

# **HONDA**

**The Power Of Dreams**

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When ordering spare parts please supply:  
model, approximate year, engine model & serial number and frame number

## **PREFACE**

This manual covers the construction, function and servicing procedure of the Honda EU10i and EU1000i generators.

Careful observance of these instructions will result in better, safe service work.

ALL INFORMATION, ILLUSTRATIONS, DIRECTIONS AND SPECIFICATIONS INCLUDED IN THIS PUBLICATION ARE BASED ON THE LATEST PRODUCT INFORMATION AVAILABLE AT THE TIME OF APPROVAL FOR PRINTING. HONDA MOTOR CO., LTD. RESERVES THE RIGHT TO MAKE CHANGES WITHOUT INCURRING ANY OBLIGATION WHATEVER. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT WRITTEN PERMISSION.

**HONDA MOTOR CO., LTD.**  
**SERVICE PUBLICATION OFFICE**

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- 1. SPECIFICATIONS
- 2. CHARACTERISTICS
- 3. PERFORMANCE CURVES

- 4. DIMENSIONAL DRAWING
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## 1. SPECIFICATIONS

### DIMENSIONS AND WEIGHTS

Model	EU10i	EU1000i
Overall length	450 mm (17.7 in)	
Overall width	240 mm (9.4 in)	
Overall height	380 mm (15.0 in)	
Dry weight	13.0 kg (28.7 lb)	
Operating weight	15.0 kg (33.1 lb)	

### ENGINE

Model	GXH50
Description code	GCAL
Type	4-stroke, overhead camshaft single cylinder
Displacement	50 cm <sup>3</sup> (3.05 cu in)
Bore x stroke	41.8 x 36.0 mm (1.65 x 1.42 in)
Maximum horsepower	1.32kW (1.79 PS) at 6,000 min <sup>-1</sup> (rpm)
Compression ratio	8.0 : 1
Cooling system	Forced air
Ignition system	Full transistor
Ignition timing	30° B.T.D.C.
Spark plug	NGK: CR5HSB, DENSO: U16FSR-UB
Carburetor	Float type, Horizontal, butterfly valve type
Air cleaner	Semi-dry type
Governor	Electronic control type
Lubrication system	Forced splash
Oil capacity	0.25 ℓ (0.26 US qt, 0.22 Imp qt)
Starting system	Recoil starter
Stopping system	Primary circuit ground
Fuel used	Automotive unleaded gasoline

**GENERATORR**

Model	EU10i	EU1000i
Description code	EZGA	
Generator type	Multi pole field rotation type	
Generator structure	Self-ventilation drip-proof type	
Excitation	Self-excitation (Magnet type)	
Voltage regulation system	PWM (Pulse width modulation)	
Phase	Single phase	
Rotating direction	Clockwise (Viewed from the generator)	
Frequency regulation	DC-AC conversion (Inverter type)	

**2. CHARACTERISTICS**

Model	EU10i					EU1000i
Type	L	G, B, F, W	S	U	R	C
Maximum output	1,000 VA					—
Rated output AC	900 VA					—
DC	96 W					—
Rated frequency	60 Hz	50 Hz	60 Hz	50 Hz	50 Hz	60 Hz
Rated voltage AC	120 V	230 V	220 V	240 V	220 V	120 V
DC	12 V					—
Rated current AC	7.5 A	3.9 A	4.1 A	3.8 A	4.1 A	7.5 A
DC	8 A					6.5 A
Power factor	1.0 cos $\phi$					—
Voltage variation rate	Momentary 10% max. Average 6% max. Average time 3 sec. max.					—
Voltage stability	$\pm 1\%$					—
Frequency variation rate	Momentary 1% max. Average 1% max. Average time 1 sec. max.					—
Frequency stability	$\pm 0.1\%$					—
Insulation resistance	10 M $\Omega$ min.					—
AC circuit protector	9.4 A	4.9 A			—	9.4 A
DC circuit protector	10 A					8 A
Fuel tank capacity	2.3 $\ell$ (0.61 US gal, 0.51 Imp gal)					2.1 $\ell$ (0.55 US gal, 0.46 Imp gal)
Fuel consumption (at rated load)	0.58 $\ell$ (0.61 US qt, 0.51 Imp qt)/Hr * 0.62 $\ell$ (0.66 US qt, 0.55 Imp qt)/Hr					—
Operating hours (at rated load without refueling)	Approx. 3.9 Hr * 3.6 Hr					3.6 Hr * 3.3 Hr
Noise level	57 dB (A) * 58 dB (A)					—

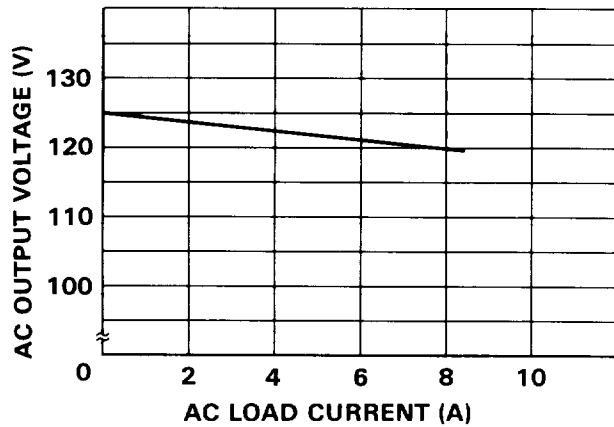
\* Values indicate the specifications when the ECO throttle system is OFF.

### 3. PERFORMANCE CURVES

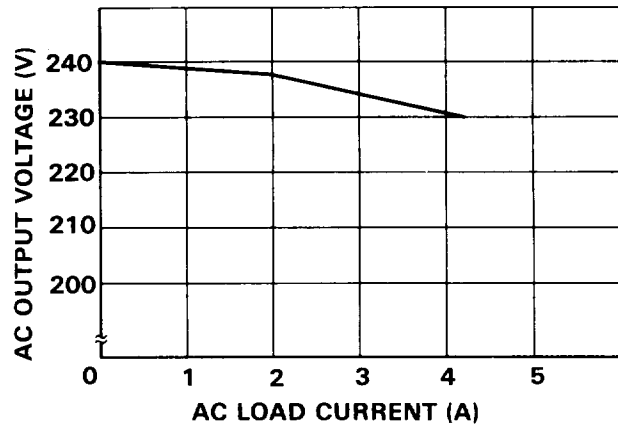
The curves show performance of the generator under average condition.  
Performance may vary to some degree depending on ambient temperature and humidity.  
The output voltage will be higher than usual when the generator is still cold, immediately after the engine starts.

#### AC EXTERNAL CHARACTERISTIC CURVES

C, L type

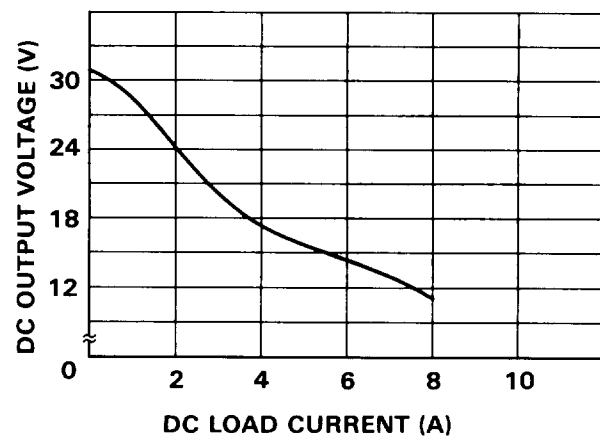


Except C, L type

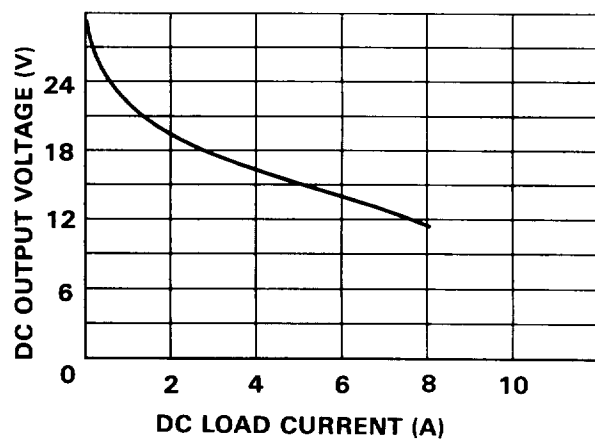


#### DC EXTERNAL CHARACTERISTIC CURVES

Except C type



C type



## 4. DIMENSIONAL DRAWING

4. SCHEMA DE DIMENSIONS

4. MASSZEICHNUNGEN

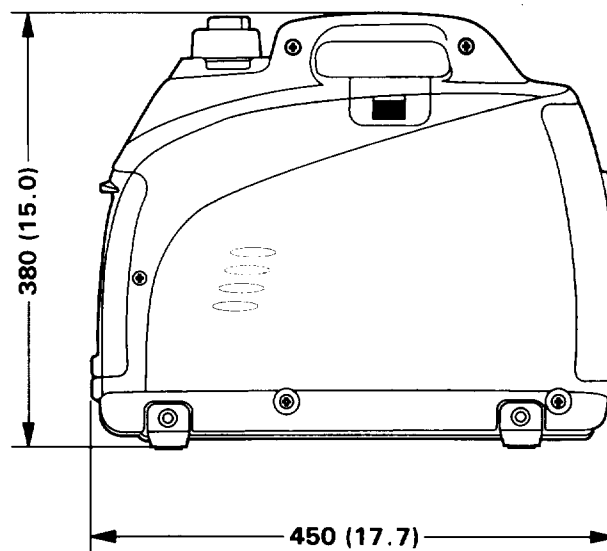
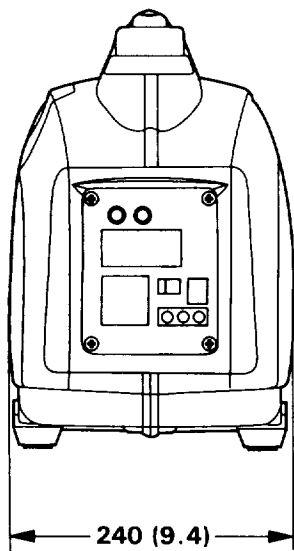
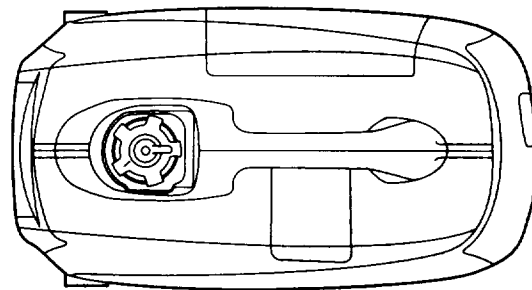
4. PLANOS DIMENSIONALES

Unit: mm (in)

Unité: mm

Einheit: mm

Unidad: mm



## 5. WIRING DIAGRAM

ACNF	AC NOISE FILTER
ACOR	AC OUTPUT RECEPTACLE
CoT	COMPOSITE TERMINAL
CPB	CONTROL PANEL BLOCK
DCD	DC DIODE (RECTIFIER)
DCNF	DC NOISE FILTER
DCOR	DC OUTPUT RECEPTACLE
DCW	DC WINDING
EcoSw	ECO-THROTTLE SWITCH (THROTTLE CONTROL SWITCH)
EgB	ENGINE BLOCK
EgG	ENGINE GROUND
ESw	ENGINE SWITCH
ExW	EXCITER WINDING
FrB	FRAME BLOCK
FrG	FRAME GROUND
GeB	GENERATOR BLOCK
GT	GROUND TERMINAL
IB	INVERTER BLOCK
IgC	IGNITION COIL
IU	INVERTER UNIT
MW	MAIN WINDING
OAL	OIL ALERT LAMP
OI	OVERHEAT INDICATOR LIGHT
OLSw	OIL LEVEL SWITCH
PC	PULSER COIL
PL	PILOT LAMP
SP	SPARK PLUG
SpU	SPARK UNIT
StpM	STEPPING MOTOR (THROTTLE CONTROL MOTOR)
SW	SUB WINDING

Bl	Black	Br	Brown
Y	Yellow	O	Orange
Bu	Blue	Lb	Light blue
G	Green	Lg	Light green
R	Red	P	Pink
W	White	Gr	Gray

## 5. SCHEMA DE CABLAGE

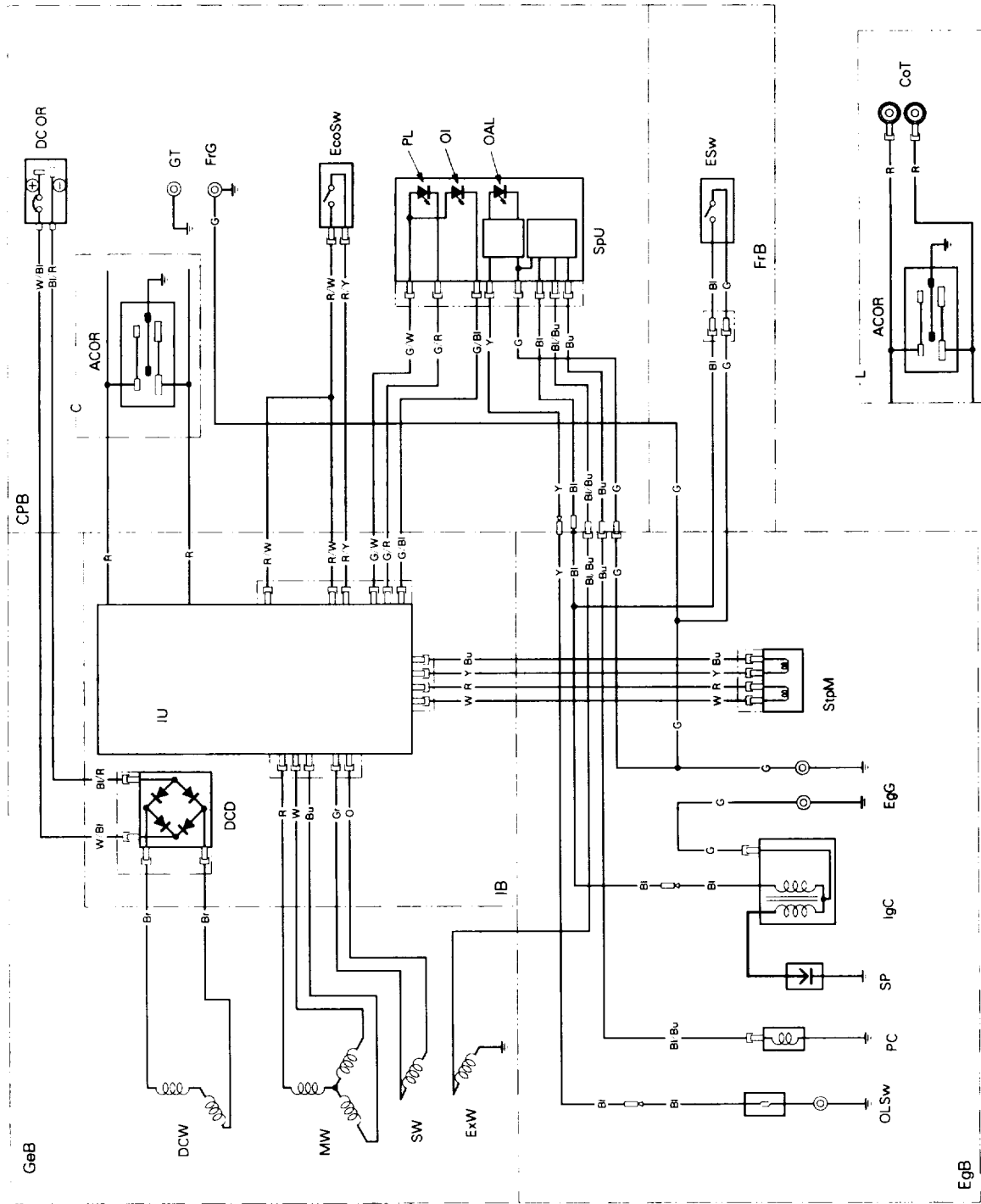
ACNF	FILTRE ANTIPARASITE CA
ACOR	PRISE DE SORTIE CA
Cot	PRISE COMPOSITE
CPB	BLOC DE PANNEAU DE COMMANDE
DCD	DIODE CC (REDRESSEUR)
DCNF	FILTRE ANTIPARASITE CC
DCOR	PRISE DE SORTIE CC
DCW	BOBINAGE CC
EcoSw	COMMUTATEUR DE PAPILLON ECO (COMMUTATEUR DE COMMANDE DE PAPILLON)
EgB	BLOC-MOTEUR
EgG	TERRE DE MOTEUR
ESw	COMMUTATEUR DE MOTEUR
ExW	BOBINAGE D'EXCITATION
FrB	BLOC CHÂSSIS
FrG	TERRE DE CHÂSSIS
GeB	BLOC GÉNÉRATEUR
GT	BORNE DE TERRE
IB	BLOC D'INVERSEUR
IgC	BOBINE D'ALLUMAGE
IU	UNITÉ D'INVERSEUR
MW	BOBINAGE PRINCIPAL
OAL	TÉMOIN D'ALERTE D'HUILE
OI	TÉMOIN DE SURCHAUFFE
OLSw	CONTACTEUR DE NIVEAU D'HUILE
PC	BOBINE À IMPULSIONS
PL	LAMPE-TÉMOIN
SP	BOUGIE D'ALLUMAGE
SpU	UNITÉ D'ALLUMAGE
StpM	MOTEUR À ÉTAGEMENT (MOTEUR DE COMMANDE DE PAPILLON)
SW	BOBINAGE SECONDAIRE

Bl	Noir	Br	Marron
Y	Jaune	O	Orange
Bu	Bleu	Lb	Bleu clair
G	Vert	Lg	Vert clair
R	Rouge	P	Rose
W	Blanc	Gr	Gris



C, L type  
Type C, L  
Typ C, L  
Tipo C, L

	EcoSW	ON	OFF
	Eco	OFF	ON

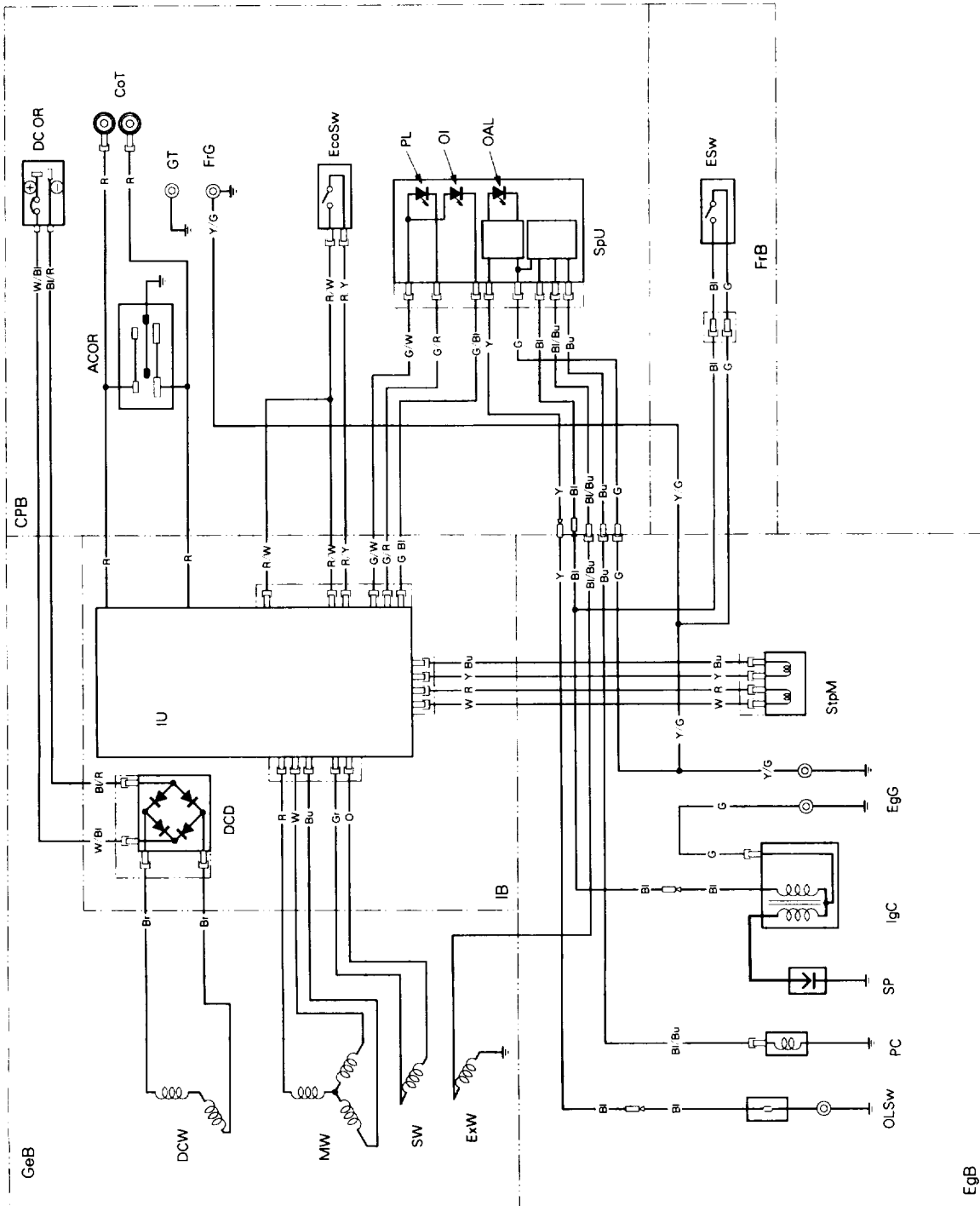


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S type  
Type S  
Typ S  
Tipo S

	EcoSw	ON	OFF
Eco		OFF	ON

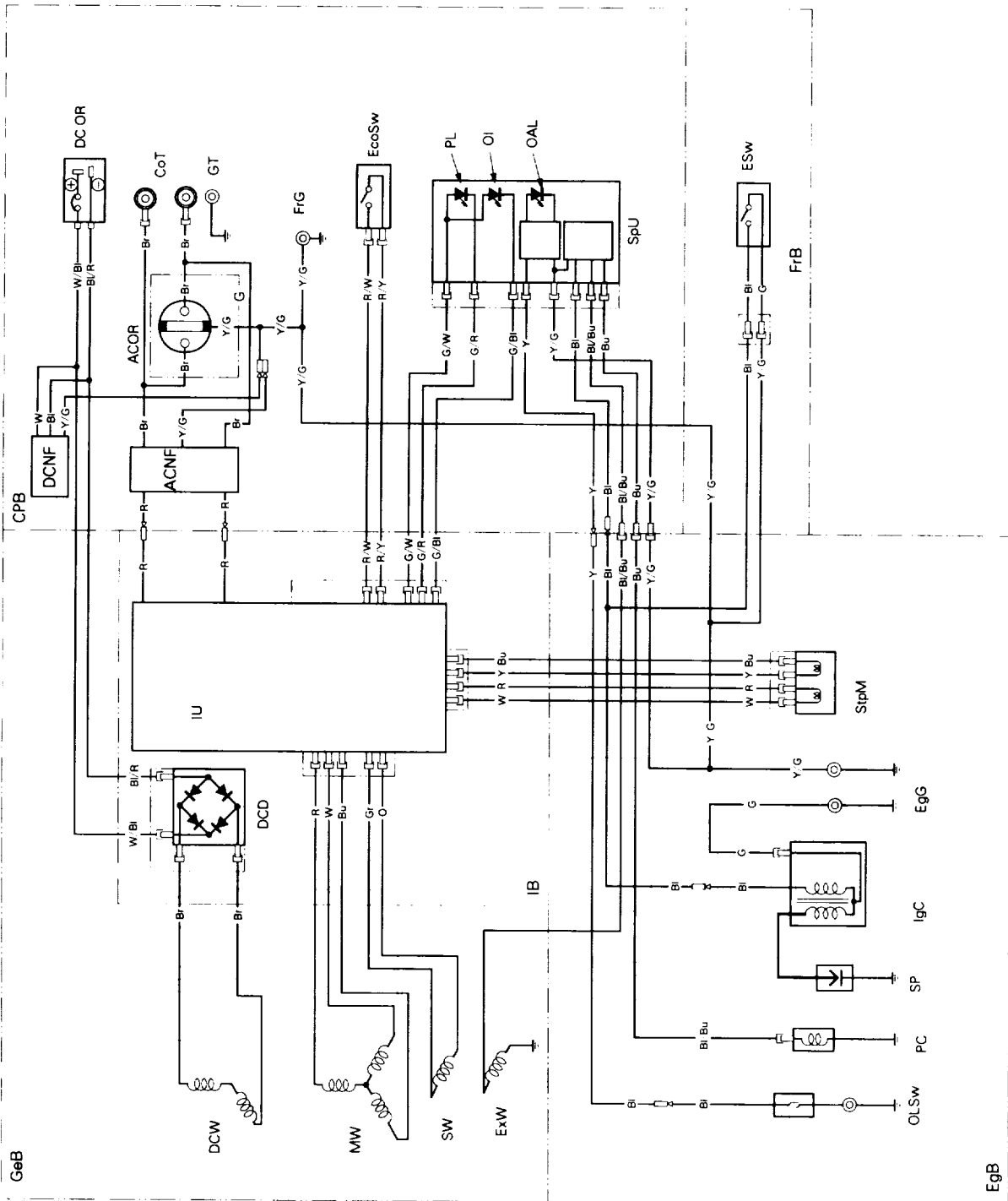
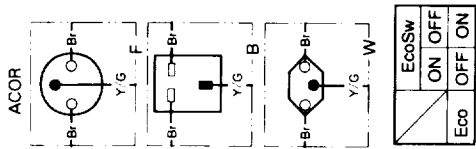


G, F, B, W type

Typ G, F, B, W

Type G, F, B, W

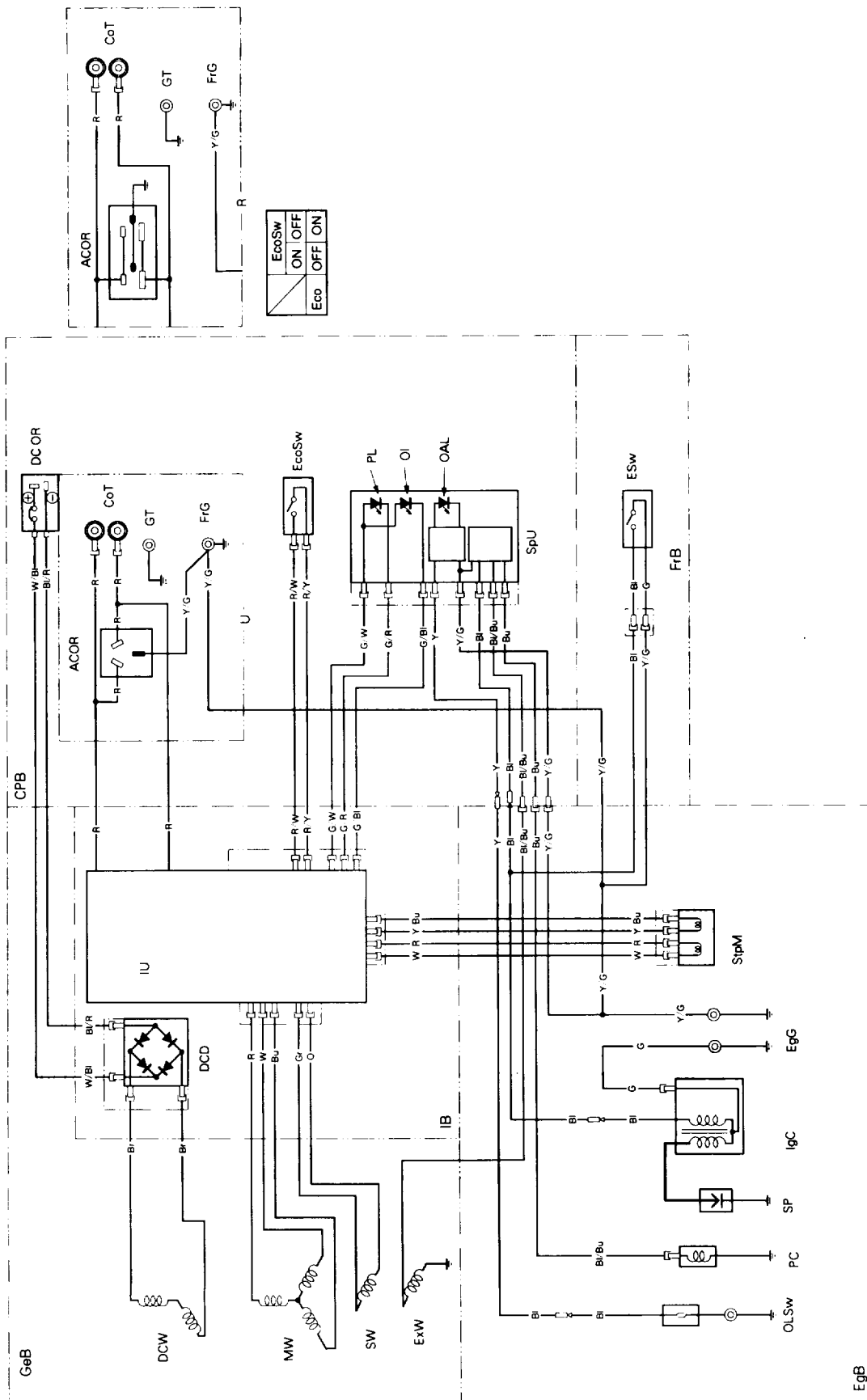
Tipo G, F, B, W



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## EU10i • EU1000i

U, R type  
 Type U, R  
 Typ U, R  
 Tipo U, R



# 2. SERVICE INFORMATION

**HONDA**  
EU10i • EU1000i

- |                                       |                          |
|---------------------------------------|--------------------------|
| 1. THE IMPORTANCE OF PROPER SERVICING | 5. MAINTENANCE STANDARDS |
| 2. IMPORTANT SAFETY PRECAUTIONS       | 6. TORQUE VALUES         |
| 3. SERVICE RULES                      | 7. SPECIAL TOOLS         |
| 4. SERIAL NUMBER LOCATION             | 8. TROUBLESHOOTING       |
|                                       | 9. CABLE/HARNESS ROUTING |

## 1. THE IMPORTANCE OF PROPER SERVICING

Proper servicing is essential to the safety of the operator and the reliability of the engine. Any error or oversight made by the technician while servicing can easily result in faulty operation, damage to the engine or injury to the operator.

