

# OPERATION AND PARTS MANUAL



## Tamping Rammer *Mikasa* Model MTR-40F

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Revision #0 (01/21/04)



**MULTIQUIP INC.**

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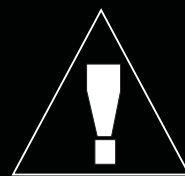
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Montreal, Canada • Manchester, UK  
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**PARTS DEPARTMENT:**

800-427-1244  
FAX: 800-672-7877  
**SERVICE DEPARTMENT/TECHNICAL ASSISTANCE:**  
800-478-1244  
FAX: 310-631-5032



# 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

### ***MULTIQUIP'S MAIN PHONE NUMBERS***

800-421-1244      FAX: 310-537-3927  
310-537-3700

### ***PARTS DEPARTMENT***

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

### ***MAYCO PARTS***

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

### ***SERVICE DEPARTMENT***

800-478-1244      FAX: 310-537-4259  
310-537-3700

### ***MQ POWER SERVICE DEPARTMENT***

800-835-2551      FAX: 310-638-8046  
310-537-3700

### ***TECHNICAL ASSISTANCE***

800-478-1244      FAX: 310-631-5032

### ***WARRANTY DEPARTMENT***

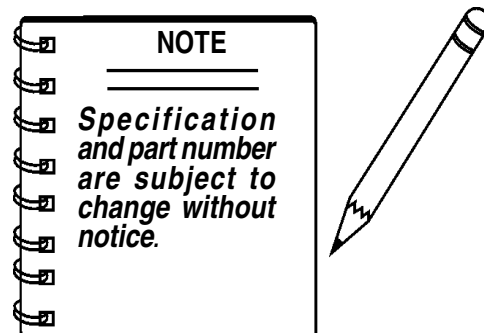
800-421-1244, EXT. 279      FAX: 310-537-1173  
310-537-3700, EXT. 279

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## When ordering parts, please supply the following information:

- 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:
  - ✓ FedEx or UPS Ground
  - ✓ FedEx or UPS Second Day or Third Day
  - ✓ FedEx or UPS Next Day
  - ✓ Federal Express Priority One
  - ✓ DHL
  - ✓ Truck

*Note: Unless otherwise indicated by customer, all orders are treated as "Standard Orders", and will ship within 24 hours. We will make every effort to ship "Air Shipments" the same day that the order is received, if prior to 2PM west coast time. "Stock Orders" must be so noted on fax or web forms.*



## Here's how to get help...

*Please have the model and serial number on hand when calling.*

### Parts Department

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

### Mayco Parts

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

### Service Department

800-478-1244 Fax: 310-537-4259  
310-537-3700

### MQ Power Service Department

800-835-2551 Fax: 310-638-8046  
310-537-3700

### Technical Assistance

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

### Warranty Department

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

### Multiquip's Main Phone Numbers

800-421-1244 Fax: 310-537-3927  
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E-MAIL: mq@multiquip.com  
WWW: multiquip.com

## Place Your Parts Order Via Web or Fax For Even More Savings!

### Extra Discounts!

All parts orders which include complete part numbers and are received by our automated web parts order system, or by fax qualify for the following extra discounts:

Ordered via	Standard orders	Stock orders (\$750 list and above)
Fax	3%	10%
Web	5%	10%

### Special freight allowances when you order 10 or more line items via Web or Fax! \*\*

FedEx Ground Service **at no charge for freight**  
No other allowances on freight shipped by any other carrier.

NOTE: DISCOUNTS ARE SUBJECT TO CHANGE

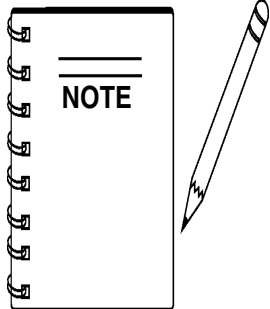
## Direct TOLL-FREE access to our Parts Department:

Toll-free nationwide — 800-427-1244

# MTR-40F — SAFETY MESSAGE ALERT SYMBOLS

## FOR YOUR SAFETY AND THE SAFETY OF OTHERS!

Safety precautions should be followed at all times when operating this equipment. Failure to read and understand the Safety Messages and Operating Instructions could result in injury to yourself and others.



This Owner's Manual has been developed to provide complete instructions for the safe and efficient operation of the Multiquip MTR-40F Tamping Rammer. Refer to the engine manufacturer's instructions for data relative to its safe operation.

**Before using this Rammer, ensure that the operating individual has read and understands all instructions in this manual.**

## SAFETY MESSAGE ALERT SYMBOLS

The three (3) Safety Messages shown below will inform you about potential hazards that could injure you or others. The Safety Messages specifically address the level of exposure to the operator, and are preceded by one of three words: **DANGER**, **WARNING**, or **CAUTION**.



**DANGER:** You **WILL** be **KILLED** or **SERIOUSLY** injured if you do not follow directions.



**WARNING:** You **CAN** be **KILLED** or **SERIOUSLY** injured if you do not follow directions.



**CAUTION:** You **CAN** be injured if you do not follow directions.

Potential hazards associated with the MTR-40F Tamping Rammer operation will be referenced with Hazard Symbols which appear throughout this manual, and will be referenced in conjunction with Safety Message Alert Symbols.

## HAZARD SYMBOLS



Engine exhaust gases contain poisonous carbon monoxide. This gas is colorless and odorless, and can cause death if inhaled. **NEVER** operate this equipment in a confined area or enclosed structure that does not provide ample free flow air.



### Explosive Fuel



**GASOLINE** is extremely flammable, and its vapors can cause an explosion if ignited. **DO NOT** start the engine near spilled fuel or combustible fluids. **DO NOT** fill the fuel tank while the engine is running or hot. **DO NOT** overfill tank, since spilled fuel could ignite if it comes into contact with hot engine parts or sparks from the ignition system. Store fuel in approved containers, in well-ventilated areas and away from sparks and flames. **NEVER** use fuel as a cleaning agent.



### Burn Hazards



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



### Rotating Parts



**NEVER** operate equipment with covers, or guards removed. Keep fingers, hands, hair and clothing away from all moving parts to prevent injury.

# MTR40-HS — SAFETY MESSAGE ALERT SYMBOLS



## Accidental Starting



OFF

**ALWAYS** place the engine ON/OFF switch in the **OFF** position, and remove the ignition key when the machine is not in use.



## Respiratory Hazard



**ALWAYS** wear approved respiratory protection.



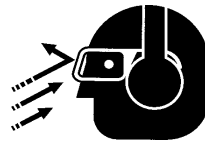
## Over Speed Conditions



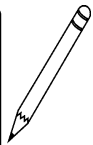
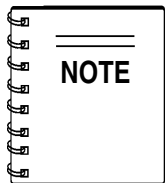
**NEVER** tamper with the factory settings of the engine governor or settings. Personal injury and damage to the engine or equipment can result if operating in speed ranges above maximum allowable.



## Sight and Hearing hazard



**ALWAYS** wear approved eye and hearing protection.



This **rammer**, other property, or the surrounding environment could be damaged if you do not follow instructions.



## Equipment Damage Messages

Other important messages are provided throughout this manual to help prevent damage to your rammer, other property, or the surrounding environment.

# MTR-40F — RULES FOR SAFE OPERATION

## DANGER:



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.

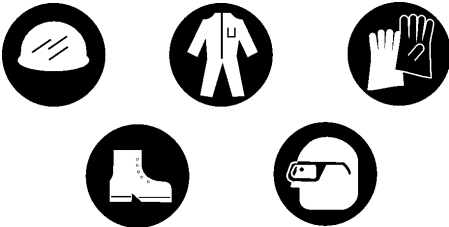
The following safety guidelines should always be used when operating the MTR-40F Tamping Rammer:

### 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 the rammer 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 the rammer under the influence of drugs or alcohol.



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

- **ALWAYS** wear proper *respiratory* (mask), *hearing* and *eye*



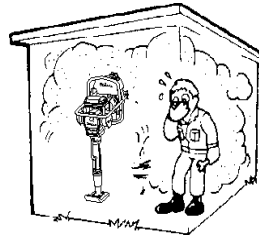
- Manufacturer does not assume responsibility for any accident due to equipment modifications.

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



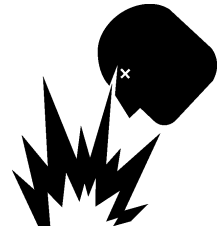
- **High Temperatures** – Allow the engine to cool before adding fuel or performing service and maintenance functions. Contact with **hot!** components can cause serious burns.

- The engine 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's 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.



- **NEVER 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**.

- Topping-off to filler port is dangerous, as it tends to spill fuel.

# MTR-40F — RULES FOR SAFE OPERATION

- **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.
- Whenever necessary, replace nameplate, operation and safety decals when they become difficult read.
- **NEVER** Run engine without air filter. Severe engine may occur. Service air filter frequently to prevent carburetor malfunction.
- **AVOID** wearing jewelry or loose fitting clothing that may snag on the controls or moving parts, this can cause a serious injury.
- **ALWAYS** check to make sure that the operating area is clear before starting the engine.
- **NEVER** leave the machine *unattended* while running.
- **ALWAYS** be sure the operator is familiar with proper safety precautions and operations techniques before using rammer.
- **ALWAYS** read, understand, and follow procedures in Operator's Manual before attempting to operate equipment.
- **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

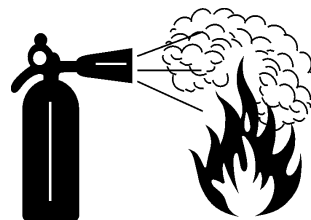
- **ALWAYS** shutdown engine before transporting.
- Tighten fuel tank cap securely and close fuel cock to prevent fuel from spilling.
- Drain fuel when transporting rammer over long distances or bad roads.
- When placing the rammer inside a truck-bed for transport, always tie-down the rammer.
- **ALWAYS**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

## Maintenance Safety

- **NEVER** lubricate components or attempt service on a running rammer.
- **ALWAYS** allow the rammer a proper amount of time to cool before servicing.
- Keep the rammer in proper running condition.
- Fix damage to the rammer 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 food or plastic containers to dispose of hazardous waste.

## Emergencies

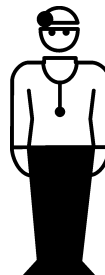
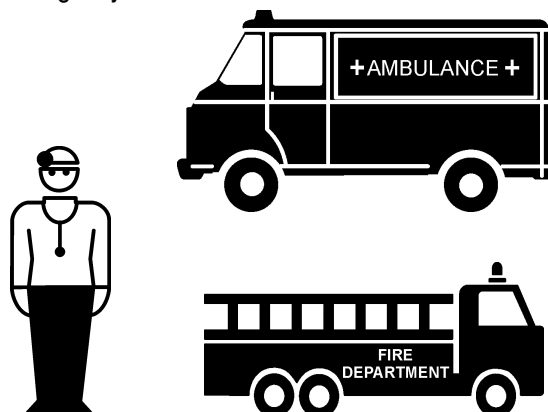
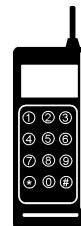
- **ALWAYS** know the location of the nearest *fire extinguisher*.



- **ALWAYS** know the location of the nearest and *first aid kit*.



- In emergencies *always* know the location of the nearest phone or *keep a phone on the job site*. Also know the phone numbers of the nearest *ambulance, doctor* and *fire department*. This information will be invaluable in the case of an emergency.



# MTR-40F — OPERATION AND SAFETY DECALS



P/N 920100240

**GREASE**  
NPA-120

P/N 920101200

3800 ~ 4100 RPM  
NPA-957

P/N NPA957

To start, switch must be  
in the "ON" position  
NPA 293

P/N 920202930



P/N 920209100

NPA-910

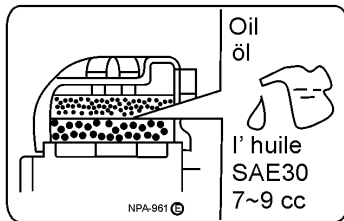
When you stop  
the engine, be  
sure to close  
the fuel cock  
NPA-399

P/N 920203990

To start, switch must be  
in the "ON" position  
NPA 293

**CLEANING ELEMENT:** NPA-963  
Remove the element from the pre-cleaner  
Clean the element with solvent  
Apply SAE30 motor oil with 7~9 cc, and  
squeeze out excess oil before re-installing.

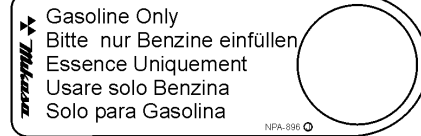
P/N NPA-963



P/N 920209610

**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.  
NPA-831

P/N NPA-831



P/N NPA-896

**CAUTION** LAY DOWN TOWARD THIS  
DIRECTION ONLY NPA-691

P/N NPA-691

**CAUTION**  
**ATTENZIONE**  
**ATENÇÃO**  
**PRECAUCION**

Read operator's manual carefully before use.  
Lire le manuel attentivement avant utilisation.  
Bitte lesen Sie vor Inbetriebnahme der Maschine die  
bedienungsanleitung sorgfältig durch.  
Prima dell'uso leggere attentamente il manuale.  
Lee com atençao manual de instruçao antes de  
usar.  
Leer detenidamente el manual de instrucciones  
antes de usar la maquina.  
NPA-769

NPA-769

- READ OWNER'S SERVICE MANUAL BEFORE OPERATING OR READING 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

**GASOLINE ONLY**  
NPA 1017

P/N NPA1017

**SECONDARY AIRFILTER  
SERVICE MONTHLY**  
NPA 1016

P/N NPA1016

**PRIMARY AIRFILTER  
CHECK DAILY**  
NPA 1018

P/N NPA1018

**NAMEPLATE**

**CONTACT MULTIQUIP  
PARTS DEPT.**

P/N NPA-1100

**CAUTION**

**Before Operation**

Check all nuts and bolts for tightness.  
Keep machine at the upright operating position to check

1. Give each grease fitting five (5) shots of grease with a hand grease gun.
2. Check the engine oil level and if the level is low, it should be refilled from the filler hole.

NPA-1100

**OPERATION**

**To START engine:**

Open fuel filter valve and close choke lever on carburetor.  
Place starter switch to "ON" and pull start rope.  
When engine starts, open the choke lever and warm up the engine for 4-5 minutes before operation.  
Then move throttle lever from "OFF" to "ON" to operate.

**To STOP engine:**

Move the throttle lever quickly from "ON" to "OFF" position.  
Then move starter lever quickly to "OFF" and close the fuel filter valve.

## **Definition of Tamping Rammer**

The Mikasa MTR-40F 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 MTR-40F levels and uniformly compacts voids between soil particles to increase dry density.

