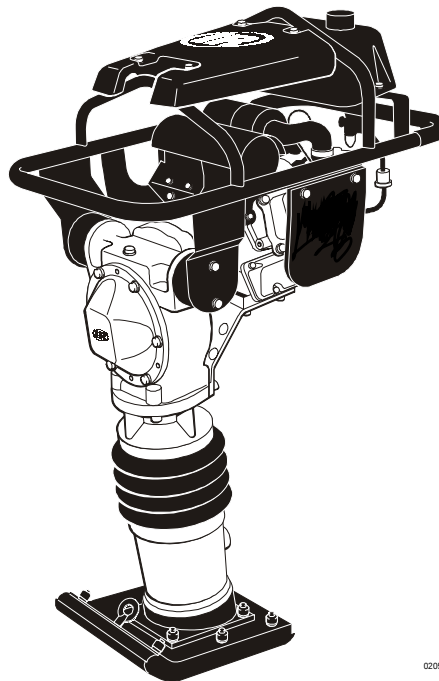




OPERATION / MAINTENANCE AND PARTS MANUAL RX-304H/RX-344H TAMPER RAMMER



020501AA

Read this instruction manual before operating this equipment

CPN 13363098

September 1, 2003

**RX-304H and RX-334H TAMPER RAMMER
OPERATION AND MAINTENANCE MANUAL
COMMUNICATION NO. 13363098**

This manual should be used with all related supplemental books, engine and transmission manuals, and part books. Related Service Bulletins should be reviewed to provide information regarding some of the recent changes.

If any questions arise concerning this publication or others, contact your local distributor for the latest available information.

Contents of this manual are based on information in effect at the time of publication and are subject to change without notice.

CONTENTS	SECTION
SAFETY PRECAUTIONS AND GUIDELINES	1
INTRODUCTION	2
SYMBOL IDENTIFICATION AND METRIC CONVERSION	3
OPERATING INSTRUCTIONS	4
FUEL AND LUBRICATION SPECIFICATIONS	5
INITIAL BREAK-IN MAINTENANCE	6
TROUBLE SHOOTING AND GENERAL MAINTENANCE	7
10 HOUR OR DAILY ROUTINE MAINTENANCE	8
50 HOURS OR WEEKLY ROUTINE MAINTENANCE	9
100 HOURS OR MONTHLY MAINTENANCE	10
200 HOURS OR QUARTERLY ROUTINE MAINTENANCE	11
500 HOURS OR SEMI-ANNUAL ROUTINE MAINTENANCE	12
1000 HOURS OR ANNUAL ROUTINE MAINTENANCE	13
ROUTINE ADJUSTMENTS	14
MISCELLANEOUS AND OPTIONAL EQUIPMENT	15
SCHEMATICS	16
PARTS MANUAL	17

SECTION 1 - SAFETY PRECAUTIONS AND GUIDELINES

Contents	Page
OVERVIEW	1
PRE-START INSPECTION	1
OPERATING	1
MAINTENANCE	2
OPERATING PROCEDURES	2

OVERVIEW

Before you operate, maintain, or in any other way, use this machine, read and study this manual. Know how to safely use the compactor's controls and what you must do for safe maintenance.

BEFORE YOU OPERATE, MAINTAIN OR IN ANY OTHER WAY, OPERATE THIS MACHINE:

READ and STUDY this manual. **KNOW** how to safely use the unit's controls and what you must do for safe maintenance.

The machine has been built in accordance with state-of-the-art standards and the recognized safety rules. Nevertheless, its use may constitute a risk to life and limb of the user or of third parties, or cause damage to the machine and to other material property. •

ALWAYS wear or use the proper safety items required for your personal protection.

For reasons of security, long hair must be tied back or otherwise secured, garments must be close-fitting and no jewellery - such as rings - may be worn. Injury may result from being caught up in the machinery or from rings catching on moving parts. •

If you have **ANY QUESTIONS** about the safe use or maintenance of this unit, **ASK YOUR SUPERVISOR OR CONTACT ANY INGERSOLL-RAND DISTRIBUTOR. NEVER GUESS - ALWAYS CHECK.**

Never make any modifications, additions or conversions which might affect safety without the supplier's approval. This also applies to the installation and adjustment of safety devices and valves as well as to welding work on load-bearing elements. •

Observe all fire-warning and fire-fighting procedures. •

PRE-START INSPECTION

INSPECT your machine. Have any malfunctioning, broken or missing parts corrected or replaced before use.

Check the machine at least once per working shift for obvious damage and defects. Report any changes (incl. changes in the machine's working behaviour) to the competent organisation/person immediately. If necessary, stop the machine immediately and lock it. •

Take the necessary precautions to ensure that the machine is used only when in a safe and reliable state.

Operate the machine only if all protective and safety oriented devices, such as removable safety devices, emergency shut-off equipment, sound-proofing elements and exhausts, are in place and fully functional. •

SECTION 1 - SAFETY PRECAUTIONS AND GUIDELINES

The electrical equipment of machines is to be inspected and checked at regular intervals. Defects such as loose connections or scorched cables must be rectified immediately. •

VERIFY that all the instruction and safety labels are in place and readable. These are as important as any other equipment on the compactor.

NEVER fill the fuel tank, with the engine running, while near an open flame, or when smoking. ALWAYS wipe up any spilled fuel **immediately**.

CHECK for WARNING tags placed on the machine. DO NOT operate the equipment until repairs have been made and the WARNING tags are removed by authorized personnel.

KNOW the location of the Emergency Shut-Down Control if the machine is so equipped.

OPERATING

In the event of safety-relevant modifications or changes in the behaviour of the machine during operation, stop the machine immediately and report the malfunction to the competent authority/person. •

Always wear the prescribed ear protectors. •

Always make sure that no person or obstruction is in your line of travel. Watch your step to avoid tripping.

USE extreme caution and be observant when working in close quarters or congested areas.

Before beginning work, familiarize yourself with the surroundings and circumstances of the site, such as obstacles in the working and travelling area, the soil bearing capacity and any barriers separating the construction site from public roads. •

When travelling on public roads, ways and places always observe the valid traffic regulations and, if necessary, make sure beforehand that the machine is in a condition compatible with these regulations •

Always keep at a distance from the edges of building pits and slopes. •

DO NOT run the engine in a closed building for an extended length of time. EXHAUST FUMES CAN KILL.

DO NOT operate the compactor on non-compactable material, such as concrete or hardened asphalt.

MAINTENANCE

Observe the adjusting, maintenance and inspection activities and intervals set out in the operating instructions, including information on the replacement of parts and equipment. These activities may be executed by skilled personnel only. •

Ensure that the maintenance area is adequately secured. •

Observe the adjusting, maintenance and inspection activities and intervals set out in the operating instructions, including information on the replacement of parts and equipment. These activities may be executed by skilled personnel only. •

After cleaning, examine all fuel, lubricant, and hydraulic fluid lines for leaks, loose connections, chafe marks and damage. Any defects found must be rectified without delay. •

Always tighten any screwed connections that have been loosened during maintenance and repair. •

SECTION 1 - SAFETY PRECAUTIONS AND GUIDELINES

Any safety devices removed for set-up, maintenance or repair purposes must be refitted and checked immediately upon completion of the maintenance and repair work. •

Ensure that all consumables and replaced parts are disposed of safely and with minimum environmental impact. •
AVOID, whenever possible, servicing, cleaning or examining the unit with the engine running.

NEVER fill the fuel tank, with the engine running, while near an open flame, or when smoking. ALWAYS wipe up any spilled fuel immediately.

ALWAYS disconnect the spark plug before performing any work on the unit.

DO NOT alter the engine governor settings from that indicated in the engine manual.

ALWAYS replace damaged or lost decals. Refer to the Parts Manual for the proper location and part number of all decals.

Carry out welding, flame-cutting and grinding work on the machine only if this has been expressly authorized, as there may be a risk of explosion and fire. •

Before carrying out welding, flame-cutting and grinding operations, clean the machine and its surroundings from dust and other inflammable substances and make sure that the premises are adequately ventilated (risk of explosion). •

SECTION 2 - INTRODUCTION

EXCELLENT CHOICE! The Ingersoll-Rand Tamper Rammer you have chosen will give you many hours of maintenance free operation resulting in a faster return of your investment.

Safe operation depends on reliable equipment and the use of proper operating procedures. Performing the checks and services described in this manual will help keep your machine in good condition. These recommended operation procedures will help you to avoid unsafe practices.

Safety notes have been included throughout this manual to help you avoid injury and prevent damage to the equipment. These notes are not intended to cover all eventualities; it is impossible to anticipate and evaluate all possible methods of operation. Therefore, you are the only person who can guarantee safe operation and maintenance.

It is important that any procedure not specifically recommended in this manual be thoroughly evaluated from the standpoint of safety before it is implemented.

Continuing improvement and advancement of product design may cause changes to your machine which may not be included in this publication. Each publication is reviewed and revised, as required, to update and include these changes in later editions. Ingersoll-Rand reserves the right to modify or make changes within a specific model group without notice and without incurring any liability to retrofit units previously shipped from the factory. Contact your Ingersoll-Rand Distributor for non-routine maintenance information that is not covered in this publication.

SECTION 3 - SYMBOL IDENTIFICATION AND METRIC CONVERSION

Contents	Page
INTERNATIONAL MACHINE SYMBOLS	1
INTERNATIONAL HIGHWAY SYMBOLS	2
METRIC CONVERSIONS	4

INTERNATIONAL MACHINE SYMBOLS

The following explains the meaning of international symbols that may appear on your machine

	OIL PRESSURE		HORN		LOW ENGINE RPM.
	WATER TEMPERATURE		CAUTION		BRAKE - PARK
	ON / OFF		DIESEL FUEL		VIBRATION
	LIGHTS		SLOW		AMPLITUDE
	WATER		FAST		FREQUENCY
	BATTERY		TRANSMISSION		CAUTION - PRESSURIZED
	AMMETER OR VOLTMETER		GREASE		
	AIR PRESSURE		OIL		
	LOW AIR PRESSURE		HYDRAULIC OIL		
	ENGINE RPM		HOURS		
	BRAKE		NEUTRAL		

SECTION 3 - SYMBOL IDENTIFICATION AND METRIC CONVERSION

INTERNATIONAL HIGHWAY SYMBOLS

The following symbols may also appear in a yellow square  instead of a red triangle.

	road bends		uneven road
	dangerous bend		ridge
	double bend		dip
	dangerous descent		slippery road
	steep ascent		loose gravel
	carriageway narrows		no entry for power driven vehicles
	carriageway narrows		no entry for vehicles exceeding width
	"end of priority" sign		no entry for vehicles exceeding length
	oncoming traffic has priority		falling rocks
	priority over oncoming traffic		pedestrian crossing
	swing bridge		road work
	road leads onto quay or river bank		light signals

SECTION 3 - SYMBOL IDENTIFICATION AND METRIC CONVERSION

	two-way traffic		no entry for vehicles exceeding weight
	other dangers		no entry for vehicle axle weight exceeding
	level crossing		no u-turn
	level crossing		no turn direction shown
	no entry		no entry for power driven vehicles
	closed to all vehicles in both directions		
	Intersection, user must give way		
	intersection user must give way		
	Intersection user must give way		
	"give way" sign		
	stop sign (new)		
	stop sign (old)		
	"priority road" sign		

SECTION 3 - SYMBOL IDENTIFICATION AND METRIC CONVERSION

TO CONVERT OMREGNET FRA	INTO TIL	MULTIPLY BY MULTIPLICERES MED
bar	pound/sq.in	14.50
bar	kilopascals	100.
centigrade	fahrenheit	$(C^{\circ} \times 9/5) + 32$
centimeters	inches	0.3937
centimeters	millimeters	10.0
circumference	radians	6.283
cubic centimeters	cu.inches	0.06102
degrees (angle)	radians	0.01745
degrees/sec.	revolutions/min	0.1667
feet	meters	0.3048
feet/min	meters/min.	0.3048
foot-pounds	kg-meters	0.1383
gallons	liters	3.785
Hertz	vibrations/min.	60.
horsepower	kilowatts	0.7457
inches	centimeters	2.540
inches	millimeters	25.40
kilograms	pounds	.250
kilogram meters	-pounds	7.233
kilopascal	pounds/sq.in	0.1450
kilopascal	bars	0.01
kilowatts	horsepower	1.341
liters	gallons (U.S. liq)	0.2642
liters	pints (U.S. liq)	2.113
liters	quarts (U.S. liq)	1.057
meters	feet	3.281
meters	inches	39.37
meters/min	feet/sec	0.05468
miles/hr	kms/hr	1.609
millimeters	inches	0.03937
Newtons	pounds	4.448
Newton-meter	pound-feet	0.737
pints (liq)	liters	0.4732
pounds	kilograms	0.4536
pounds	Newtons	0.225
pound feet	Newton-meter	1.356
pounds/ft.	kgs/meter	1.488
pounds/sq in	bars	0.06895
pounds/sq in	kilopascals	6.895
quarts (liq)	liters	0.9463
radians	degrees	57.30
radians/sec	revolutions/min	9.549
revolutions/min	degrees/sec	6.0
revolutions/min	radians/sec	0.1047
temperature (°C) + 17.78	temperature (°F)	1.8
temperature (°F) - 32	temperature (°C)	5/9
tons (short)	tons (metric)	0.9078
vibrations/min	Hertz	0.0167

SECTION 4 - OPERATING INSTRUCTIONS

Contents	Page
SAFETY CHECKS - PRE-STARTING	1
INSPECTION PRIOR TO OPERATION	2
OPERATION	2
STORAGE	5

WARNING



Improper maintenance can be hazardous.

Read and understand SECTION 1 - SAFETY PRECAUTIONS AND GUIDELINES before you perform any maintenance, service or repairs.

SAFETY CHECKS - PRE-STARTING

Before starting each day, in addition to the 10 hour daily routine maintenance, check or inspect the following items to ensure trouble free performance.

1. Check fluid lines, hoses, fittings, filler openings, drain plugs, pressure cap, muffler, safety shrouds and the area underneath the unit for signs of leakage or damage. Fix any leaks and correct any damage before operating.
2. Inspect the entire unit for damaged or missing parts and repair or replace them as needed.
3. Check the fuel level. If necessary, fill the fuel tank with the proper fuel.
4. Check all fastening hardware to ensure it is adequately tightened and that none is missing or broken.
5. Do not operate faulty equipment.
6. Be observant of people and obstructions within the work area.
7. Check engine for fuel.

Please read "INSTRUCTIONS FOR USE" for HONDA engine GX120 and this instruction manual for correct use and care. Please check if the unit is correctly maintained in good operating conditions.

SECTION 4 - OPERATING INSTRUCTIONS

INSPECTION PRIOR TO OPERATION

CHECK ENGINE OIL

Before checking or refilling engine oil, be sure the rammer is located on a stable level surface.

Do not thread the gauge into oil filler to check oil level. If the oil level is below the lower level line on the dipstick, refill with the proper oil to the upper level (to the neck of oil filler). See section 9.

CHECK ENGINE FOR FUEL

Do not refuel while smoking near an open flame or other potential hazards.

! CAUTION

CLEANING AIR CLEANER

Check Air Cleaner to be sure it is clean and not contaminated. If it needs cleaned perform the following steps:

Take out the outer urethane foam and inner element. Wash the element in kerosene or diesel fuel. Saturate it in a mixture of 3 parts kerosene or diesel fuel and 1 part engine oil. Shake off excessive oil and reinstall. Wash the air cleaner case using kerosene. After cleaning it up, apply engine oil on the inner part of the case.

! CAUTION

If the air cleaner element is seriously contaminated engine start up may fail or poor output and malfunctions of the engine may result.

CHECK EACH PART FOR LOSE OR BROKEN BOLTS AND NUTS

Tighten loose Bolts and Nuts, if any. Check each part for fuel or oil leak. Replace broken or damaged parts, if any, with new ones.

LUBRICATION OF MAIN BODY

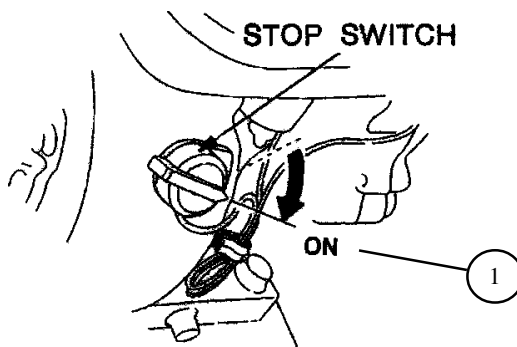
Check the Main Body oil level with the oil gauge before each operation. Change oil after the first 50 hours and every 200 hours. See Section 11.

OPERATION

STARTING

1. Turn the STOP SWITCH (1, Figure 4-1) clockwise to the ON position.

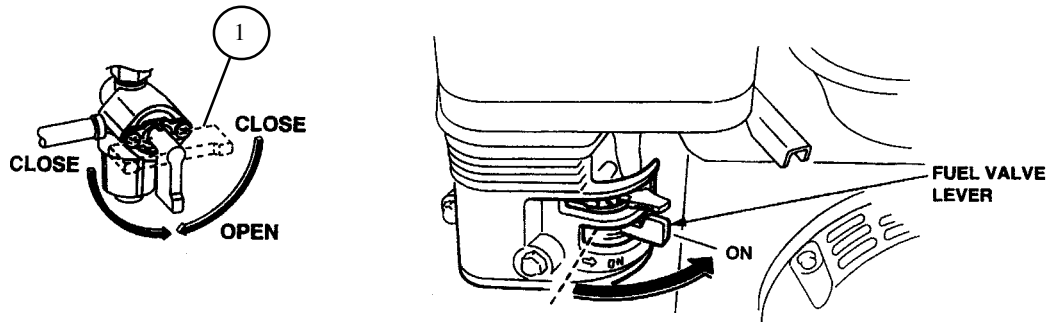
Figure 4-1



SECTION 4 - OPERATING INSTRUCTIONS

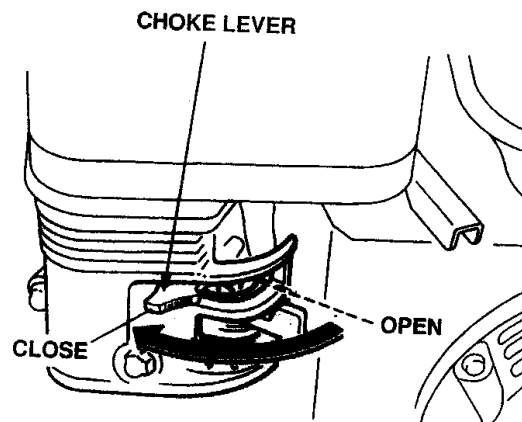
2. Open the FUEL COCK (1, Figure 4-2) located under the fuel tank. Move the FUEL VALVE LEVER to the "ON" position.

Figure 4-2



3. Close the CHOKE LEVER (Figure 4-3). If the engine is cold or the ambient temperature is low, close the Choke Lever (Figure 4-2) fully. If the engine is warm or the ambient temperature is high, open the Choke Lever half-way, or keep it fully open.

Figure 4-3

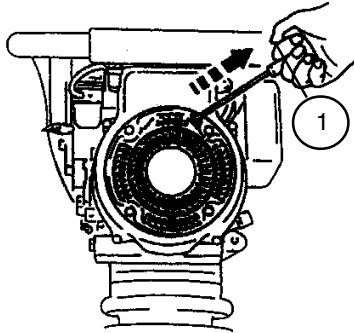


4. Position THROTTLE LEVER (Figure 4-5) to "LOW" speed position.

SECTION 4 - OPERATING INSTRUCTIONS

5. Pull the STARTER HANDLE (1, Figure 4-4) of RECOIL STARTER slowly until resistance is felt. This is the "COMPRESSION" point. Return the Handle to its original position and pull swiftly. After starting the engine, allow the Starter Handle to return to its original position while still holding the Handle.

Figure 4-4



After the engine starts, set the Throttle Lever (Figure 4-5) at the low speed position "LOW" and warm it up without load for a few minutes. Fully open CHOKE LEVER (1, Figure 4-3) gradually.

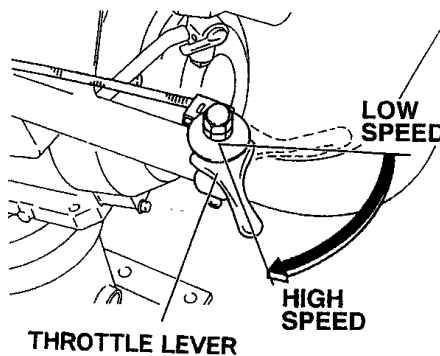
CAUTION

Avoid fully pulling out the rope. Return the Handle to its original position.

RUNNING

1. Shift the Throttle Lever (Figure 4-5) to "HIGH" speed position quickly. The rammer starts to vibrate and move forward.

Figure 4-5

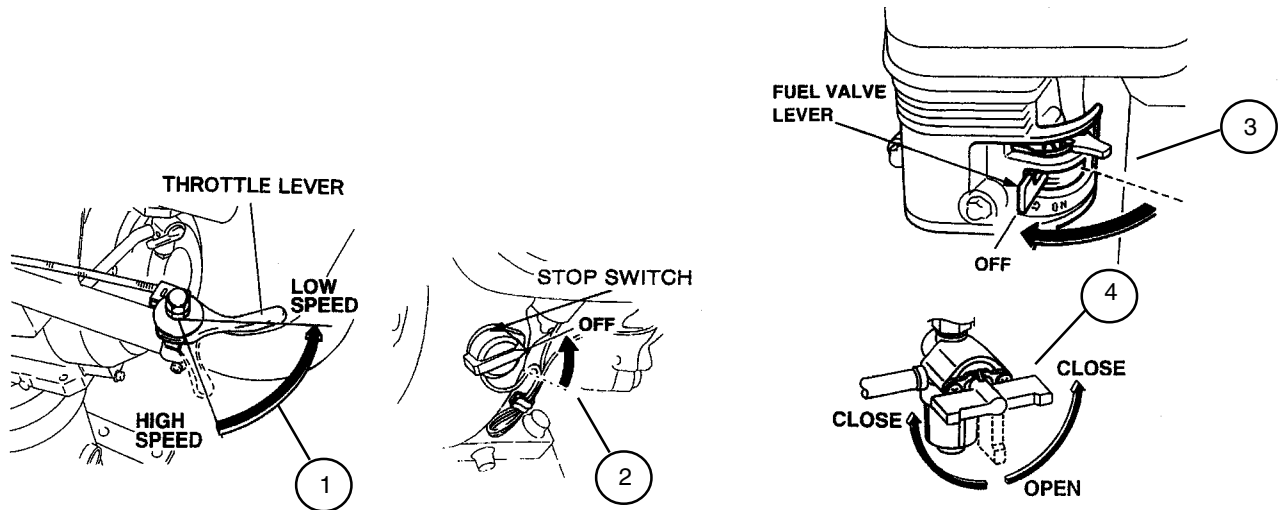


SECTION 4 - OPERATING INSTRUCTIONS

STOPPING

1. Shift the throttle lever (1, Figure 4-6) to "LOW" speed position.
2. Allow the engine to run at low speed for 2-3 minutes before stopping.
3. Turn the STOP SWITCH (2, Figure 4-6) counterclockwise to the "OFF" position.
4. Close the fuel cock (3, Figure 4-6).
5. Close the FUEL COCK (4, Figure 4-6) located under the fuel tank.

