

# PARTS AND OPERATION MANUAL



# *Mikasa*

## Tamping Rammer Model MTR-60L

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Revision #7 (06/26/01)



**MULTIQUIP INC.**

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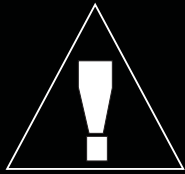
**PARTS DEPARTMENT:**

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

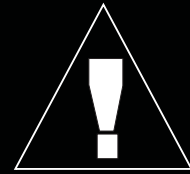
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FAX: 310-631-5032

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# 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***

*800/478-1244 or 310/537-3700*

*FAX: 310 - 537-4259*

### ***WARRANTY DEPARTMENT***

*800/421-1244, EXT. 279 or 310/537-3700*

*FAX: 310 - 537-1173*

### ***MAIN***

*800/421-1244 or 310/537-3700*

*FAX: 310 - 537-3927*

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### 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  
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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 MTR-60L 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.

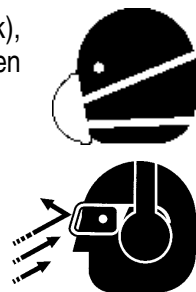


- **NEVER** operate this equipment under the influence of drugs or alcohol.



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

- **ALWAYS** wear proper respiratory (mask), hearing and eye protection equipment when operating the rammer.



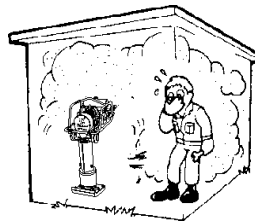
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- Manufacture does not assume responsibility for any accident due to equipment modifications.
- **NEVER** use accessories or attachments, which are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.

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

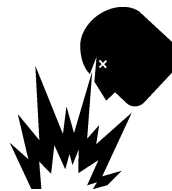


- **High Temperatures** – Allow the engine to cool before adding fuel or performing service and maintenance functions. Contact with *hot* components can cause serious burns.

- 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

- **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 damage may occur.
- Always service air cleaner frequently to prevent poor combustion and engine damage.
- 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.
- 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 in the upright position.

## 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 and decals which are missing or difficult to read.
- 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.



P/N 920202630

## CAUTION

1. Check all nuts and bolts for tightness
2. Give each grease fitting 3 to 5 shots of grease with a hand grease gun every 8 hours. Be sure to use Shell darina EP-2 grease or benton base equal.
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 the fuel filter located under the fuel tank. Close the choke lever on the carburetor and pull starter rope. When the 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 2 or 3 times.
6. Allow the engine to warm up for 4 to 5 minutes before operation.
7. When starting to operate the machine quickly 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-181 Ⓢ

P/N 920201810

## NAMEPLATE

CONTACT MULTIQUIP  
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

When you stop  
the engine, be  
sure to close  
the fuel cock.  
NPA-389 Ⓢ

P/N 920203990

<p>エアクリナー取扱注意 エレメントが汚れた時は白灯油で洗浄し、洗浄後は混合油(白灯油2-4:エンジンオイル1)の中に浸し、点滴しない程度によく振り切って粗込んで下さい。但しホコリの多い場所では早めに清掃して下さい。</p>	<p>NOTICE CLEAN THE ELEMENT WITH KEROSENE WHEN DIRTY. AFTER THE CLEANING, LUBRICATE IT MIXED OIL (KEROSENE 2-4: ENGINE OIL 1). SQUEEZE OUT THE OIL, AND REPLACE IT, AND CLEAN IT MORE OFTEN WHEN OPERATING IN DUSTY CONDITIONS.</p>
<p>TOKYO KOUKENSHA CO., LTD. JAPAN</p>	
<p>P/N 1073273308</p>	
<p>NPA-831 Ⓢ</p>	

USE MIXED FUEL ONLY  
1/3 PT OUTBOARD OIL: 1GAL. GAS

NPA-50

P/N 920200500



## Definition of Tamping Rammer

The Mikasa MTR-60L 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.

### NOTE

Narrow extension shoe accessories are available from MQ.

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

Circular motion is converted to create impact force. The MTR-60L 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 MTR-60L Tamping Rammer is equipped with an Robin air cooled, four 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 MTR-60L uses an grease lubrication system. Always apply grease to all grease fittings every 8 hours of operation. (Shell Darina EP2 or Equivalent).

## Controls

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

**Table 1. MTR-60L Rammer Specifications**

MODEL	MTR-60L U.S. (metric)
Overall Height	39.5 in. (1,000 mm)
Height of Handle Grip	33 in. 37-3/16 in. approx. ( 840-950 mm)
Overall Width	25.75 in (400 mm)
Over Length	23.62 in (600 mm)
Plate Dimensions	11-1/16 x 13 in. (285 x 330 mm)
Blows/minute	600
Tamping Area	2,153 ft. ( 200 m <sup>2</sup> ) per hour
Impact Force	2,140 lbs./blow (972 kg/blow)
Clutch	Automatic Centrifugal
Operating Weight	135 lbs. (60 kg)

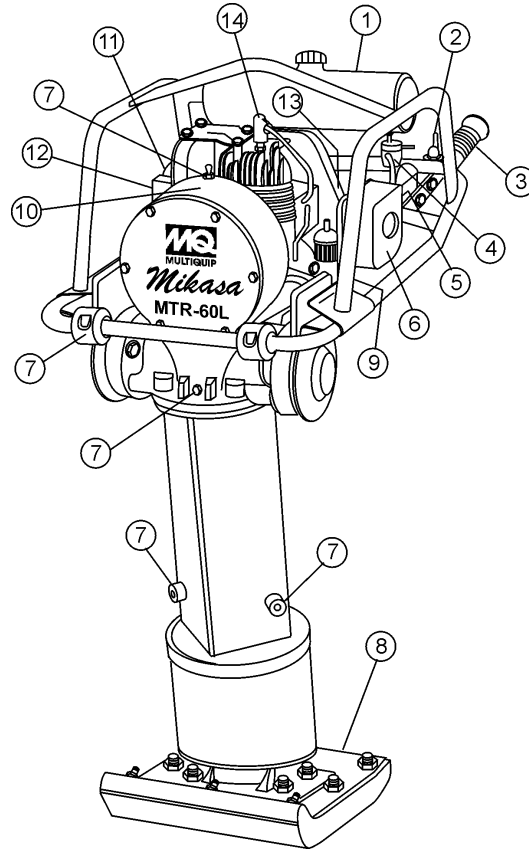
**Table 2. Robin EC-08G STD Engine Specifications**

MODEL	ROBIN EC-08G STD ENGINE
Type	Air-Cooled 2 Stroke Gasoline Engine
Bore X Stroke	1-31/32 x 1-7/32 in. (50 x 40 mm)
Piston Displacement	5.12 cu.in. (78.5 cc)
Max. Output	2.4 hp/3,600 rpm (1.8 KW)
Compression Ratio	6.5:1
Continuous Rated Output	1.8 ps/4,000 rpm
Max. Output	3.3 ps/5,500 rpm
Max. Torque	3.7 ft-lb (0.51 kg-m) 3,600 rpm
Cooling System	Air-Cooled
Lubrication System	Fuel-Lubrication Oil Spraying System
Fuel	Gasoline 32: Oil 1
Dry Weight	16.3 lbs. (7.4 kg)
Spark Plug	NGK B-6HS
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.

# MTR-60L — CONTROLS AND COMPONENTS



**Figure 1. MTR-60L Tamping Rammer**

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

1. **Fuel Tank/Cap** – Remove this cap to add fuel. Tank holds .39 gallons (1.5 liters ) unleaded. Mix 32:1 ratio with outboard motor oil.
2. **Throttle Lever** – Controls engine speed and the tamping action of the rammer.
3. **Handle** – To operate rammer **GRIP** handle assembly firmly.
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. **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.
6. **Engine Air Cleaner** – Prevents dirt and other debris from entering the engine.
7. **Grease Fill Plugs** – Grease these plugs to lubricate the top and bottom mechanical component ends of the rammer.
8. **Foot**– Laminated wood with tempered steel plate for superior shock absorption.
9. **Fuel Valve** – Open this valve to remove excess fuel from the carburetor or crankcase.
10. **Nameplate**– Displays information regarding the rammer.
11. **Muffler**– Used to reduce noise and emissions.
12. **Recoil Starting Handle** – Used when starting the engine. Pull starter handle sharply and quickly, then return starter handle to starter case before releasing.
13. **Engine Stop Switch** – Controls the starting and stopping of the engine. Switch must be in the "ON" position when starting the engine.
14. **Spark Plug** – Provides spark to the ignition system, replace with engine manufactures recommended type spark plug.

We strongly recommend that you study this Operational Manual. Proper maintenance and operation is essential for long life and durability of your rammer.

## 1. Before operating

1-1. The rammer should be greased every two weeks (normal use) days. Be sure to use MQ HIGH TEMPERATURE GREASE (PART#GS2). Equivalent greases are Shell Darina or Texaco Thermatex, both have a bentone base with a EP-2 rating. If an inferior type grease is used, the grease could become too thick or too thin due to change in temperature and improper lubrication may result.

1-2. The rammer is equipped with a two-cycle gasoline engine. Use a well blended mixture of fuel ( 32 parts gasoline: 1 part 2-cycle outboard oil). A regular grade gasoline should be used. High test ethyl gasoline is not recommended. The oil used with the gasoline should be a good grade of two-cycle or outboard motor oil (Fig. 1). **DO NOT USE REGULAR AUTOMOTIVE-TYPE MOTOR OIL.**

1-3. When filling the rammer with fuel, be sure that the fuel filter located in the fuel tank is used. Make sure that the leak stopper is installed in the fuel tank cap as fuel may splash out of the tank due to vibration. (Figs. 2 and 3.)

1-4. Check all the screws and bolts for tightness.

1-5. Clean all mud and dirt from the rammer. Particular attention should be paid to cleaning the spindle rod and guide spindle (located underneath the protective sleeve) and the recoil starter. (Figs. 4 and 5.)

## 2. Starting

2-1. Turn the fuel on by moving the fuel cock lever downward (Fig. 6).

2-2. Close the choke lever and move the throttle lever to the "off" position. The choke is closed by moving the lever upward. In cold weather, start the unit with the choke in the fully closed position. In summer time or when the engine is warm, the unit can be started with the choke halfway or completely open (Fig.7).

2-3. Forcefully pull the recoil starter rope to start the engine. NOTE: 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 (Fig.8).

2-4. As soon as the engine starts, gradually open the choke to the fully open position. Let the engine idle for 2 to 3 minutes at low speed prior to operating the rammer.

2-5. If the engine does not start, remove and check the spark plug for excessive carbon or excess fuel on the spark plug. Clean and replace the spark plug as necessary. If the carburetor is flooded or the crank case is loaded with excess fuel, open the drain cock as shown in (Fig. 9) and drain out excess fuel.