Circular motion is converted to create impact force. The MTR-40F 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-40F is equipped with a Robin air cooled, four cycle gasoline engine. Transmission of the power takes place by increasing the engine speed to engage the centrifugal clutch.

## **Rammer Spring Cylinder and Crankcase Bearings**

The Mikasa MTR-40F uses zerk grease fittings to lubricate the spring cylinder and crankcase bearings. Lubricate these grease fittings as referenced in the maintenance section of this manual.

## **Controls**

Before starting the MTR-40F Tamping Rammer identify and understand the function of the controls, see Figure 1 on page 13.

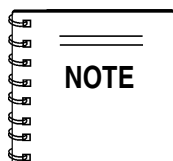
# MTR-40F — SPECIFICATIONS

**Table 1. MTR-40F Rammer Specifications**

MODEL	MTR-40F U.S. (metric)
Overall Height	43.7 in. (1,110 mm)
Overall Width	13.8 in. (351 mm)
Overall Length	24.5 in. (622 mm)
Shoe Size	5.9 x 10.6 in. (150 x 270 mm)
Blows/minute	650 ~ 699
Tamping Area	1,453 sq. ft. per hr (135 sq.m per hr)
Impact Force	1,215 lbs./blow ( 550 kg/blow)
Clutch	Automatic Centrifugal
Travel Speed	30 fpm (9 mpm)
Stroke (Jump Height)	2.2 in. (55 mm)
Operating Weight	101 lbs. (46 kg)

**Table 2. Specifications (Engine)**

	Model	ROBIN EH090D45020
Engine	Type	Air-cooled 4 stroke, Single Cylinder, OHV, Horizontal Shaft Gasoline Engine
	Bore X Stroke	2.01 in. X 1.65 in. (51 mm x 42 mm)
	Displacement	5.24 cu. in (86 cm <sup>3</sup> )
	Max Output	2.4 H.P./3600 R.P.M. (1.8 kW)
	Fuel	Unleaded Gasoline
	Fuel Tank Capacity	2.1 qts (2.0 liters)
	Lube Oil Capacity	0.79 gal. (0.3 liters)
	Speed Control Method	Centrifugal Fly-weight Type
	Spark Plug	NKG BM6A, BMR6A
	Air Cleaner	Dual Element Type
	Ignition System	Flywheel Magneto (Solid State)
	Starting Method	Recoil Start
	Dimension (L x W x H)	9.1 x 11.6 X 13.0 in. (232 X 295 X 330 mm.)
Dry Net Weight	20.7 lbs. (9.4 Kg.)	



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

# MTR-40F— CONTROLS AND COMPONENTS

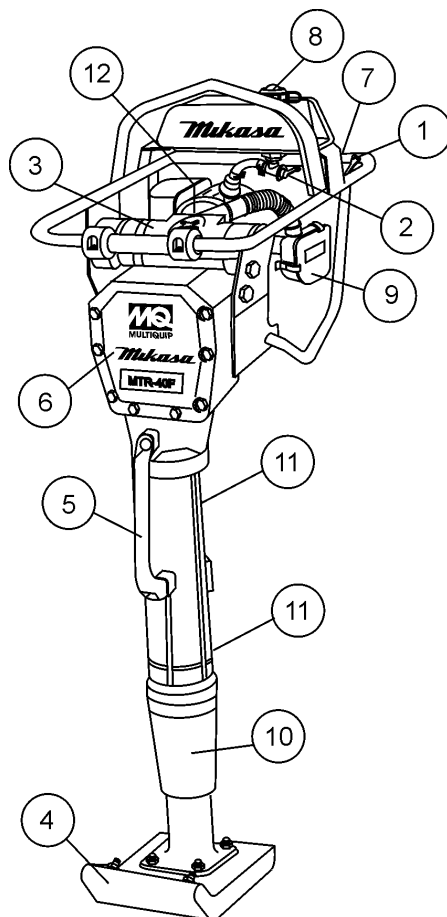


Figure 1. MTR-40F Rammer

Figure 1 shows the location of the controls and components for the MTR-40F Tamping Rammer. The functions of each control is described below:

1. **Throttle Lever** – Used to adjust engine speed (rpm). Move lever forward (**SLOW**) to reduce engine speed, move lever back toward operator (**FAST**) to increase speed.
2. **Fuel Shut-Off Valve** – Supplies fuel from the fuel tank to the engine. To begin fuel flow move the fuel shut-off valve downward.
3. **Primary Air Cleaner** – Pre-cleans (first stage) dirt and other debris from entering the engine.
4. **Foot** – Laminated wood with tempered steel plate for superior shock absorption.
5. **Grip** – When transporting the rammer, carry it by gripping the handle.
6. **Nameplate** – Displays information regarding the rammer.
7. **Handle** – To operate rammer **GRIP** handle assembly firmly on both sides.
8. **Fuel Tank/Cap** – Remove this cap to add unleaded gasoline to the fuel tank. Make sure cap is tightened securely. **DO NOT** over fill.



## WARNING

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

9. **Engine Air Cleaner** – Prevents dirt (second stage) and other debris from entering the engine.
10. **Dust Sleeve** – Prevents dust and debris from entering into the spring cylinder.
11. **Zerk Fittings** – Lubricates main springs and crankcase bearings.

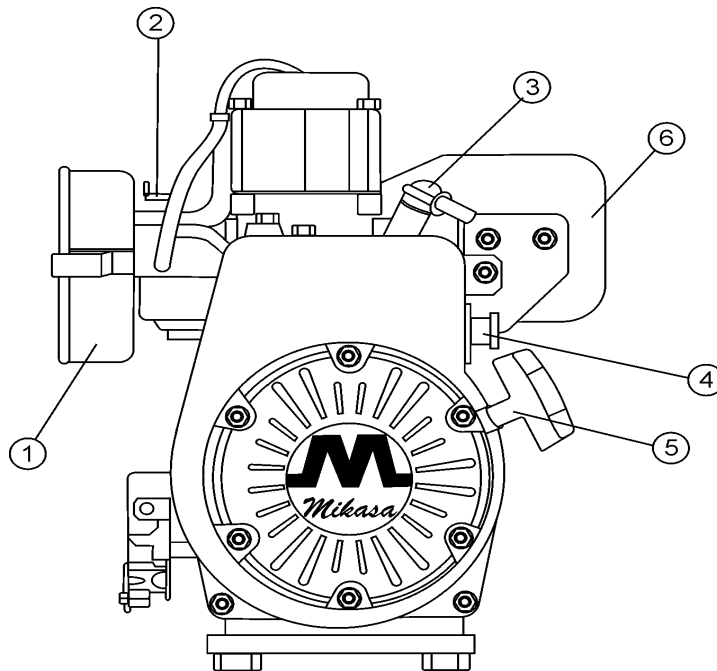


Figure 2. Engine Controls and Components

## INITIAL SERVICING

The engine (Figure 2) must be checked for proper lubrication and filled with fuel prior to operation. Refer to the manufacturers Engine manual for instructions & details of operation and servicing.

1. **Secondary Air Cleaner** – Prevents dirt and other debris from entering the fuel system. Remove wing-nut on top of air filter cannister to gain access to filter element.
2. **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.
3. **Spark Plug** – Provides spark to the ignition system. Set spark plug gap to 0.02 - 0.03 inch (0.6 - 0.7 mm). Clean spark plug once a week.
4. **Engine ON/OFF Switch** – Controls the starting and stopping of the engine. Switch must be in the "ON" position when starting the engine.

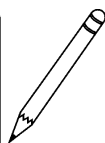
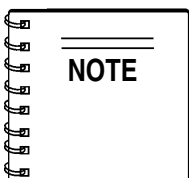
5. **Recoil Starter (pull rope)** – Manual-starting method. Pull the starter grip until resistance is felt, then pull briskly and smoothly.
6. **Muffler** – Used to reduce noise and emissions.



### WARNING

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

7. **Dipstick/Oil Filler Cap** – Remove this cap to determine if the engine oil is low. Add oil through this filler port as recommended in Table 3.
8. **Oil Drain Plug** – Remove this plug to remove oil from the engine's crankcase.



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

This section is intended to assist the operator with the **pre-inspection** of the **MTR-40F 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.

## Inspection

- Check all nuts, bolts fasteners for tightness. Retighten as necessary.
- Clean any dirt from the recoil starter and engine cooling fins. Wipe the entire rammer clean before operating.
- Replace any missing or damaged Safety Operation decals.

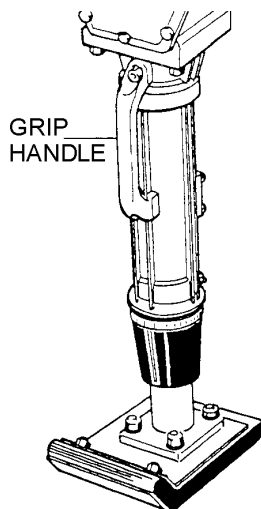
## CAUTION:



Failure to understand the operation of the **MTR-40F Tamping Rammer** could result in severe damage to the rammer or personal injury.

## Prior to Operation

1. When transporting the rammer, carry it by the grip handle located on the body (Figure 3).



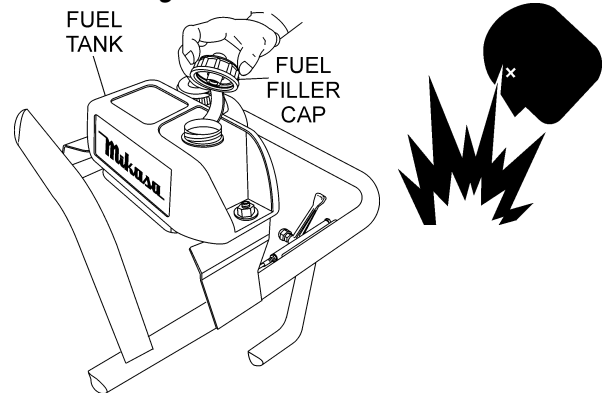
**Figure 3. Grip Handle**

## Main Spring and Crankcase Lubrication

1. There are 2 grease fittings (Figure 18) that require lubrication of the main springs. Lubricate these fittings as outlined in the maintenance section of this manual.
2. There are 2 grease fittings (Figure 19) that require lubrication of the crankcase. Lubricate these fittings as outlined in the maintenance section of this manual.

## Fuel

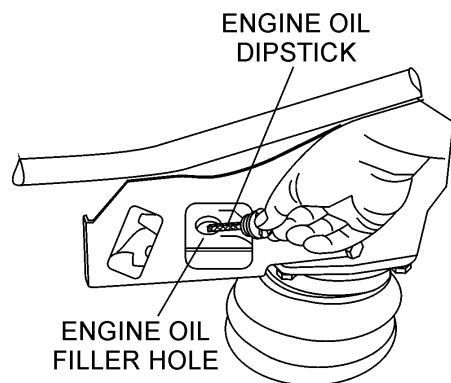
1. This rammer is equipped with a two-cycled gasoline engine. Use only unleaded gasoline. High test ethyl gasoline **is not recommended**.
2. If fuel is low, remove the fuel filler cap (Figure 4) and fill with only **unleaded** gasoline. Motor fuels are **highly flammable** and can be dangerous if mishandled. **DO NOT** smoke while refueling. **DO NOT** attempt to refuel the rammer if the engine is **hot!** or **running**.



**Figure 4. Fuel Tank**

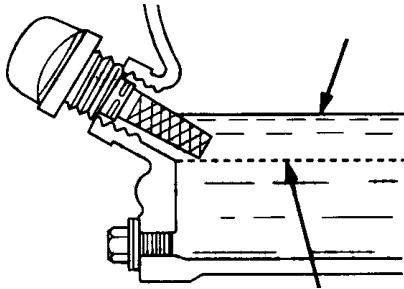
## Engine Oil Check

1. To check the engine oil level, place the rammer on secure level ground with the engine stopped.
2. Remove the filler cap/dipstick from the engine oil filler hole (Figure 5) and wipe it clean.



**Figure 5. Engine Oil Dipstick**

3. Insert and remove the dipstick without screwing it into the filler neck. Check the oil level shown on the dipstick.
4. If the oil level is low (Figure 6), fill to the edge of the oil filler hole with the recommended oil type (Table 3). Maximum oil capacity is .079 gallons (0.3 liters)



**Figure 6. Engine Oil Dipstick (Oil Level)**

**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.

This section is intended to assist the operator with the **initial start-up** of the **MTR-40F** rammer. It is extremely important that this section be **read carefully** before attempting to use the rammer in the field.



**DO NOT** use your rammer until this section is thoroughly understood.

### CAUTION:



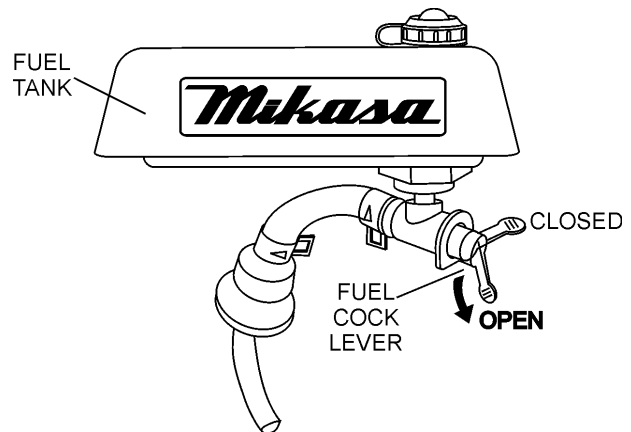
Failure to understand the **initial start-up procedures** of the MTR-40F rammer could result in severe damage to the rammer or personal injury.

See Figure 1 (Page 13) for the location of any control referenced in this manual.

### Initial Start-up

The following steps outline the procedure for starting the engine:

1. Open the **fuel shut-off valve** by moving the **fuel cock** lever to the **open** position (Figure 7).



**Figure 7. Fuel Shut-Off Valve (Open)**

- Set the engine ON/OFF switch (Figure 8) to the "ON" position (start).

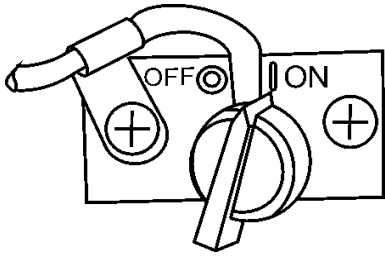


Figure 8. ON/OFF Switch (ON Position)

- Move the throttle lever to the "IDLE" position (Figure 9).