### ▲ WARNING

**Improper servicing can cause an unsafe condition that can lead to serious injury or death. Follow the procedures and precautions in this shop manual carefully.**

Some of the most important precautions are given below. However, we cannot warn you of every conceivable hazard that can arise in performing maintenance or repairs. Only you can decide whether or not you should perform a given task.

### ▲ WARNING

**Failure to follow maintenance instructions and precautions can cause you to be seriously hurt or killed. Follow the procedures and precautions in this shop manual carefully.**

## 2. IMPORTANT SAFETY PRECAUTIONS

Be sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and safety equipment. When performing maintenance or repairs, be especially careful of the following:

- **Read the instructions before you begin, and be sure you have the tools and skills required to perform the tasks safely.**

Be sure that the engine is off before you begin any maintenance or repairs. This will reduce the possibility of several hazards:

- **Carbon monoxide poisoning from engine exhaust.**  
Be sure there is adequate ventilation whenever you run the engine.
- **Burns from hot parts.**  
Let the engine cool before you touch it.
- **Injury from moving parts.**  
Do not run the engine unless the instruction tells you to do so. Even then, keep your hands, fingers, and clothing away.

To reduce the possibility of a fire or explosion, be sure when working around gasoline. Use only a nonflammable solvent, not gasoline, to clean parts. Keep all cigarettes, sparks, and flames away from all fuel-related parts.

### 3. SERVICE RULES

1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that do not meet Honda's design specifications may damage the engine.
2. Use the special tools designed for the product.
3. Install new gaskets, O-rings, etc. when reassembling.
4. When torquing bolts or nuts, begin with larger-diameter or inner bolts first and tighten to the specified torque diagonally, unless a particular sequence is specified.
5. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
6. After reassembly, check all parts for proper installation and operation.
7. Many screws used in this machine are self-tapping. Be aware that cross-threading or overtightening these screws will strip the threads and ruin the hole.
8. Use only metric tools when servicing this engine. Metric bolts, nuts and screws are not interchangeable with nonmetric fasteners. The use of incorrect tools and fasteners will damage the engine.
9. Follow the instructions represented by these symbols (P.2-3) when they are used.

### ELECTRIC PRECAUTIONS

1. Hold the connector body to disconnect the connector. Do not disconnect by pulling the wire harness. To disconnect the locking connector, be sure to unlock first, then disconnect.
2. Check the connector terminals for bend, excessive extrusion, missing terminal, or other abnormalities before connecting the connector.
3. To connect, insert the connector as full as it goes. If the connector is a locking type, be sure that it is locked securely.
4. Check the connector cover for breakage and check whether the connector female terminal is not open excessively. Then, connect the connector securely. Check the connector terminal for rust. Remove the rust using an emery paper or equivalent material before connecting the connector.
5. Set the harness clips in the specified places of the frame securely, and secure the wire harnesses.
6. Clamp the cables securely.
7. Clamp the wire harnesses securely so that they do not interfere with the rotating parts, moving parts and the hot parts.
8. Route and connect the wire harnesses properly. Be sure that the harnesses are not slack, twisted or pulled taut.
9. Route the wire harnesses properly so that they do not contact with the sharp edges and corners, and the end of the bolts and screws on the body.
10. If a wire harness contacts the end of the bolts/screws or sharp edges and corners, protect the contact part of the harness with a tube or by winding with an electrician's insulating tape. If the wire harness has a grommet, set the grommet securely.
11. Take care not to pinch the wire harnesses during installation of a part. If a wire harness has the damaged insulation, repair by winding with the electrician's insulating tape.
12. Read the tester manufacturer's operation instructions carefully before operation with a tester. Follow the instructions of the Service Manual. Be sure that the battery built in a tester is fully charged and check the meter before inspection using the tester.

## SYMBOLS USED IN THIS MANUAL

As you read this manual, you may find the following symbols with the instructions.



A special tool is required to perform the procedure.



Apply grease.



Apply oil.



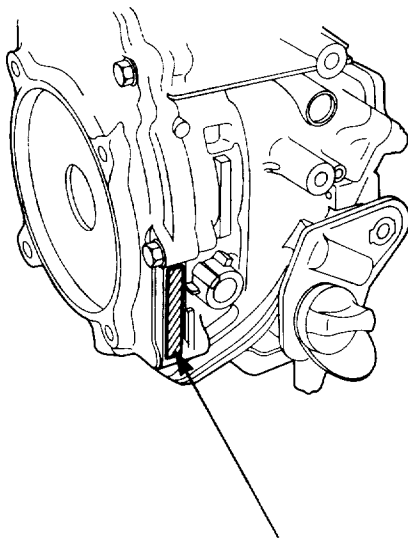
Indicates the diameter, length, and quantity of metric flange bolt used.



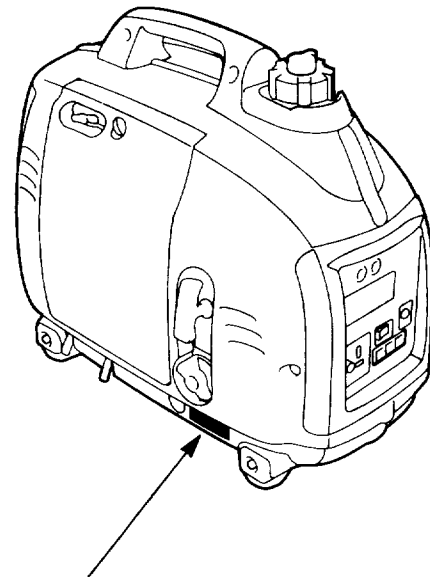
Indicates the reference page.

## 4. SERIAL NUMBER LOCATION

The frame serial number is shown at the underside of the left side cover, and the engine serial number is stamped on the cylinder barrel. Refer to these numbers when ordering or making technical inquiries.



**ENGINE SERIAL NUMBER**



**FRAME SERIAL NUMBER**

## 5. MAINTENANCE STANDARDS

### ENGINE

Part	Item	Standard	Service limit
Engine	Maximum speed without load Cylinder compression	5,500 ± 100 min <sup>-1</sup> (rpm) 0.42 MPa (4.3 kgf/cm <sup>2</sup> 61.2 psi) at 1,000 min <sup>-1</sup> (rpm)	— —
Cylinder	Sleeve I.D.	41.800 – 41.815 mm (1.6457 – 1.6463 in)	41.900 mm (1.6496 in)
Piston	Skirt O.D.  Piston-to-cylinder clearance  Pin bore I.D.	41.770 – 41.790 mm (1.6445 – 1.6453 in) 0.010 – 0.045 mm (0.0004 – 0.00187 in) 10.002 – 10.008 mm (0.3938 – 0.3940 in)	41.700 mm (1.6417 in) 0.120 mm (0.0047 in) 10.050 mm (0.3957 in)
Piston pin	O.D.  Pin-to-piston clearance	9.994 – 10.000 mm (0.3935 – 0.3937 in) 0.002 – 0.014 mm (0.0001 – 0.0006 in)	9.950 mm (0.3917 in) 0.100 mm (0.0039 in)
Piston ring	Ring width Top Second  Ring side clearance Top/second Ring end gap Top/second	0.77 – 0.79 mm (0.030 – 0.031 in) 0.97 – 0.99 mm (0.038 – 0.039 in) 0.015 – 0.050 mm (0.0006 – 0.0020 in) 0.150 – 0.300 mm (0.0059 – 0.0118 in)	0.720 mm (0.0283 in) 0.920 mm (0.0362 in) 0.120 mm (0.0047 in) 0.600 mm (0.0236 in)
Connecting rod	Small end I.D.  Big end I.D.  Big end oil clearance Big end side clearance	10.006 – 10.017 mm (0.3939 – 0.3944 in) 15.000 – 15.011 mm (0.5906 – 0.5910 in) 0.016 – 0.038 mm (0.0006 – 0.0015 in) 0.1 – 0.6 mm (0.004 – 0.024 in)	10.050 mm (0.3957 in) 15.040 mm (0.5921 in) 0.100 mm (0.0039 in) 0.8 mm (0.031 in)
Crankshaft	Crank pin O.D.	14.973 – 14.984 mm (0.5895 – 0.5899 in)	14.940 mm (0.5882 in)
Valves	Valve clearance IN EX Stem O.D. IN EX Guide I.D. IN/EX Seat width IN/EX	0.08 ± 0.02 mm (0.0031 ± 0.0008 in) 0.11 ± 0.02 mm (0.0043 ± 0.0008 in) 3.970 – 3.985 mm (0.1563 – 0.1569 in) 3.935 – 3.950 mm (0.1549 – 0.1555 in) 4.000 – 4.018 mm (0.1575 – 0.1582 in) 0.6 – 0.8 mm (0.02 – 0.03 in)	— — 3.900 mm (0.1535 in) 3.880 mm (0.1528 in) 4.060 mm (0.1598 in) 10 mm (0.04 in)
Valve spring	Free length IN/EX	23.7 mm (0.93 in)	22.8 mm (0.90 in)
Camshaft	Cam height IN/EX I.D. (Bearing)	27.972 mm (1.1013 in) 5.020 – 5.050 mm (0.1976 – 0.1988 in)	26.972 mm (1.0619 in) 5.100 mm (0.2008 in)
Camshaft roller	O.D.	4.990 – 5.000 mm (0.1965 – 0.1959 in)	4.950 mm (0.1949 in)
Valve lifter	I.D. (Bearing)	5.005 – 5.025 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)
Valve lifter roller	O.D.	4.990 – 5.000 mm (0.1965 – 0.1959 in)	4.950 mm (0.1949 in)
Crankcase side cover	Camshaft Bearing I.D. Valve lifter shaft Bearing I.D.	5.000 – 5.018 mm (0.1969 – 0.1976 in) 5.000 – 5.018 mm (0.1969 – 0.1976 in)	5.050 mm (0.1988 in) 5.050 mm (0.1988 in)



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Part	Item	Standard	Service limit
Cylinder block	Camshaft roller Bearing I.D.	5.000 – 5.018 mm (0.1969 – 0.1976 in)	5.050 mm (0.1988 in)
	Valve lifter roller Bearing I.D.	5.000 – 5.018 mm (0.1969 – 0.1976 in)	5.050 mm (0.1988 in)
	Rocker arm roller Bearing I.D.	4.000 – 4.018 mm (0.1575 – 0.1582 in)	4.050 mm (0.1594 in)
Rocker arm	I.D. (Bearing)	4.005 – 4.025 mm (0.1577 – 0.1585 in)	4.050 mm (0.1594 in)
Rocker arm roller	O.D.	3.990 – 4.000 mm (0.1571 – 0.1575 in)	3.950 mm (0.1555 in)
Carburetor	Main jet	#58	—
	Float height	12 mm (0.47 in)	—
	Pilot screw opening	2 turns out	—
Spark plug	Gap	0.6 – 0.7 mm (0.024 – 0.028 in)	—
Ignition coil	Resistance Primary side	0.7 – 1.1 $\Omega$	—
	Secondary side	12 – 21 k $\Omega$	—
Pulser coil	Air gap	0.5 $\pm$ 0.1 mm (0.020 $\pm$ 0.004 in)	—
	Resistance	25 – 39 $\Omega$	—

### GENERATOR

Part	Item	Type	Standard	Service limit	
Exciter coil	Resistance	Black/blue-ground	0.5 – 0.9 $\Omega$	—	
Sub coil	Resistance	Gray-orange	0.3 – 0.5 $\Omega$	—	
DC coil	Resistance	Brown-brown	0.1 – 0.2 $\Omega$	—	
AC coil	Resistance	Red-white	C, L type	2.1 – 3.3 $\Omega$	—
			Except C, L type	6.0 – 9.1 $\Omega$	
	Red-blue	C, L type	2.1 – 3.3 $\Omega$	—	
		Except C, L type	6.0 – 9.1 $\Omega$		
White-blue	C, L type	2.1 – 3.3 $\Omega$	—		
	Except C, L type	6.0 – 9.1 $\Omega$			

## 6. TORQUE VALUES

Item	Thread dia. x pitch	Tightening torque		
		N·m	kgf·m	lbf·ft
Spark plug	M10 x 1.0	12	1.2	9
Crankcase side cover bolt	M5 x 0.8 (CT)	7.5	0.75	5.4
Oil case bolt	M5 x 0.8 (CT)	7.5	0.75	5.4
Connecting rod bolt	M5 x 0.8	6.0	0.6	4.3
Valve cover bolt	M5 x 0.8 (CT)	6.0	0.6	4.3
Oil drain bolt	M8 x 1.25	11	1.1	8
Valve adjuster lock nut	M5 x 0.8	5.5	0.55	4.0
Rotor nut	M10 x 1.25	28	2.8	20
Fan cover bolt	M5 x 0.8 (CT)	6.0	0.6	4.3
Maintenance cover screw	M6 x 1.0	2.3	0.23	1.7
Fuel pump tapping screw	5 mm	0.8	0.08	0.6
Fuel valve tapping screw	5 mm	1.4	0.14	1.0
Engine switch plate tapping screw	5 mm	0.8	0.08	0.6
Cable clamp tapping screw	5 mm	0.8	0.08	0.6
Ignition coil tapping screw	6 mm	1.8	0.18	1.3
Muffler protector screw	M5 x 0.8	2.3	0.23	1.7
Control panel screw	M5 x 0.8	2.3	0.23	1.7
Front cover screw	M5 x 0.8	2.3	0.23	1.7
Ground screw	M5 x 0.8	2.3	0.23	1.7
Shroud screw	M4 x 0.8	0.9	0.09	0.7
Engine switch tapping screw	3 mm	0.18	0.018	0.13
Carburetor drain screw	M6 x 1.0	1.5	0.15	1.1

**NOTE:**

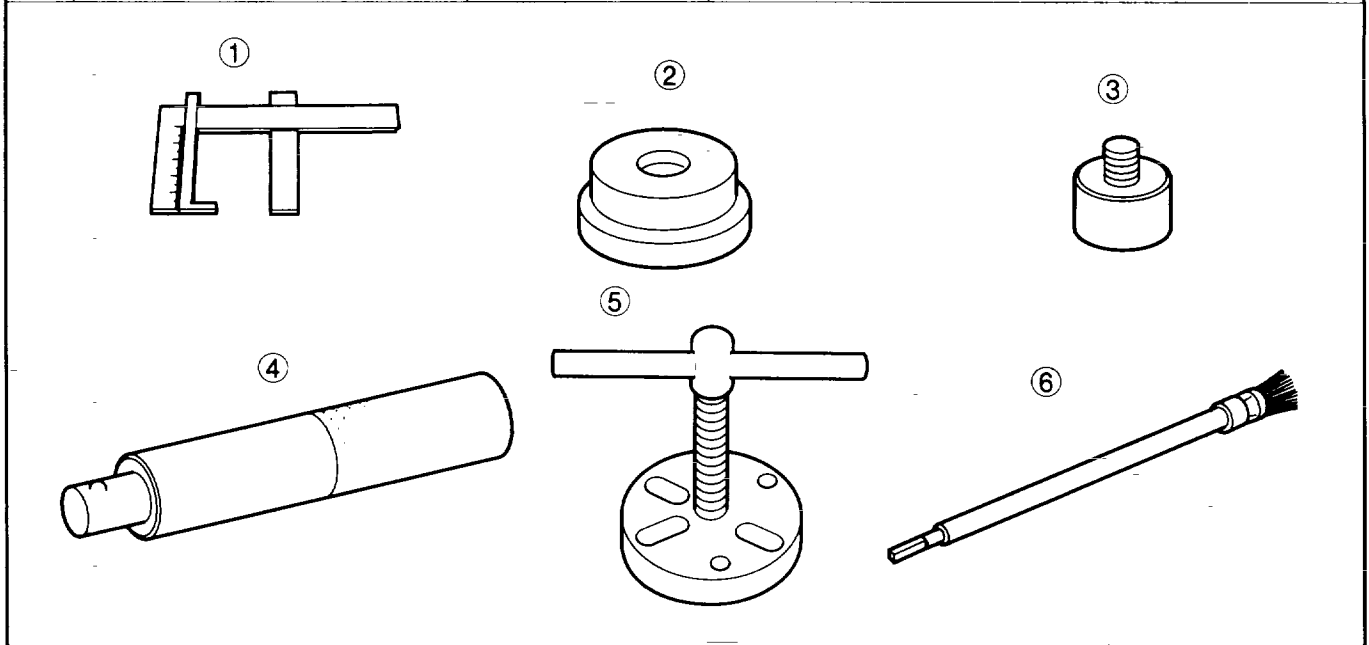
- Use standard torque values for the fasteners that are not listed in this table.
- (CT) indicates a self-tapping bolt.

### ● STANDARD TORQUE

Item	Size	Tightening torque		
		N·m	kgf·m	lbf·ft
Screw	3 mm	1.0	0.1	0.7
	4 mm	2.0	0.2	1.4
	5 mm	4.2	0.42	3.0
	6 mm	8.0	0.8	5.8
Flange bolt and nut	4 mm	3.5	0.35	2.5
	5 mm	5.5	0.55	4.0
	6 mm	10	1.0	7
	8 mm	27	2.7	20
CT flange bolt	5 mm	5.5	0.55	4.0
	6 mm	10	1.0	7
SH (Small head) flange bolt	6 mm	9	0.9	6.5

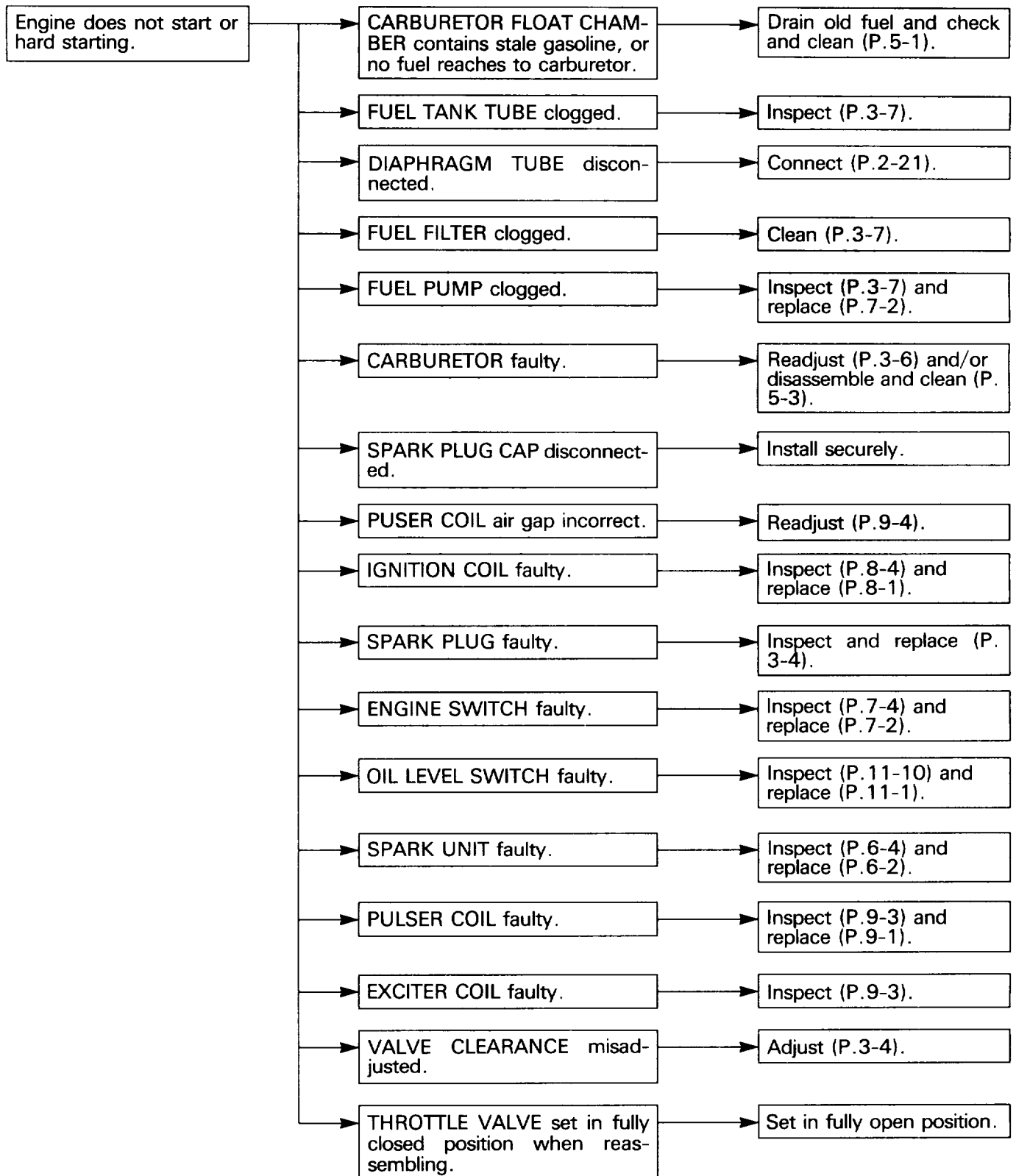
## 7. SPECIAL TOOLS

No.	Tool name	Tool number	Application
1.	Float level gauge	07701 - 0010000	Carburetor float level inspection
2.	Outer driver, 24 x 26 mm	07746 - 0010700	17 x 27 x 5 mm oil seal installation
3.	Pilot, 17 mm	07746 - 0040400	17 x 27 x 5 mm oil seal installation
4.	Driver handle A	07749 - 0010000	Used together with the No.3 tool
5.	Flywheel puller	07935 - 8050004	Rotor removal
6.	Cleaning brush	07998 - VA20100	Combustion chamber cleaning



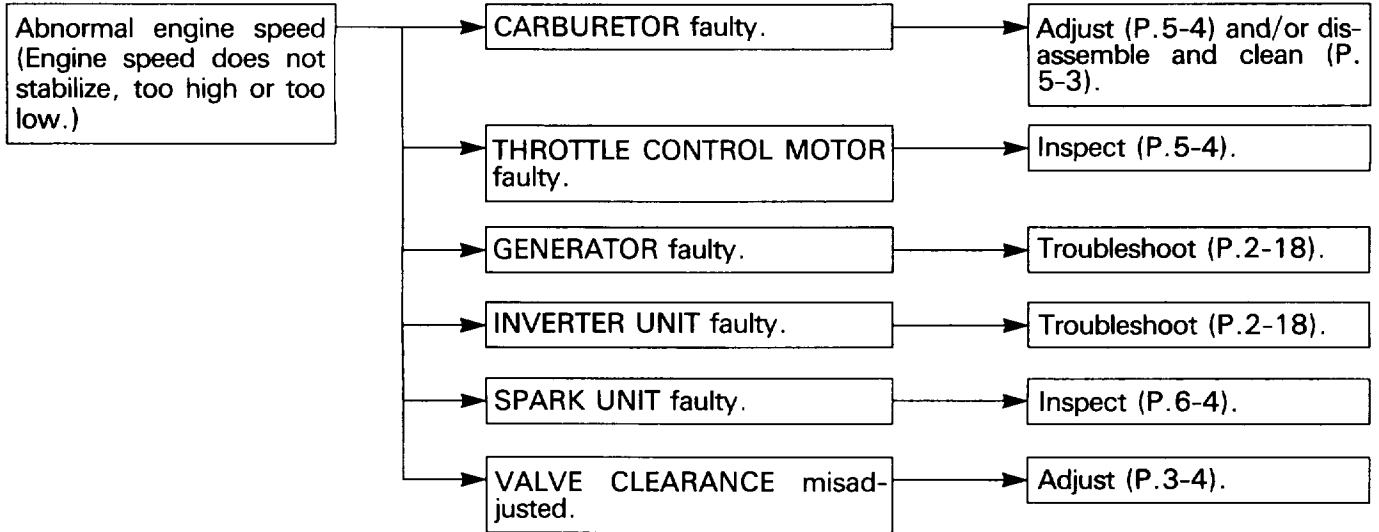
## 8. TROUBLESHOOTING

### a. GENERAL SYMPTOMS AND POSSIBLE CAUSES



# HONDA

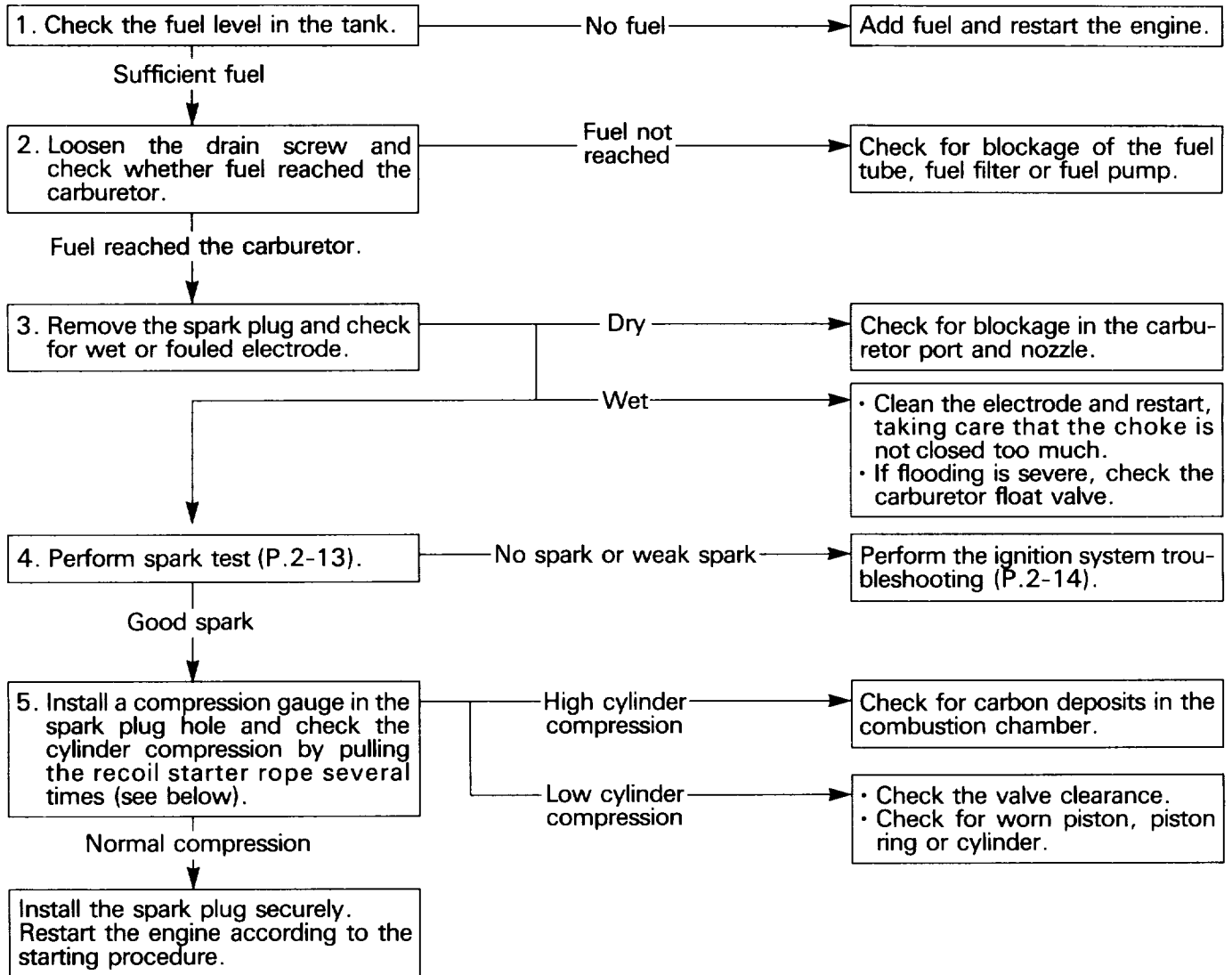
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**b. ENGINE**

● **Hard Starting**

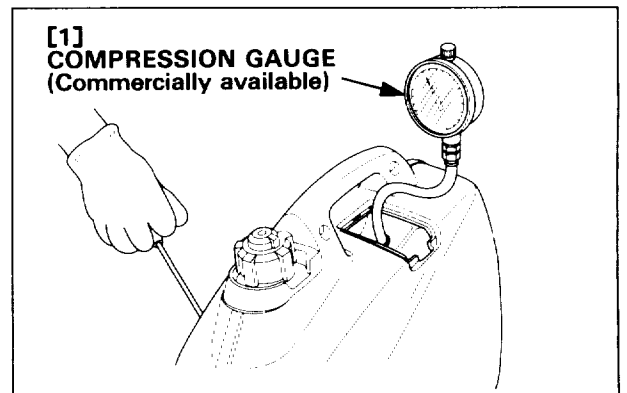
If the engine does not start or hard starting after reassembly, check to see whether the throttle valve is at the full open position.



● **CYLINDER COMPRESSION CHECK**

- 1) Remove the spark plug cap and spark plug, and install a compression gauge in the spark plug hole.
- 2) Pull the recoil starter rope several times with force and measure the cylinder compression.

