Table 3. Motor Oil Grade

Season or Temperature	Grade of motor oil (higher than MS class)
Spring, Summer or Autumn +120° F to +15° F	SAE 30
Winter +40° F to +15° F	SAE 30
Below +15° F	SAE 10W-30

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.

Initial Start-up

When starting the MT-60HS Tamping Rammer perform the following:

1. Open the fuel shut-off valve by moving the **fuel cock** lever to the **open** position (Figure 5).

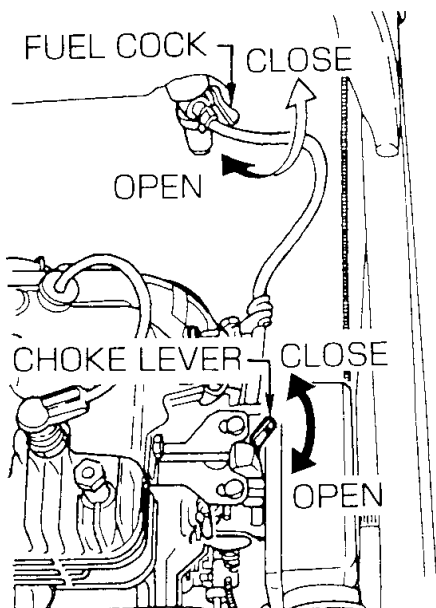


Figure 5. Fuel Cock and Choke Lever

2. Set the engine ON/OFF switch (Figure 6) to the "ON" position (start).

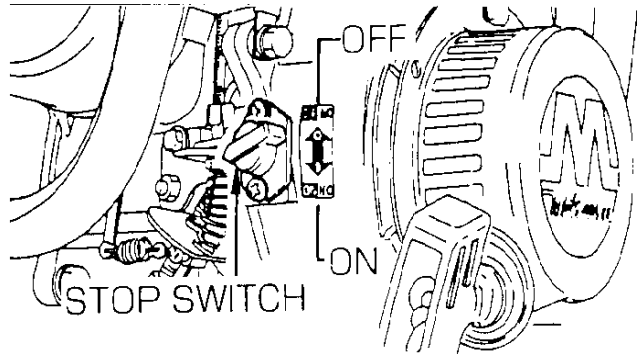


Figure 6. Engine On/Off Switch

3. Close the choke lever (Figure 5) and move the throttle lever (Figure 9) to the "Full Open" position. Turning the choke lever 90 degrees clockwise closes the choke. In cold weather, start the unit with choke fully closed. In warm weather or when the engine is warm, the unit can be started with choke halfway or completely open.
4. Grip the recoil starter (Figure 7) handle and pull it until you feel a slight resistance. Then pull sharply and quickly. Return the recoil starter handle to the starter position before releasing.

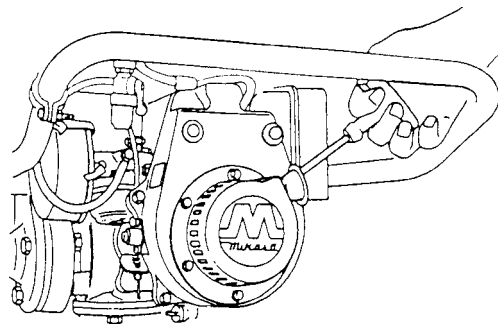


Figure 8. Recoil Starter

5. If engine fails to start, move the choke lever (Figure 5) to the half open position to avoid flooding.
6. Repeat steps 1 thru 5.
7. If the engine does not start after repeated attempts, check the spark plug for excess fuel. Clean and replace the spark plug as needed.

- If the carburetor is flooded or the crankcase is loaded with excess fuel, open the drain plug as shown in (Figure 8) and drain out excess fuel.

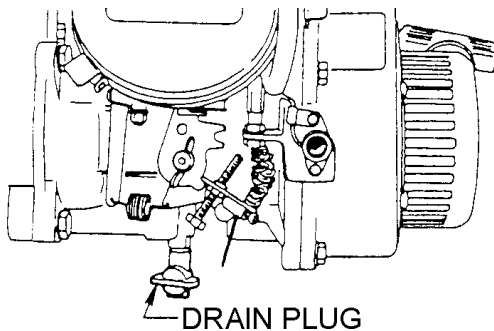


Figure 8. Drain Plug

Operation

- To start the rammer tamping action, move the throttle lever (Figure 10) quickly from **IDLE** (close) to the **FULL OPEN** position. **DO NOT** move the throttle lever slowly as this may cause damage to the clutch or spring.

CAUTION:



Make sure that the throttle lever is moved to the **FULL OPEN** position (Figure 9). Operating the rammer at less than full speeds can result in damage to the clutch springs or foot

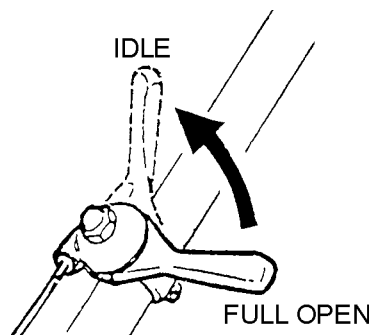


Figure 9. Throttle Lever

- The MT-60HS Tamping rammer is designed to run at 5,500 rpm. At optimum rpm the foot hits at the rate of 675 impacts per minute. Increasing throttle speed past factory set rpm does not increase impacts and may damage unit. The MT-60HS is designed to advance while tamping. For faster advance, pull back slightly on the handle so that rear of foot contacts soil first.

Stopping The Engine

Normal Shutdown

- Move throttle lever quickly from the **FULL OPEN** to **IDLE** position (Figure 10) and run the engine for three minutes at low speed. After the engine **cools**, turn the engine *start/stop* switch to the "**OFF**" position (Figure 5) until engine comes to a complete stop.
- Close the fuel shut-off valve by moving the fuel cock lever to the **CLOSED** position. See Figure 5

Emergency Showdown

- Move the throttle lever quickly to the **IDLE** position, and turn the engine start/stop switch (Figure 6) to the **STOP** position.

Maintenance

Perform the scheduled maintenance procedures as indicated:

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.

WEEKLY

- Remove the fuel filter cap and clean the inside of the fuel tank.
- Remove or clean the filter at the bottom of the tank.
- Remove and clean the spark plug, then adjust the spark gap to 0.02~0.03 inch (0.6~0.7 mm). This unit has electronic ignition, which requires no adjustments.
- Clean air cleaner cover.

200 - 300 HOURS (Pre-Cleaner)

- Remove the element from the pre-cleaner (Figure 10) at the top of the crankcase (body side) and clean it with cleaning oil (kerosene).

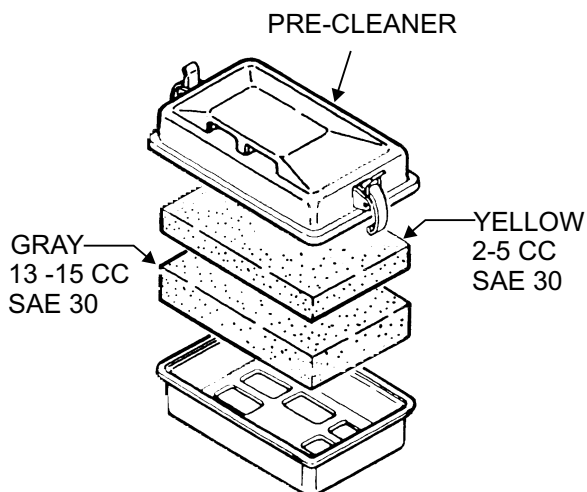


Figure 10. Pre-Cleaner

- Lubricate the top element (yellow) with 2~5 cc of engine oil SAE-30.
- Lubricate bottom element (gray) with 13 ~15 cc of engine oil SAE-30 and completely squeeze out the excess oil from the element before installing.

- The air cleaner on the engine side will hardly be contaminated, if it is, however after cleaning the element with kerosene, dip it in mixed oil consisting of 3 parts of gasoline and 1 part of engine oil. Then tightly squeeze outer primary element (sponge) and shake off well the inner secondary element before installing them.

CLEANING THE OIL TANK

- Clean the inside of the oil tank regularly, preferably 2 or 3 times a year.
- In winter, be sure to clean the inside of oil tank to avoid the freezing of water that may have accumulated inside the tank.

CAUTION:



If water accidentally got inside the oil tank, the oil may appear muddy. If this situation occurs, simply flush the tank, removing all foreign matter including water, and fill oil tank with fresh 2-stroke outboard motor oil.

- When cleaning the oil tank (Figure 11) perform the following procedure:

- Remove the cock holder cover, oil hose, red and black lead wires from the float sensor.

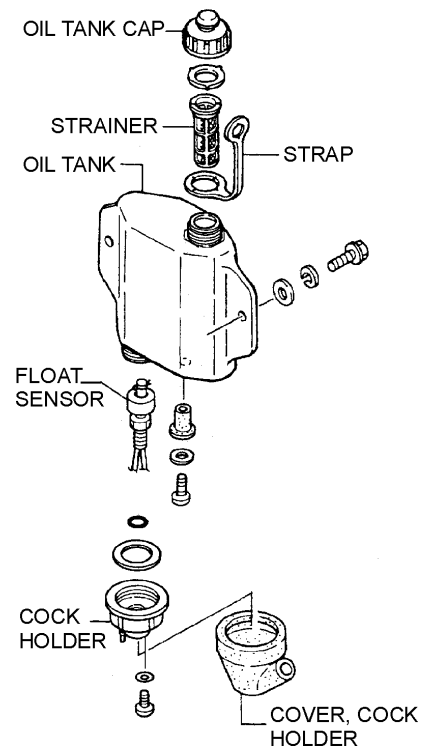


Figure 11. Oil Tank

2. Remove the bolts that secure the oil tank to the fuel tank, and drain all oil from the tank.
3. Remove cock holder, then clean strainer and cock holder in a kerosene solution.
4. Make sure every part is clean and dry, then reassemble oil tank. Fill oil tank with 2-stroke outboard motor oil (FB class) to the "H" level.

FUEL AND OIL LINES

- Check the fuel and oil lines regularly for damage and ensure that there are no leaks.
- Replace fuel and oil lines every 2 years to maintain performance.
- When replacing the oil hose perform the following procedure:
 1. Replace oil hose with manufactures suggested type hose or equivalent.
 2. If necessary, fill oil tank with 2-stroke outboard motor oil.
 3. Fill fuel tank with 25:1 fuel mix ratio.
 4. Operate rammer with 25:1 fuel mixture until all air is bled from oil injection line.
 5. Once it is certain that all air has been purged from the oil injection line, regular unleaded gasoline may be used.

CAUTION:



It is normal for a new 2-stroke engine to emit excess smoke, until moving parts have been seated to their normal operating specifications. This excess smoke normally stops after one full tank of fuel.

- The air cleaner (Figure 12) on the engine side will hardly be contaminated, if it is, however after cleaning the element with kerosene, dip it in mixed oil consisting of 3 parts of gasoline and 1 part of engine oil. Then tightly squeeze outer primary element (sponge) and shake off well the inner secondary element before installing them.

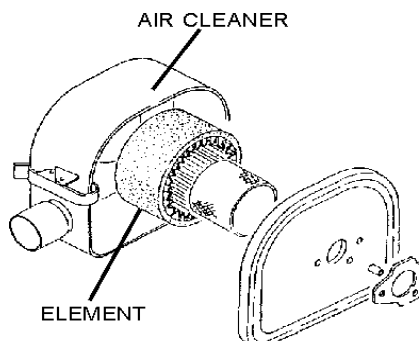


Figure 12. Air Cleaner

CLEANING THE RAMMER

- If using a high pressure spray washer, be careful not to splash water directly on the air cleaner, carburetor, muffler, fuel and oil tank caps. Excessive amounts of water may cause severe engine damage.

Yearly

- Check the fuel line and the oil line regularly for damage and to ensure that there are no leaks.
- Replace the oil and fuel lines every two years to maintain the performance and flexibility lines.

Long Term Storage

- Drain fuel from fuel tank, fuel line and carburetor.
- Remove spark plug and pour a few drops of motor oil into cylinder. Crank engine 3 to 4 times so that oil reaches all internal parts.
- Clean exterior of rammer with an oil-moistened cloth.
- Store unit covered with plastic sheet in moisture free and dust free location out of direct sunlight

200 - 300 HOURS (Oil Bath)

- Drain oil reservoir on foot housing (Figure 13). Refill with approximately 1.7 pt. (800cc) of 10W-30 motor oil. Oil should be midway in sight glass. Break in oil should be changed after first 50 hours.