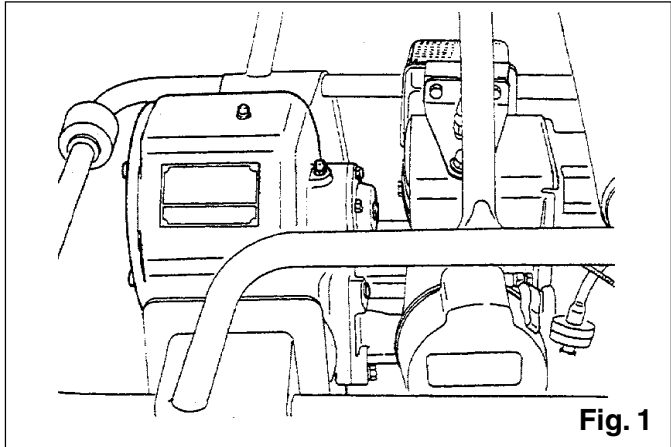


Fig. 1

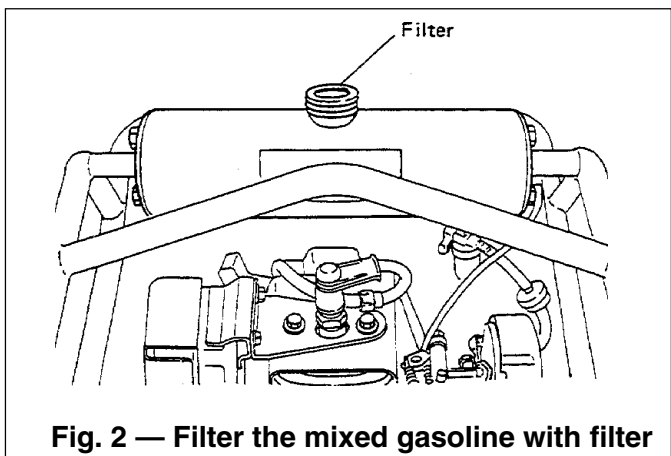


Fig. 2 — Filter the mixed gasoline with filter

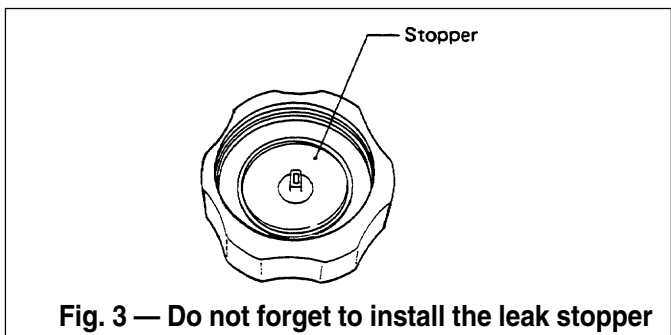


Fig. 3 — Do not forget to install the leak stopper

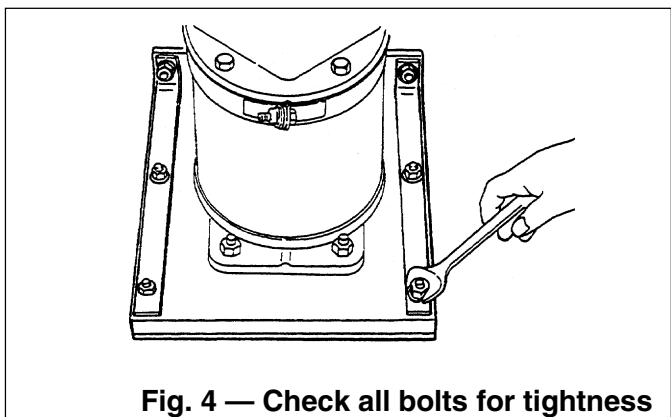


Fig. 4 — Check all bolts for tightness

## 3. Operation

3-1. Move the throttle lever (Figure 10) from the “off” to the “on” position. Make sure that the throttle lever is moved to the fully “on” position (Fig. 10). Operating the rammer at half speeds can result in damage to the clutch or springs.

3-2. The rammer is designed to tamp the ground 550 to 600 times per minute at an engine speed of 4000 rpm. NOTE: Increasing the engine speed above the recommended operating engine speed will not increase the effectiveness of the rammer. Impact actually decreases as a resonance is created rather than a tamping effect. Damage can result to the unit. Running the rammer over hard surfaces such as concrete and asphalt are not recommended as damage to the machine may result.

3-3. In cold weather, the grease in the rammer is stiff and may not allow the rammer to operate smoothly. The tamper can be warmed by moving the throttle lever from the “on” to the “off” position several times until the grease is heated and the rammer operates smoothly.

3-4. The rammer is designed to travel forward while tamping. To increase the travel speed of the rammer, push down lightly on the handle. Open blows or running the rammer without contacting the soil is not recommended.

3.5. Check for oil leaks and retighten bolts. The tamping rammer may be greased daily as paragraph 5-2; however, weekly greasing is sufficient.

## 4. Stopping the engine

4-1. Turn the throttle lever to the “idle” position and allow the engine to run at an idle speed for 2 to 3 minutes to allow the temperature of the engine to cool, then stop the engine by pushing the “stop” button (Fig. 11).

## 5. Service

### 5-1. DAILY

Thoroughly remove mud, dirt, and oil from the machine. Check the air cleaner element and clean or replace it as necessary. Check all bolts for tightness.

### 5-2. WEEKLY (every 50 hours)

Remove the air cleaner element and wash it in a neutral detergent solution. Shake out excess moisture and dry the element. Lubricate the element with a two-cycle engine fuel mix and squeeze out the excess moisture. Reinstall the air cleaner element. Under extreme conditions, the tamping rammer may be greased daily. Under normal conditions, add 6 shots of grease to all three lubrication points every 2 weeks. Be sure to use MQ HIGH TEMPERATURE GREASE (PART #GRS2) or it's generic equivalent Bentone base EP#2 grease. (Shell Darina EP2)

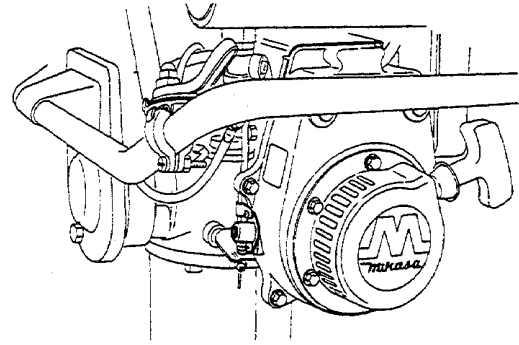


Fig. 5 — Clean around the recoil starter

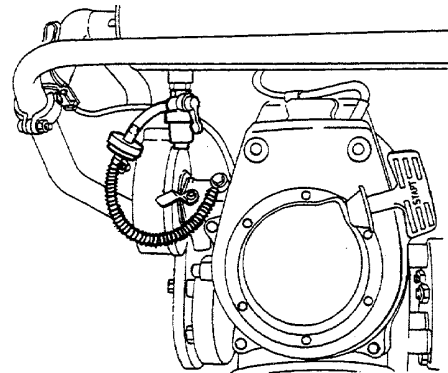


Fig. 6 — Move the fuel cock downwards

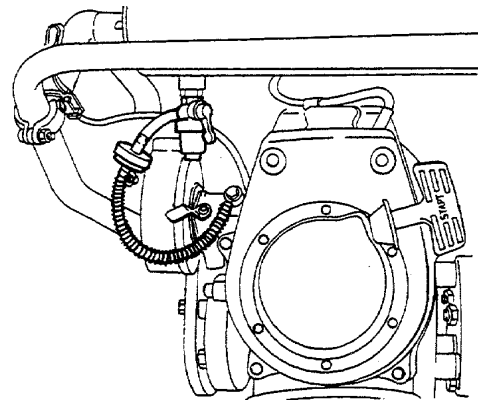


Fig. 7 — Closing the choke lever

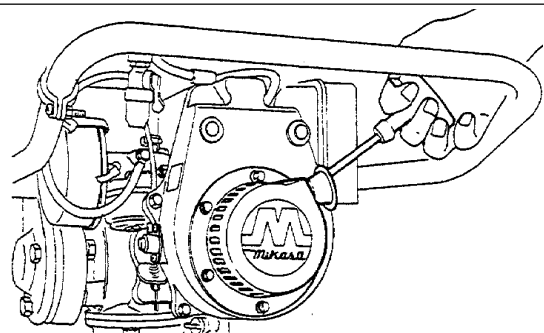


Fig. 8 — Pull the grip forcibly after slight resistance is felt

## 5-3. MONTHLY (every 200 hours)

Clean the fuel filter cup and check all nuts and bolts for tightness.

## 5-4. STORAGE

When storing the rammer for long periods of time, thoroughly drain all fuel from the fuel line, carburetor, and engine. Remove the spark plug and put a few drops of motor oil into the cylinder and crank the engine several times by hand. Clean the outside of the rammer with an oil-moistened cloth. Cover and store in a clean dry place.

## 6. Dismantling the tamping rammer

When dismantling the machine, be sure to disassemble in a clean, dust-free area.

6-1. Removal of the Foot: Remove the protection sleeve (#17P17), band (#18P17), and then loosen the four nuts (#30P17) of the foot plate (#22P17), and remove bolts (#27P17). The foot can now be removed by lightly tapping it.

6-2. Removal of the Foot Plate: After removing the foot, remove the lock washer (#23P17) by loosening the bolts (#24P17). Then remove the foot plate (#22P17) from the spindle rod (#7P17).

### 6-3. Replacement of the Springs:

a. Loosen the four bolts which connect the guide cylinder and crankcase. Separate them, and locate the cylinder pin.

b. Remove the cylinder pin by taking off the stop rings fitted to the cylinder cap (bottom), and the spring cylinder and the crankcase can be completely separated.

c. Next, remove the four bolts which connect the double guide and guide cylinder. The complete spring cylinder can be removed with the foot plate.

d. Remove the cylinder cap (bottom) by loosening it gradually. **CAUTION:** Be careful when removing the cylinder cap (bottom), as springs may spring out. Spring replacement should be made in set only.

6-4. Replacement of the Crank Gear: Remove cylinder pin, guide cylinder, crankcase, front cover, bolt, and lock washer, and connecting rod. After removing bearing cover and Hexagonal socket bolt, hit the crank gear from engine side, and remove.

6-5. Replacement of Clutch: The engine, and the Clutch Assy. can be taken off by loosening bolts. When removing the clutch shoe, take off the washer to prevent turning the front clutch guide, clutch guide, and clutch spring. Replace the clutch shoes as one complete set.