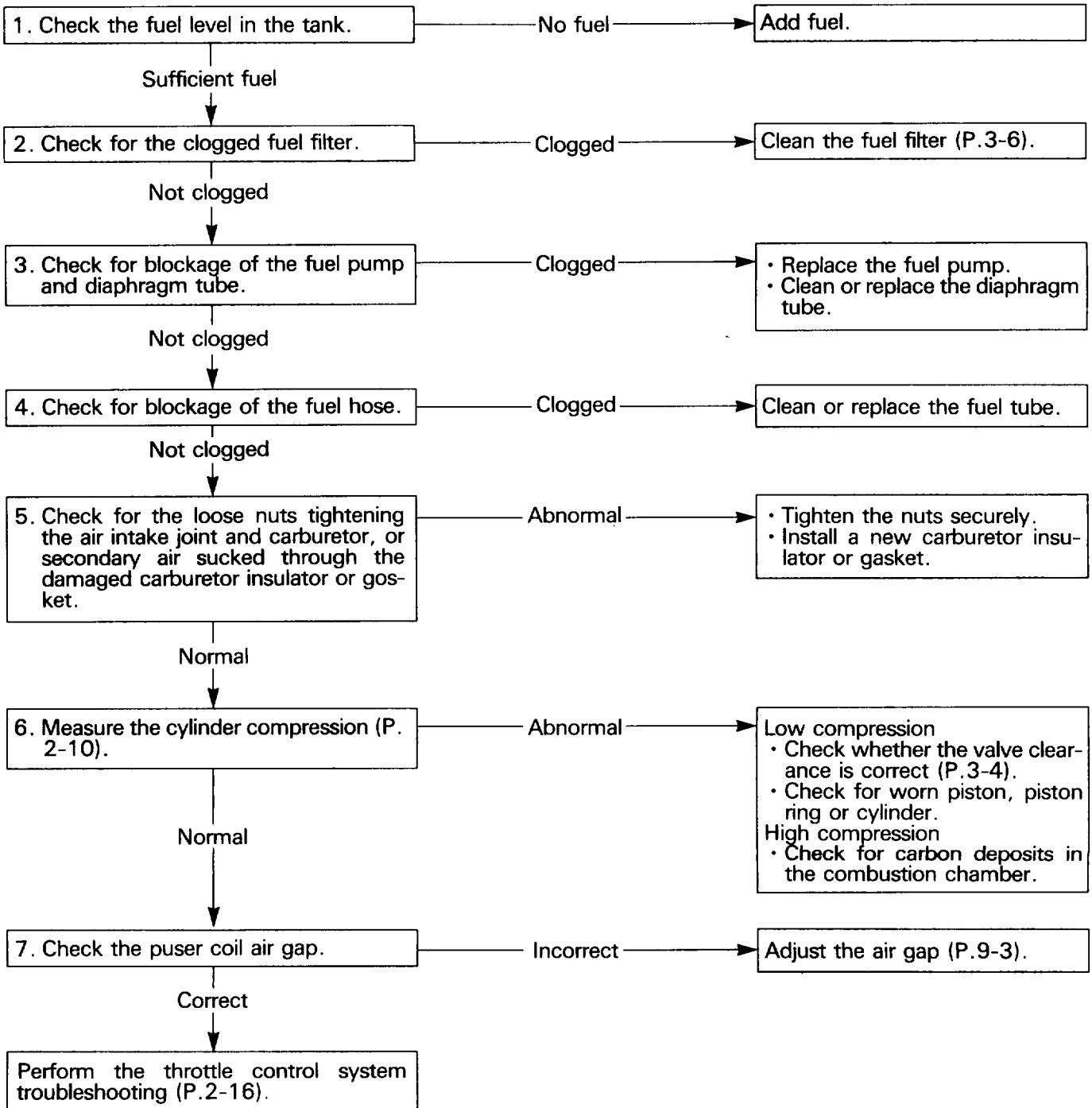
Cylinder compression	0.42 MPa (4.3 kgf/cm <sup>2</sup> , 61.2 psi) at 1,000 min <sup>-1</sup> (rpm)
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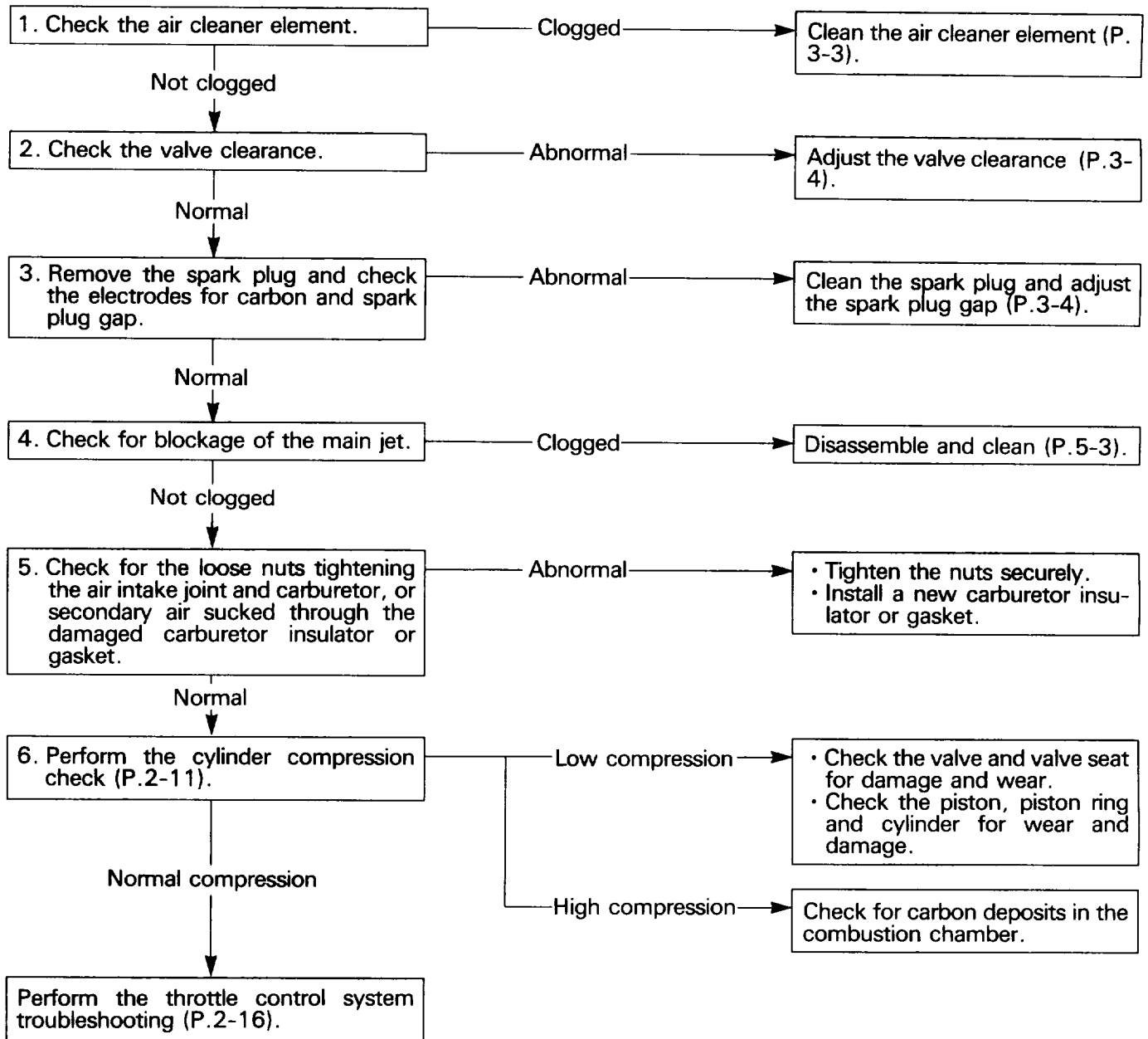
# HONDA

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### ● Engine Starts but Then Stalls



● **Engine Speed Does Not Increase or Stabilize.**



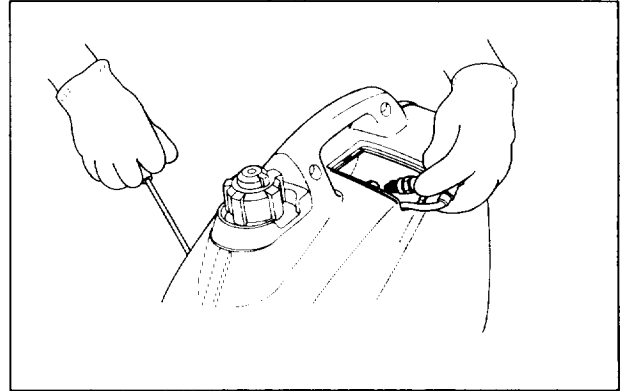


## c. IGNITION SYSTEM

### ● SPARK TEST

#### ▲ WARNING

- Do not pull the recoil starter rope while touching the high tension wire. High voltage generates, which is very dangerous. Be sure to ground the spark plug and hold the plug cap to perform the spark test.
- Gasoline is extremely flammable and explosive. If ignited, gasoline can burn you severely. Be sure there is no spilled fuel near the engine.



- 1) Drain the gasoline from the fuel tank and carburetor.
- 2) Remove the spark plug cap and spark plug.
- 3) Pull the recoil starter several times to release the unburnt gas in the cylinder with the engine switch OFF.

#### ▲ WARNING

Unburnt gas can ignite if it is left in the cylinder. Be sure to drain the fuel tank and carburetor thoroughly before spark test, and release the unburnt gas from the cylinder by pulling the recoil starter several times.

- 4) Attach the removed spark plug to the plug cap.
- 5) Set the ignition switch to the "ON" position. Ground the negative (-) electrode (i.e. threaded part) of the spark plug against the shroud and pull the recoil starter rope to check whether sparks jump across the electrodes.

### ● Engine Does Not Start with Sufficient Oil in the Crankcase

1. Measure the spark plug gap and perform the spark test.

Gap: 0.6 – 0.7 mm

Standard spark plug:

NGK: CR5HSB

DENSO: U16FSR-UB

No spark.

2. Perform the spark test again using a new spark plug.

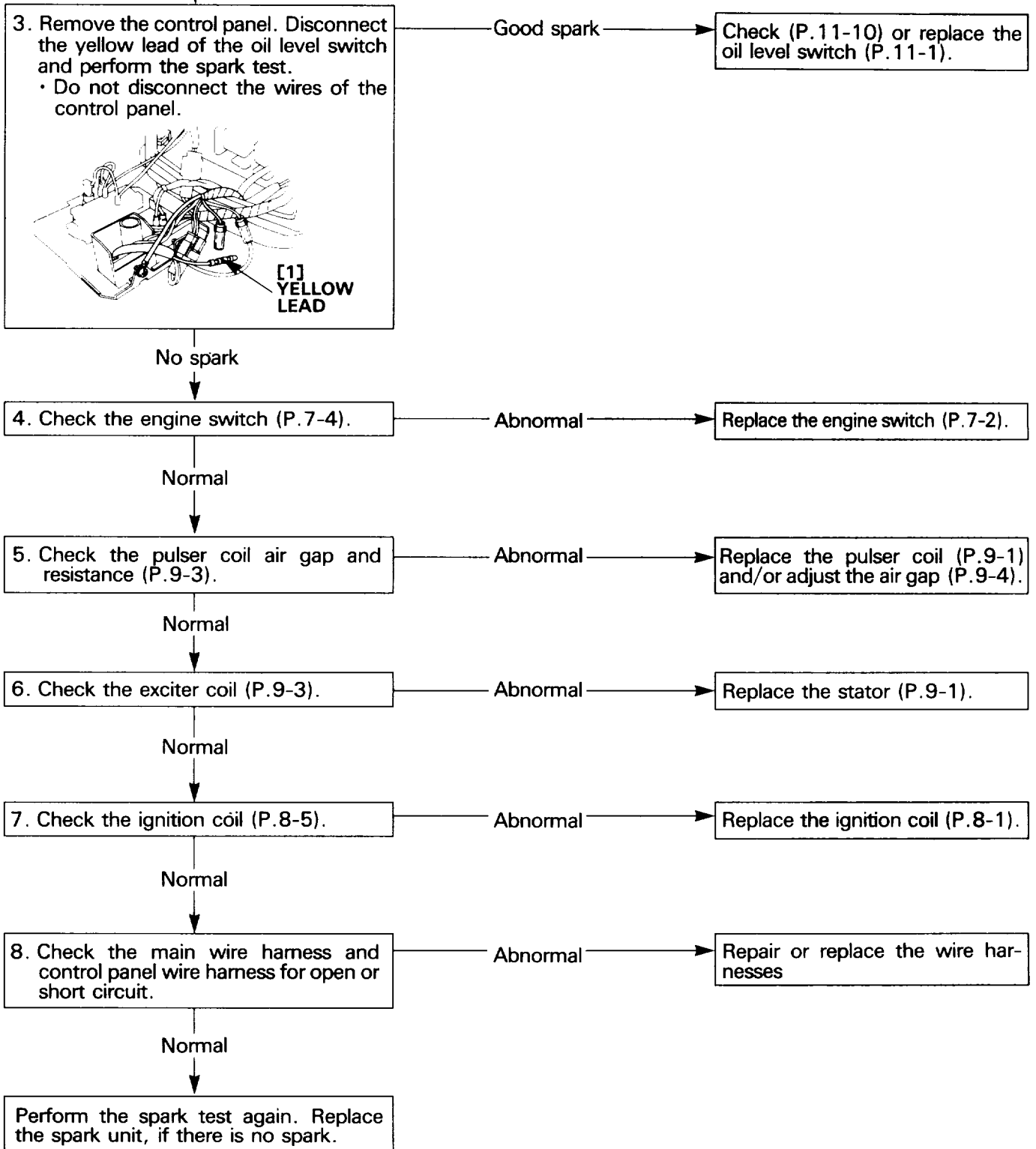
Good spark

Replace the spark plug.

No spark.

To page 2-14

From page 2-13



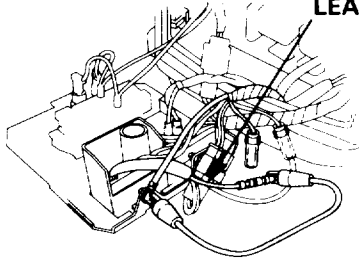
# HONDA

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## ● Engine Oil Level is Low, but Engine Does Not Stop.

1. Remove the control panel. Ground the yellow lead of the control panel wire harness, that is connected to the oil level switch, to the engine and perform spark test (P.2-14).

[1] YELLOW LEAD



No spark

Replace the oil level switch (P. 11-1).

Good spark

2. Check the main wire harness and control panel wire harness for open or short circuit.

Abnormal

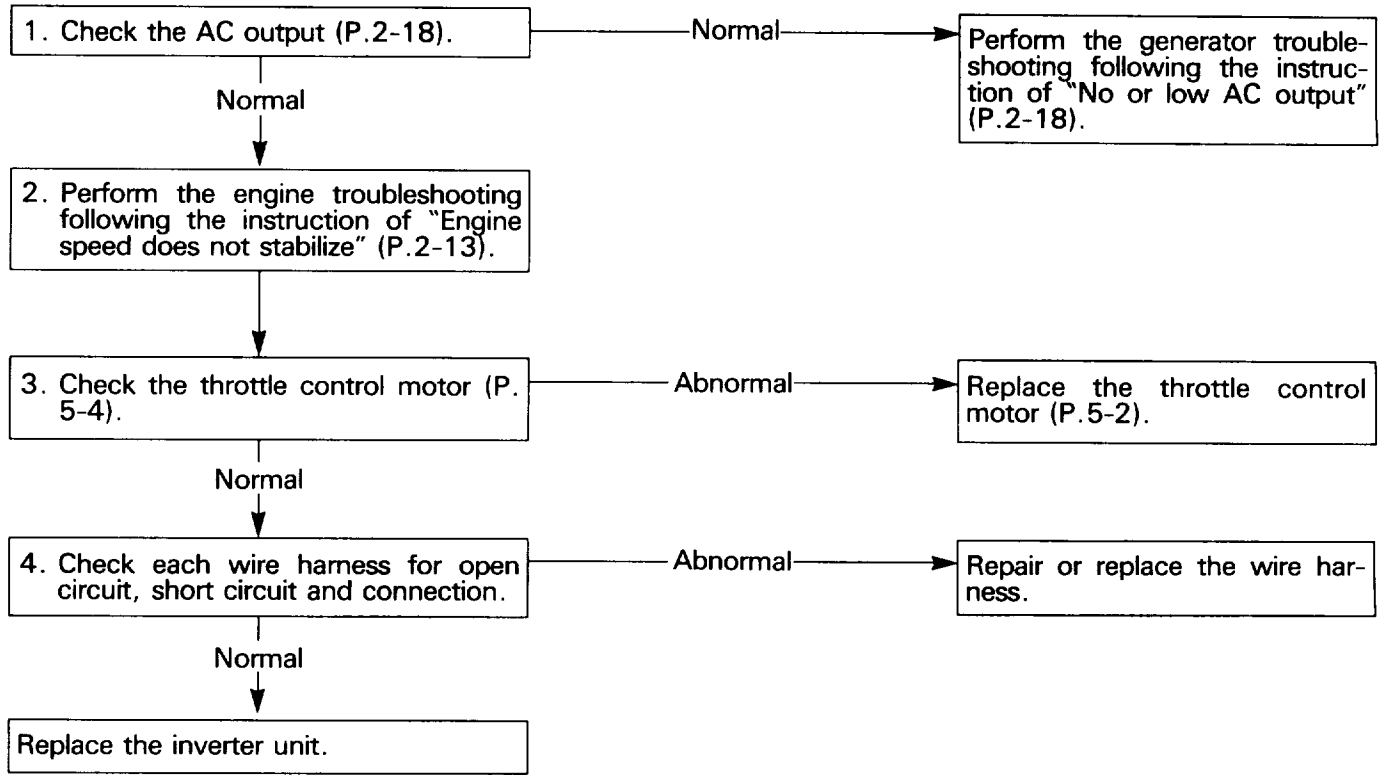
Repair or replace the wire harnesses.

Normal

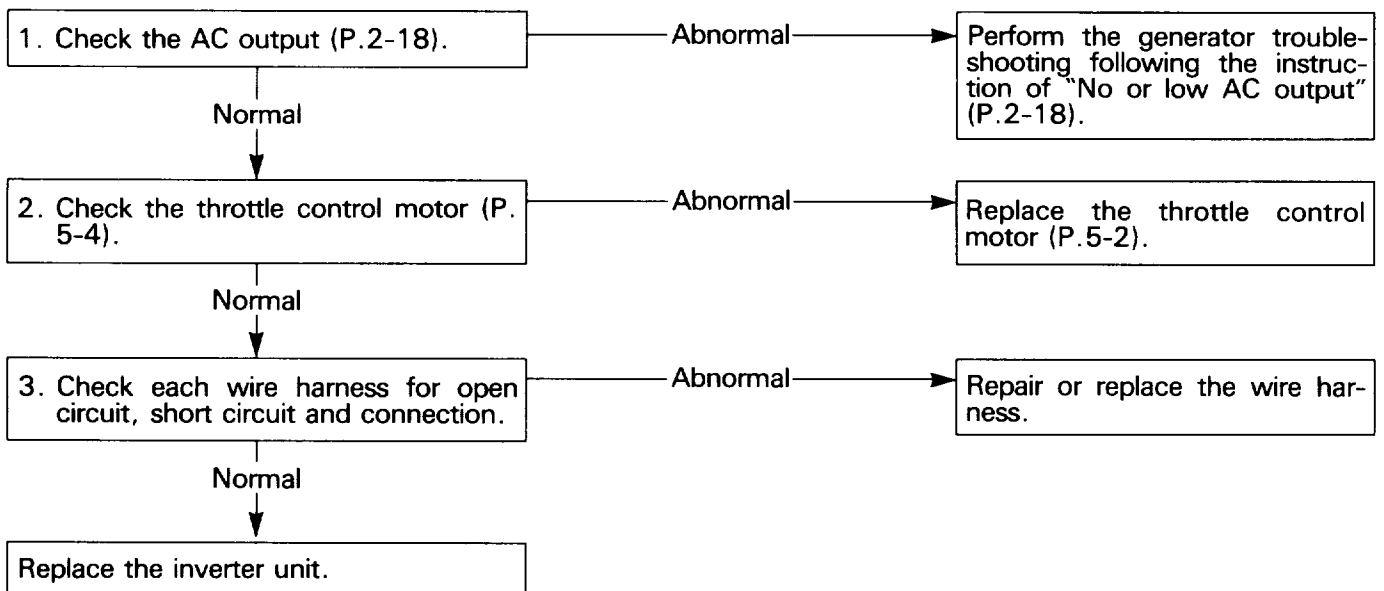
Perform the spark test again. Replace the spark unit, if there is no spark.

**d. THROTTLE CONTROL SYSTEM**

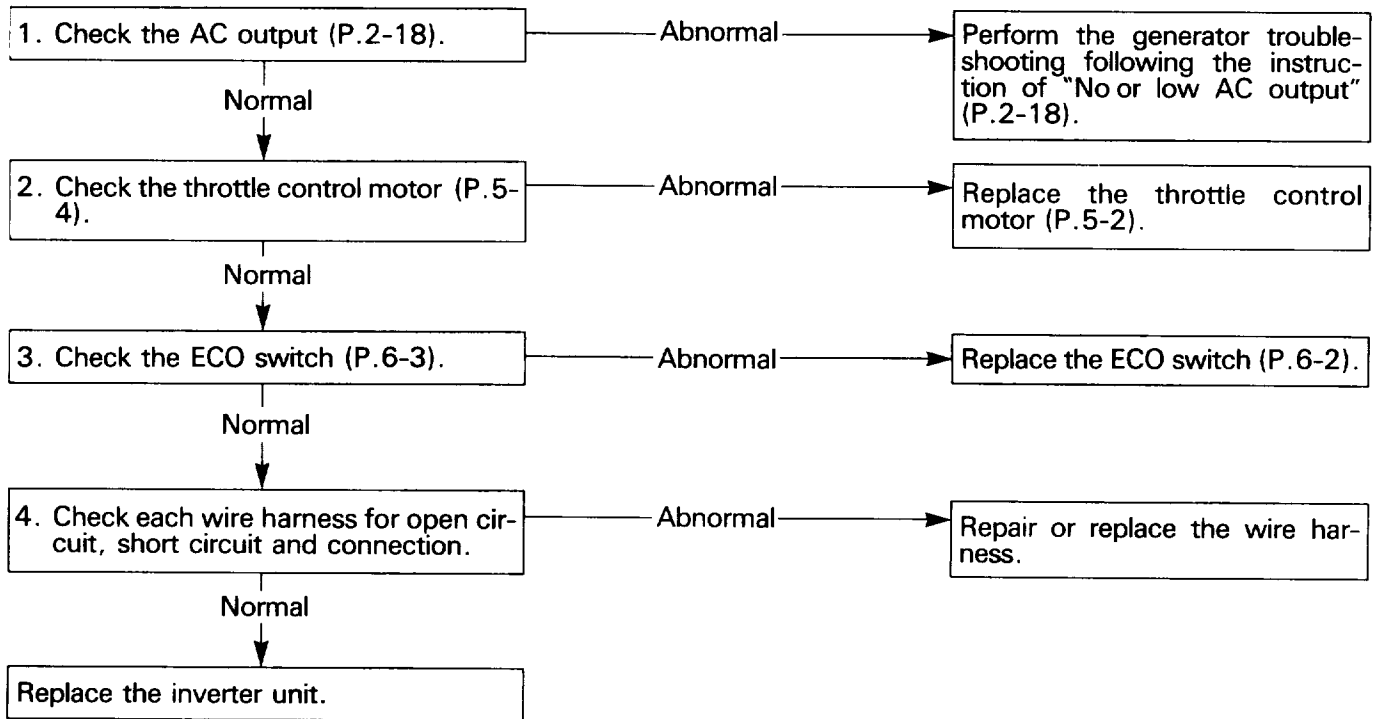
**● Engine Speed is Too High, Hunting.**



**● Engine Speed Too Low.**

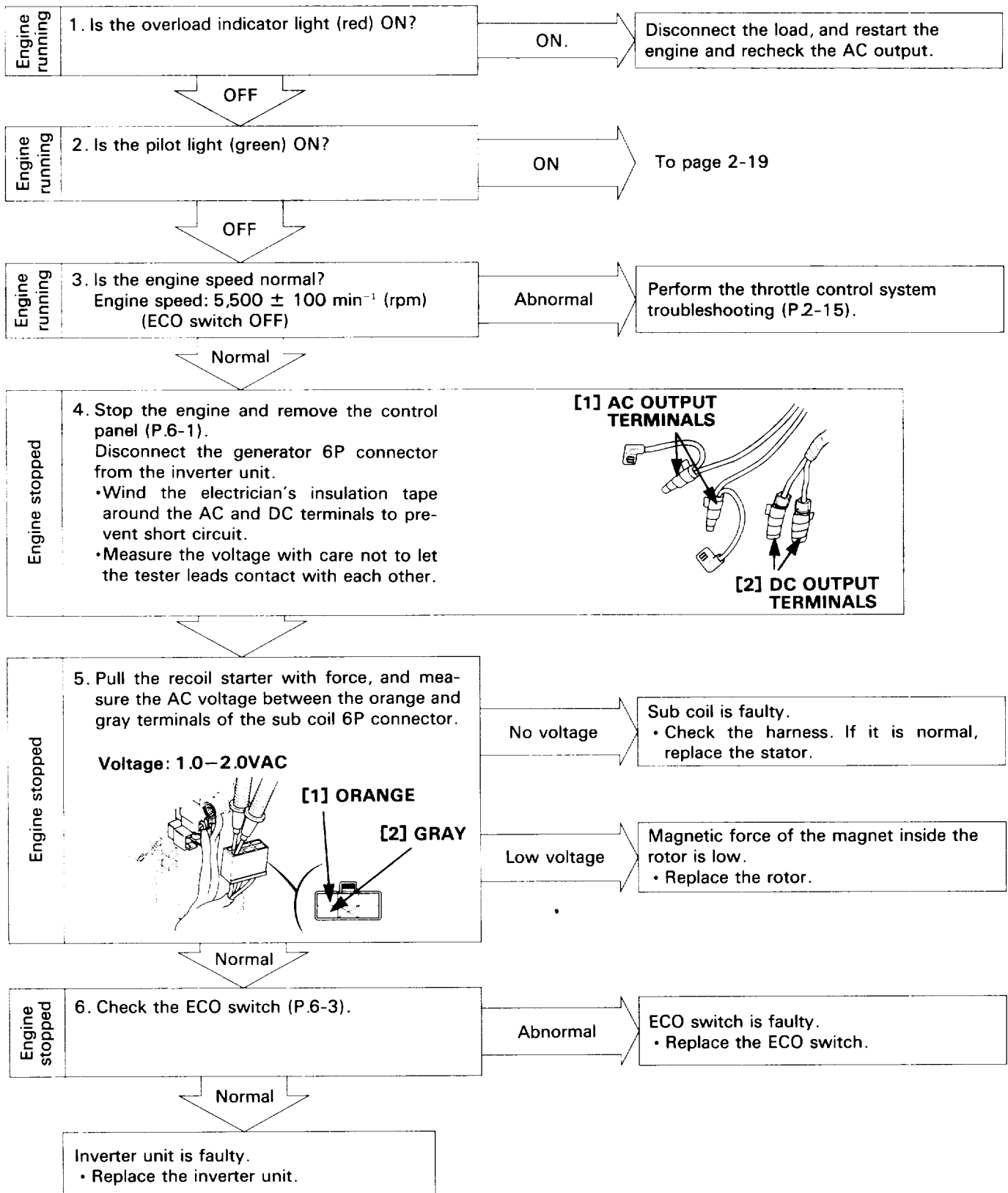


- Engine Speed Does Not Increase With ECO Throttle System OFF Under No Load.
- Engine Speed Does Not Decrease With ECO Throttle System ON Under No Load.
- Engine Speed Does Not Increase by Connecting Load With ECO Throttle System ON.

