

PARTS AND OPERATION MANUAL



Mikasa

Tamping Rammer Model MT55-F

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Revision #3 (04/07/06)



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FAX: 310-631-5032

Atlanta • Boise • Dallas • Houston • Newark
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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/TECHNICAL ASSISTANCE

800-478-1244 or 310-537-3700

FAX: 310- 537-4259

WARRANTY DEPARTMENT

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

FAX: 310- 537-1173

MAIN

800-421-1244 or 310-537-3700

FAX: 310-537-3927

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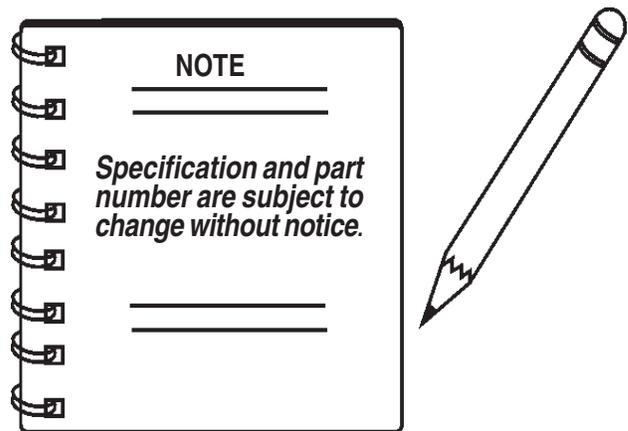
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ROBIN EH-09 STD ENGINE

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- 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
- UPS Third Day Service at one-half of actual freight cost

No other allowances on freight shipped by any other carrier.

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

DISCOUNTS ARE SUBJECT TO CHANGE

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

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

**Up to 5%
extra savings!**

**UPS
Special**
For faxed orders only

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

Toll-free nationwide:

800-421-1244

Toll-free FAX:

800/6-PARTS-7 • 800-672-7877

MT55-F — 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.

NOTE

This Owner's Manual has been developed to provide complete instructions for the safe and efficient operations of the MQ Mikasa MT55-F Tamping Rammer. Refer to the engine manufacturers instructions for data relative to its safe operation.

Before using this Tamping 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**,



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

Potential hazards associated with operation of the rammer will be referenced with Hazard Symbols which appear throughout this manual, and will be referenced in conjunction with Safety Message Alert Symbols.

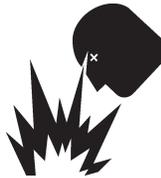
HAZARD SYMBOLS



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.

MT55-F — SAFETY MESSAGE ALERT SYMBOLS



Accidental Starting



OFF

ALWAYS place the ON/OFF switch in the OFF position, disconnect the spark plug lead before servicing the engine or equipment. Ground the lead to prevent sparks that could ignite a fire.



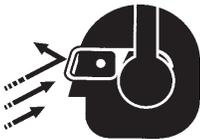
Respiratory Hazard



ALWAYS wear approved respiratory protection.



Sight and Hearing hazard

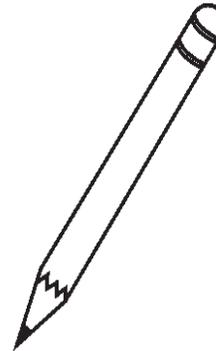
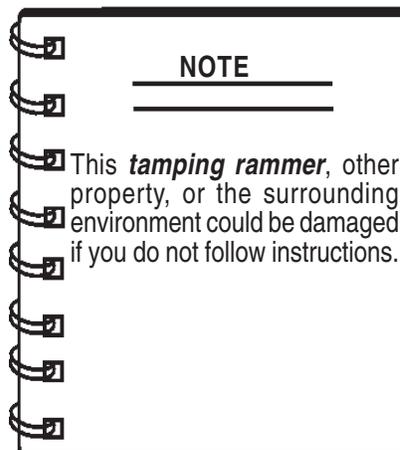


ALWAYS wear approved eye and hearing protection.



Equipment Damage Messages

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



MT55-F — 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 MT55-F 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.

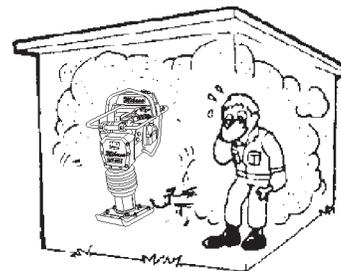
- **NEVER** use accessories or attachments, which are not recommended by Multiquip for this equipment. Damage to the equipment and/or injury to user may result.

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



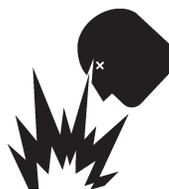
- **High Temperatures** – Allow the engine to cool before adding fuel or performing service and maintenance functions. Contact with *hot* components can cause serious burns.

- 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 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.

MT55-F — RULES FOR SAFE OPERATION

- **NEVER** Run engine without air filter. Severe engine may occur.
- **ALWAYS** service air cleaner frequently to prevent carburetor malfunction.
- **ALWAYS** be sure the operator is familiar with proper safety precautions and operations techniques before using rammer.
- **ALWAYS** store equipment properly when it is not being used. Equipment should be stored in a clean, dry location out of the reach of children.
- **NEVER** Run engine without air cleaner. Severe engine damage may occur.
- **ALWAYS** read, understand, and follow procedures in Operator's Manual before attempting to operate equipment.
- **ALWAYS** 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.

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

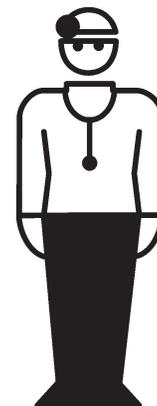
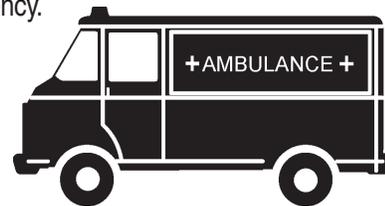
- **ALWAYS** know the location of the nearest **fire extinguisher**.



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



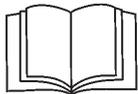
- In emergencies **always** know the location of the nearest phone or **keep a phone on the job site**. Also know the phone numbers of the nearest **ambulance, doctor and fire department**. This information will be invaluable in the case of an emergency.



MT55-F — OPERATION AND SAFETY DECALS

Mikasa

P/N 920106460



▲ 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 atenção o manual de instruções antes de usar.
* Leer detenidamente el manual de instrucciones antes de usar la máquina.

NPA-769

P/N NPA-769



NPA-910

P/N NPA-910

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

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. NP-831

P/N NPA-831

**PRIMARY AIRFILTER
CHECK DAILY** DCL207

P/N DCL207

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

NPA-293

P/N 920202930

GASOLINE ONLY DCL205

P/N DCL205

- 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 NPA-329

3800 ~ 4100 RPM

NPA-957

P/N NPA-957

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

NPA-399

P/N NPA-399

NAMEPLATE

**CONTACT MULTIQUIP
SERVICE DEPT.**

P/N NPA-975

CAUTION

Prior to each operation check
Check all nuts and bolts for tightness.
Check oil levels in both the engine and the lower unit.
Keep machine at the upright operating position to check.
1. Lower unit assembly-Check sight glass for proper level.
2. Engine-Fill to the lower outer rim.

NPA-975

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.

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

Definition of Tamping Rammer

The Mikasa MT55-F tamping rammer is a powerful compacting tool capable of applying a tremendous force in consecutive impacts to a soil surface. Its applications include soil compacting for road, embankments and reservoirs as well as backfilling for gas pipelines, water pipelines and cable installation work.

The impact force of the MT55-F levels and uniformly compacts voids between soil particles to increase dry density.

Circular motion is converted to create impact force. The MT55-F 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 MT55-F is equipped with an air cooled, two cycle gasoline engine. Transmission of the power takes place by increasing the engine speed to engage the centrifugal clutch.

Rammer Gearbox and Spring Cylinder

The Mikasa MT55-F uses an oil bath lubrication system. Always check the oil level through the oil level sight glass at the rear of the tamper foot.

Controls

Before starting the MT55-F Tamping Rammer identify and understand the function of the controls, see Figure 1 on page 13.

Table1. MT-55F Rammer Specification

MODEL	MT-55F
Overall Height	40.6 in. (1,030 mm)
Overall Width	13.8 in (350 mm)
Over Length	26.8 in (680 mm)
Shoe Size	10.4 x 13.4 in. (265 x 340 mm)
Blows/minute	600 ~ 695
Stroke (Jump Height)	2.75 in. (70 mm)
Travel Speed	36 ft./min (11 meters/min)
Impact Force	1,650 ~ 2,250 lbs./blow (750 ~ 1,000 kg/blow)
Clutch	Automatic Centrifugal
Fuel Tank Capacity	2.1 qt. (2.0 liters)
Max Area of Compaction	1,872 sq. ft.min. (174 sq. meter/min)
Operating Weight	126 lbs. (57 kg)

Table 2. Specifications (Engine)

	Model	ROBIN EH09
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 ³)
	Max Output	2.4 H.P./3600 R.P.M. (1.8 kW)
	Fuel	Unleaded Gasoline
	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.

MT55-F — CONTROLS AND COMPONENTS

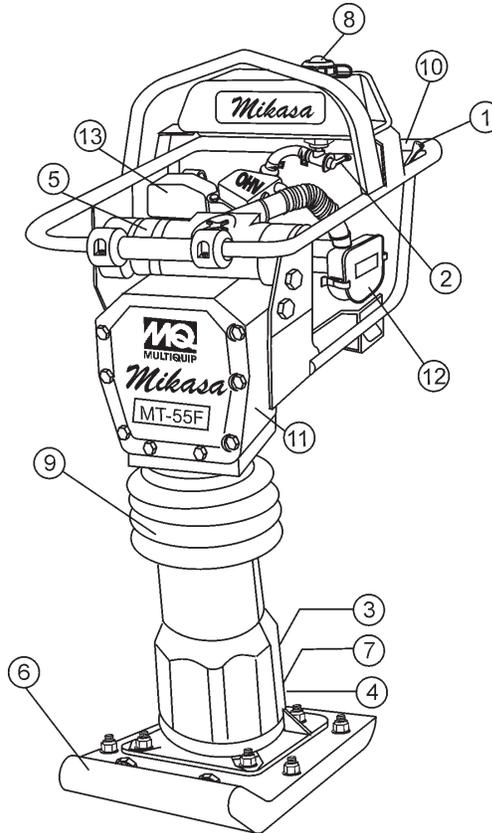


Figure 1. MT55-F Rammer

Figure 1 shows the location of the controls and components for the MT55-F 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. **Oil Bath Fill Plug** – Open this plug to add oil to the oil bath reservoir.
4. **Drain Valve** – Open this valve to remove oil from the bellows.
5. **Primary Air Cleaner** – Pre-cleans (first stage) dirt and other debris from entering the engine.
6. **Foot** – Laminated wood with tempered steel plate for superior shock absorption.
7. **Oil Level Sight Glass** – Indicates the level of oil in the oil bath reservoir.

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. **Bellows** – Reservoir for oil bath.
10. **Handle** – To operate rammer **GRIP** handle assembly firmly on both sides.
11. **Nameplate** – Displays information regarding the rammer.
12. **Engine Air Cleaner** – Prevents dirt (second stage) and other debris from entering the engine.
13. **Muffler** – Used to reduce noise and emissions.