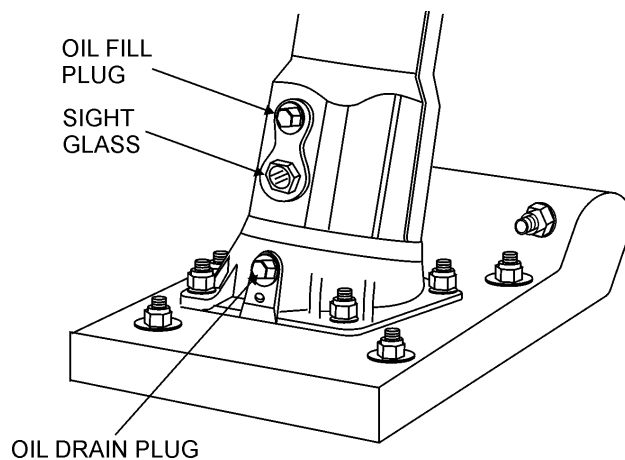


Figure 13. Oil Drain Plug

MT-60HS — TROUBLESHOOTING GUIDE

TABLE 4. ENGINE TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Difficult to start		
Fuel is available but spark plug will not ignite. (Power available at high tension cable).	Ignition plug being bridge?	Check ignition system.
	Carbon deposit at ignition?	Clean or replace ignition.
	Short circuit due to defective insulators?	Replace insulators.
	Improper spark gap?	Set spark plug gap to the correct gap.
Fuel is available but spark plug will not ignite. (Power NOT available at high tension cable).	Short circuit at stop switch?	Check stop switch circuit. Replace stop switch if defective.
	Ignition coil defective?	Replace ignition coil.
Fuel is available and spark plug ignites (compression normal).	Muffler clogged with carbon deposits?	Clean or replace muffler.
	Mixed fuel quality is inadequate?	Check fuel to oil mixture.
	Fuel in use inadequate (water, dust)?	Flush fuel sytem and replace with fresh fuel.
	Air Cleaner clogged?	Clean or replace air cleaner.
Fuel is available and spark plug ignites (compression low).	Defective cylinder head gasket?	Tighten cylinder head bolts or replace head gasket.
	Cylinder worn?	Replace cylinder.
	Spark plug loose?	Tighen spark plug.
Operation not satisfactory		
Not enough power available (compression normal, no miss-firing).	Air cleaner clogged?	
	Air in fuel line?	Bleed (remove air) from fuel line.
	Fuel level in carbureator float chamber improper?	Adjust carbureator float
	Carbon deposits in cylinder?	Clean or replace cylinder
Not enough power available (compression normal, miss-firing).	Ignition coil defective?	Flush fuel sytem and replace with fresh fuel.
	Ignition plug often shorts?	Replace ignition wires, clean ignition.
	Fuel in use inadequate (water, dust)?	Flush fuel sytem and replace with fresh fuel.
Engine overheats.	Mixed fuel quality is inadequate?	Check fuel to oil mixture.
	Excessive carbon depostion in combustion chamber?	Clean or replace crankcase.
	Exhaust or muffler clogged with carbon.	Clean or replace muffler.
	Spark plug heat value incorrect?	Replace spark plug with correct type spark plug.

MT-60HS — TROUBLESHOOTING GUIDE

TABLE 4. ENGINE TROUBLESHOOTING (continued)

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Operation not satisfactory		
Rotational speed fluctuates.	Governor adjustment improper?	Adjust governor to correct lever.
	Governor spring defective?	Clean or replace ignition.
	Fuel flow erratic?	Check fuel line.
	Air taken in through suction line?	Check suction line.
Recoil starter not working properly.	Dust in rotating part?	Clean recoil starter assembly.
	Spring spring failure?	Replace sprial spring.

TABLE 5. RAMMER TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine rotates but amplituide not uniform or does not strike.	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 sprial spring.
	Speed of engine improper?	Adjust engine speed to correct operating RPM setting.

MT-60HS — EXPLANATION OF CODE IN REMARKS COLUMN

How to read the marks and remarks used in this parts book.

Items Found In the “Remarks” Column

Serial Numbers-Where indicated, this indicates a serial number range (inclusive) where a particular part is used.

Model Number-Where indicated, this shows that the corresponding part is utilized only with this specific model number or model number variant.

Items Found In the “Items Number” Column

All parts with same symbol in the number column, *, #, +, %, or ■, belong to the same assembly or kit.

NOTE

If more than one of the same reference number is listed, the last one listed indicates newest (or latest) part available.

NOTE

The contents of this catalog are subject to change without notice.

MT-60HS — SUGGESTED SPARE PARTS

MT-60HS Tamping Rammer 1 to 3 Units

Qty.	P/N	Description
1	956300130	THROTTLE LEVER
1	501302060	THROTTLE WIRE
1	402010110	SPRING, RETURN
3	354030030	ELEMENT, YELLOW
3	354030040	ELEMENT, GRAY
3	1573620101	ELEMENT SET, ENGINE
3	0650140031	SPARK PLUG
1	0430440033	FUEL TANK CAP
3	954404890	FILTER, FUEL TANK
3	954405080	STRAINER, FUEL TANK
1	954300390	FUEL COCK ASSY
3	353449000	STRAINER, OIL TANK
1	353030070	OIL TANK CAP, W/STRAP
3	301419750	FUEL FILTER, IN-LINE

MT-60HS Tamping Rammer 3 to 5 Units

Qty.	P/N	Description
2	956300130	THROTTLE LEVER
3	501302060	THROTTLE WIRE
3	402010110	SPRING, RETURN
5	354030030	ELEMENT, YELLOW
5	354030040	ELEMENT, GRAY
5	1573620101	ELEMENT SET, ENGINE
5	0650140031	SPARK PLUG
2	0430440033	FUEL TANK CAP
5	954404890	FILTER, FUEL TANK
5	954405080	STRAINER, FUEL TANK
2	954300390	FUEL COCK ASSY
5	353449000	STRAINER, OIL TANK
2	353030070	OIL TANK CAP, W/STRAP
5	301419750	FUEL FILTER, IN-LINE
1	351324300	BELLOWS, ORANGE

NOTE

Part number on this Suggested Spare Parts List may super cede/replace the P/N shown in the text pages of this book.

MT-60HS Tamping Rammer 5 to 10 Units

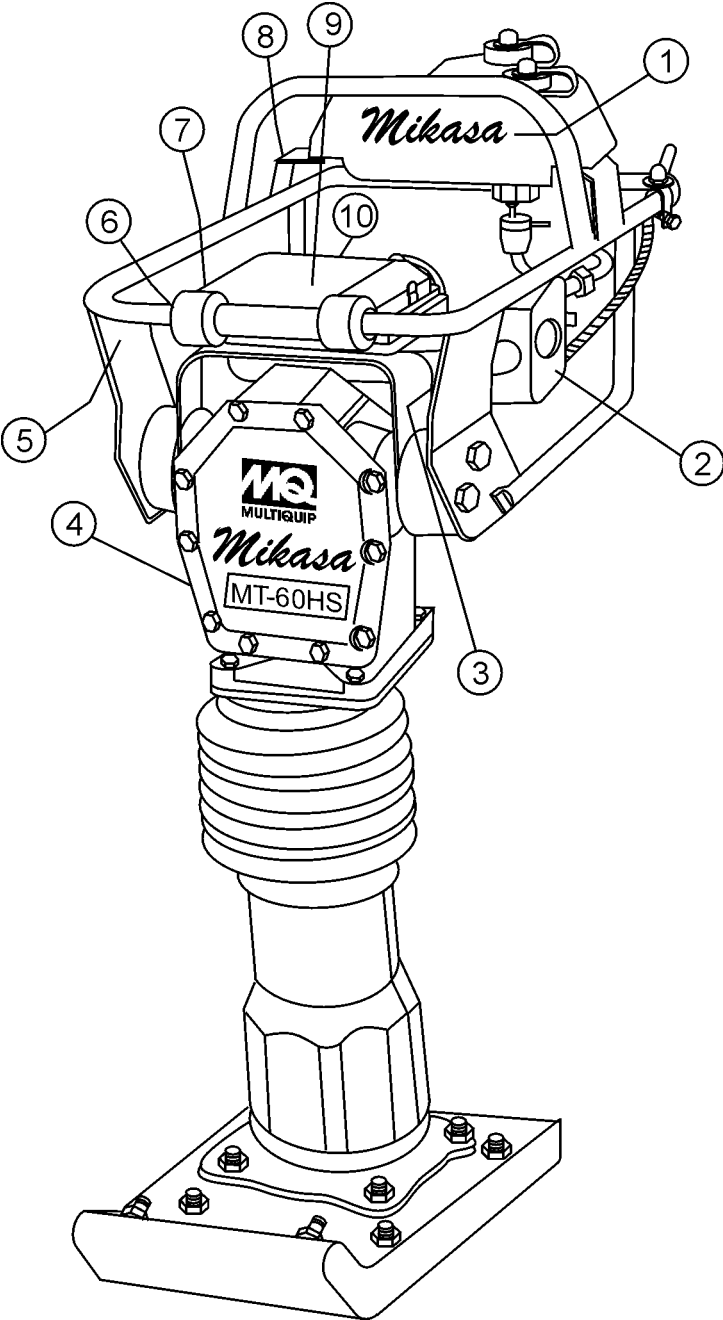
Qty.	P/N	Description
4	956300130	THROTTLE LEVER
5	501302060	THROTTLE WIRE
5	402010110	SPRING, RETURN
10	354030030	ELEMENT, YELLOW
10	354030040	ELEMENT, GRAY
10	1573620101	ELEMENT SET, ENGINE
10	0650140031	SPARK PLUG
4	0430440033	FUEL TANK CAP
10	954404890	FILTER, FUEL TANK
10	954405080	STRAINER, FUEL TANK
4	954300390	FUEL COCK ASSY
10	353449000	STRAINER, OIL TANK
4	353030070	OIL TANK CAP, W/STRAP
10	301419750	FUEL FILTER, IN-LINE
2	351324300	BELLOWS, ORANGE
2	351316870	BELLOWS, CLAMP
1	050100800	O-RING, UPPER GUIDE CYL.
2	050100950	O-RING, MIDDLE GUIDE CYL.
1	050930850	O-RING, LOWER GUIDE CYL.
1	050100750	O-RING, FOOT PLATE GUIDE CYL.
1	0660000361	STOP SWITCH ASSY (ON-OFF)
1	KITCARBEC08HS	KIT, CARBURETOR EC08HS
1	5801501800	GASKET, HEAD CYLINDER
2	0440200020	OIL SEAL
1	1293500403	GASKET, EXHAUST

MT-60HS Tamping Rammer 10+ Units

Qty.	P/N	Description
6	956300130	THROTTLE LEVER
10	501302060	THROTTLE WIRE
10	402010110	SPRING, RETURN
15	354030030	ELEMENT, YELLOW
15	354030040	ELEMENT, GRAY
15	1573620101	ELEMENT SET, ENGINE
15	0650140031	SPARK PLUG
8	0430440033	FUEL TANK CAP
15	954404890	FILTER, FUEL TANK
15	954405080	STRAINER, FUEL TANK
8	954300390	FUEL COCK ASSY
15	353449000	STRAINER, OIL TANK
8	353030070	OIL TANK CAP, W/STRAP
15	301419750	FUEL FILTER, IN-LINE
4	351324300	BELLOWS, ORANGE
6	351316870	BELLOWS, CLAMP
3	050100800	O-RING, UPPER GUIDE CYL.
6	050100950	O-RING, MIDDLE GUIDE CYL.
3	050930850	O-RING, LOWER GUIDE CYL.
3	050100750	O-RING, FOOT PLATE GUIDE CYL.
3	0660000361	STOP SWITCH ASSY (ON-OFF)
3	KITCARBEC08HS	KIT, CARBURETOR EC08HS
3	5801501800	GASKET, HEAD CYLINDER
6	0440200020	OIL SEAL
3	1293500403	GASKET, EXHAUST
1	5806111000	CARBURETOR, ASSY
1	301421363	CLUTCH, ASSY