Figure 4-6



⚠ CAUTION

Do not stop engine suddenly while running at high speed

SECTION 4 - OPERATING INSTRUCTIONS

LONG TERM STORAGE

CAUTION

Discharge fuel (No Smoking !)

1. Remove the strainer cup of the fuel cock, place the strainer over a container and open the fuel cock to discharge fuel from the fuel tank. Remove the carburetor float chamber bolt from the bottom and discharge fuel from the carburetor
2. Close the fuel cock.
3. Change the engine oil with fresh oil.
4. Remove the spark plug, pour about 5 cc of the engine oil into the cylinder, slowly pull the starter handle of the recoil starter 2 or 3 times, and re-install the spark plug.
5. Slowly pull the recoil starter handle until resistance is felt and leave it in that position.
6. Clean the unit and engine.
7. Store the unit and engine indoors in a well-ventilated, low humidity area. Use the cover to avoid dirt, etc. if storage will be for a long time.

CAUTION

Always stop the engine and allow to cool down before covering the unit.

SECTION 5 - FUEL AND LUBRICATION SPECIFICATIONS

Contents	Page
GENERAL INFORMATION	1
FLUID CAPACITIES	1

GENERAL INFORMATION

Lubrication is an essential part of preventive maintenance, affecting to a great extent the useful life of the unit. Different lubricants are needed and some components in the unit require more frequent lubrication than others.

Specific recommendations of brand and grade of lubricants are not made here due to regional availability, operating conditions, and the continual development of improved products. Where questions arise, refer to the requirements and specifications in the manufacturer's manual.

All oil levels are to be checked with the machine parked on a level surface, and while the oil is cold, unless otherwise specified.

TABLE 5-1 FLUID CAPACITIES

FUEL/OIL	APPROXIMATE CAPACITY
ENGINE FUEL (Unleaded Gasoline)	2.64 US Quarts
ENGINE OIL (SAE 10W30)	0.63 US Quarts
MAIN BODY OIL (SAE 10W30) (RX-344H)	0.95 US Quarts
MAIN BODY OIL (SAE 10W30) (RX-304H)	0.63 US Quarts

CHECK FUEL

1. Stop the engine and open the fuel tank cap.
2. Use the automobile unleaded gasoline only.
3. Close the fuel cock before filling the fuel tank.
4. When filling the fuel tank, always use the fuel filter.
5. Wipe off any spilled fuel before starting the engine.

 **WARNING**



Fuel is flammable. May cause injury and property damage.

Shut down the engine, extinguish all open flames and do not smoke while filling the fuel tank.

Always wipe up any spilled fuel.

SECTION 6 - INITIAL BREAK-IN MAINTENANCE

Contents	Page
ENGINE OIL _____	1
LUBRICATION OF MAIN BODY _____	1
GENERAL MAINTENANCE _____	2

WARNING



Improper maintenance can be hazardous.

Read and understand SECTION 1 - SAFETY PRECAUTIONS AND GUIDELINES before you perform any maintenance, service or repairs.

ENGINE OIL

Drain the engine oil after the first 20 hours of operation. Fill with the correct amount of the recommended oil. Check the oil level with the oil filler cap/dip stick. See Section 9.

WARNING



Hot oil and/or components can burn.

Oil must be at normal operating temperature when draining.

Avoid contact with hot oil or components.

LUBRICATION OF MAIN BODY

Check the Main Body oil level with the oil gauge before each operation. Change oil after the first 50 hours and every 200 hours. See Section 11.

SECTION 6 - INITIAL BREAK-IN MAINTENANCE

GENERAL MAINTENANCE

Perform the following maintenance checks after the initial break in period.

1. Engine RPPM is adjusted to: 3,600 - 3,700 min⁻¹ (3,600 - 3,700 rpm) (With load).
2. Check Bolts and Nuts for looseness. Tighten it if necessary.
3. Check for fuel and oil leak.
4. Keep the RUBBER BUFFER away from oil and fuel.
5. Please refer to "INSTRUCTION FOR USE" for HONDA engine GX120 regarding the how-to maintenance for engine.

SECTION 7 - TROUBLE SHOOTING - GENERAL MAINTENANCE

Contents	Page
TROUBLE SHOOTING	1
GENERAL MAINTENANCE	2

TROUBLESHOOTING

1) Engine fails to start.

- | | |
|-----------------------------|--|
| a) Spark plug is defective | Clean or replace. |
| b) Air in the fuel system. | Bleed air completely. |
| c) Fuel tank is empty. | Refuel |
| d) Fuel Strainer is clogged | Clean or Replace. |
| d) Carburetor is clogged. | Clean or replace, if necessary. |
| e) Excessive fuel. | Open fuel drain cock and excess fuel.
Clean spark plug. |

2) Engine runs irregularly.

- | | |
|------------------------------------|---|
| a) Fuel line sucks air. | Retighten the fuel pipe joints and bleed air. |
| b) Air cleaner is clogged. | Clean air cleaner or replace element. |
| c) Engine stalls during operation. | Clean fuel system and retighten the fuel pipe joints. |
| d) Low compression. | Replace head gasket or retighten spark plug. |

3) Machine fails to jump.

- | | |
|-------------------------------------|-----------------------------------|
| a) Incorrect setting RPM of engine. | Adjust |
| b) Throttle cable is slacked. | Adjust |
| c) Centrifugal clutch is slipped. | Overhaul or replace If necessary. |

4) Machine jumps irregularly or vibrates only.

- | | |
|-----------------------------------|---|
| a) Centrifugal clutch is slipped. | Overhaul or replace if necessary. |
| b) Coil spring is fatigued. | Replace |
| c) Excessive oil level. | Correct |
| d) Improper oil viscosity | Check oil viscosity, change if necessary. |

SECTION 7 - TROUBLE SHOOTING - GENERAL MAINTENANCE

GENERAL MAINTENANCE

1. Engine RPM is adjusted to: $3,600 - 3,700 \text{ min}^{-1}$ (3,600 - 3,700 rpm) (With load).
2. Check Bolts and Nuts for looseness. Tighten it if necessary.
3. Check for fuel and oil leak.
4. Keep the RUBBER BUFFER operating handle away from oil and fuel.
5. Please refer to "INSTRUCTION FOR USE" for HONDA engine GX120 regarding the how-to maintenance for engine.

AIR CLEANER

Keep the Air Cleaner Element clean. Take out the outer urethane foam and inner element. Wash the element in kerosene or diesel fuel. Saturate it in a mixture of 3 parts kerosene or diesel fuel and 1 part engine oil. Shake off excessive oil and reinstall. Wash the air cleaner case using kerosene. After cleaning it up, apply the engine oil on the inner part of the case.

CAUTION

If the air cleaner element is seriously contaminated, the start-up failure, poor output and malfunctions of the engine may result.

SECTION 8 - 10 HOUR OR DAILY ROUTINE MAINTENANCE

Contents	Page
ENGINE OIL	1
AIR CLEANER	1
FASTENING HARDWARE	1
LUBRICATION MAIN BODY	1

WARNING



Improper maintenance can be hazardous.

Read and understand SECTION 1 - SAFETY PRECAUTIONS AND GUIDELINES before you perform any maintenance, service or repairs.

It is recommended that the following steps be performed at the beginning and end of each 8 to 10 hour shift or daily, whichever comes first.

ENGINE OIL

Check the engine's oil level at the start of each day and maintain it to the full mark on the dipstick. Insert the dipstick and check the full mark on the dipstick. See Section 9.

AIR CLEANER

If the machine is operating in a dusty environment check the air cleaner daily. Keep the Air Cleaner Element clean. Take out the outer urethane foam and inner element. Wash the element in kerosene or diesel fuel. Saturate it in a mixture of 3 parts kerosene or diesel fuel and 1 part engine oil. Shake off excessive oil and reinstall. Wash the air cleaner case using kerosene. After cleaning it up, apply the engine oil on the inner part of the case.

CAUTION

If the air cleaner element is seriously contaminated, the start-up failure, poor output and malfunctions of the engine may result.

FASTENING HARDWARE

Check all fastening hardware to ensure it is all adequately tightened and that none is missing or broken.

LUBRICATION OF MAIN BODY

Check the Main Body oil level with the oil gauge before each operation. Change after the first 50 hours and every 200 hours. See Section 11.

SECTION 9 - 50 HOUR OR WEEKLY ROUTINE MAINTENANCE

Contents	Page
ENGINE OIL	1
LUBRICATION OF MAIN BODY	1

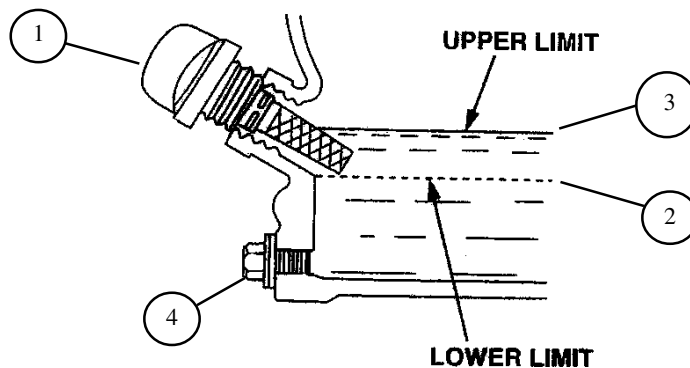
CHECK AND CHANGE ENGINE OIL

Before checking or refilling engine oil, be sure the machine is located on a stable level surface and stopped. When checking oil do not thread the oil gauge (1, Figure 9-1) into oil filler to check oil level. If the oil level is below the lower level (2, Figure 9-1) line, refill with the proper oil to the upper level (3, Figure 9-1)(to the neck of oil filler).

When changing oil, stop the engine, loosen the drain plug (4, Figure 9-1), reinstall the drain plug before refilling oil. Add new oil at the oil gauge (1, Figure 9-1) port.

Always use the best grade and clean oil. Contaminated oil, poor quality oil and shortage of oil cause damage to engine or shorten the engine life.

Figure 9-1



Changing and filling:

Capacity of engine oil	0.6 liters (0.63 US quarts)
Recommend engine oil	SAE 10W30

Use class SE, SF (API classification) or higher grade oil.

Initial oil change	After 20 hours of operation.
Thereafter	Every 50 hours of operation.

LUBRICATION OF MAIN BODY

Check the Main Body oil level with the oil gauge before operation. Change oil after the first 50 hours and every 200 hours. See Section 11.

SECTION 10 - 100 HOUR OR MONTHLY ROUTINE MAINTENANCE

NOTE

**** No 100 Hour or Semi-Annual Routine Maintenance is required.****

SECTION 11 - 200 HOUR OR QUARTERLY ROUTINE MAINTENANCE

Contents	Page
LUBRICATION OF MAIN BODY	1

LUBRICATION OF MAIN BODY

Check:: Check the oil level with the oil gauge before each operation.

Capacity of oil RX-344H - 0.9 liters (0.95 US quarts)

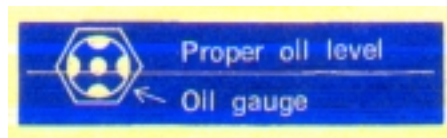
RX-304H - 0.6 liters (0.63 US quarts)

Recommended oil SAE 10W30

Initial changeAfter first 50 hours of operation.

Regular changeEvery 200 hours of operation.

To change oilRemove the plug. Drain out the oil and fill with the fresh oil. After fill with the fresh oil, check each part for the oil leak.



SECTION 12- 500 HOUR OR SEMI-ANNUAL ROUTINE MAINTENANCE

NOTE

**** No 500 Hour or Semi-Annual Routine Maintenance is required. ****

SECTION 13 - 1000 HOUR OR ANNUAL ROUTINE MAINTENANCE

NOTE

**** No 1000 Hour or Annual Routine Maintenance is required. ****

SECTION 14 - ROUTINE ADJUSTMENTS

NOTE

** No Routine Adjustments required.**

SECTION 15 - MISCELLANEOUS AND OPTIONAL EQUIPMENT

NOTE

** No Miscellaneous or Optional Equipment **

SECTION 16 - SCHEMATICS

NOTE

**** No Schematics are necessary for this unit. ****

SECTION 17 - PARTS MANUAL

**RX-304H/RX-344H
TAMPER RAMMER**

TABLE OF CONTENTS

RX-304H/334H

TITLE	PAGE
Table of Contents	A
Abbreviations Used In This Manual	B
Recommended Service Parts	D

UPPER SECTION AND ENGINE

A

Upper Section And Engine	A.1.2
--------------------------------	-------

For Internal Breakdowns - See Section I.

LOWER SECTION

B

Lower Section	B.1.2
---------------------	-------

HANDLE SECTION

C

Handle Section	C.1.2
Carrying Cart And Tools	C.2.2

DECALS

G

Decals	G.1.2
--------------	-------

INTERNAL BREAKDOWNS

I

Honda Engine (59187880) - Internal Breakdown	I.1.2
--	-------

WORD INDEX

W

Word Index	W.1.2
------------------	-------

NUMERIC INDEX

X

Numeric Index	X.1.2
---------------------	-------

STANDARD ABBREVIATIONS

AC	Alternating Current	Ref	Reference
A/R	As Required	RH	Right Hand
ARC	Authorized Rebuilt Component	RHSS	Round Head SelfTapping Screw
Assy	Assembly	ROPS	Roll-Over Protection System
BHCS	Button Head Cap Screw	RPM	Revolutions Per Minute
Cu Yd	Cubic Yard	SAE	Society of Automotive Engineers
Cyl	Cylinder	Sec	Section
DC	Direct Current	SFH	Slotted Fillister Head
Dia	Diameter	SHCS	Socket Head Cap Screw
Eff	Effective	SMV	Slow Moving Vehicle
FHCS	Flat Head Cap Screw	S/N	Serial Number
F-N-R	Forward-Neutral-Reverse	SPST	Single Pole/Single Throw
FOPS	Falling Object Protection System	S.T.	Self-Tapping
F/P	Fork Positioning	Std	Standard
Gr	Grade	Str	Straight
HHCS	Hex Head Cap Screw	Sw	Swivel
HHMS	Hex Head Machine Screw	Tach	Tachometer
HSBHCS	Hex Socket Button Head Cap Screw	Temp	Temperature
ID	Inside Diameter	Thd	Thread
LH	Left Hand	Thk	Thick
M	Metric	Typ	Typical
MIK	Maintenance Interval Kit	UNC	Unified Coarse
mm	Millimeter	UNF	Unified Fine
Nat Asp	Naturally Aspirated	Univ	Universal
Neg	Negative	Var	Variable
NSS	Not Sold Separately	V	Volt
NSVA	Non Serviceable Assembly	VPM	Vibrations Per Minute
OD	Outside Diameter	Wgt	Weight
Pos	Positive	w/	With
PSI	Pounds per Square Inch	w/o	Without
Q/A	Quick-Attach	Wp	Weatherproof

Rev 01/02/01

*****Always use Ingersoll-Rand Replacement parts!*****

RECOMMENDED SERVICE PARTS

RX-304H/344H Current Production

Quantities are for one unit having the operating hours listed below

0 to 1,000 operating hours

<u>Assembly</u>	<u>Description</u>	<u>Qty</u>	<u>CPN</u>
Engine – Honda	Fuel Filter+	1	59853358
	Fuel Tank Cap	1	54680434
	Air Cleaner Element+	1	59244350
	Fuel Strainer	1	59188201
	Starter Rope	1	59244087
	Starter Knob	1	59244079
	Oil Filler Cap Assembly	1	59243683

+ Designates parts that are to be replaced within the specified time intervals as stated in the maintenance schedule.

RECOMMENDED SERVICE PARTS

RX-304H/344H Current Production

Quantities are for one unit having the operating hours listed below

1,000 to 3,000 operating hours

<u>Assembly</u>	<u>Description</u>	<u>Qty</u>	<u>CPN</u>
Engine – Honda	Oil Gauge	1	58898263
	Recoil Starter Assembly	1	59243998
Frame	Throttle Lever	1	59830315
	Throttle Cable	1	59840058

+ Designates parts that are to be replaced within the specified time intervals as stated in the maintenance schedule.

RECOMMENDED SERVICE PARTS

RX-304H/344H Current Production

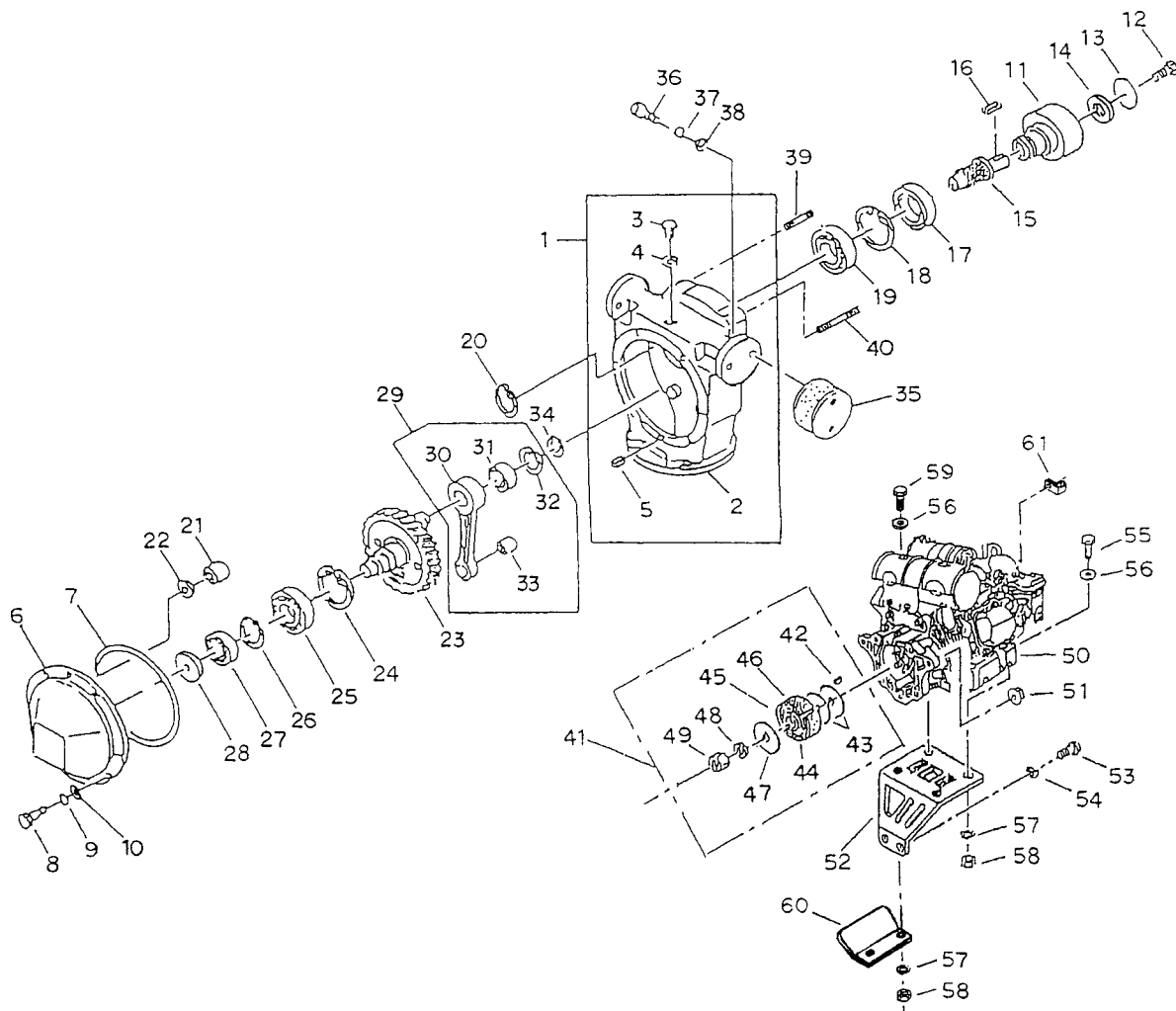
Quantities are for one unit having the operating hours listed below

3,000 operating hours plus

<u>Assemble</u>	<u>Description</u>	<u>Qty</u>	<u>CPN</u>
Engine – Honda			
	Muffler	1	59244442
	Intake Valve	1	59243907
	Exhaust Valve	1	59243915

+ Designates parts that are to be replaced within the specified time intervals as stated in the maintenance schedule.