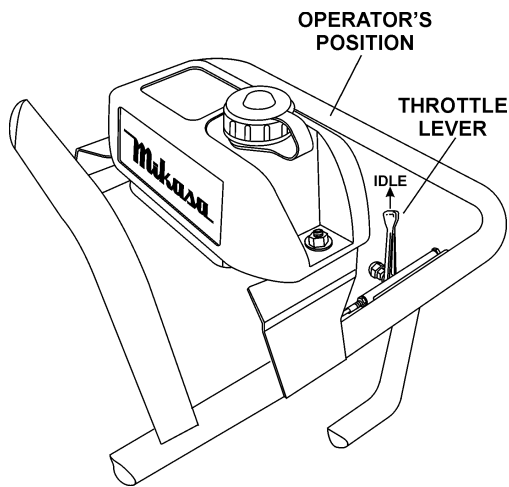


Figure 9. Throttle Lever (Idle)

- In cold weather, start the unit with choke lever "Fully Closed" (Figure 10). In warm weather or when the engine is warm, the unit can be started with choke halfway or completely open.

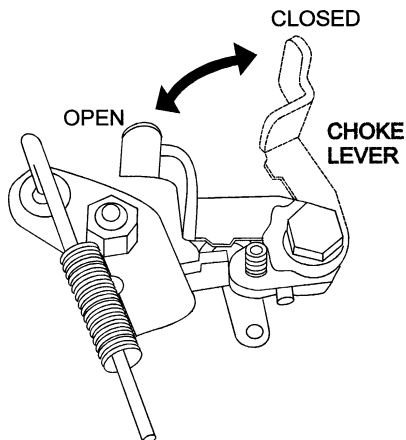


Figure 10. Choke Lever (Closed)

- Grip the recoil starter (Figure 11) 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.

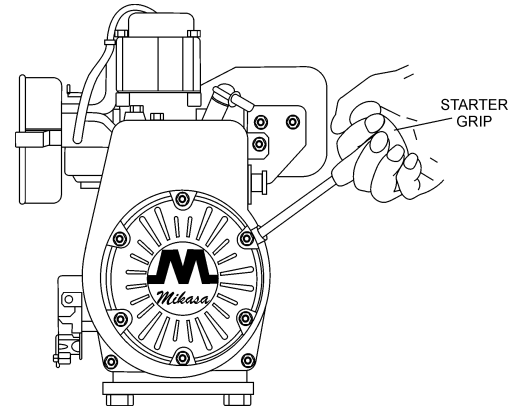


Figure 11. Recoil Starter

- If engine fails to start, move the choke lever (Figure 10) to the half open position to avoid flooding.
- Repeat steps 1 through 6.
- If the engine does not start after repeated attempts, check the spark plug for excess fuel. Clean and replace the spark plug as needed.

## Operation

1. To start the rammer tamping action, move the throttle lever (Figure 12) **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.

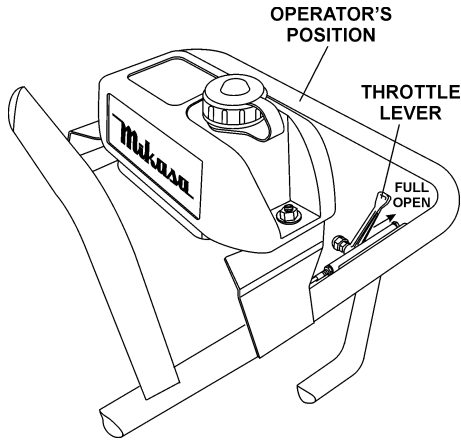


Figure 12. Throttle Lever (Full Open)

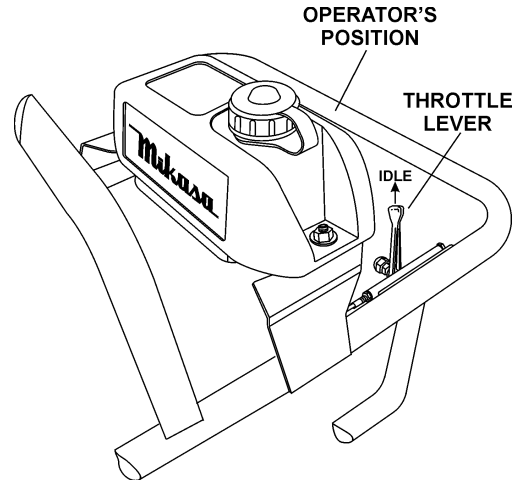


Figure 13. Throttle Lever (Idle)

2. After the engine **cools**, turn the engine **ON/OFF** switch to the **"OFF"** position (Figure 14).

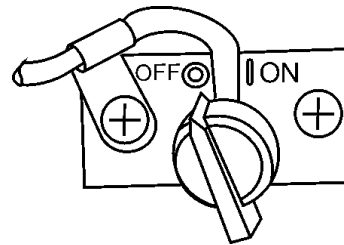


Figure 14. ON/OFF Switch (Off Position)

## CAUTION:



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

2. The MT-40F tamping rammer is designed to run between 3,800~4,100 rpm's. At optimum rpm the foot hits at the rate of 650~695 impacts per minute. Increasing throttle speed past factory set rpm does not increase impacts and may damage unit. The MT-40F is designed to advance while tamping. For faster advance, pull back slightly on the handle so that rear of foot contacts soil first.

3. Close the **fuel shut-off valve** (Figure 15) by moving the fuel cock lever to the **CLOSED** position.

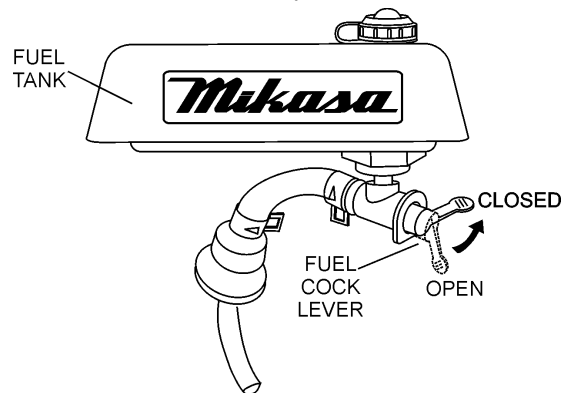


Figure 15. Fuel Shut-Off Valve (Closed Position)

## Stopping The Engine

### Normal Shutdown

1. Move throttle lever quickly from the **FULL OPEN** to **IDLE** position (Figure 13) and run the engine for three minutes at low speed.

### Emergency Showdown

1. Move the throttle lever quickly to the **IDLE** position, and turn the engine **ON/OFF** switch to the **OFF** position. Turn the fuel valve lever to the **CLOSED** position.

## Maintenance

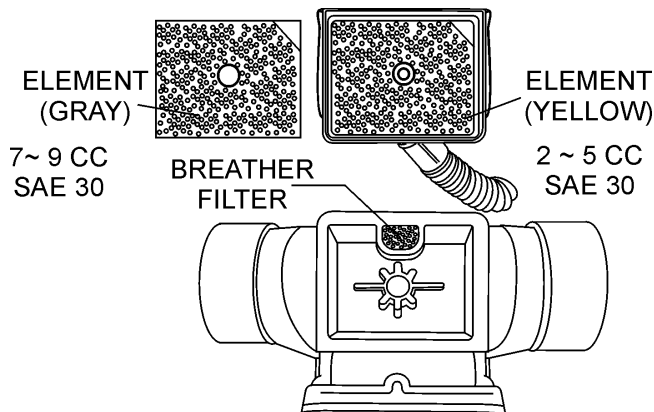
Perform the scheduled maintenance procedures as defined by Table 4 and below:

### Daily

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

### 200 - 300 HOURS (Pre-Cleaner)

- Remove the element from the pre-cleaner (Figure 16) at the top of the crankcase (body side) and clean it with cleaning oil (kerosene).

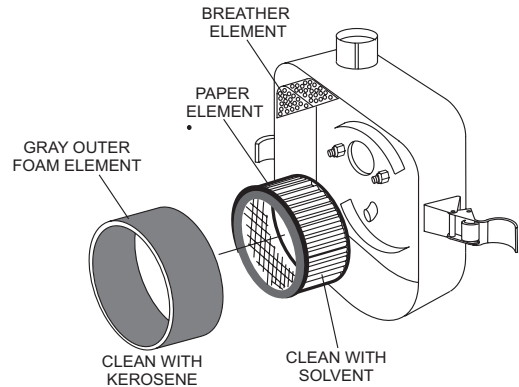


**Figure 16. Primary Air Cleaner**

- Lubricate the top element (yellow) with 2~5 cc of engine oil SAE-30.
- Lubricate bottom element (gray) with 7~9 cc of engine oil SAE-30 and completely squeeze out the excess oil from the element before installing.

### Air Cleaner

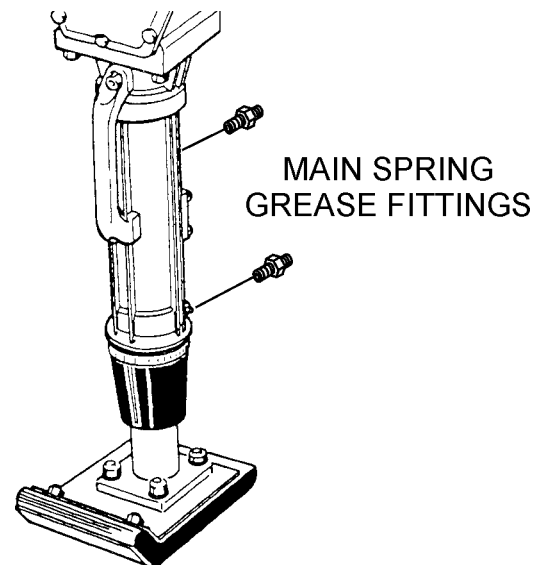
- The air cleaner (Figure 17) on the engine side will hardly be contaminated, if it is, clean the outer foam gray element with cleaning solvent. Tightly squeeze outer foam element to remove any excess solvent before reinstalling.
- Tap the paper filter element (Figure 17) several times on a hard surface to remove dirt, or blow compressed air [not exceeding 30 psi (207 kPa, 2.1 kgf/cm<sup>2</sup>)] through the filter element from the air cleaner case side. **NEVER** brush off dirt. Brushing will force dirt into the fibers. Replace the paper filter element if it is excessively dirty.



**Figure 17. Engine Air Cleaner**

### Main Springs Lubrication

- The rammer **main springs** (Figure 18) should be lubricated with five shots of grease with a hand grease gun after each eight (8) hours of use.
- Use MQ HIGH TEMPERATURE GREASE, P/N GRS2 or its equivalent.
- Equivalent greases include Shell Darina or Texaco Thermatex, both of which have a bentone base and EP-2 rating.
- If an inferior grease is used, it may become too thick or too thin due to changes in temperature, and improper lubrication could result.



**Figure 18. Grease Fittings (Main Springs)**

## Crankcase Lubrication

- The rammer **crankcase bearings** (Figure 19) should be lubricated with five shots of grease with a hand grease gun after each eight (8) hours of use.
- Use MQ HIGH TEMPERATURE GREASE, P/N GRS2 or its equivalent.

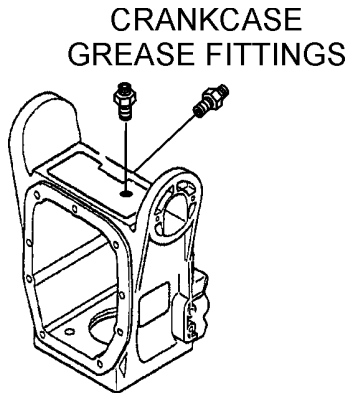


Figure 19. Grease Fittings (Crankcase)

## Fuel Lines

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

## Cleaning the Rammer

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

## Spark Plug

- Remove and clean the spark plug (Figure 20), then adjust the spark gap to 0.024 ~0.028 inch (0.6~0.7 mm). This unit has electronic ignition, which requires no adjustments.

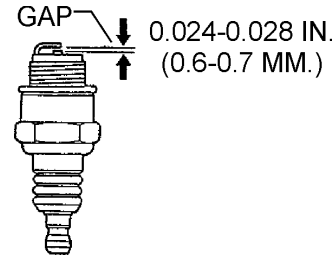
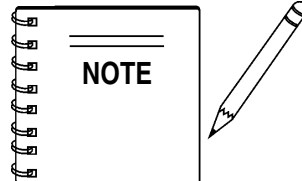


Figure 20. Spark Plug Gap

## 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



Reference manufacturer engine manual for specific servicing instructions.

# MTR-40F — MAINTENANCE (ENGINE)

Perform the scheduled engine maintenance procedures as defined by Table 4 below:

Table 4. Engine Maintenance Schedule							
DESCRIPTION (3)	OPERATION	BEFORE	FIRST MONTH OR 10 HRS.	EVERY 3 MONTHS OR 25 HRS.	EVERY 6 MONTHS OR 50 HRS.	EVERY YEAR OR 100 HRS.	EVERY 2 YEARS OR 200 HRS.
Engine Oil	CHECK	X					
	CHANGE		X				
Air Cleaner	CHECK	X					
	CHANGE			X (1)			
All Nuts & Bolts	Re-tighten If Necessary	X					
Spark Plug	CHECK-CLEAN				X		
	REPLACE						X
Cooling Fins	CHECK				X		
Spark Arrester	CLEAN					X	
Fuel Tank	CLEAN					X	
Fuel Filter	CHECK					X	
Idle Speed	CHECK-ADJUST					X (2)	
Valve Clearance	CHECK-ADJUST						X (2)
Fuel lines	CHECK	Every 2 years (replace if necessary) (2)					

(1) Service more frequently when used in **DUSTY** areas.

(2) These items should be serviced by your servic dealer, unless you have the proper tools and are mechanically proficient. Refer to the ROBIN shop Manual for service procedures

(3) For commercial use, log hours of operation to determine proper maintenance intervals.

# MTR-40F—TROUBLESHOOTING GUIDE

TABLE 5. 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).	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 <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.
	Spark plug loose?	Tighen spark plug.
<b>Operation not satisfactory</b>		
Not enough power available (compression normal, no miss-firing).	Air cleaner clogged?	Clean or replace air cleaner.
	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.

# MTR-40F—TROUBLESHOOTING GUIDE

**TABLE 5. 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.
	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 spiral spring.

**TABLE 6. RAMMER TROUBLESHOOTING**

SYMPTOM	POSSIBLE PROBLEM	SOLUTION
Engine rotates but amplitude not uniform or does not strike.	Operating speed of throttle lever is incorrectly set?	Set throttle lever to correct position.
	Clutch slips?	Replace or adjust clutch.
	Spring Failure?	Replace spiral spring.
	Speed of engine improper?	Adjust engine speed to correct operating RPM setting.

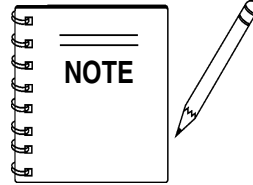
# EXPLANATION OF CODE IN REMARKS COLUMN

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.