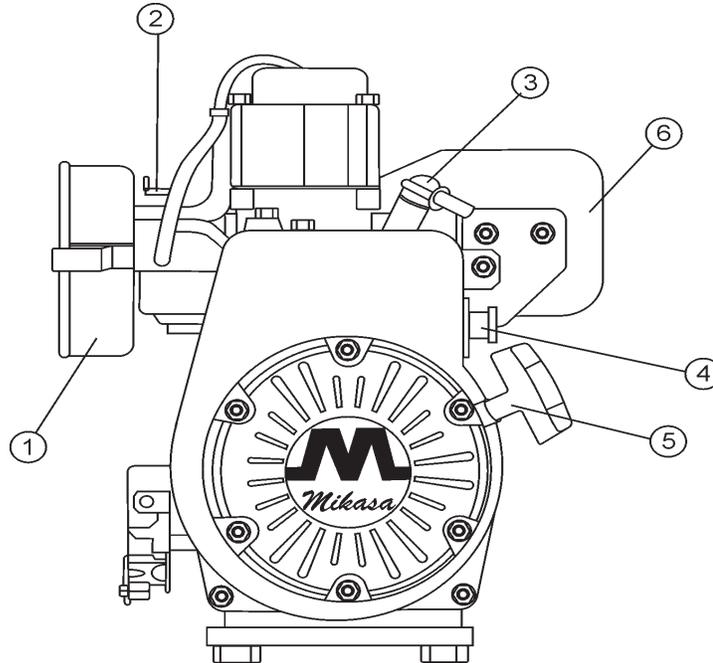


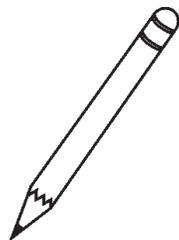
Figure 2. Engine Controls and Components

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.

NOTE
 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.



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

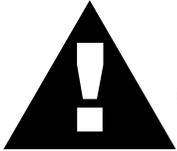
Engine components can generate extreme heat. To prevent burns, **DO NOT** touch these areas while the engine is running or immediately after operating. **NEVER** operate the engine with the muffler removed.

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.

This section is intended to assist the operator with the initial start-up of the MT55-F Tamping Rammer. It extremely important that this section be read carefully before attempting to operate the rammer.

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

CAUTION:



Failure to understand the operation of the MT55-F Tamping Rammer could result in severe damage to the trowel or personal injury.

Rammer Gearbox and Spring Cylinder Oil Bath

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

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

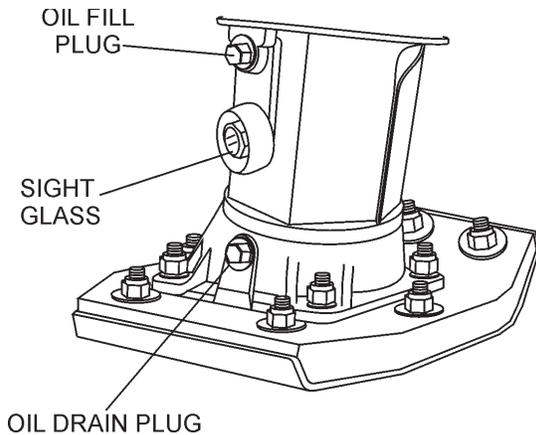
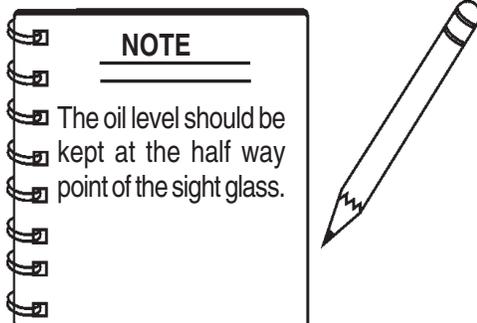


Figure 3. Foot Housing Sight Glass

2. If oil is not visible, add 10W-30 SE, SF or higher grade motor oil into the oil fill plug opening (Figure 3). The bath contains approximately 1.0 pints (520 cc.)



Fuel

1. Fill the fuel tank (Figure 4) with unleaded gasoline. **DO NOT** overfill, wipe up spilled fuel immediately.

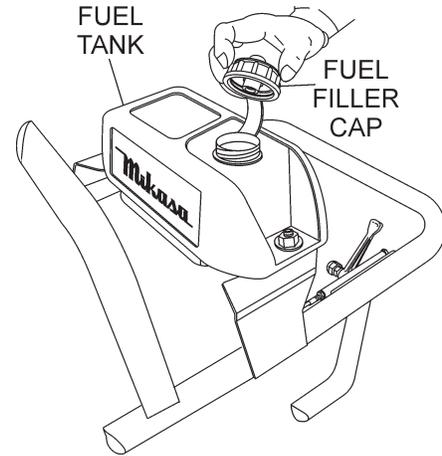


Figure 4. Fuel Tank

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.

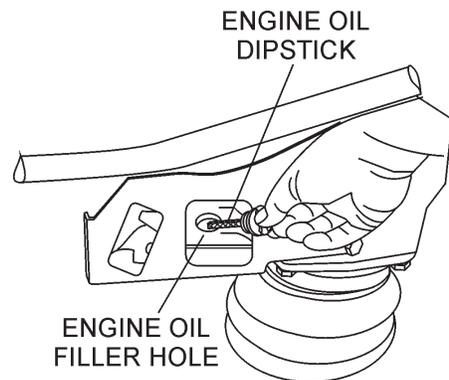


Figure 5. Engine Oil Dipstick

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)

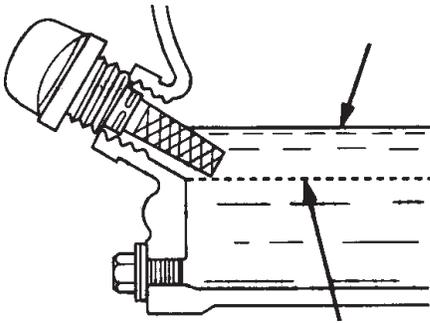


Figure 6. Engine Oil Dipstick (Oil Level)

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.

Initial Start-up

When starting the MT55-F Tamping Rammer perform the following:

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

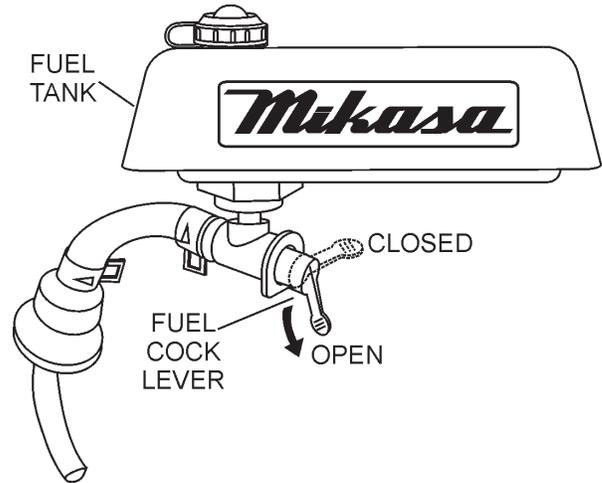


Figure 7. Fuel Shut-Off Valve (ON)

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

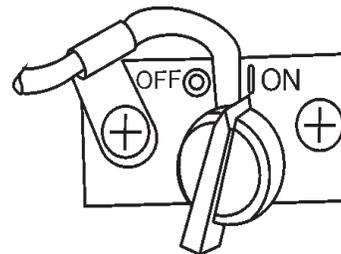


Figure 8. On Off Switch

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

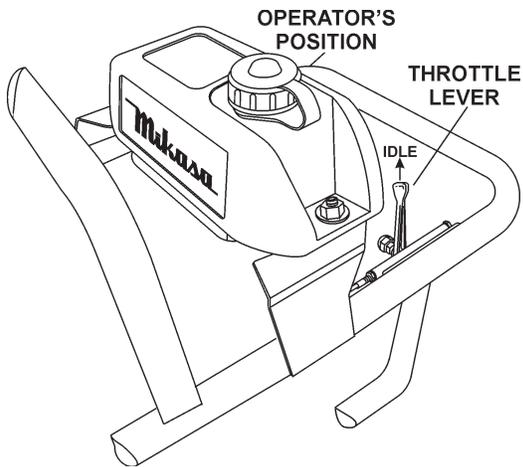


Figure 9. Throttle Lever (Idle)

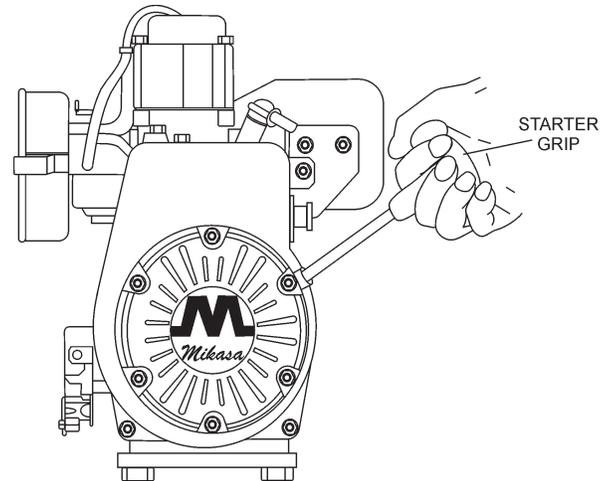


Figure 11. Recoil Starter

- 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**.

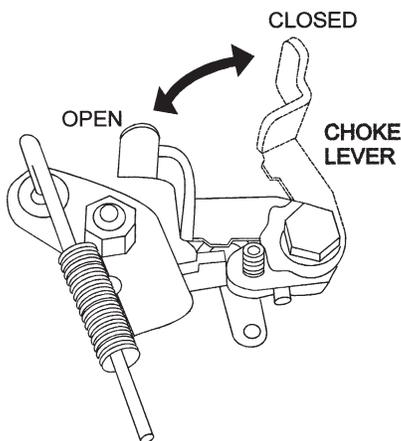


Figure 10. Choke Lever (Closed)

- If engine fails to start, move the choke lever (Figure 10) to the half open position to avoid flooding.
- Repeat steps 1 thru 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

- 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.

- 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 case before releasing.

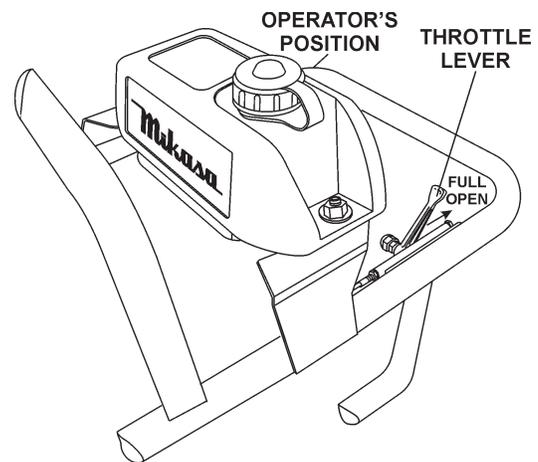


Figure 12. Throttle Lever (Full Open)

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

- The MT55-F Tamping rammer is designed to run at 3,600 rpm. At optimum rpm the foot hits at the rate between 600 ~ 695 impacts per minute. Increasing throttle speed past factory set rpm does not increase impacts and may damage unit. The MT55-F is designed to advance while tamping. For faster advance, pull back slightly on the handle so that rear of foot contacts soil first.