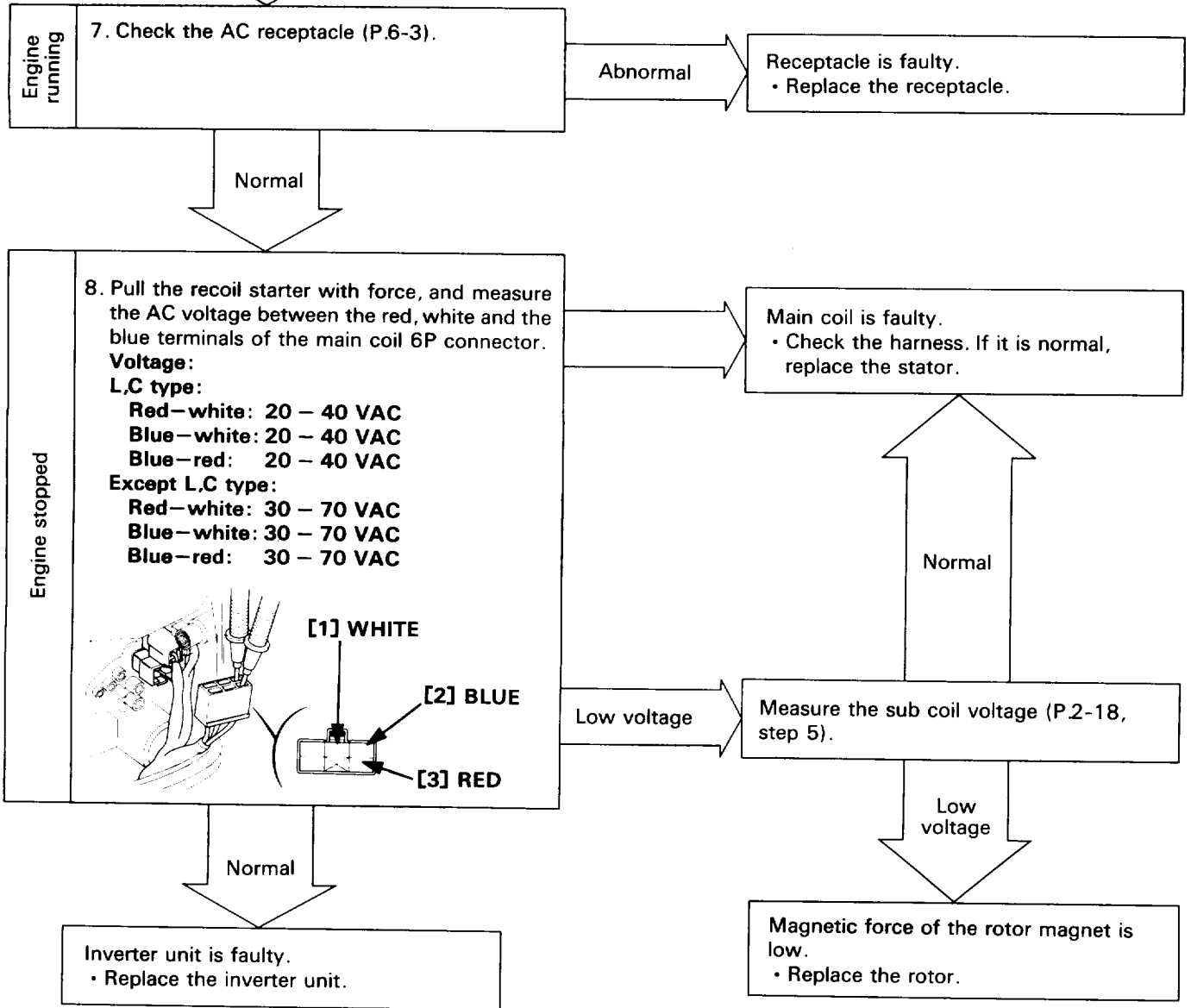


**e. GENERATOR**

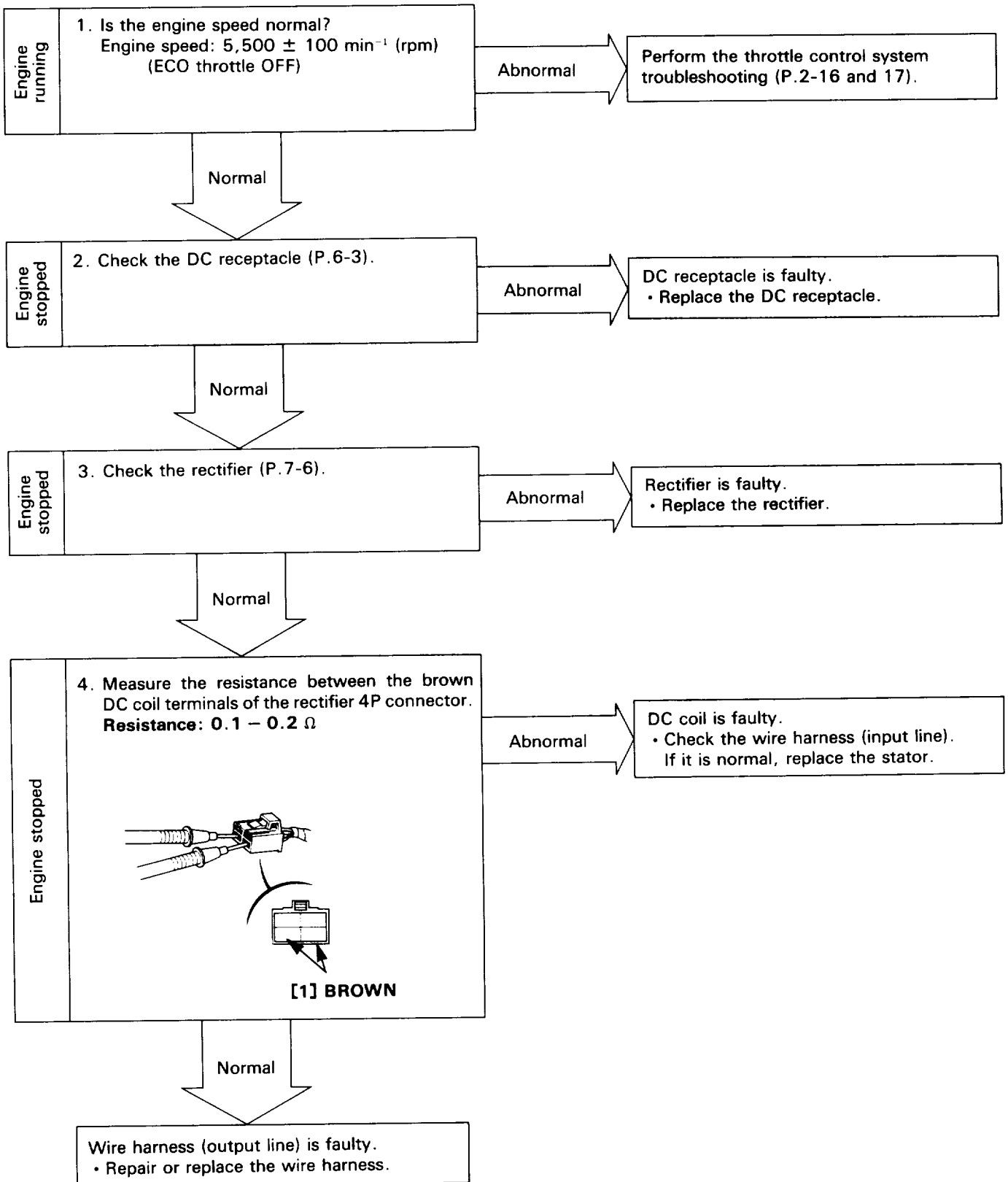
● **No or Low AC Output**



From page. 2-18



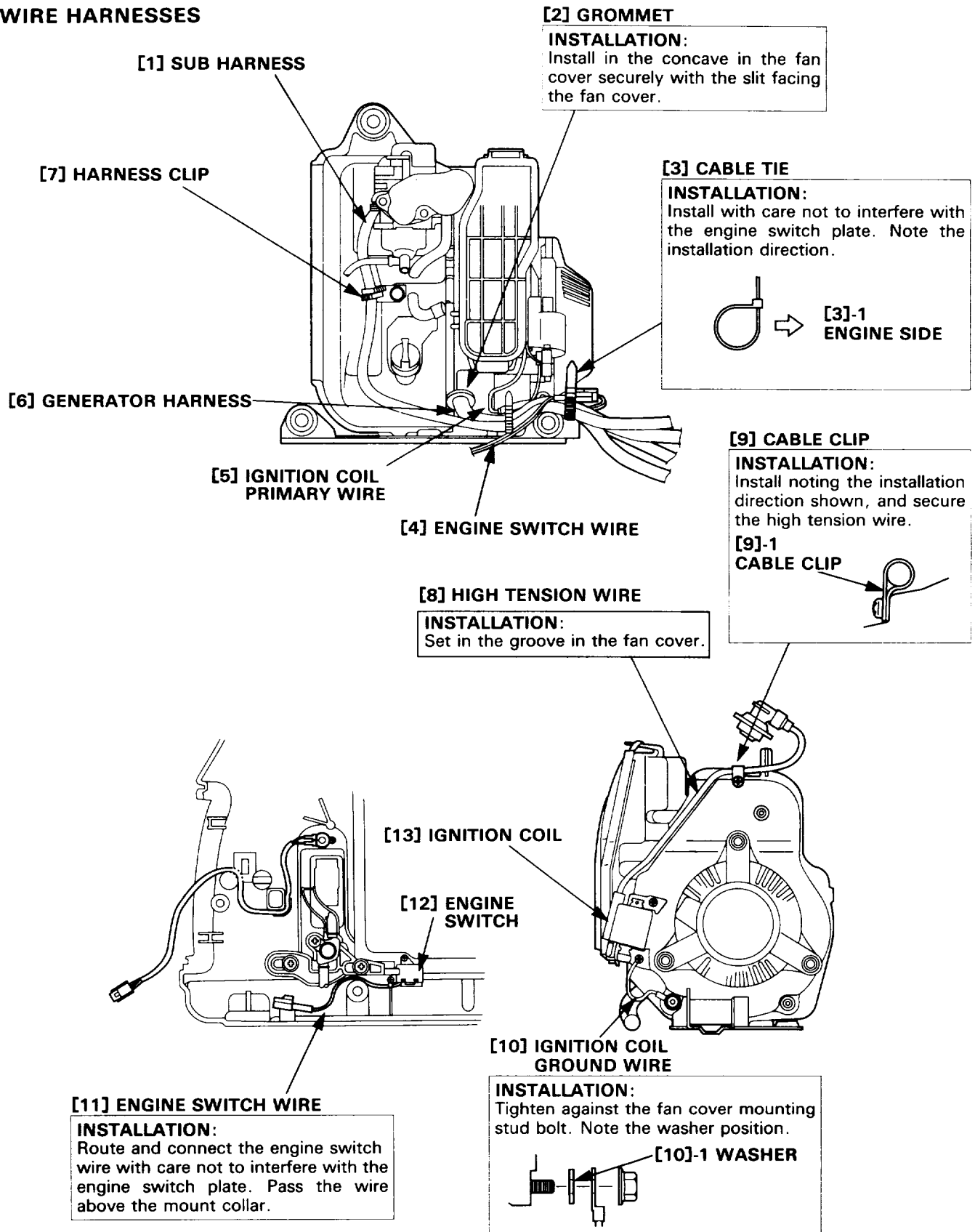
● No DC Output



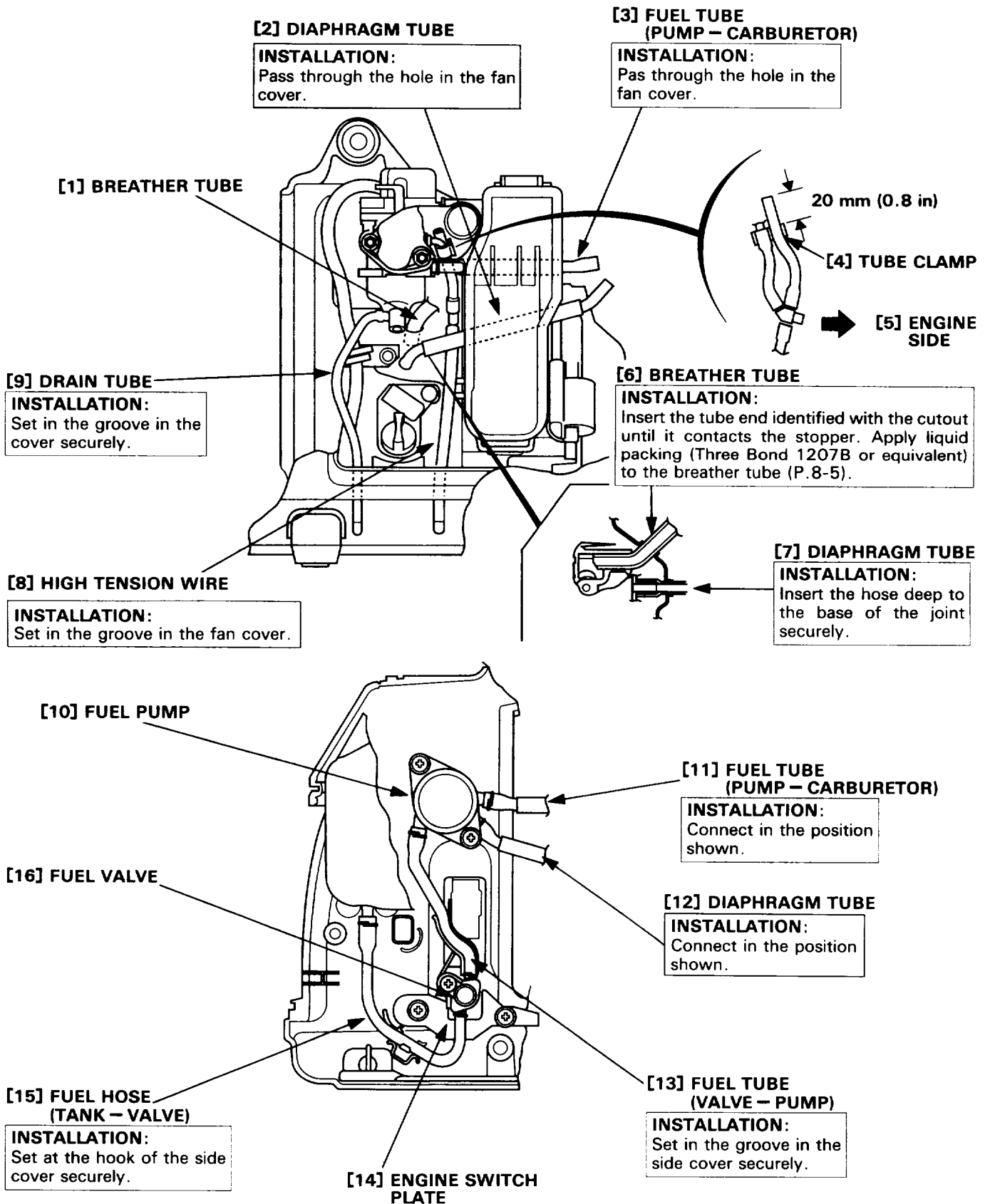


## 9. CABLE/HARNESS ROUTING

### ● WIRE HARNESES



● TUBES



# 3. MAINTENANCE

**HONDA**  
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1. MAINTENANCE SCHEDULE
2. OIL ALERT
3. ENGINE OIL
4. AIR CLEANER

5. SPARK PLUG
6. VALVE CLEARANCE
7. FUEL TANK/FUEL FILTER
8. FUELTUBE/FUEL PUMP

## 1. MAINTENANCE SCHEDULE

REGULAR SERVICE PERIOD (1)		Each use	First month or 10 Hrs.	Every 3 months or 50 Hrs.	Every 6 months or 100 Hrs.	Every year or 300 Hrs.	Ref. page
ITEM Perform at every indicated month or operating hour interval, whichever comes first.							
Engine oil	Check	○					3-2
	Change		○		○		
Air cleaner	Check	○					3-3
	Clean			○(2)			
Spark plug	Clean-Adjust				○		3-4
Valve clearance	Check-Adjust					○	3-4
Fuel tank and filter	Clean					○	3-6
Fuel line	Check		Every 2 years (Replace if necessary)				3-6

**NOTE:**

- (1) For commercial use, log hours of operation to determine proper maintenance.  
 (2) Service more frequently when used in dusty areas.

## 2. OIL ALERT

• For convenience, perform this test in conjunction with the engine oil change.

- 1) Drain the engine oil and perform the spark test (P. 2-13). The oil alert light should go ON and there should be no sparks at the spark plug electrodes.
- 2) Add the engine oil to the specified level and perform the spark test (P. 2-13). The oil alert light should stay OFF and the sparks jump across the spark plug electrodes.
- 3) If there is any abnormality, perform the ignition system troubleshooting (P. 2-13 and 14).

## 3. ENGINE OIL

### Oil Level Check:

Check the engine oil level with the engine stopped and the engine on a level surface.

- 1) Loosen the screw and remove the maintenance cover.
- 2) Remove the oil filler cap, and check the oil level. It should be at the lower edge of the oil filler port.
- 3) If the oil level is low, add to the lower edge of the oil filler port.

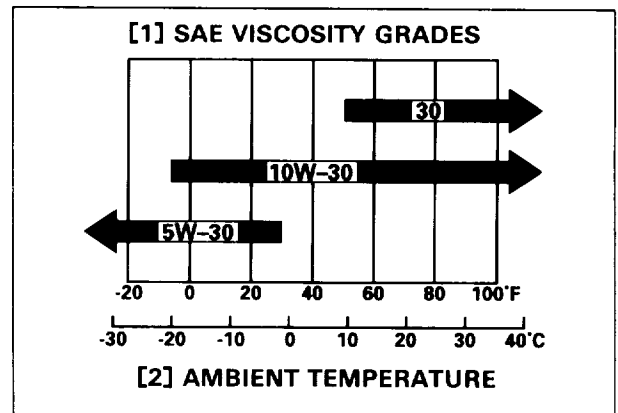
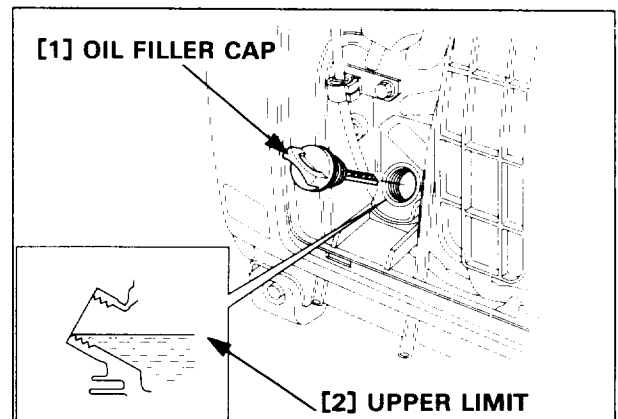
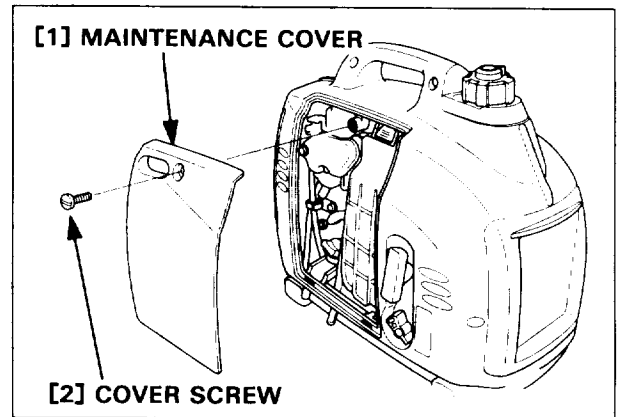
Check the oil if it is stale or contaminated with the foreign material.

Recommended oil	SAE 10W-30 or SAE 30 API Service Classification SE, SF or SG
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Oil is a major factor affecting performance and service life. Use 4-stroke automotive detergent oil.

SAE 10W-30 is recommended for general use. Other viscosities shown in the chart may be used when the average temperature in your area is within the recommended range.

- 4) Install the oil filler cap/dipstick securely.



## Oil Change:

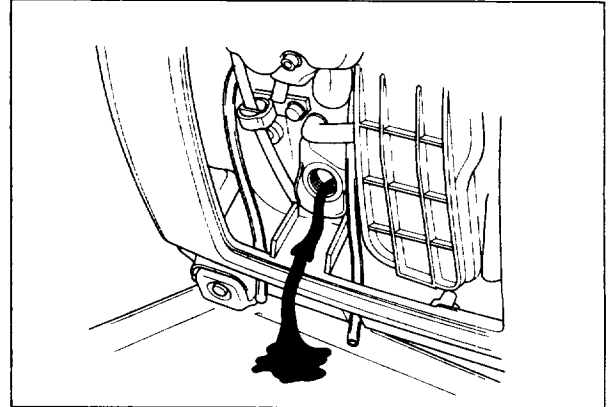
Drain the used oil while the engine is warm. Warm oil drains quickly and completely.

- 1) Remove the maintenance cover. Remove the oil filler cap and drain the engine oil into a suitable container.

Please dispose of the used motor oil in a manner that is compatible with the environment. We suggest you take used oil in a sealed container to your local recycling center or service station for reclamation. Do not throw it in the trash, pour it on the ground, or down a drain.

### CAUTION:

- Used engine oil contains substances that have been identified as carcinogenic.
- If repeatedly left in contact with the skin for prolonged periods, it may cause skin cancer.
- Wash your hands thoroughly with soap and water as soon as possible after contact with used engine oil.



- 2) Pour the specified amount of fresh engine oil through the oil filler port.

Engine oil capacity	0.25 ℓ (0.26 US qt, 0.22 Imp qt)
---------------------	----------------------------------

- 3) After refilling, check the oil level again. If the level is low, add to the lower edge of the filler neck.
- 4) Install the maintenance cover.

## 4. AIR CLEANER

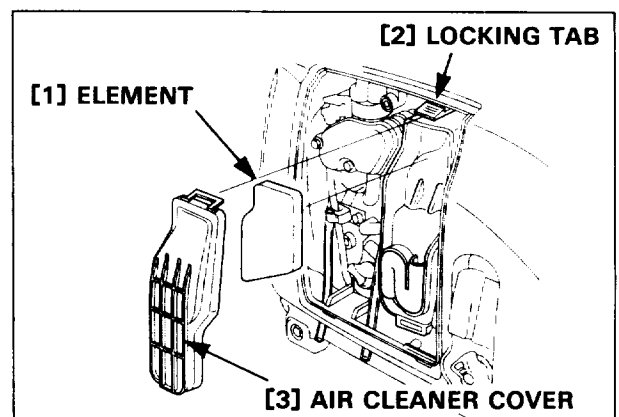
A dirty air cleaner will restrict air flow to the carburetor, reducing engine performance. If the engine is operated in dusty areas, clean the air cleaner more often than specified in the MAINTENANCE SCHEDULE.

### CAUTION:

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

### Inspection/Cleaning:

- 1) Loosen the cover screw and remove the maintenance cover.
- 2) Disengage the locking tab by pushing it, and remove the air cleaner cover.
- 3) Remove the element from the air cleaner case.



- 4) Clean the element in warm soapy water, rinse and allow to dry thoroughly, or clean with a high flash point solvent and allow to dry.

Dip the element in clean engine oil and squeeze out all the excess oil.

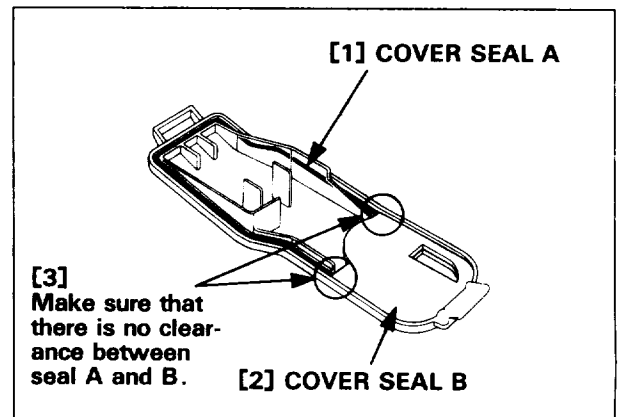
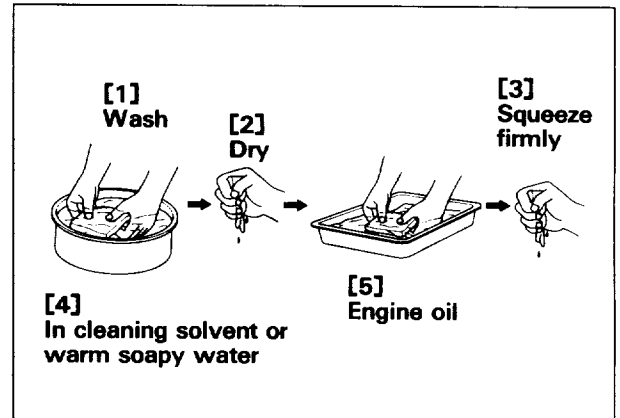
- Excess oil will restrict air flow through the foam element and may smoke at the engine start.

- 5) Install the air cleaner element in the air cleaner case.
- Clean the air cleaner rubber and the air cleaner case if necessary.
  - Be sure that the air cleaner cover seals are set securely.
- 6) Install the air cleaner cover.
- Align the lower alignment part of the air cleaner cover, and lock the locking tab at the top of the air cleaner cover.
  - Be sure that the air cleaner cover seals are set securely. Replace the cover seal A if damaged.

**CAUTION:**

Loosely installed air cleaner cover can come off by vibration during running. Operating the engine without an air cleaner element or with a damaged air cleaner element will allow dirt to enter the engine, causing rapid engine wear.

- 7) Install the maintenance cover securely.



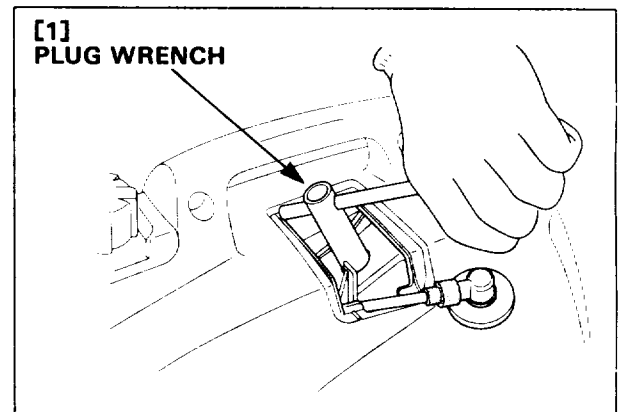
## 5. SPARK PLUG

### Inspection/Cleaning:

If the engine has been running, the engine will be very hot. Allow it to cool before proceeding.

- 1) Remove the plug cover and remove the spark plug cap.
- 2) Remove the spark plug using a plug wrench.

Visually inspect the spark plug. Discard the plug if the insulator is cracked or chipped.



- 3) Remove carbon or other deposits with a plug cleaner or stiff wire brush. Check the sealing washer for damage.
- 4) Measure the plug gap with a wire-type feeler gauge. If the measurement is outside the specification, adjust by bending the side electrode.

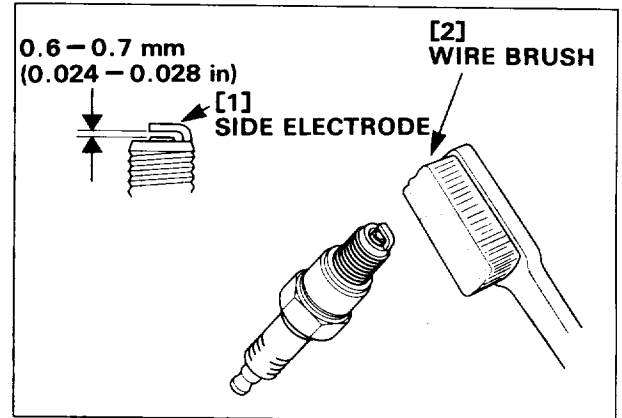
Spark plug gap	0.6 – 0.7 mm (0.024 – 0.028 in)	
Recommended spark plug	NGK	CR5HSB
	DENSO	U16FSR-UB

- 5) Install the plug fingertight to seat the washer, then tighten with a plug wrench.
  - If reinstalling the used spark plug, tighten 1/8 – 1/4 turn after the spark plug seats.
  - If installing a new spark plug, tighten 1/2 turn after the spark plug seats.

**CAUTION:**

A loose spark plug can become very hot and can damage the engine. Overtightening can damage the threads in the cylinder barrel.

- 6) Install the spark plug cap and plug cover.



## 6. VALVE CLEARANCE

**CAUTION:**

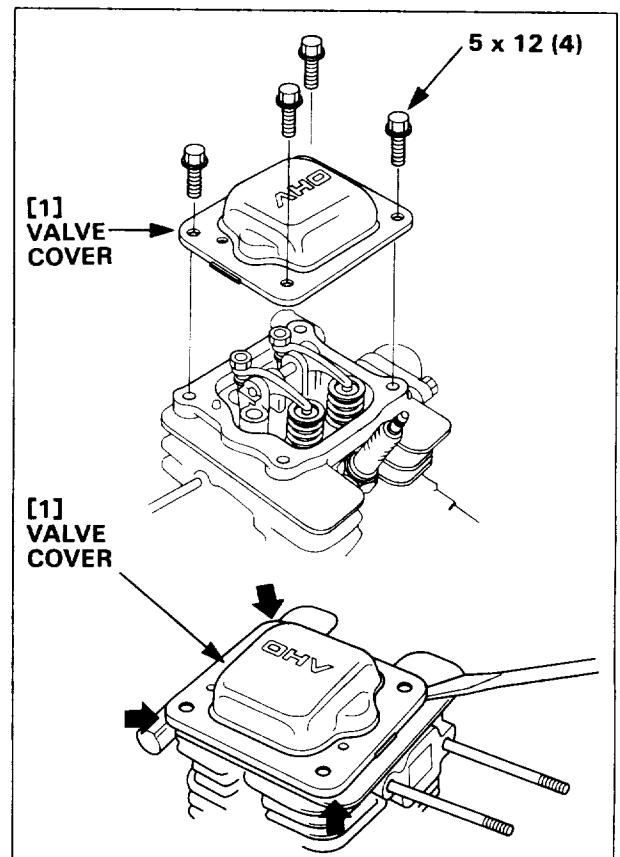
Valve clearance inspection and adjustment must be performed with the engine cold.

**Inspection/Adjustment:**

- 1) Remove the following parts.
  - Muffler protector (P.4-1)
  - Front cover, control panel (P.6-1)
  - Right/left side covers (P.7-1)
  - Fuel tank (P.7-4)
  - Inverter unit, engine bed (P.7-5)
  - Recoil starter, fan cover (P.8-1)
  - Right/left shrouds (P.8-5)
- 2) Remove the four 5 x 12 mm flange bolts.
- 3) Loosen the valve cover by slightly prying up each corner, then remove the valve cover.
  - Catch up the spilled engine oil with a suitable material when removing the valve cover.

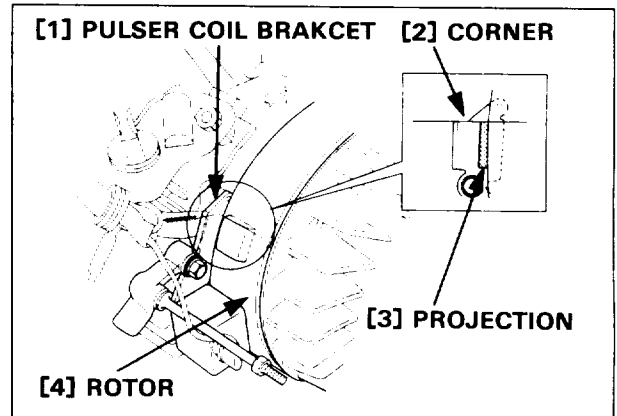
**CAUTION:**

- Do not remove the valve cover with excessive force. It can deform the valve cover.
- Replace the valve cover if it is deformed.



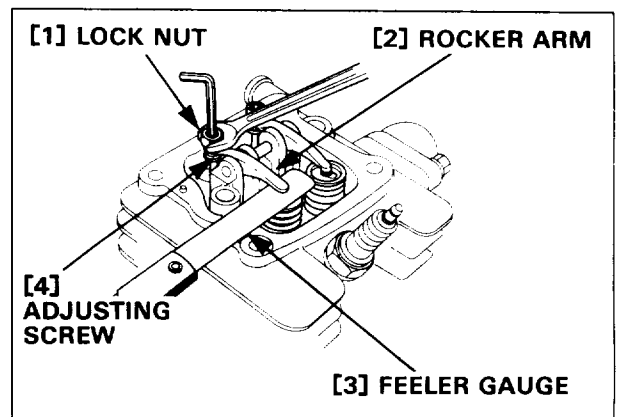
- 4) Turn the rotor to set the piston at top dead center of the compression stroke.

- Right end of the projection on the rotor should align with the corner of the pulser coil bracket, and both the inlet and exhaust valves should close.



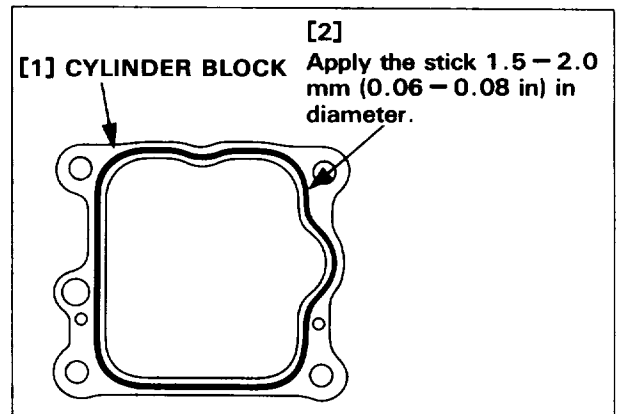
- 5) Insert a feeler gauge between the rocker arm and the valve and measure the valve clearance.