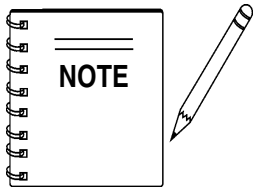
**Model Number**-Where indicated, this shows that the corresponding part is utilized only with this specific model number or model number variant.



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

## Items Found In the “Items Number” Column

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



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

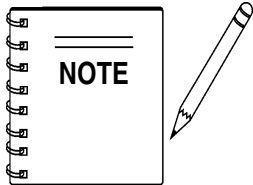
# MTR-40F— SUGGESTED SPARE PARTS

## MTR-40F RAMMER 1 TO 3 UNITS WITH ROBIN EH-09 GASOLINE ENGINE

Qty.	P/N	Description
1	36455630	LEVER, THROTTLE
1	956100040	THROTTLE WIRE
3	362030030	ELEMENT, AIR CLEANER
3	362030020	PACKING, AIR CLEANER
1	361910021	CAP, FUEL TANK W/ STRAP
1	954300720	COCK, FUEL ASSY.
2	301419750	FILTER, IN-LINE FUEL
3	2743260307	ELEMENT, SET ENGINE
3	06500140470	SPARK PLUG
1	954406010	STRAINER, FUEL TANK (LOWER)
1	2745011108	STARTER ROPE
1	954404890	FILTER, FUEL TANK (UPPER)

## MTR-40F RAMMER 4 TO 10 UNITS WITH ROBIN EH-09 GASOLINE ENGINE

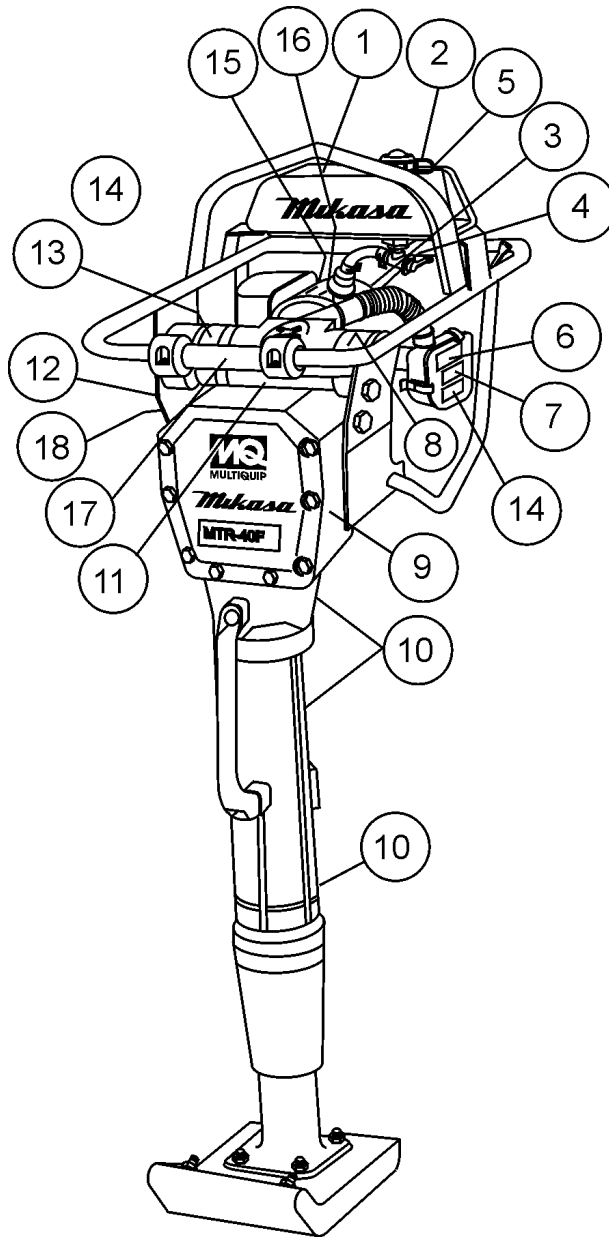
Qty.	P/N	Description
1	36455630	LEVER, THROTTLE
1	956100040	THROTTLE WIRE
3	362030030	ELEMENT, AIR CLEANER
5	362030020	PACKING, AIR CLEANER
1	361910021	CAP, FUEL TANK W/ STRAP
1	954300720	COCK, FUEL ASSY.
2	301419750	FILTER, IN-LINE FUEL
6	2743260307	ELEMENT, SET ENGINE
6	06500140470	SPARK PLUG
1	954406010	STRAINER, FUEL TANK (LOWER)
2	2745011108	STARTER ROPE
1	954404890	FILTER, FUEL TANK (UPPER)
1	362454441	CLUTCH
1	0660000361	STOP, SWITCH



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

# MTR-40F— NAMEPLATE AND DECALS

## NAMEPLATE AND DECALS



# MTR-40F— NAMEPLATE AND DECALS

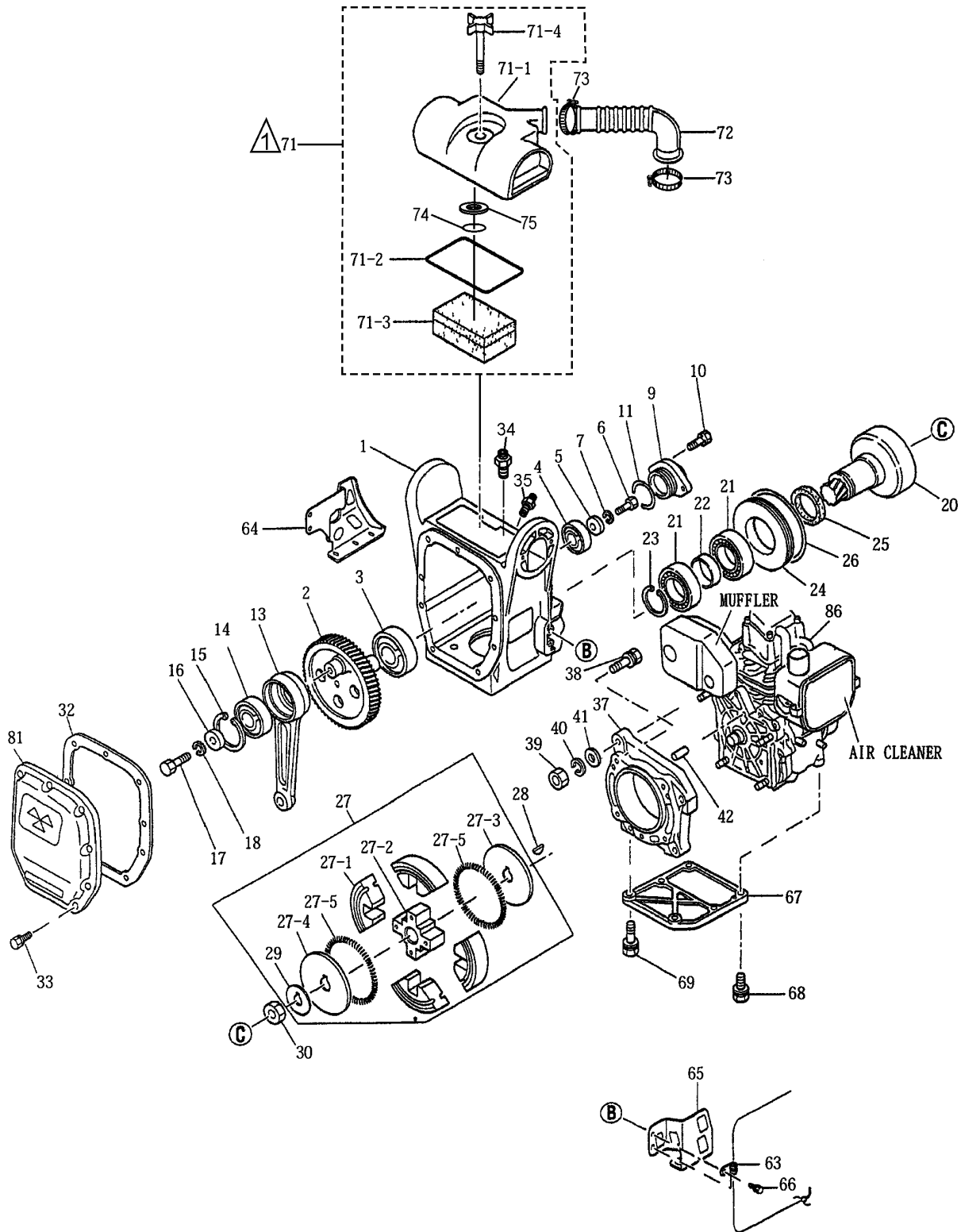
## NAMEPLATE AND DECALS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	NPA1017	DECAL: GASOLINE ONLY	1	
2	NPA1100	DECAL: CAUTION (OPERATION)	1	
3	920203990	DECAL: CAUTION (FUEL COCK)	1	
4	NPA957	DECAL: ENGINE RPM	1	
5	NPA896	DECAL: ELEMENT SET	1	
6	NPA1016	DECAL: SECONDARY AIR FILTER	1	
7	920203290	DECAL: CAUTION	1	
8	920209630	DECAL: CLEANING ELEMENT	1	
9	920209910	PLATE: SERIAL NO. ....	1	..... CONTACT MQ PARTS DEPT.
10	920101200	DECAL: GREASE	3	
11	NPA1018	DECAL: PRIMARY AIR FILTER	1	
12	920209100	DECAL: RAMMER BOOT & HEARING	1	
13	920209610	DECAL: DECAL OIL 7-9 CC	1	
14	NPA831	DECAL: CAUTION/OIL INJECT	1	
15	920100240	DECAL: (M-MARK)	1	
16	920202930	DECAL: SWITCH-ON	1	
17	NPA691	DECAL: LAYDOWN	1	
18	NPA769	DECAL: CAUTION	1	


FOR DECAL ILLUSTRATIONS SEE PAGE 10.

# MTR-40F— CRANKCASE AND ENGINE ASSY.

## CRANKCASE AND ENGINE ASSY.



### NOTES:

-  AIR CLEANER ASSY., INCLUDES ITEMS WITHIN DASHED LINES EXCEPT FOR ITEMS 74 AND 75.

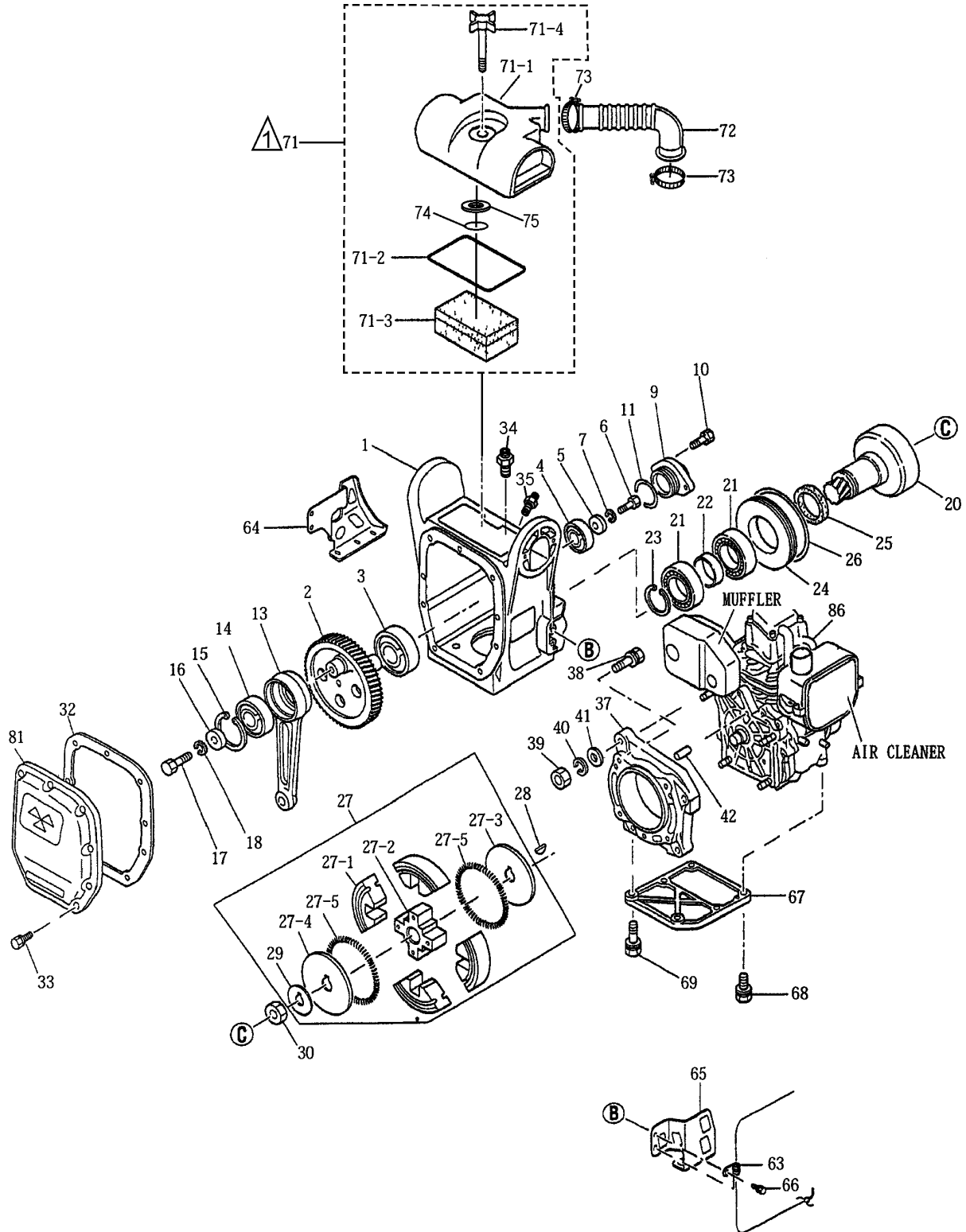
# MTR-40F— CRANKCASE AND ENGINE ASSY.