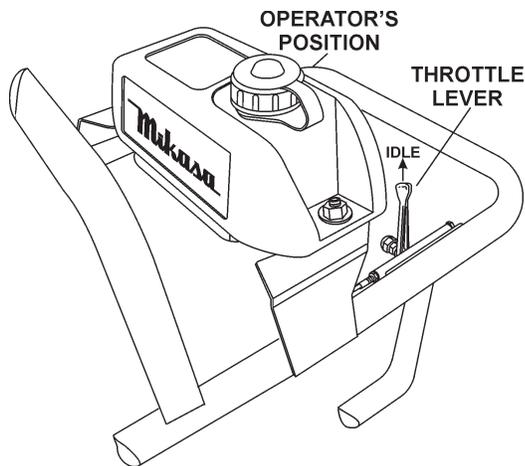


Figure 13. Throttle Lever (Idle)

Stopping The Engine

Normal Shutdown

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

- After the engine **cools**, turn the engine start/stop switch to the **"OFF"** position (Figure 14).

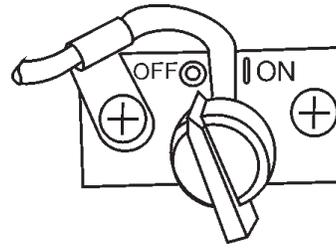


Figure 14. ON/OFF Switch (Off Position)

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

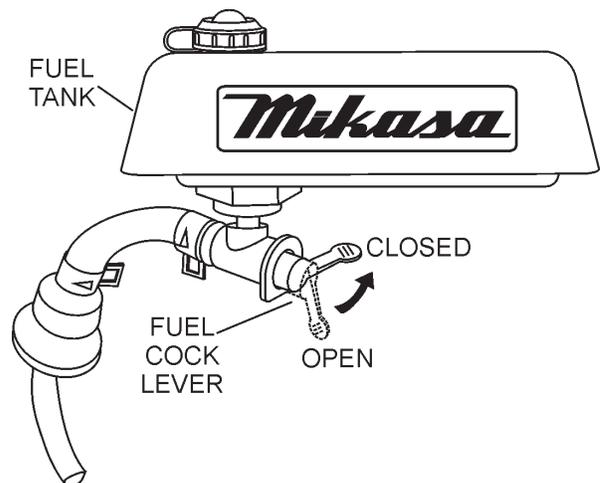


Figure 15. Fuel Shut-OFF Valve (Off Position)

Emergency Showdown

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

Maintenance

Perform the scheduled maintenance procedures as indicated:

DAILY

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

WEEKLY

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

200 - 300 HOURS (Pre-Cleaner)

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

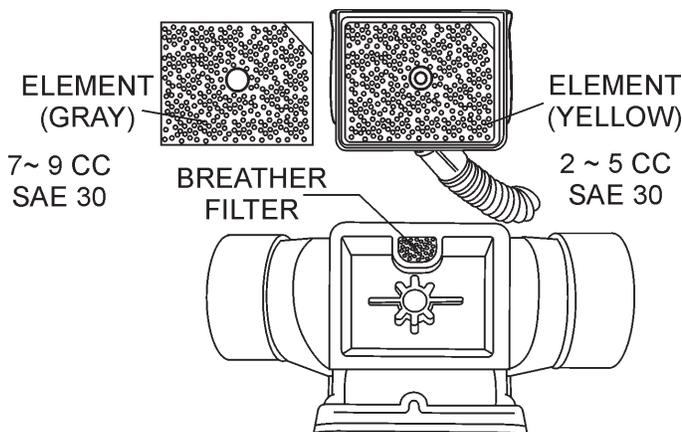


Figure 16. Primary Air Filter

- 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.
- 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 re-installing.

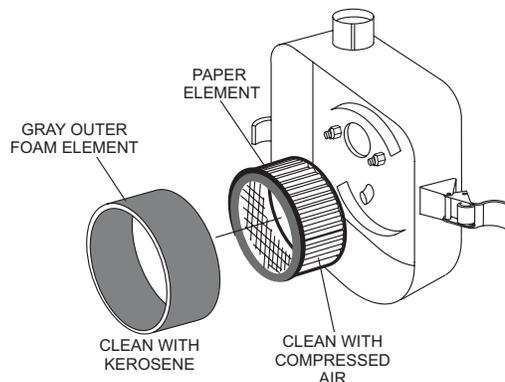


Figure 17. Engine Air Cleaner

- 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 kg/cm²)] 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.

200 - 300 HOURS (Oil Bath)

- Drain oil reservoir on foot housing (Figure 18). Refill with approximately 1.0 pt. (520 cc.) of 10W-30 SE, SF or higher grade motor oil. Oil should be midway in sight glass. Break in oil should be changed after first 50 hours.

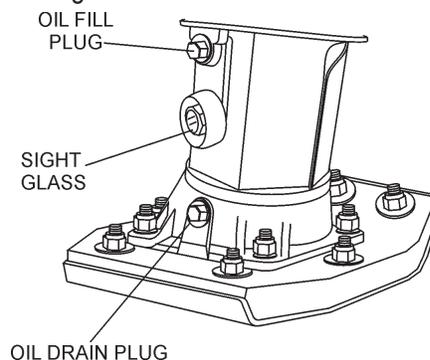


Figure 18. Foot Housing Drain Plug

Yearly

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

Long Term Storage

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

MT55-F — TROUBLESHOOTING GUIDE

TABLE 4. ENGINE TROUBLESHOOTING

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

MT55-F — TROUBLESHOOTING GUIDE

TABLE 4. ENGINE TROUBLESHOOTING (continued)

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

TABLE 5. RAMMER TROUBLESHOOTING

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

EXPLANATION OF CODE IN REMARKS COLUMN

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

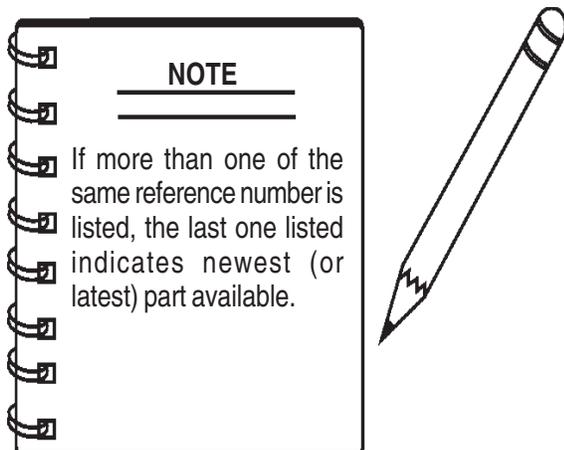
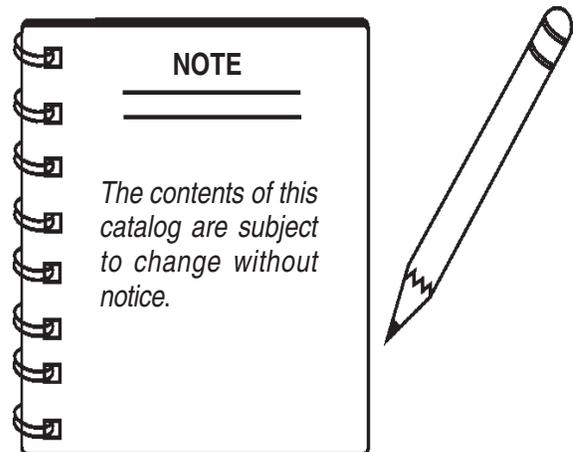
Items Found In the “Remarks” Column

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.



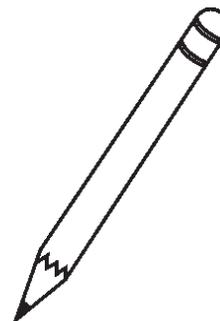
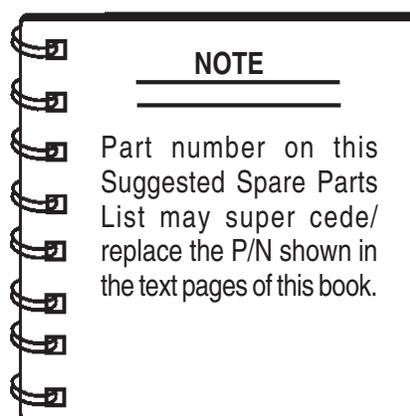
MT55-F— SUGGESTED SPARE PARTS

MT55-F RAMMER 1 TO 3 UNITS WITH ROBIN EH-09 STD ENGINE

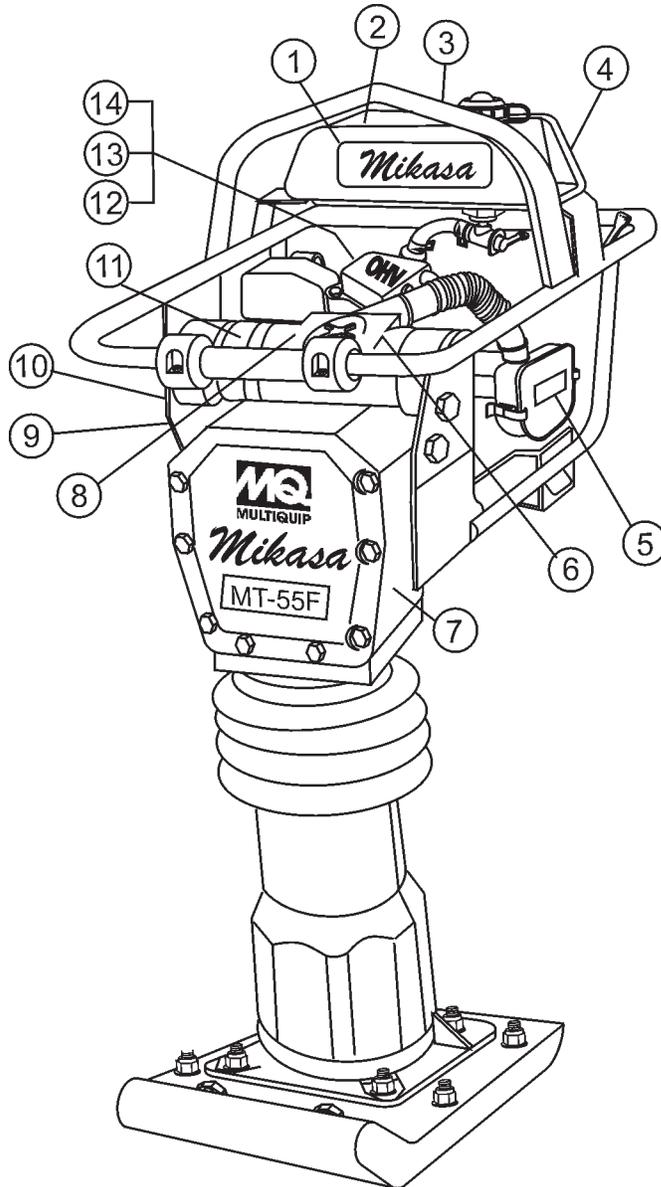
Qty.	P/N	Description
1	362910060	LEVER, THROTTLE
1	956100043	THROTTLE WIRE
3	362030030	ELEMENT, AIR CLEANER
3	362030020	PACKING, AIR CLEANER
3	362455670	ELEMENT, CRANKCASE
1	361C02011	CAP, FUEL TANK W/ STRAP
1	954406000	COCK, FUEL ASSY.
2	16910GB2005	FILTER, IN-LINE FUEL
3	17200ZL8003	ELEMENT, SET ENGINE
1	36100ZH8W41	STOP, SWITCH
3	9805655757	SPARK PLUG
1	954406010	STRAINER, FUEL TANK
1	956106040	THROTTLE ,WIRE