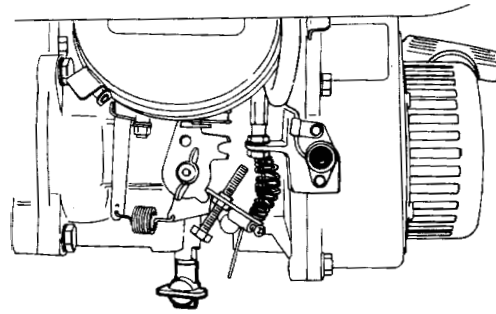


Fig. 9 — Drain plug

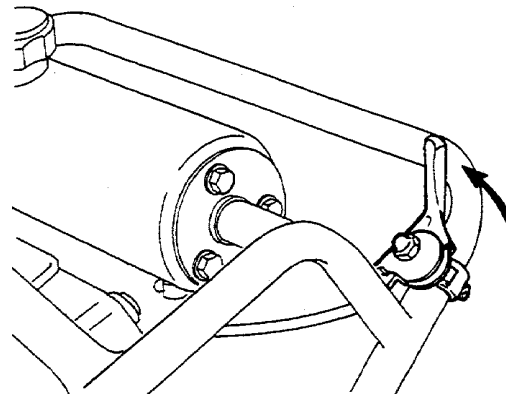


Fig. 10 — Moving the throttle lever to the "ON" position quickly

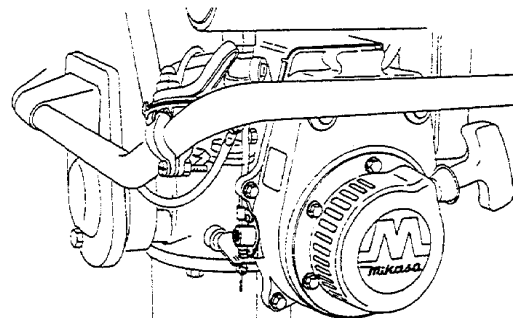


Fig. 11 — Stop button

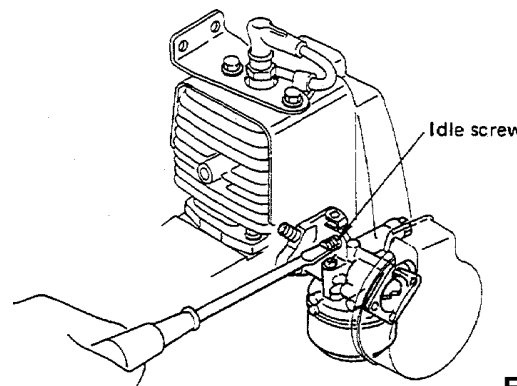
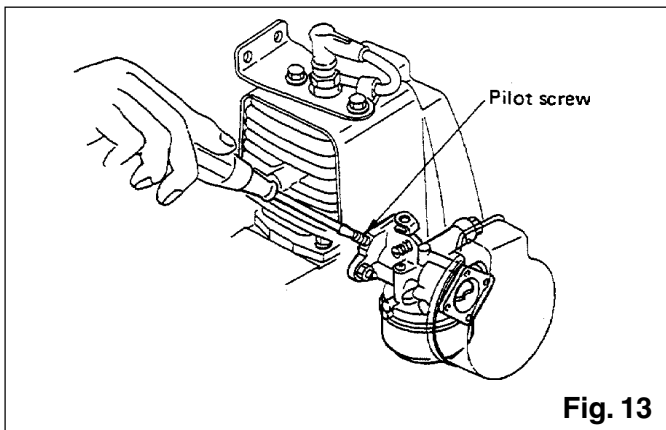
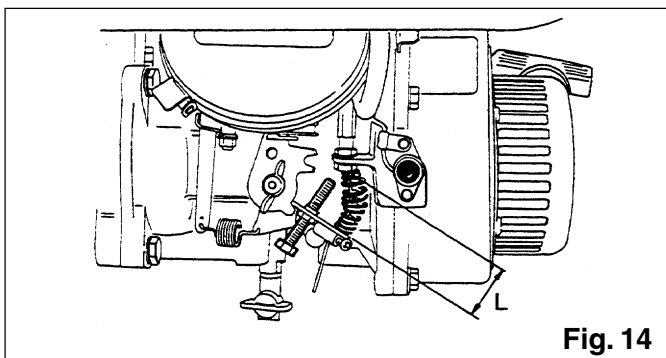


Fig. 12



**Fig. 13**



**Fig. 14**

6-6. Replacement of Pinion Gear: Remove engine (#30P15). Tap on the head of pinion using a hammer to pull out the pinion (#22P15) including 23-26.

## 7. Speed adjustment

### 7-1. Idle adjustment

7-1-1 Adjust idle when engine is warm.

7-1-2 With the throttle in a "off" position, adjust idle screw (Fig 12) to approximately 1,200+- 100.

### 7-2. Pilot adjustment

7-2-1 Turn pilot screw (Fig. 13 ) to closed position. Open approximately one full turn for smooth engine idling.

7-3. High speed adjustment. The rammer should operate at 3800 rpm at full operating speed . Proper high speed can be adjusted simply by adjusting the adjusting screw and nut to the proper stop position as shown in (Fig. 14). NOTE: Do not remove the governor lever or governor shaft unless absolutely necessary for disassembly. When disassembling is necessary, measure the dimension "L" of the adjusting screw and when reassembled, set the adjusting screw to the "L" dimension.

# MTR-60L — TROUBLESHOOTING GUIDE

TABLE 4. ENGINE TROUBLESHOOTING

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
<b>Difficult to start</b>		
Fuel is available but spark plug will not ignite. (Power available at high tension cable).	Spark plug carbon bridged?	Replace Spark plug.
	Carbon deposit at ignition?	Clean muffler and exhaust port.
	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 <b>NOT</b> 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 <b>normal</b> ).	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 <b>low</b> ).	Defective cylinder head gasket?	Tighten cylinder head bolts or replace head gasket.
	Cylinder worn?	Replace cylinder, piston, and rings as needed.
	Spark plug loose?	Tighen spark plug.
<b>Operation not satisfactory</b>		
Not enough power available (compression normal, no miss-firing).	Air cleaner clogged?	Clean / Replace.
	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, piston, and rings as needed.
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.



# MTR-60L — TROUBLESHOOTING GUIDE

**TABLE 4. ENGINE TROUBLESHOOTING (continued)**

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
<b>Operation not satisfactory</b>		
Rotational speed fluctuates.	Governor adjustment improper?	Adjust governor to correct lever.
	Governor spring defective?	Clean or replace ignition.
	Fuel flow erratic?	Check fuel line. Check fuel cap for proper venting.
	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.
	Rope frayed or broken.	Replace starter rope.

**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 full speed position.
	Grease in excess?	Do not over grease.Mixed grease types may harden and cause lack of lubrication.
	Clutch slips?	Replace clutch.
	Clutch Failure?	Replace springs / clutch as needed.
	Speed of engine improper?	Adjust engine speed to correct operating RPM setting.
	Broken Rammer Spring	Repair / Replace springs /springs BW as needed.

# 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.*

# MTR-60L — SUGGESTED SPARE PARTS

## MTR-60L Mikasa Rammer 1 to 3 Units

Qty. ....	PIN .....	Description
10 .....	GRS2 .....	Grease, high temp.
3 .....	0650140031 .....	Spark plug
1 .....	956300060 .....	Lever, throttle assy.
1 .....	301010900 .....	Throttle wire
2 .....	505015060 .....	Nipple, A-grease
1 .....	301910081 .....	Tank cap assy.
1 .....	954300390 .....	Fuel cock assembly
10 .....	301419750 .....	Filter, in-line fuel
1 .....	959401750 .....	Stopper for wire
1 .....	402010110 .....	Spring, return
1 .....	1293500403 .....	Gasket, muffler
1 .....	0521060100 .....	Banjo
1 .....	2096233508 .....	Bolt Banjo
1 .....	2076234508 .....	Washer
5 .....	1063260207 .....	Element, air cleaner
1 .....	0669900207 .....	Button, stop (S/N C-5084 & Below)
1 .....	0662009720 .....	Switch, stop (S/N C-5085 & Above)

## MTR-60L Mikasa Rammer 3 to 5 Units

Qty.	PIN	Description
10 .....	GRS2 .....	Grease, high temp.
5 .....	0650140031 .....	Spark plug
1 .....	956300060 .....	Lever, throttle assy.
2 .....	301010900 .....	Throttle wire
2 .....	301010810 .....	Rubber coupling
1 .....	0643000101 .....	Drain cock
4 .....	505015060 .....	Nipple, A-grease
5 .....	301419750 .....	Filter, in-line fuel
2 .....	954300390 .....	Fuel cock assembly
2 .....	301910090 .....	Hose assembly fuel
2 .....	959401750 .....	Stopper for wire
2 .....	402010110 .....	Spring, return
2 .....	1293500403 .....	Gasket, muffler
10 .....	1063260207 .....	Element, air cleaner
2 .....	0669900207 .....	Button, stop (S/N C-5084 & Below)
1 .....	EC086230 .....	Kit, carburetor
2 .....	0662009720 .....	Switch, stop (S/N C-5085 & Above)

## MTR-60L Mikasa Rammer 5 to 10 Units

Qty. ....	PIN .....	Description
10 .....	GRS2 .....	Grease, high temp.
10 .....	0650140031 .....	Spark plug
2 .....	956300060 .....	Lever, throttle assy.
2 .....	301010900 .....	Throttle wire
4 .....	301010810 .....	Rubber coupling
3 .....	0643000101 .....	Drain cock
6 .....	505015060 .....	Nipple, A-grease
2 .....	301910081 .....	Tank cap assembly
3 .....	954300390 .....	Fuel cock assembly
5 .....	301419750 .....	Filter, in-line fuel
3 .....	959401750 .....	Stopper for wire
3 .....	402010110 .....	Spring, return
3 .....	1293500403 .....	Gasket, muffler
2 .....	5802023000 .....	Ring set
3 .....	0521060100 .....	Banjo
3 .....	2096233508 .....	Bolt Banjo
3 .....	2076234508 .....	Washer
20 .....	1063260207 .....	Element, air cleaner
3 .....	0669900207 .....	Button, stop (S/N C-5084 & Below)
2 .....	EC086230 .....	Kit, carburetor
2 .....	1299900107 .....	Gasket set
3 .....	0662009720 .....	Switch, stop (S/N C-5085 & Above)

## MTR-60L Mikasa Rammer 10+ Units

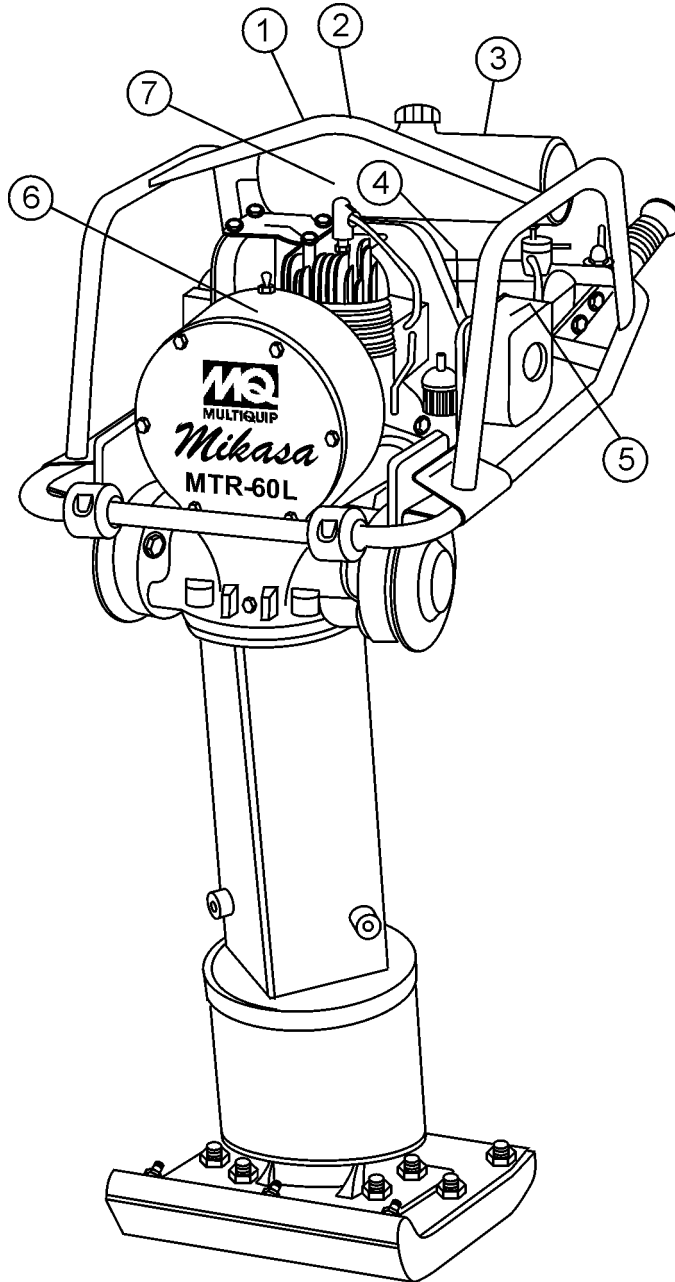
Qty.	PIN	Description
20 .....	GRS2 .....	Grease, high temp.
14 .....	0650140031 .....	Spark plug
4 .....	956300060 .....	Lever, throttle assy.
4 .....	301010900 .....	Throttle wire
6 .....	301010810 .....	Rubber coupling
4 .....	0643000101 .....	Drain cock
8 .....	505015060 .....	Nipple, A-grease
3 .....	301910081 .....	Tank cap assembly
5 .....	954300390 .....	Fuel cock assembly
10 .....	301419750 .....	Filter, in-line fuel
5 .....	959401750 .....	Stopper for wire
5 .....	402010110 .....	Spring, return
5 .....	1293500403 .....	Gasket, muffler
3 .....	5802023000 .....	Ring set
5 .....	0521060100 .....	Banjo
5 .....	2096233508 .....	Bolt Banjo
5 .....	2076234508 .....	Washer
1 .....	5803019000 .....	Air cleaner assy.
15 .....	1063260207 .....	Element, air cleaner
5 .....	0669900207 .....	Button, stop (S/N C-5084 & Below)
3 .....	EC086230 .....	Kit, carburetor
3 .....	1299900107 .....	Gasket set
5 .....	0662009720 .....	Switch, stop (S/N C-5085 & Above)
1 .....	301421360 .....	Clutch assembly
1 .....	5806069000 .....	Carburetor assembly
1 .....	5805001000 .....	Recoil starter assembly