## CRANKCASE & ENGINE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	305117260	CRANK CASE	1	
2	305343780	CRANK GEAR	1	
3	041006305	BEARING 6305Z	1	
4	041006203	BEARING 6203Z	1	
5	952401450	WASHER 8.5 x 22 x 3	1	
6	001220825	BOLT 8 x 25 T	1	
7	030208200	WASHER, LOCK M8	1	
9	362455660	BEARING COVER	1	
10	002210620	BOLT 6X20 H,SW	2	
11	050100350	O-RING G-35	1	
13	305333090	CONNECTING ROD	1	
14	042006304	BEARING 6304ZZ	1	
15	080100520	STOP RING R-52	1	
16	952400130	WASHER 9304	1	
17	001220825	BOLT 8 x 25 T	1	
18	030208200	WASHER, LOCK M8	1	
20	303010084	PINION	1	
21	042006007	BEARING 6007ZZ	2	
22	351437750	SPACER 35.4-42.7-11	1	
23	080200350	STOP RING S-35	1	
24	351421900	SPACER, CLUTCH DRUM	1	
25	060504010	OIL SEAL VB-40525	1	
26	050300900	O-RING S-90	1	
27	362454441	CLUTCH ASSY. CE120P 1.6T .....	1	INCLUDES ITEMS W/*
27-1*	943020020	CLUTCH SHOE C812	4	
27-2*	943050050	CLUTCH BOSS C812	1	
27-3*	943060100	CLUTCH GUIDE (A)	1	
27-4*	943060020	CLUTCH GUIDE (B)	1	
27-5*	943030021	CLUTCH SPRING	2	
28	0053204201	WOODRUFF KEY	1	
29*	301010210	LOCK WASHER, CLUTCH	1	
30	0173120010	LOCK NUT	1	
32	362341610	PACKING, FRONT COVER	1	
33	002200620	BOLT 6 x 20 H,SW	9	
34	351010050	GREASE FITTING A-MT6X1	1	
35	351010320	GREASE FITTING B-MT6X1	1	
37	2741500123	ADAPTER FLANGE	1	
38	0011408400	BOLT AND WASHER ASSY.	4	
39	0021808000	NUT	4	
40	0032008000	WASHER, LOCK	4	

# MTR-40F— CRANKCASE AND ENGINE ASSY.

## CRANKCASE & ENGINE ASSY.



### NOTES:

- ▲ AIR CLEANER ASSY., INCLUDES ITEMS WITHIN DASHED LINES EXCEPT FOR ITEMS 74 AND 75.

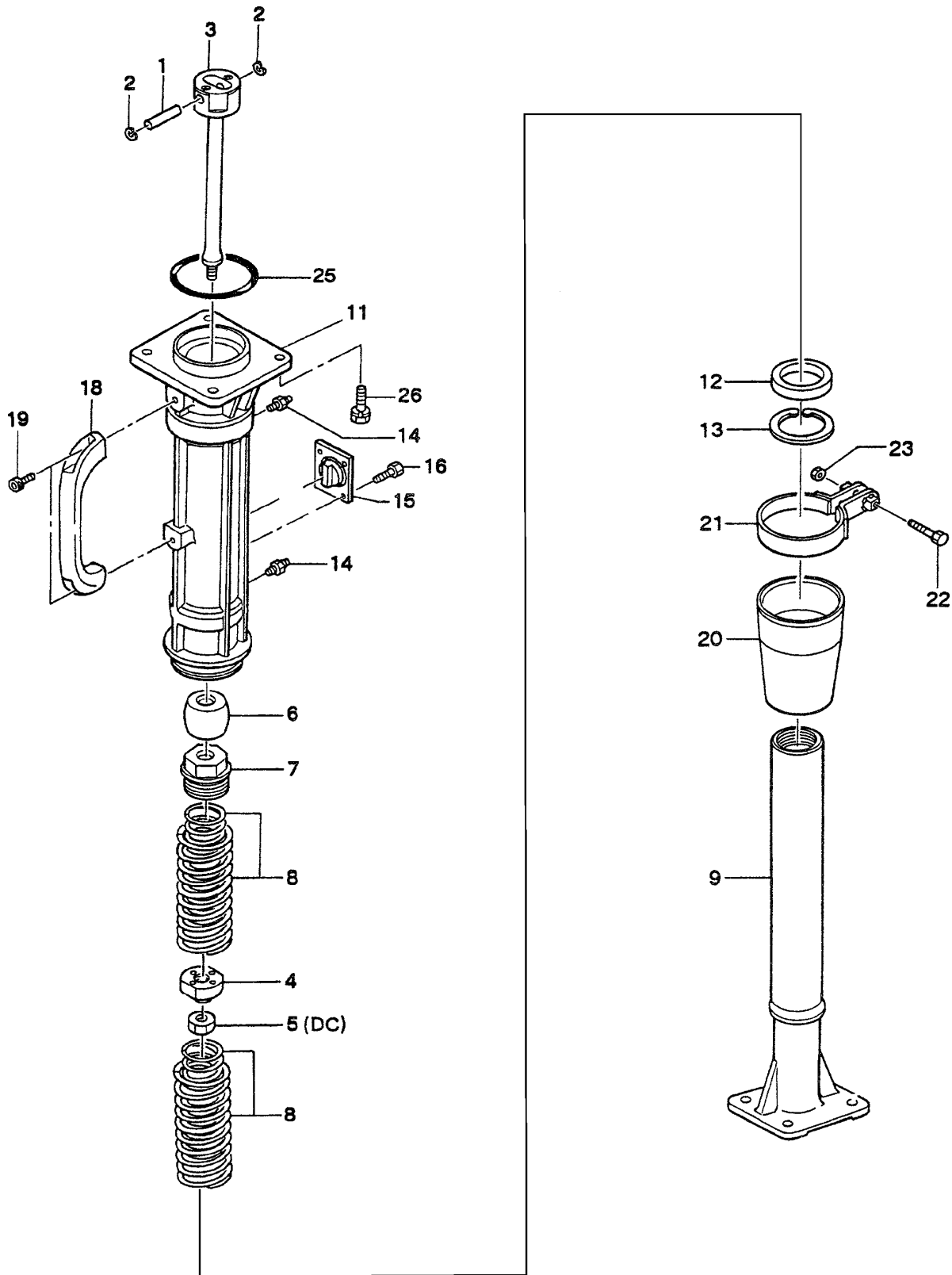
# MTR-40F— CRANKCASE AND ENGINE ASSY.

## CRANKCASE & ENGINE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
41	0031108000	WASHER	4	
42	0310060020	DOWEL PIN	2	
63	959006120	CLIP (TCP-10509B)	1	
64	362341620	OIL GAUGE PROTECTOR	1	
65	362341630	LINK PROTECTOR	1	
66	002400820	BOLT 8X20 W/FLAT/LOCK WASHER	4	
67	2741600113	STIFFENER	1	
68	0011408250	BOLT AND WASHER	4	
69	0011408300	BOLT AND WASHER ASSY.	2	
71	362116871	AIR CLEANER ASSY. ....	1	INCLUDES ITEMS W/#
71-1#	362030011	COVER CP, AIR CLEANER	1	
71-2#	362030020	PACKING, AIR CLEANER	1	
71-3#	362030030	ELEMENT CP, AIR CLEANER	1	
71-4#	362030040	BOLT CP, AIR CLEANER	1	
72	353342400	INTAKE PIPE	1	
73	507010110	CLAMP TC-200	2	
74	050300070	O-RING (7)	1	
75	031108160	WASHER, FLAT M8	1	
81	306010020	FRONT COVER	1	
86	911210905	ENGINE ASSY., EH09D		

# MTR-40F — GUIDE CYLINDER ASSY.

## GUIDE CYLINDER AND FOOT ASSY.



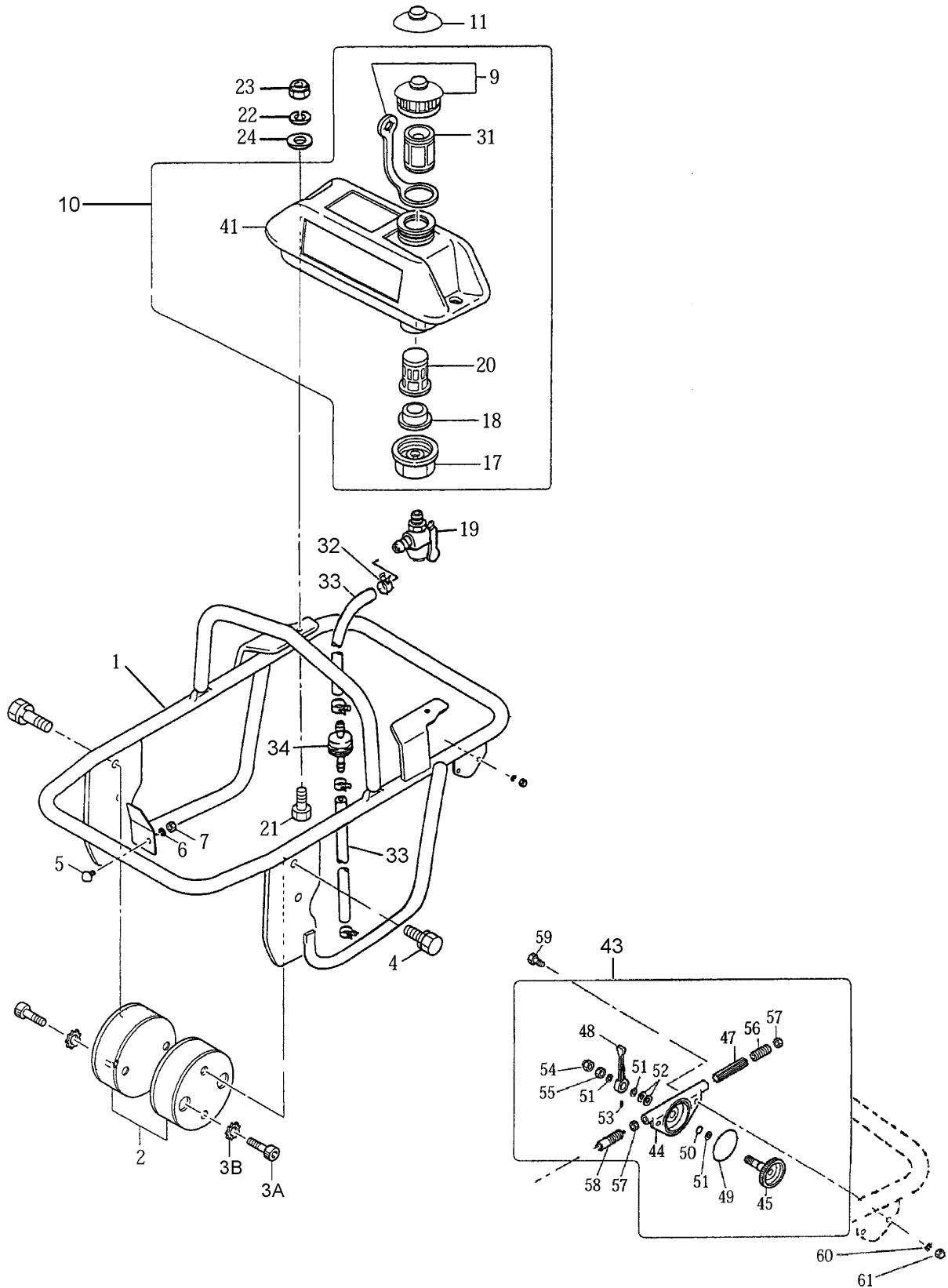
# MTR-40F— GUIDE CYLINDER ASSY.

## GUIDE CYLINDER & FOOT ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	305446380	PISTON PIN	1	
2	080100120	STOP RING R-12	2	
3	305337980	PISTON ROD,M14	1	
4	305451550	PISTON END,M14	1	
6	305446400	STOPPER, UPPER	1	
7	305446410	CYLINDER CAP	1	
8	305446420	MAIN SPRING	2	
9	305212710	SPRING CYLINDER	1	
11	305112730	GUIDE CYLINDER	1	
12	065105010	DUST SEAL DKI-5367811	1	
13	080510680	STOP RING TH-R-68	1	
14	351010050	GREASE FITTING A-MT6x1	2	
15	305446430	STOPPER	1	
16	001220816	BOLT 8x15 H, SW	4	
18	305446440	GRIP	1	
19	001520815	SOCKET HEAD BOLT 8x15 T	2	
20	305446450	DUST SLEEVE	1	
21	305446460	SLEEVE BAND	1	
22	011208030	BOLT 8x30	1	
23	020308060	NUT M8	1	
25	050100800	O-RING G-80	1	
26	002211025	BOLT 10x25 H, SW	4	

# MTR-40F—TANK AND HANDLE ASSY.

## TANK & HANDLE ASSY.



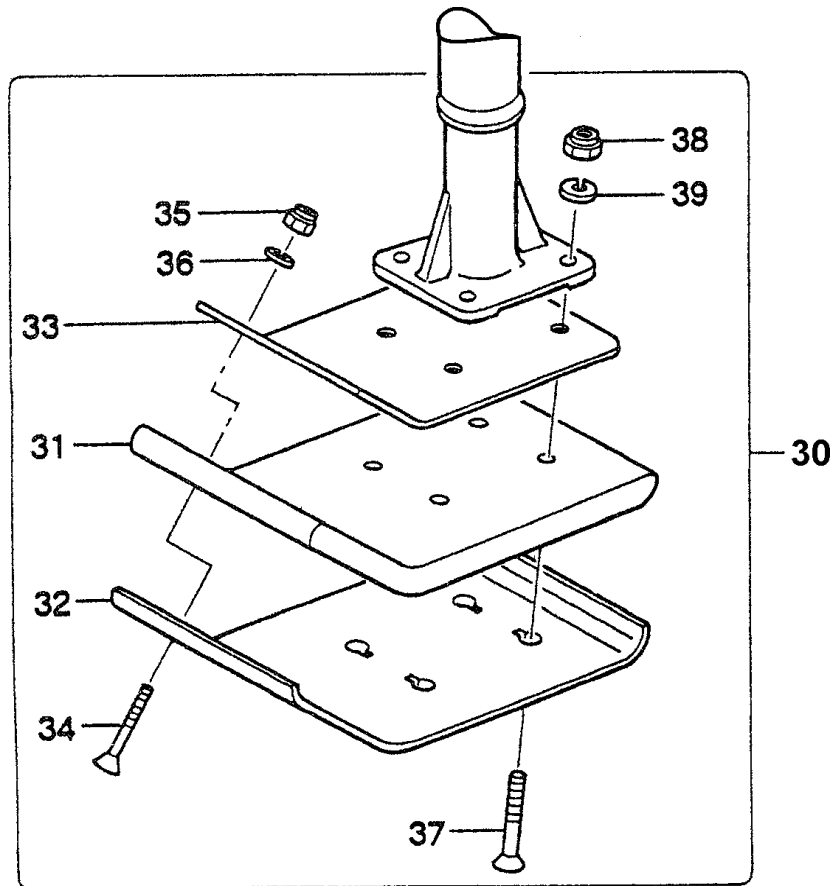
# MTR-40F—TANK AND HANDLE ASSY.