MT55-F RAMMER 3TO 5 UNITS WITH ROBIN EH-09 STD ENGINE

Qty.	P/N	Description
1	362910060	LEVER, THROTTLE
1	956100043	THROTTLE WIRE
3	362030030	ELEMENT, AIR CLEANER
5	362030020	PACKING, AIR CLEANER
3	362455670	ELEMENT, CRANKCASE
2	354336352	CLAMP, BELLOWS
1	354010010	BELLOWS
1	361C02011	CAP, FUEL TANK W/ STRAP
1	954406000	COCK, FUEL ASSY.
2	16910GB2005	FILTER, IN-LINE FUEL
3	17200ZL8003	ELEMENT, SET ENGINE
1	36100ZH8W41	STOP, SWITCH
3	9805655757	SPARK PLUG
1	362454440	CLUTCH
1	14400ZOD03	BELT, TIMING



NAME PLATE AND DECALS



MT55-F— NAMEPLATE AND DECALS

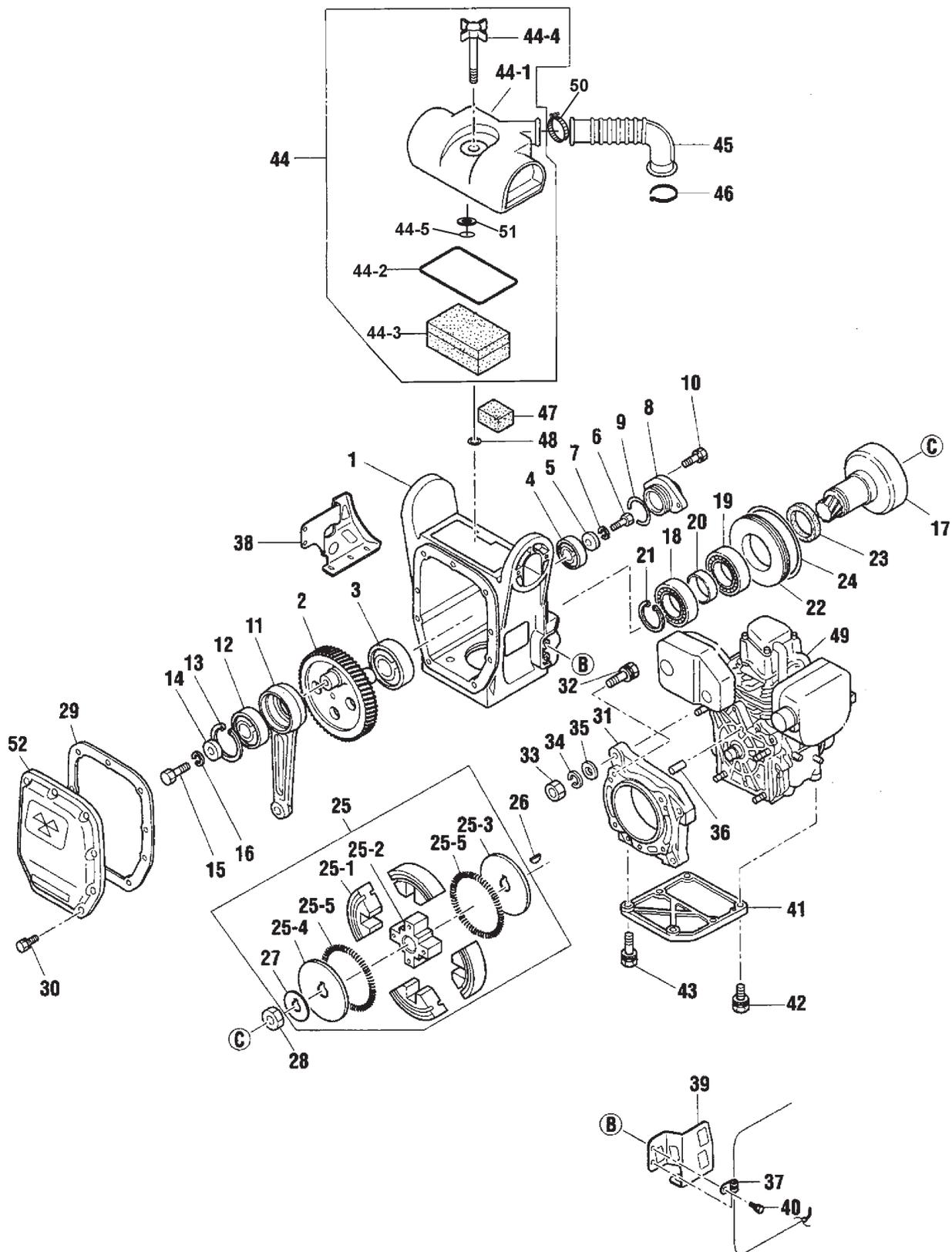
NAME PLATE AND DECALS

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1*	920106460	DECAL: MIKASA LOGO	1	
2*	920203290	DECAL: READ MANUAL	1	NPA-329
3*	DCL205	DECAL: GASOLINE ONLY	1	
4*	NPA975	DECAL: CAUTION/OPERATION	1	
5*	NPA831	DECAL: NOTICE	1	
6*	NPA963	DECAL: CLEANING ELEMENT	1	
7		DECAL: NAMEPLATE	1	CONTACT MQ PARTS DEPT. W/MODEL & S/N
8*	DCL207	DECAL: PRIMARY AIRFILTER	1	
9*	NPA769	DECAL: CAUTION READ MANUAL	1	
10*	NPA910	DECAL: RAMMER, BOOT & HEARING	1	
11*	NPA961	DECAL: OIL 7~9 cc	1	
12*	920203990	DECAL: FUEL COCK	1	NPA-399
13*	920202930	DECAL: START SWITCH	1	NPA293
14*	NPA957	DECAL: 3800~4100 RPM	1	
	DCLMT55-F	KIT, DECAL	1	INCLUDES ITEMS W/*

SEE DECAL ILLUSTRATIONS ON PAGE 10.

MT55-F — CRANKCASE AND ENGINE ASSY.

CRANKCASE AND ENGINE ASSY.



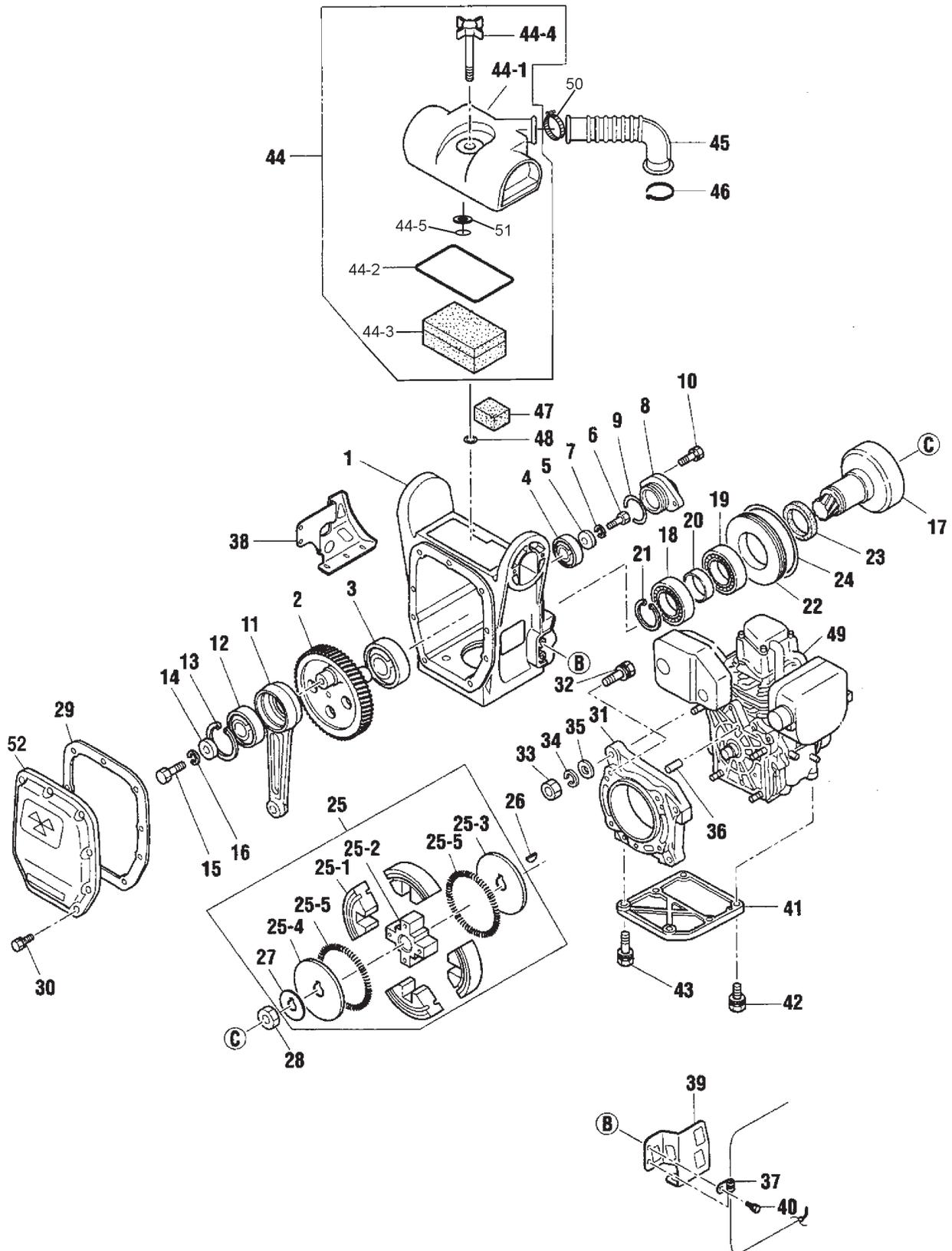
MT55-F — CRANKCASE AND ENGINE ASSY.