MT-60HS — NAMEPLATE AND DECALS

NAMEPLATE AND DECALS



MT-60HS — NAMEPLATE AND DECALS

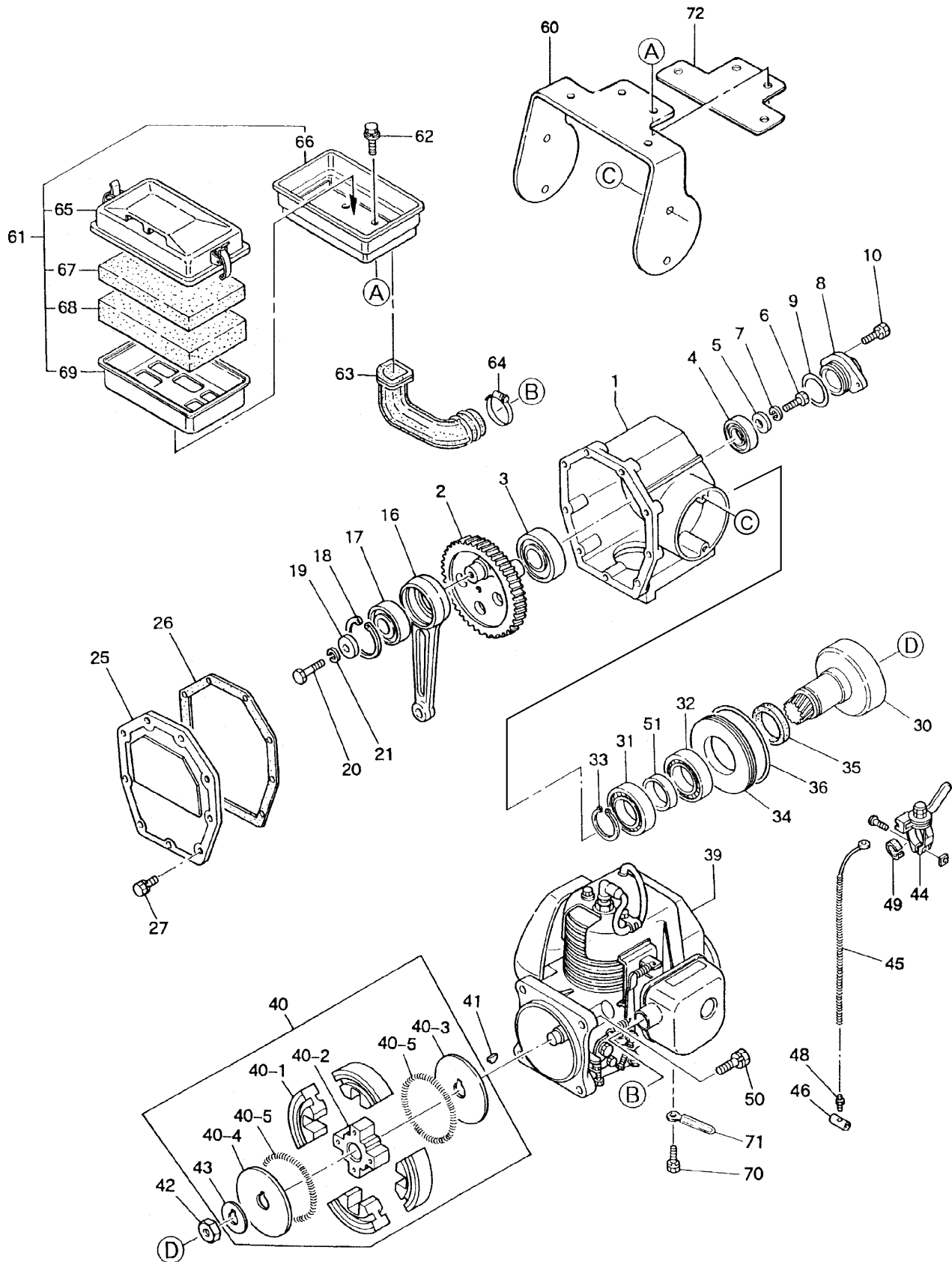
NAME PLATE AND DECALS

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1*	920106460	DECAL: MIKASA MARK	1	
2*	920203980	DECAL: ELEMENT SET	1	
3*	920203290	DECAL: READ OWNER'S MAN.	1	
4		PLATE: SERIAL NO.	1	..... ORDER FROM MQ SER. DEPT. W/MODEL & S/N
5*	920107000	DECAL: PRE-CLEANER / MT-W	1	
6*	920203540	DECAL ENGINE R.P.M 3850	1	
7*	920203990	DECAL: FUEL COCK	1	
8*	920203330	DECAL: EAR PROTECTION	1	
9*	920204370	DECAL: PRE CLEANER	1	
10*	920201950	DECAL MOTOR OIL	1	
11	DCLMT60H2	DECAL KIT MT-60H/ 60H2	1	..... INCLS. ALL ITEMS W/*

FOR DECAL ILLUSTRATIONS SEE PAGE 8.

MT-60HS — CRANKCASE AND ENGINE ASSY.

CRANKCASE AND ENGINE ASSY.



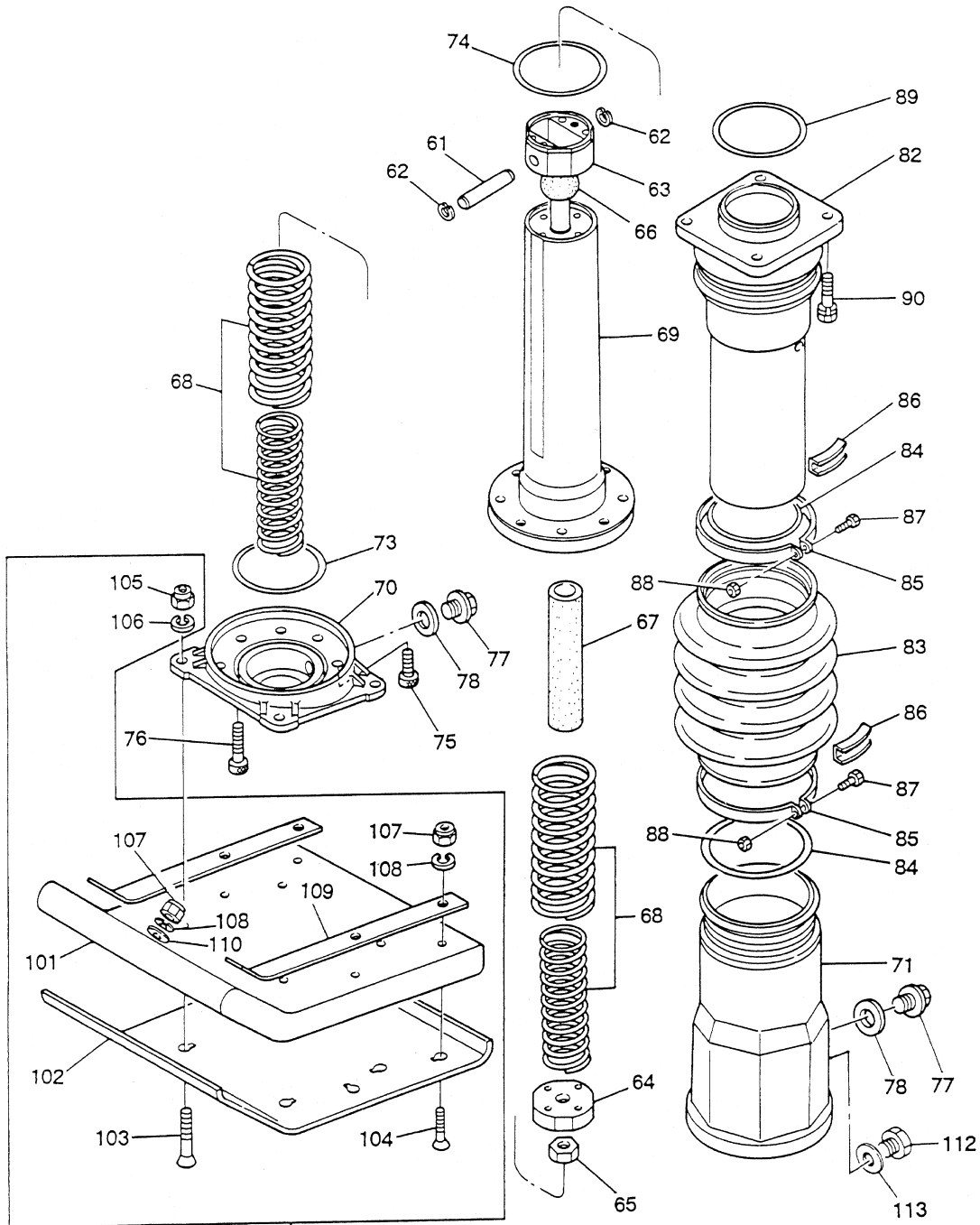
MT-60HS — CRANKCASE AND ENGINE ASSY.

CRANKCASE AND ENGINE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	351109060	CRANK CASE	1	
2	351324110	CRANK GEAR	1	
3	040006305	BEARING 6305	1	
4	042506203	BEARING 6203	1	REPLACES 040006203
5	952401450	WASHER 8.5X22X3	1	
6	011208025	BOLT 8X25 T	1	REPLACES 001220825
7	030208200	WASHER SW M8	1	
8	351434563	BEARING COVER	1	
9	050100350	O-RING G-35	1	
10	011706020	BOLT 6X20 H,SW	2	REPLACES 002210620
16	303010060	CONNECTING ROD	1	
17	040006304	BEARING 6304	1	
18	080100520	STOP RING R-52	1	
19	952400130	WASHER 9304	1	
20	011208025	BOLT 8X25 T	1	REPLACES 001220825
21	030208200	WASHER SW M8	1	
25	353213630	FRONT COVER	1	
26	351319880	PACKING, FRONT COVER	1	
27	011706020	BOLT 6X20 H,SW	9	REPLACES 002210620
30	303010084	PINION	1	
31	040006007	BEARING 6007	1	
32	041006007	BEARING 6007Z	1	
33	080200350	STOP RING S-35	1	
34	351421900	SPACER, CLUTCH DRUM	1	
35	060404010	OIL SEAL TC-40528	1	
36	050300900	O-RING S-90	1	
39	911100832	ENGINE ASSY ECO8HS	1	
40	301421363	CLUTCH ASSY C812E	1	INCLS. ALL ITEMS W/*
40-1*	943020020	CLUTCH SHOE C812	4	
40-2*	943050050	CLUTCH BOSS C812	1	
40-3*	943060010	CLUTCH GUIDE/1A	1	
40-4*	943060020	CLUTCH GUIDE/B	1	
40-5*	943030020	CLUTCH SPRING C812	2	
41	0053204201	WOODRUFF KEY	1	
42	0173120010	LOCK NUT	1	
43	301010210	LOCK WASHER, CLUTCH	1	
44	956300130	THROTTLE LEVER ASSY	1	
45	501302060	THROTTLE WIRE	1	
46	959401750	WIRE STOPPER ASSY	1	
48	402010110	RETURN SPRING	1	REPLACES 301010950
49	959403750	RUBBER, SLIP STOP	1	
50	011708030	BOLT 8X30 H,SW	4	REPLACES 002210830
51	351437750	SPACER 35.4-42.7-11	1	
60	353335230	CLEANER STAY	1	
61	354211841	AIR CLEANER ASSY	1	INCLS. ALL ITEMS W/#
62	002210815	BOLT 8X15 H,SW	4	
63	354330590	INTAKE PIPE	1	
64	507010110	CLAMP TC-200	1	
65#	354030011	BODY /W-CLEANER	1	
66#	354030020	BACK PLATE	1	
67#	354030030	ELEMENT, YELLOW	1	
68#	354030040	ELEMENT, GRAY	1	
69#	354030050	ELEMENT FRAME	1	
70	002200815	BOLT 8X15 SW	1	
71	0566000170	CLAMP OIL ALERT	1	
72	353449210	CLEANER HOLDER	1	

MT-60HS — CYLINDER GUIDE AND FOOT ASSY.

CYLINDER GUIDE AND FOOT ASSY.