### NOTE

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

# MTR-60L— NAME PLATE AND DECALS

## NAME PLATE AND DECALS



# MTR-60L— NAME PLATE AND DECALS

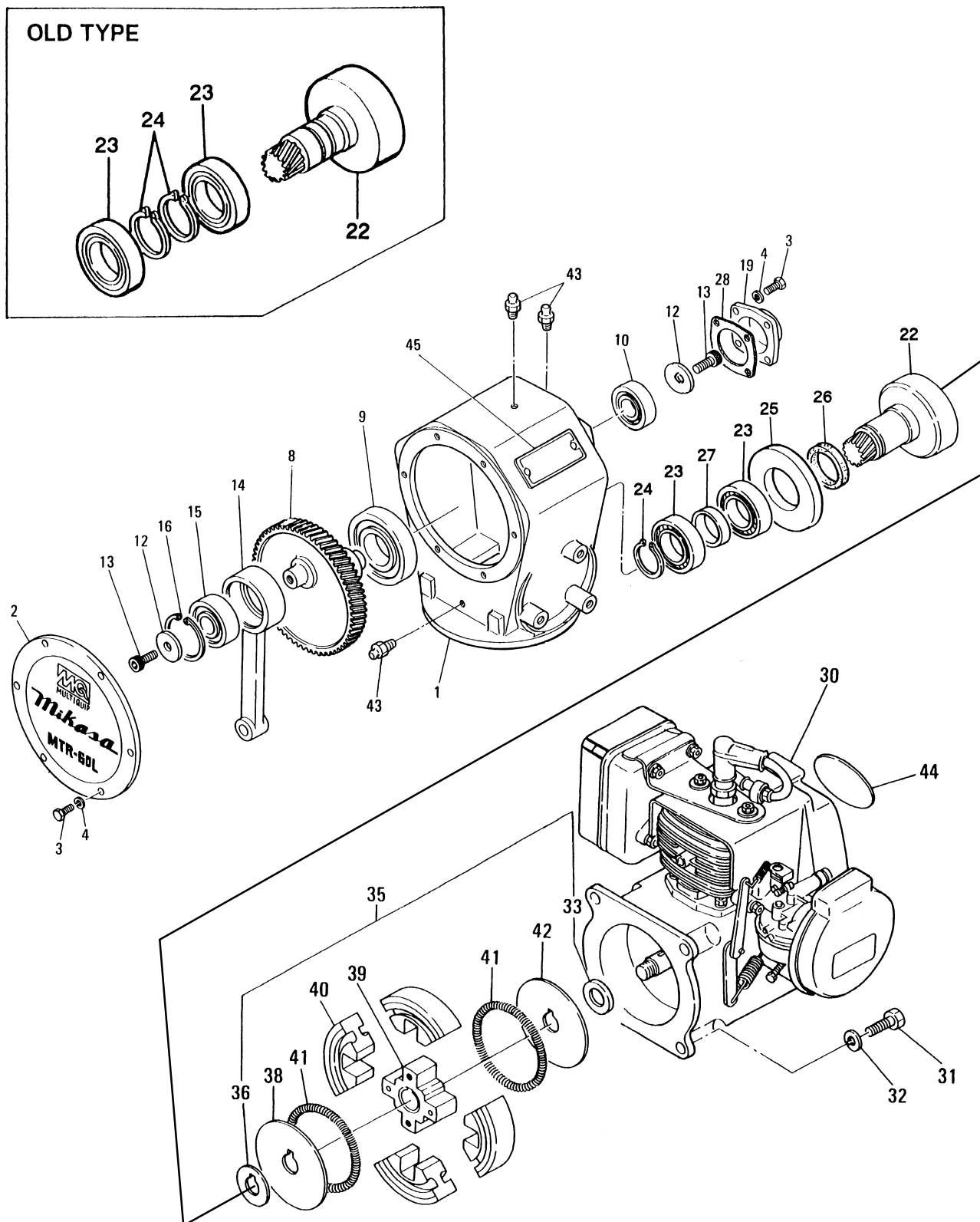
## NAME PLATE AND DECALS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1*	920200500	DECAL: MIXED FUEL	1	NPA-50
2*	920203290	DECAL: CAUTION READ	1	NPA-329
3*	920201810	DECAL: CAUTION	1	NPA-181
5*	920203990	DECAL: FUEL SHUT-OFF	1	NPA-399
6		PLATE, SERIAL NO.	1	CONTACT MQ SERVICE DEPT. W/MODEL & S/N
7*	920202630	DECAL: MIKASA LOGO	1	NAP-263
10	DCLMTR-60L	KIT, DECAL .....	1 .....	INCLUDES ITEMS W/*

SEE DECAL ILLUSTRATIONS ON PAGE 7.

# MTR-60L — CRANKCASE AND ENGINE ASSY.

CRANK CASE AND ENGINE ASSY.



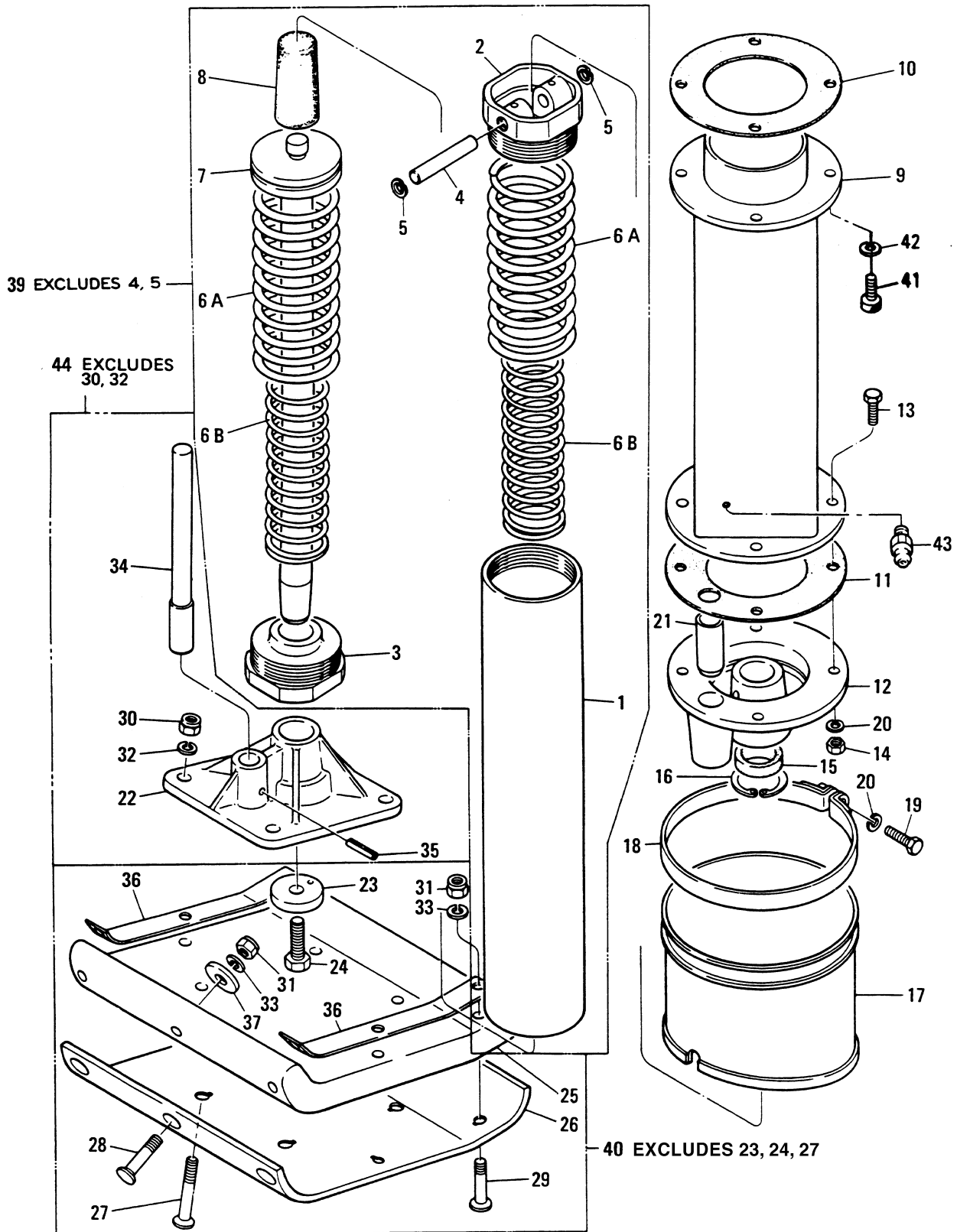
# MTR-60L — CRANKCASE AND ENGINE ASSY.

## CRANK CASE AND ENGINE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	303105230	CRANK CASE	1	
1	303105232	CRANK CASE	1	
2	303205980	FRONT COVER	1	
3	011006015	BOLT 6X15	10	
3	011706020	BOLT 6X20 H, SW	10	
4	030206150	WASHER SW M6	10	
8	303010040	CRANK GEAR	1	
9	041006307	BEARING 6307Z	1	
10	041006204	BEARING 6204Z	1	
12	952400130	WASHER 9304	2	
13	014208020	SOCKET HEAD BOLT 8X20 T	2	
14	303010060	CONNECTING ROD	1	
15	042006304	BEARING 6304ZZ	1	
16	080100520	STOP RING R-52	1	
19	303010070	BEARING COVER	1	
22	303010084	PINION REQ. SPACER 351437750 ....	1	.....REPLACES 303010080
23	041006007	BEARING 6007Z	2	
24	080200350	STOP RING S-35	2	
24	080200350	STOP RING S-35	1	
25	303010090	SPACER, CLUTCH DRUM/55	1	
26	060504010	OIL SEAL VB-40525	1	
27	351437750	SPACER 35.4-42.7-11	1	
28	303010110	PACKING, BEARING COVER	1	
30	911100805	ENGINE ASSY. EC08G	1	
31	011208030	BOLT 8X30 .....	4	.....REPLACES 011008030
32	030208200	WASHER SW M8	4	
33	301420750	SPACER 15X21X4T, CLUTCH .....	1	.....8 E/G 62990
35	301421363	CLUTCH ASSY. ....	1	.....INCLUDES W/# REPLACES 301421360
36#	301010210	LOCK WASHER CLUTCH	1	
38#	943060020	CLUTCH GUIDE/B	1	
39#	943050050	CLUTCH BOSS	1	
40#	943020020	CLUTCH SHOE	4	
41#	943030020	CLUTCH SPRING	2	
42#	943060010	CLUTCH GUIDE/A	1	
43	505015060	GREASE FITTING	3	
44*	920100240	DECAL (M-MARK)	1	
45		PLATE, SERIAL NO. ....		ORDER FROM MQ SERVICE DEPT. MODEL & S/N
	DCL60	DECAL SET MTR-60L .....	1	.....INCLUDES ITEMS W/*
*	5809501000	LABEL ENGINE, EC08G	2	
*	920100240	DECAL (M-MARK)	1	
*	920202630	DECAL, TRADE MARK/RAMMER	1	
*	920201810	DECAL, CAUTION, GENERAL INSTR.	1	
*	920200500	DECAL, MIXED FUEL	1	
*	1063273808	DECAL, AIR CLEANER	1	

# MTR-60L — CYLINDER GUIDE AND FOOT ASSY.

GUIDE CYLINDER AND FOOT ASSY.