CRANKCASE AND ENGINE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
1	362116510	CRANK CASE	1	
2	362341650	CRANK GEAR 1300-59Z	1	
3	040006305	BEARING 6305	1	
4	040006203	BEARING 6203	1	
5	952401450	WASHER 8.5X22X3	1	
6	001220825	BOLT 8X25 T	1	
7	030208200	SW M8	1	
8	362455660	BEARING COVER	1	
9	050100350	O-RING G-35	1	
10	002210620	BOLT 6X20 H, SW	2	
11	303010060	CONNECTING ROD	1	
12	040006304	BEARING 6304	1	
13	080100520	STOP RING R-52	1	
14	952400130	WASHER 9304	1	
15	001220825	BOLT 8X25 T	1	
16	030208200	SW M8	1	
17	303010084	PINION	1	
18	040006007	BEARING 6007	1	
19	041006007	BEARING 6007Z	1	
20	351437750	SPACER 35.4-42.7-11	1	
21	080200350	STOP RING S-35	1	
22	351421900	SPACER, CLUTCH DRUM	1	
23	060404010	OIL SEAL TC-40528	1	
24	050300900	O-RING S-90	1	
25	362454440	CLUTCH ASSY./CE120M 0.5C	1	INCLUDES ITEMS W/*
25-1*	943020020	CLUTCH SHOE C812	4	
25-2*	943050050	CLUTCH BOSS C812	1	
25-3*	943060090	CLUTCH GUIDE (A)	1	
25-4*	943060020	CLUTCH GUIDE/B	1	
25-5	943030021	CLUTCH SPRING	2	
26	0053204201	WOODRUFF KEY	1	
27	301010210	LOCK WASHER, CLUTCH	1	
28	0173120010	LOCK NUT	1	
29	362341610	PACKING, FRONT COVER	1	
30	002210620	BOLT 6X20 H,SW	9	
31	2741500123	ADAPTER, FLANGE	1	
32	0011408400	BOLT & WASHER ASSY.	4	
33	0021808000	NUT	4	
34	0032008000	SPRING WASHER	4	
35	0031108000	WASHER	4	
36	0310060020	DOWEL PIN	2	
37	959006120	CLIP (TCP2-10509B)	1	
38	362341620	OIL GAUGE PROTECTOR	1	
39	362341630	LINK PROTECTOR	1	

MT55-F — CRANKCASE AND ENGINE ASSY.

CRANKCASE AND ENGINE ASSY.



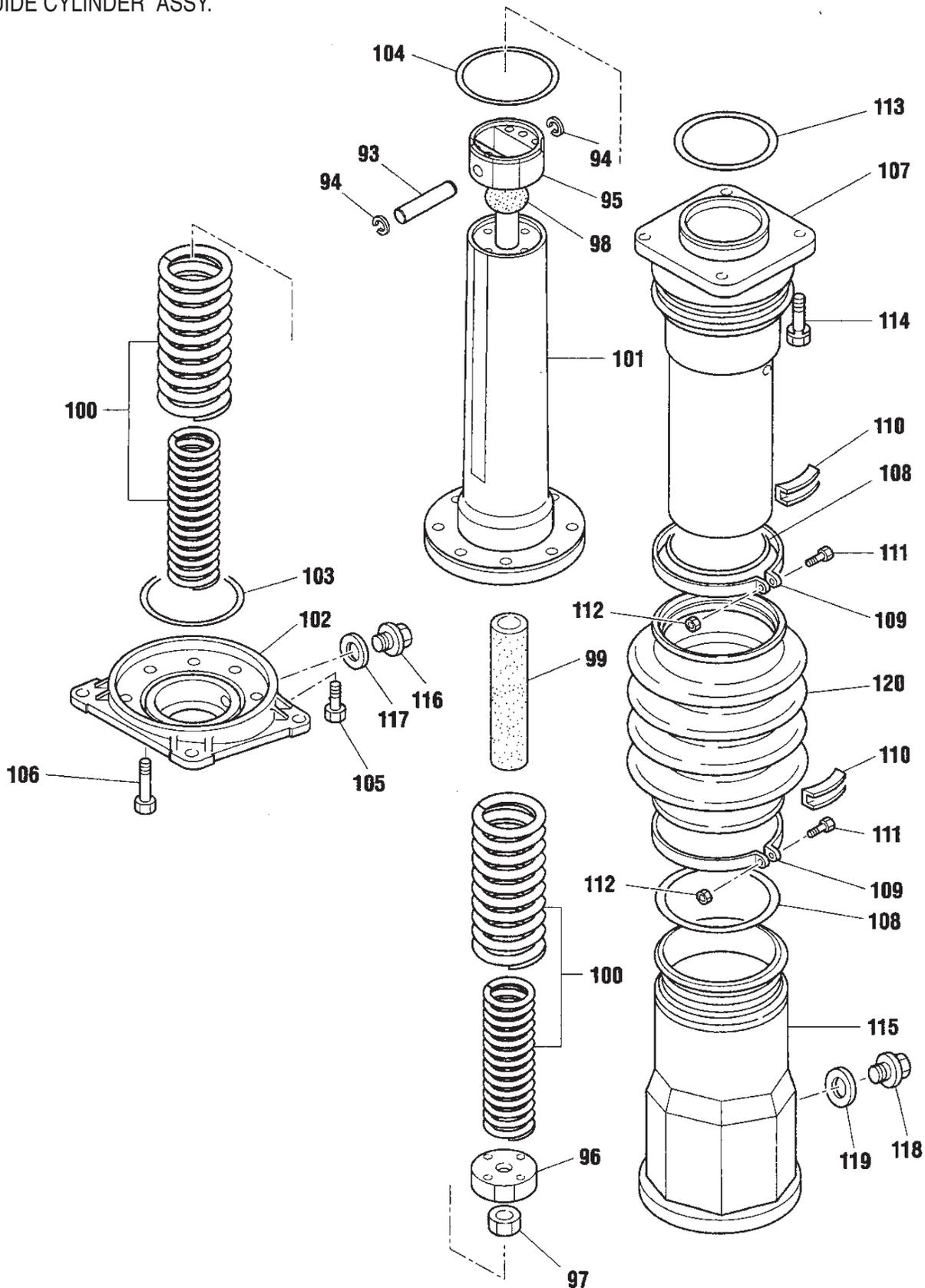
MT55-F — CRANKCASE AND ENGINE ASSY.

CRANKCASE AND ENGINE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
41	2741600113	STIFFENER	1	
42	0011408250	BOLT & WASHER	4	
43	0011408300	BOLT & WASHER ASSY.	2	
44	362116870	AIR CLEANER ASSY.....	1	INCLUDES ITEMS W/#
44-1#	362030010	COVER CP, AIR CLEANER	1	
44-2#	362030020	PACKING, AIR CLEANER	1	
44-3#	362030030	ELEMENT CP, AIR CLEANER	1	
44-4#	362030040	BOLT CP, AIR CLEANER	1	
44-5#	050300070	O-RING (S-7)	1	
45	362341210	INTAKE PIPE	1	
46	507010110	CLAMP TC-200	2	
47	362455670	ELEMENT CRANKCASE	1	
48	031108160	PW M8	1	
49	911210905	ENGINE ASSY. EH09D	1	
50	64016	HOSE CLAMP 13x16, 1-1/2" SS	1	
51#	031108160	WASHER, PW M8	1	
52	362010040	COVER FRONT	1	

MT55-F — GUIDE CYLINDER ASSY.

GUIDE CYLINDER ASSY.



MT55-F — GUIDE CYLINDER ASSY.

GUIDE CYLINDER ASSY.

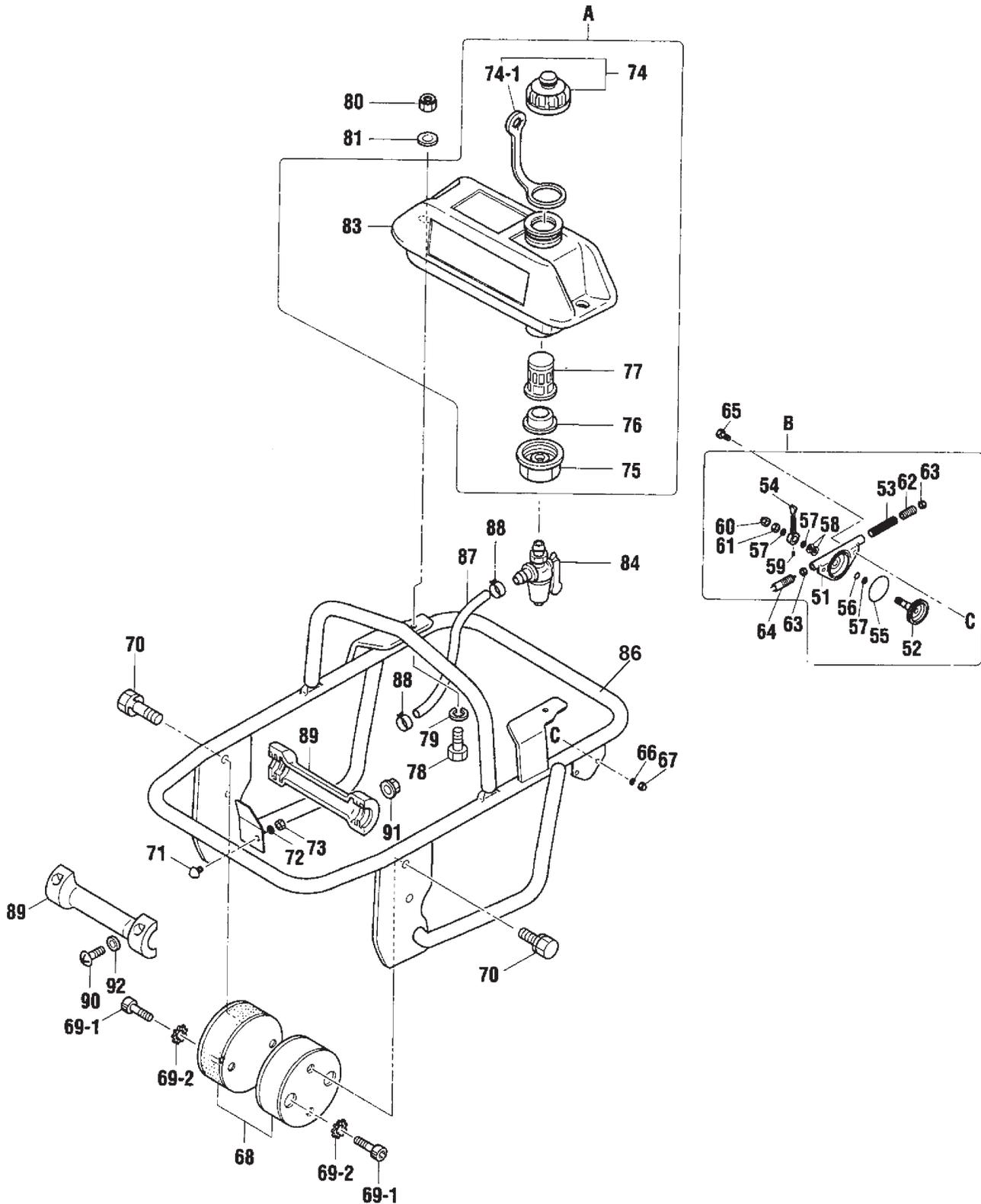
<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
93	351420390	PISTON PIN	1	
94	080100120	STOP RING R-12	2	
95	351324120	PISTON ROD	1	
96	362455680	PISTON END	1	
97	020116130	NUT M16, P1.5	1	
98	351434200	STOPPER, UPPER	1	
99	351434211	STOPPER, LOWERD:30	1	
100	362452830	MAIN SPRING, A,B	2	
101	362341640	SPRING CYLINDER	1	
102	362214820	FOOT PLATE	1	
103	050100750	O-RING G-75	1	
104	050930850	O-RING JASO3085	1	
105	001521020	SOCKET HEAD BOLT 10X20 T	4	
106	001521035	SOCKET HEAD BOLT 10X35 T	4	
107	351209590	GUIDE CYLINDER	1	
108	050100950	O-RING G-95	2	
109	351316870	BELLOWS CLAMP, W/B40L,N,SV	2	
110	351433250	BAND GUIDE/BELLOWS	2	
111	001210840	BOLT 8X40 H	2	
112	020308060	NUT M8	2	
113	050100800	O-RING G-80	1	
114	002211040	BOLT 10X40 H,SW	4	
115	351109020	PROTECTION SLEEVE	1	
118	959010150	LEVEL GAUGE, PLUG TYPE	1	
119	953404670	COPPER PACKING 17X25.5X1	1	
120	353332870	BELLOWS (OR)	1	

FOOT ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	362910050	FOOT ASSY. 265	1	INCLUDES ITEMS W/#
122#	022711214	NYLON NUT M12	4	
123#	030212300	SW M12	4	
124#	001611051	SUNK HEAD BOLT 10x55	7	
125#	030210250	SW M10	7	
126#	022711012	NYLON NUT M10	6	
127#	362341760	FOOT 265W	1	
128#	362341770	METAL SHEET 265W	1	
129#	362455760	FOOT FITTING	2	
130#	301010540	WASHER, 11 x 34 x 3.2	3	
131#	022711012	NYLON NUT M10	1	

MT55-F — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.