100

EXCLUDES ITEMS 103, 105 & 106

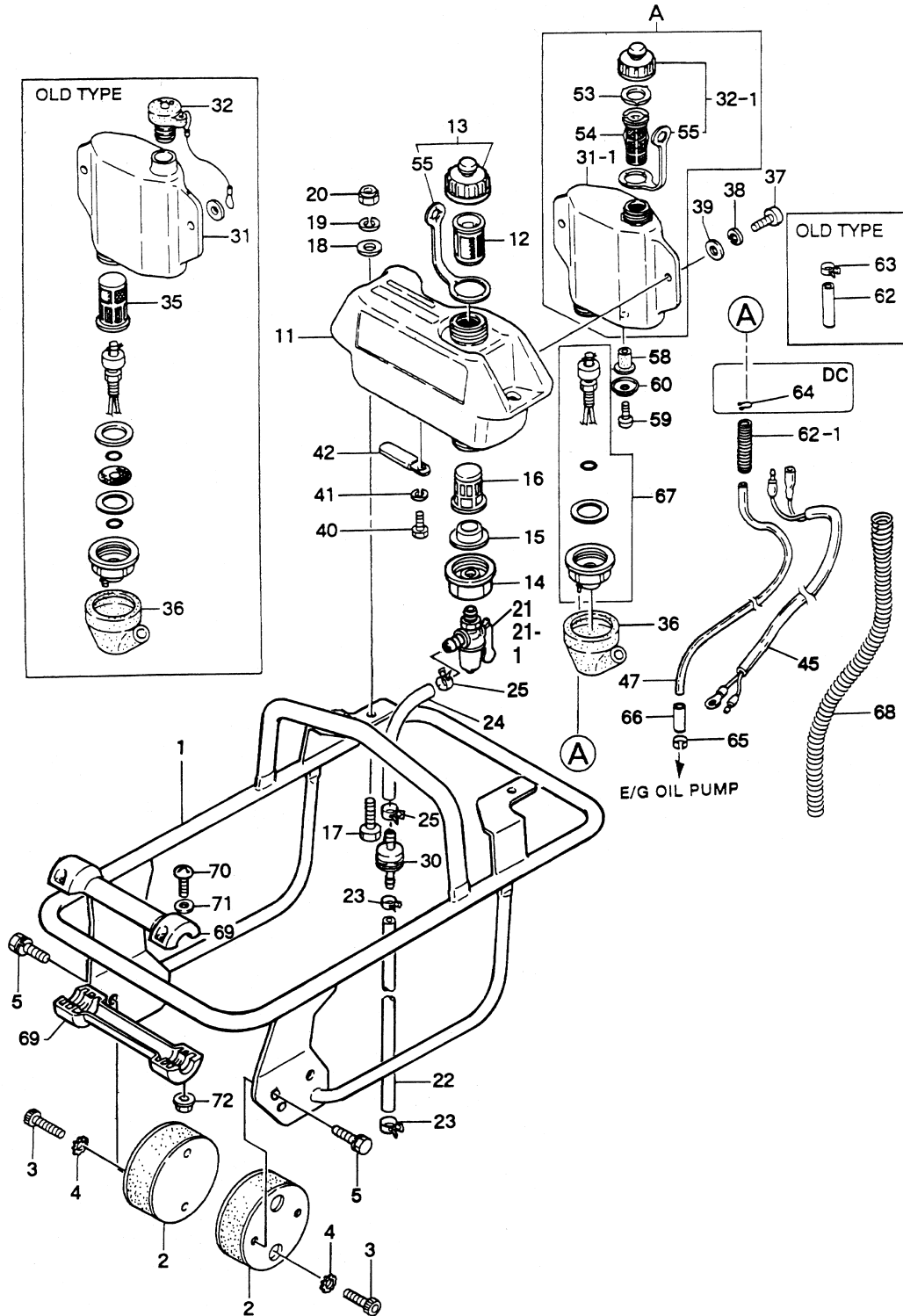
MT-60HS — CYLINDER GUIDE AND FOOT ASSY.

CYLINDER GUIDE AND FOOT ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
61	351420390	PISTON PIN	1	
62	080100120	STOP RING R-12	2	
63	351324120	PISTON ROD	1	
64	351420400	PISTON END	1	
65	020316130	NUT M16, P1.5	1	REPLACES 020116130
66	351434200	STOPPER, UPPER	1	
67	351434211	STOPPER, LOWER	1	REPLACES 351434210
68	351324140	MAIN SPRING A,B	2	
69	351324130	SPRING CYLINDER	1	
70	351209600	FOOT PLATE	1	
71	351109020	PROTECTION SLEEVE	1	
73	050100750	O-RING G-75	1	
74	050930850	O-RING JASO3085	1	
75	014210020	SOCKET HEAD BOLT 10X20 T	4	REPLACES 001521020
76	014210035	SOCKET HEAD BOLT 10X35 T	4	REPLACES 001521035
77	953405270	PLUG 1/4X14 13L	2	
78	953405260	PACKING 1/4 (CU)	2	
82	351209590	GUIDE CYLINDER	1	
83	351324300	BELLOWS,(ORANGE)	1	
84	050100950	O-RING G-95	2	
85	351316870	BELLOWS CLAMP	2	
86	351433250	BAND GUIDE/BELLOWS	2	
87	011008040	BOLT 8X40 T	2	REPLACES 001220840
	011208035	BOLT 8X35 T	2	REPLACES 001220835
88	020108060	NUT M8	2	REPLACES 020308060
89	050100800	O-RING G-80	1	
90	012710040	BOLT 10X40 H,SW	4	REPLACES 002211040
100	351910130	FOOT ASSY 265W-215P	1	INCLUDES ITEMS W/* REPLACES 050100800
101*	351109030	FOOT, 265W-215P	1	
102*	351109040	METAL SHEET 265W-215P-4.5	1	
103	015112075	SUNK HEAD BOLT 12X70 H	4	REPLACES 001611253 & 015112060
104*	015110055	SUNK HEAD BOLT 10X55 H	7	REPLACES 001611051
105	021112140	NYLON NUT M12	4	REPLACES 022711214
106	030212300	WASHER SW M12	4	
107*	021110120	NYLON NUT M10	7	REPLACES 022711012
108*	030210250	WASHER SW M10	7	
109*	352322581	FOOT FITTING 38B-3T	2	
110*	506404060	WASHER 11X34X3.2	1	REPLACES 301010540
112	959010150	LEVEL GAUGE, PLUG TYPE	1	
113	953404670	COPPER PACKING 17X25.5X1	1	

MT-60HS — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.



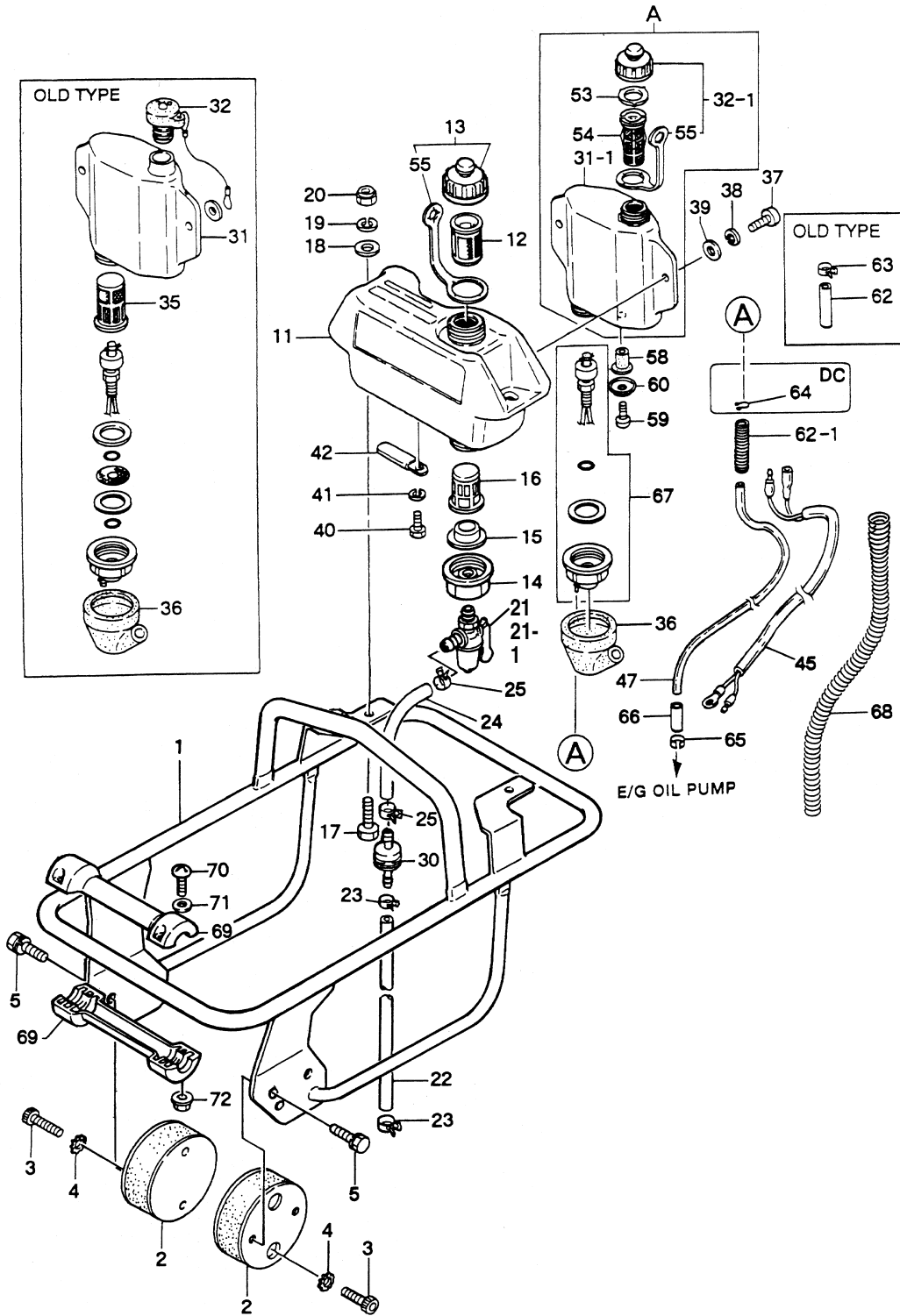
MT-60HS — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
A	353213710CPL	OIL TANK ASSY W/CAP	1	REPLACES 353910030
1	353113591	HANDLE 289B	1	
1	353115080	HANDLE (FOR ROLLER)	1	
2	351319900	SHOCK ABSORBER 100D-45B	2	
3	001521020	SOCKET HEAD BOLT 10 x 20	4	
4	033121009	TOOTHED LOCK WASHER B M10	4	
5	002211020	BOLT 10 x 20 H, SW	4	
11	355113610	FUEL TANK	1	
12	954404890	FILTER, TANK	1	
13	361910020	TANK CAP ASSY (ORANGE)	1	
14	351437785	HOLDER, COCK	1	
15	953405640	PACKING, COCK HOLDER	1	
15	954406020	PACKING, FUEL TANK	1	
16	954405080	STRAINER (100)	1	
16	954406010	STRAINER (110)	1	
17	001220830	BOLT 8 x 30	2	
18	952401450	WASHER 8, 5 x 22 x 3	2	
19	030208200	SW M8	2	
20	022710809	NYLON NUT M8	2	
21	954300390	FUEL COCK ASSY	1	INCLUDES ITEMS W/#
21-1#	0642001410	BOWL FUEL FILTER	1	
21-2#	0642001420	STRAINER SCREEN	1	
21-3#	0642001430	PACKING	1	
22	351435160	FUEL HOSE B-150	1	
23	954404590	HOSE BAND 9.5D	2	
24	351436350	FUEL HOSE R-150	1	
25	954403030	HOSE BAND (8)	2	
30	301419750	FUEL FILTER CP, MQ75MIC	1	
31	*	OIL TANK	1	*MUST ORDER NEW OIL TANK ASSY.
31-1	353213710	OIL TANK	1	
32	*	OIL TANK CAP	1	
32-1	353030070	OIL TANK CAP CP (YELLOW)	1	
35	*	STRAINER, OIL TANK	1	NO LONGER USED
36	355448071	COVER, COCK HOLDER	1	REPLACES 355448070
37	009110011	SOCKET HEAD SCREW 8 x 20	2	
38	030208200	SW M8	2	
39	952401450	WASHER 8.5 x 22 x 3	2	
40	001200610	BOLT 6 x 10	1	
41	030206150	SW M6	1	
42	2267510103	CLAMP	1	
45	353448490	WIRE CP/MT-50, 60 HS	1	
47	5806113020	OIL HOSE	1	

MT-60HS — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.