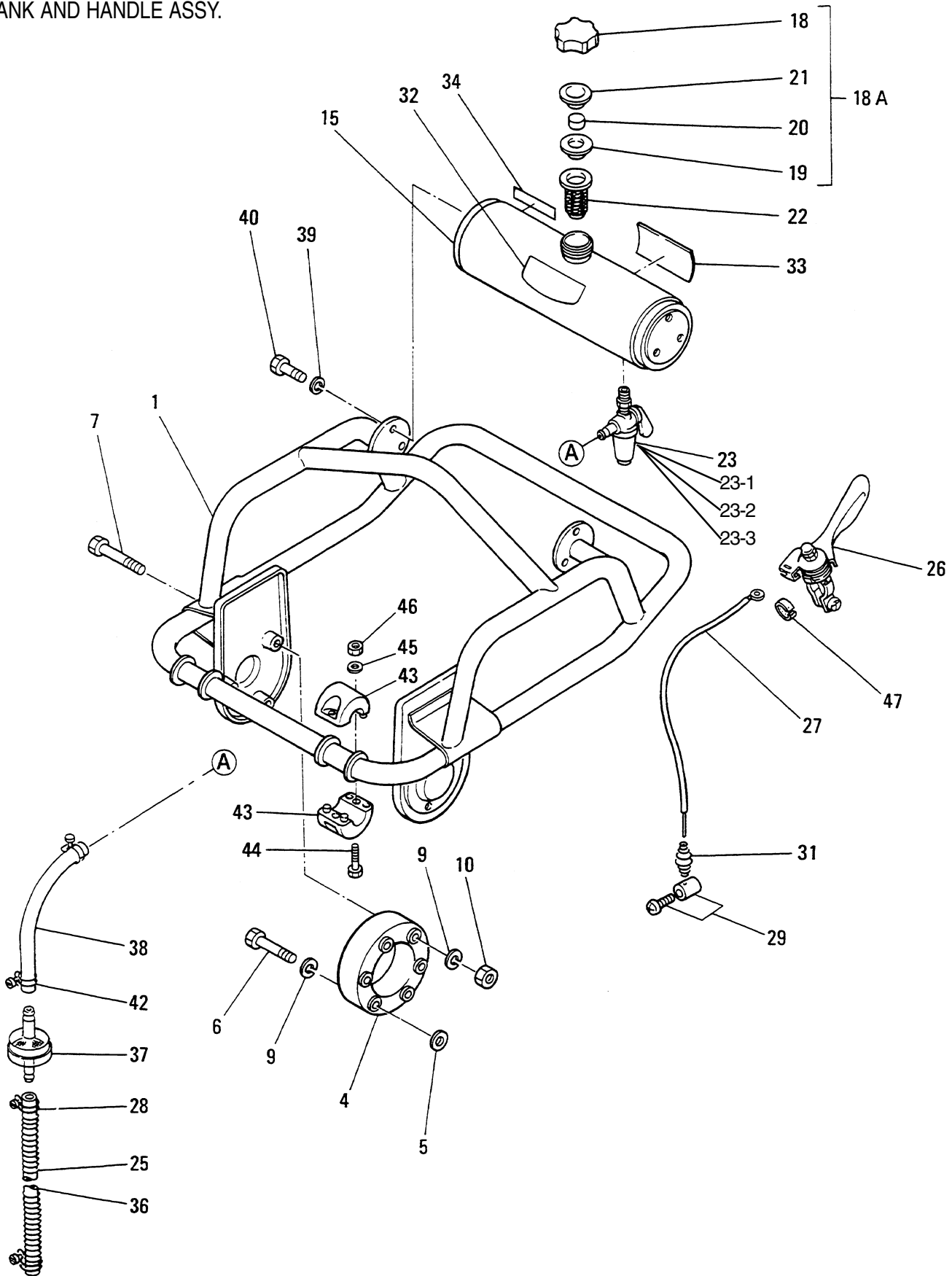
# MTR-60L — CYLINDER GUIDE AND FOOT ASSY.

## GUIDE CYLINDER AND FOOT ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	303010230	SPRING CYLINDER .....	1	DO NOT DISASSEMBLE WITHOUT PROPER TOOLS AND INTRUCTION, SPRINGS ARE IN TENSION STORING POTENTIAL ENGERY, SEE SERVICE / REPAIR SECTION.
2	303010240	CYLINDER CAP/TOP	1	
3	303010250	CYLINDER CAP/BOTTOM	1	
4	303010260	CYLINDER PIN	1	
5	080100120	STOP RING R-12	2	
6	303313740	MAIN SPRING A, B	2	
7	303010280	SPINDLE ROD	1	
8	301010310	PROTECTOR RUBBER	1	
9	303010510	GUIDE CYLINDER	1	
10	303010300	PACKING, GUIDE CYL. UPPER	1	
11	303010310	PACKING, GUIDE CYL. LOWER	1	
12	303010320	GUIDE	1	
13	011008025	BOLT 8X25 H .....	4	REPLACES 011108025
14	020108060	NUT M8 H .....	4	REPLACES 020108061
14	021108100	NYLON NUT M8	4	
15	065103010	DUST SEAL DKI-3244710	1	
16	080100450	STOP RING R-45	1	
17	303010330	PROTECTION SLEEVE	1	
18	303010340	BAND	1	
19	011208030	BOLT 8X30 B=12 .....	1	REPLACES 013008030
20	030208200	WASHER SW M8	5	
21	303010350	BUSHING	1	
22#	**	FOOT PLATE .....		NOT SERVICED SEPERATELY**SEE ITEM #44
23	301010520	LOCK WASHER H	1	
24	0017212030	HEX HEAD BOLT .....	1	REPLACES 011012030
25*	303010370	FOOT	1	
26*	303010380	METAL SHEET	1	
27	015112075	SUNK HEAD BOLT 12X75H .....	4	REPLACES 015112063 INCL'S ITEM W/+
28*	015110050	SUNK HEAD BOLT 10X50H	5	
29*	015110050	SUNK HEAD BOLT 10X50 .....	2	REPLACES 015110045
30+	021112140	NYLON NUT M12	4	
31*	021110120	NYLON NUT M10	7	
32	030212300	WASHER SW M12	4	
33*	030210250	WASHER SW M10	7	
34#	303010390	GUIDE SPINDLE	1	
35#	025306032	SPRING PIN .....	1	REPLACES 025406032
36*	303010400	FOOT FITTING	2	
37*	506404060	WASHER .....	1	REPLACES 301010540
39	303910060	SPRING CYLINDER ASSY. 60L	1	
40	303910030	FOOT ASSY. ....	1	INCLUDES ITEMS W/* 11.25" (W) X 14 (L)
41	014210028	SOCKET HEAD BOLT 10X28	4	
42	030210250	WASHER SW M10	4	
43	505015060	GREASE FITTING	1	
44	303910020	FOOT PLATE ASSY. ....	1	INCLUDES ITEMS W/#

# MTR-60L — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.



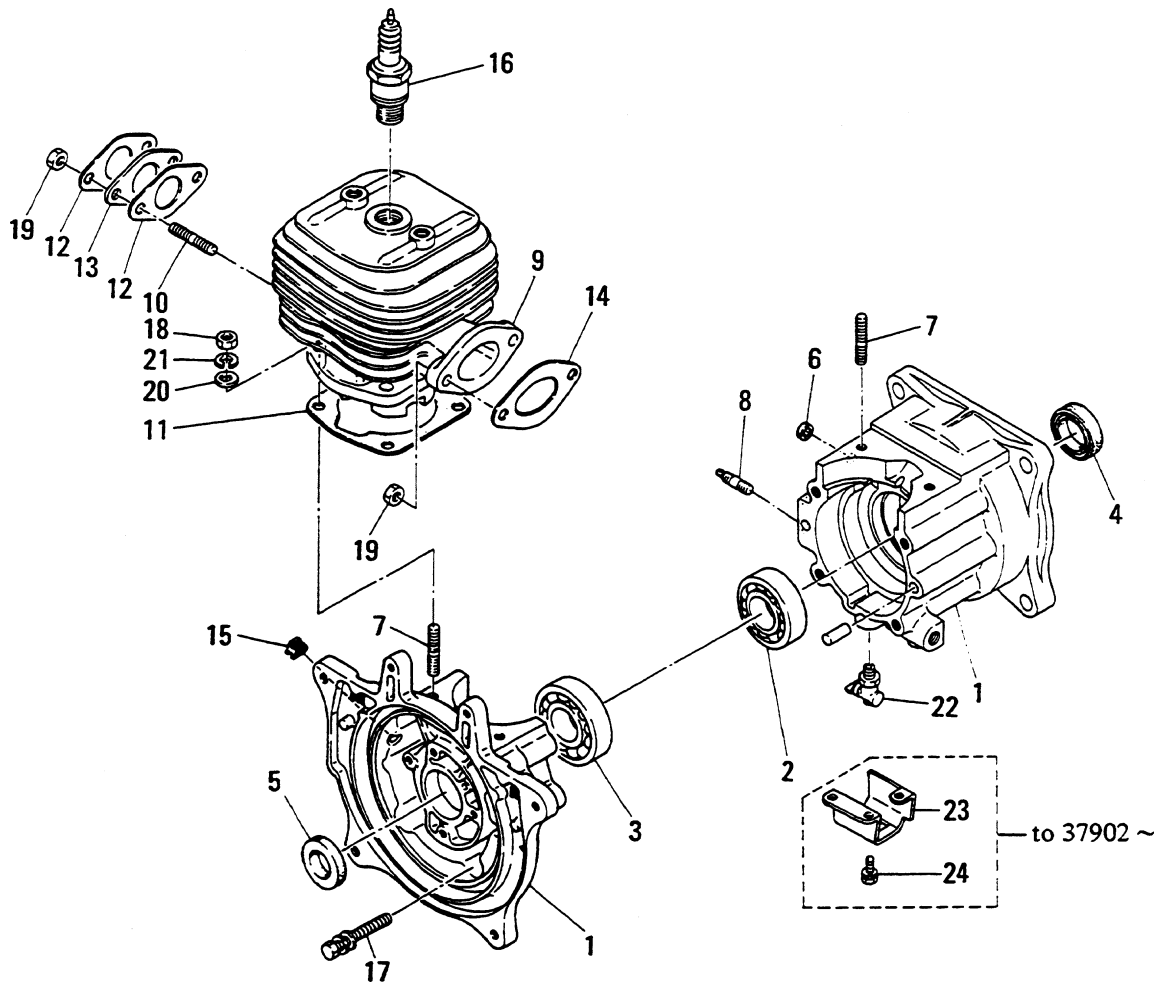
# MTR-60L — TANK AND HANDLE ASSY.