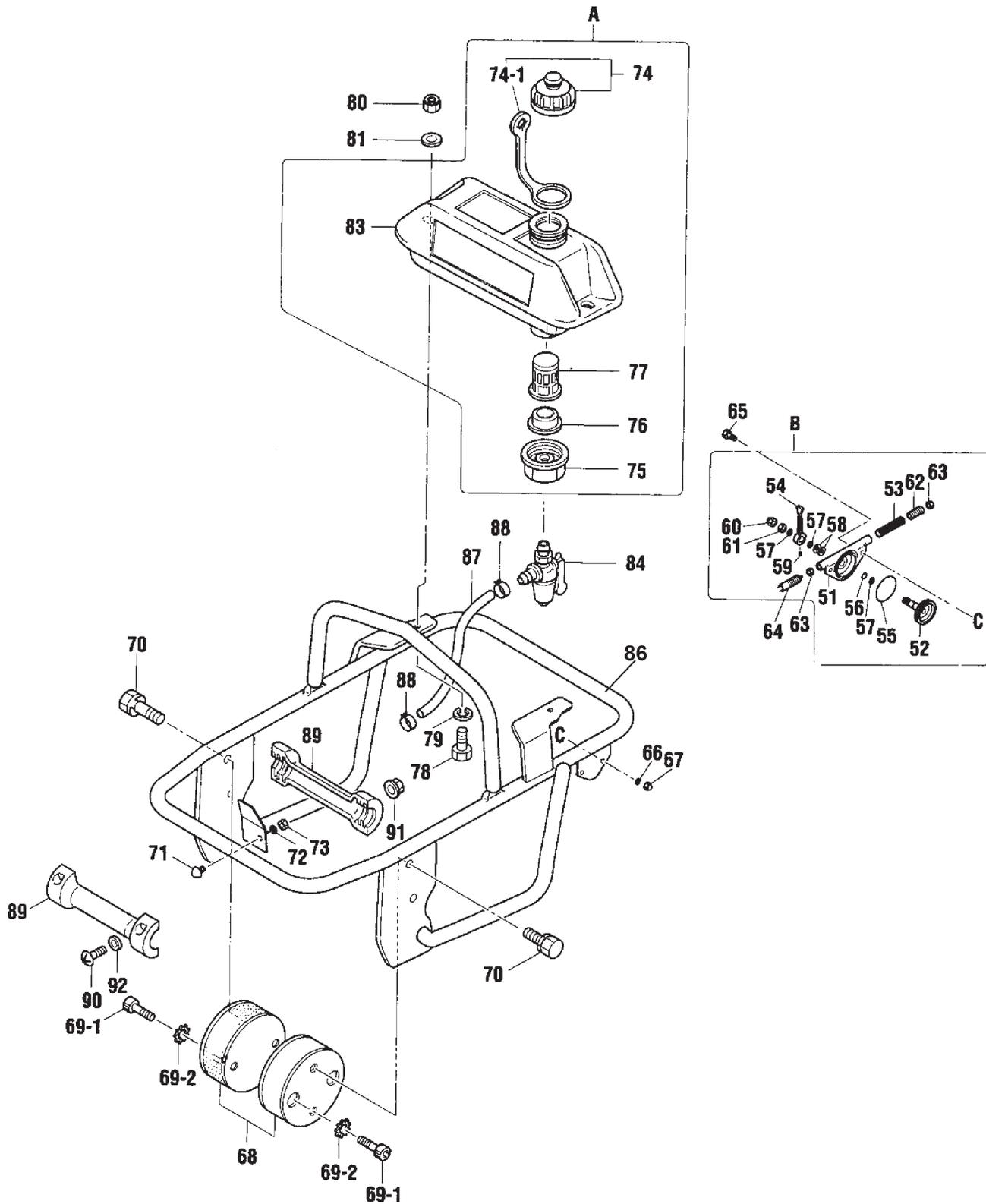
MT55-F — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.

<u>NO.</u>	<u>PART NO.</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
A	305910031	F.TANK AY 2L (GRAY)	1	INCLUDES ITEMS W/*
B	362910060	THROTTLE LEVER ASSY.	1	INCLUDES ITEMS W/#
51#	362341550	THROTTLE BODY	1	
52#	362455610	THROTTLE GEAR	1	
53#	362455620	SLIDER	1	
54#	362455630	THROTTLE LEVER	1	
55*#	050100450	O-RING G-45	1	
56#	050200100	O-RING P-10	1	
57#	031110160	SCREW M10	3	
58#	033910070	CONICAL SPRING WASHER	2	
59#	096206006	SOCKET HEAD SCREW 6X6	1	
60#	022131008	CAP NUT M10	1	
61#	020410060	NUT M10,H=6	1	
62#	096208020	SOCKET HEAD SCREW 8X20	1	
63#	020408050	NUT M8, H=5	2	
64#	956100040	THROTTLE WIRE 620-710	1	
65	001220620	BOLT 6X20 T	2	
66	030206150	WASHER, M6	2	
67	022130605	CAP NUT, M6	2	
68	351325590	SHOCK ABSORBER 100D-45B	2	
69-1	033121009	SOCKET HEAD BOLT 10x20 T	4	
69-2	033121009	TOOTHED LOCK WASHER B M10	4	
70	002211020	BOLT 10X20 H, SW	4	
71	939010210	STOPPER RUBBER EH1002	1	
72	030208200	WASHER, M8	1	
73	020308060	NUT M8	1	
74*	361910021	TANK CAP CP (ORANGE)/FW	1	
74-1*	353449010	STRAP, OIL TANK	1	
75*	351437785	HOLDER, COCK	1	
76*	954406020	PACKING, FUEL TANK	1	
77*	954406010	STRAINER (#110)	1	
78	001220830	BOLT 8X30 T	2	
79	030208200	WASHER M8	2	
80	022710809	NYLON NUT M8	2	
81	952401450	WASHER 8.5X22X3	2	
83	362116890	FUEL TANK 2L (GRAY)	1	

MT55-F — TANK AND HANDLE ASSY.

TANK AND HANDLE ASSY.



MT55-F — 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>
84	954406000	FUEL COCK ASSY. N18L-02	1	
86	362116960	HANDLE	1	
87	959026102	FUEL HOSE/320L	1	
88	954406420	HOSE BAND 10.5	2	
89	361910040	ROLLER, W/PIN	1	
90	091005025	SCREW 5X25	4	
91	022610505	FLANGE NUT M5 H	4	
92	031105080	WASHER, M5	4	

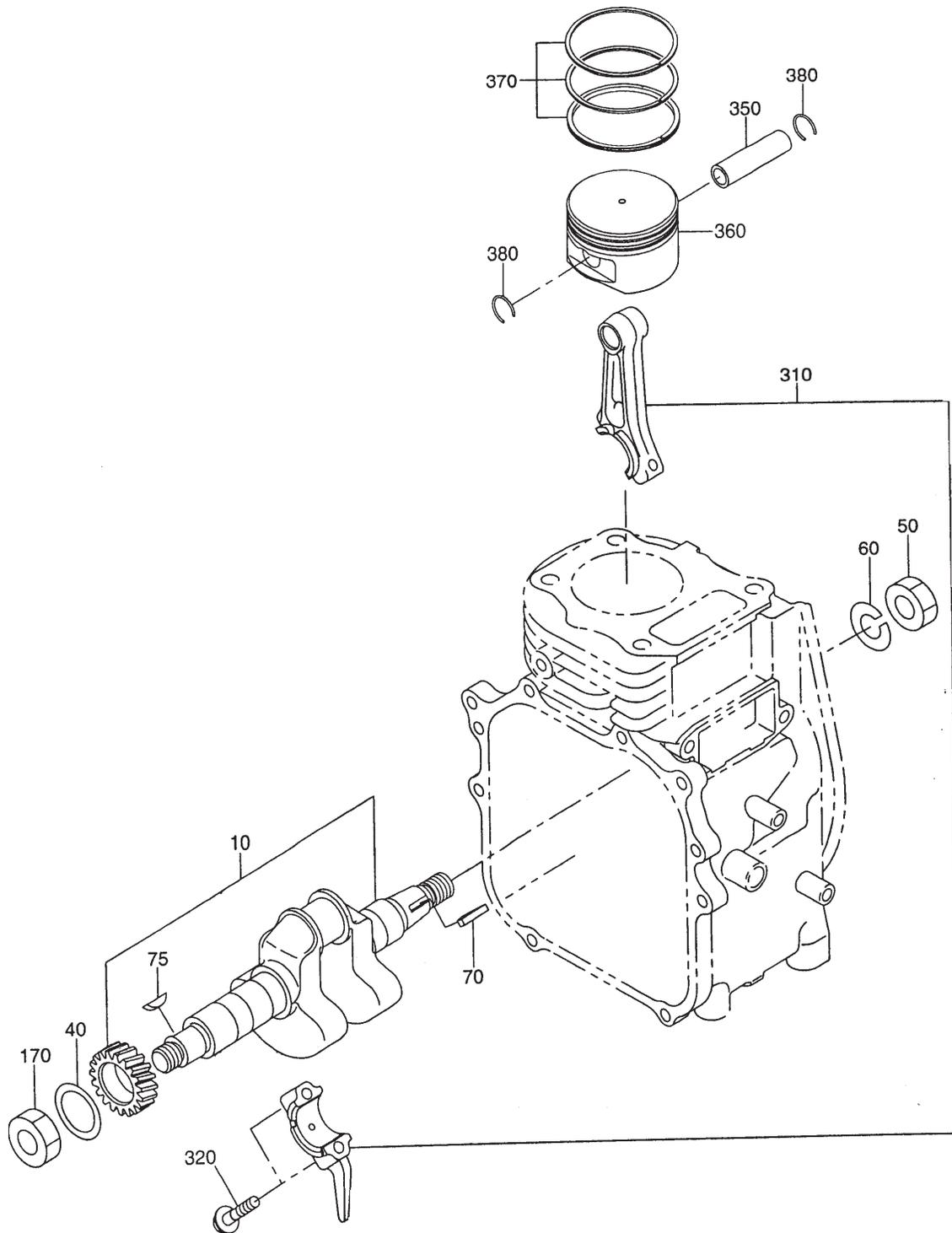
ROBIN EH-09 ENGINE — CRANKCASE ASSY.

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.