Valve clearance	IN	0.06 – 0.10 mm (0.0024 – 0.0039 in)
	EX	0.09 – 0.13 mm (0.0035 – 0.0051 in)



- 6) If adjustment is necessary, proceed as follows.
- Loosen the adjusting screw lock nut and adjust the valve clearance by turning the adjusting screw in or out.
    - To increase valve clearance, screw out.
    - To decrease valve clearance, screw in.
  - Holding the adjusting screw with a socket wrench, tighten the lock nut to the specified torque.
 

**TORQUE: 5.5 N · m (0.55 kgf·m, 4.0 lbf·ft)**
  - After tightening the lock nut, check the valve clearance again.



- 7) Clean the valve cover installation surface of the cylinder block and valve cover. Apply the liquid gasket (Three Bond 1207B or equivalent) to the cylinder block installation surface as shown, and install the valve cover.

**NOTE:**

Assemble the valve cover within 3 minutes after application of the liquid gasket.

- 8) Tighten the 5 x 12 mm flange bolts.
- TORQUE: 6.0 N·m (0.6 kgf·m, 4.3 lbf·ft)**
- 9) Install the removed parts in the reverse order of removal.



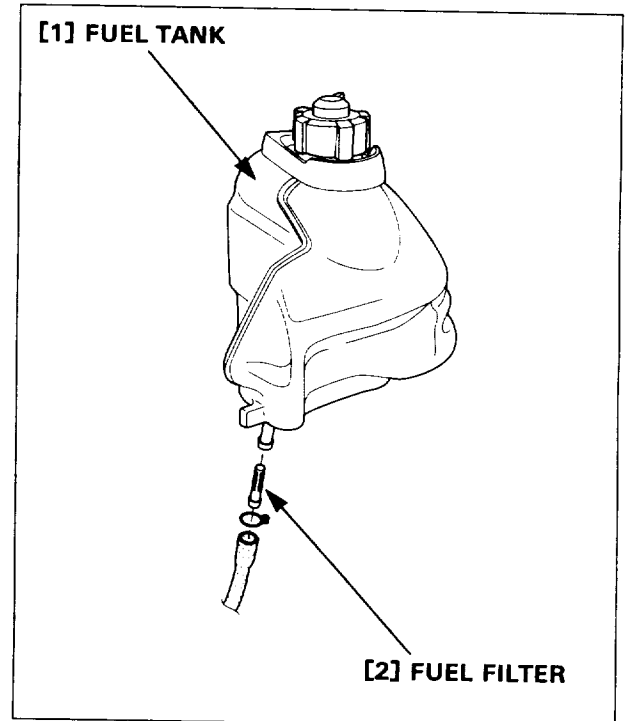
## 7. FUEL TANK/FUEL FILTER

**▲ WARNING**

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.

### Cleaning:

- 1) Drain the fuel from the tank and carburetor, then remove the following parts.
  - Muffler protector (P.4-1)
  - Front cover and control panel (P.6-1)
  - Right side cover (P.7-1)
- 2) Disconnect the fuel tube from the fuel tank, and remove the fuel strainer.
- 3) Remove the clogged foreign material from the fuel filter, and check the fuel filter for damage. Replace the fuel filter if necessary.
- 4) Remove the fuel tank and clean it with cleaning solvent and allow the fuel tank to dry thoroughly.
- 5) After cleaning, install the fuel tank and set the fuel strainer in the tank. Connect the fuel tube.
- 6) Install the removed parts in the reverse order of removal.
- 7) Fill the fuel tank with gasoline and check the fuel tube for gasoline leakage.



## 8. FUEL TUBE/FUEL PUMP

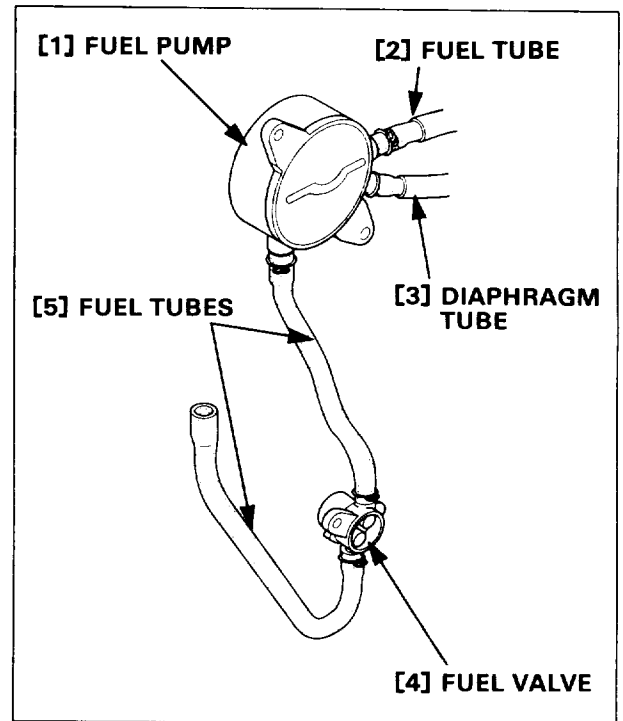
**▲ WARNING**

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.

### Inspection/Replacement:

- 1) Drain the fuel from the tank and carburetor, then remove the following parts.
  - Muffler protector (P.4-1)
  - Front cover and control panel (P.6-1)
  - Right and left side covers (P.7-1)

- 2) Check the fuel tube for deterioration, cracks and gasoline leakage.
  - If there is any abnormality in the fuel tube, replace the tube.
- 3) Check the diaphragm tube for deterioration, cracks and oil leakage.
  - If there is any abnormality in the diaphragm tube, replace the tube.
- 4) Check to see whether water and foreign material have been accumulated in the fuel pump.
  - If there is water or foreign material accumulated in the pump, replace the fuel pump.
- 5) After assembly, check for gasoline leakage from each part.



# 4. MUFFLER

**HONDA**  
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## 1. MUFFLER

### 1. MUFFLER

#### a. DISASSEMBLY/REASSEMBLY

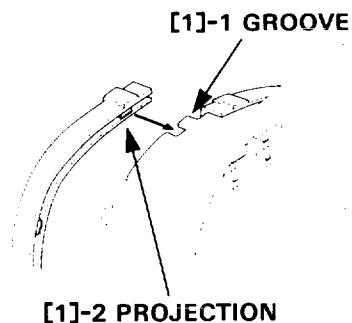
##### NOTE:

Muffler removal/installation must be performed with the engine cold.

#### [1] MUFFLER PROTECTOR

##### REASSEMBLY:

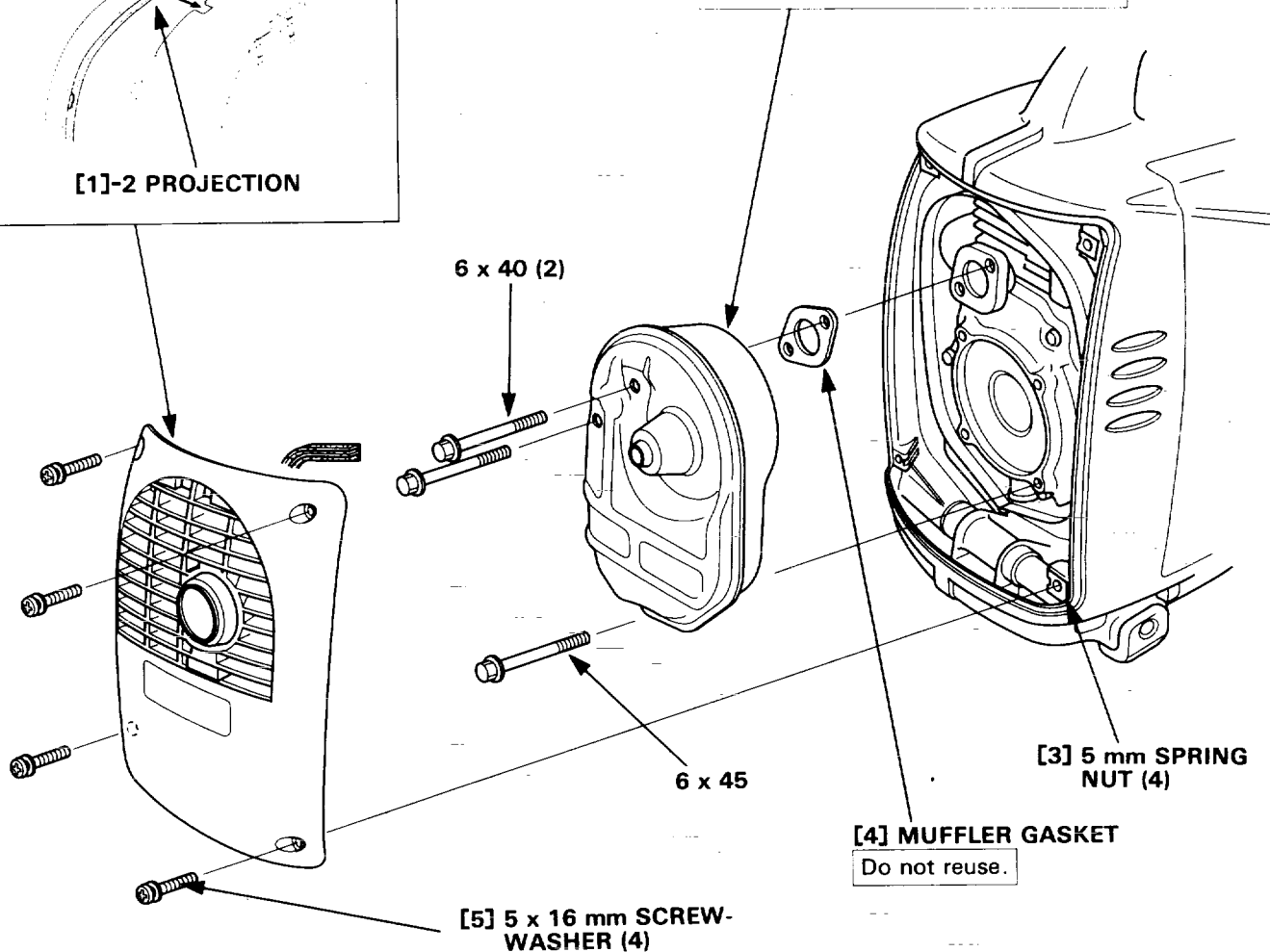
- Be sure that the seal rubber is set on the protector securely.
- Set the seal rubber on the protector by aligning the projection of the seal rubber with the groove in the protector as shown.



#### [2] MUFFLER

##### INSTALLATION:

Remove the carbon deposits by lightly tapping with a plastic hammer before installation.



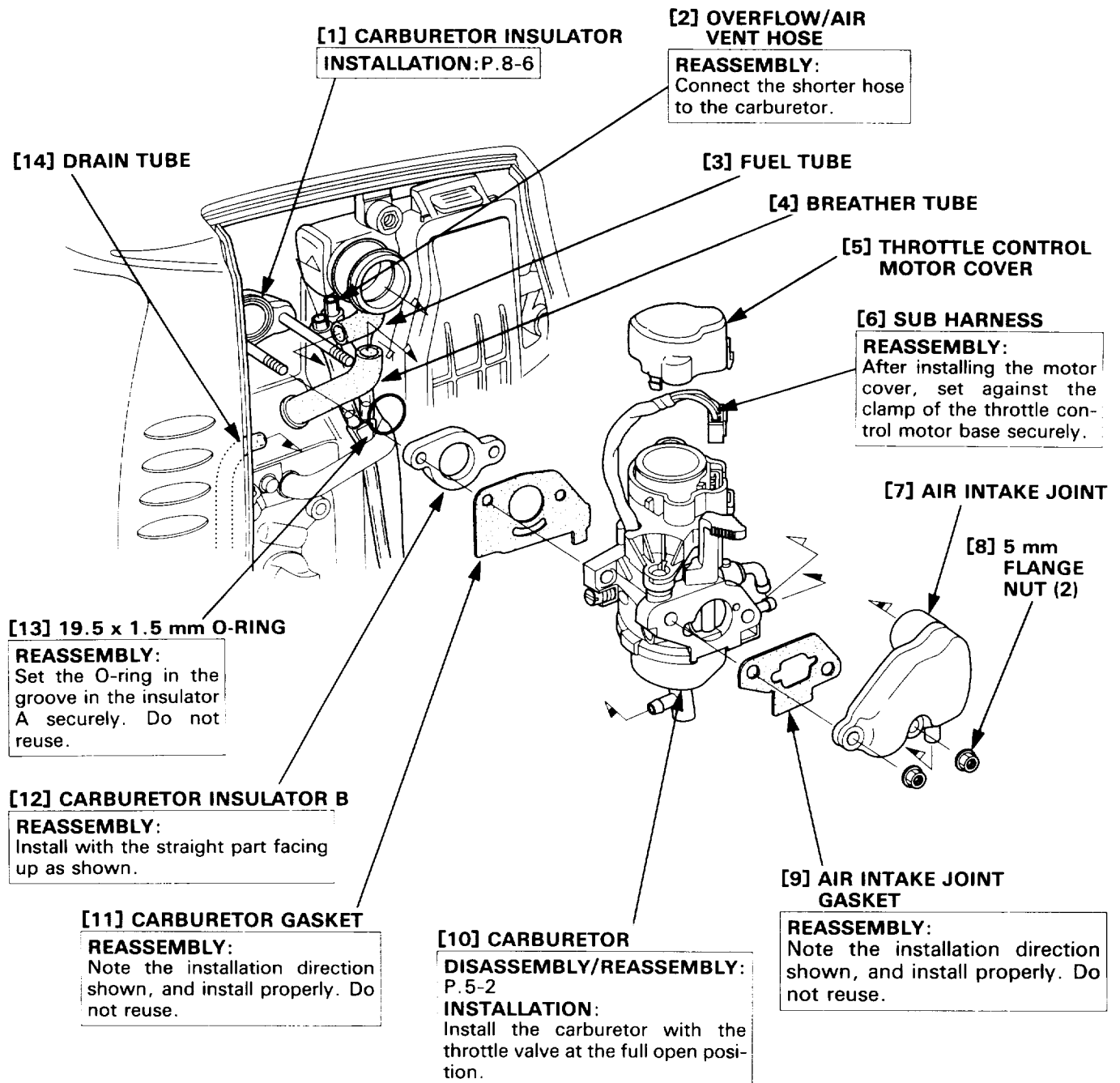
## 1. CARBURETOR

### 1. CARBURETOR

#### a. REMOVAL/INSTALLATION

##### ▲ WARNING

- Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.
- Loosen the drain screw to drain the carburetor thoroughly before removal.

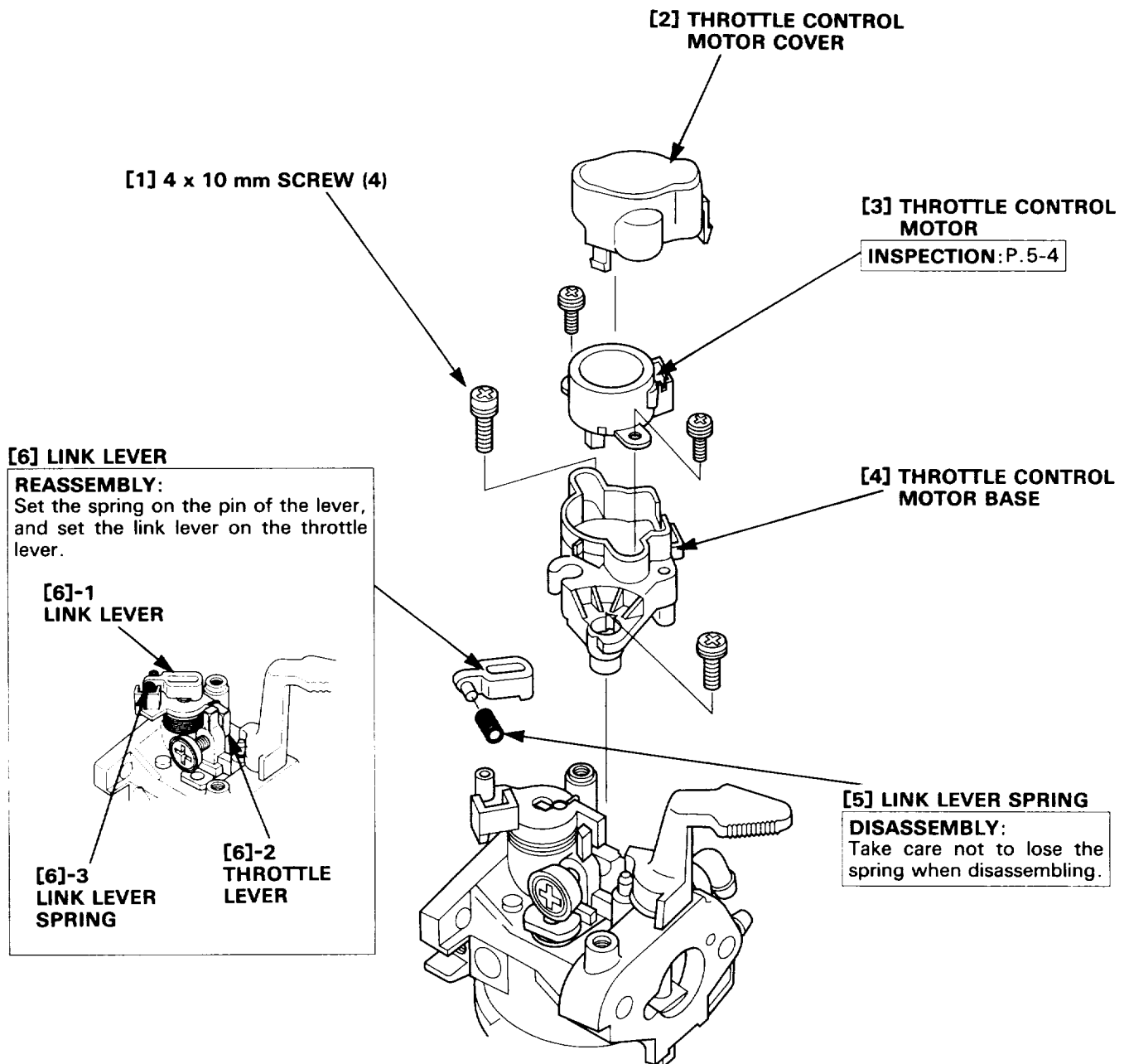


**b. REMOVAL/INSTALLATION**

**● THROTTLE CONTROL MOTOR**

**▲ WARNING**

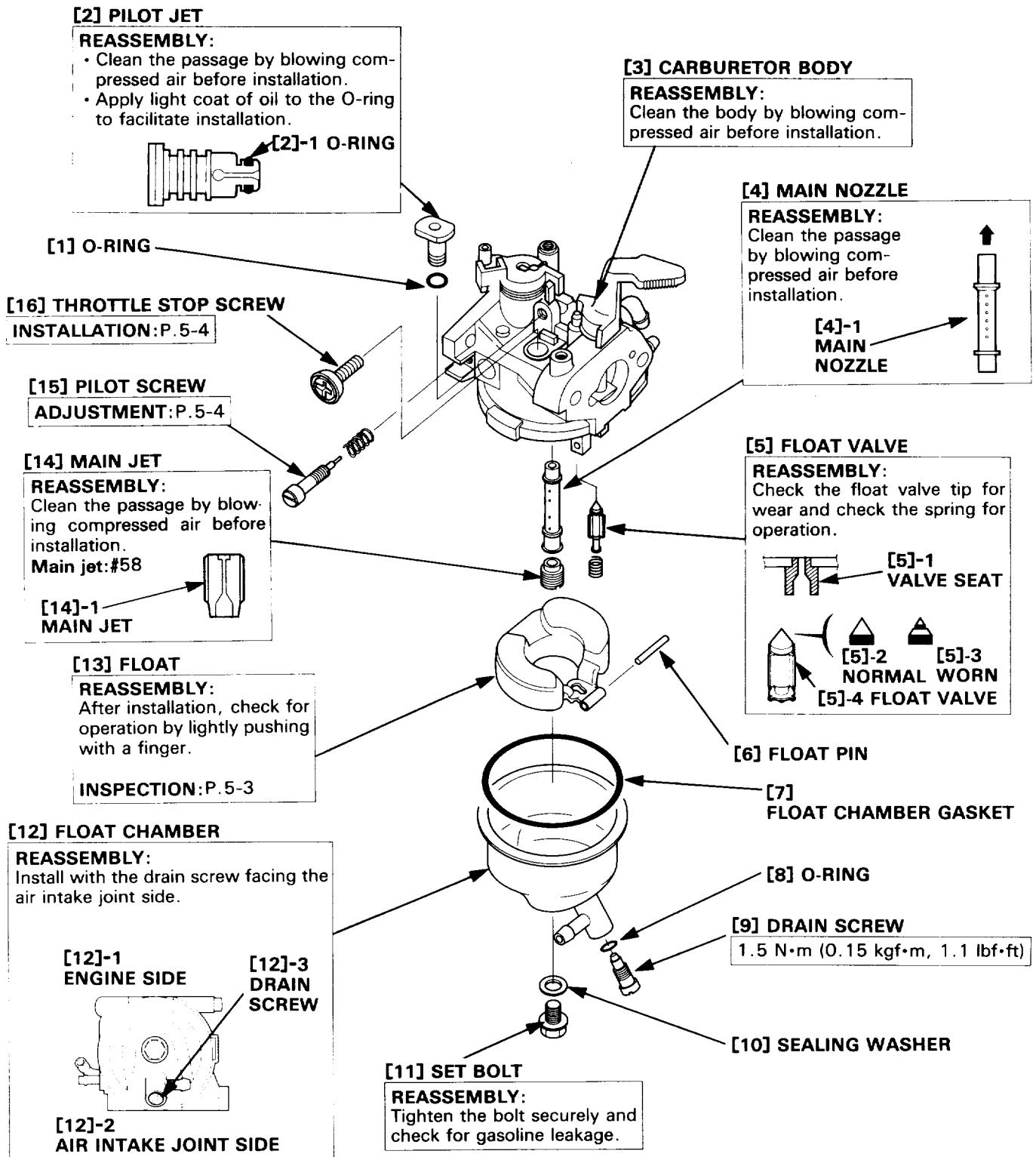
- Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.
- Loosen the drain screw to drain the carburetor thoroughly before removal.



## ● CARBURETOR

### ▲ WARNING

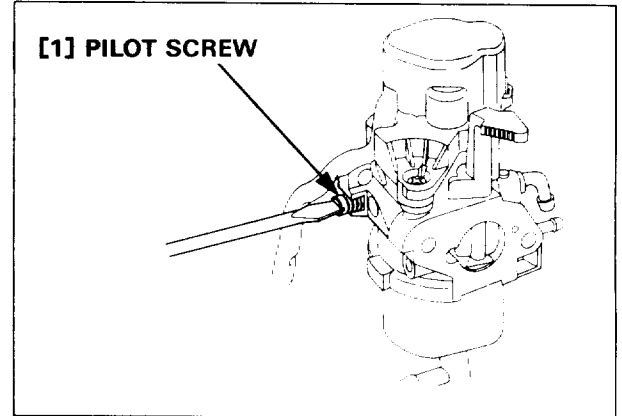
- Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.
- Loosen the drain screw to drain the carburetor thoroughly before removal.



● **PILOT SCREW**

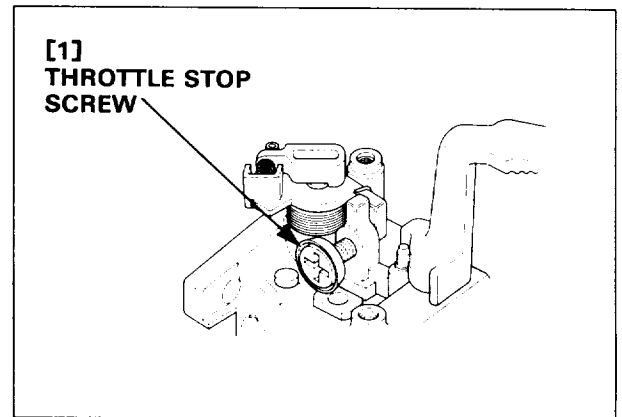
Turn the pilot screw in until it is lightly seated, then turn the screw out the required number of turns.

Pilot screw opening	2 turns out
---------------------	-------------



● **THROTTLE STOP SCREW**

Install the throttle stop screw after installing the pilot jet. Install so that the throttle valve is at the full close position and the screw end does not come out of the bracket.



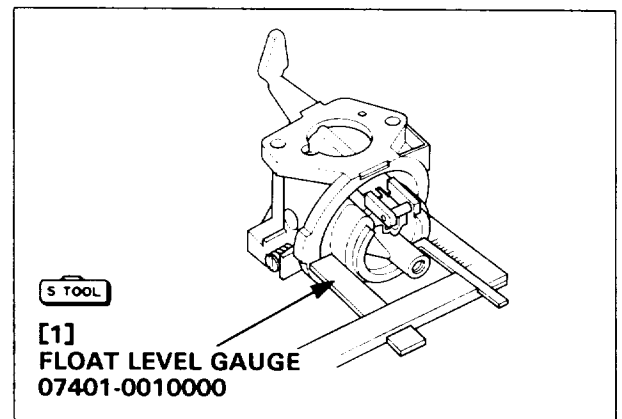
**b. INSPECTION**

● **FLOAT LEVEL HEIGHT**

With the carburetor in an upright position, measure the distance between the float top and carburetor body when the float just contacts the float valve.

Standard float height	12.0 mm (0.47 in)
-----------------------	-------------------

If the height is out of specification, replace the float. Check the float operation.



● **THROTTLE CONTROL MOTOR**

Measure the resistance between the terminals.

Standard resistance	Between 1 and 3: 50 – 70 Ω
	Between 2 and 4: 50 – 70 Ω

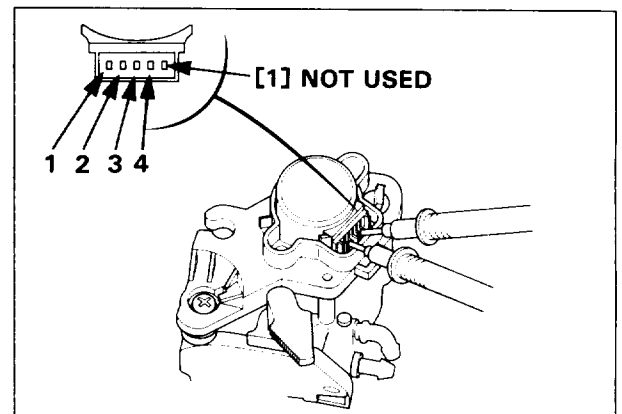
If the resistance is outside the specification, replace the throttle control motor.

**Operation check:**

Start the engine and stop it. Be sure that the throttle control motor functions and the carburetor throttle arm moves properly.

- At start: Returns from the full open position to the full close position.
- At stop: Returns to the full open position.

If the throttle control motor does not operate properly, replace.