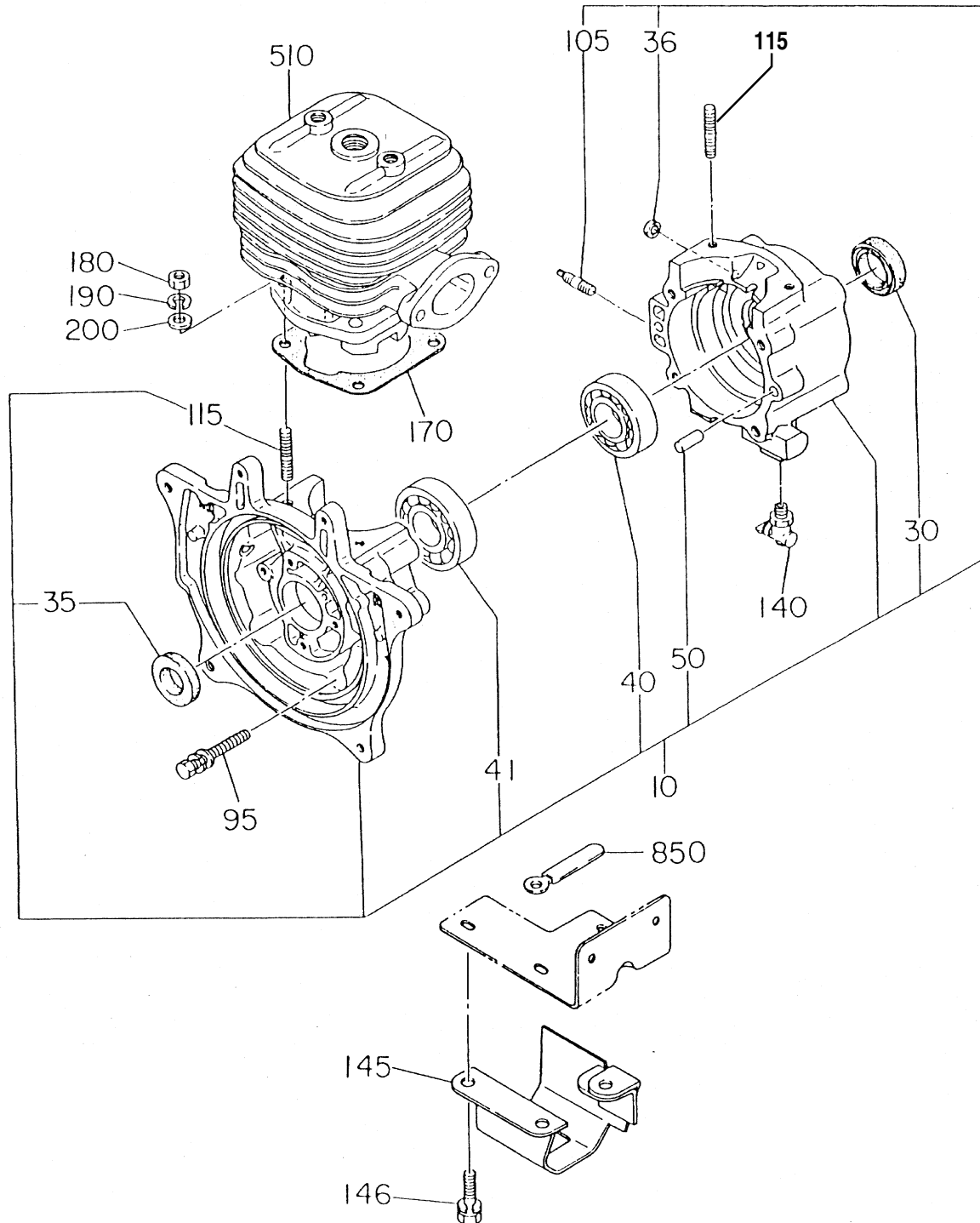
MT-60HS — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
53	353448990	PACKING, OIL TANK CAP	1	
54	353449001	STRAINER, OIL TANK	1	..... REPLACES 353449000
55	353449010	STRAP, OIL TANK	2	
58	353030080	WELL NUT	1	
59	091005015	SCREW 5x 5	1	
60	031105080	PW M5	1	
60	952405970	WASHER 6. 4D-20D	1	
62	353449240	OUTER HOSE 6 x 9 x 65	1	
62-1	353450220	GUARD, OIL HOUSE	1	
63	954403030	HOSE BAND	1	
64	1616391008	CLIP EC12HS	1	
65	1616391608	CLIP	1	
66	5806113040	PROTECTOR	1	
67	353910020	OIL SENSOR ASSY	1	
68	355450600	OUTER LINER 525L	1	
69	361910040	ROLLER ASSY., W/PINS	2	..... REPLACES 955200051
70	091005025	SCREW 5 x 25	4	
71	031105080	WASHER PW M5	4	
72	022610505	FLANGE NUT M5 H	4	

ROBIN EC-08GH ENGINE — CRANKCASE AND CYLINDER ASSY.

CRANKCASE AND CYLINDER ASSY.



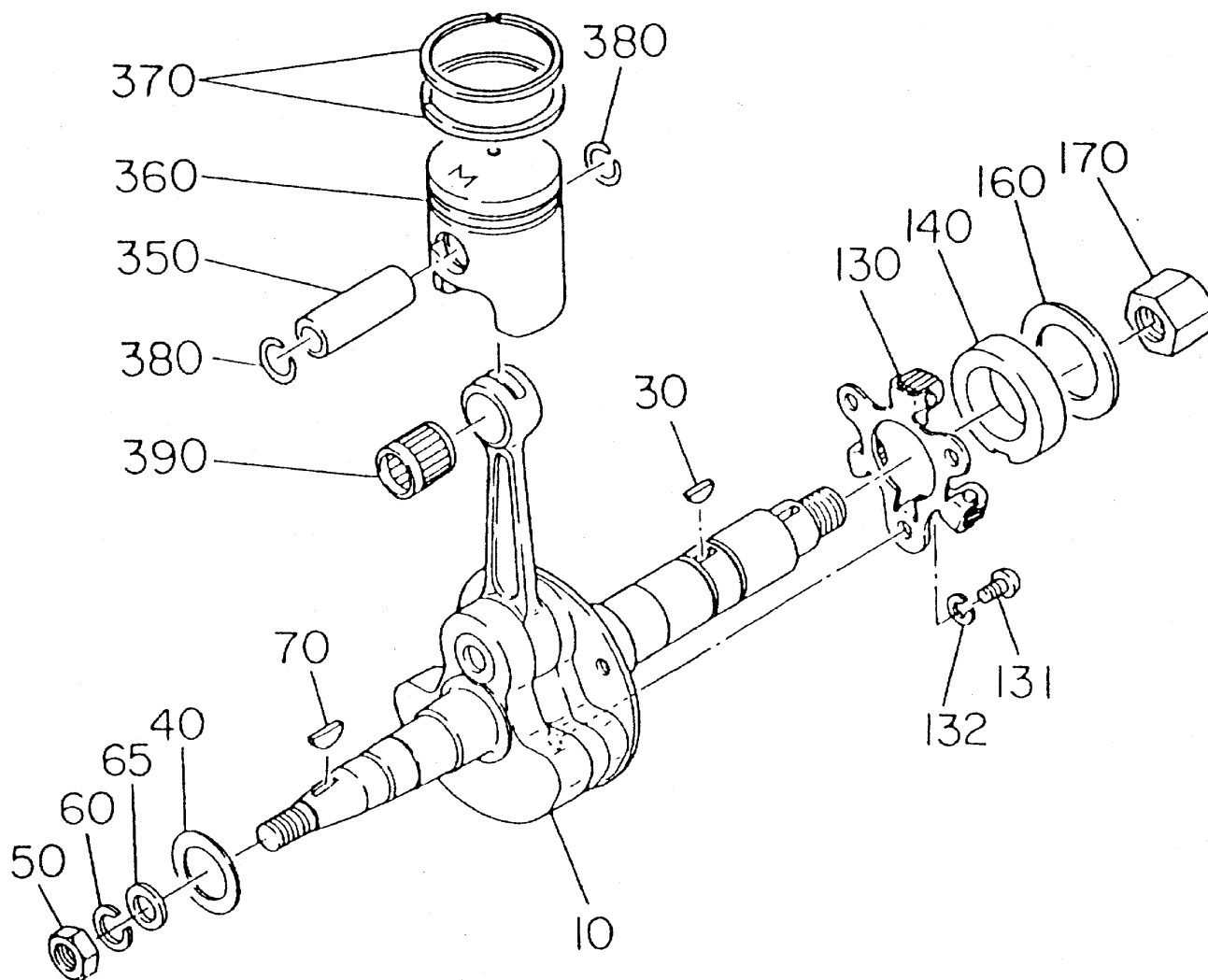
ROBIN EC-08GH ENGINE — CRANKCASE AND CYLINDER ASSY.

CRANKCASE AND CYLINDER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	5801056000	CRANK CASE CP	1	INCLUDES ITEMS W/*
30*	0440200020	OIL SEAL	1	
35*	0440200020	OIL SEAL	1	
36*	0440060010	OIL SEAL	1	
40*	0600200010	BALL BEARING 6004C3	1	
41*	0600200020	BALL BEARING 6204C3	1	
50*	0052606140	DOWEL PIN	2	
95	0011406450	BOLT ASSY	4	
105*	0105060050	STUD	1	
115*	0105064940	STUD	4	
140	0643109980	DRAIN COCK	1	
145	5809011000	PROTECTOR COMPL.	1	
146	0011308180	BOLT AND WASHER ASSY	3	
170	5801501800	GASKET,CYLINDER	1	
180	0021706000	NUT	4	REPLACES 0021806000
190	0030206150	SPRING WASHER	4	REPLACES 003200600
200	0031006000	WASHER	4	
510	5801501400	CYLINDER CP	1	
850	1507520103	CLAMP	1	REPLACES 0566099950

ROBIN EC-08GH ENGINE — CRANKSHAFT AND PISTON ASSY.

CRANKSHAFT AND PISTON ASSY.



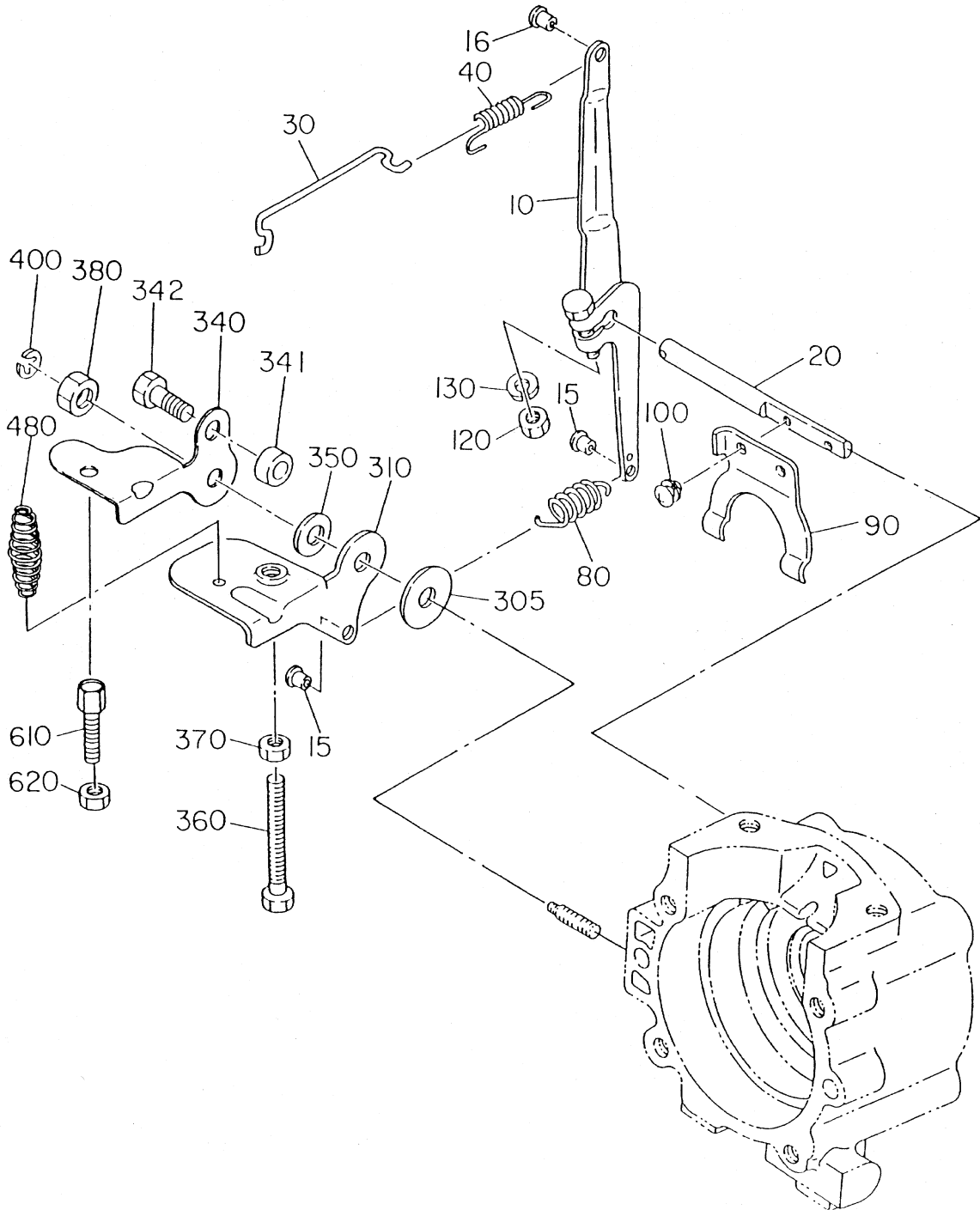
ROBIN EC-08GH ENGINE — CRANKSHAFT AND PISTON ASSY.