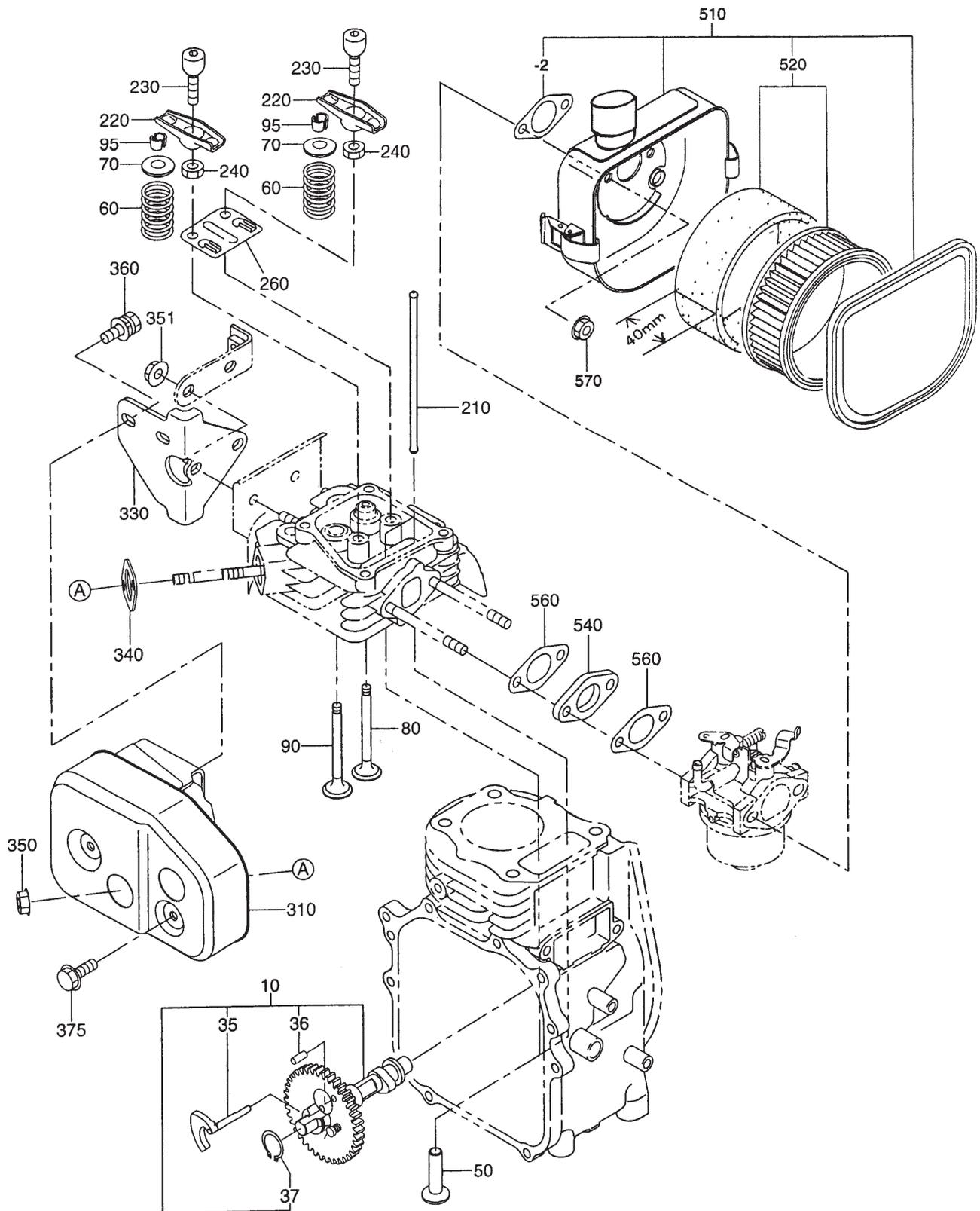
ROBIN EH-09 ENGINE — CRANKSHAFT AND PISTON ASSY.

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	
	0230200110	SPACER T=1.0	1	
	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	
	2742340203	PISTON 0.25MM	1	
	2742340303	PISTON 0.50MM	1	
370	2742350107	PISTON RING SET	1	
	2742350207	PISTON RING SET 0.25MM	1	
	2742350307	PISTON RING SET 0.50MM	1	
380	0565110010	CLIP	2	

ROBIN EH-09 ENGINE —INTAKE AND EXHAUST ASSY.

INTAKE AND EXHAUST ASSY.



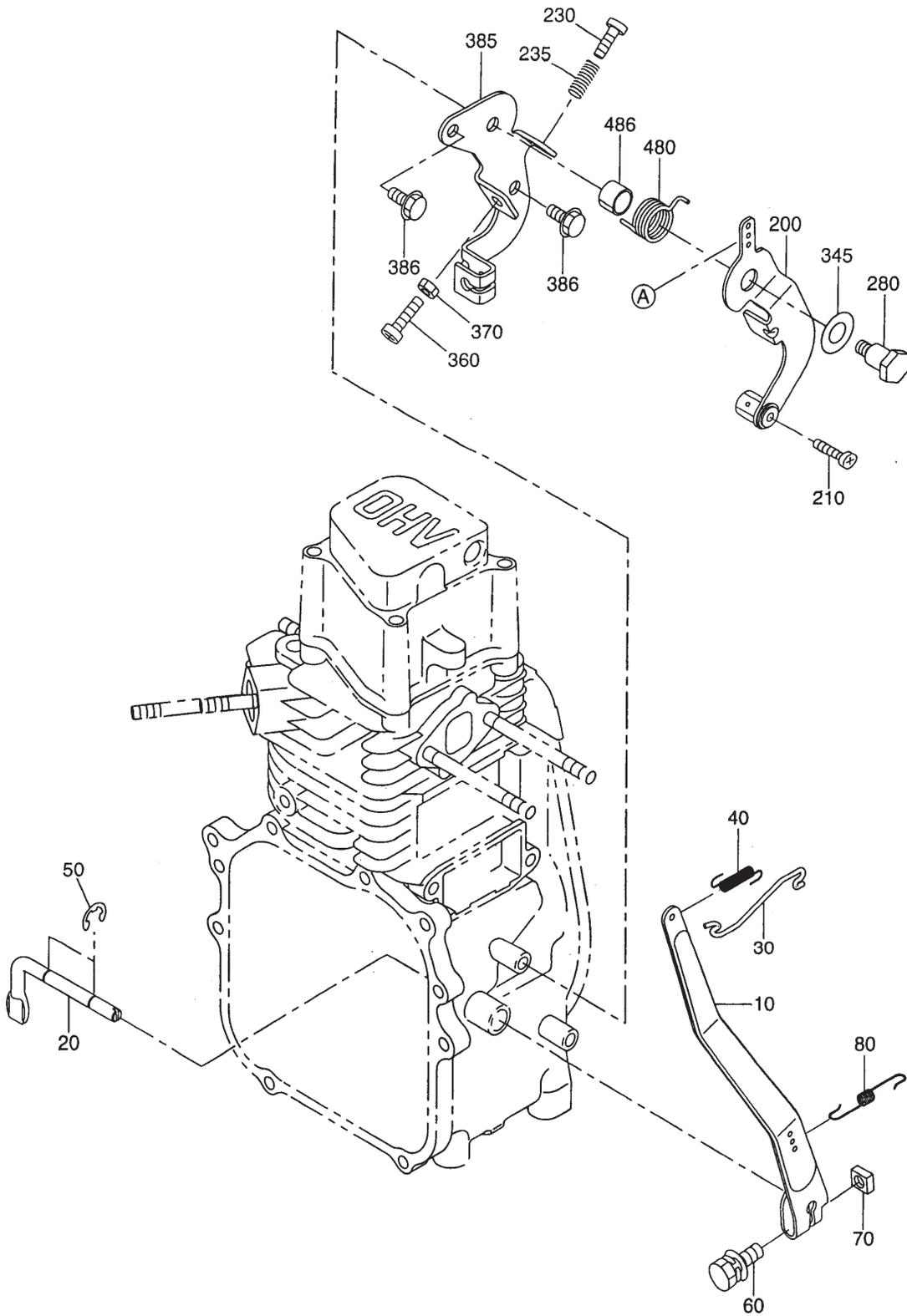
ROBIN EH-09 ENGINE —INTAKE AND EXHAUST ASSY.

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	2743010101	MUFFLER CP	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/*
510-2*%	2303262008	PACKING	1	
511-2	2303262008	GASKET	1	
520*	2743261007	ELEMENT ASSY.	1	DIA 3 1/2", WIDTH 2"
520	2743260307	ELEMENT SET	1	DIA 3 3/4", WIDTH 1 3/4"
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.



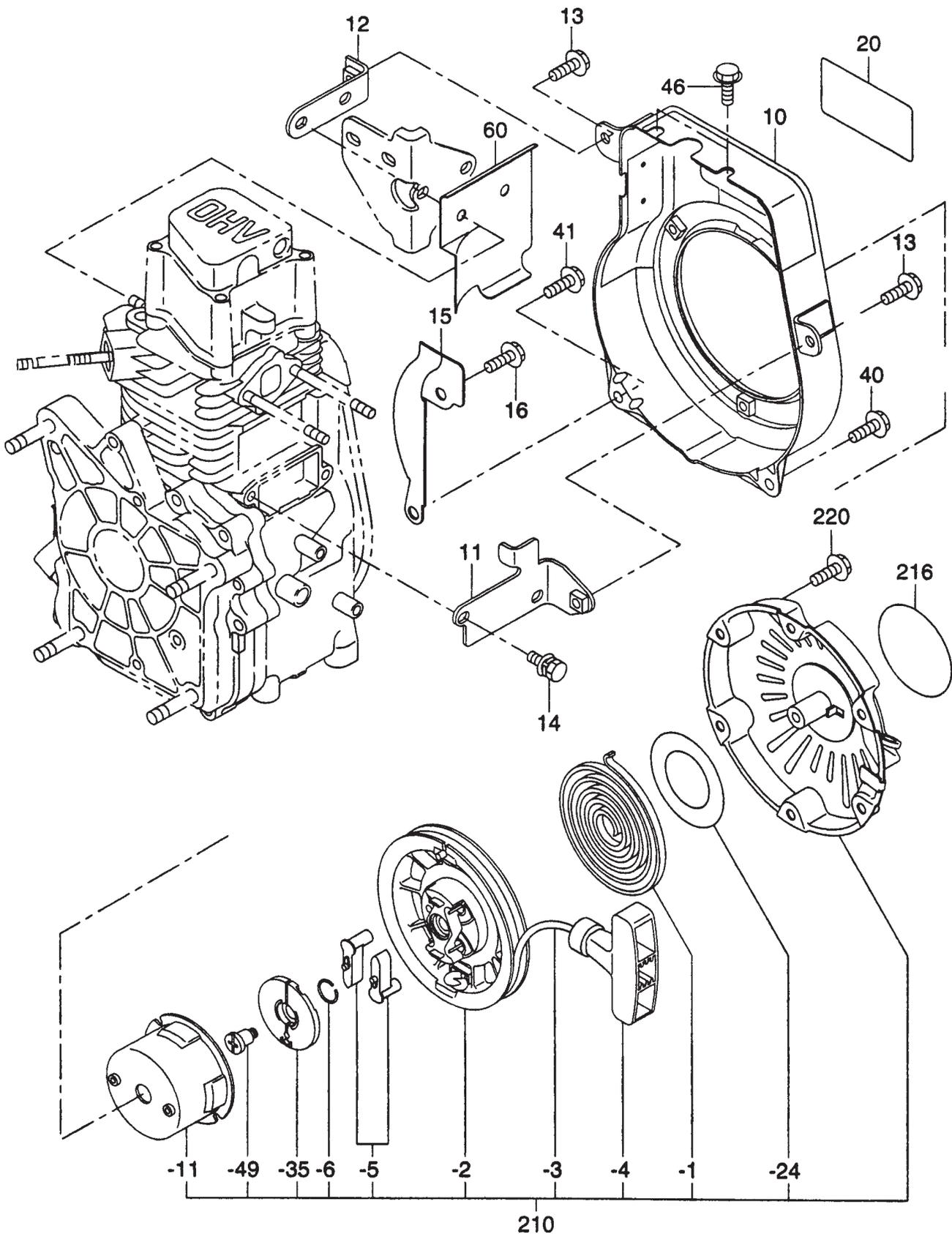
ROBIN EH-09 ENGINE —GOVERNOR ASSY.