## TANK & HANDLE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	306117960	HANDLE	1	
2	351319900	SHOCK ABSORBER	2	
3A	009110007	SOCKET HEAD BOLT 10x20 T	4	
3B	033121009	TOOTHED LOCKWASHER B M10	4	
4	002211020	BOLT 10x20 H, SW	4	
5	939010210	STOPPER RUBBER EH1002	1	
6	030208200	WASHER, LOCK M8	1	
7	020308060	NUT M8	1	
9#	361910021	TANK CAP CP (ORANGE)	1	
10	305910032	FUEL TANK ASSY. ....	1	INCLUDES ITEMS W/#
11	361455740	SUB CAP	1	
17#	351437785	HOLDER, COCK	1	
18#	954406020	PACKING, FUEL TANK	1	
19	954300720	FUEL COCK ASSY./CVL-08	1	
20#	954406010	STRAINER (#110)	1	
21	001220830	BOLT 8x30 T	2	
22	030208200	WASHER, LOCK M8	2	
23	022710809	NYLON NUT M8	2	
24	952401450	WASHER 8.5x22x3	2	
31#	954404890	FILTER, TANK	1	
32	954403030	HOSE BAND (8)	4	
33	351436350	FUEL HOSE R-75	2	
34	301419750	FUEL FILTER CP	1	
41#	362116890	F. TANK 2L (GRAY)	1	
43	362910060	THROTTLE LEVER ASSY. ....	1	INCLUDES ITEMS W/*
44*	362341550	THROTTLE BODY	1	
45*	362910090	THROTTLE, GEAR CP. W/ BOLT	1	
47*	362455620	SLIDER	1	
48*	362455630	THROTTLE LEVER	1	
49*	050100450	O-RING G-45	1	
50*	050200100	O-RING P-10	1	
51*	031110160	WASHER, FLAT M10	3	
52*	033910070	CONICAL SPRING WASHER	2	
53*	096206006	SOCKET HEAD SCREW 6 x 6	1	
54	022131008	CAP NUT M10	1	
55	020410060	NUT M10, H=6	1	
56*	096208020	SOCKET HEAD SCREW 8 x 20	1	
57*	020408050	NUT M8, H=5	2	
58*	956100040	THROTTLE WIRE 620-710	1	
59	001220620	BOLT 6X20 T	2	
60	030206150	WASHER, LOCK	2	
61	022130605	CAP NUT M6	2	

# MTR-40F— FOOT ASSY. (OPTION)

FOOT ASSY. (OPTION)



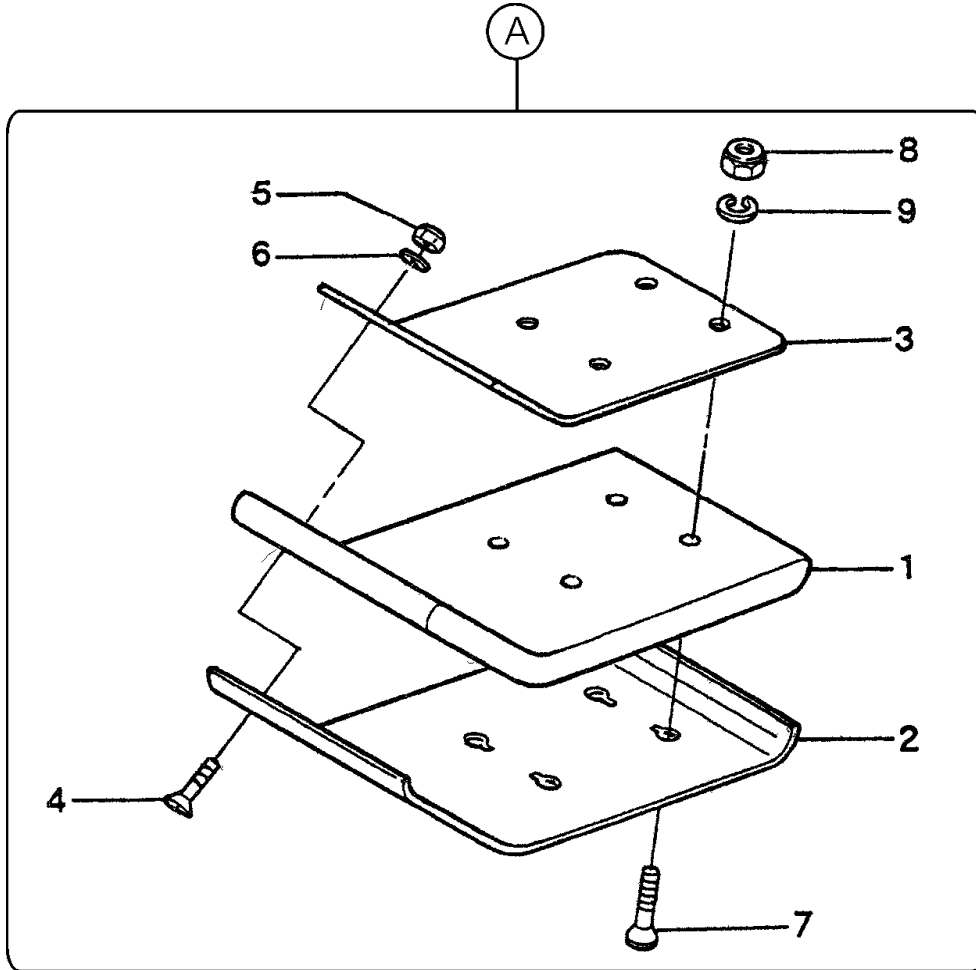
# MTR-40F— FOOT ASSY. (OPTION)

## FOOT ASSY. (OPTION)

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
30	305910010	FOOT ASSY. 150B .....	1 .....	INCLUDES ITEMS W/*
31*	305333120	FOOT 150B	1	
32*	305333130	METAL SHEET 150B	1	
33*	305446470	FOOT COVER	1	
34*	015110055	SUNK HEAD BOLT 10x50 H	2	
35*	022711012	NYLON NUT M10	2	
36*	030210250	WASHER, LOCK M10	2	
37*	015112075	SUNK HEAD BOLT 12x60 H	4	
38*	022711214	NYLON NUT M12	4	
39*	030212300	WASHER, LOCK M12	4	

# MTR-40F— NARROW FOOT ASSY. (OPTION)

NARROW FOOT ASSY. (OPTION)



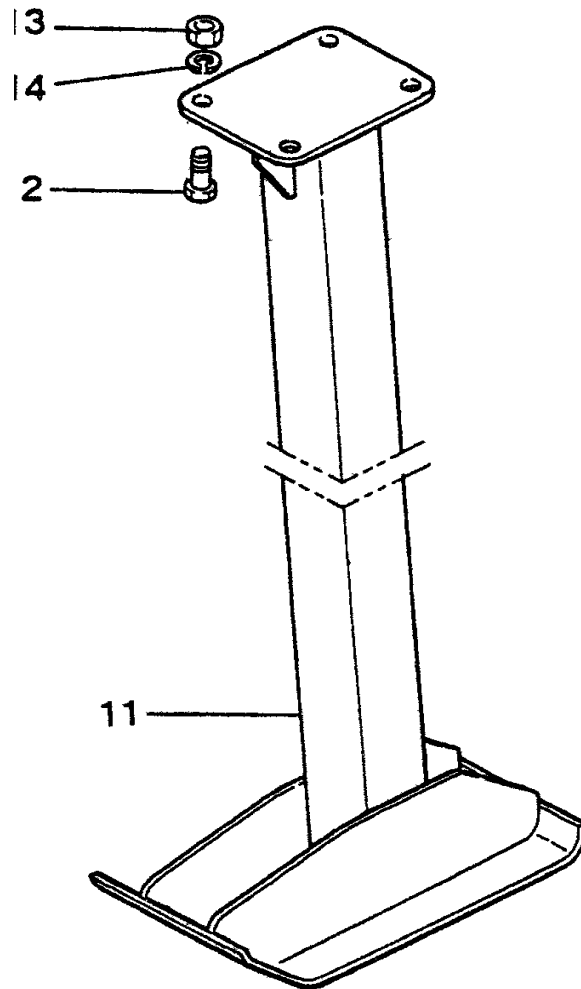
# MTR-40F— NARROW FOOT ASSY. (OPTION)

## NARROW FOOT ASSY. (OPTION)

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	305910020	FOOT ASSY. 200B .....	1 .....	INCLUDES ITEMS W/*
A	305910040	FOOT ASSY. 100B .....	1 .....	INCLUDES ITEMS W/#
1*	305333140	FOOT 200B .....	1 .....	200B
1#	305334930	FOOT 100B .....	1 .....	100B
2*	305333150	METAL SHEET 200B .....	1 .....	200B
2#	305334940	METAL SHEET 100B .....	1 .....	100B
3*	305446470	FOOT COVER .....	1 .....	200B
3#	305447810	FOOT COVER 96B .....	1 .....	100B
4*#	001611050	SUNK HEAD BOLT 10x50 H	2	
5*#	022711012	NYLON NUT M10	2	
6*#	030210250	WASHER, LOCKM10	2	
7*#	001611252	SUNK HEAD BOLT 12x60 H	4	
8*#	022711214	NYLON NUT M12	4	
9*#	030212300	WASHER, LOCK M10	4	

# MTR-40F—TRENCH SHOE ASSY. (OPTION)

TRENCH SHOE ASSY.



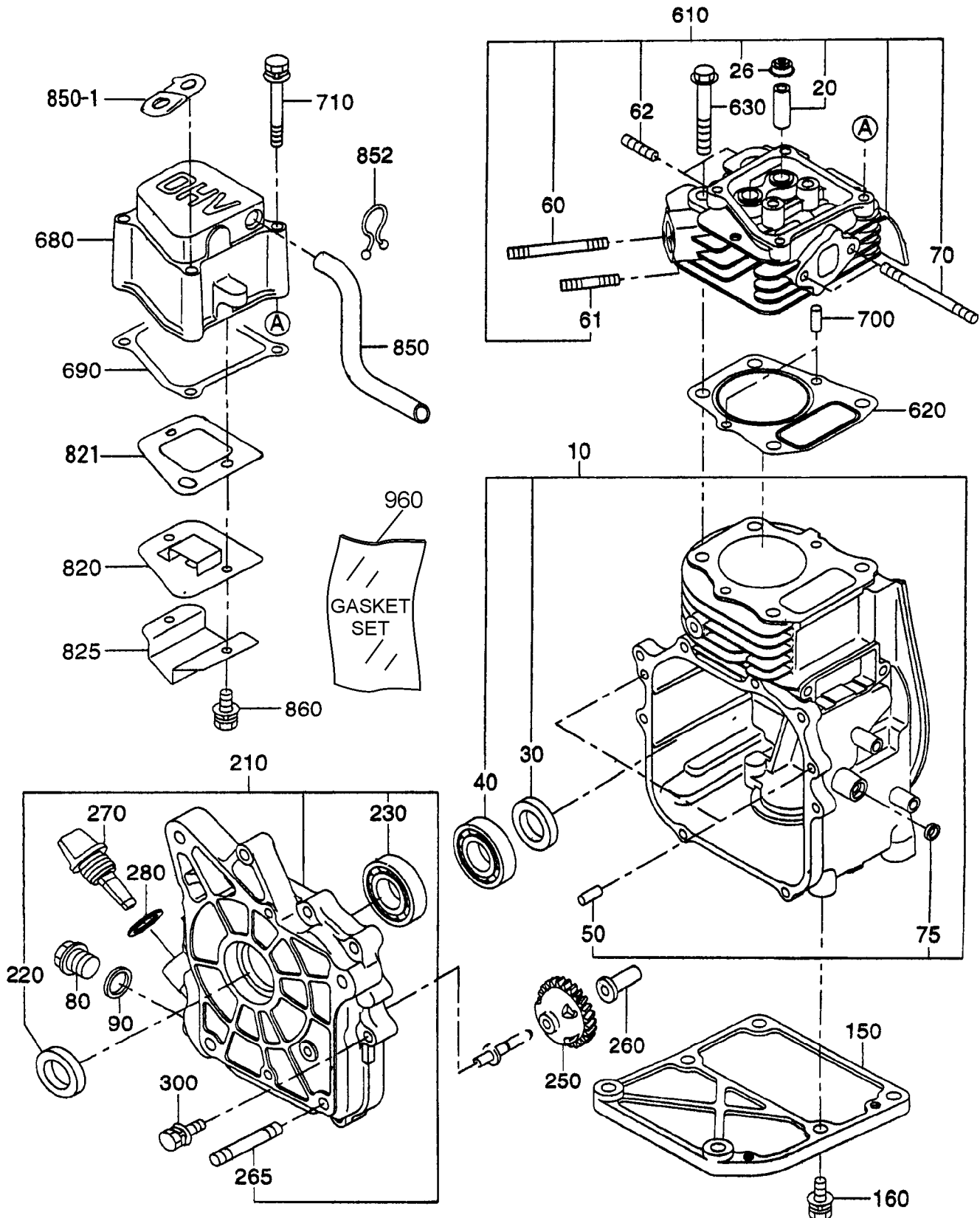
# MTR-40F—TRENCH SHOE ASSY. (OPTION)

## TRENCH SHOE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
11	305333160	TRENCH SHOE 500H-120B	1	
11	305333170	TRENCH SHOE 800H-120B	1	
11	305334390	TRENCH SHOE 305H-100B	1	
12	001221235	BOLT 12x35 T	4	
13	020312100	NUT M12	4	
14	030212300	WASHER, LOCK M12	4	