CRANKSHAFT AND PISTON ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	5802028000	CRANK SHAFT	1	
30	0323049950	WOODRUFF KEY	1	
40	1292500103	SPACER	2	
50	0039310000	NUT	1	REPLACES 0021810000
60	0030210250	SPRING WASHER	1	REPLACES 0032010000
65	0030206150	WASHER	1	REPLACES 0031010000
70	0323049950	WOODRUFF KEY	1	
130	5804010000	PLATE, GOVERNOR	1	
131	0043105080	SCREW (PAN HEAD)	3	
132	0032005000	SPRING WASHER	3	
140	5514500100	GOVERNOR SLEEVE	1	
160	0230230020	SPACER	1	
170	0173120010	LOCK NUT	1	
350	5802500400	PISTON PIN	1	
360	5802500600	PISTON	1	
370	5000008100	PISTON RING SET	1	
380	0565119990	CLIP	2	
390	0610120010	NEEDLE BEARING	1	

ROBIN EC-08GH ENGINE — GOVERNOR ASSY.

GOVERNOR ASSY.



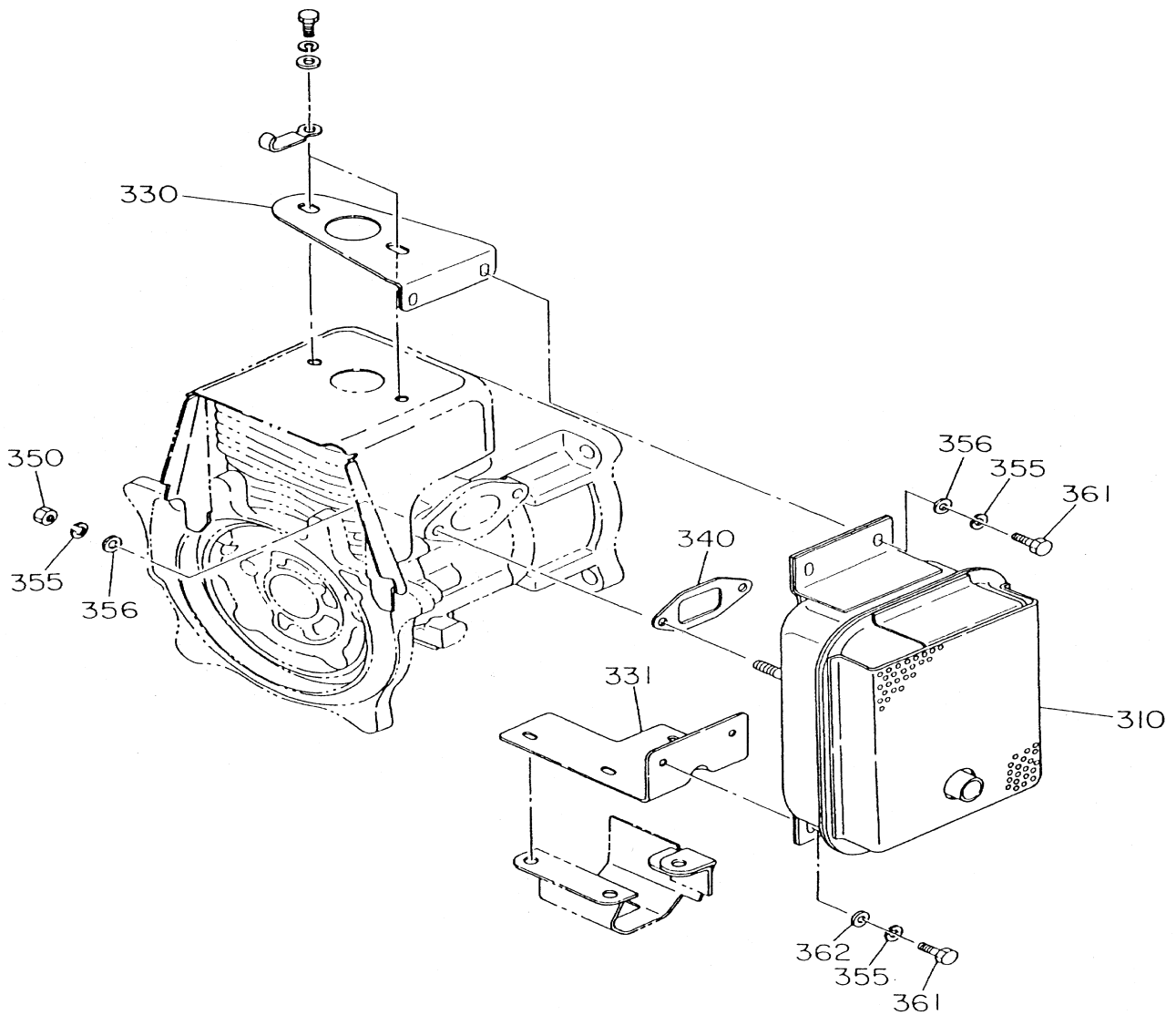
ROBIN EC-08GH ENGINE — GOVERNOR ASSY.

GOVERNOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	5804005000	GOVERNOR LEVER	1	
15	5804500900	BUSH	2	
16	2266255008	BUSH, NYLON	1	REPLACES 5806083060
20	1294220103	GOVERNOR SHAFT	1	
30	1054270111	GOVERNOR ROD	1	
40	1064280113	ROD SPRING	1	REPLACES 1064280111
80	1294250111	GOVERNOR SPRING	1	
90	1294210113	GOVERNOR YOKE	1	
100	0140039980	SCREW ASSY	2	
120	0021706000	NUT	1	
130	0032061500	SPRING WASHER	1	REPLACES 0032006000
305	0217060020	FRICTION WASHER	1	
310	5804500800	CONTROL LEVER	1	
340	5804500600	STOP PLATE	1	
341	0230060090	SPACER	1	
342	0105050616	BOLT	1	REPLACES 6202500400
350	0200070010	WASHER	1	
360	0016506400	BOLT	1	
370	0021706000	NUT	1	
380	0170069960	U NUT	1	
400	1294500103	CLIP	1	
480	402010110	COIL SPRING	1	REPLACES 0830000010
610	0149060040	ADJUSTING SCREW	1	REPLACES 0149069981
620	0020106050	NUT	1	REPLACES 0022706000

ROBIN EC-08GH ENGINE — MUFFLER ASSY.

MUFFLER ASSY.



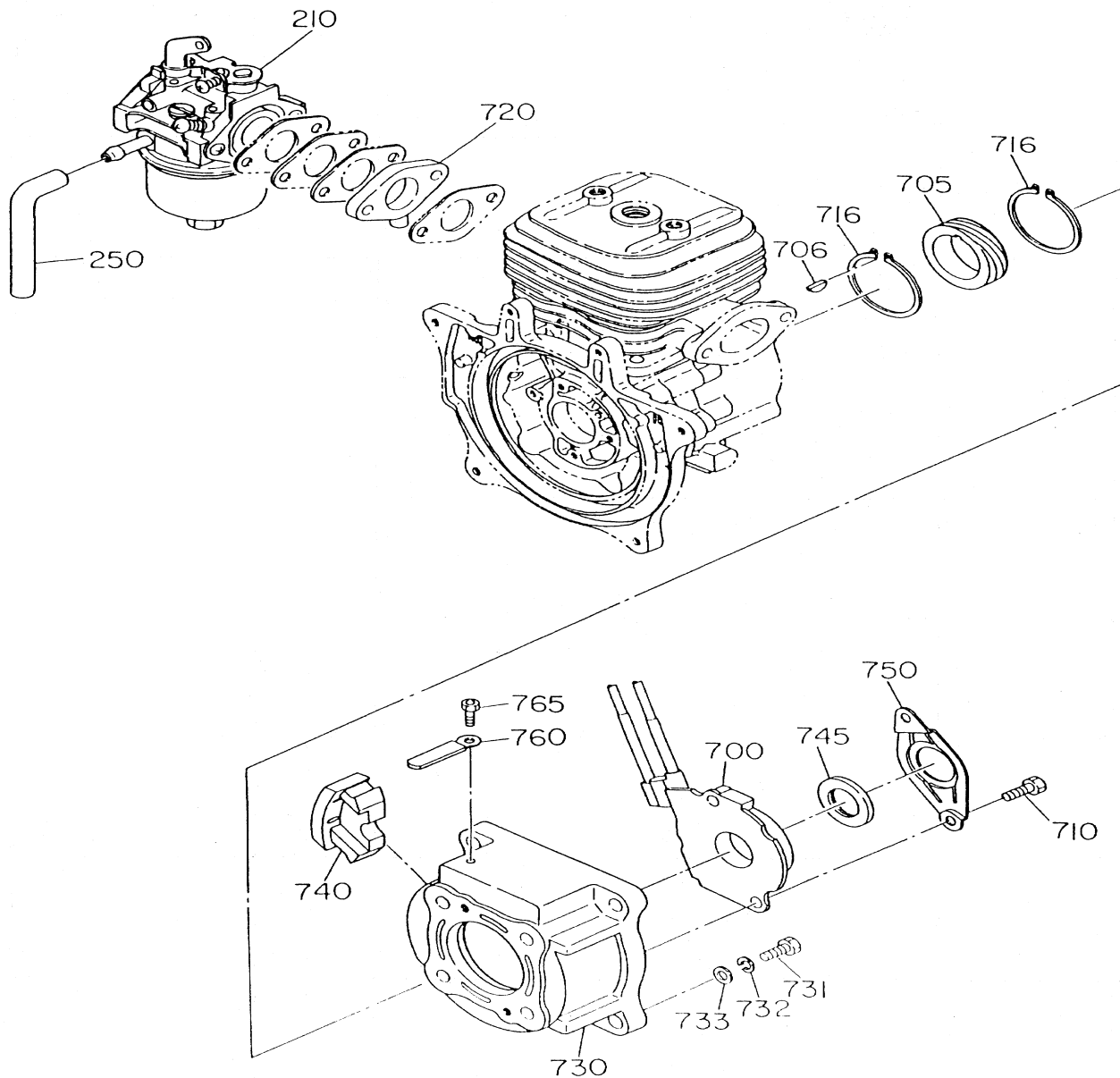
ROBIN EC-08GH ENGINE — MUFFLER ASSY.

MUFFLER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
310	5803032000	MUFFLER	1	
330	5803033000	MUFFLER BRACKET A	1	
331	5803034000	MUFFLER BRACKET B	1	
340	1293500403	GASKET (MUFFLER)	1	
350	0170069960	U NUT	2	
355	0030206150	SPRING WASHER	6	.....REPLACES 0032006000
356	0031006000	WASHER	4	
361	00167061960	BOLT (MUFFLER)	4	
362	0031006000	WASHER	2	

ROBIN EC-08GH ENGINE — CARBURETOR AND OIL PUMP ASSY.

CARBURETOR AND OIL PUMP ASSY.