UPPER SECTION AND ENGINE

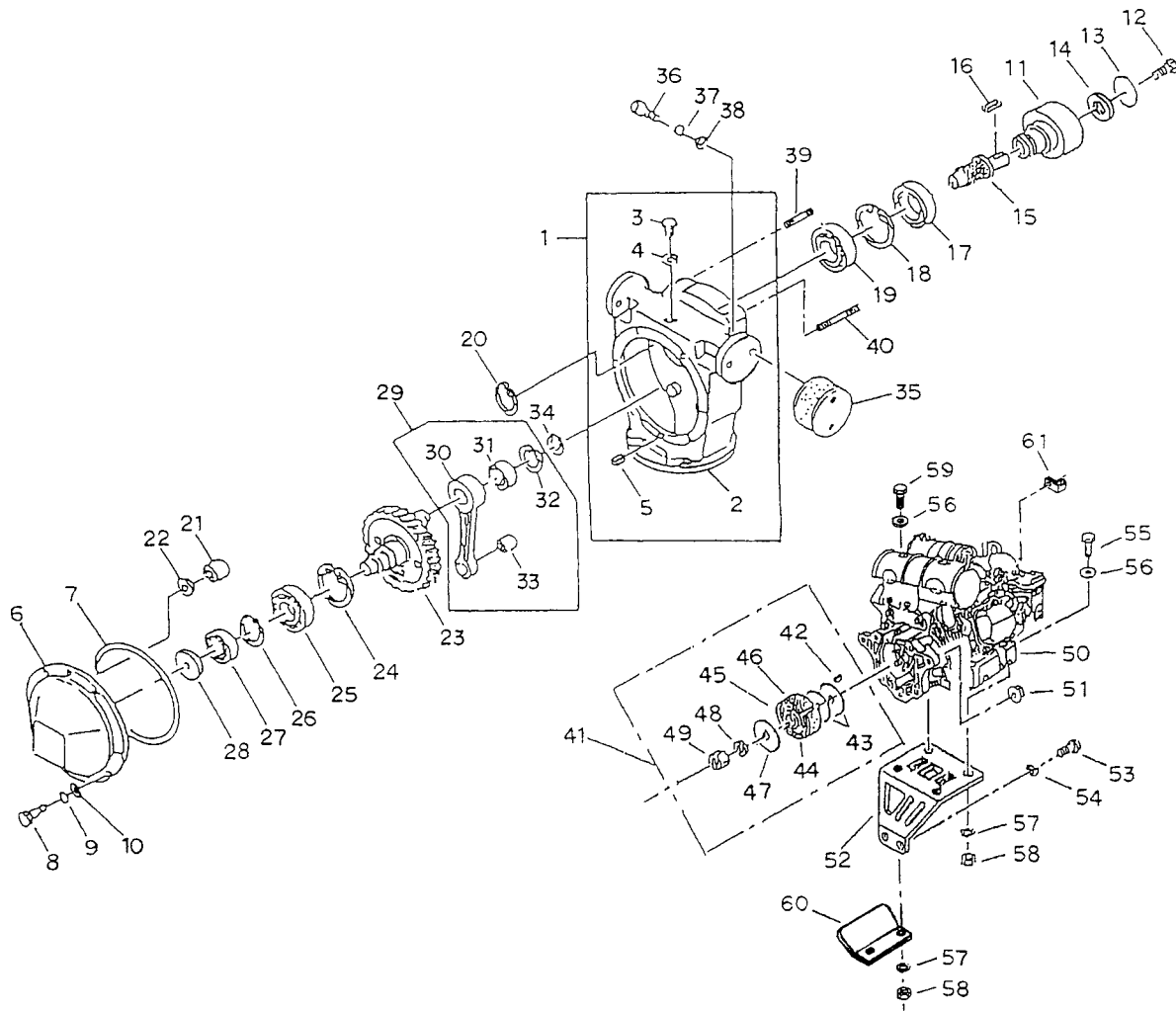


UPPER SECTION AND ENGINE

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59187807	Crankcase CP (Includes Items 2 thru 5)	1	
2	N.S.S	-Crankcase	1	
3	59831123	-Plug	1	
4	59831131	-Packing	1	
5	59840744	-Spring Pin	1	8 x 20
6	58898248	Bearing Case CP (RX-304H)	1	
-	54680665	Bearing Case (RX-344H)	1	
7	58898255	O-ring	1	
8	59953935	Bolt	6	M8 x 30
9	59831925	Spring Washer	6	M8
10	59835371	Washer	6	M8
11	59187831	Clutch Drum	1	
12	59187864	Screw	1	M8 x 20
13	59187856	O-ring	1	
14	59187849	O-ring Washer	1	
15	59187815	Pinion Gear	1	
16	59839852	Key	1	5 x 5 x 20
17	59187823	Oil Seal	1	
18	59840819	Snap Ring	1	
19	59840827	Ball Bearing	1	
20	59840835	Snap Ring	1	
21	59840843	Needle Bearing	1	
22	59840850	Bearing Puller (A)	1	
23	59187872	Crank Gear (RX-304H)	1	
-	54680673	Crank Gear (RX-344H)	1	
24	59840819	Snap Ring	1	
25	59840884	Ball Bearing (RX-304H)	1	
-	59840827	Ball Bearing (RX-344H)	1	
26	59840835	Snap Ring	1	
27	59840900	Ball Bearing (RX-304H)	1	
-	59953190	Ball Bearing (RX-344H)	1	
28	59840918	Bearing Puller (B)	1	
29	59840926	Crank Rod Assembly (Includes Items 30 thru 33)	1	
30	N.S.S.	-Crank Rod	1	
31	59839431	-Ball Bearing	1	
32	59837948	-Snap Ring	1	
33	59840934	-Bushing	1	
34	59839456	Snap Ring	1	

(Continued on next page)

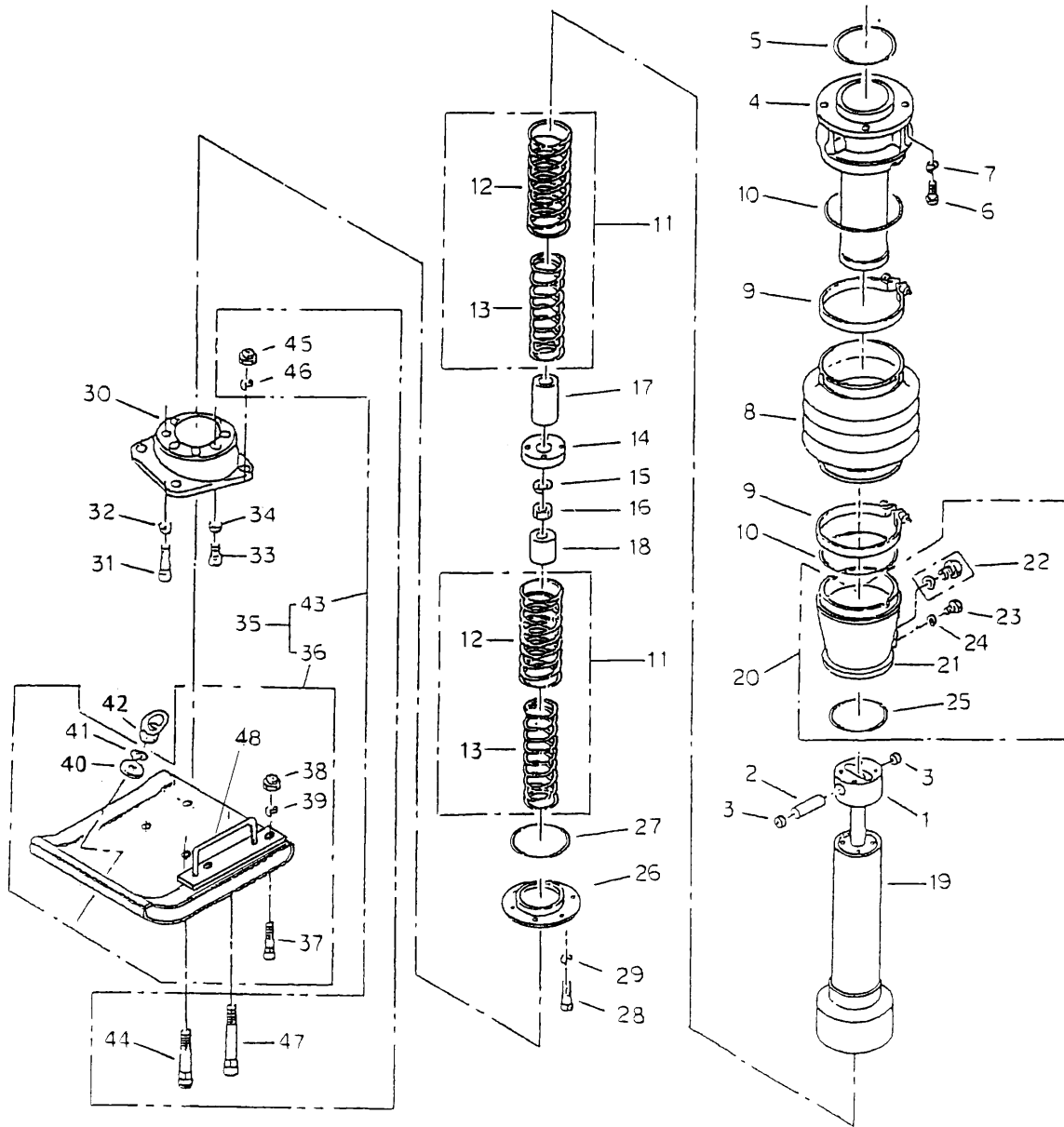
UPPER SECTION AND ENGINE (CONTINUED)



UPPER SECTION AND ENGINE (CONTINUED)

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
35	59841163	Rubber Buffer	2	
36	59841171	Bolt	4	M8 x 28
37	59831925	Spring Washer	4	M8
38	59835371	Washer	4	M8
39	59187898	Stud Bolt	3	
40	59187906	Stud Bolt	1	
41	59187922	Clutch Assembly (Includes Items 42 thru 49)	1	
42	59840983	-Woodruff Key	1	
43	59187963	-Guide Plate (A)	2	
44	59187930	-Clutch Lining Shoe	4	
45	59187948	-Clutch Boss	1	
46	59187955	-Clutch Spring	2	
47	59187971	-Guide Plate (B)	1	
48	59841064	-Washer	1	
49	59187989	-Nut	1	M12
50	59187880	Engine Assembly	1	See Breakdown - I.1
51	59187914	Flange Nut	1	
52	59187997	Engine Support	1	
53	59952242	Bolt	2	M10 x 25
54	59951632	Spring Washer	2	M10
55	59843722	Bolt	1	M8 x 40
56	59835371	Washer	1	M8
57	59831925	Spring Washer	1	M8
58	59832931	Nut	1	M8
59	59830208	Bolt	2	M8 x 45
60	59188003	Oil Gauge Protector	1	
61	59840082	Clamp	1	

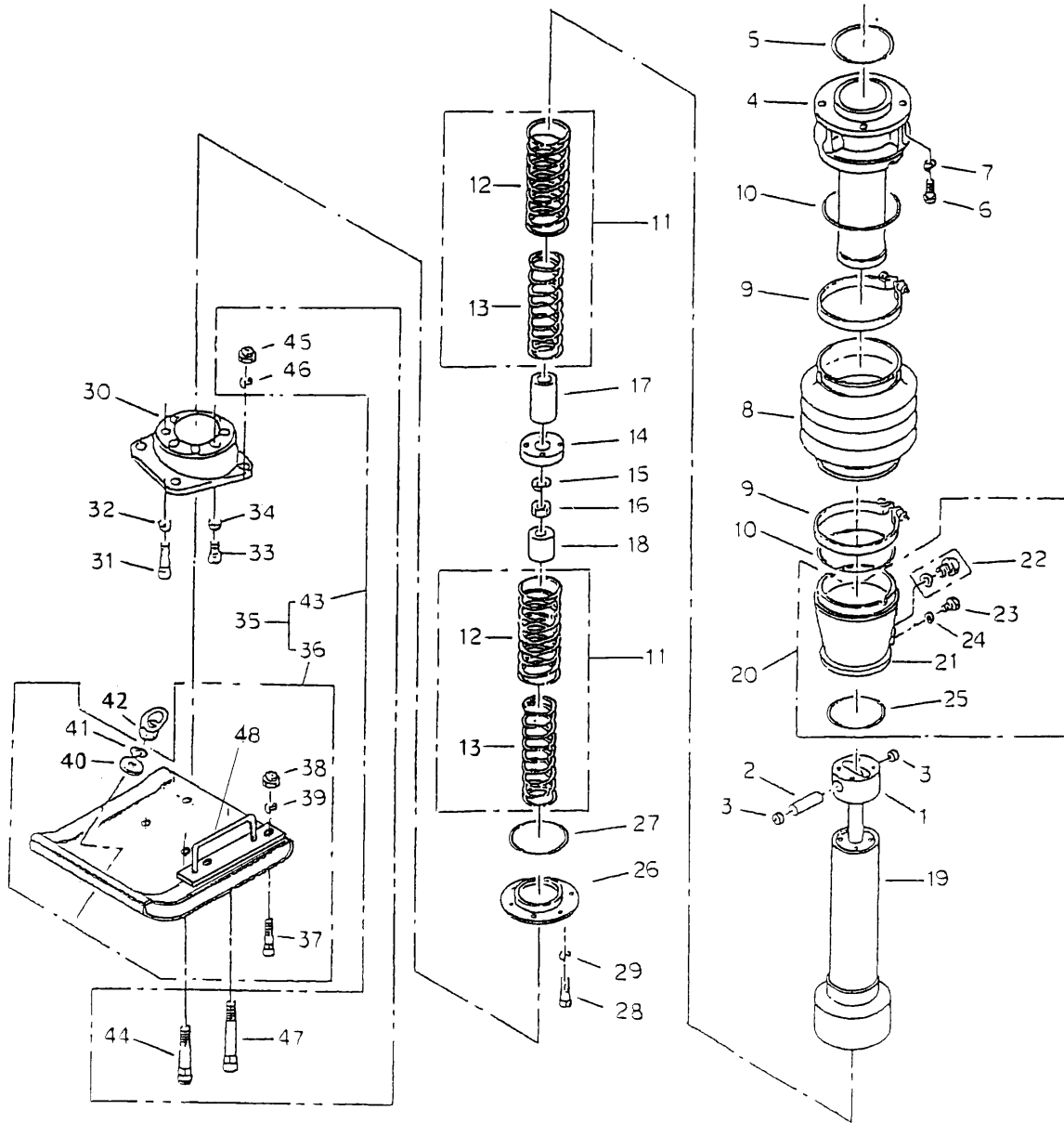
LOWER SECTION



LOWER SECTION

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59841213	Piston	1	
2	59841221	Crank Rod Pin	1	
3	59841239	Nylon Plug	2	
4	59872200	Upper Cylinder (RX-304H)	1	
-	59188029	Upper Cylinder (RX-344H)	1	
5	59841254	O-ring	1	
6	59832030	Bolt	4	M12 x 35
7	59831743	Spring Washer	4	M12
8	58802208	Bellows (RX-304H)	1	
-	54680731	Bellows (RX-344H)	1	
9	59188037	Band w/Nut (RX-304H)	2	
-	54680749	Band w/Guide Rail w/Nut (RX-334H)	2	
10	59841494	O-ring (RX-304H)	2	
-	59188045	O-ring (RX-334H)	2	
11	59188052	Coil Spring Assembly (Includes Items 12 & 13)	2	
12	59841320	-Large Coil Spring	2	
13	59841338	-Small Coil Spring	2	
14	59841346	Piston Guide (RX-304H)	1	
-	54680756	Piston Guide (RX-334H)	1	
15	59841353	Spring Washer	1	M20
16	59841361	Nut	1	M20
17	59841379	Upper Damper	1	
18	59188060	Lower Damper	1	
19	59841387	Lower Cylinder (RX-304H)	1	
-	54680764	Lower Cylinder (RX-334H)	1	
20	59841403	Pipe Protector Assembly (RX-304H) (Includes Items 21 thru 25)	1	
-	54680772	Pipe Protector Assembly (RX-334H) (Includes Items 21 thru 25)	1	
21	N.S.S.	-Pipe Protector (RX-304H)	1	
-	N.S.S.	-Pipe Protector (RX-334H)	1	
22	58898263	-Oil Gauge	1	
23	59831123	-Plug	1	
24	59831131	-Packing	1	
25	59841254	-O-ring (RX-304H)	1	
-	54680780	-O-ring (RX-344H)	1	
26	59841452	Spring Seat (RX-304H)	1	
-	54680798	Spring Seat (RX-344H)	1	
(Continued on next page)				

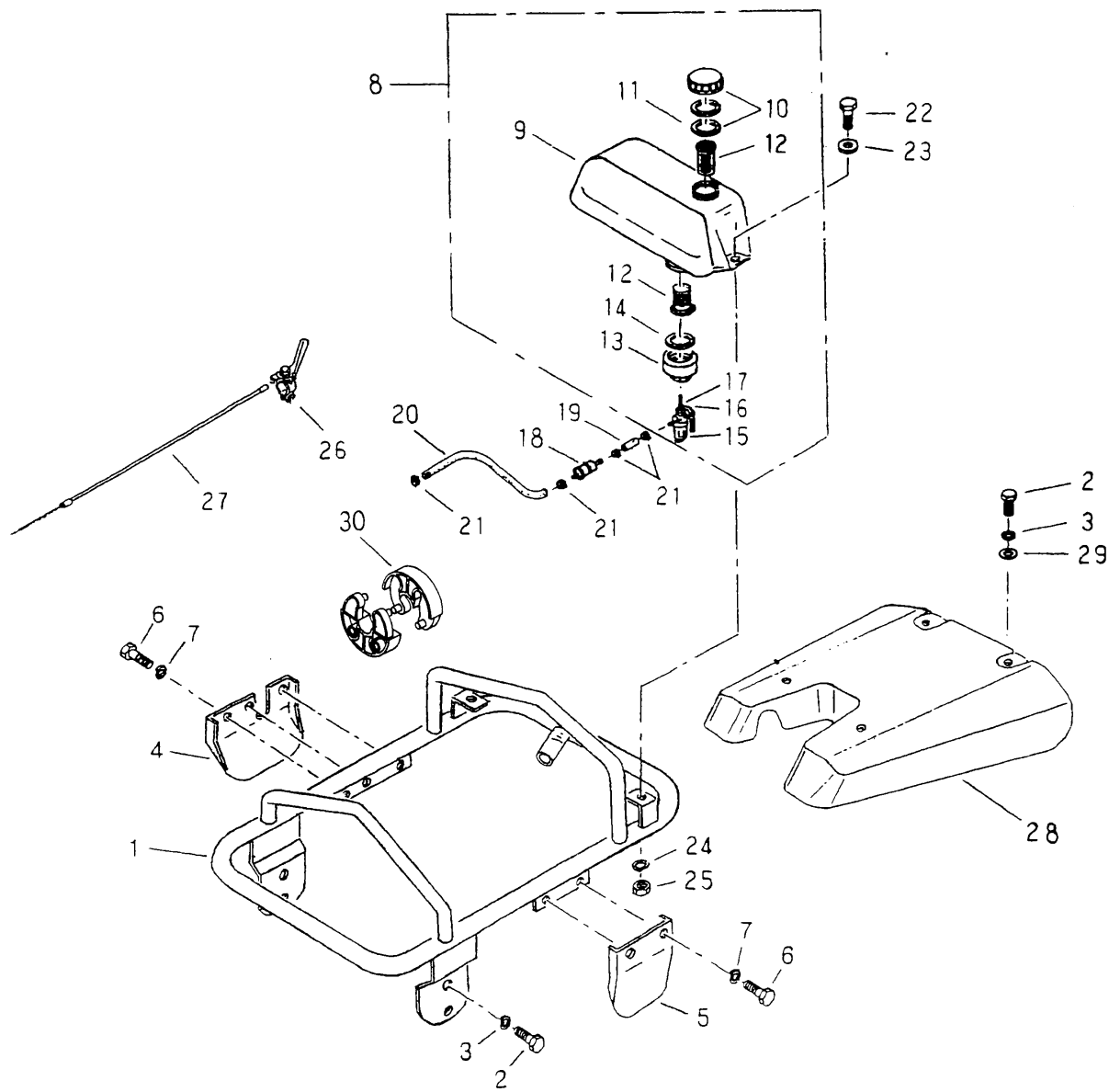
LOWER SECTION (CONTINUED)



LOWER SECTION (CONTINUED)

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
27	59841460	O-ring (RX-304H)	1	
-	59838334	O-ring (RX-344H)	1	
28	59843391	Socket Head Bolt (RX-344H)	2	M10 x 25
29	59831800	Lockwasher (RX-344H)	2	M10
30	54680806	Foot Block (RX-344H)	1	
31	59832287	Bolt (RX-344H)	4	M10 x 30
32	59951632	Spring Washer(RX-344H)	4	M10
33	59836338	Socket Head Bolt (RX-304H)	6	M8 x 30
33	59188409	Socket Head Bolt (RX-334H)	6	M8 x 25
34	59831560	Lockwasher	6	M8
35	54680814	Foot Plate & Bolt Assembly (RX-304H) (Includes Items 36 & 43)	1	
-	54680822	Foot Plate & Bolt Assembly (RX-334H) (Includes Items 36 & 43)	1	
36	59188078	-Foot Plate Assembly (RX-304H) (Includes Items 37 thru 41)	1	
-	54680830	-Foot Plate Assembly (RX-344H) (Includes Items 37 thru 41)	1	
37	59188086	-Flush Bolt	7	M10 x 58
38	59834721	-Nylon Nut	6	M10
39	59951632	-Spring Washer	6	M10
40	59188102	-Washer	1	10.5 x 35 x 3.2
41	59951632	-Spring Washer	1	M10
42	59188094	Eye Nut	1	M10
43	54682554	-Flush Bolt Assembly (RX-304H) (Includes Items 44 thru 47)	1	
-	54686142	-Flush Bolt Assembly (RX-334H) (Includes Items 44 thru 47)	1	
44	59841551	-Flush Bolt (RX-304H)	4	M12 x 98
-	58836982	-Flush Bolt (RX-334H)	4	M12 x 65
45	59840454	-Nylon Nut	4	M12
46	59237388	-Spring Washer	4	M12
47	59841569	-Flush Bolt (RX-304H)	2	M12 x 120
48	13201199	Lifting Hndle	1	