## TANK AND HANDLE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	303910100	HANDLE ASS'Y W/ROLLERS .....	1 .....	INCLUDES ITEMS W/*
4	301010810	RUBBER COUPLING .....	2 .....	REPLACES 303312900
5	303010440	WASHER 11X22X3	6	
6	012210050	BOLT 10X50 .....	6 .....	REPLACES 012010050
7	012210060	BOLT 10X58 .....	6 .....	REPLACES 012010058
9	030210250	SW M10	12	
10	020310080	NUT M10	6	
15	301010780	FUEL TANK,	1	
18A	301910081	TANK CAP ASSY. ....	6 .....	INCLUDES ITEMS W/#
18#	953404280	TANK CAP .....	1 .....	REPLACES 301010740
19#	301010860	LEAK STOPPER	1	
20#	301010850	SPONGE	1	
21#	301420050	PLATE	1	
22	954405080	FUEL FILTER .....	1 .....	REPLACES 301010760
23	954300390	FUEL COCK ASSY. CL-TYPE .....	1 .....	INCLUDES ITEMS W/% REPLACES 301322990
23-1%	0642001410	CUP, FUEL COCK	1	
23-2%	0642001420	SCREEN, FUEL COCK	1	
23-3%	0642001430	RUBBER PACKING, FUEL COCK	1	
25+	301420540	PROTECT SPRING 10X180	1	
26	956300060	THROTTLE LEVER	1	
27	301010900	THROTTLE WIRE S335-445	1	
28+	301420730	HOSE CLAMP 11 .....	2 .....	REPLACES 303010490
29	959401750	WIRE STOPPER ASSY.	1	
31	402010110	RETURN SPRING	1	
32	920202630	DECAL, TRADE MARK/RAMMER .....	1 .....	REPLACES 920100340
33	920201810	DECAL, CAUTION	1	
34	920200500	DECAL, MIXED FUEL	1	
36+	301420330	FUEL HOSE R-170	1	
37+	301419750	FUEL FILTER CP, MQ75MIC	1	
38+	303424870	FUEL HOSE R-30	1	
39	030208200	WASHER SW M8	6	
40	011008015	BOLT 8X15	6	
42+	301420730	HOSE CLAMP A9	2	
43*	301421840	ROLLER	4	
44*	011005025	BOLT 5X25	4	
45*	031105080	WASHER PW M5	8	
46*	020305040	NUT M5 .....	4 .....	REPLACES 020105040
47	959403750	RUBBER SLIP STOP	1	
+	302910080	FUEL HOSE ASSY .....	1 .....	INCLUDES ITEMS W/+

# ROBIN EC-08G ENGINE — CRANKCASE AND CYLINDER ASSY.

CRANKCASE AND CYLINDER ASSY.



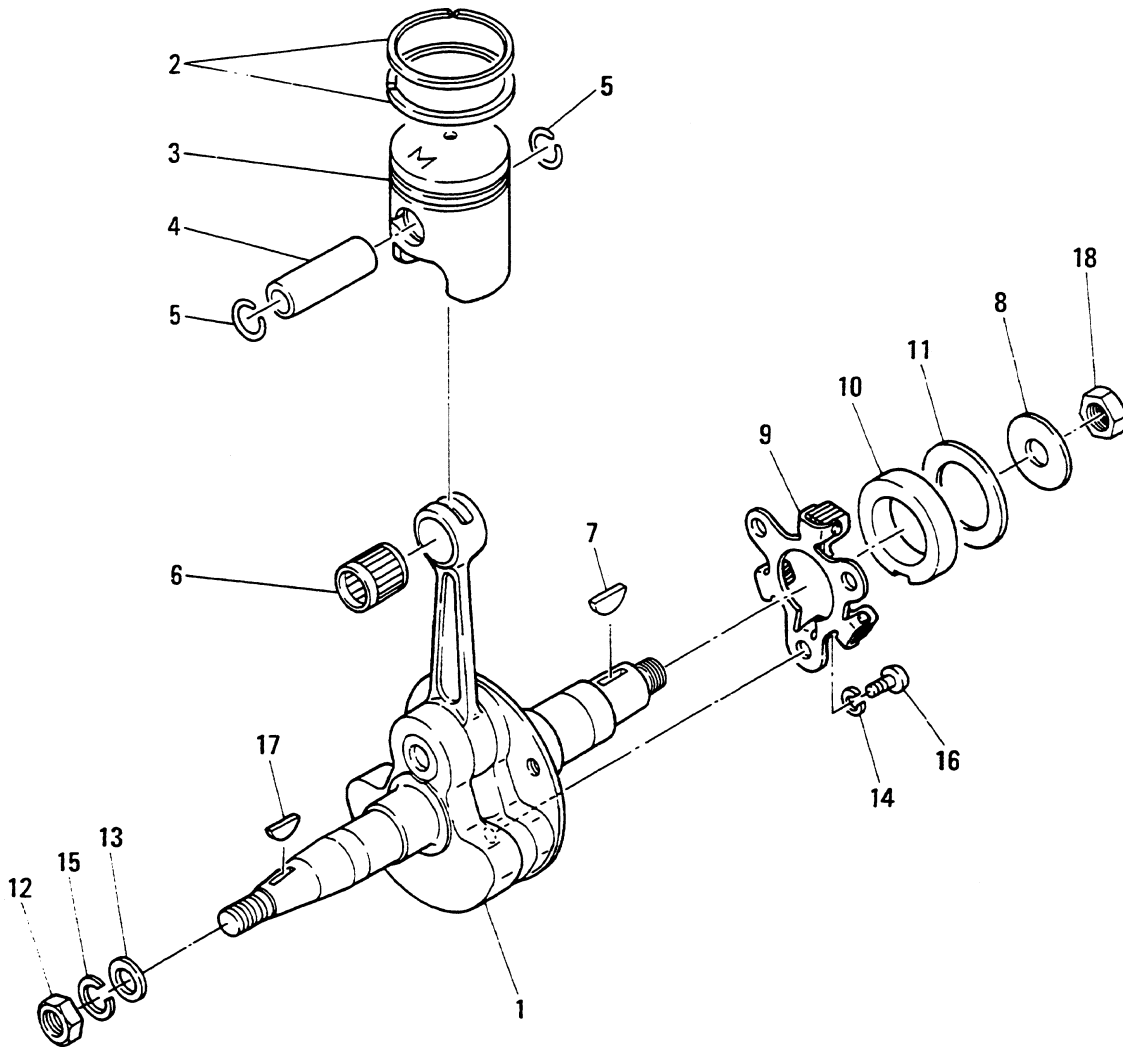
# ROBIN EC-08G ENGINE — CRANKCASE AND CYLINDER ASSY.

## CRANKCASE AND CYLINDER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	5801018000	CRANKCASE COMPLETE .....	1	INCLUDES ITEMS W/* REPLACES EC08S0250
2*	0600200010	BALL BEARING, 6004C3	1	
3*	0600200020	BALL BEARING, 6004C3	1	
4	0440200020	OIL SEAL, TC20307	1	
5*	0440179930	OIL SEAL, TC20307	1	
6*	0440060010	OIL SEAL	1	
7*	0105064970	STUD	4	
8*	0105060050	STUD	1	
9	5801028000	CYLINDER COMPLETE .....	1	INCLUDES ITEMS W/#, REPLACES EC08A0110
10	0105064970	STUD	2	
11#+	5801501600	PACKING (CYLINDER) .....	1	REPLACES EC05A1111
12+	1063500103	GASKET (INSULATOR)	2	
13	1293290103	INSULATOR	1	
14+	1293500403	GASKET (MUFFLER)	1	
15	0241029990	GROMMET .....	1	REPLACES EC05A7102
16	0650140031	SPARK PLUG	1	
17	0011406450	BOLT ASSY.	4	
18	002170600	NUT	4	
19	0170069960	U-NUT .....	4	REPLACES EC08A3104
20	0031006000	WASHER	4	
21	030206150	SPRING WASHER .....	4	REPLACES 0032006000
22	0643000101	DRAIN COCK .....	1	REPLACES 06430-00100
23	5809501600	PROTECTOR (E/G) .....	1	TO 37902
+	1299900107	GASKET SET .....	1	INCLUDES ITEMS W/+

# ROBIN EC-08G ENGINE — CRANKSHAFT AND PISTON ASSY.

CRANKSHAFT AND PISTON ASSY.



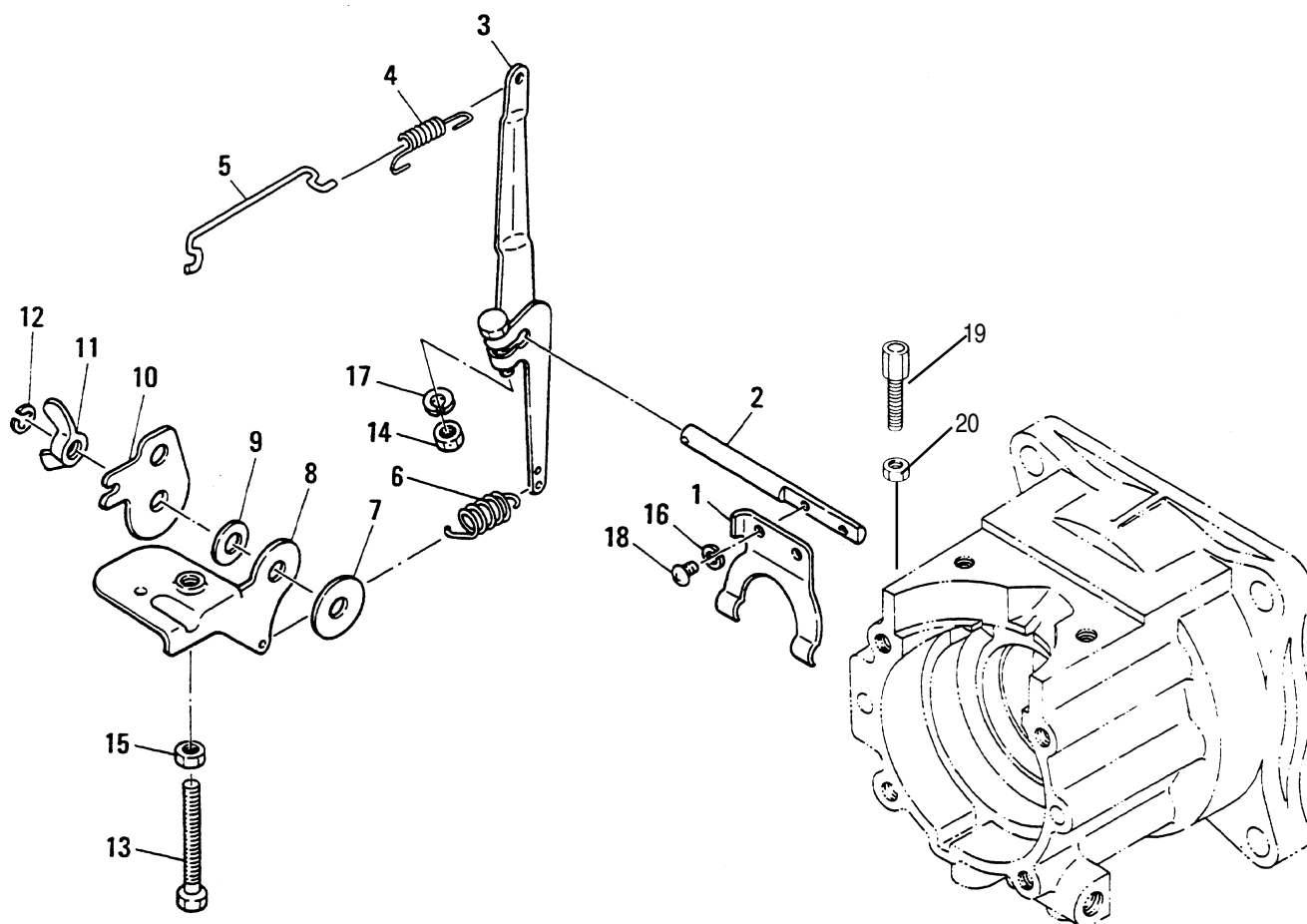
# ROBIN EC-08G ENGINE — CRANKSHAFT AND PISTON ASSY.