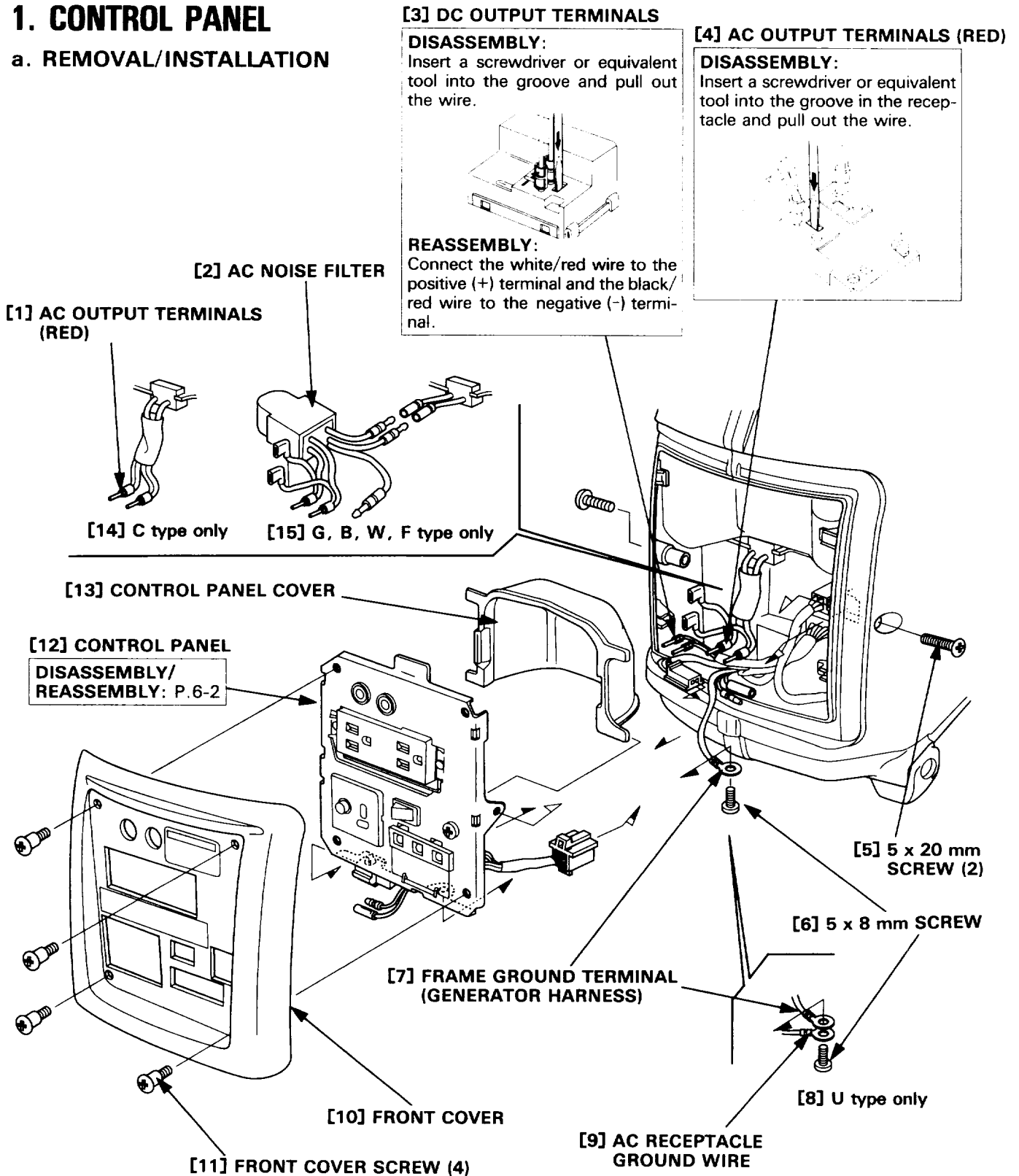
# 6. CONTROL PANEL

**HONDA**  
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## 1. CONTROL PANEL

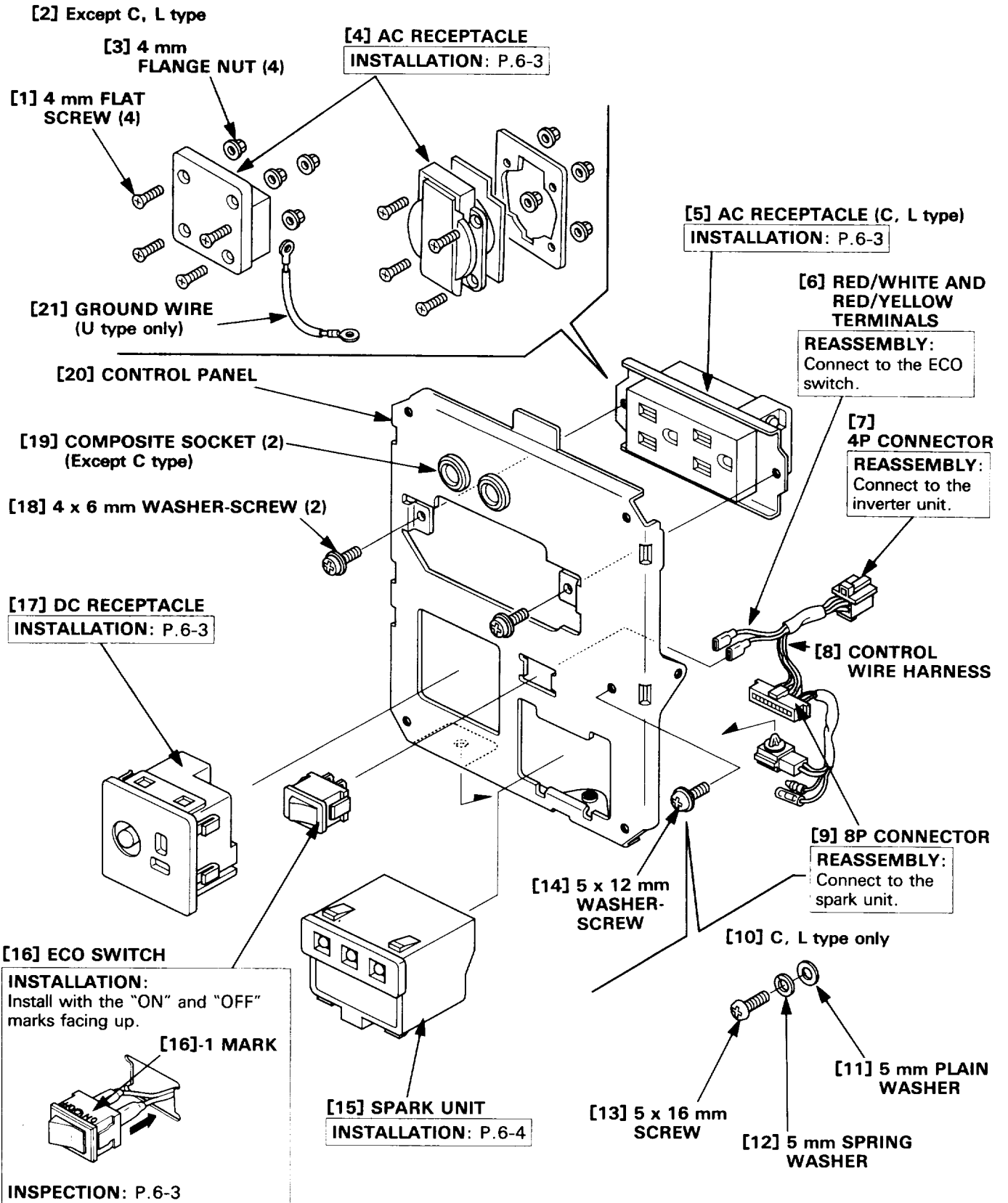
### 1. CONTROL PANEL

#### a. REMOVAL/INSTALLATION





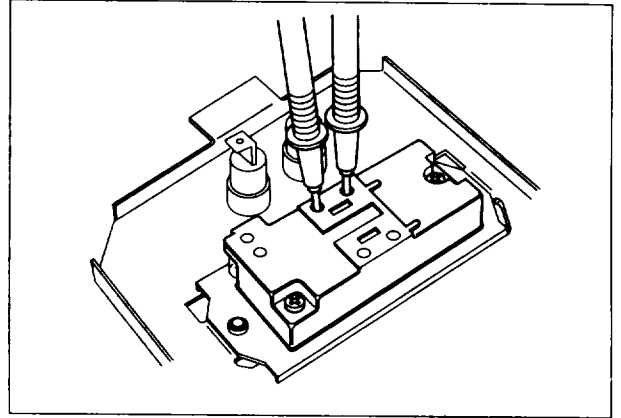
**b. DISASSEMBLY/REASSEMBLY**



**c. INSPECTION**

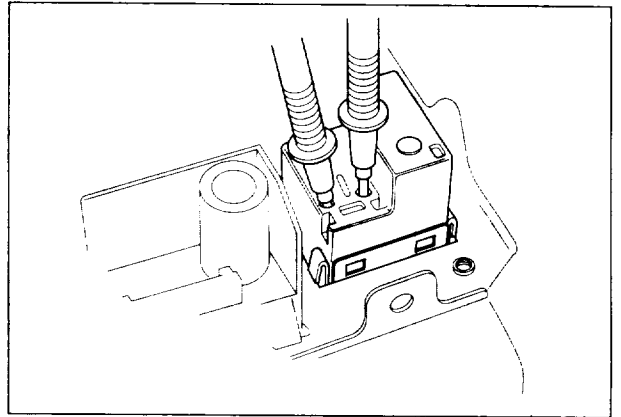
● **AC RECEPTACLE**

- Connect both terminals of the receptacle with a jumper wire to short. There must be continuity between the lead wire terminals.
- There must be continuity between the ground terminal of the receptacle and the receptacle installation fitting.



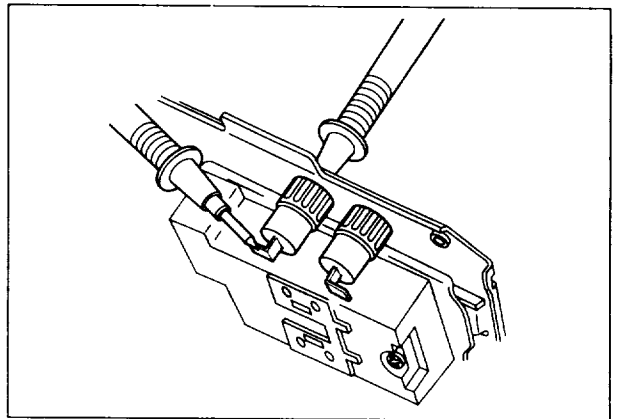
● **DC RECEPTACLE**

Connect both terminals of the receptacle with a jumper wire to short. There must be continuity between the lead wire terminals with the circuit protector ON.



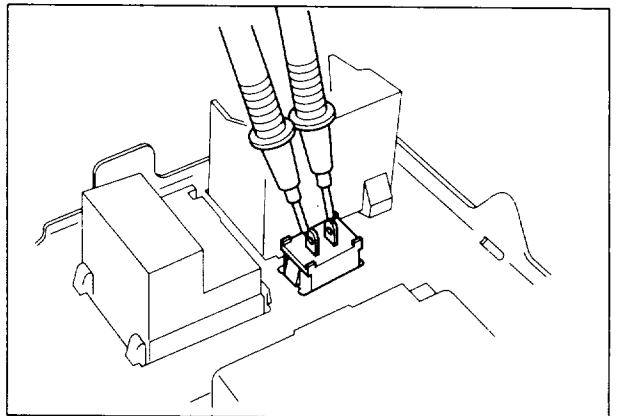
● **COMPOSITE SOCKET**

There must be continuity between the socket and the terminal.



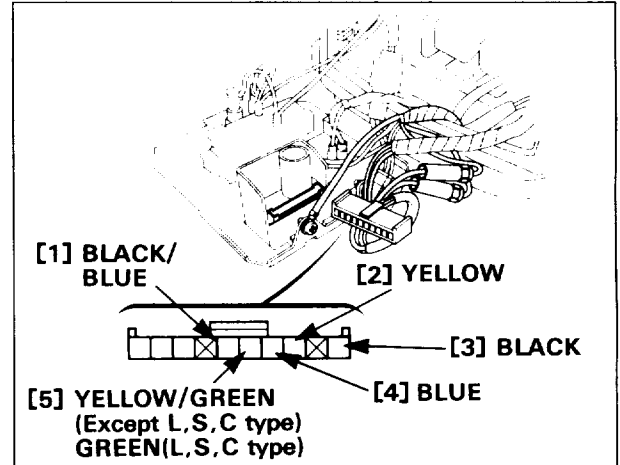
● **ECO SWITCH**

There must be continuity between the terminals with the switch ON, and no continuity with the switch turned OFF.



● **SPARK UNIT**

- 1) Remove the front cover.
- 2) Remove the two 5 x 20 mm screws and pull off the control panel from the generator. Do not disconnect the control panel wire harness.
- 3) Disconnect the 10P spark unit connector from the spark unit.
- 4) Test the wire harness according to the table below. If it is normal, replace the spark unit.



Color	Circuit	Test and result
Black	Primary coil	Check for resistance to engine ground. Resistance: 0.7 – 1.1 Ω
Yellow	Oil level switch	Check for continuity to engine ground. There should be no continuity with correct oil level.
Blue	Pulser coil	Check for resistance to engine ground. Resistance: 25 – 39 Ω
L, S, C type: Green Except L, S, C type: Yellow/green	Ground	Check for continuity to engine ground. There should be continuity.
Black/blue	Exciter coil	Check for resistance to engine ground. Resistance: 0.5 – 0.9 Ω

# 7. SIDE COVERS/FUEL TANK/ INVERTER UNIT

**HONDA**  
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1. SIDE COVERS
2. FUEL TANK

3. INVERTER UNIT/ENGINE BED

## 1. SIDE COVERS

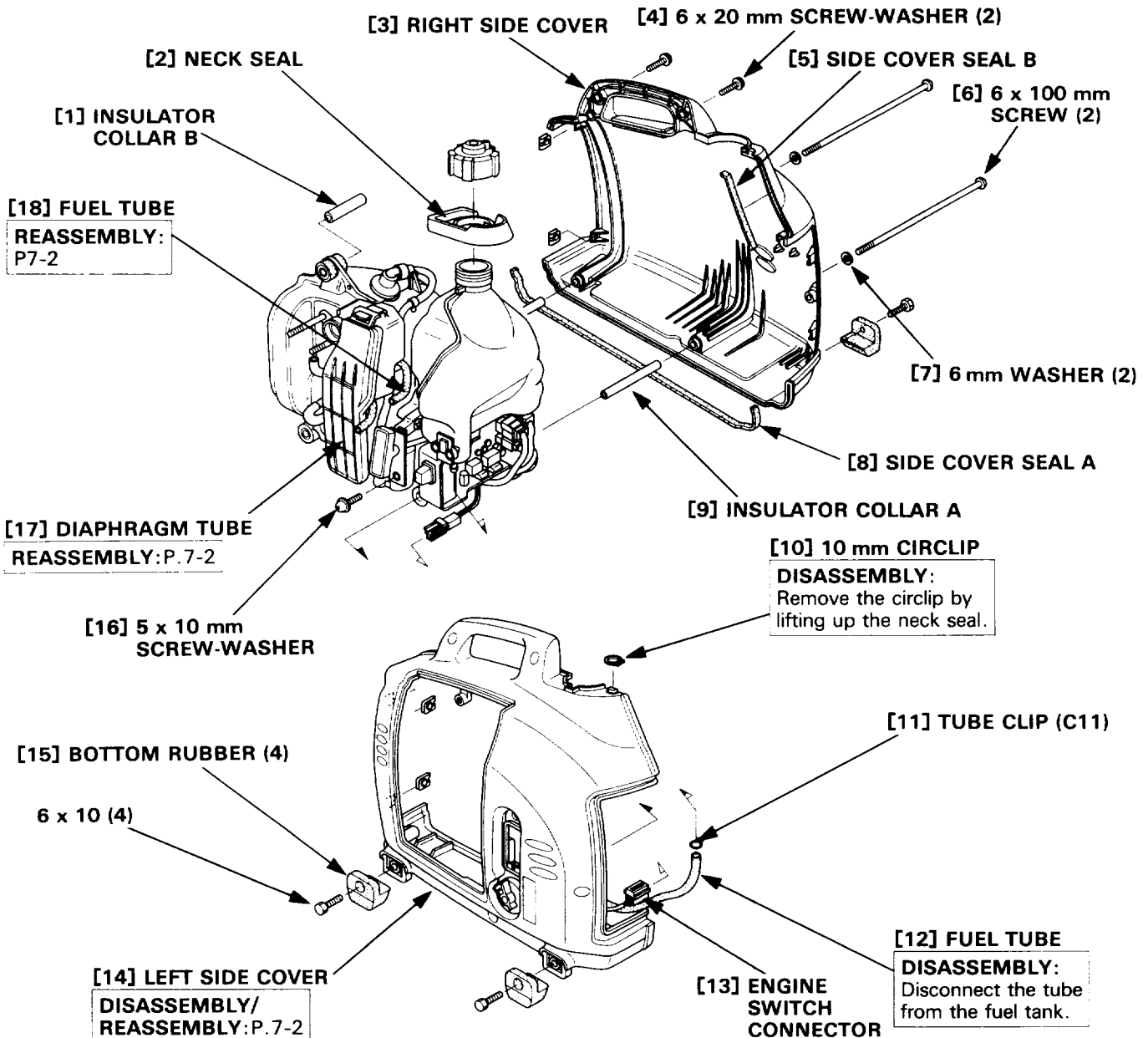
### a. REMOVAL

#### ▲ WARNING

- Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.
- Loosen the drain screw to drain the carburetor thoroughly before removal.

• Side cover removal/installation can be made with the carburetor and muffler installed.

- 1) Remove the muffler protector (P.4-1).
- 2) Remove the control panel (P.6-1).
- 3) Remove the maintenance cover and drain the engine oil into a suitable container.



**b. DISASSEMBLY/REASSEMBLY**

**● LEFT SIDE COVER**

**[1] ENGINE SWITCH KNOB**

**REASSEMBLY:**  
Align the engine switch knob with the OFF position with the fuel valve closed, and install the knob.

**[2] LEFT SIDE COVER**  
**INSTALLATION: P.7-3**

**[3] FUEL PUMP**

**REASSEMBLY:**  
• Note the installation direction.  
• Replace the fuel pump if the foreign material or water has been accumulated in the tank.

**[4] 5 x 20 mm TAPPING SCREW (2)**

0.8 N·m (0.08 kgf·m, 5.8 lbf·ft)  
Do not remove the screw unless it is replaced.

**[5] ENGINE SWITCH**  
**INSTALLATION: P.7-3**  
**INSPECTION: P.7-4**

**[17] 4 x 19 mm SCREW**

**[16] ENGINE SWITCH PLATE**

**[15] 5 mm WASHER (2)**

**[14] TUBE CLIP (C9)**

**[13] FUEL TUBE (VALVE-TO-PUMP)**

Check the tube for deterioration, cracks and gasoline leakage, and replace if necessary.

**[12] FUEL VALVE**

Do not remove the valve unless it is replaced.

**[11] TUBE CLIP (B8) (2)**

**[10] FUEL TUBE (TANK-TO-VALVE)**

Check the tube for deterioration, cracks and gasoline leakage, and replace the tube if necessary.  
**INSTALLATION: P.7-2**

**[6] 3 x 10 mm TAPPING SCREW**

0.18N·m (0.018 kgf·m, 0.13 lbf·ft)  
Do not remove the screw unless it is replaced.

**[7] 3 x 16 mm TAPPING SCREW**

0.18 N·m (0.018 kgf·m, 0.13 lbf·ft)  
Do not remove the screw unless it is replaced.

**[8] 5 x 20 mm TAPPING SCREW (2)**

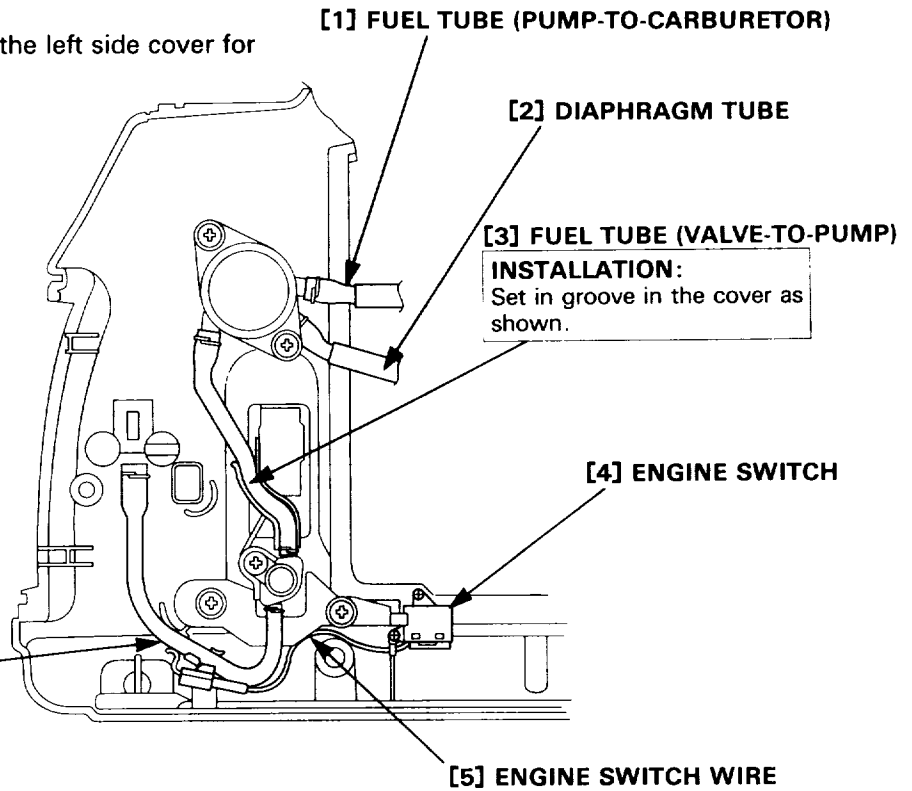
0.8 N·m (0.08 kgf·m, 5.8 lbf·ft)  
Do not remove the screw unless it is replaced.

**[9] 5 x 20 mm TAPPING SCREW**

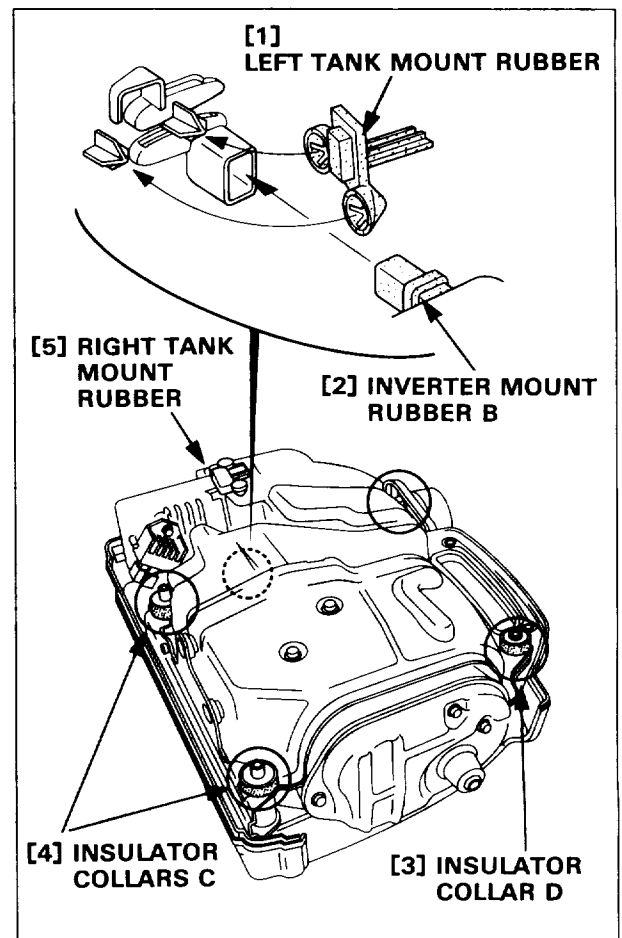
1.4 N·m (0.14 kgf·m, 1.0 lbf·ft)  
Do not remove the screw unless it is replaced.

**c. INSTALLATION**

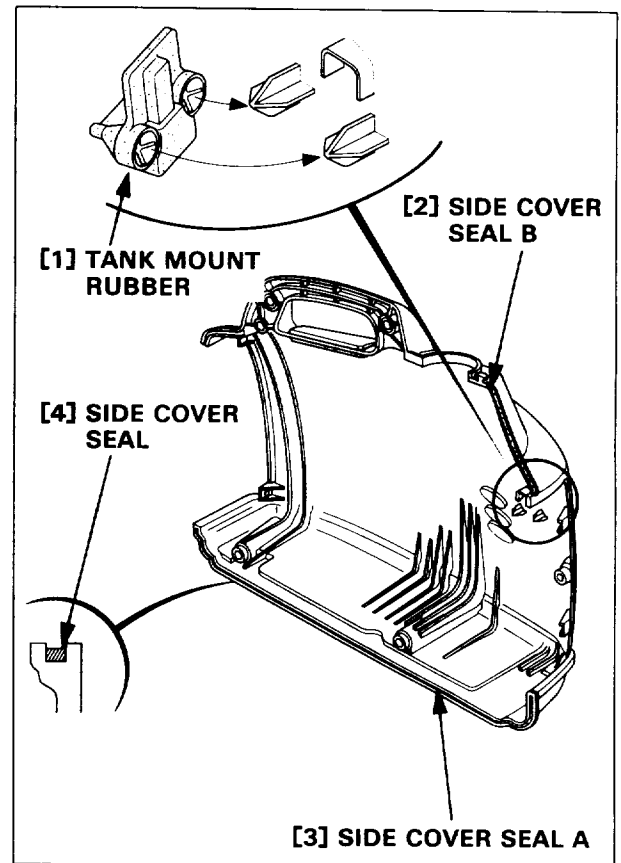
- 1) Check the harnesses and tubes of the left side cover for routing.



- 2) Install the inverter and the fuel tank on the engine assembly.
- 3) Connect the engine switch wire 2P connector to the generator harness, and secure with the cable tie (P. 2-21).
- 4) Connect the diaphragm tube and the fuel tube (pump-to-carburetor) to the fuel pump.
- 5) Set the engine unit on the left side cover, and check the following.
  - Tank mount rubber is set in the groove and over the boss of the cover.
  - Cover is set in the groove in the fuel tank neck seal.
  - Concave in the cover aligns with the boss of the tank.
  - Inverter mount rubber B aligns with the set part of the cover.
- 6) Lower the left side cover.
  - Protect the side cover with a shop towel or equivalent material by placing it under the side cover.
- 7) Set the engine bed insulator in the designated position of the left side cover. Take care not to allow the washer to come off.
- 8) Install the insulator collar A and insulator collar B securely.
- 9) Install the insulator collar C and insulator collar D.
- 10) Install the right tank mount rubber.



- 11) Check to see whether the cover seal A and cover seal B are securely set in the groove in the right side cover.
- 12) Install the right side cover on the left side cover, and check the following.
  - Covers are set in the groove in the fuel tank neck seal.
  - Left side cover is securely set in the groove in the right side cover.
  - Tank mount rubber is securely set in the groove and over the boss of the cover.
- 13) Tighten the 6 mm washers, 6 x 100 mm screws and 6 x 20 mm screw washers securely.
- 14) Stand the generator upright. Turn up the neck seal and install the 10 mm circlip.



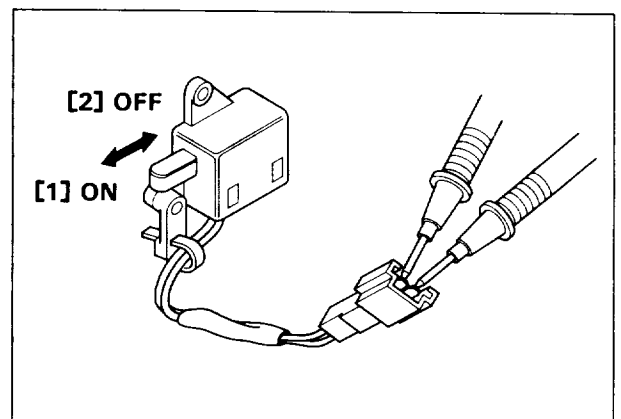
## b. INSPECTION

### ● ENGINE SWITCH

Check for continuity between the switch terminals. There must be no continuity with the switch turned ON, and there must be continuity with the switch turned OFF.

#### NOTE:

Check with the left side cover installed. Do not remove the left side cover unless it is replaced.



## 2. FUEL TANK

### a. DISASSEMBLY/REASSEMBLY

**▲WARNING**

- Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Keep heat, sparks, and flame away. Wipe up spills immediately.
- Loosen the drain screw to drain the fuel tank thoroughly before removal.

- 1) Remove the muffler protector (P.4-1).
- 2) Remove the control panel (P.6-1).
- 3) Remove the right and left side covers (P.7-1).

**[2] TANK STRAINER**

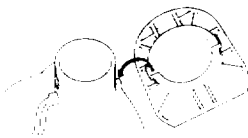
**INSTALLATION:**

Remove the clogging foreign material from the strainer. Check the tank strainer for damage before installation.

**[1] NECK SEAL**

**REASSEMBLY:**

Align the groove in the seal with the boss on the tank.



**[16] FUEL TANK**

**INSTALLATION:**

Wash the fuel tank to remove water and foreign material accumulated in the tank.

**Tank capacity:**

2.3 l (0.61 US gal, 0.51 Imp gal)

**[3] BREATHER VALVE**

**[4] 13.8 x 2.4 mm O-RING**

**[5] TANK CAP**

**[6] CAP PACKING**

**[7] BREATHER FILTER**

**INSTALLATION:**

Clean the filter with the water and neutral detergent and allow it to dry before installation.

**[8] INNER CAP**

**[9] SPRING**

**[10] 8 mm WASHER**

**[11] 6 mm LOCK PIN**

**[15] LEFT MOUNT RUBBER**

**[12] RIGHT MOUNT RUBBER**

**INSTALLATION:**

Do not confuse the right and left rubbers.

**[14] FUEL FILTER**

**INSTALLATION:**

Remove the clogging foreign material from the filter by blowing compressed air. Check the filter for damage before installation.

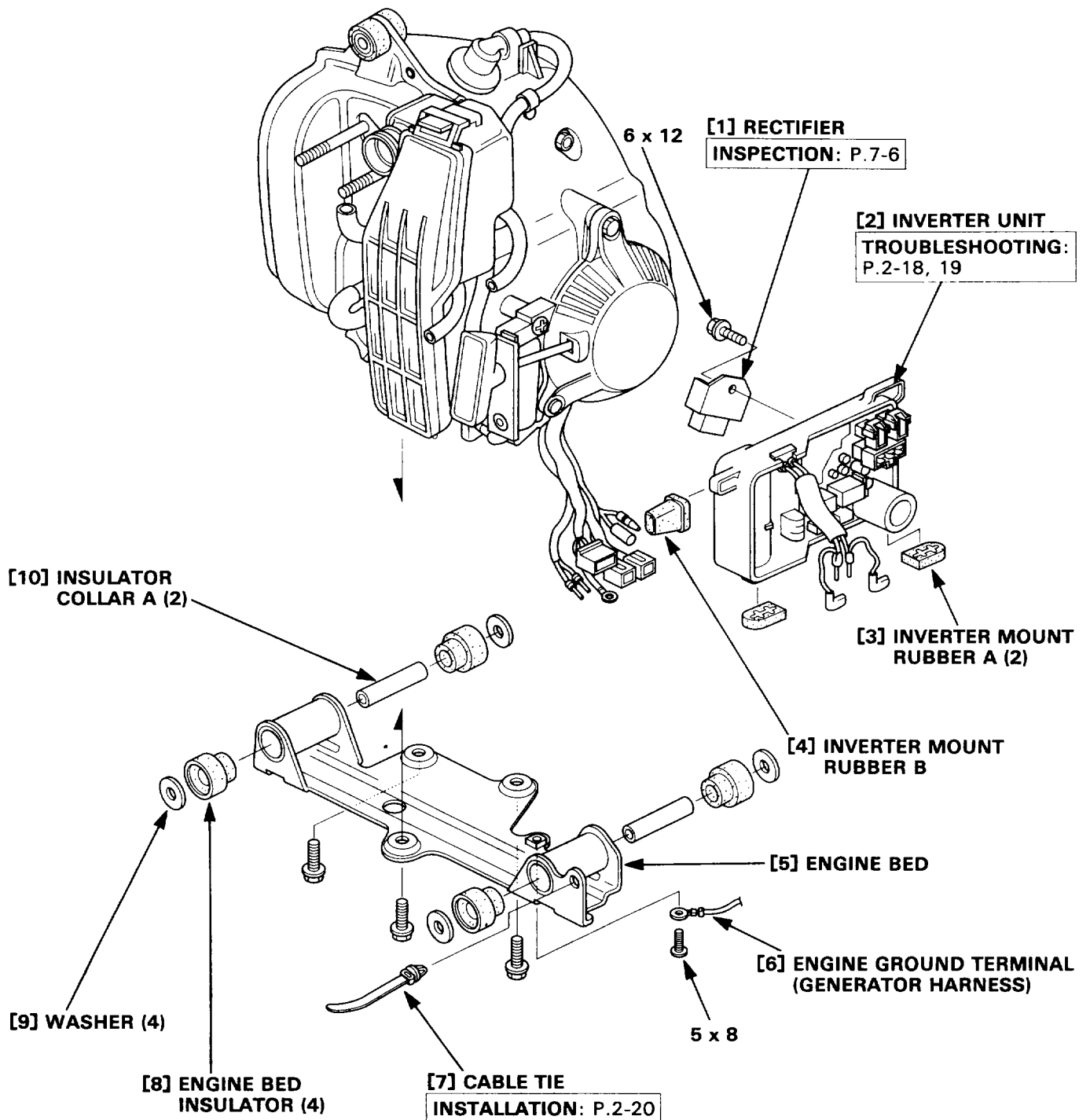
**[13] TUBE CLIP (C11)**



### 3. INVERTER UNIT/ENGINE BED

#### a. DISASSEMBLY/REASSEMBLY

- 1) Remove the muffler protector (P.4-1).
- 2) Remove the control panel (P.6-1).
- 3) Remove the right and left side covers (P.7-1).
- 4) Remove the fuel tank (P.7-4).