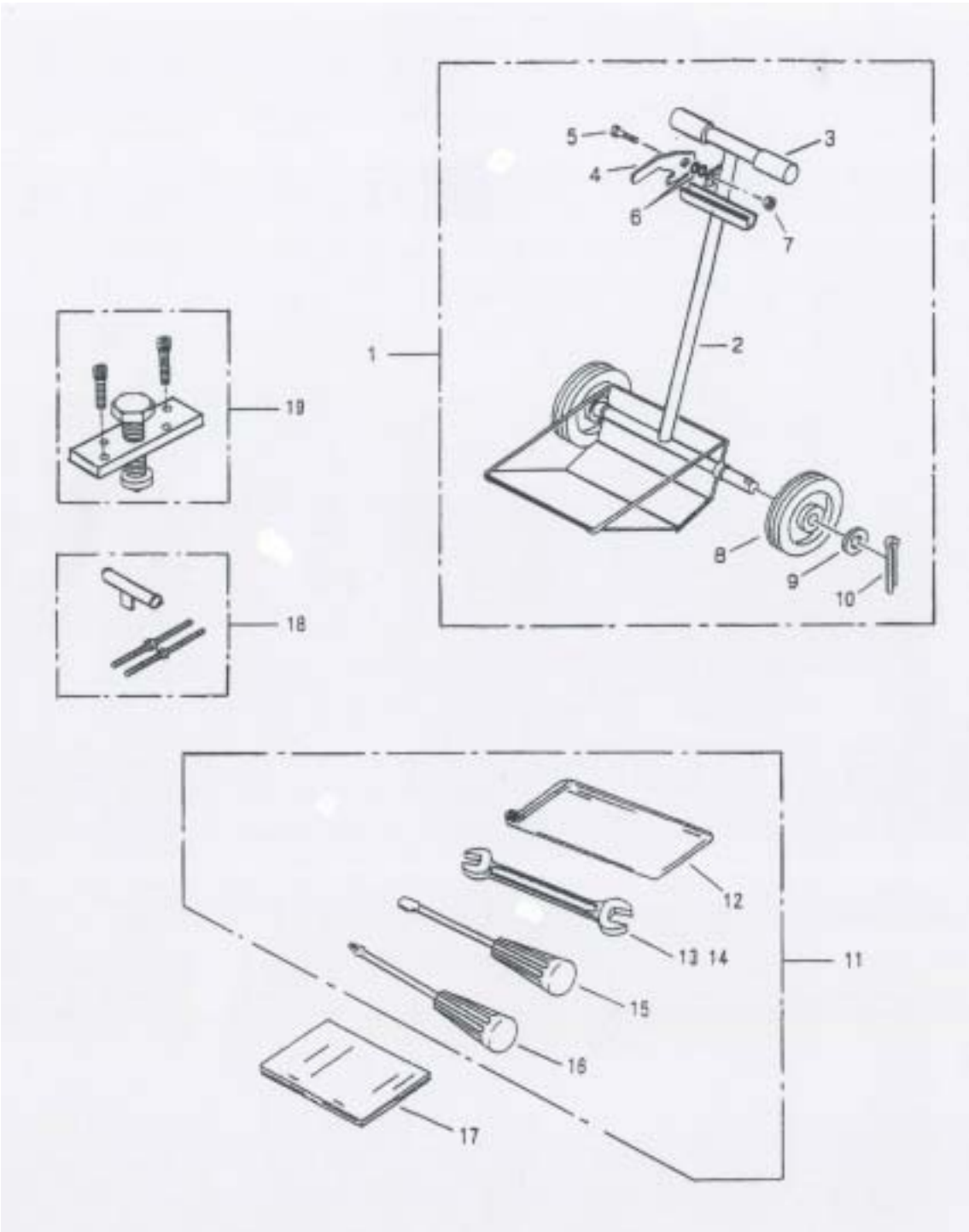
HANDLE SECTION



HANDLE SECTION

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	54680657	Operating Handle	1	
2	59832535	Bolt	8	M8 x 20
3	59831925	Spring Washer	8	M8
4	59188128	Muffler Protector	1	
5	59188136	Air Cleaner Protector	1	
6	59188144	Bolt	5	M8 x 15
7	59831925	Spring Washer	5	M8
8	54624606	Fuel Tank Assembly (Includes Items 9 thru 17)	1	
9	54680426	-Fuel Tank	1	
10	13202122	-Fuel Tank Cap CP	1	
11	54680442	-Packing	1	
12	59853358	-Fuel Filter	2	
13	59188185	-Cap	1	
14	59188193	-Packing	1	
15	59188201	-Fuel Strainer	1	
16	59841684	-Locknut	1	
17	59841692	-O-ring	1	
18	59188219	Strainer	1	
19	59188227	Rubber Pipe	1	
20	59188235	Rubber Pipe	1	
21	59188243	Hose Clamp	4	
22	59953935	Bolt	2	M8 x 30
23	58898230	Washer	2	8.5 x 22 x 2.3
24	59831925	Spring Washer	2	M8
25	59831917	Nylon Nut	2	M8
26	59830315	Throttle Lever	1	
27	59840058	Throttle Cable	1	
28	54680582	Engine Cover	1	
29	59835371	Washer	4	M8
30	13201116	Handle Guid Roller	4	

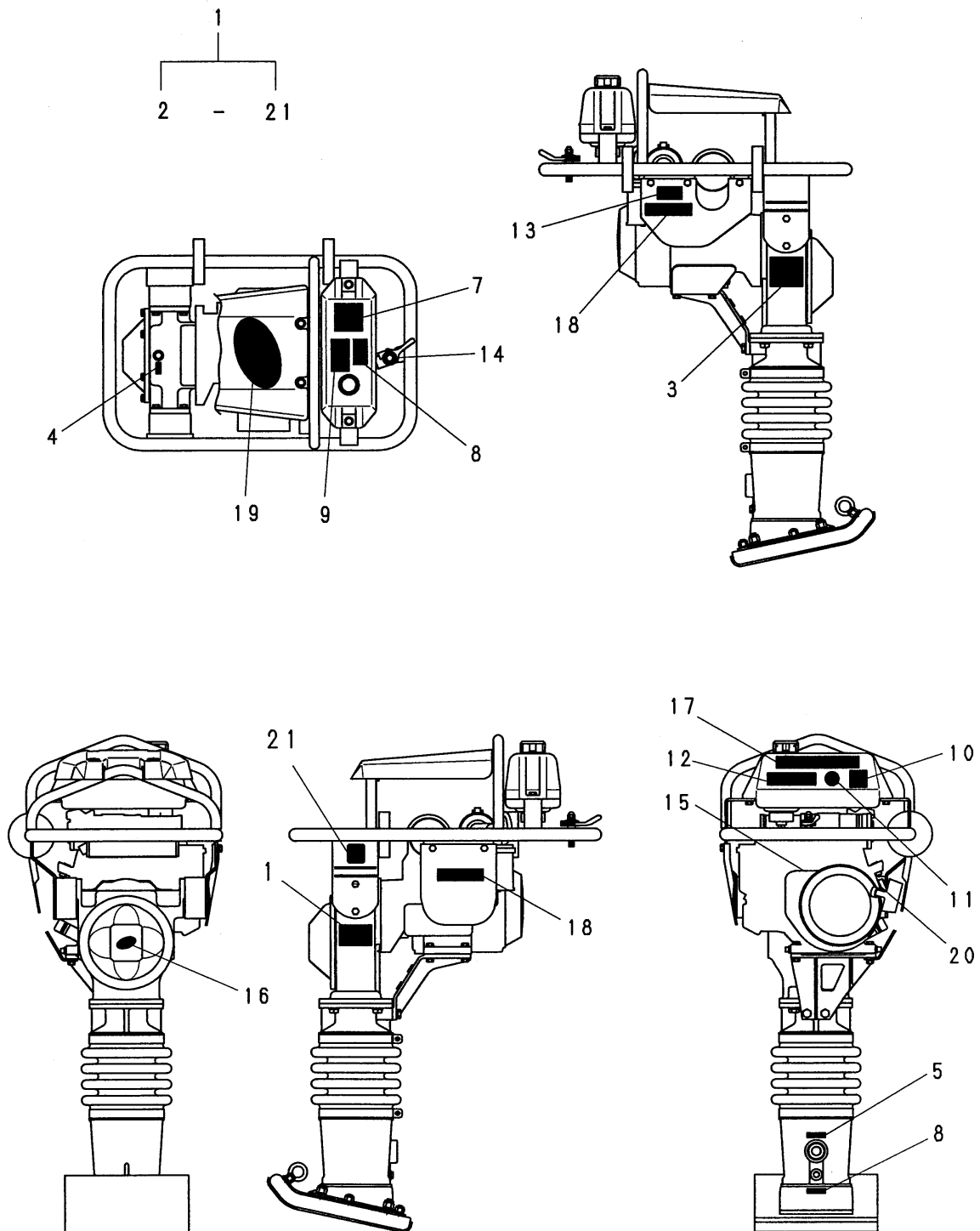
CARRYING CART AND TOOLS



CARRYING CART AND TOOLS

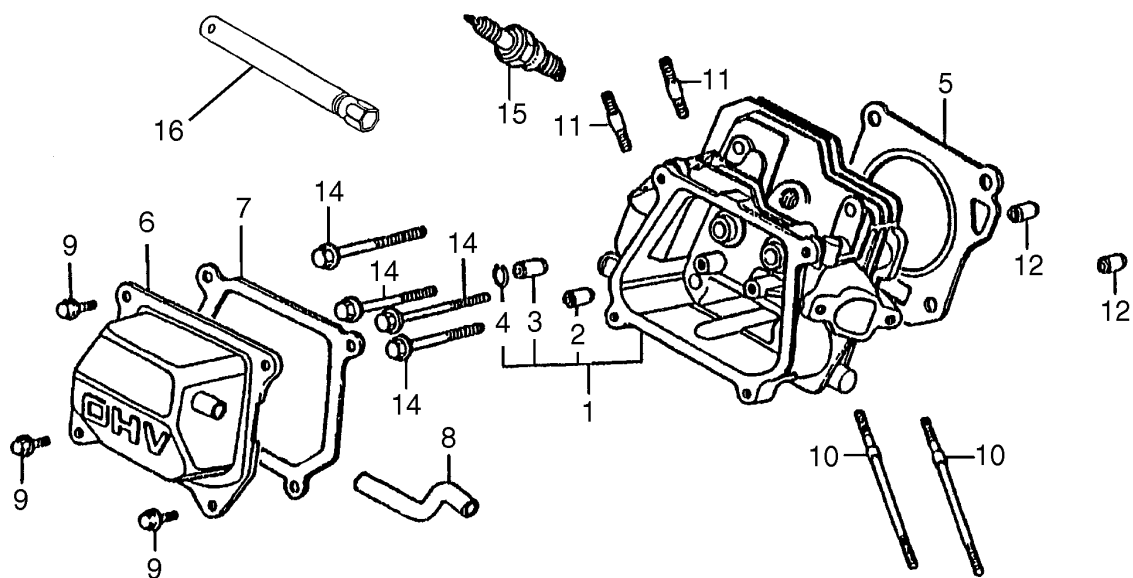
ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59188326	Carrying Cart Assembly (Includes Items 2 thru 10)	1	
2	59188334	-Cart Body	1	
3	59840496	-Grip	2	
4	59188342	-Stopper	1	
5	59952325	-Bolt	1	M8 x 25
6	59188359	-Friction Spring	2	
7	59832931	-Nut	1	M8
8	59843706	-Tire & Wheel Assembly	2	
9	59839159	-Washer	2	M20
10	59840579	-Cotter Pin	2	4 x 40
11	13200795	Tool Kit (Includes Items 12 thru 16)	1	
12	59839050	-Tool Bag	1	
13	59830018	-Double Ended Spanner	1	17 x 19
14	59830000	-Double Ended Spanner	1	10 x 13
15	59838805	-Slotted Screwdriver	1	
16	59840637	-Cross Slot Screwdriver	1	
17	13363098	Operation/Maintenance & Parts Manual	1	
18	59842153	Disassembling Tool	1	
19	59843136	Clutch Puller	1	

DECALS



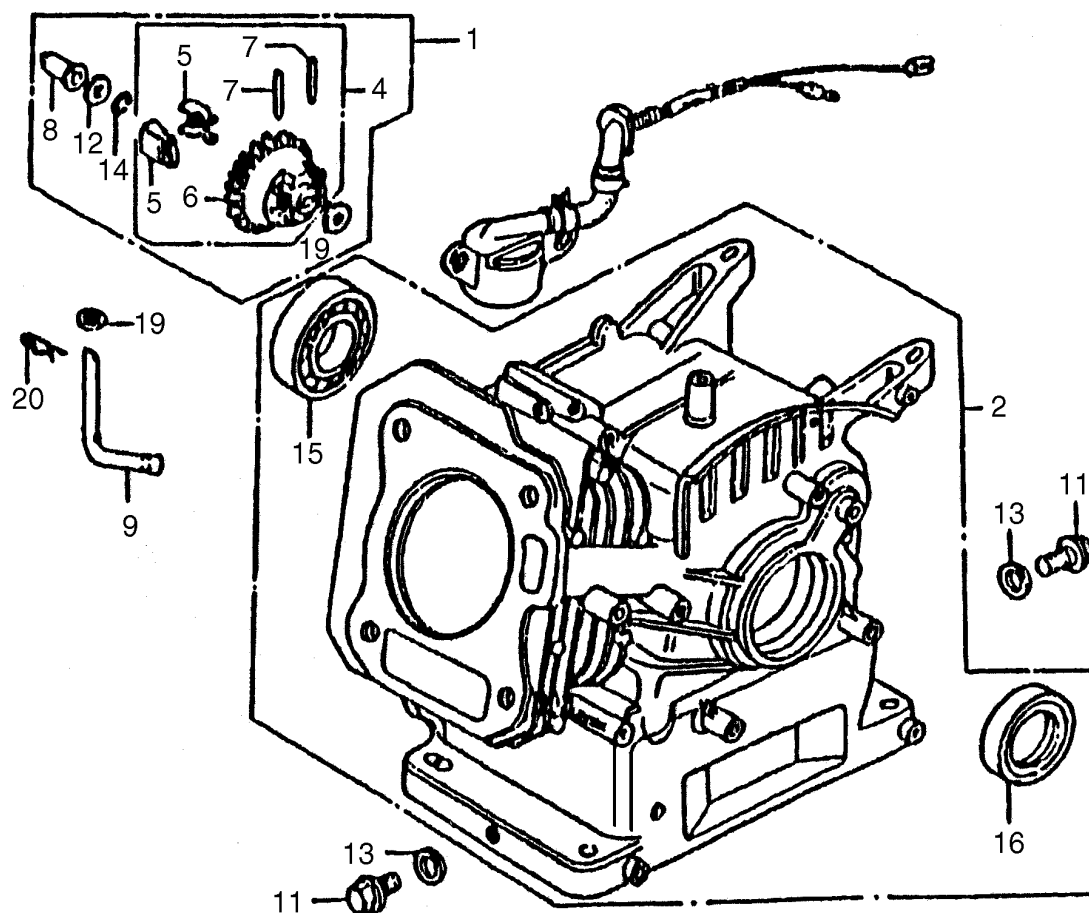
DECALS

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	13201538	Decal Kit (RX-304H) (Includes Items 2 thru 20)	1	
-	13201546	Decal Kit (RX-334H) (Includes Items 2 thru 21)	1	
2	59188011	-Name Plate	1	
3	54680483	-Decal: Oil Caution (RX-304H)	1	
-	54680616	-Decal: Oil Caution (RX-334H)	1	
4	59839654	-Decal: Oil Feed	1	
5	59839662	-Decal: Oil Gauge	1	
6	59840306	-Decal: Drain	1	
7	59188268	-Decal: Notice	1	
8	59188276	-Decal: Gasoline	1	
9	54683180	-Decal: PL Caution	1	
10	59188292	-Decal: Oil Level	1	
11	59188300	-Decal: Caution	1	
12	59188318	-Decal: Danger/Warning	1	
13	54680509	-Decal: Warning	1	
14	59841767	-Decal: High-Low	1	
15	59093299	-Decal: Engine RPM	1	
16	54680525	-Decal: I-R Emblem	1	
17	54680533	-Decal: I-R Logo	1	
18	13201512	-Decal: RX-304H	2	
-	13201520	-Decal: RX-344H	2	
19	54679170	-Decal: I-R Emblem	1	
20	13200811	-Decal: Stop Engine	1	
21	13200829	-Decal: Noise (RX-344H)	1	



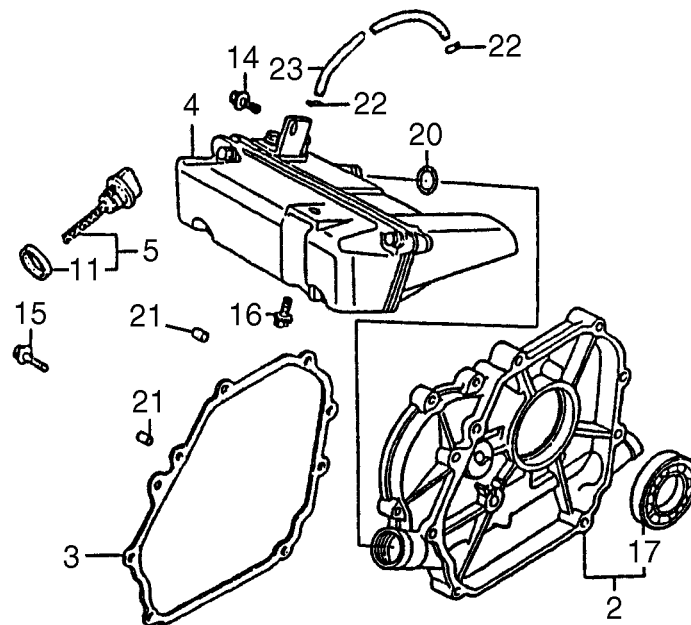
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 1 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
		BOM59242909-0		
1	59242917	Cylinder Head	1	
2	59242925	-Inlet Valve Guide	1	
3	59242933	-Exhaust Valve Guide	1	
4	59242941	-Valve Guide Clip	1	
5	59242958	Head Gasket	1	
6	59242966	Head Cover	1	
7	59242974	Packing	1	
8	59245982	Breather Tube	1	
9	59242990	Flange Bolt	4	M6 x 12mm
10	59243204	Stud Bolt	2	M6 x 112mm
11	59243212	Stud Bolt	2	M8 x 32mm
12	59243220	Dowel Pin	2	M10 x 16mm
14	59243238	Flange Bolt	4	M8 x 55mm
15	59243246	Spark Plug	1	BP5ES NGK
-	59243253	Spark Plug	1	W16EP-U ND
-	59243261	Spark Plug	1	BP6ES NGK
-	59243279	Spark Plug	1	W20EP-U ND
16	59243287	Wrench, Spark Plug	1	



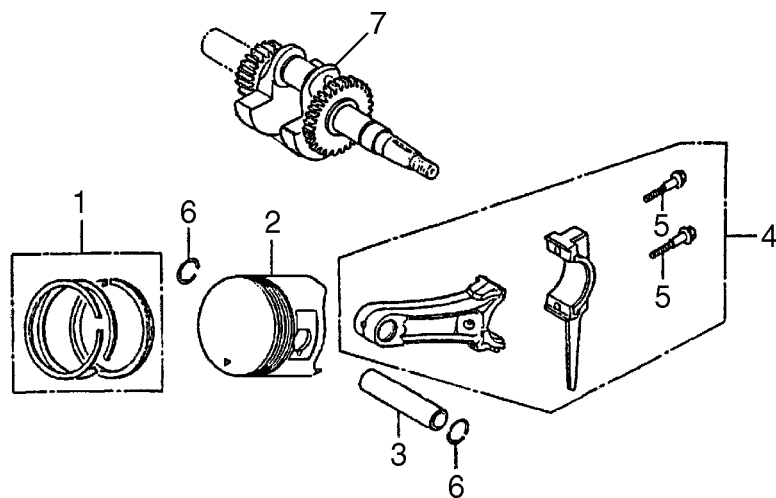
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 2 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243295	Governor Kit (includes items 4,8,12,14)	1	
2	59243303	Cylinder Barrel Assembly (includes items 15,16)	1	
4	59243311	Governor Assembly (includes items 5,6,7)	1	
5	59243329	-Weight	2	
6	59243337	-Weight Holder	1	
7	59243345	-Weight Pin	2	
8	59243352	Slider	1	
9	59243360	Arm Shaft	1	
11	59243378	Drain Plug	2	
12	59243386	Thrust Washer	1	
13	59243394	Washer	2	
14	59243600	Clip	1	
15	59243618	Bearing	1	
16	59243626	Oil Seal	1	
19	59243634	Washer	2	6mm
20	59243642	Lock Pin	1	8mm



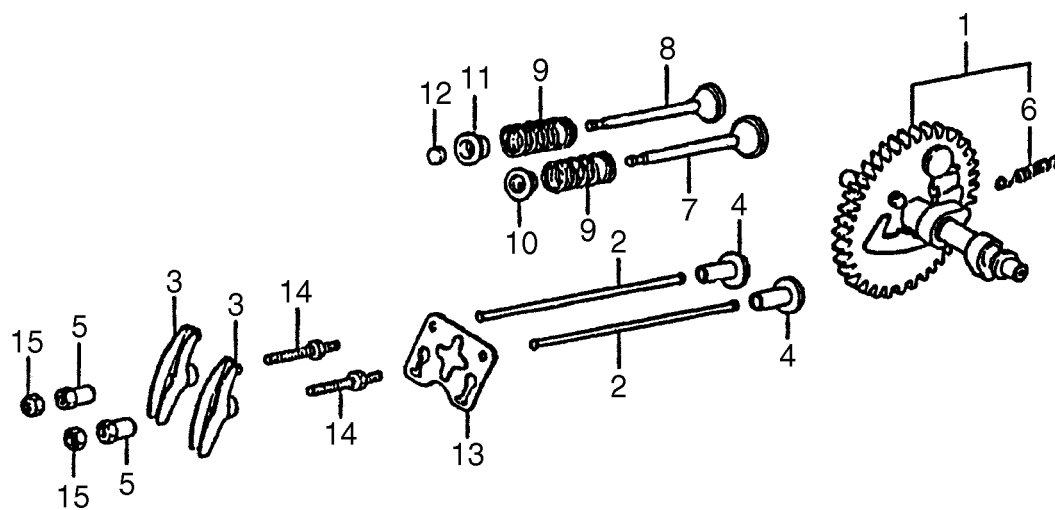
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 3 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59243659	Crankcase Cover (includes item 17)	1	
3	59243667	Packing	1	
4	59243675	Oil Tank	1	
5	59243683	Oil Filler Cap Assembly (includes item 11)	1	
11	59243691	-Packing	1	
14	59243709	Flange Bolt	1	M6 x 14mm
15	59243717	Flange Bolt	7	M6 x 28mm
16	59243725	Flange Bolt	1	M6 x 16mm
17	59243618	Bearing	1	
20	59243733	O-ring	1	15.8 x 2.4
21	59243741	Dowel Pin	2	
22	59243758	Tube Clip	2	
23	59243766	Tube	1	