## CRANKSHAFT AND PISTON ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	5802008000	CRANKSHAFT COMPL.....	1	BEFORE S/N U-7419 REPLACES EC08A0205A
1	5802016001	CRANKSHAFT COMPL.....	1	FROM S/N U-7419
2	5802023000	PISTON RING SET.....	1	REPLACES EC08AS0100
3	5802500600	PISTON.....	1	REPLACES EC08A2104A
4	5802500700	PISTON PIN.....	1	REPLACES EC08A2105A
5	0565119990	CLIP	2	
6	0610120010	NEEDLE BEARING	1	
7	0053204201	WOODRUFF KEY	1	
8	0200080030	WASHER	1	
9	1294170322	GOVERNOR PLATE UNIT	1	
10	5514500100	GOVERNOR SLEEVE.....	1	REPLACES EC05A4102
11	0230230020	SPACER	0-4	
12	0039310000	NUT.....	1	REPLACES 0021810000
13	030206150	WASHER	1	
14	0032005000	SPRING WASHER	3	
15	030206150	SPRING WASHER	1	
16	0043105080	SCREW (PAN HEAD)	3	
17	0053204201	WOODRUFF KEY	1	
18	352010010	LOCK NUT.....	1	REPLACES 301010960

# ROBIN EC-08G ENGINE — GOVERNOR ASSY.

GOVERNOR ASSY.





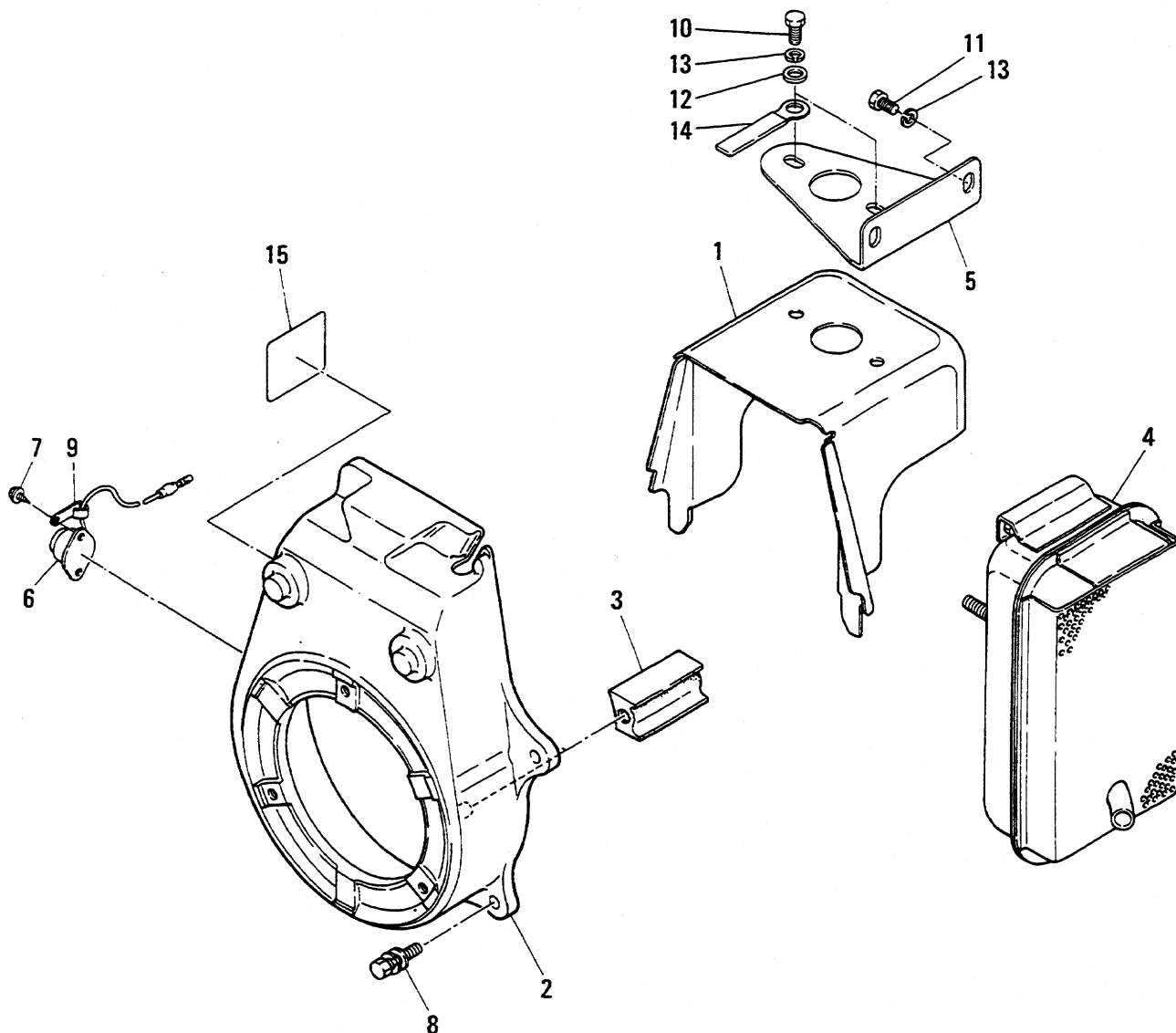
# ROBIN EC-08G ENGINE — GOVERNOR ASSY.

## GOVERNOR ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	5000841040	GOVERNOR YOKE .....	1	REPLACES EC08A4104
2	1294220103	GOVERNOR SHAFT	1	
3	1294230111	GOVERNOR LEVER COMPL.	1	
4	1064280113	ROD SPRING .....	1	REPLACES 1064280111
5	1054270111	GOVERNOR ROD	1	
6	1294250111	GOVERNOR SPRING	1	
7	0217060020	FRICTION WASHER	1	
8	5514500000	GOVERNOR LEVER .....	1	REPLACES EC05A4101
9	0200070010	WASHER	1	
10	5514500200	STOP PLATE .....	1	REPLACES EC05A4103
11	0178060010	WING NUT	1	
12	1294500103	CLIP	1	
13	0016506400	BOLT	1	
14	0021706000	NUT	1	
15	020106050	NUT .....	1	REPLACES 0022706000
16	0032003000	SPRING WASHER	2	
17	030206150	SPRING WASHER	1	
18	0043103050	SCREW (PAN HEAD)	2	
19	0149060040	ADJUSTING SCREW	1	
20	020106050	NUT	1	

# ROBIN EC-08G ENGINE — MUFFLER AND BLOWER HOUSING ASSY.

MUFFLER AND BLOWER HOUSING ASSY.



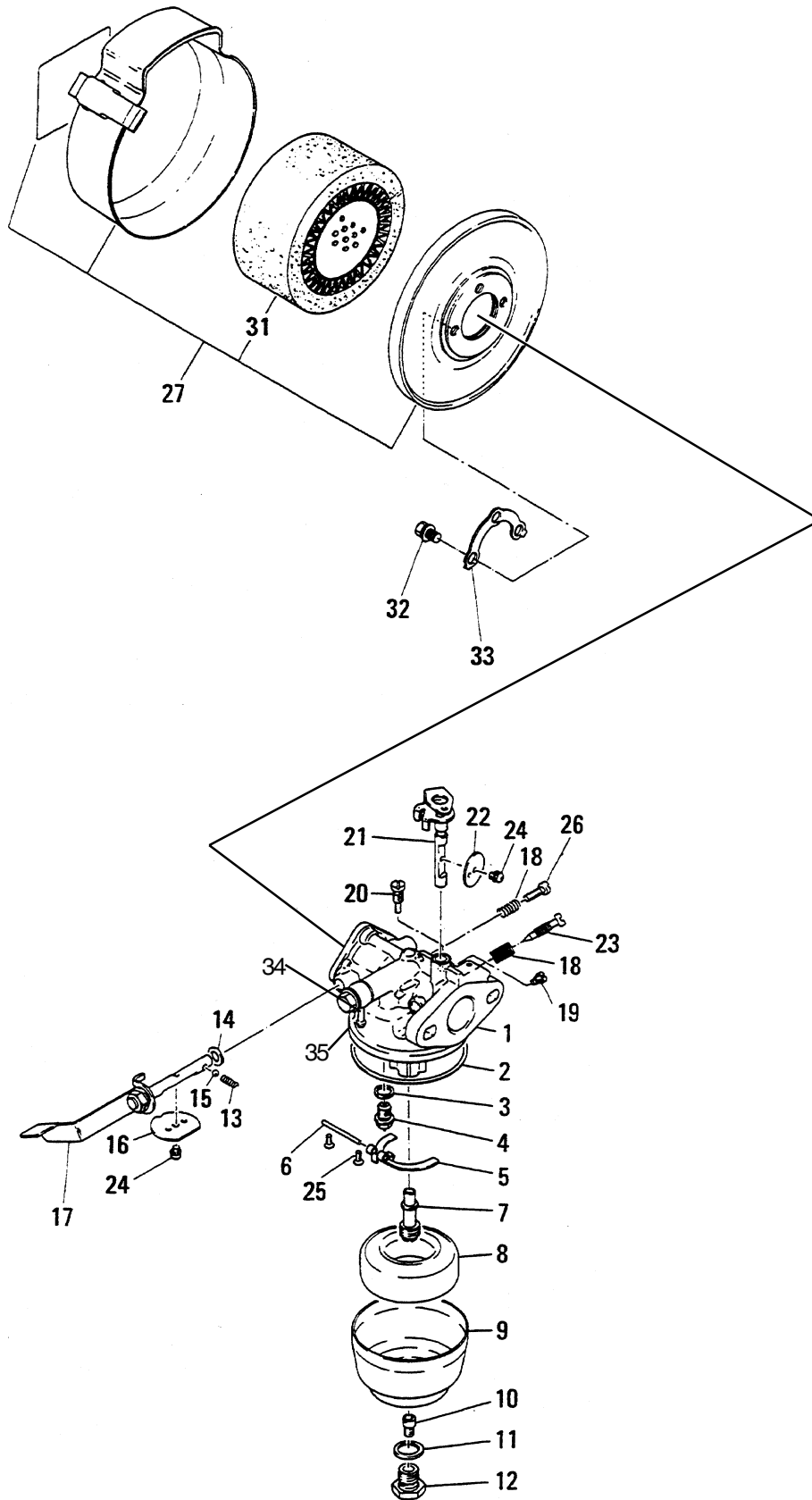
# ROBIN EC-08G ENGINE — MUFFLER AND BLOWER HOUSING ASSY.

## MUFFLER AND BLOWER HOUSING ASSY.

<b>NO.</b>	<b>PART NO.</b>	<b>PART NAME</b>	<b>QTY.</b>	<b>REMARKS</b>
1	5515501000	CYLINDER COVER .....	1	REPLACES EC05A1110AB
2	5805500100	BLOWER HOUSING COMPL. ....	1	REPLACES EC085101B
3	5515500200	GUIDE RUBBER .....	1	REPLACES EC05A5102
4	5803023000	MUFFLER ASSY. ....	1	REPLACES EC080313TA
5	EC083102TA	MUFFLER BRACKET	1	
6	0669900207	STOP BUTTON COMPL. ....	1	S/N C-5084 AND BELOW REPLACES 0662009870
6A	0662009720	SWITCH STOP .....	1	ABOVE S/N C-5084
7	0043504060	SCREW ASSY. ....	2	S/N C-5084 AND BELOW
7A	0043304100	SCREW/WASHER ASSY. ....	2	ABOVE S/N C-5084
8	0011106200	BOLT ASSY.	4	
9	0566030010	CLAMP	1	
10	0016706200	BOLT ASSY (CYLINDER)	2	
11	0016706160	BOLT ASSY. (MUFFLER)	2	
12	0031206000	WASHER	2	
13	030206150	SPRING WASHER .....	4	REPLACES 0032006000
14	1507520103	CLAMP COMPL. ....	1	REPLACES EC080408
15	5809501000	LABEL (ENGINE) .....	1	REPLACES EC089117

# ROBIN EC-08G ENGINE — CARBURETOR AND AIR CLEANER ASSY.

CARBURETOR AND AIR CLEANER ASSY.