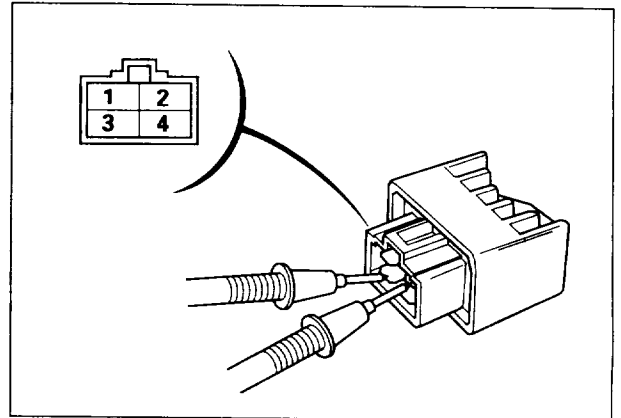


**b. INSPECTION**

● **RECTIFIER**

Check for continuity between the terminals according to the table below.

Tester lead (+) Tester lead (-)	1	2	3	4
1		∞	∞	∞
2	Continuity		Continuity	Continuity
3	Continuity	∞		∞
4	Continuity	∞	∞	



# 8. RECOIL STARTER/FAN COVER

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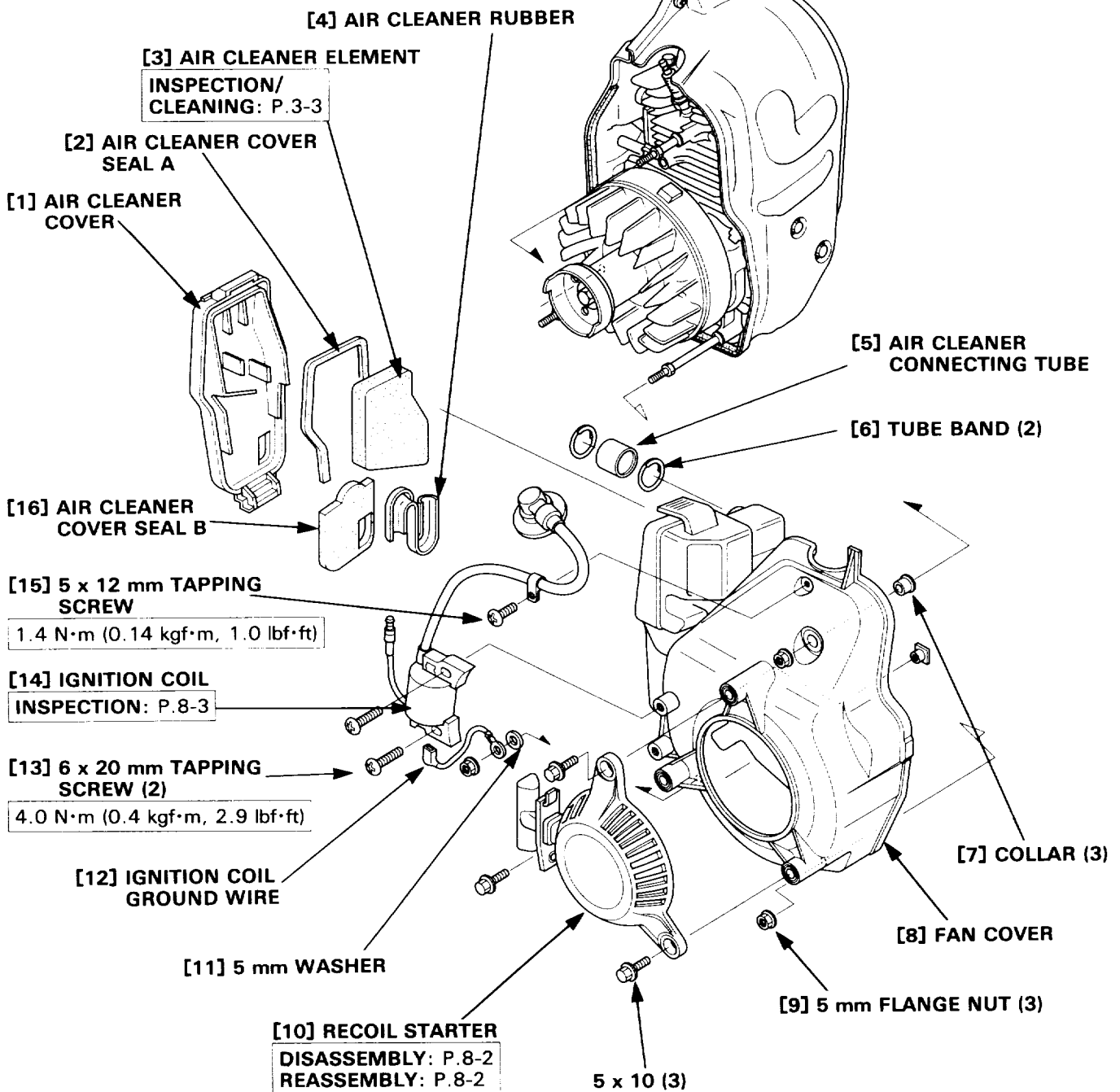
1. RECOIL STARTER/FAN COVER
2. FAN SHROUD

3. EXHAUST MANIFOLD/  
CARBURETOR INSULATOR

## 1. RECOIL STARTER/FAN COVER

### a. DISASSEMBLY/REASSEMBLY

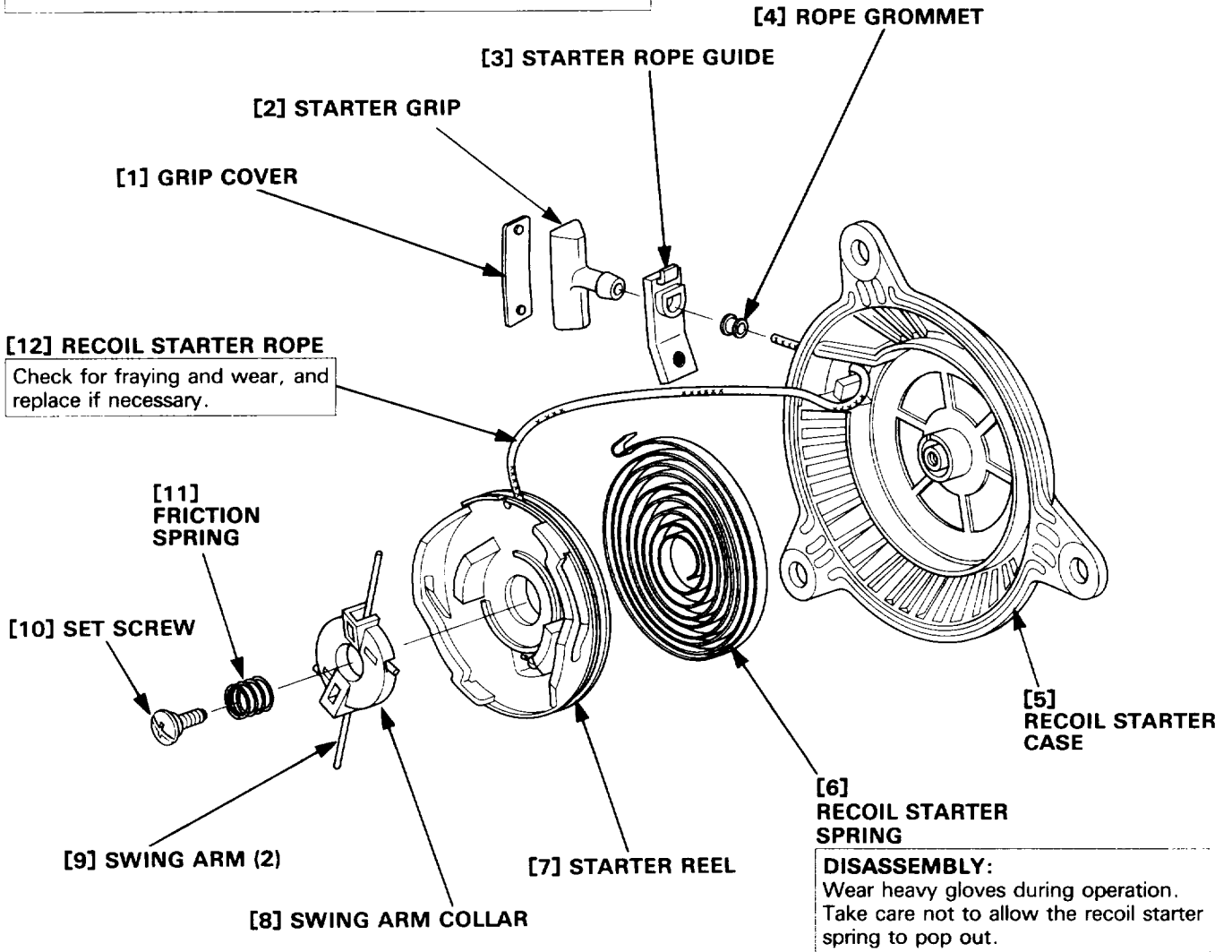
- 1) Remove the muffler protector (P.4-1).
- 2) Remove the control panel (P.6-1).
- 3) Remove the right and left side covers (P.7-1).
- 4) Remove the fuel tank (P.7-4).
- 5) Remove the inverter unit and engine end (P.7-5).



● **RECOIL STARTER DISASSEMBLY**

**CAUTION:**

- Wear heavy gloves during operation.
- Take care not to allow the recoil starter spring to pop out.

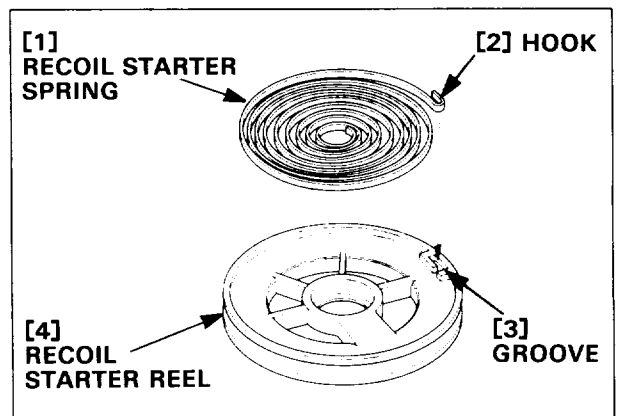


● **RECOIL STARTER REASSEMBLY**

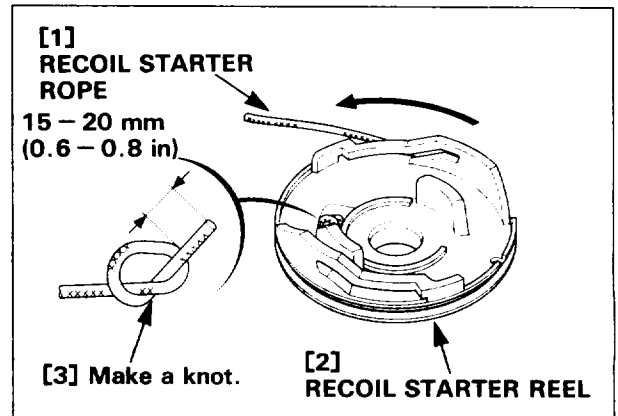
**CAUTION:**

- Wear heavy gloves during operation.
- Take care not to allow the recoil starter spring to pop out.

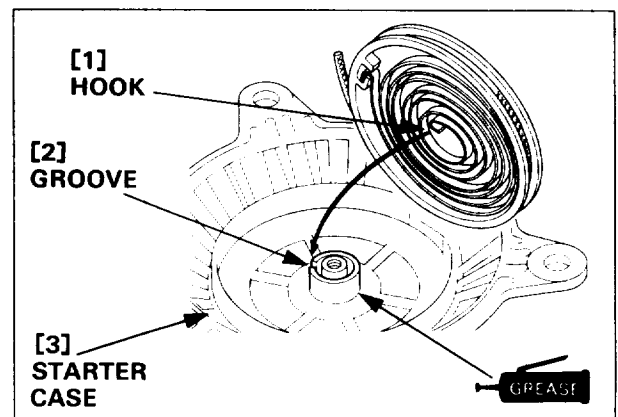
- 1) Set the hook at the outer end of the recoil starter spring in the groove in the starter reel.



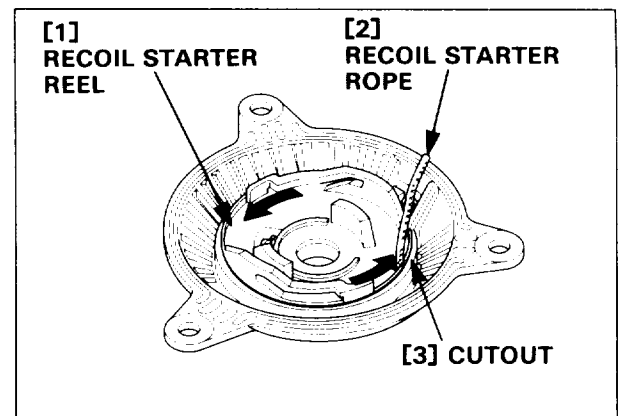
- 2) Pass the starter rope through the rope hole in the reel and make a knot at the rope end. Wind the rope around the recoil starter reel in the direction of the arrow.



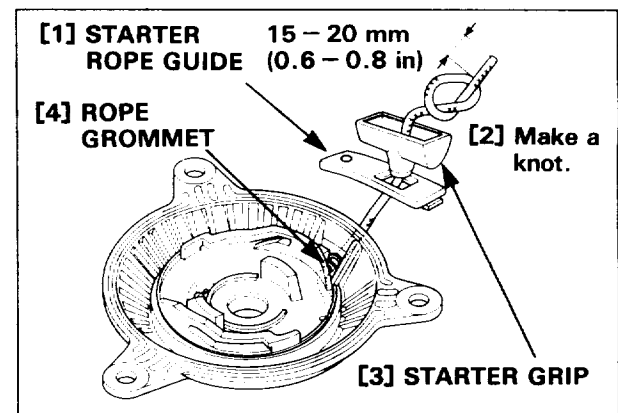
- 3) Align the hook at the inner end of the recoil starter spring with the groove in the case so that the hook sets in the groove, and install the reel in the case.



- 4) Pass the starter rope through the cutout in the starter reel, and turn the starter reel approximately 3 turns in the direction of the arrows to preload the spring.

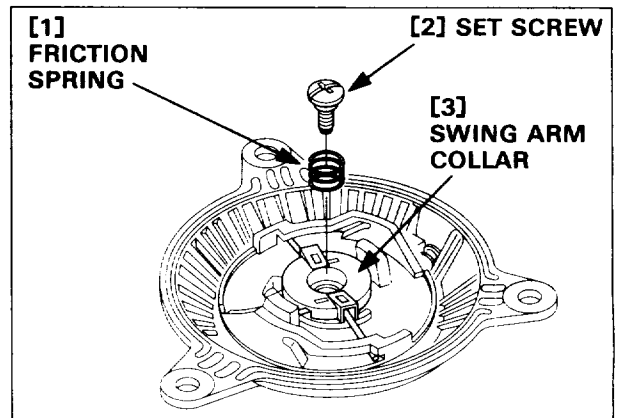


- 5) Make sure that the rope grommet is in the place. Pull out the rope end from the hole in the case. Pass the rope end through the starter rope guide and starter grip and make a knot at the rope end.
- 6) Install the grip cover.



7) Install the swing arms to the swing arm collar. Install the swing arm set and friction spring as shown, and secure the starter reel with the set screw.

Pull the starter knob several times and be sure that the swing arm operates normally.



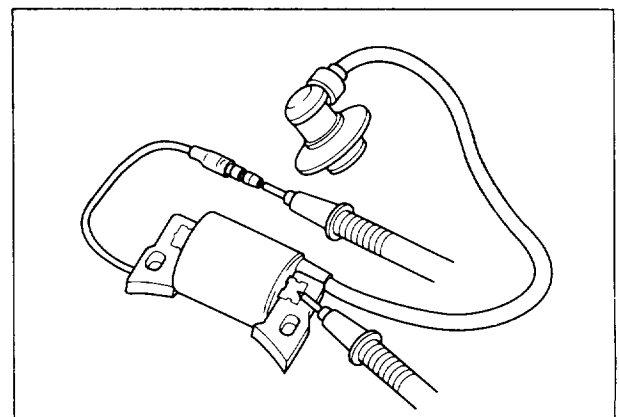
## b. INSPECTION

### ● IGNITION COIL

#### <Primary resistance>

Attach one lead of the tester to the lead wire terminal and another tester lead to the ground wire terminal, and measure the primary resistance of the ignition coil.

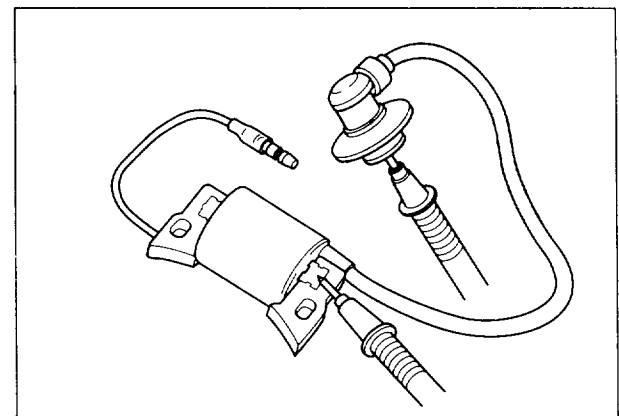
Resistance	0.7 – 1.1 $\Omega$
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#### <Secondary resistance>

Attach one lead of the tester to the terminal inside the spark plug cap and another lead to the ground wire terminal, and measure the secondary resistance of the ignition coil.

Resistance	12 – 21 k $\Omega$
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## 2. FAN SHROUD

### a. DISASSEMBLY/REASSEMBLY

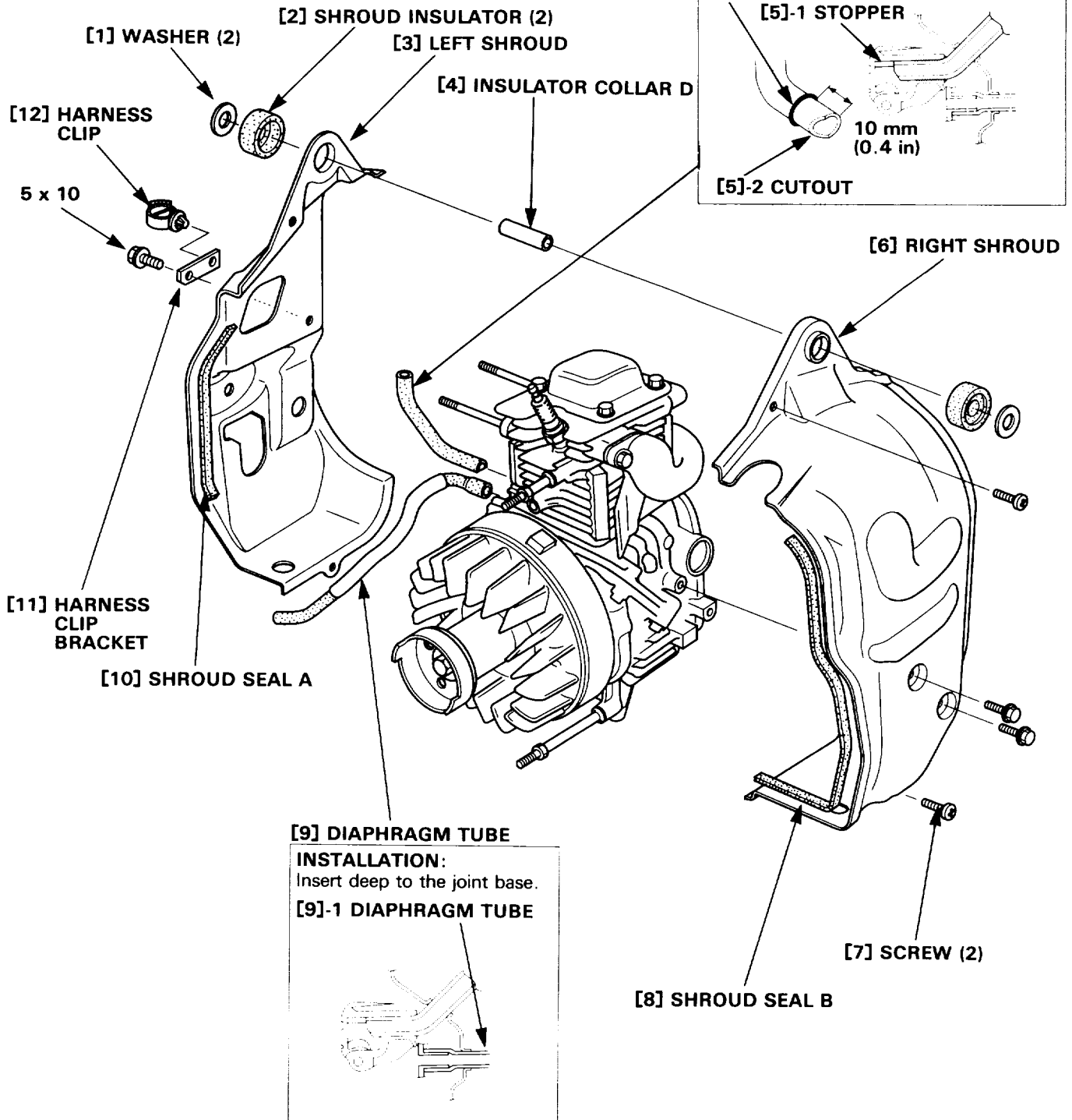
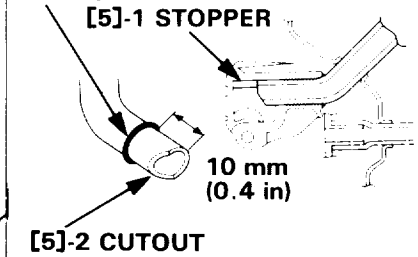
- 1) Remove the muffler protector (P. 4-1).
- 2) Remove the control panel (P. 6-1).
- 3) Remove the right and left side covers (P. 7-1).
- 4) Remove the fuel tank (P. 7-4).
- 5) Remove the inverter unit and engine bed (P. 7-5).
- 6) Remove the recoil starter and fan cover (P. 8-1).

#### [5] BREATHER TUBE

##### INSTALLATION:

Apply liquid packing (Three Bond 1207B or equivalent) as shown. Insert the tube end into the cylinder block until the tube contacts the stopper.

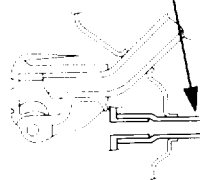
[5]-3 Apply the stick  $\phi 1.0$  mm (0.04 in) in diameter.



#### [9] DIAPHRAGM TUBE

INSTALLATION:  
Insert deep to the joint base.

[9]-1 DIAPHRAGM TUBE



### 3. EXHAUST MANIFOLD/CARBURETOR INSULATOR

#### a. DISASSEMBLY/REASSEMBLY

1) Remove the fan shroud (P.8-6).

#### [1] CARBURETOR INSULATOR A

**INSTALLATION:**  
Install with the O-ring groove facing out.

#### [2] INSULATOR PACKING

Do not reuse.

#### [3] INSERT RUBBER B (2)

#### [4] EXHAUST MANIFOLD

**REASSEMBLY:**  
Remove carbon deposits inside the exhaust manifold, and install the exhaust manifold.

#### [8] INSERT RUBBER C

#### [7] INSERT RUBBER D

#### [9] INSERT RUBBERS

**INSTALLATION:**  
Install the insert rubbers onto the cylinder block fins as shown.

[9]-1  
INSERT  
RUBBER C, D

[9]-2  
INSERT  
RUBBER B

[9]-3  
INSERT  
RUBBER A

#### [5] GASKET

#### [6] INSERT RUBBER A

5 x 20 (2)



# 9. GENERATOR

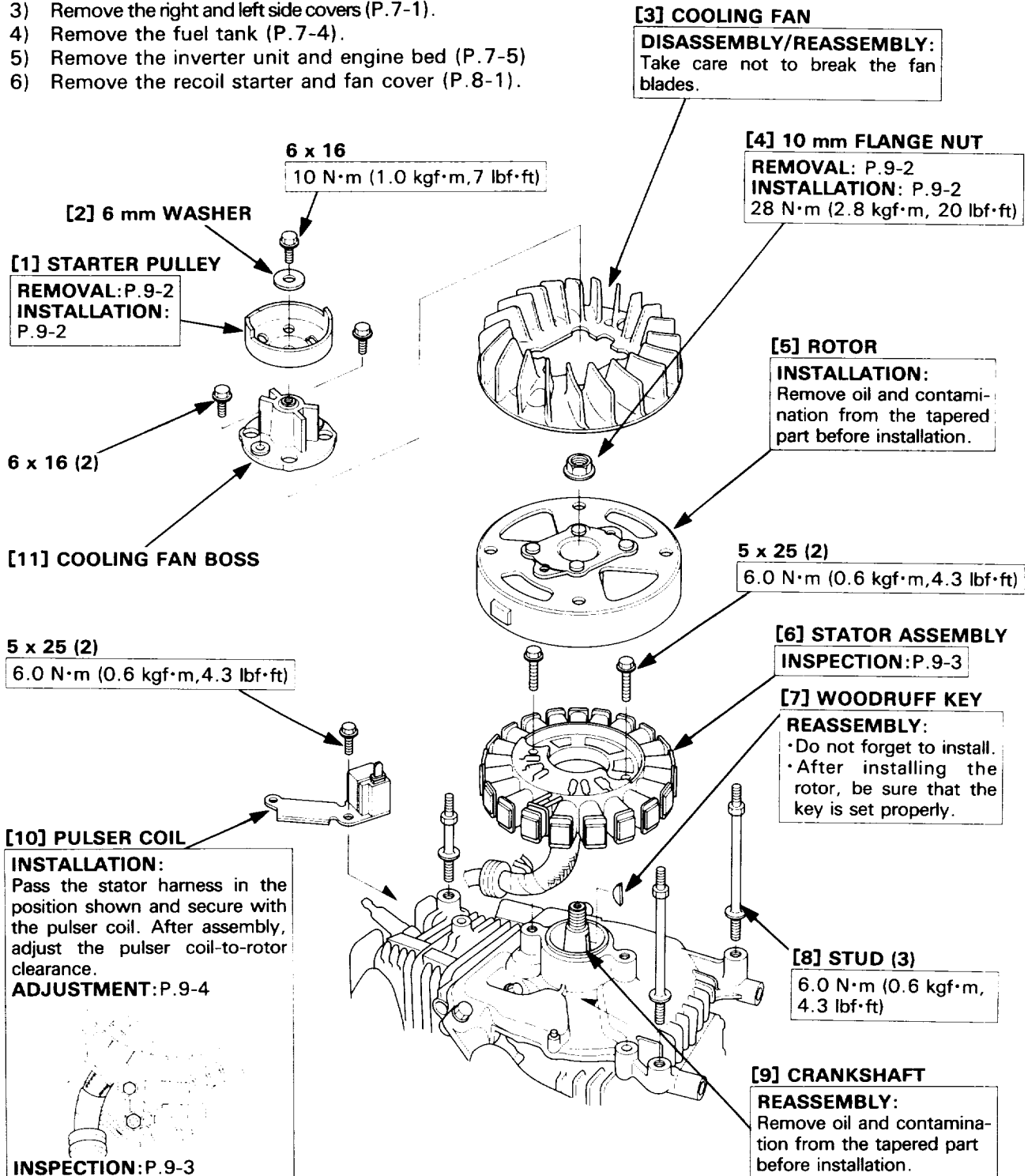
**HONDA**  
EU10i • EU1000i

## 1. GENERATOR

### 1. GENERATOR

#### a. DISASSEMBLY/REASSEMBLY

- 1) Remove the muffler protector (P.4-1).
- 2) Remove the control panel (P.6-1).
- 3) Remove the right and left side covers (P.7-1).
- 4) Remove the fuel tank (P.7-4).
- 5) Remove the inverter unit and engine bed (P.7-5)
- 6) Remove the recoil starter and fan cover (P.8-1).



● **ROTOR REMOVAL**

- 1) Remove the pulser coil (P.9-1).
- 2) Holding the rotor with a commercially available strap wrench, remove the 6 x 16 mm flange bolt.

**CAUTION:**

Do not try to remove the bolt by setting a screw driver or equivalent tool on the fan blade.

- 3) Remove the recoil starter pulley.
- 4) Remove the 6 x 16 mm flange bolt, and remove the cooling fan boss and cooling fan.
- 5) Holding the rotor with a commercially available strap wrench, remove the 10 mm flange nut.

**CAUTION:**

Do not try to remove the nut by striking it with a hammer or equivalent tool.

- 6) Remove the rotor using the flywheel puller.