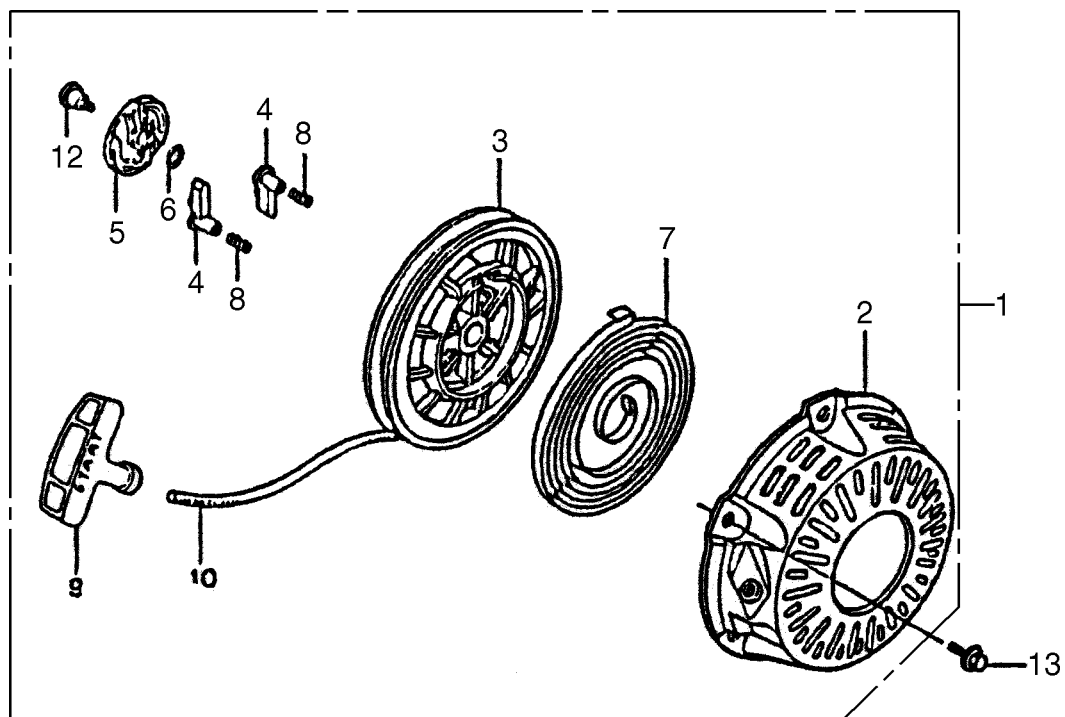
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 4 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243782	Piston Ring Set	1	Standard
2	59243790	Piston	1	Standard
3	59243808	Piston Pin	1	
4	59243816	Connecting Rod Assembly (includes item 5)	1	
5	59243824	-Rod Bolt	2	
6	59243832	Clip	2	
7	59243774	Crankshaft	1	



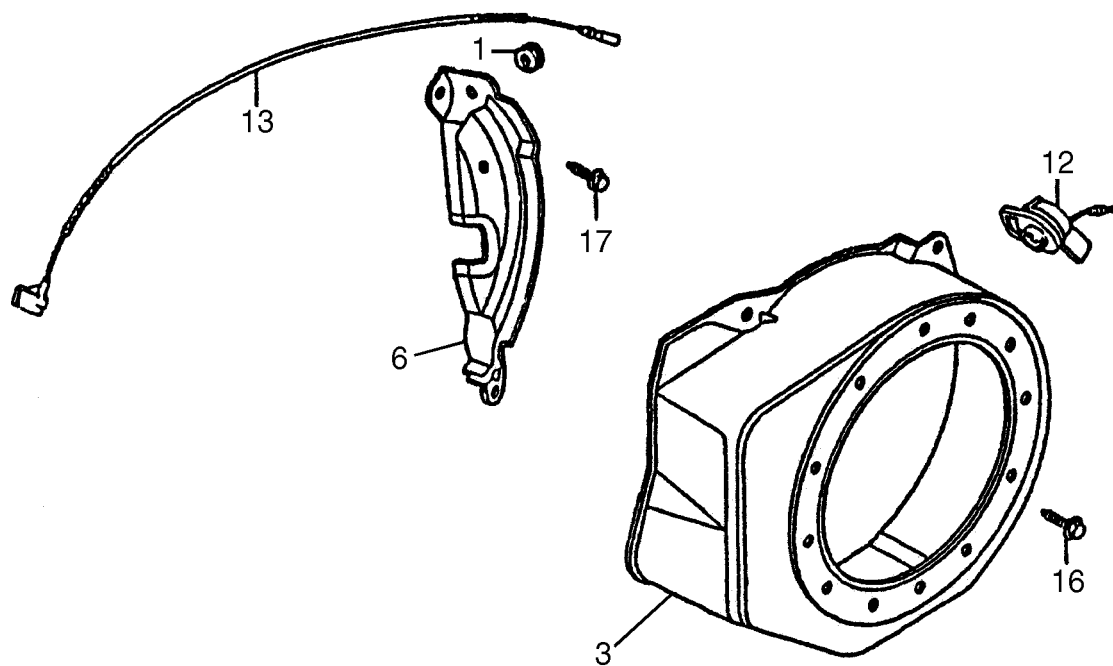
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 5 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243840	Camshaft Assembly (includes item 6)	1	
2	59243857	Push Rod	2	
3	59243865	Rocker Arm	2	
4	59243873	Valve Lifter	2	
5	59243881	Rocker Arm Pivot	2	
6	59243899	Return Spring	1	
7	59243907	Inlet Valve	1	
8	59243915	Exhaust Valve	1	
9	59243923	Valve Spring	2	
10	59243931	Spring Retainer, Inlet	1	
11	59243949	Spring Retainer, Exhaust	1	
12	59243956	Valve Rotater	1	
13	59243964	Guide Plate	1	
14	59243972	Pivot Bolt	2	
15	59243980	Pivot Adjusting Nut	2	



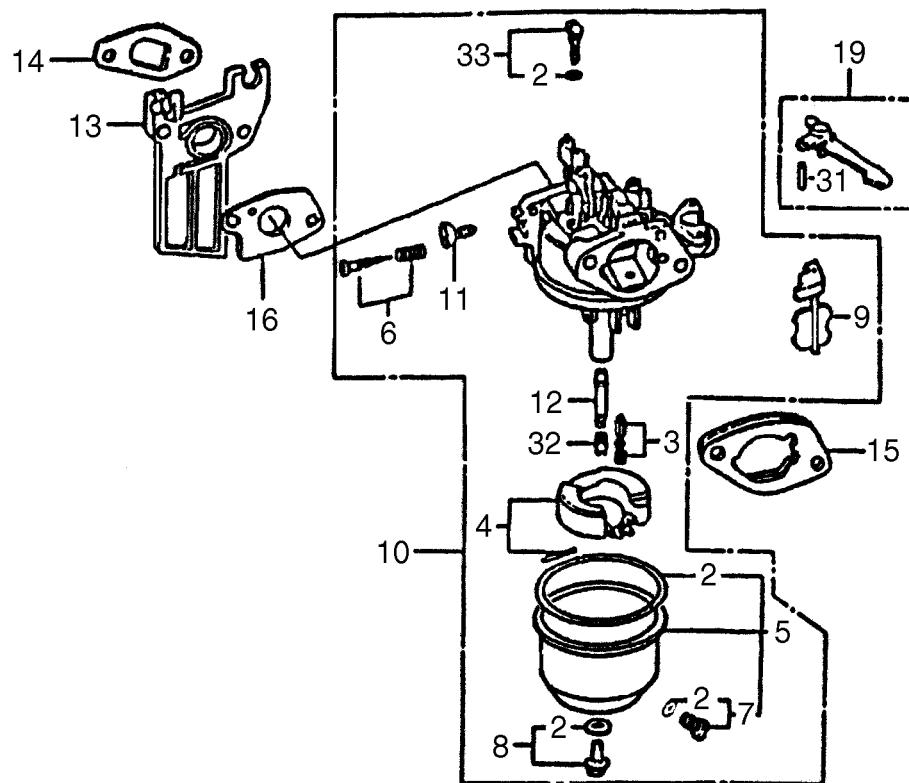
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 6 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243998	Recoil Starter Assembly (includes items 2 thru 12)	1	
2	59244004	-Starter Case	1	
3	59244012	-Starter Reel	1	
4	59244020	-Starter Ratchet	2	
5	59244038	-Ratchet Guide	1	
6	59244046	-Friction Spring	1	
7	59244053	-Starter Spring	1	
8	59244061	-Return Spring	1	
9	59244079	-Starter Knob	1	
10	59244087	-Starter Rope	1	
12	59244095	-Setting Screw	1	
13	59244103	Flange Bolt	3	M6 x 8mm



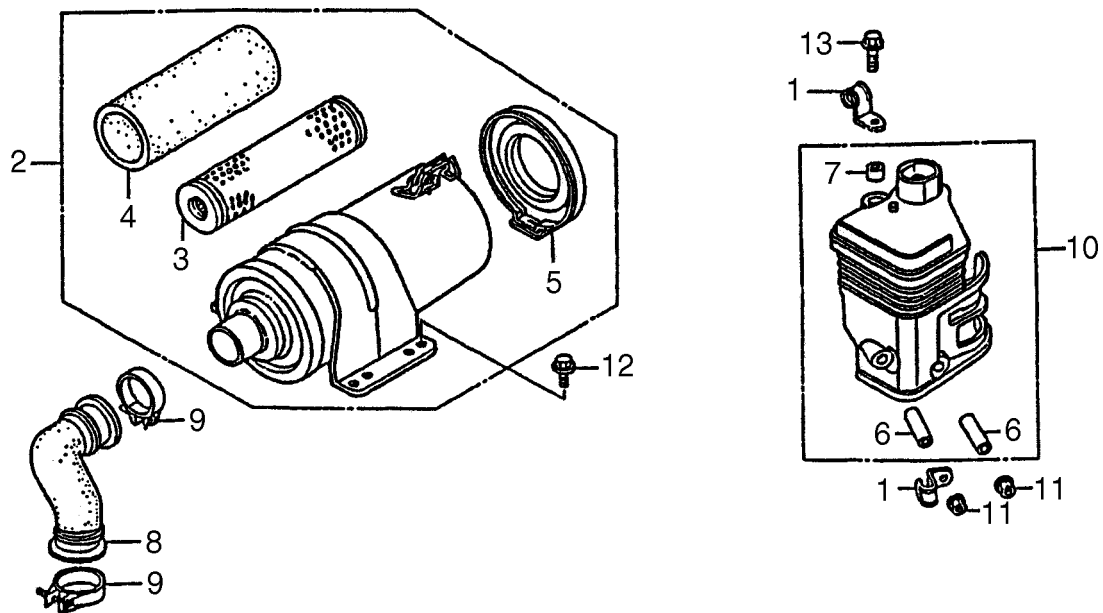
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 7 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244111	Adjusting Cover Grommet	1	
3	59244129	Fan Cover	1	
6	59244137	Side Plate	1	
12	59244145	Engine Stop Switch	1	
13	59244152	Stop Switch Cord	1	
16	59242990	Flange Bolt	4	M6 x 12mm
17	59244160	Flange Bolt	1	M6 x 20mm



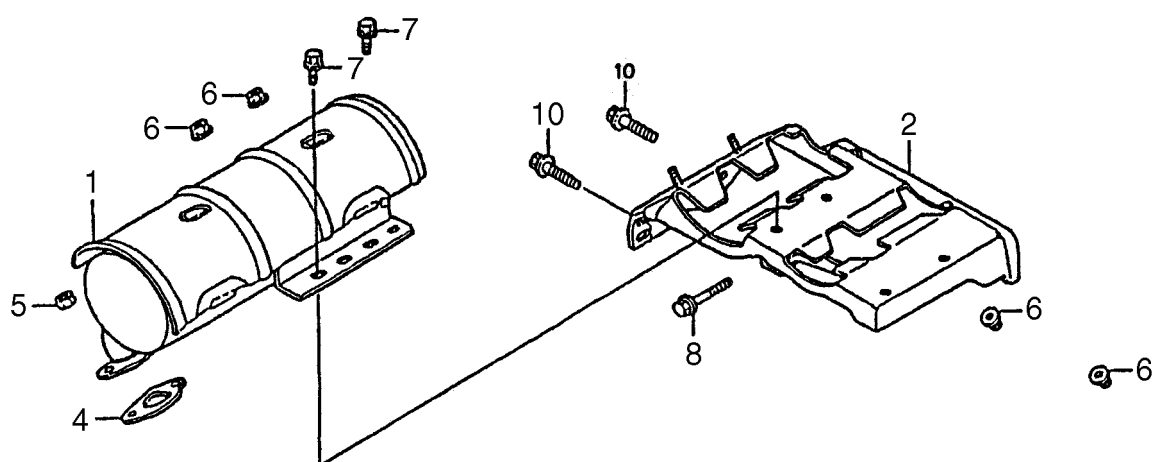
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 8 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59244178	Gasket Set	1	
3	59244186	Float Valve Set	1	
4	59244194	Float Set	1	
5	59244202	Float Chamber Set (includes item 7)	1	
6	59244210	Pilot Screw Set	1	
7	59244228	Drain Screw Set (includes gasket)	1	
8	59244236	Screw Set (includes gasket)	1	
9	59244244	Choke Set	1	
10	59244251	Carburetor Assembly (includes items 3,4,5,6,7,8,9,11,12,32,33)	1	
11		-Stop Screw	1	
12		-Main Nozzle	1	
13	59244269	Insulator	1	
14	59244277	Packing	1	
15	59247285	Spacer	1	
16	59244293	Packing	1	
19	59244301	Choke Lever Complete (includes item 31)	1	
31		-Spring Pin	1	
32	59244319	Main Jet - Standard (includes gasket)	1	#60
33	59244327	Pilot Jet Set	1	#35



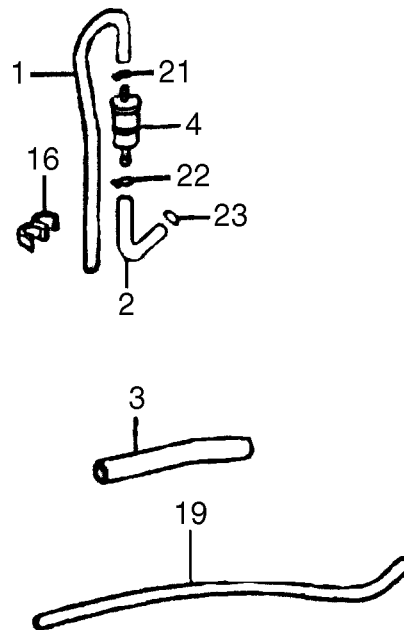
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 9 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244335	Tube Clip	2	
2	59244343	Air Cleaner Assembly (includes items 3,4,5)	1	
3	59244350	-Air Cleaner Element	1	
4	59244368	-Outer Filter	1	
5	59244376	-Cover	1	
6		Collar	2	
7		Collar (B)	1	
8	59244384	Connecting Tube	1	
9	59244392	Band	2	
10	59244400	Air Cleaner Elbow (includes items 6,7)	1	
11	59244418	Flange Nut	2	6mm
12	59244426	Flange Bolt	2	M6 x 16mm
13	59244434	Flange Bolt	1	M6 x 20mm



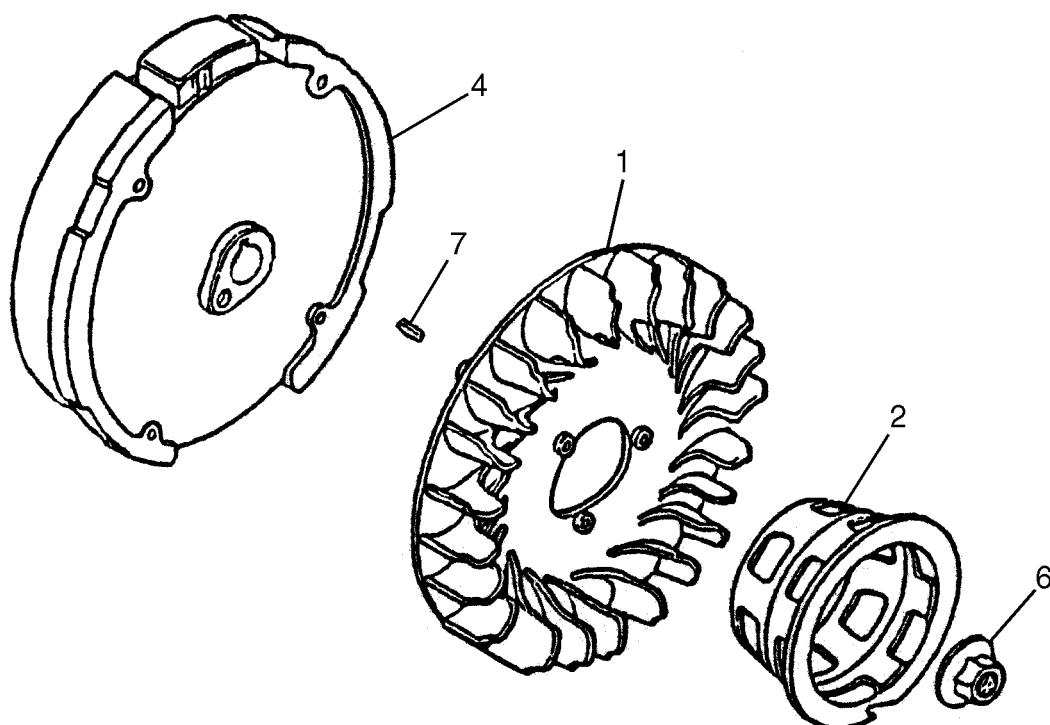
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 10 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244442	Muffler	1	
2	59244459	Muffler Stay	1	
4	59244467	Gasket	1	
5	59244475	Hex Nut	2	8mm
6	59244418	Flange Nut	4	6mm
7	59244426	Flange Bolt	2	M6 x 16mm
8	59244483	Flange Bolt	1	M6 x 25mm
10	59244491	Flange Bolt	1	M8 x 20mm



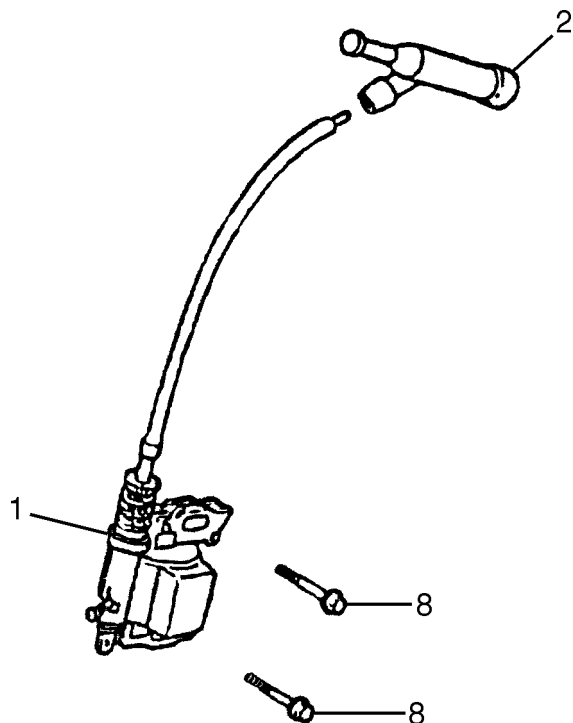
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 11 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244509	Air Bent Tube	1	
2	59244517	Tube	1	
3	59244525	Rubber Supporter	1	
4	59244533	Fuel Strainer	1	
16	59244541	Double Clip	1	
19	59244558	Fuel Tube	1	
21	59244566	Tube Clip	1	
22	59244574	Tube Clip	1	
23	59244582	Tube Clip	1	



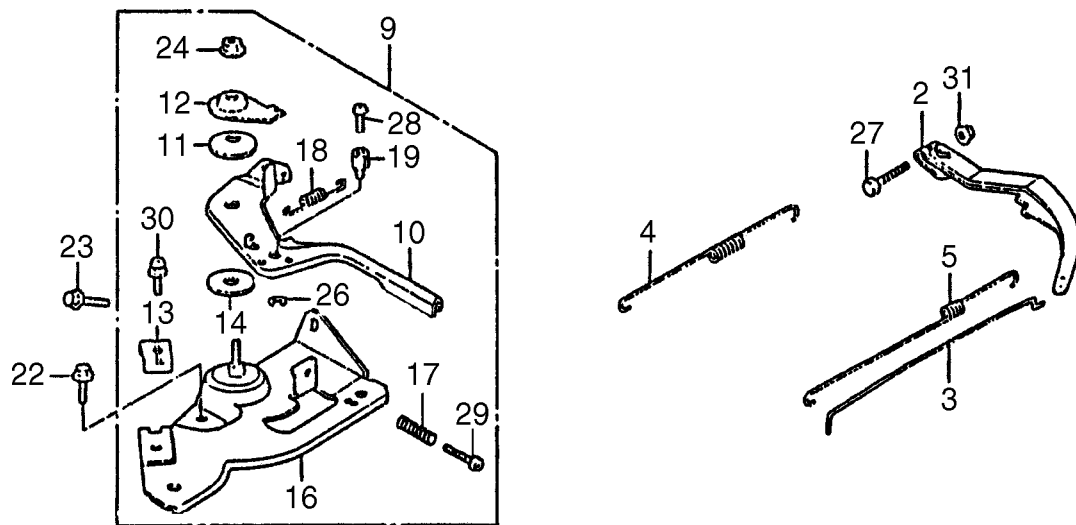
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 12 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244590	Cooling Fan	1	14mm
2	59244608	Starter Pulley	1	
4	59244616	Flywheel Complete	1	
6	59244624	Special Nut	1	
7	59244632	Woodruff Key	1	



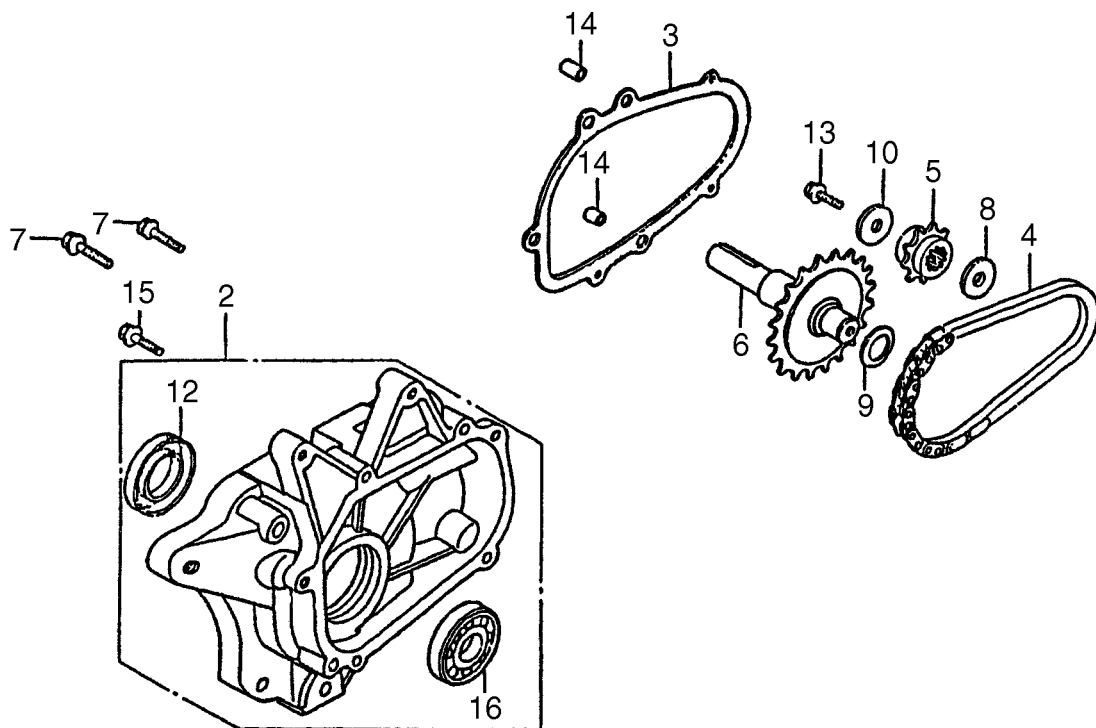
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 13 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244640	Ignition Coil Assembly	1	M6 x 25mm
2	59244657	Terminal Assembly	1	
8	59244665	Flange Bolt	2	