# ROBIN EC-08G ENGINE — CARBURETOR AND AIR CLEANER ASSY.

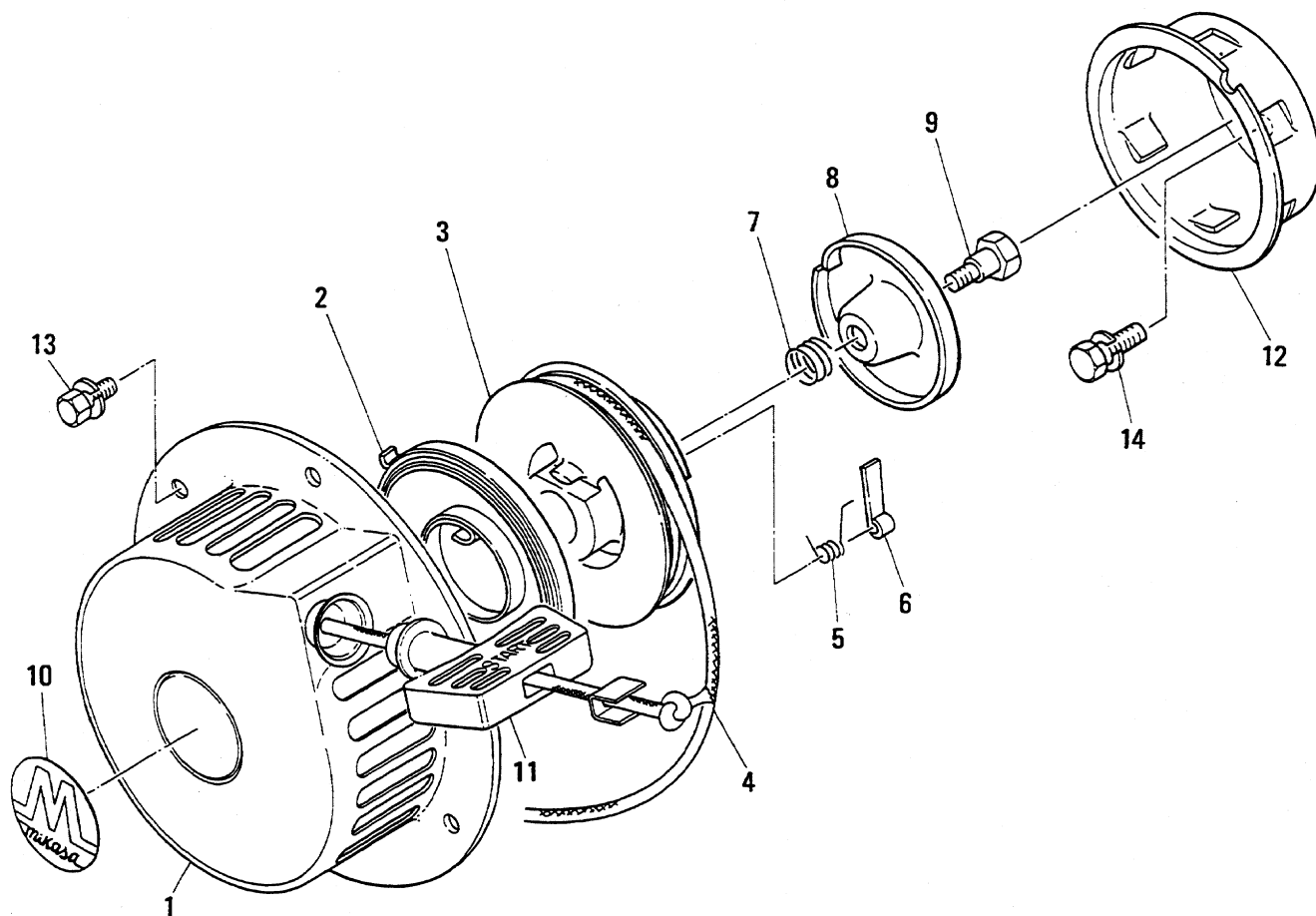
## CARBURETOR AND AIR CLEANER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	5806069000	CARBURETOR ASSY. ....	1	INCLUDES ITEMS W/# REPLACES 5806062001
2#*	1066254708	PACKING	1	
3#*	1066238108	PACKING NEEDLE	1	
4#*	1286250008	NEEDLE VALVE (1.8) .....	1	REPLACES 1066250308
5#	1066251108	FLOAT ARM	1	
6#	1066251608	PIN	1	
7#	1066245508	NOZZLE (17A) .....	1	REPLACES 1066245008
8#	1066250808	FLOAT	1	
9#	1066238908	FLOAT CHAMBER BODY	1	
10#*	1296240008	REVERSE MAIN JET (75)	1	
11#*	2066243108	PACKING	1	
12#	2066235008	GUIDE HOLDER	1	
13#	2096244608	CHOKE SPRING	1	
14#*	5806083210	SEAL .....	1	REPLACES 1066239218
15#	2096235308	STEEL BALL	1	
16#	1066255408	VALVE (CHOKE) (9.5)	1	
17#	5806062210	SHAFT ASSY (CHOKE) .....	1	REPLACES BV18652
18#*	2066244608	SPRING	2	
19#	1066235708	GUIDE SCREW	1	
20#*	1286242008	PILOT JET (37.5)	1	
21#	1286253008	SHAFT ASSY (THROTTLE)	1	
22#	2266253508	THROTTLE VALVE (200)	1	
23#*	1066243608	PILOT SCREW	1	
24#	2096235108	SPRING WASHER CROSS SCREW	1	
25#	1306235808	CROSS SCREW	2	
26#	1066235808	SCREW	1	
27	5803019000	AIR CLEANER ASSY. ....	1	INCLUDES ITEMS W/+ REPLACES EC08A0337
31+	1063260207	ELEMENT SET .....	1	OPTIONAL FOAM ELEMENT UA91
32	0011305100	BOLT ASSY. ....	3	REPLACES 0011005100
33	1063520101	LOCK WASHER	1	
34	0521060100	BANJO .....	1	REPLACES 0521060052
35*	2076234508	WASHER, BANJO	2	
*	EC086230	CARBURETOR KIT .....	1	INCLUDES ITEMS W/*

OPTIONAL FOAM AIR CLEANER ELEMENT REQUIRES  
 PROPER OILING AFTER CLEANING AND GREASE  
 ENDS FOR PROPER SEAL IN A/C HOUSING.

# ROBIN EC-08G ENGINE — RECOIL STARTER ASSY.

RECOIL STARTER ASSY.



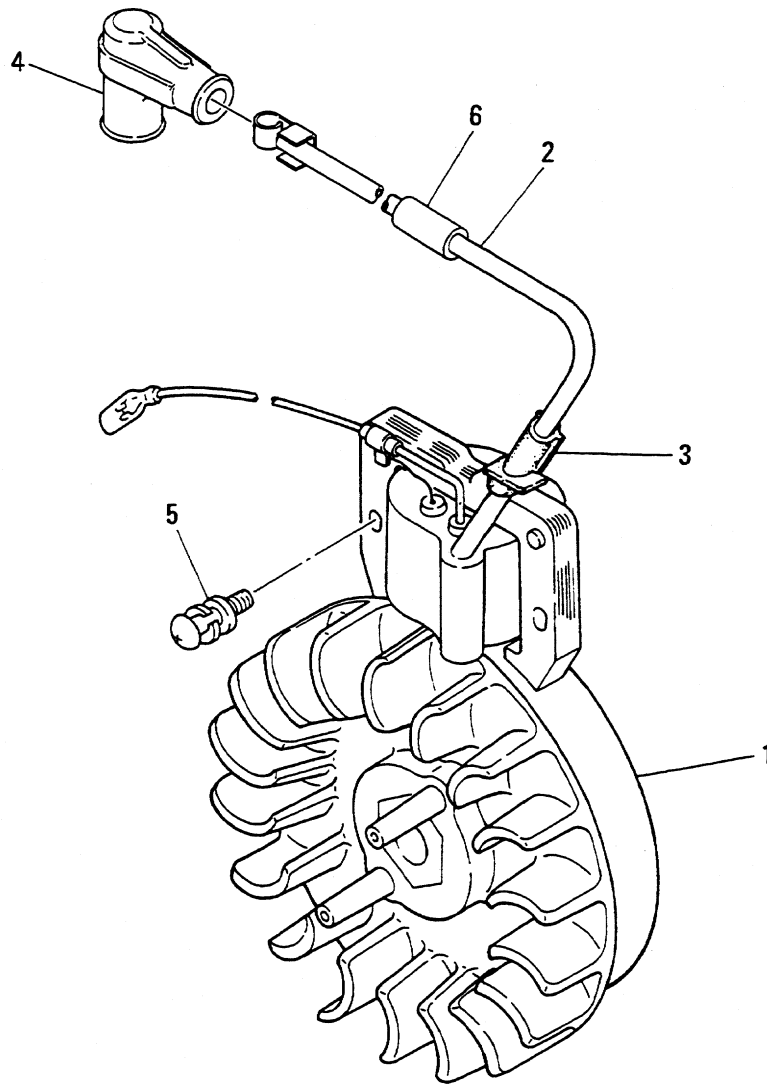
# ROBIN EC-08G ENGINE — RECOIL STARTER ASSY.

## RECOIL STARTER ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	5805001000	RECOIL STARTER ASSY. ....	1	INCLUDES ITEMS W/* REPLACES EC080501
2*	5805004020	SPIRAL SPRING .....	1	REPLACES EC08A05032
3*	5805004030	REEL .....	1	REPLACES EC08A05033
4*	1295011008	STARTER ROPE .....	1	REPLACES EC0805019
5*	5805004050	RETURN SPRING .....	1	REPLACES EC08A05035
6*	5805004040	RATCHET .....	1	REPLACES EC08A05034
7*	5805004110	FRICTION SPRING .....	1	REPLACES EC08A05037
8*	EC08A05038	FRICTION PLATE	1	
9*	5805011020	CENTER SCREW .....	1	REPLACES EC08A05036
10*	5809501000	TRADE MARK .....	1	REPLACES EC089117
11*	5805001030	STARTER HANDLE .....	1	REPLACES EC08050110
12*	EC08A050311	STARTER PULLEY	1	
13	0011006100	BOLT ASSY.	3	
14	0011006140	BOLT ASSY.	2	

# ROBIN EC-08G ENGINE — MAGNETO ASSY.

MAGNETO ASSY.





# ROBIN EC-08G ENGINE — MAGNETO ASSY.

## MAGNETO ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	5807002000	MAGNETO COMPL. T. C. I.	1	INCLUDES W/* BEFORE S/N U-7419 REPLACES EC08A0701A
1	5807005001	MAGNETO COMPL. T. C. I. ....	1	INCLUDES ITEMS W/* FROM S/N U-7419
2*	5807007020	IGNITION COIL .....	1	REPLACES EC08A07012
3	0241069980	GROMMET .....	1	REPLACES EC05A7101A
4	0655000140	SPARK PLUG CAP	1	
5	0043605250	SCREW (PAN HEAD)	2	
6	0851029960	VINYL PIPE .....	1	REPLACES EC05A6121

**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**

*800/478-1244 or 310/537-3700*

*FAX: 310 - 537-4259*

### **WARRANTY DEPARTMENT**

*800/421-1244, EXT. 279 or 310/537-3700*

*FAX: 310 - 537-1173*

### **MAIN**

*800/421-1244 or 310/537-3700*

*FAX: 310 - 537-3927*



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E-MAIL: [mq@multiquip.com](mailto:mq@multiquip.com)  
WWW: [multiquip.com](http://multiquip.com)

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