GOVERNOR ASSY.

<u>NO</u>	<u>PART NO</u>	<u>PART NAME</u>	<u>QTY.</u>	<u>REMARKS</u>
10	2744230103	GOVERNOR LEVER	1	
10	2744230101	GOVERNOR LEVER	1	
20	2304220103	GOVERNOR SHAFT	1	
30	2744270103	GOVERNOR ROD	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.



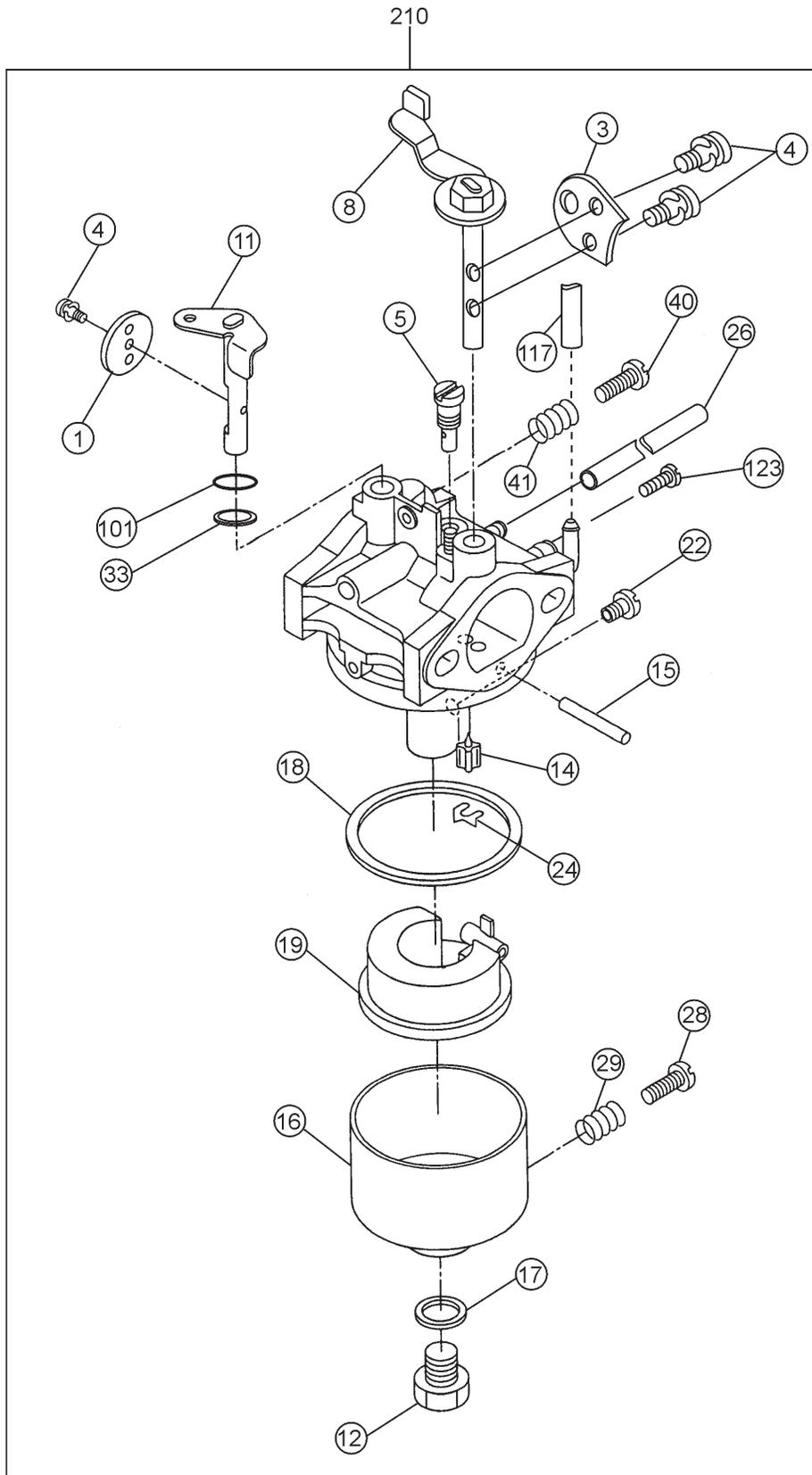
ROBIN EH-09 ENGINE —BLOWER HOUSING & RECOIL STARTER ASSY.

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	
20	2749170203	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.



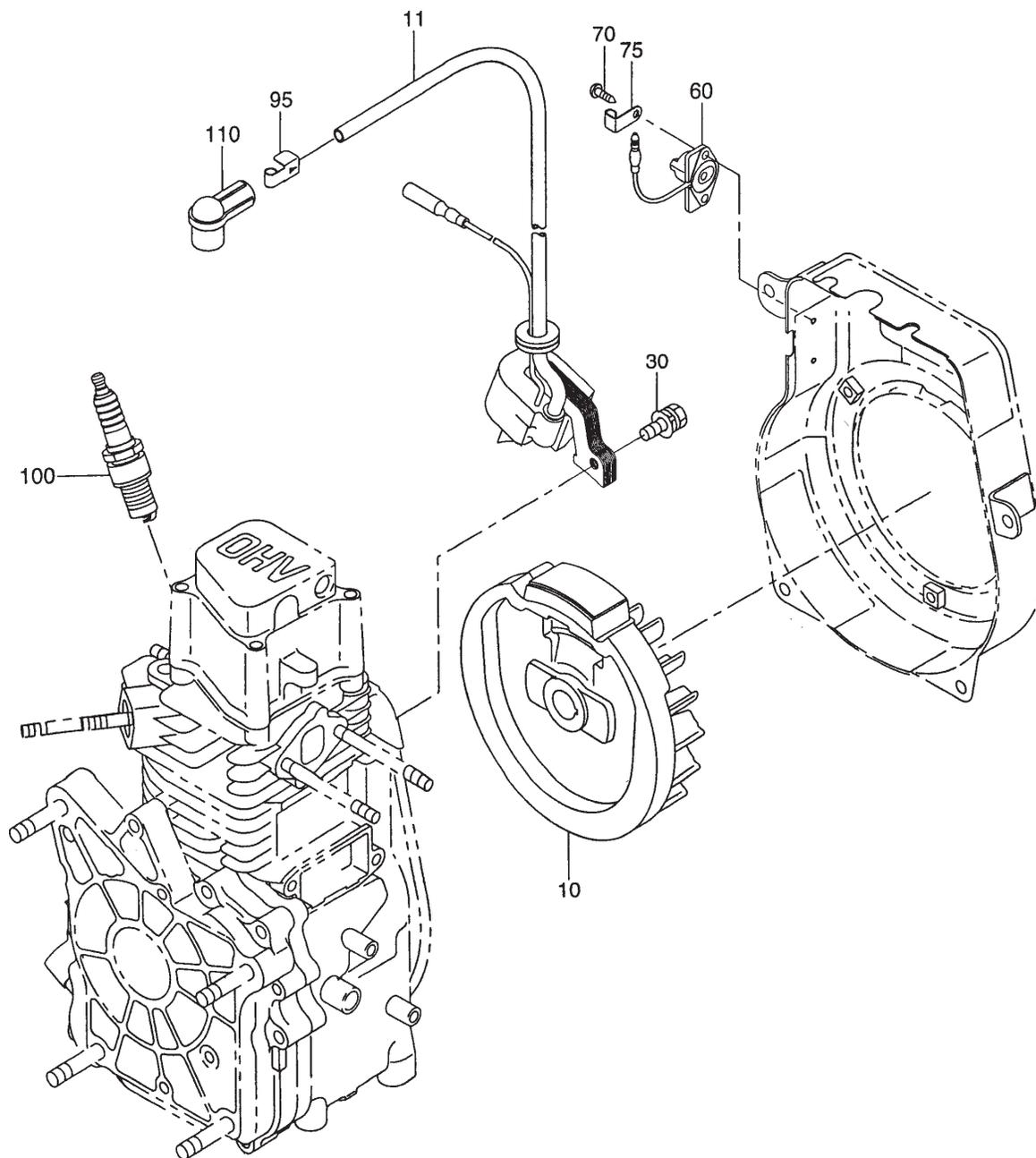
ROBIN EH-09 ENGINE — CARBURETOR ASSY.

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 listed in the parts price book as being replaced by another item, it is obsolete.)
 - b. Any parts with a limited shelf life (such as gaskets, seals, "O" rings, and other rubber parts) that were purchased more than six months prior to the return date.
 - c. Any line item with an extended dealer net price of less than \$5.00.
 - d. Special order items.
 - e. Electrical components.
 - f. Paint, chemicals, and lubricants.
 - g. Decals and paper products.
 - h. Items purchased in kits.
7. The sender will be notified of any material received that is not acceptable.
8. Such material will be held for 5 working days from notification, pending instructions. If a reply is not received within 5 days, the material will be returned to the sender at his expense.
9. Credit on returned parts will be issued at dealer net price at time of the original purchase, less a 15% restocking charge.
10. In cases where an item is accepted for which the original purchase document can not be determined, the price will be based on the list price that was effective twelve months prior to the RMA date.
11. Credit issued will be applied to future purchases only.

PRICING AND REBATES

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

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

SPECIAL EXPEDITING SERVICE

A \$20.00 to \$50.00 surcharge will be added to the invoice for special handling including bus shipments, insured parcel post or in cases where Multiquip must personally deliver the parts to the carrier.

LIMITATIONS OF SELLER'S LIABILITY

Multiquip shall not be liable here under for damages in excess of the purchase price of the item with respect to which damages are claimed, and in no event shall Multiquip be liable for loss of profit or good will or for any other special, consequential or incidental damages.

LIMITATION OF WARRANTIES

No warranties, express or implied, are made in connection with the sale of parts or trade accessories nor as to any engine not manufactured by Multiquip. Such warranties made in connection with the sale of new, complete units are made exclusively by a statement of warranty packaged with such units, and Multiquip neither assumes nor authorizes any person to assume for it any other obligation or liability whatever in connection with the sale of its products. A part from such written statement of warranty, there are no warranties, express, implied or statutory, which extend beyond the description of the products on the face hereof.

PARTS AND OPERATION MANUAL

HERE'S HOW TO GET HELP

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

PARTS DEPARTMENT

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

SERVICE DEPARTMENT/TECHNICAL ASSISTANCE

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

WARRANTY DEPARTMENT

*888-661-4279, or 310-661-4279
FAX: 310- 537-1173*

MAIN

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



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