# ROBIN EH-09 ENGINE — CRANKCASE ASSY.

## CRANKCASE ASSY.



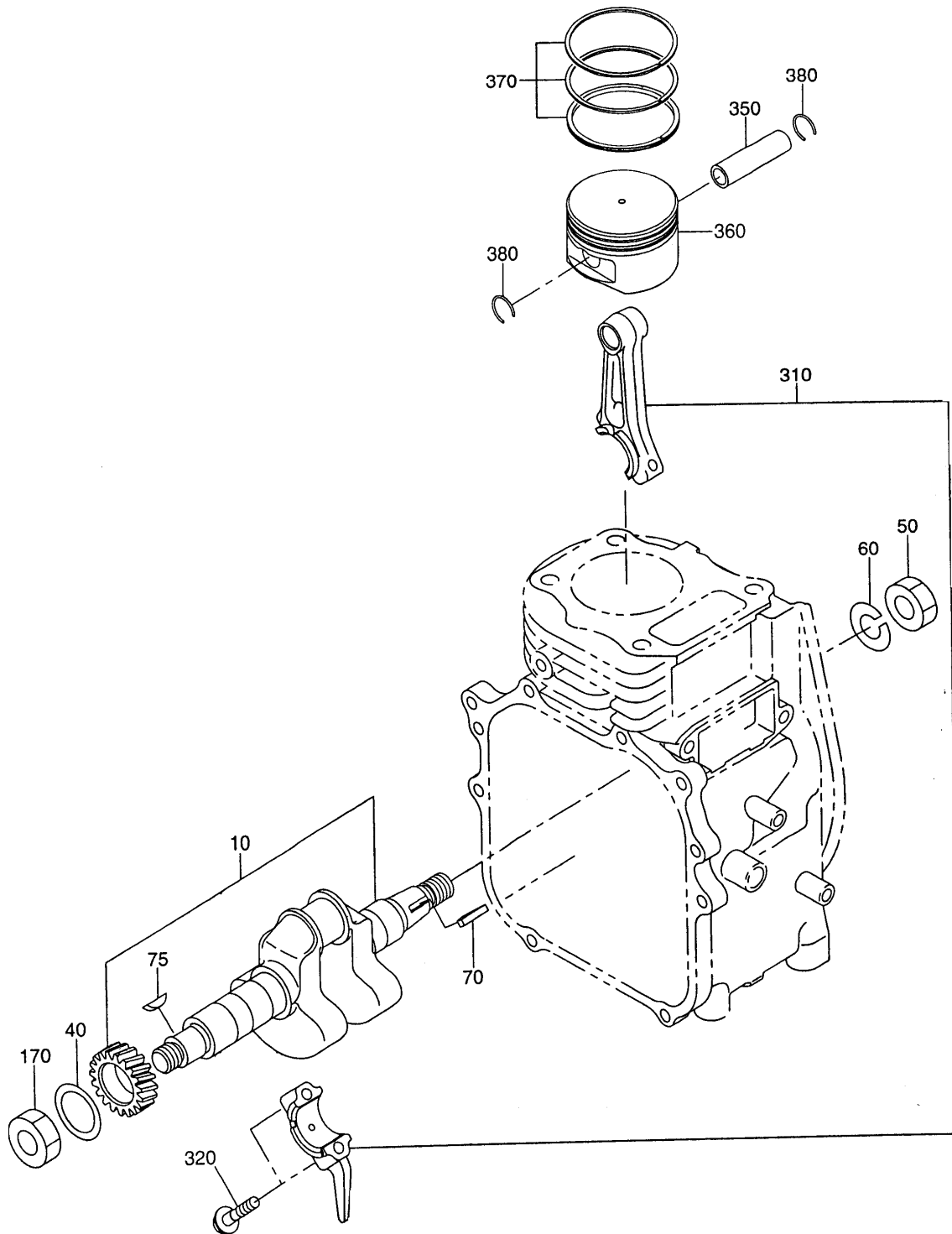
# ROBIN EH-09 ENGINE — CRANKCASE ASSY.

## CRANKCASE ASSY.

NO	PART NO	PART NAME	QTY.	REMARKS
10	2741010121	CRANKCASE CP .....	1	INCLUDES ITEMS W/#
20%	2371420203	VALVE GUIDE	2	
26	2371600801	STEM SEAL CP	1	
30#	0440200070	OIL SEAL 20X32X6	1	
40#	0600200140	BALL BEARING	1	
50#	0310060020	DOWEL PIN	2	
60%	0013906600	STUD	1	
61%	0105060200	STUD	1	
62%	0105060170	STUD	2	
70%	0105060160	STUD	2	
75#	0440060010	OIL SEAL 6X10X2.5	1	
80	0401140030	PLUG	1	
90	0211140020	GASKET	1	
150	2741600113	STIFFENER	1	
160	0011408250	BOLT & WASHER	2	
210	2741100131	MAIN BEARING COVER .....	1	INCLUDES ITEMS W/*
220*	0440200110	OIL SEAL 20X32X6	1	
230*	0600200140	BALL BEARING	1	
250	2304500301	GOVERNOR GEAR CP	1	
260	2054190103	GOVERNOR SLEAVE	1	
265	0013908500	STUD	4	
270	2306360113	OIL GAUGE	1	
280	0213160020	GASKET	1	
300	0130060200	BOLT & WASHER	9	
610	2741300131	CYLINDER HEAD CP .....	1	INCLUDES ITEMS W/%
620	2741550103	GASKET, HEAD	1	
630	0110080210	FLANGE BOLT	4	
680	2741550223	ROCKER COVER	1	
690	2741600403	GASKET (ROCKET COVER)	1	
700	0310060020	DOWEL PIN	2	
710	0011406600	BOLT & WASHER ASSY.	4	
727	0566000250	CLAMP	1	
820	2741440101	BREATHER PLATE CP	1	
821	2741620103	GASKET/BREATHER PLATE	1	
825	2741440503	OIL SHELTER PLATE	1	
850	2741610203	BREATHER PIPE	1	
850-1	0566000331	CLAMP, BREATHER, PIPE	1	
852	0569000010	HOSE CLIP	1	
860	0011305100	BOLT & WASHER ASSY.	2	
960	2749900107	GASKET SET	1	

# ROBIN EH-09 ENGINE — CRANKSHAFT AND PISTON ASSY.

CRANKSHAFT AND PISTON ASSY.



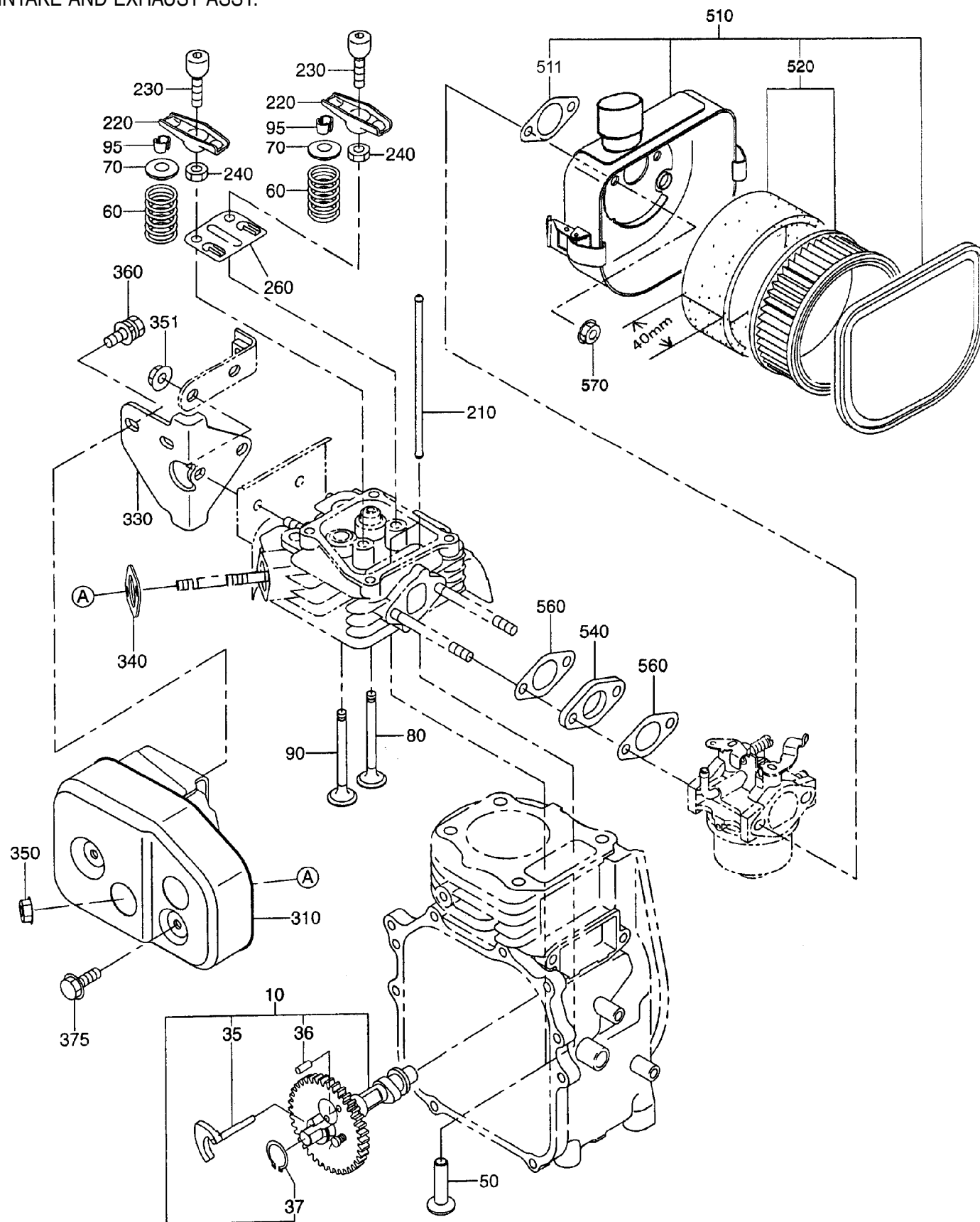
# ROBIN EH-09 ENGINE — CRANKSHAFT AND PISTON ASSY.

## CRANKSHAFT AND PISTON ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2742010141	CRANKSHAFT CP	1	
40	0230200100	SPACER T=0.8	1	
40	0230200110	SPACER T=1.0	1	
40	0230200120	SPACER T=1.2	1	
50	0021812000	NUT	1	
60	0032012000	SPRING WASHER .....	1	REPLACES 0032012000
70	0053203101	WOODRUFF KEY	1	
75	0053204201	WOODRUFF KEY	1	
170	0173120010	LOCK NUT	1	
310	2302250120	CONNECTING ROD ASSY.....	1	INCLUDES ITEMS W/%
320%	2302300123	CONNECTING ROD BOLT	2	
350	2302330103	PISTON PIN	1	
360	2742340103	PISTON	1	
360	2742340203	PISTON 0.25MM	1	
360	2742340303	PISTON 0.50MM	1	
370	2742350107	PISTON RING SET	1	
370	2742350207	PISTON RING SET 0.25MM	1	
370	2742350307	PISTON RING SET 0.50MM	1	
380	0565110010	CLIP	2	

# ROBIN EH-09 ENGINE —INTAKE AND EXHAUST ASSY.

## INTAKE AND EXHAUST ASSY.



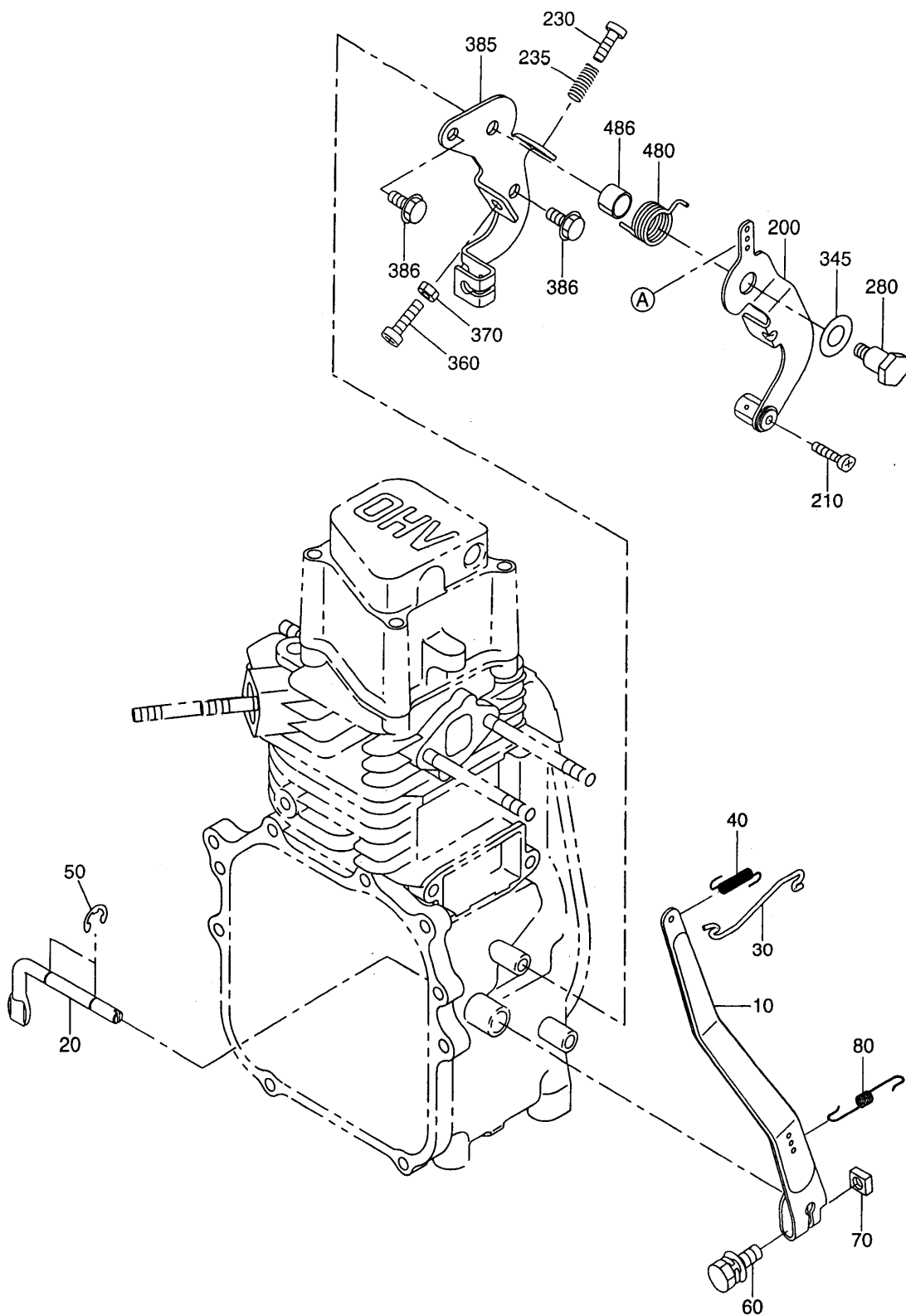
# ROBIN EH-09 ENGINE —INTAKE AND EXHAUST ASSY.