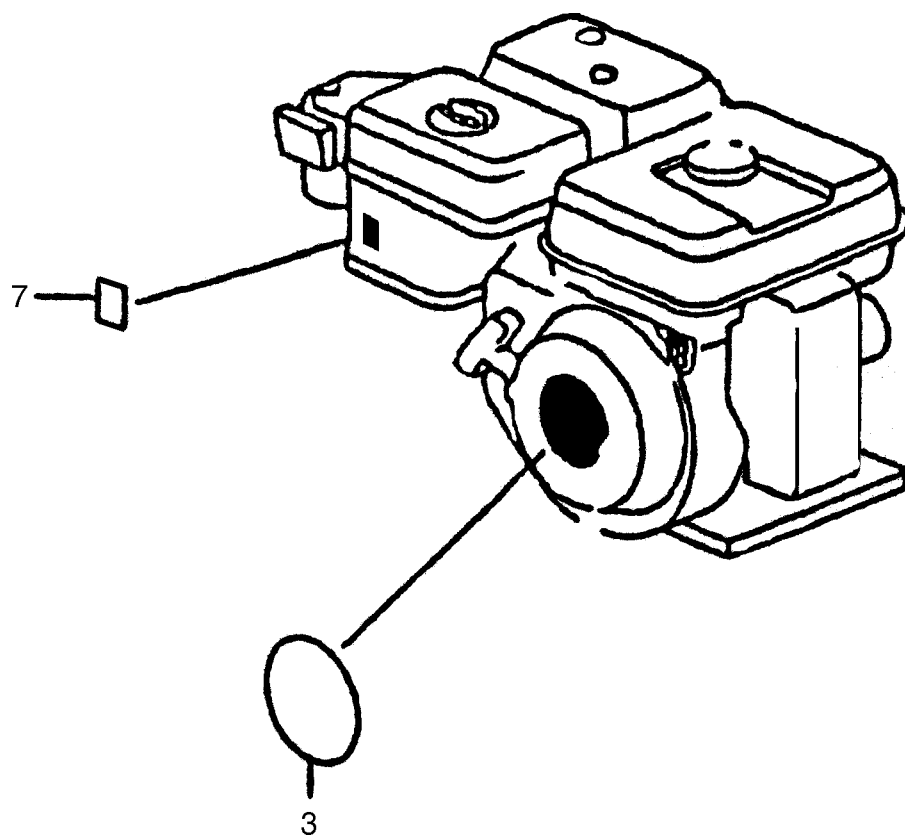
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 14 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59244673	Governor Arm	1	
3	59244681	Governor Rod	1	
4	59244699	Governor Spring	1	
5	59244707	Throttle Return Spring	1	
9	59244715	Control Assembly (includes items 10, 11, 12, 13, 14, 16, 17, 18, 24, 29, 30)	1	
10		-Control Lever	1	
11	59244723	-Lever Spring	1	
12		-Lever Washer	1	
13		-Cable Holder	1	
14		-Spacer	1	
16		-Control Base	1	
17	59244731	-Adjusting Spring	1	
18	59244749	-Cable Return Spring	1	
19		Wire Holder	1	
22	59244756	Flange Bolt	1	M6 x 12mm
23	59244764	Flange Bolt	1	M6 x 20mm
24		Locknut	1	6mm
26		Circlip	1	5mm
27	59244772	Governor Arm Bolt	1	
28		Pan Screw	1	M4 x 6mm
29		Pan Screw	1	M5 x 25mm
30		Pan Screw	1	M5 x 16mm
31	59244780	Flange Nut	1	6mm



HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 15 OF 16

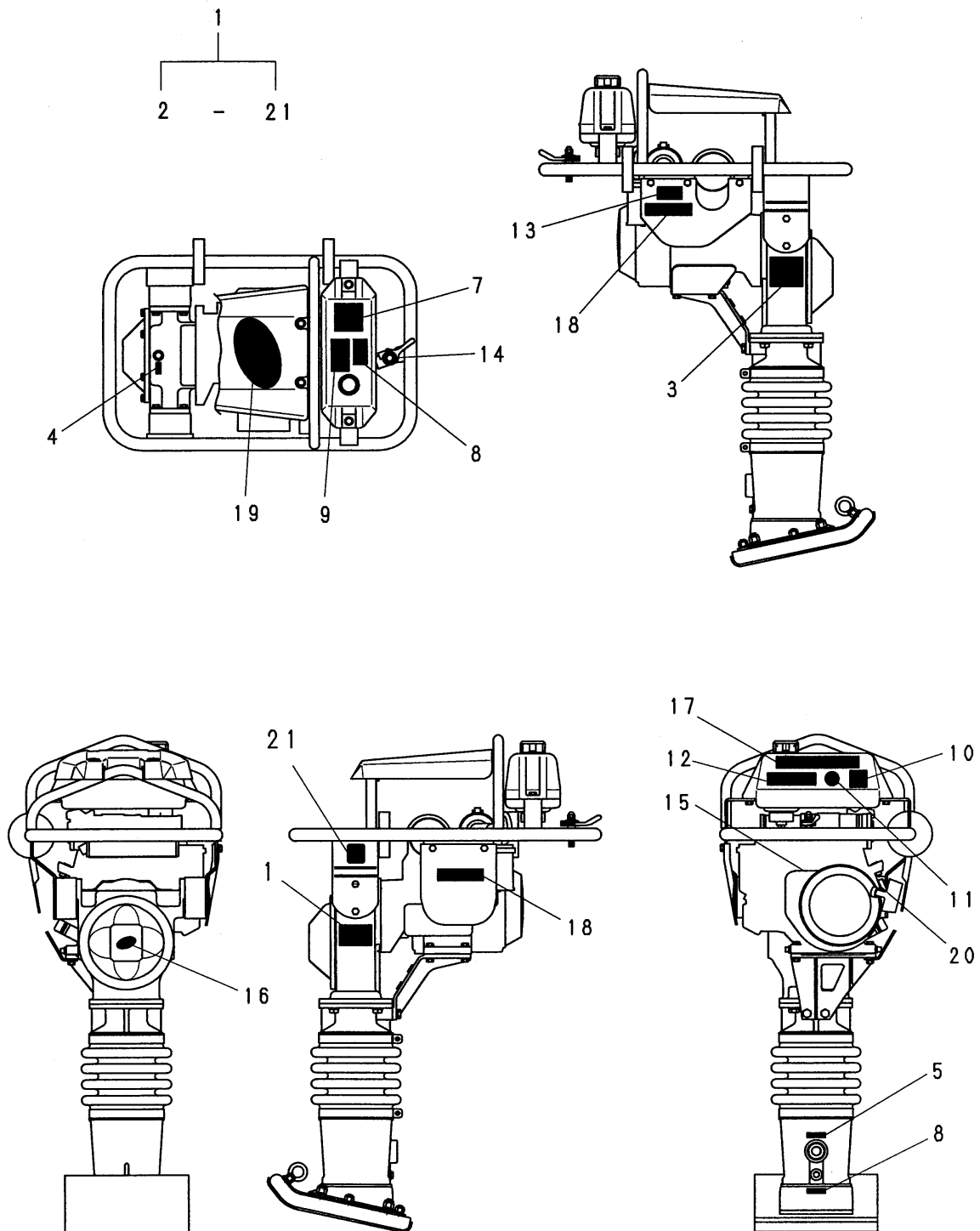
ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59244798	ChainCaseCoverAssembly(includesItems12,16)	1	
12	59244889	-Oil Seal	1	
16	59243188	-Ball Bearing	1	
3	59244806	Packing	1	
4	59244814	P.T.O. Drive Chain	1	
5	59244822	Drive Sprocket	1	
6	59244830	P.T.O. Shaft	1	
7	59244848	Flange Bolt	4	M8 x 35mm
8	59244855	Thrust Washer	1	
9	59244863	Thrust Spring	1	
10	59244871	Washer	1	8mm
13	59244897	Hex Bolt	1	M8 x 25mm
14	59243741	Dowel Pin	2	
15	59243170	Flange Bolt	1	M8 x 55mm



HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 16 OF 16

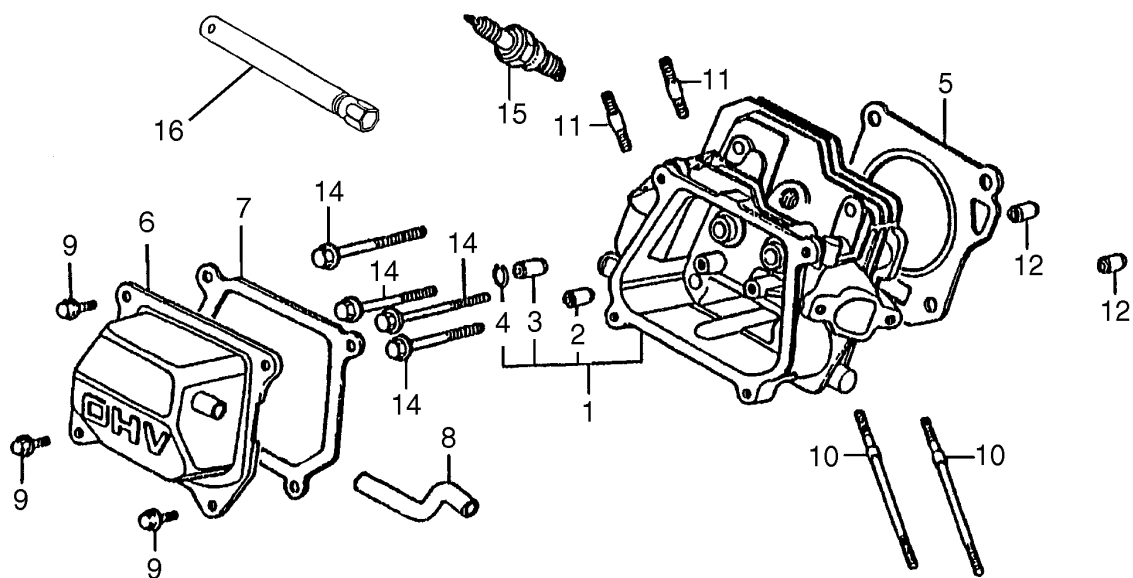
ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
3	59243196	Emblem	1	
7		Choke Mark	1	

DECALS



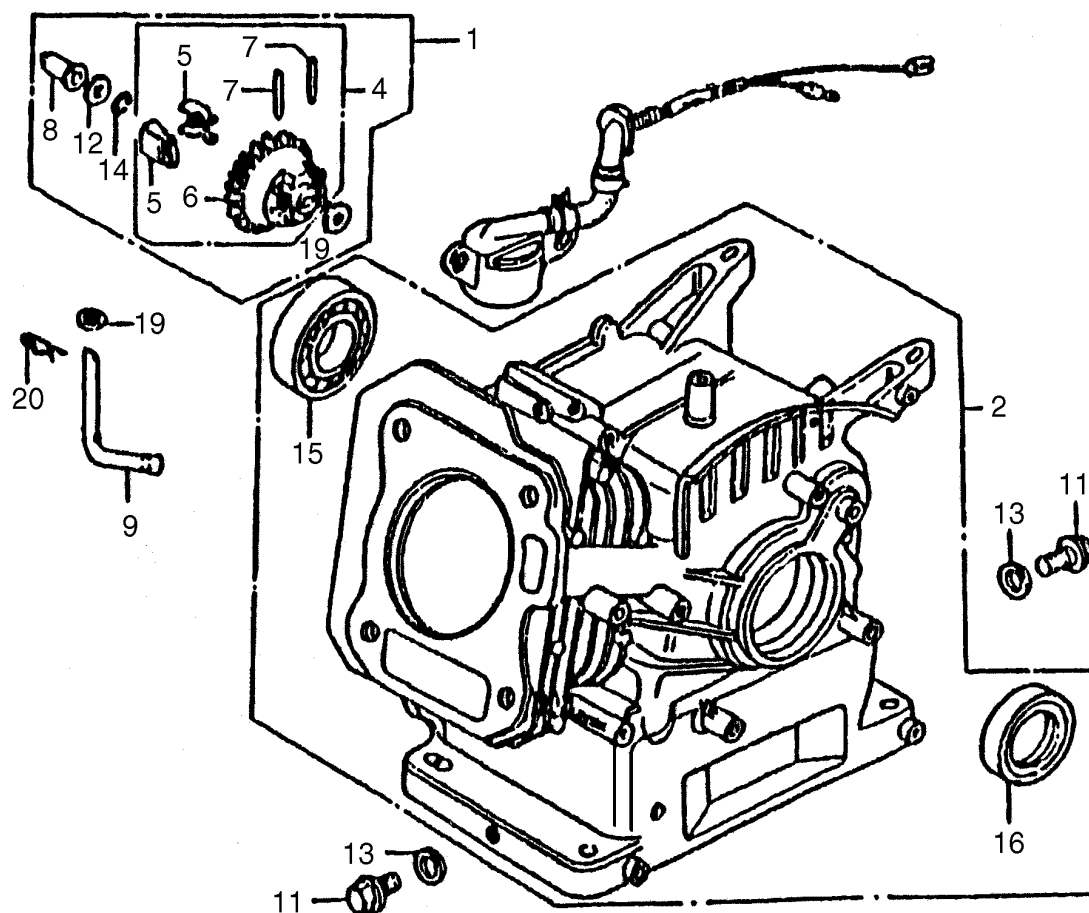
DECALS

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	13201538	Decal Kit (RX-304H) (Includes Items 2 thru 20)	1	
-	13201546	Decal Kit (RX-334H) (Includes Items 2 thru 21)	1	
2	59188011	-Name Plate	1	
3	54680483	-Decal: Oil Caution (RX-304H)	1	
-	54680616	-Decal: Oil Caution (RX-334H)	1	
4	59839654	-Decal: Oil Feed	1	
5	59839662	-Decal: Oil Gauge	1	
6	59840306	-Decal: Drain	1	
7	59188268	-Decal: Notice	1	
8	59188276	-Decal: Gasoline	1	
9	54683180	-Decal: PL Caution	1	
10	59188292	-Decal: Oil Level	1	
11	59188300	-Decal: Caution	1	
12	59188318	-Decal: Danger/Warning	1	
13	54680509	-Decal: Warning	1	
14	59841767	-Decal: High-Low	1	
15	59093299	-Decal: Engine RPM	1	
16	54680525	-Decal: I-R Emblem	1	
17	54680533	-Decal: I-R Logo	1	
18	13201512	-Decal: RX-304H	2	
-	13201520	-Decal: RX-344H	2	
19	54679170	-Decal: I-R Emblem	1	
20	13200811	-Decal: Stop Engine	1	
21	13200829	-Decal: Noise (RX-344H)	1	



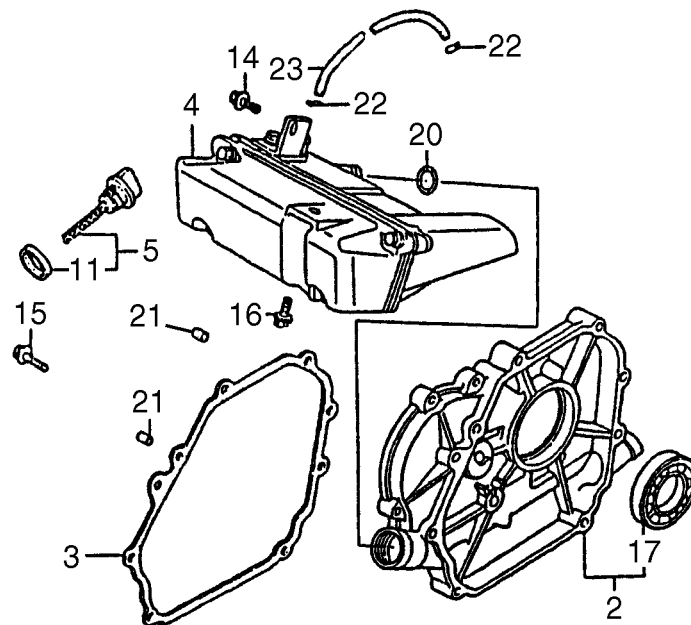
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 1 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
		BOM59242909-0		
1	59242917	Cylinder Head	1	
2	59242925	-Inlet Valve Guide	1	
3	59242933	-Exhaust Valve Guide	1	
4	59242941	-Valve Guide Clip	1	
5	59242958	Head Gasket	1	
6	59242966	Head Cover	1	
7	59242974	Packing	1	
8	59245982	Breather Tube	1	
9	59242990	Flange Bolt	4	M6 x 12mm
10	59243204	Stud Bolt	2	M6 x 112mm
11	59243212	Stud Bolt	2	M8 x 32mm
12	59243220	Dowel Pin	2	M10 x 16mm
14	59243238	Flange Bolt	4	M8 x 55mm
15	59243246	Spark Plug	1	BP5ES NGK
-	59243253	Spark Plug	1	W16EP-U ND
-	59243261	Spark Plug	1	BP6ES NGK
-	59243279	Spark Plug	1	W20EP-U ND
16	59243287	Wrench, Spark Plug	1	



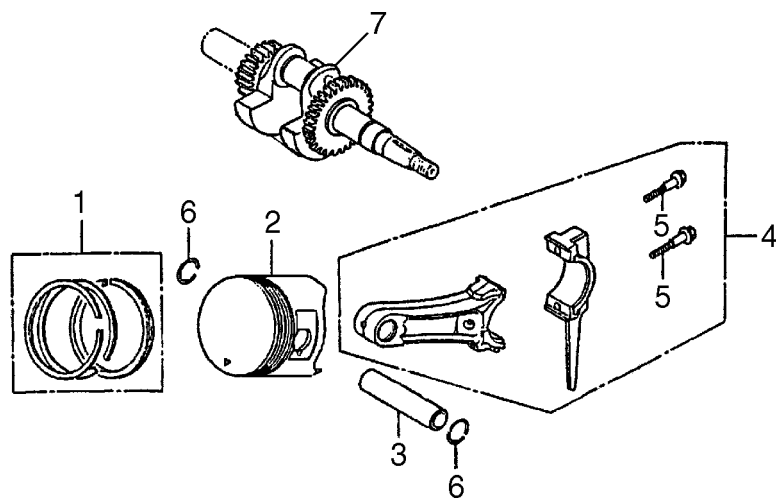
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 2 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243295	Governor Kit (includes items 4,8,12,14)	1	
2	59243303	Cylinder Barrel Assembly (includes items 15,16)	1	
4	59243311	Governor Assembly (includes items 5,6,7)	1	
5	59243329	-Weight	2	
6	59243337	-Weight Holder	1	
7	59243345	-Weight Pin	2	
8	59243352	Slider	1	
9	59243360	Arm Shaft	1	
11	59243378	Drain Plug	2	
12	59243386	Thrust Washer	1	
13	59243394	Washer	2	
14	59243600	Clip	1	
15	59243618	Bearing	1	
16	59243626	Oil Seal	1	
19	59243634	Washer	2	6mm
20	59243642	Lock Pin	1	8mm



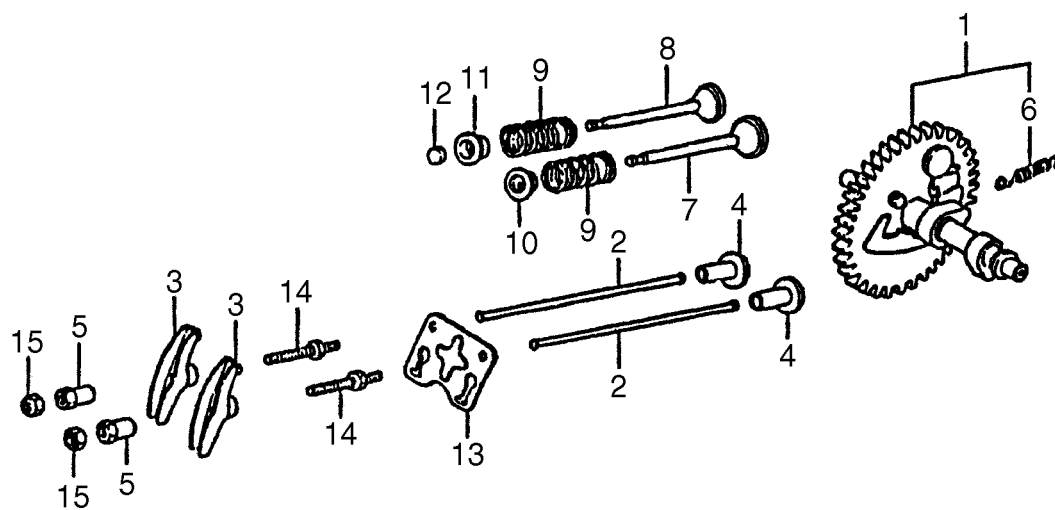
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 3 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59243659	Crankcase Cover (includes item 17)	1	
3	59243667	Packing	1	
4	59243675	Oil Tank	1	
5	59243683	Oil Filler Cap Assembly (includes item 11)	1	
11	59243691	-Packing	1	
14	59243709	Flange Bolt	1	M6 x 14mm
15	59243717	Flange Bolt	7	M6 x 28mm
16	59243725	Flange Bolt	1	M6 x 16mm
17	59243618	Bearing	1	
20	59243733	O-ring	1	15.8 x 2.4
21	59243741	Dowel Pin	2	
22	59243758	Tube Clip	2	
23	59243766	Tube	1	