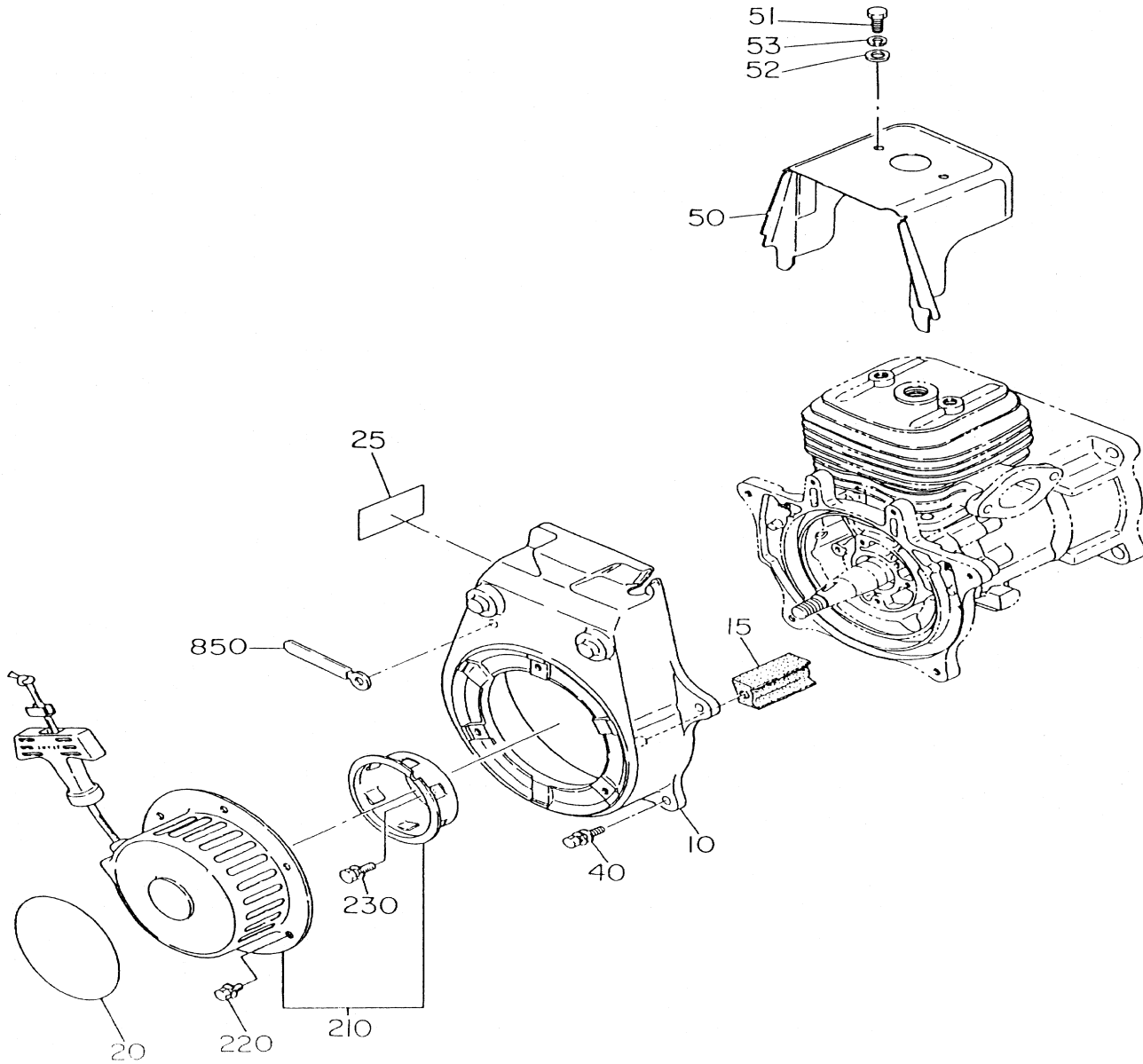
ROBIN EC-08GH ENGINE — CARBURETOR AND OIL PUMP ASSY.

CARBURETOR AND OIL PUMP ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
210	5806111000	CARBURETOR ASSY	1	SEE CARBURETOR FIG. FOR COMPONENTS
250	1616235308	HOSE	1	
700	5806113000	OIL PUMP ASSY	1	
705	5806502300	WORM GEAR	1	
706	0323039980	WOODRUFF KEY	1	
710	0011306250	BOLT AND WASHER ASSY	2	
716	0031520000	SNAP RING, OUTER	2	
720	1616350101	COLLAR CP (OIL INJ.)	1	
730	5806501900	OIL PUMP HOUSING	1	
731	0119089970	SOCKET HEAD BOLT	4	
732	0030208200	SPRING WASHER	4	REPLACES 0032008000
733	0031008000	WASHER	4	
740	5806502000	GROMMET	1	
745	5806502100	SEAL	1	
750	5806502200	PLATE	1	
760	0566059980	CLAMP	1	
765	0119059610	SOCKET HEAD BOLT	1	

ROBIN EC-08GH ENGINE — RECOIL STARTER AND BLOWER ASSY.

RECOIL STARTER AND BLOWER ASSY.



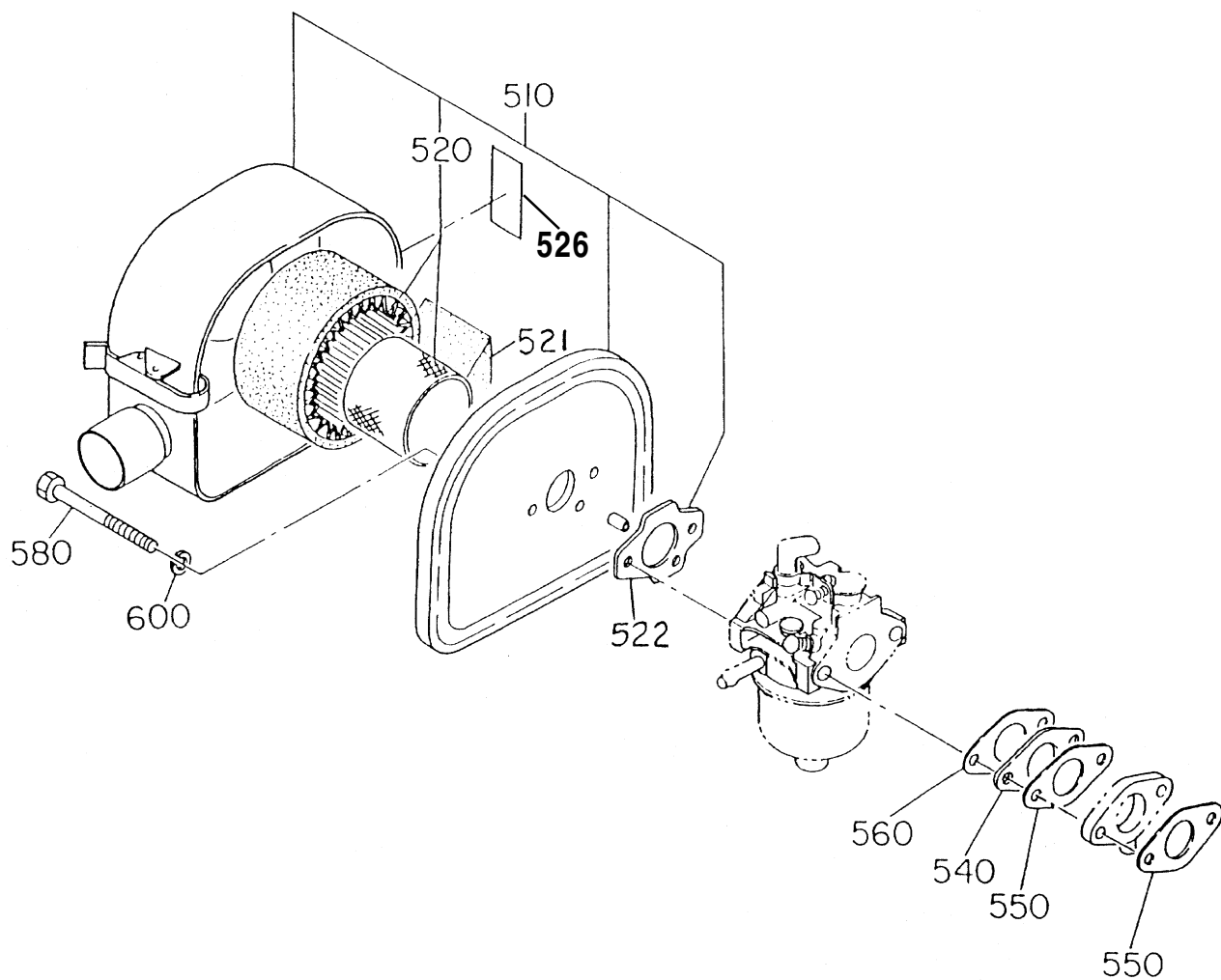
ROBIN EC-08GH ENGINE — RECOIL STARTER AND BLOWER ASSY.

RECOIL STARTER AND BLOWER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	5805501200	FAN COVER	1	
15	5515500200	GUIDE RUBBER	1	
20	920100240	DECAL, (M-MARK)	1	
25	5809500701	LABEL, MODEL	1	
40	0011106200	BOLT ASSY	4	
50	5805022000	CYLINDER COVER CP	1	
51	0016706200	BOLT (CYLINDER)	2	
52	0031206000	WASHER	2	
53	0030206150	SPRING WASHER	2	REPLACES 0032006000
210	5805001000	RECOIL STARTER ASSY	1	SEE RECOIL STARTER FIG. FOR COMPONENTS' REPLACES 5805011001
220	0011006100	BOLT AND WASHER ASSY	3	
230	0011006140	BOLT ASSY	2	
850	0566000250	CLAMP	2	

ROBIN EC-08GH ENGINE — AIR CLEANER ASSY.

AIR CLEANER ASSY.



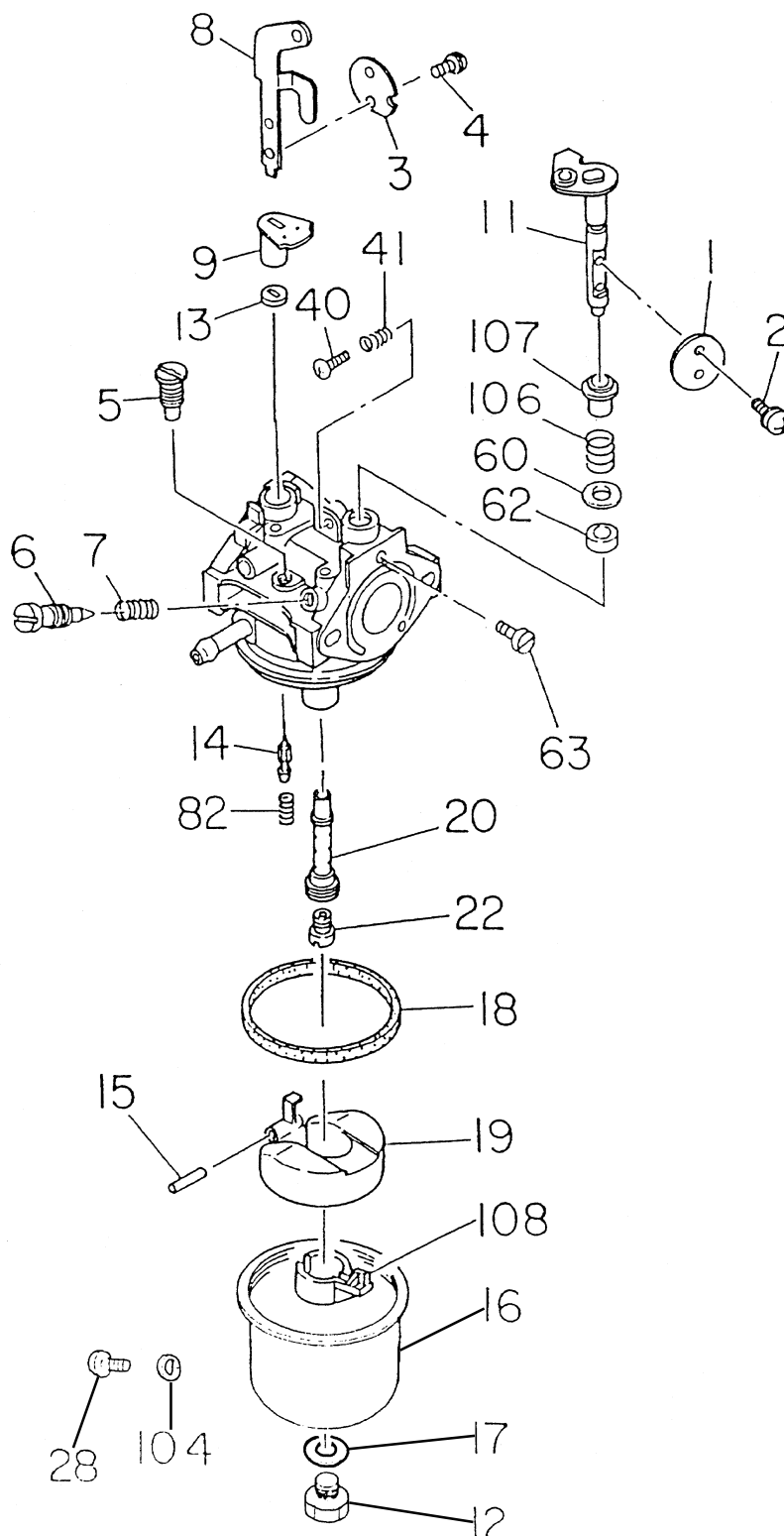
ROBIN EC-08GH ENGINE — AIR CLEANER ASSY.