## INTAKE AND EXHAUST ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2743170101	CAMSHAFT CP .....	1	INCLUDES ITEMS W/%
34	2273860123	PIN (SPRING)	1	
35%	2743640103	RELEASE LEVER	1	
36%	0051904100	SPRING PIN	1	
37%	0031517000	SNAP RING	1	
38	2743870103	RETURN SPRING	1	
50	2743330103	TAPPET	2	
60	2743360103	VALVE SPRING	2	
70	2743370103	SPRING RETAINER	2	
80	2743340103	INTAKE VALVE	1	
90	2743350103	EXHAUST VALVE	1	
95	13210KA031	COLLET VALVE	4	
210	2743530103	PUSH ROD	2	
220	2743600103	ROCKER ARM	2	
230	2693580103	BOLT (PIVOT)	2	
240	0170060090	NUT	2	
260	2743650103	GUIDE PLATE	1	
310	2743010211	MUFFLER CP	1	
330	2743700111	BRACKET CP (MUFFLER)	1	
340	2743520101	GASKET CP (EXHAUST)	1	
350	0176060020	SELF LOCK NUT	2	
351	0023806000	FLANGE NUT .....	2	REPLACES 0023806000
360	0110060010	BOLT AND WASHER ASSY. ....	2	REPLACES 0011406120
375	0011306120	FLANGE BOLT .....	2	REPLACES 0110060010
510	2743260400	AIR CLEANER ASSY. ....	1	INCLUDES ITEMS W/*
511*%	2303262008	GASKET	1	
520*	2743260307	ELEMENT SET	1	
540	2303290103	INSULATOR	1	
550	2303590103	GASKET (INSULATOR)	1	
560	2303590203	GASKET 2 (INSULATOR)	2	
570	0176060020	SELF LOCK NUT	2	

# ROBIN EH-09 ENGINE —GOVERNOR ASSY.

## GOVERNOR ASSY.



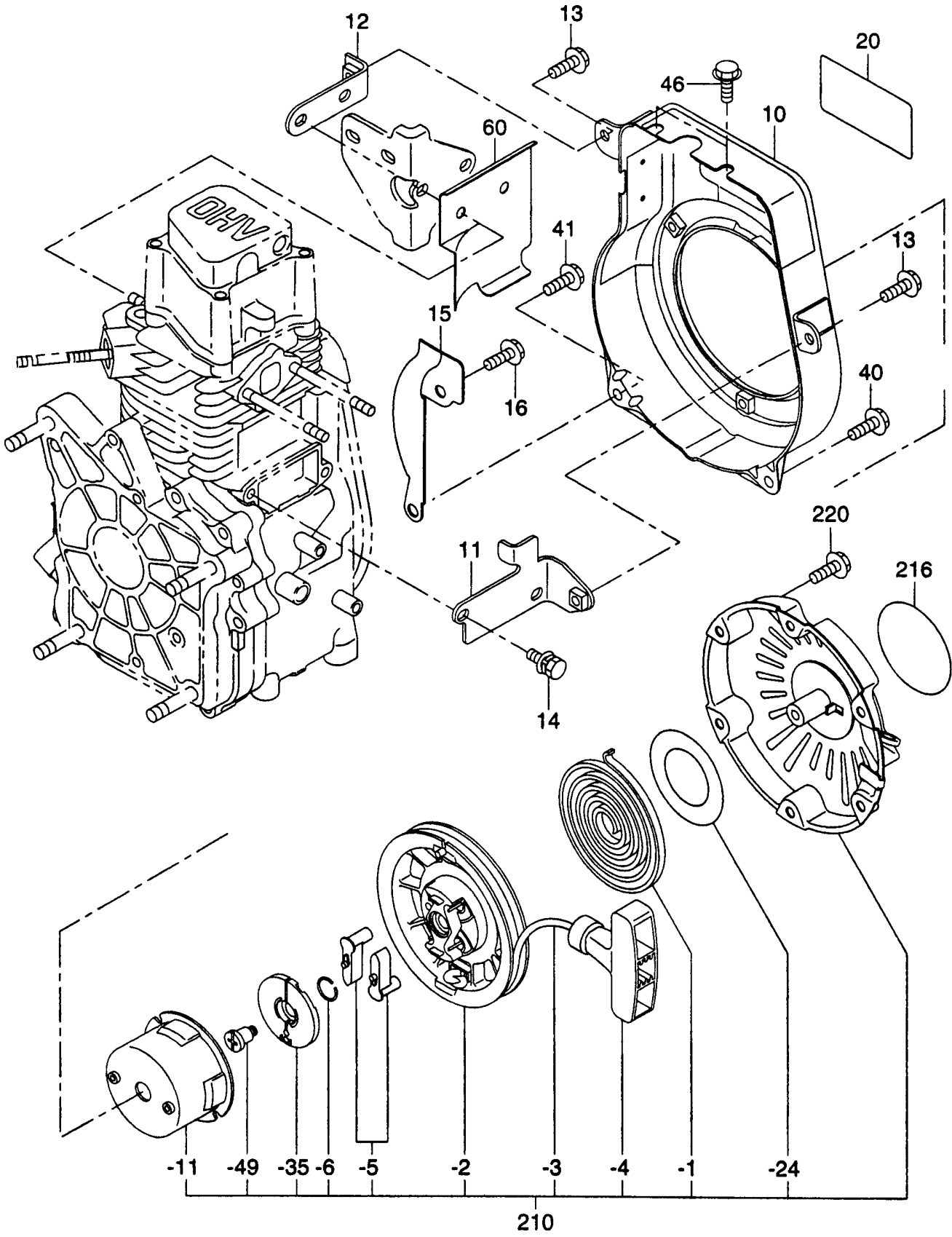
# ROBIN EH-09 ENGINE —GOVERNOR ASSY.

## GOVERNOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2744230101	GOVERNOR LEVER	1	
20	2304220103	GOVERNOR SHAFT	1	
30	2744270113	GOVERNOR ROD	1	
40	1064280113	ROD SPRING	1	
50	0031305000	CLIP	2	
60	0011406250	BOLT AND WASHER ASSY.	1	
70	0186060020	NUT	1	
80	2744250103	GOVERNOR SPRING	1	
200	2304330210	SPEED CONTROL ASSY.	1	
210	0043104140	SCREW (PAN HEAD)	1	
230	0140040070	SCREW	1	
235	2684500103	CONTROL SPRING	1	
280	2264310301	LINK PIVOT CP	1	
345	0217100020	FRICTION WASHER	1	
360	0043106300	SCREW	1	
370	0022706000	NUT .....	1	REPLACES 0022706000
385	2744510101	BASE PLATE CP	1	
386	0110060050	FLANGE BOLT .....	2	REPLACES 0110060010
480	2264500313	RETURN SPRING	1	
486	0230100040	SPACER	1	

# ROBIN EH-09 ENGINE — BLOWER HOUSING & RECOIL STARTER ASSY.

BLOWER HOUSING & RECOIL STARTER ASSY.



# ROBIN EH-09 ENGINE —BLOWER HOUSING & RECOIL STARTER ASSY.

## BLOWER HOUSING & RECOIL STARTER ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2745120211	BLOWER HOUSING CP	1	
11	2745510121	BLOWER H. BKT. 1 CP	1	
12	2745520101	BLOWER H. BKT. 2 CP	1	
13	0110060020	FLANGE BOLT	2	
14	0011606140	BOLT AND WASHER ASSY.	2	
15	2745500101	BLOWER GUIDE CP	1	
16	0110060050	FLANGE BOLT .....	1	REPLACES 0110060010
20	2749170103	LABEL (TRADE MARK)	1	
40	0110060050	FLANGE BOLT .....	1	REPLACES 0110060010
41	0110060020	FLANGE BOLT	1	
46	0110060020	FLANGE BOLT	2	
60	2745260103	CYLINDER BAFFLE	1	
210	2745020120	RECOIL STARTER ASSY. ....	1	INCLUDES ITEM W/*
210-1*	2745011508	SPIRAL SPRING	1	
210-2*	2745012018	REEL	1	
210-3*	2745011108	STARTER ROPE	1	
210-4*	2615010008	STARTER KNOB	1	
210-5*	2705012508	RATCHET	2	
210-6*	2275013108	FRICTION SPRING	1	
210-11*	2745014508	STARTING PULLEY	1	
210-24*	1315015008	SLIDE PLATE	1	
210-35*	2705026108	RATCHET GUIDE	1	
210-49*	2275015208	SET SCREW	1	
216	2069170103	LABEL (TRADE MARK)	1	
220	0110060020	FLANGE BOLT	3	



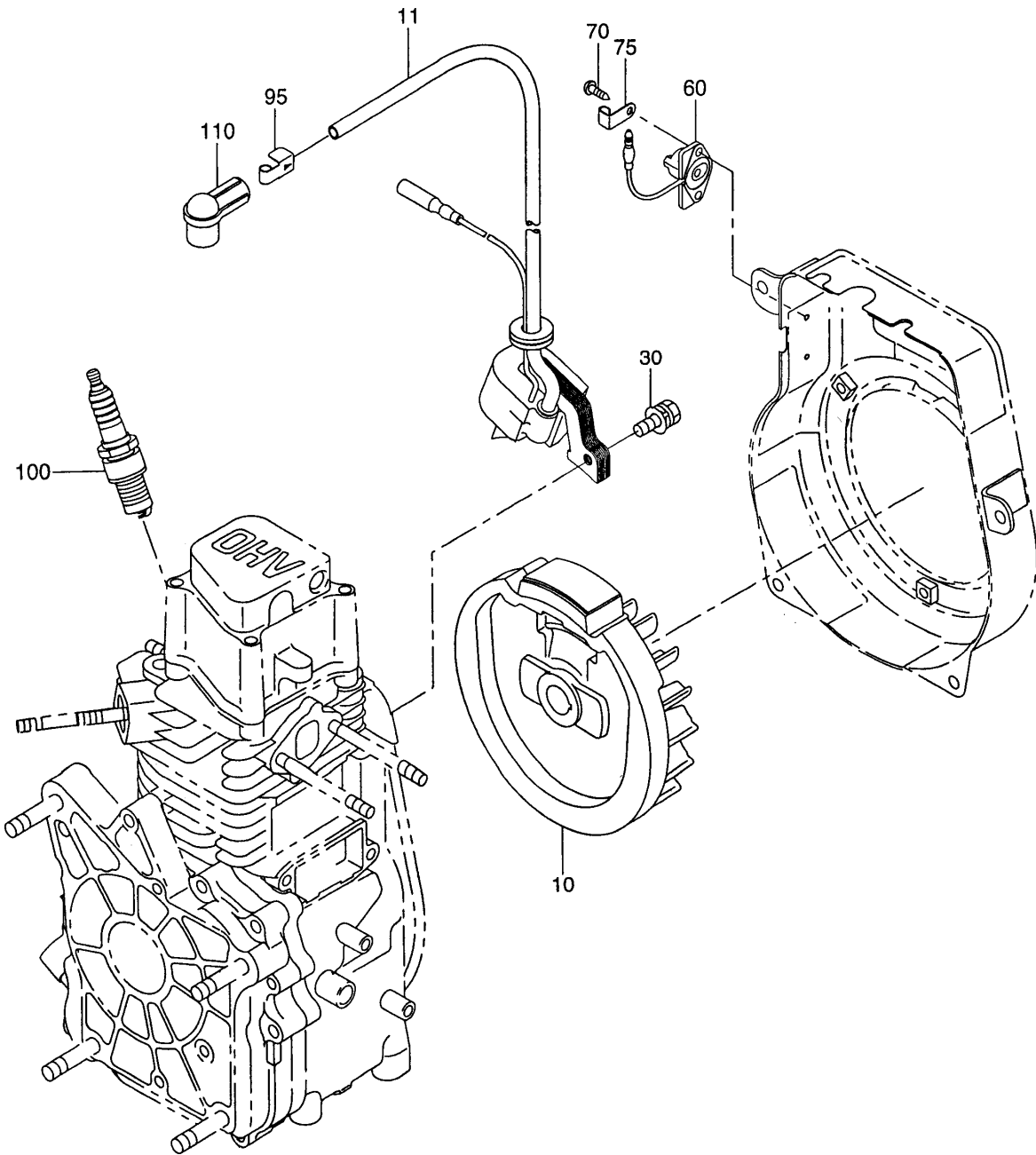
# ROBIN EH-09 ENGINE — CARBURETOR ASSY.

## CARBURETOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
210	2746230100	CARBURETOR ASSY. ....	1	INCLUDES ITEMS W/*
-1*	2746253508	THROTTLE VALVE	1	
-3*	2306252508	CHOKE VALVE	1	
-4*	2376245108	SCREW	3	
-5*	2346242108	PILOT JET	1	
-8*	2746252008	SHAFT ASSY. (CHOKE)	1	
-11*	2746253008	SHAFT ASSY. (THROTTLE)	1	
-12*	2246254308	BOLT	1	
-14*	2268250208	NEEDLE VALVE ASSY.	1	
-15*	2146251508	PIN	1	
-16*	2306255308	FLOAT CHAMBER BODY	1	
-17*	2078234508	INSERT WASHER	1	
-18*	2306254008	PACKING	1	
-19*	2306250608	FLOAT ASSY.	1	
-22*	2746240008	MAIN JET	1	
-24*	2266270118	CLIP	1	
-26*	2746235108	HOSE	1	
-28*	2246245008	SCREW	1	
-29*	2106231808	SPRING	1	
-33*	2306258108	SEAL	1	
-40*	1066239308	SCREW	1	
-41*	2066244608	SPRING	1	
-101*	2306258208	PACKING	1	
-117*	2746235008	HOSE	1	
-123*	2276240408	MAIN JET	1	

# ROBIN EH-09 ENGINE —ELECTRIC DEVICE ASSY.

ELECTRIC DEVICE ASSY.



# ROBIN EH-09 ENGINE — ELECTRIC DEVICE ASSY.

## ELECTRIC DEVICE ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2307020831	FLYWHEEL CP	1	
11	2747020101	IGNITION COIL CP	1	
30	0011706250	BOLT & WASHER ASSY.	2	
60	0660000361	SWITCH ASSY.	1	
70	0150040090	TAPPING SCREW	2	
75	0566030010	CLAMP	1	
95	0659000010	PLUG TERMINAL	1	
100	0650140470	SPARK PLUG NGK	1	
110	2307510113	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 in the price book and shows as being replaced by another item, it is obsolete.)
  - b. Any parts with a limited shelf life (such as gaskets, seals, "O" rings, and other rubber parts) that were purchased more than six months prior to the return date.
  - c. Any line item with an extended dealer net price of less than \$5.00.
  - d. Special order items.
  - e. Electrical components.
  - f. Paint, chemicals, and lubricants.
  - g. Decals and paper products.
  - h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for five working days from notification, pending instructions. If a reply is not received within five days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted, for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

**PRICING AND REBATES**

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

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

**SPECIAL EXPEDITING SERVICE**

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

**LIMITATIONS OF SELLER'S LIABILITY**

Multiquip shall not be liable 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. Apart from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.



# OPERATION AND PARTS MANUAL

## **HERE'S HOW TO GET HELP**

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

### **MULTIQUIP'S MAIN PHONE NUMBERS**

800-421-1244      FAX: 310-537-3927  
310-537-3700

### **PARTS DEPARTMENT**

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

### **MAYCO PARTS**

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

### **SERVICE DEPARTMENT**

800-478-1244      FAX: 310-537-4259  
310-537-3700

### **MQ POWER SERVICE DEPARTMENT**

800-835-2551      FAX: 310-638-8046  
310-537-3700

### **TECHNICAL ASSISTANCE**

800-478-1244      FAX: 310-631-5032

### **WARRANTY DEPARTMENT**

800-421-1244, EXT. 279      FAX: 310-537-1173  
310-537-3700, EXT. 279



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

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WWW: multiquip.com



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