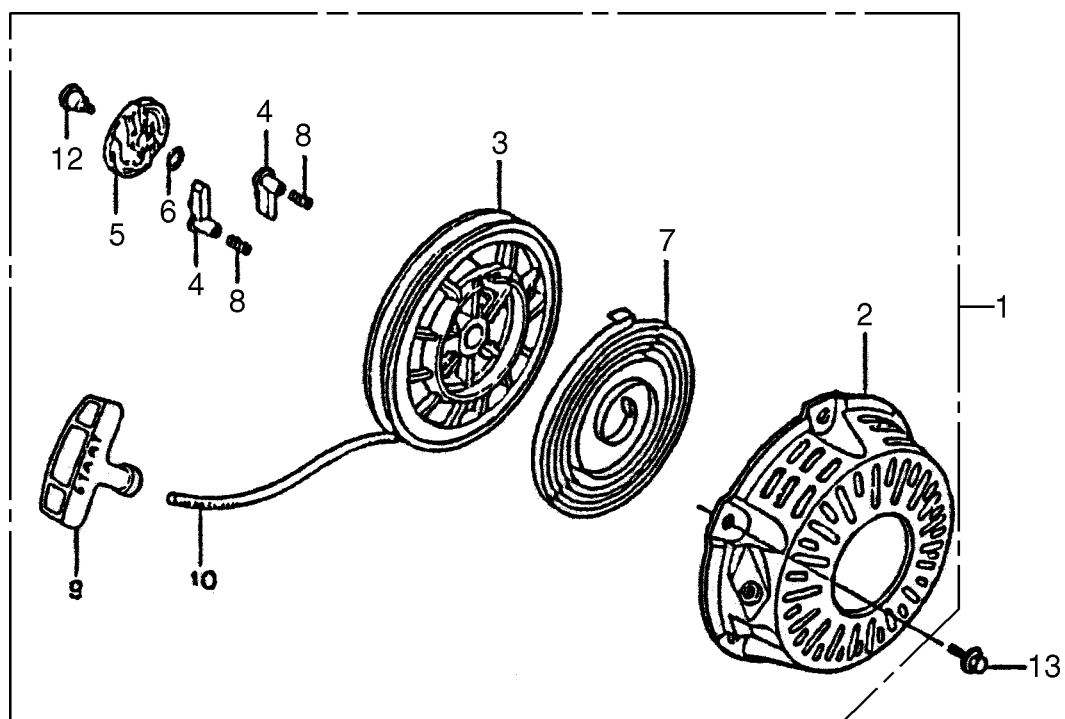
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 4 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243782	Piston Ring Set	1	Standard
2	59243790	Piston	1	Standard
3	59243808	Piston Pin	1	
4	59243816	Connecting Rod Assembly (includes item 5)	1	
5	59243824	-Rod Bolt	2	
6	59243832	Clip	2	
7	59243774	Crankshaft	1	



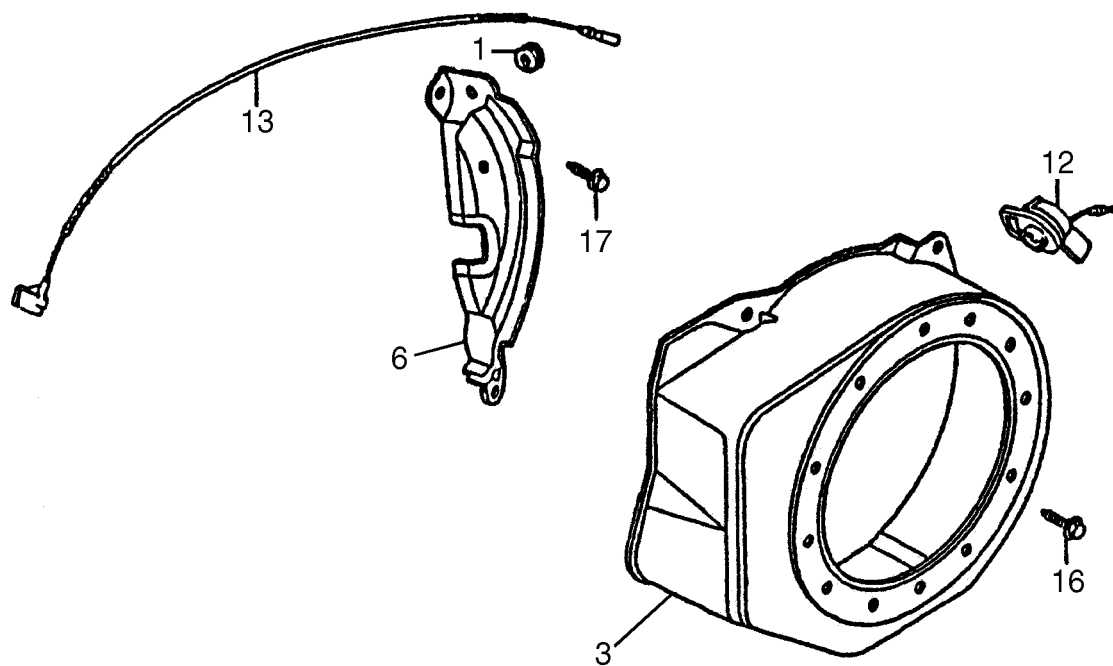
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 5 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243840	Camshaft Assembly (includes item 6)	1	
2	59243857	Push Rod	2	
3	59243865	Rocker Arm	2	
4	59243873	Valve Lifter	2	
5	59243881	Rocker Arm Pivot	2	
6	59243899	Return Spring	1	
7	59243907	Inlet Valve	1	
8	59243915	Exhaust Valve	1	
9	59243923	Valve Spring	2	
10	59243931	Spring Retainer, Inlet	1	
11	59243949	Spring Retainer, Exhaust	1	
12	59243956	Valve Rotater	1	
13	59243964	Guide Plate	1	
14	59243972	Pivot Bolt	2	
15	59243980	Pivot Adjusting Nut	2	



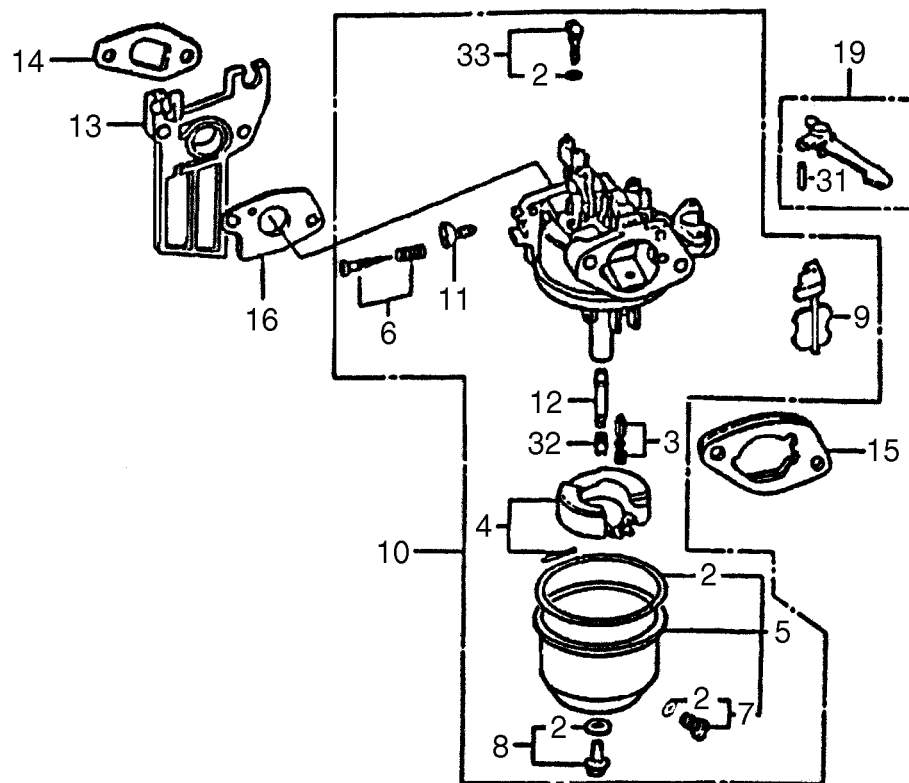
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 6 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59243998	Recoil Starter Assembly (includes items 2 thru 12)	1	M6 x 8mm
2	59244004	-Starter Case	1	
3	59244012	-Starter Reel	1	
4	59244020	-Starter Ratchet	2	
5	59244038	-Ratchet Guide	1	
6	59244046	-Friction Spring	1	
7	59244053	-Starter Spring	1	
8	59244061	-Return Spring	1	
9	59244079	-Starter Knob	1	
10	59244087	-Starter Rope	1	
12	59244095	-Setting Screw	1	
13	59244103	Flange Bolt	3	



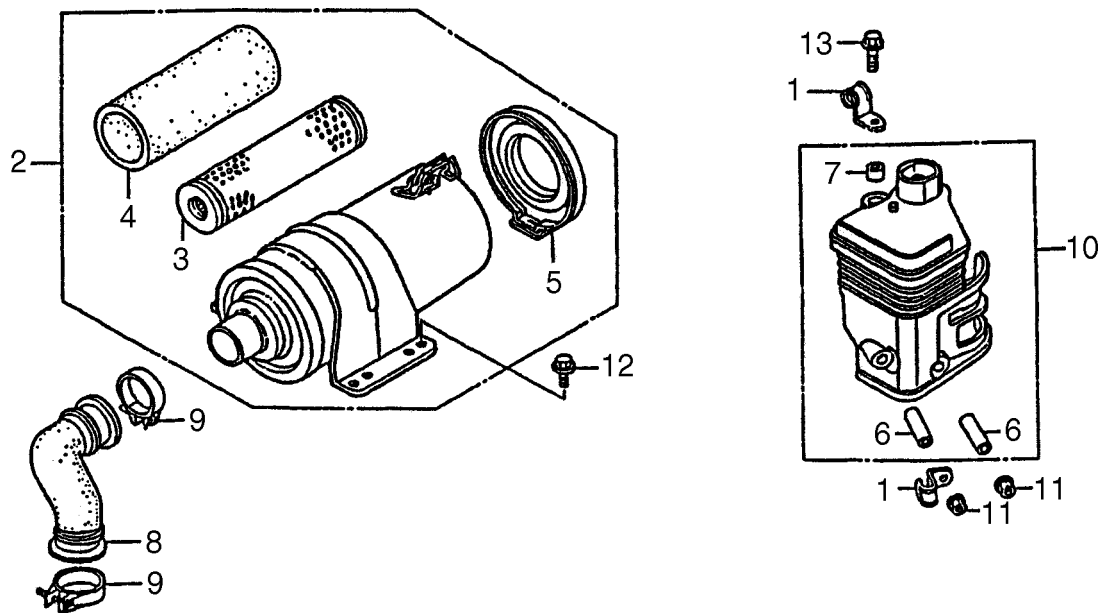
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 7 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244111	Adjusting Cover Grommet	1	
3	59244129	Fan Cover	1	
6	59244137	Side Plate	1	
12	59244145	Engine Stop Switch	1	
13	59244152	Stop Switch Cord	1	
16	59242990	Flange Bolt	4	M6 x 12mm
17	59244160	Flange Bolt	1	M6 x 20mm



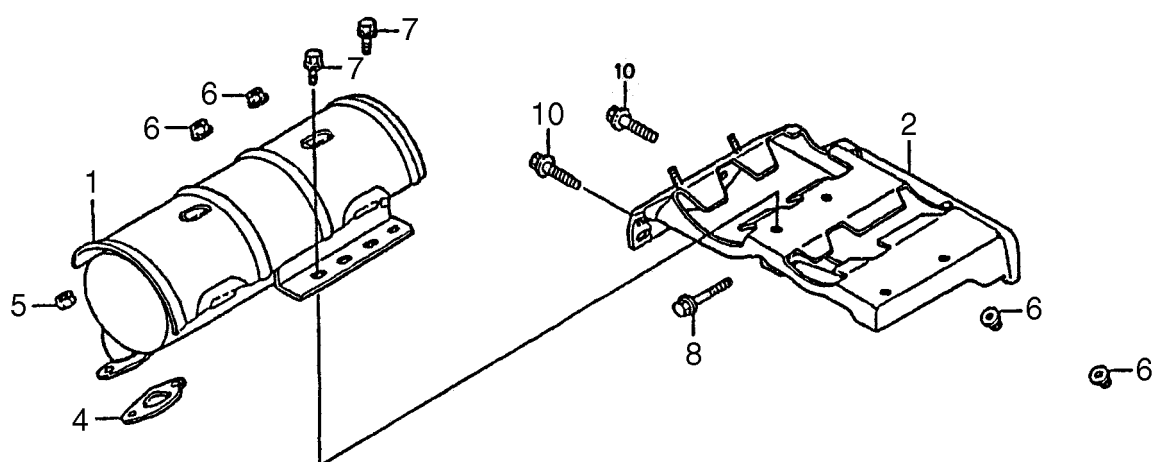
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 8 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59244178	Gasket Set	1	
3	59244186	Float Valve Set	1	
4	59244194	Float Set	1	
5	59244202	Float Chamber Set (includes item 7)	1	
6	59244210	Pilot Screw Set	1	
7	59244228	Drain Screw Set (includes gasket)	1	
8	59244236	Screw Set (includes gasket)	1	
9	59244244	Choke Set	1	
10	59244251	Carburetor Assembly (includes items 3,4,5,6,7,8,9,11,12,32,33)	1	
11		-Stop Screw	1	
12		-Main Nozzle	1	
13	59244269	Insulator	1	
14	59244277	Packing	1	
15	59247285	Spacer	1	
16	59244293	Packing	1	
19	59244301	Choke Lever Complete (includes item 31)	1	
31		-Spring Pin	1	
32	59244319	Main Jet - Standard (includes gasket)	1	#60
33	59244327	Pilot Jet Set	1	#35



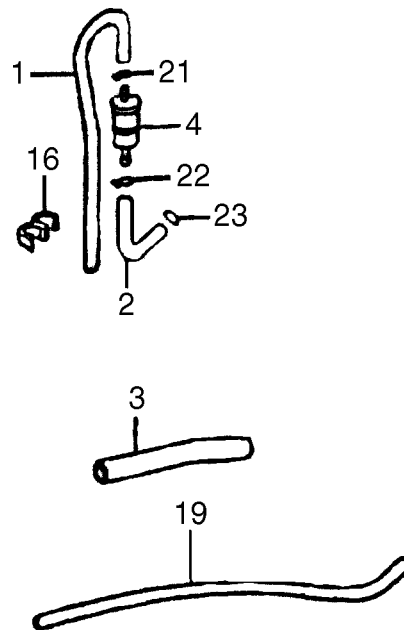
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 9 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244335	Tube Clip	2	
2	59244343	Air Cleaner Assembly (includes items 3,4,5)	1	
3	59244350	-Air Cleaner Element	1	
4	59244368	-Outer Filter	1	
5	59244376	-Cover	1	
6		Collar	2	
7		Collar (B)	1	
8	59244384	Connecting Tube	1	
9	59244392	Band	2	
10	59244400	Air Cleaner Elbow (includes items 6,7)	1	
11	59244418	Flange Nut	2	6mm
12	59244426	Flange Bolt	2	M6 x 16mm
13	59244434	Flange Bolt	1	M6 x 20mm



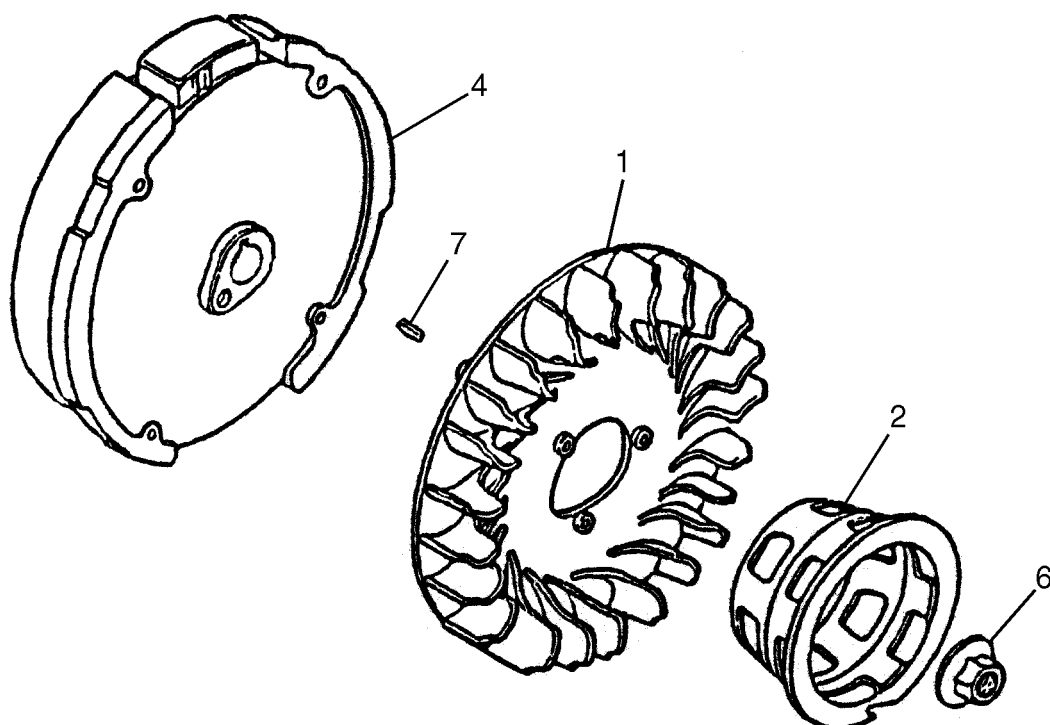
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 10 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244442	Muffler	1	
2	59244459	Muffler Stay	1	
4	59244467	Gasket	1	
5	59244475	Hex Nut	2	8mm
6	59244418	Flange Nut	4	6mm
7	59244426	Flange Bolt	2	M6 x 16mm
8	59244483	Flange Bolt	1	M6 x 25mm
10	59244491	Flange Bolt	1	M8 x 20mm



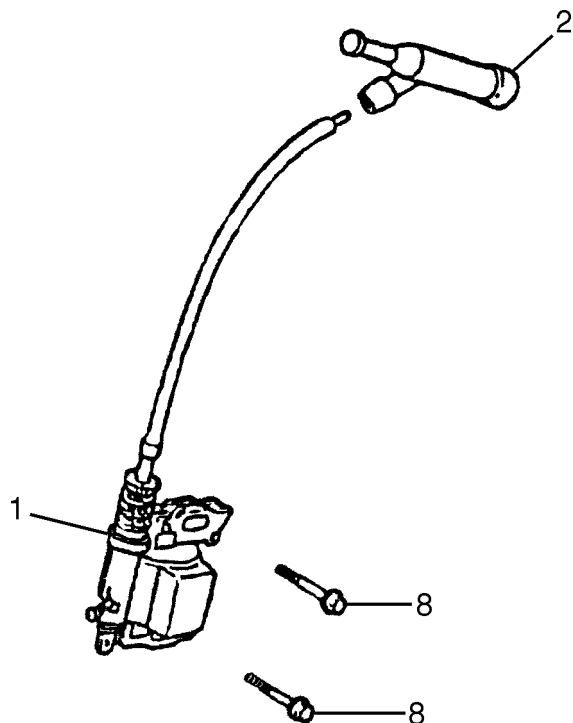
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 11 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244509	Air Bent Tube	1	
2	59244517	Tube	1	
3	59244525	Rubber Supporter	1	
4	59244533	Fuel Strainer	1	
16	59244541	Double Clip	1	
19	59244558	Fuel Tube	1	
21	59244566	Tube Clip	1	
22	59244574	Tube Clip	1	
23	59244582	Tube Clip	1	



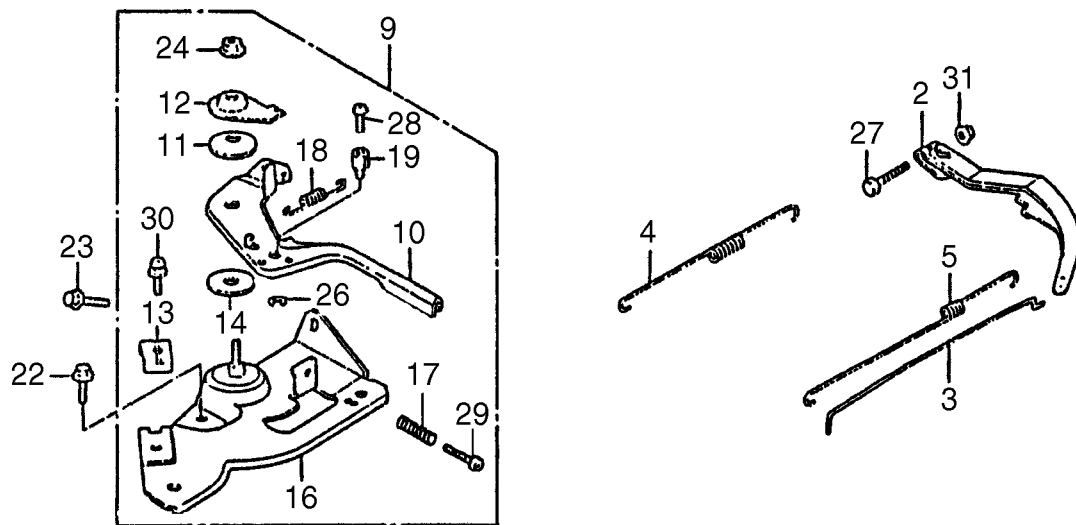
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 12 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244590	Cooling Fan	1	14mm
2	59244608	Starter Pulley	1	
4	59244616	Flywheel Complete	1	
6	59244624	Special Nut	1	
7	59244632	Woodruff Key	1	