AIR CLEANER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
510	1063273110	AIR CLEANER ASSY	1	.....INCLS. ALL ITEMS W/*
520*	1573620101	ELEMENT SET	1	.....REPLACES 1573260007
521*	1613261008	ELEMENT	1	
522*	2263272008	GASKET (AIR CLEANER)	1	
526	0736439980	LABEL	1	
540	1293290103	INSULATOR	1	
550	1063500103	GASKET (INSULATOR)	2	
560	2363590303	GASKET 2 (INSULATOR)	1	
580	0011306800	BOLT	2	
600	0030206150	SPRING WASHER	2	.....REPLACES 0032006000

ROBIN EC-08GH ENGINE — CARBURETOR COMPONENTS ASSY.

CARBURETOR COMPONENTS ASSY.



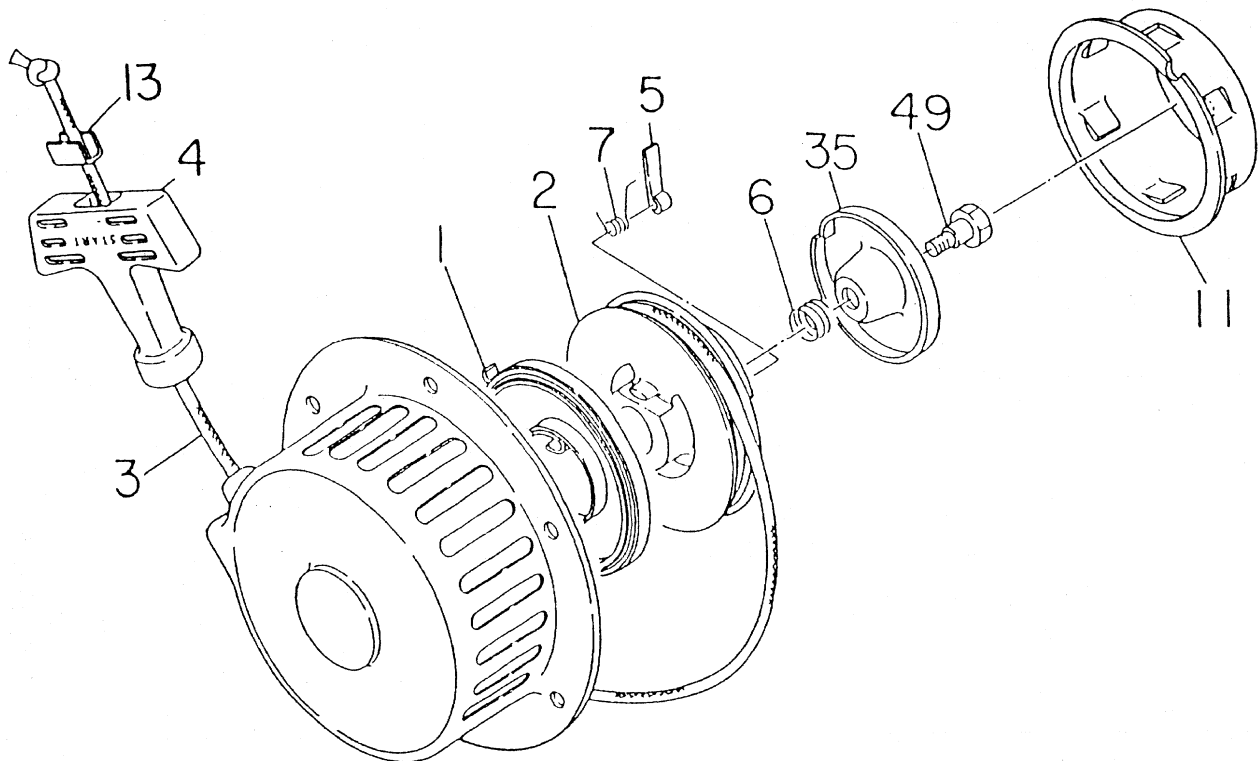
ROBIN EC-08GH ENGINE — CARBURETOR COMPONENTS ASSY.

CARBURETOR COMPONENTS ASSY.

NO.	PART NO.	PART NAME	QTY.	REMARKS
A	5806111000	CARBURETOR ASSY	1	INCLUDES ITEMS W/*
1*	1616253508	THROTTLE VALVE	1	REPLACES 5806083110
2*	5806111010	SCREW AND WASHER ASSY	2	
3*	5806083310	CHOKE VALVE	1	
4*	5806111010	SCREW AND WASHER ASSY	2	
5*#	2076242008	PILOT JET	1	REPLACES 5606003020
6*#	2136239008	PILOT SCREW	1	REPLACES 5416002150
7*#	2096244508	SPRING	1	REPLACES 8046001230
8*	5806083040	CHOKE LEVER	1	
9*	5806083050	RING	1	
1*	5806083030	THROTTLE SHAFT ASSY	1	
12*#	5806083020	BOLT	1	
13*	5806083360	RING	1	
14*#	5806083400	NEEDLE	1	
15*#	2146251508	PIN	1	REPLACES 5416002050
16*	5806083010	FLOAT BODY ASSY	1	
17*#	5806083330	PACKING	1	
18*#	2366254008	PACKING	1	REPLACES 5806083340
19*#	5806083350	FLOAT	1	
20*	5806083260	MAIN NOZZLE	1	
22*#	5306011010	MAIN JET	1	
28*	5806083150	SCREW	1	
40*#	5416002230	SCREW	1	
41*#	2096244508	SPRING	1	REPLACES 8046001230
60*	5806083230	PACKING	1	
62*	5806083210	SEAL	1	
63*	5806083230	SCREW	1	
82*#	2366244508	SPRING	1	REPLACES 5806083240
104*	2366254108	PACKING	1	REPLACES 5806083320
106*	5806083140	SPRING	1	
107*	5806083120	RING	1	
108*	5806083370	FLOAT STOPPER	1	
#	KITCARBEC08HS	KIT, CARBURETOR EC08HS	1	INCLUDES ITEMS W/#

ROBIN EC-08GH ENGINE — RECOIL STARTER COMPONENTS ASSY.

RECOIL STARTER COMPONENTS ASSY.



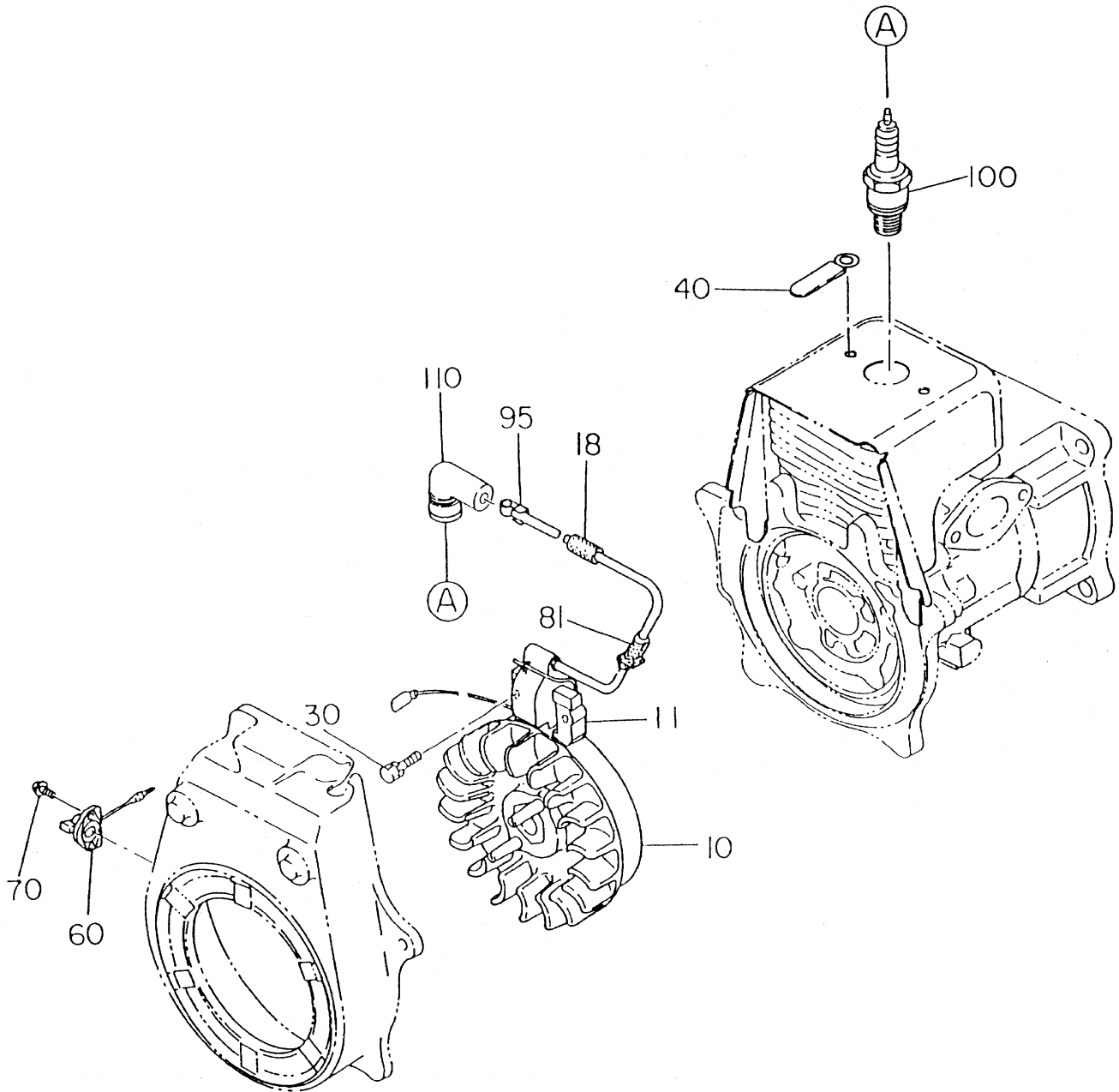
ROBIN EC-08GH ENGINE — RECOIL STARTER COMPONENTS ASSY.

RECOIL STARTER COMPONENTS ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	5805001000	RECOIL STARTER ASSY	1	.....INCLS. ALL ITEMS W/*
1*	5805004020	SPIRAL SPRING	1	
2*	5805004030	REEL	1	
3*	5805011040	STARTER ROPE	1	
4*	5805001030	STARTER HANDLE	1	
5*	5805004040	RATCHET	1	
6*	5805004110	FRICTION SPRING	1	
7*	5805004050	RETURN SPRING	1	
11*	EC08A050311	STARTER PULLEY	1	.....REPLACES 5805004140
13*	5515005160	ROPE STOPPER	1	
35*	EC08A05038	FRICTION PLATE	1	.....REPLACES 5805004120
49*	5805011020	CENTER SCREW	1	

ROBIN EC-08GH ENGINE — MAGNETO ASSY.

MAGNETO ASSY.



ROBIN EC-08GH ENGINE — MAGNETO ASSY.

MAGNETO ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	5807005010	FLYWHEEL	1	
11	5807007020	IGNITION COIL	1	
18	0851029960	VINYL PIPE	1	
30	0011105250	BOLT AND WASHER ASSY	2	
40	1507520103	CLAMP	1	..... REPLACES 0566099950
60	0660000361	STOP SWITCH ASSY (ON-OFF)	1	
70	0043304100	SCREW 4X10	2	
81	0241069980	GROMMET	1	
95	0659000010	SPARK PLUG CLIP	1	..... REPLACES 0655000100
100	0650140031	SPARK PLUG	1	..... REPLACES 00650149730
110	0655000140	SPARK PLUG CAP	1	

PAYMENT TERMS

Terms of payment for parts are net 10 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 listed in the parts price book 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 5 working days from notification, pending instructions. If a reply is not received within 5 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 \$20.00 to \$50.00 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 here under 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. A part 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.

PARTS AND OPERATION MANUAL

HERE'S HOW TO GET HELP

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

PARTS DEPARTMENT

800-427-1244 or 310-537-3700

FAX: 800-672-7877 or 310-637-3284

SERVICE DEPARTMENT/TECHNICAL ASSISTANCE

800-478-1244 or 310-537-3700

FAX: 310- 537-4259

WARRANTY DEPARTMENT

888-661-4279, or 310-661-4279

FAX: 310- 537-1173

MAIN

800-421-1244 or 310-537-3700

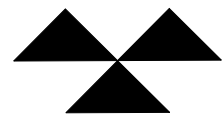
FAX: 310-537-3927



MULTIQUIP INC.

POST OFFICE BOX 6254
CARSON, CA 90749
310-537-3700 • 800-421-1244
FAX: 310-537-3927
E-MAIL: mq@multiquip.com
WWW: multiquip.com

Atlanta • Boise • Dallas • Houston • Newark
Quebec, Canada • Manchester, UK • Rio De Janeiro, BR • Guadalajara, MX



manufactured for Multiquip Inc.
by
MIKASA SANGYO CO., LTD. Tokyo, Japan