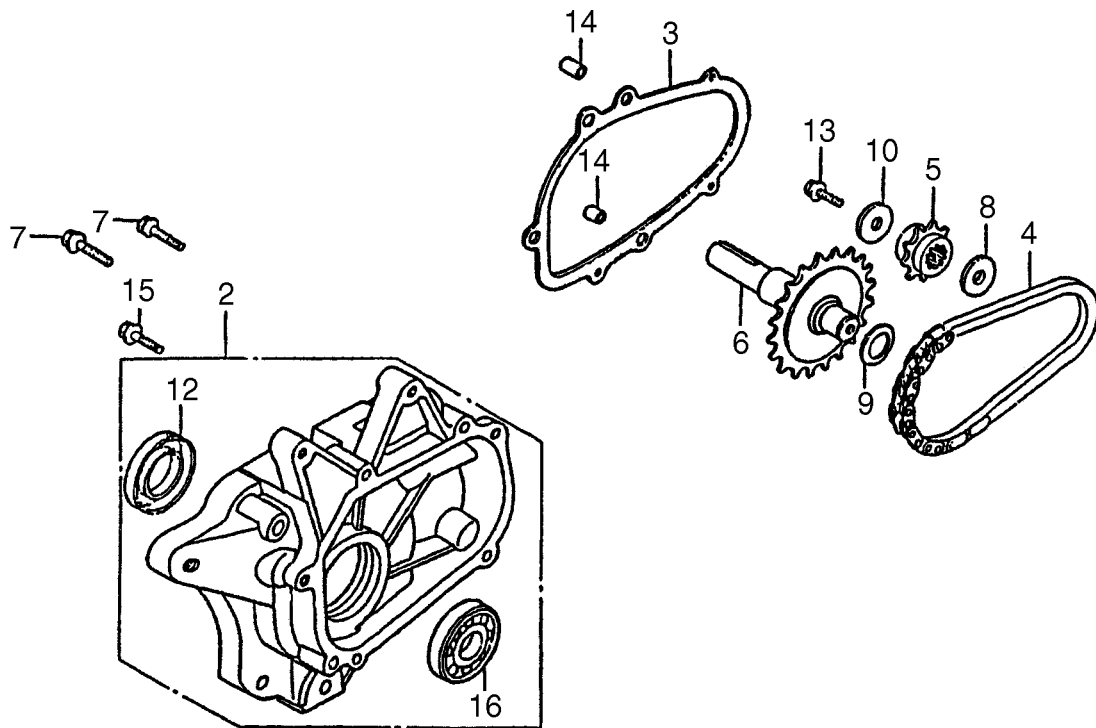
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 13 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
1	59244640	Ignition Coil Assembly	1	M6 x 25mm
2	59244657	Terminal Assembly	1	
8	59244665	Flange Bolt	2	



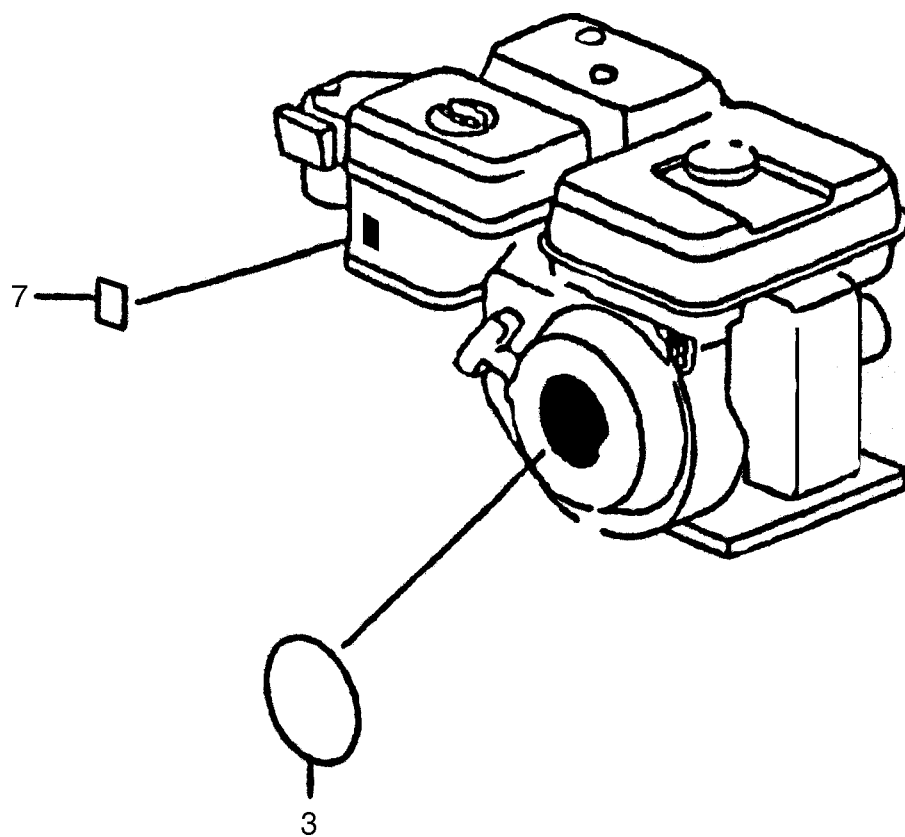
HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 14 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59244673	Governor Arm	1	
3	59244681	Governor Rod	1	
4	59244699	Governor Spring	1	
5	59244707	Throttle Return Spring	1	
9	59244715	Control Assembly (includes items 10, 11, 12, 13, 14, 16, 17, 18, 24, 29, 30)	1	
10		-Control Lever	1	
11	59244723	-Lever Spring	1	
12		-Lever Washer	1	
13		-Cable Holder	1	
14		-Spacer	1	
16		-Control Base	1	
17	59244731	-Adjusting Spring	1	
18	59244749	-Cable Return Spring	1	
19		Wire Holder	1	
22	59244756	Flange Bolt	1	M6 x 12mm
23	59244764	Flange Bolt	1	M6 x 20mm
24		Locknut	1	6mm
26		Circlip	1	5mm
27	59244772	Governor Arm Bolt	1	
28		Pan Screw	1	M4 x 6mm
29		Pan Screw	1	M5 x 25mm
30		Pan Screw	1	M5 x 16mm
31	59244780	Flange Nut	1	6mm



HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 15 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
2	59244798	ChainCaseCoverAssembly(includesItems12,16)	1	
12	59244889	-Oil Seal	1	
16	59243188	-Ball Bearing	1	
3	59244806	Packing	1	
4	59244814	P.T.O. Drive Chain	1	
5	59244822	Drive Sprocket	1	
6	59244830	P.T.O. Shaft	1	
7	59244848	Flange Bolt	4	M8 x 35mm
8	59244855	Thrust Washer	1	
9	59244863	Thrust Spring	1	
10	59244871	Washer	1	8mm
13	59244897	Hex Bolt	1	M8 x 25mm
14	59243741	Dowel Pin	2	
15	59243170	Flange Bolt	1	M8 x 55mm



HONDA ENGINE (59187880) - INTERNAL BREAKDOWN - SHEET 16 OF 16

ITEM	COMM. NO.	DESCRIPTION	QTY	DIMENSIONS/NOTES
3	59243196	Emblem	1	
7		Choke Mark	1	

HOW TO USE THIS MANUAL

This Parts Manual applies to all **RX-304H/334H Tamper Rammers**

When the Comm. # is not Known - Use the Word Index:

- Ingersoll-Rand's Word Index will make this item easy to locate. The Word Index is found in the very back of the book. The items listed are in alphabetical order and may be repeated several times depending on their functional descriptions.
- Let's assume you need to replace the **AIR CLEANER ELEMENT**.

Use any of the functional words in the item description to locate the desired item. Example: The first listing for the **Air Cleaner Element** in the **Word Index** is: **Air Cleaner Element**. The index shows the component will be found on page **I.1.19** which is the **Parts List** page number for the **Honda Engine**.

A

Air Cleaner Assembly	I.1.19
Air Cleaner Element	I.1.19
Assembly, Air Cleaner	I.1.19
Assembly, Camshaft	I.1.11
Assembly, Carburetor	I.1.17
Assembly, Carrying Cart	A.1.3
Assembly, Connecting Rod	I.1.9
Assembly, Control	I.1.29
Assembly, Crank Rod	A.1.3
Assembly, Cylinder Barrel	I.1.5
Assembly, Engine	A.1.5

- The item is also listed as:

Element, Air Cleaner

Using the Parts Identification Pages:

- The **PARTS IDENTIFICATION PAGES** consist of the **PARTS ILLUSTRATION** (even numbered pages) and the **PARTS LIST** (odd numbered pages).
- The **Parts Illustration** shows the assembly with its component parts identified by **Item Numbers**.
- On the **Parts List**, the components are listed in **Item Number** order as found in the **ITEM** column. Other information provided by the **Parts List** is the **Comm. Number** which will be required to order Genuine Ingersoll-Rand Replacement Parts, a **functional description**, the **quantity** required to assemble one complete assembly, and any additional **notes/ dimensions** required to help place your parts order.
- **For the example: The Air Cleaner Element is listed as Item 3, and the Comm. Number for the Element is 59244350, Quantity of 1.**

When the Comm. # is not known - Use the Table of Contents:

- Turn to the **TABLE OF CONTENTS** pages in the front of this manual. These pages show the major systems of the machine divided into **FUNCTIONAL GROUPS** (identified by capital letters).
- Find the **Functional Group** that best describes the area of the machine you are interested in. For example: **Honda Engine**.
- See the sample **Table of Contents** shown below:

INTERNAL BREAKDOWNS

I	
Honda Engine (59187880) - Internal Breakdown	I.1.2

Listed under the **Functional Group** of **Internal Breakdowns** are **SECTIONS** (identified by numbers that describe major repairable components of that group. Find the listing that refers to the **Honda Engine**.

- Since the **Air Cleaner Element** is what needs to be replaced, refer to the parts listing for the **Engine**. The **Air Cleaner** used on your machine is found in **Functional Group I.; Section 1**, this makes up the first part of the page number. Turn to that section of the parts manual and find the parts listing on page **I.1.19** for the **Air Cleaner Assembly (59244343)**.

When the Comm. # is Known - Use the Numerical Index:

- If you already know the **Comm. Number** (part number) for the item required, a **NUMERICAL INDEX** is provided in the back of the manual to assist you. Look up the **Comm. Number** desired and the **Numerical Index** will show the **Functional Group, Section, and Page Number** where the item can be found.

For our **Air Cleaner Element** Example: The **Comm. Number for the Air Cleaner Element 59244350** is found in the **Numerical Index**, it shows that component will be found on page **I.1.19**.

HOW TO USE THIS INDEX

When the Description is Known - Use the Word Index:

- Ingersoll-Rand's Word Index makes **any** item easy to locate.
- Use any of the **functional** words in the item description to locate the desired item. The items listed are in alphabetical order in the first column of the index and may be **repeated** several times depending on their **functional descriptions**.

If searching for the *Air Cleaner Element*, the first listing in the **Word Index** is:

Air Cleaner Element

The item is also listed as:

Element, Air Cleaner

- The alpha-numeric listing in the second column of the index is the location of the item in the manual. The location is identified as; the **Functional Group**, **Section Number**, and **Parts List Page Number**. Example: *1.1.19* would be Functional Group *1*, Section *1*, Page *19*.

The index shows the filter will be found on page *1.1.19* which is the **Parts List** page number for the

Honda Engine

WORD INDEX

A

Air Cleaner Assembly	I.1.19
Air Cleaner Element	I.1.19
Assembly, Air Cleaner	I.1.19
Assembly, Camshaft	I.1.11
Assembly, Carburetor	I.1.17
Assembly, Carrying Cart	C.2.3
Assembly, Connecting Rod	I.1.9
Assembly, Control	I.1.29
Assembly, Crank Rod	A.1.3
Assembly, Cylinder Barrel	I.1.5
Assembly, Engine	A.1.5
Assembly, Foot Plate	B.1.5
Assembly, Fuel Tank	C.1.3
Assembly, Governor	I.1.5
Assembly, Ignition Coil	I.1.27
Assembly, Oil Filler Cap	I.1.7
Assembly, Recoil Starter	I.1.13
Assembly, Terminal	I.1.27
Assembly, Tire & Wheel	C.2.3

B

Bag, Tool	C.2.3
-----------	-------

C

Cable, Throttle	C.1.3
Camshaft Assembly	I.1.11
Cap, Fuel Tank	C.1.3
Carburetor Assembly	I.1.17
Carrying Cart Assembly	C.2.3
Connecting Rod Assembly	I.1.9
Control Assembly	I.1.29
Control Lever	I.1.29
Crank Rod Assembly	A.1.3
Crankcase	A.1.3
Cylinder Barrel Assembly	I.1.5
Cylinder Head	I.1.3

D

Decal Kit	G.1.3
Decal: Caution	G.1.3
Decal: Danger/Warning	G.1.3
Decal: Drain	G.1.3
Decal: Engine RPM	G.1.3
Decal: Gasoline	G.1.3
Decal: High-Low	G.1.3
Decal: I-R Emblem	G.1.3
Decal: I-R Logo	G.1.3
Decal: Notice	G.1.3
Decal: Oil Caution	G.1.3
Decal: Oil Feed	G.1.3
Decal: Oil Gauge	G.1.3
Decal: Oil Level	G.1.3

Decal: PL Caution	G.1.3
Decal: RX-304H/334H	G.1.3
Decal: Warning	G.1.3

E

Element, Air Cleaner	I.1.19
Engine Assembly	A.1.5
Engine Stop Switch	I.1.15

F

Filter, Fuel	C.1.3
Foot Plate Assembly	B.1.5
Fuel Filter	C.1.3
Fuel Strainer	C.1.3
Fuel Tank Assembly	C.1.3
Fuel Tank Cap	C.1.3
Fuel Tank	C.1.3

G

Gauge, Oil	B.1.3
Governor Assembly	I.1.5
Governor Kit	I.1.5

H

Handle, Operating	C.1.3
Head, Cylinder	I.1.3

I

Ignition Coil Assembly	I.1.27
------------------------	--------

K

Kit, Decal	G.1.3
Kit, Governor	I.1.5
Kit, Tool	C.2.3

L

Lever, Control	I.1.29
Lever, Throttle	C.1.3

M

Manual, Operation/Maintenance & Parts	C.2.3
---------------------------------------	-------

O

Oil Filler Cap Assembly	I.1.7
Oil Gauge Protector	A.1.5
Oil Gauge	B.1.3
Oil Tank	I.1.7
Operating Handle	C.1.3
Operation/Maintenance & Parts Manual	C.2.3

WORD INDEX

P

Protector, Oil Gauge _____ A.1.5

R

Recoil Starter Assembly _____ I.1.13

S

Starter Assembly, Recoil _____ I.1.13

Strainer, Fuel _____ C.1.3

Switch, Engine Stop _____ I.1.15

T

Tank, Fuel _____ C.1.3

Tank, Oil _____ I.1.7

Terminal Assembly _____ I.1.27

Throttle Cable _____ C.1.3

Throttle Lever _____ C.1.3

Tire & Wheel Assembly _____ C.2.3

Tool Bag _____ C.2.3

Tool Kit _____ C.2.3

NUMERICAL INDEX

COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.
13164603	C.2.3	59187823	A.1.3	59188300	G.1.3		I.1.7
54624606	C.1.3	59187831	A.1.3	59188318	G.1.3	59243626	I.1.5
54679170	G.1.3	59187849	A.1.3	59188326	C.2.3	59243634	I.1.5
54680426	C.1.3	59187856	A.1.3	59188334	C.2.3	59243642	I.1.5
54680434	C.1.3	59187864	A.1.3	59188342	C.2.3	59243659	I.1.7
54680442	C.1.3	59187872	A.1.3	59188359	C.2.3	59243667	I.1.7
54680483	G.1.3	59187880	A.1.5	59188409	B.1.5	59243675	I.1.7
54680509	G.1.3	59187898	A.1.5	59237388	B.1.5	59243683	I.1.7
54680525	G.1.3	59187906	A.1.5	59242917	I.1.3	59243691	I.1.7
54680533	G.1.3	59187914	A.1.5	59242925	I.1.3	59243709	I.1.7
54680582	C.1.3	59187922	A.1.5	59242933	I.1.3	59243717	I.1.7
54680616	G.1.3	59187930	A.1.5	59242941	I.1.3	59243725	I.1.7
54680657	C.1.3	59187948	A.1.5	59242958	I.1.3	59243733	I.1.7
54680665	A.1.3	59187955	A.1.5	59242966	I.1.3	59243741	I.1.7
54680673	A.1.3	59187963	A.1.5	59242974	I.1.3		I.1.31
54680731	B.1.3	59187971	A.1.5	59242990	I.1.3	59243758	I.1.7
54680749	B.1.3	59187989	A.1.5		I.1.15	59243766	I.1.7
54680756	B.1.3	59187997	A.1.5	59243170	I.1.33	59243774	I.1.9
54680764	B.1.3	59188003	A.1.5	59243188	I.1.31	59243782	I.1.9
54680772	B.1.3	59188011	G.1.3	59243196	I.1.33	59243790	I.1.9
54680780	B.1.3	59188029	B.1.3	59243204	I.1.3	59243808	I.1.9
54680798	B.1.3	59188037	B.1.3	59243212	I.1.3	59243816	I.1.9
54680806	B.1.5	59188045	B.1.3	59243220	I.1.3	59243824	I.1.9
54680814	B.1.5	59188052	B.1.3	59243238	I.1.3	59243832	I.1.9
54680822	B.1.5	59188060	B.1.3	59243246	I.1.3	59243840	I.1.11
54680830	B.1.5	59188078	B.1.5	59243253	I.1.3	59243857	I.1.11
54682554	B.1.5	59188086	B.1.5	59243261	I.1.3	59243865	I.1.11
54683180	G.1.3	59188094	B.1.5	59243279	I.1.3	59243873	I.1.11
54684097	G.1.3	59188102	B.1.5	59243287	I.1.3	59243881	I.1.11
54684154	G.1.3	59188128	C.1.3	59243295	I.1.5	59243899	I.1.11
54684626	G.1.3	59188136	C.1.3	59243303	I.1.5	59243907	I.1.11
54684634	C.2.3	59188144	C.1.3	59243311	I.1.5	59243915	I.1.11
54686142	B.1.5	59188185	C.1.3	59243329	I.1.5	59243923	I.1.11
58802208	B.1.3	59188193	C.1.3	59243337	I.1.5	59243931	I.1.11
58836982	B.1.5	59188201	C.1.3	59243345	I.1.5	59243949	I.1.11
58898230	C.1.3	59188219	C.1.3	59243352	I.1.5	59243956	I.1.11
58898248	A.1.3	59188227	C.1.3	59243360	I.1.5	59243964	I.1.11
58898255	A.1.3	59188235	C.1.3	59243378	I.1.5	59243972	I.1.11
58898263	B.1.3	59188243	C.1.3	59243386	I.1.5	59243980	I.1.11
59093299	G.1.3	59188268	G.1.3	59243394	I.1.5	59243998	I.1.13
59187807	A.1.3	59188276	G.1.3	59243600	I.1.5	59244004	I.1.13
59187815	A.1.3	59188292	G.1.3	59243618	I.1.5	59244012	I.1.13

NUMERICAL INDEX

COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.
59244020	I.1.13	59244434	I.1.19	59244855	I.1.31	59839852	A.1.3
59244038	I.1.13	59244442	I.1.21	59244863	I.1.31	59840058	C.1.3
59244046	I.1.13	59244459	I.1.21	59244871	I.1.31	59840082	A.1.5
59244053	I.1.13	59244467	I.1.21	59244889	I.1.31	59840306	G.1.3
59244061	I.1.13	59244475	I.1.21	59244897	I.1.31	59840454	B.1.5
59244079	I.1.13	59244483	I.1.21	59245982	I.1.3	59840496	C.2.3
59244087	I.1.13	59244491	I.1.21	59247285	I.1.17	59840579	C.2.3
59244095	I.1.13	59244509	I.1.23	59268554	G.1.3	59840637	C.2.3
59244103	I.1.13	59244517	I.1.23	59830000	C.2.3	59840744	A.1.3
59244111	I.1.15	59244525	I.1.23	59830018	C.2.3	59840819	A.1.3
59244129	I.1.15	59244533	I.1.23	59830208	A.1.5	59840827	A.1.3
59244137	I.1.15	59244541	I.1.23	59830315	C.1.3	59840835	A.1.3
59244145	I.1.15	59244558	I.1.23	59831123	A.1.3	59840843	A.1.3
59244152	I.1.15	59244566	I.1.23		B.1.3	59840850	A.1.3
59244160	I.1.15	59244574	I.1.23	59831131	A.1.3	59840884	A.1.3
59244178	I.1.17	59244582	I.1.25		B.1.3	59840900	A.1.3
59244186	I.1.17	59244590	I.1.25	59831560	B.1.5	59840918	A.1.3
59244194	I.1.17	59244608	I.1.25	59831743	B.1.3	59840926	A.1.3
59244202	I.1.17	59244616	I.1.25	59831800	B.1.5	59840934	A.1.3
59244210	I.1.17	59244624	I.1.25	59831917	C.1.3	59840983	A.1.5
59244228	I.1.17	59244632	I.1.27	59831925	A.1.3	59841064	A.1.5
59244236	I.1.17	59244640	I.1.27		A.1.5	59841163	A.1.5
59244244	I.1.17	59244657	I.1.27		C.1.3	59841171	A.1.5
59244251	I.1.17	59244665	I.1.29	59832030	B.1.3	59841213	B.1.3
59244269	I.1.17	59244673	I.1.29	59832287	B.1.5	59841221	B.1.3
59244277	I.1.17	59244681	I.1.29	59832535	C.1.3	59841239	B.1.3
59244293	I.1.17	59244699	I.1.29	59832931	A.1.5	59841254	B.1.3
59244301	I.1.17	59244707	I.1.29		C.2.3	59841320	B.1.3
59244319	I.1.17	59244715	I.1.29	59834721	B.1.5	59841338	B.1.3
59244327	I.1.17	59244723	I.1.29	59835371	A.1.3	59841346	B.1.3
59244335	I.1.19	59244731	I.1.29		A.1.5	59841353	B.1.3
59244343	I.1.19	59244749	I.1.29		C.1.3	59841361	B.1.3
59244350	I.1.19	59244756	I.1.29	59836338	B.1.5	59841379	B.1.3
59244368	I.1.19	59244764	I.1.29	59837948	A.1.3	59841387	B.1.3
59244376	I.1.19	59244772	I.1.29	59838334	B.1.5	59841403	B.1.3
59244384	I.1.19	59244780	I.1.31	59838805	C.2.3	59841452	B.1.3
59244392	I.1.19	59244798	I.1.31	59839050	C.2.3	59841460	B.1.5
59244400	I.1.19	59244806	I.1.31	59839159	C.2.3	59841494	B.1.3
59244418	I.1.19	59244814	I.1.31	59839431	A.1.3	59841551	B.1.5
	I.1.21	59244822	I.1.31	59839456	A.1.3	59841569	B.1.5
59244426	I.1.19	59244830	I.1.31	59839654	G.1.3	59841684	C.1.3
	I.1.21	59244848	I.1.31	59839662	G.1.3	59841692	C.1.3

NUMERICAL INDEX

COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.	COMM. NO.	PAGE NO.
59841767	G.1.3						
59842153	C.2.3						
59843136	C.2.3						
59843391	B.1.5						
59843706	C.2.3						
59843722	A.1.5						
59853358	C.1.3						
59872200	B.1.3						
59951632	A.1.5						
	B.1.5						
59952242	A.1.5						
59952325	C.2.3						
59953190	A.1.3						
59953935	A.1.3						
	C.1.3						



Road Development

Ingersoll-Rand Company
312 Ingersoll Drive
Shippensburg, PA 17257

©2000 Ingersoll-Rand Company
Printed in U.S.A.