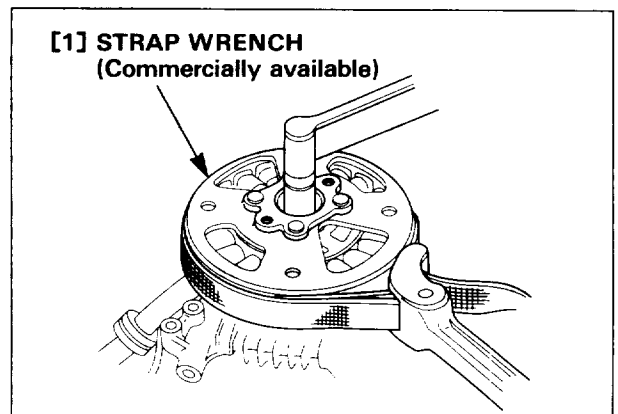
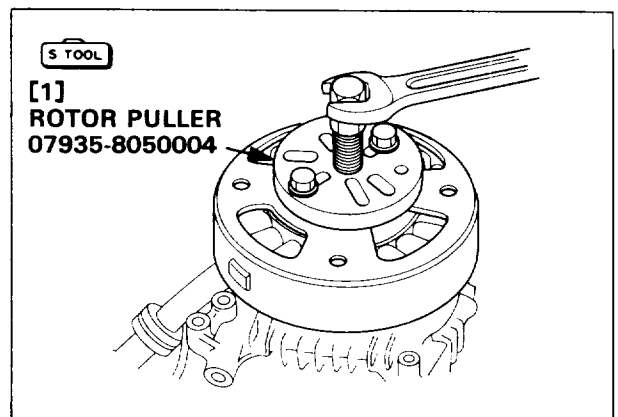
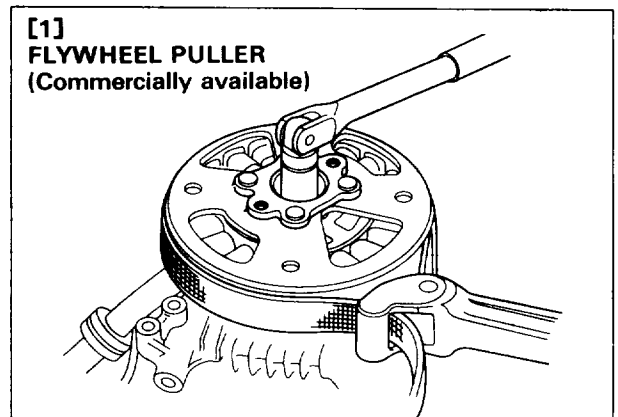
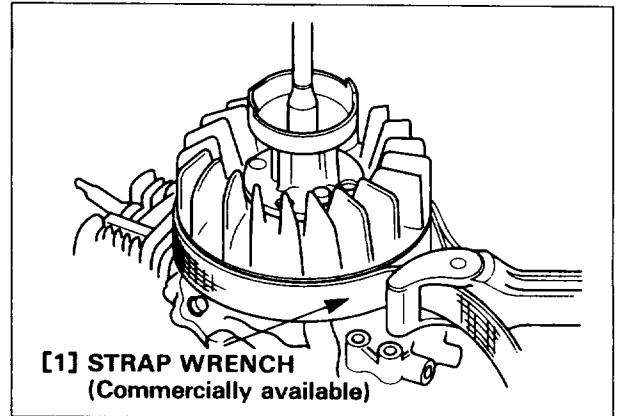
● **ROTOR INSTALLATION:**

**CAUTION:**

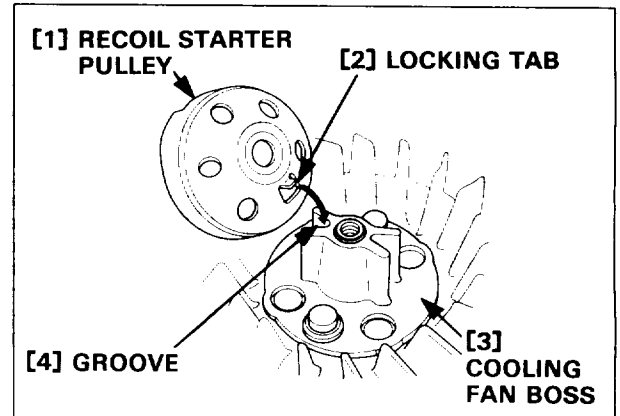
- Remove the dust and oil from the tapered part of the crankshaft and rotor.
- Check to see whether the magnetic part of the rotor is free from metallic part, washer, etc.

- 1) Set the woodruff key in the key groove securely.
- 2) Install the rotor on the crankshaft.
- 3) Holding the rotor with a commercially available strap wrench, tighten the 10 mm flange nut to the specified torque.

**TORQUE: 28 N·m (2.8 kgf·m, 20 lbf·ft)**



- 4) Install the cooling fan and cooling fan boss, and tighten the 6 x 16 mm flange bolt.
- 5) Align the locking tab of the recoil starter pulley with the groove in the cooling fan boss, and install the pulley.
- 6) Holding the rotor with a commercially available strap wrench, tighten the 6 x 16 mm flange bolt.
- 7) Install the pulser coil and adjust the pulser coil-to-rotor clearance (P.9-4).

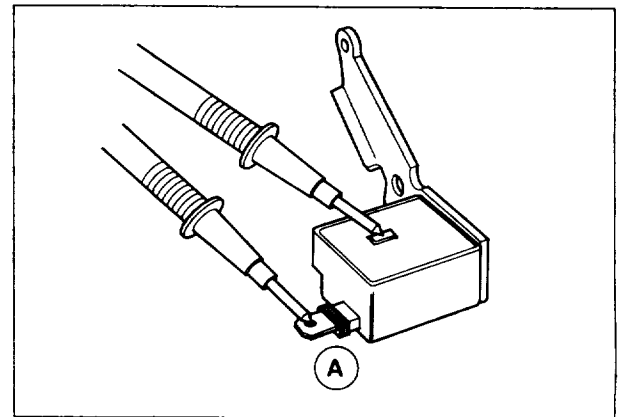


**b. INSPECTION**

**● PULSER COIL**

Measure the resistance between the terminals A and B shown.

Resistance	25 – 39 Ω
------------	-----------



**● STATOR**

**Exciter coil:**

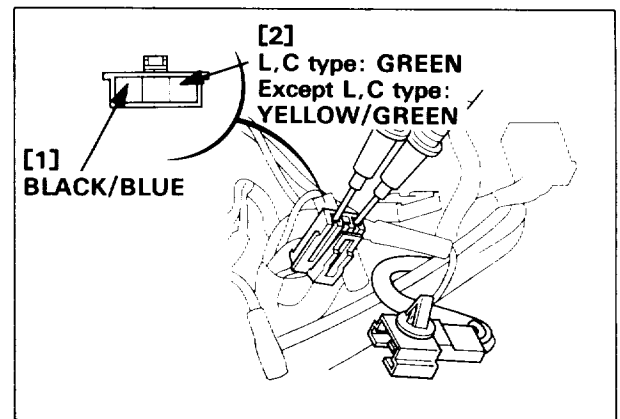
Measure the resistance between the black/blue terminal and stator core.

• If the resistance is measured with the stator mounted on the generator, remove the control panel and measure the resistance between the black/blue terminal and the yellow/green (Except L, C type), or the green (L, C type) terminal.

Resistance	0.5 – 0.9 Ω
------------	-------------

If the resistance is out of the specification, inspect the generator wire harness. Replace the generator wire harness if necessary.

If the generator wire harness is normal, replace the stator assembly.



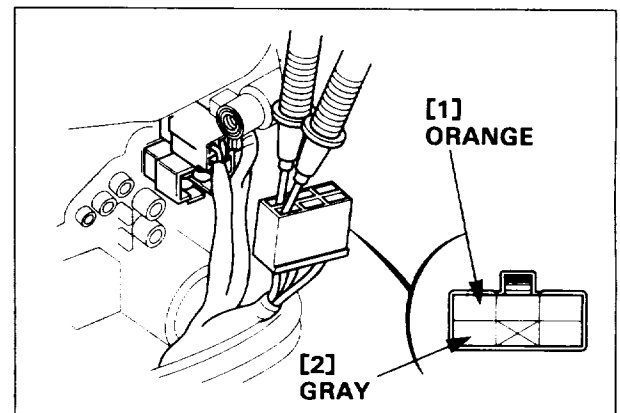
**Sub coil:**

Measure the resistance between the orange and gray terminals of the 6P connector.

Resistance	0.3 – 0.5 Ω
------------	-------------

If the resistance is out of the specification, inspect the generator wire harness. Replace the generator wire harness if necessary.

If the generator wire harness is normal, replace the stator assembly.



**AC coil:**

Measure the resistance between the red, white and blue terminals of the 6P connector.

Resistance	L, C type	Red-white: 2.1 - 3.3 Ω
		Red-blue: 2.1 - 3.3 Ω
		White-blue: 2.1 - 3.3 Ω
Resistance	Except L, C type	Red-white: 6.0 - 9.1 Ω
		Red-blue: 6.0 - 9.1 Ω
		White-blue: 6.0 - 9.1 Ω

If the resistance is out of the specification, inspect the generator wire harness. Replace the generator wire harness if necessary.

If the generator wire harness is normal, replace the stator assembly.

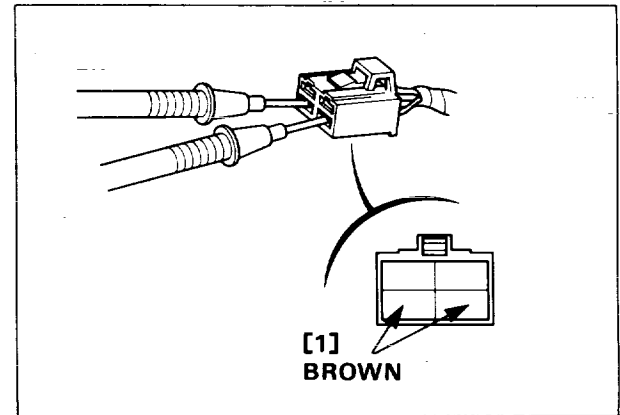
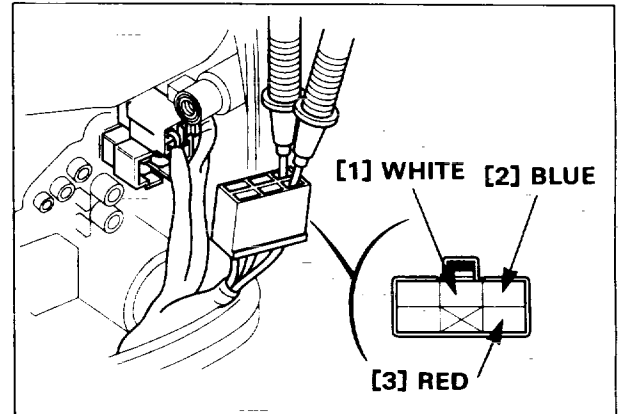
**DC coil:**

Measure the resistance between the brown terminals of the 4P connector.

Resistance	0.1 - 0.2 Ω
------------	-------------

If the resistance is out of the specification, inspect the generator wire harness. Replace the generator wire harness if necessary.

If the generator wire harness is normal, replace the stator assembly.

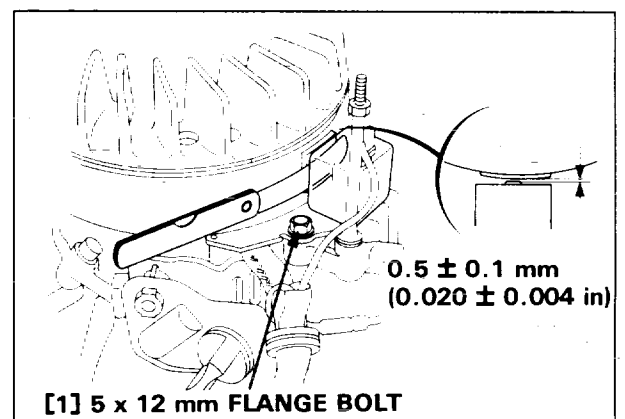


**c. ADJUSTMENT**

**● PULSER COIL-TO-ROTOR CLEARANCE**

Insert a feeler gauge between the pulser coil and the projection of the rotor. With the pulser coil pushed against the rotor, tighten the 5 x 12 mm flange bolt:

Air gap	0.5 ± 0.1 mm (0.020 ± 0.004 in)
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# 10. CAMSHAFT/ROCKER ARM

**HONDA**  
EU10i • EU1000i

- |   |               |
|---|---------------|
| 1. ROCKER ARM/PUSH ROD                            | 3. INSPECTION |
| 2. CRANKCASE SIDE COVER/CAMSHAFT/<br>VALVE LIFTER |               |

## 1. ROCKER ARM/PUSH ROD

### a. DISASSEMBLY/REASSEMBLY

[1] 5 x 12 (4)

**REASSEMBLY:**

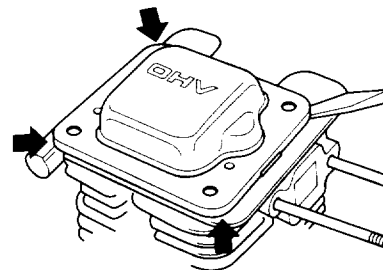
Tighten the bolts diagonally in 2 or 3 steps.

6.0 N·m (0.6 kgf·m, 4.3 lbf·ft)

[2] VALVE COVER

**DISASSEMBLY:**

- When removing the valve cover, pry off slowly at each corner of the valve cover.
- Do not remove the valve cover with force. It can deform the valve cover. Replace the valve cover if it is deformed.



INSTALLATION: P. 10-2

[9] VALVE ADJUSTER LOCK NUT (2)

5.5 N·m (0.55 kgf·m, 4.0 lbf·ft)

[8] VALVE ADJUSTING SCREW (2)

INSPECTION/ADJUSTMENT: P. 3-3

[7] ROCKER ARM SHAFT

INSPECTION: P. 10-7

[3] ROCKER ARM (2)

INSPECTION: P. 10-6

[4] SPARK PLUG

INSPECTION: P. 3-5

STANDARD SPARK PLUG:

CR5HSB (NGK)

U16FSR-UB (DENSO)

12 N·m (1.2 kgf·m, 9 lbf·ft)

[6] PUSH ROD(2)

**REASSEMBLY:**

Check for wear and bend at both ends of the push rod. Install by aligning with the adjustment screw and the concave in the valve lifter securely.

[6]-1 PUSH ROD

[6]-2  
CONCAVE

[6]-3 VALVE LIFTER

[5] CYLINDER BLOCK

INSPECTION: P. 10-7

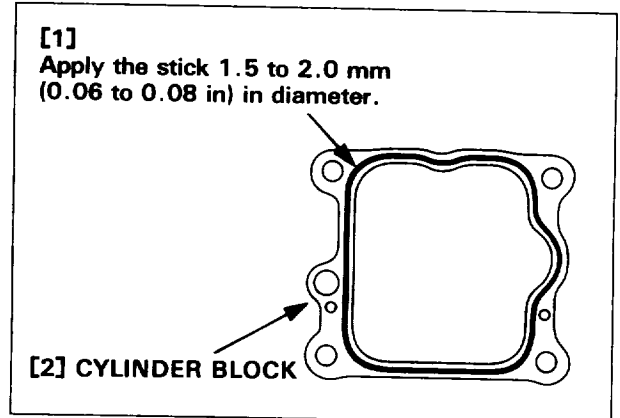
● **VALVE COVER INSTALLATION**

- 1) Clean the mating surfaces of the valve cover and the cylinder block with a degreasing cleaning agent or a clean shop towel.
- 2) Apply the liquid packing (Three Bond 1207B or equivalent) to the position shown on the cylinder block.

NOTE:

Assemble the valve cover within 3 minutes after application of the liquid packing.

- 3) Wait for 20 minutes after assembly. Do not add oil or start the engine during this period.



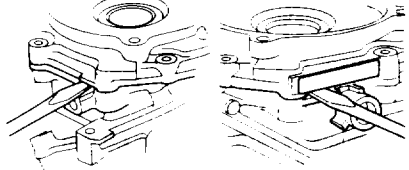
## 2. CRANKCASE SIDE COVER/CAMSHAFT/VALVE LIFTER

### a. DISASSEMBLY/REASSEMBLY

#### [1] CRANKCASE SIDE COVER

**REMOVAL:**

Insert a screw driver or equivalent tool into the concave in the position shown, and remove the crankcase side cover.



**INSTALLATION:** P.10-4  
**INSPECTION:** P.10-5

#### [2] 5 x 23 (6)

**REASSEMBLY:**

Tighten diagonally in 2 or 3 steps to the specified torque.  
7.5 N·m (0.75 kgf·m, 5.4 lbf·ft)

#### [3] GOVERNOR WEIGHT HOLDER

**REASSEMBLY:**

Check to see that the gears are not worn or damaged, and install.

#### [4] GOVERNOR HOLDER CLIP

**REASSEMBLY:**

Be sure to set the clip in the groove in the shaft.

#### [11] 4.2 mm WASHER

#### [5] VALVE LIFTER COLLAR

#### [6] VALVE LIFTER (2)

**INSPECTION:** P.10-6

#### [10] CAMSHAFT ROLLER

**INSPECTION:** P.10-6

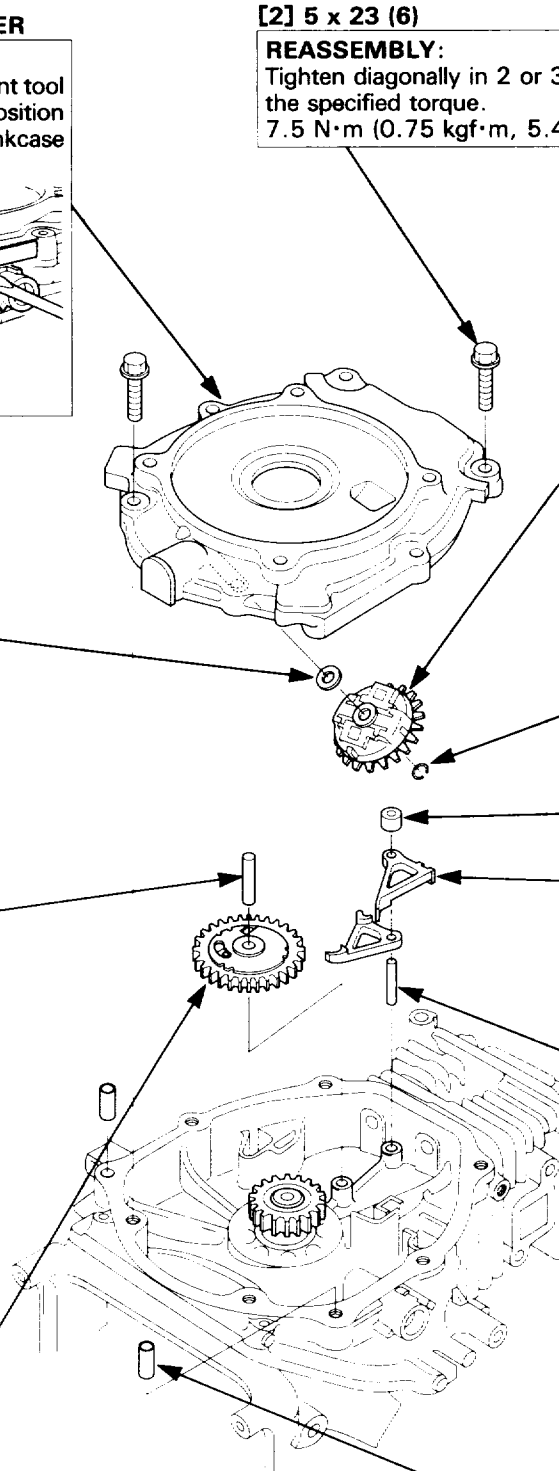
#### [7] VALVE LIFTER ROLLER

**INSPECTION:** P.10-6

#### [9] CAMSHAFT

**INSPECTION:** P.10-5 and 6  
**REASSEMBLY:**  
Do not drop the camshaft.

#### [8] 6 x 10 mm DOWEL PIN (2)



### ● CRANKCASE SIDE COVER INSTALLATION

- 1) Clean the mating surfaces of the side cover and the cylinder block with a degreasing cleaning agent or a clean shop towel.
- 2) Apply the stick 1.5 to 2.0 mm (0.06 to 0.08 in) in diameter of the liquid packing (Three Bond 1216E or equivalent) to the mating surface of the cylinder block as shown.
- 3) Install the side cover on the cylinder block.  
Be sure to assemble within 3 minutes after application of the liquid packing.

**NOTE:**

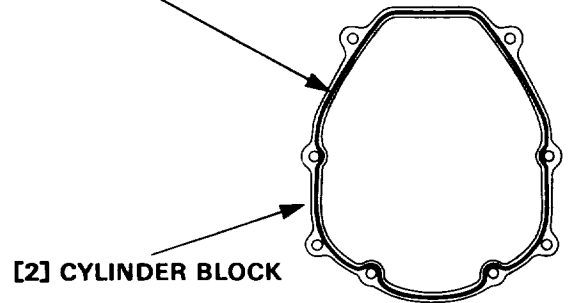
Assemble the side cover with the cylinder barrel within 3 minutes after application of the liquid packing.

- 4) Loosely tighten the bolts, then tighten them diagonally in 2 or 3 steps to the specified torque.

**TORQUE: 7.5 N·m (0.75 kgf·m, 5.4 lbf·ft)**

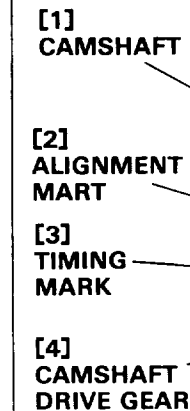
- 5) Wait for 30 minutes after assembly. Do not add oil or start the engine during this period.

[1]  
Apply the stick 1.5 to 2.0 mm (0.06 to 0.08 in) in diameter.



### ● CAMSHAFT INSTALLATION (VALVE TIMING ADJUSTMENT)

Install the camshaft by aligning the alignment mark on the camshaft with the timing mark on the crankshaft.



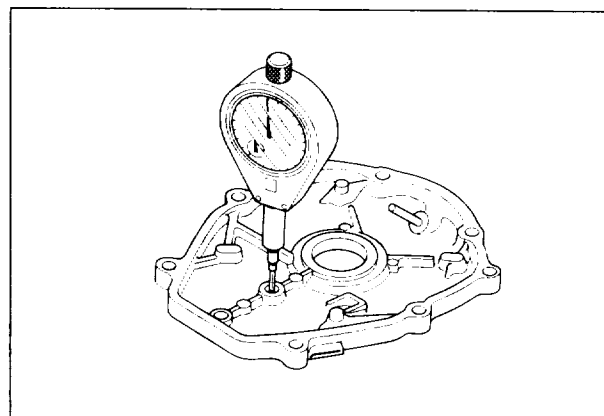


### 3. INSPECTION

#### ● CRANKCASE SIDE COVER

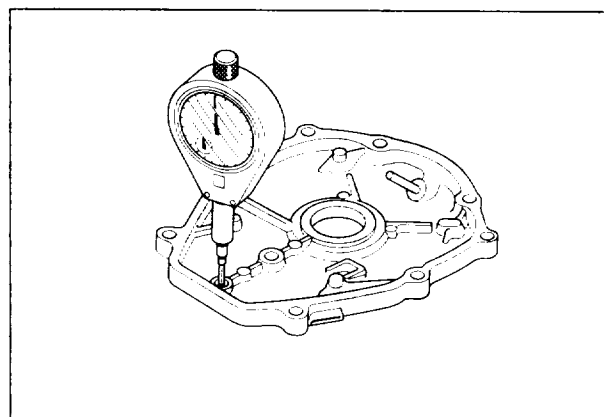
Measure the I.D. of the camshaft roller bearing.

Standard	Service limit
5.000 – 5.018 mm (0.1969 – 0.1976 in)	5.050 mm (0.1988 in)



Measure the I.D. of the valve lifter bearing.

Standard	Service limit
5.000 – 5.018 mm (0.1969 – 0.1976 in)	5.050 mm (0.1988 in)



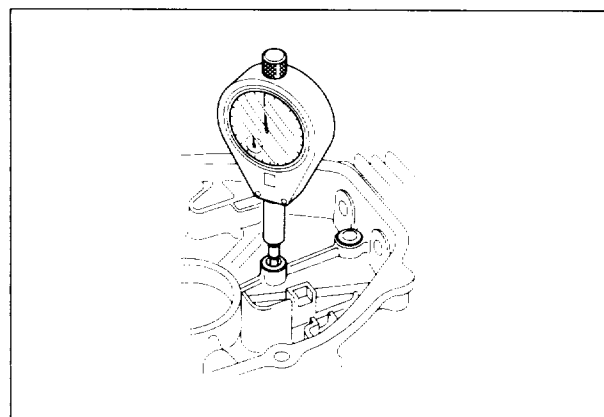
#### ● CYLINDER BLOCK

Measure the I.D. of the camshaft roller bearing.

Standard	Service limit
5.000 – 5.018 mm (0.1969 – 0.1976 in)	5.050 mm (0.1988 in)

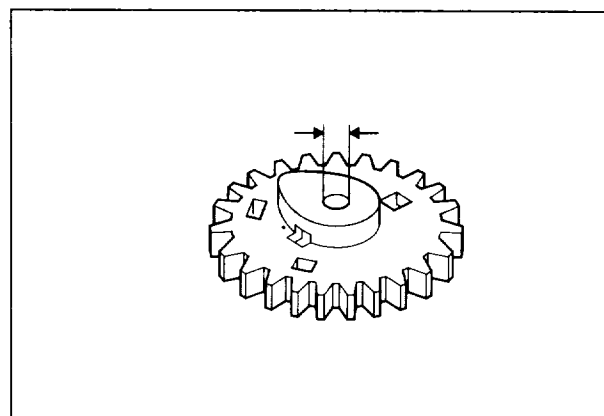
Measure the I.D. of the valve lifter roller bearing.

Standard	Service limit
5.000 – 5.018 mm (0.1969 – 0.1976 in)	5.050 mm (0.1988 in)



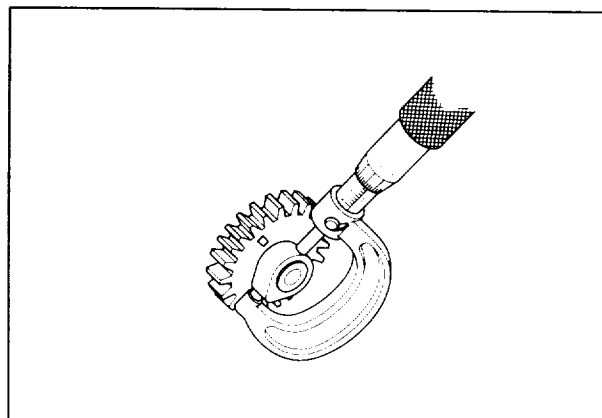
#### ● CAMSHAFT I. D.

Standard	Service limit
5.020 – 5.050 mm (0.1976 – 0.1988 in)	5.100 mm (0.2008 in)



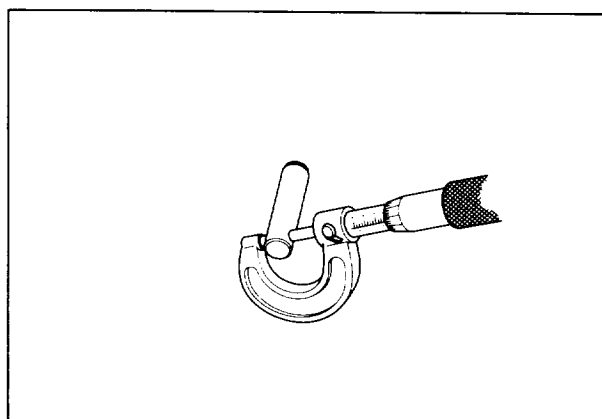
● **CAM HEIGHT**

Standard	Service limit
27.972 mm (1.1013 in)	26.972 mm (1.0619 in)



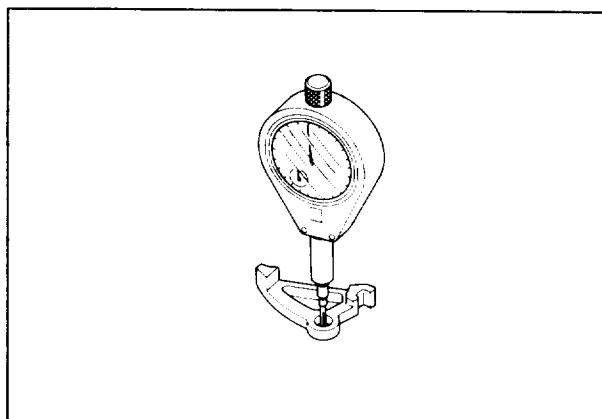
● **CAMSHAFT ROLLER/VALVE LIFTER ROLLER O.D.**

Standard	Service limit
4.990 – 5.000 mm (0.1965 – 0.1969 in)	4.950 mm (0.1949 in)



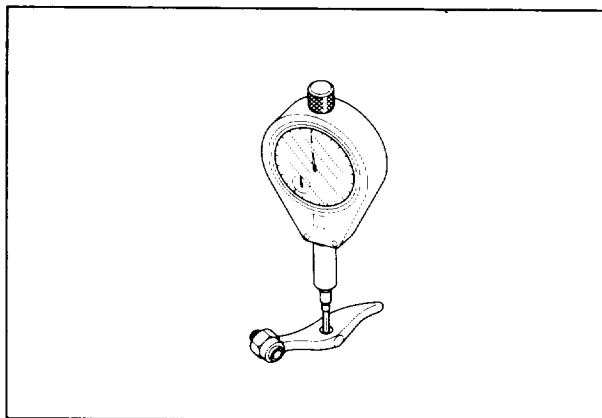
● **VALVE LIFTER I.D.**

Standard	Service limit
5.005 – 5.025 mm (0.1970 – 0.1978 in)	5.050 mm (0.1988 in)



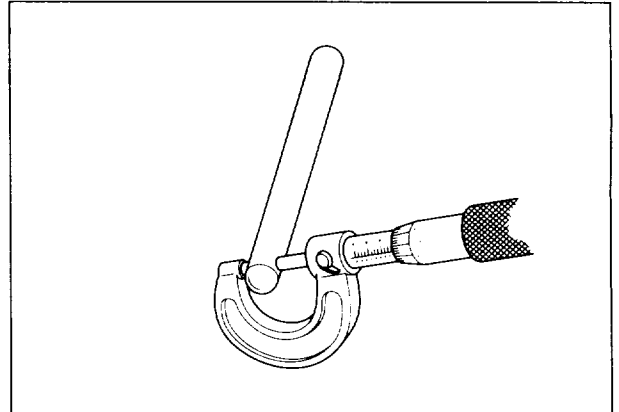
● **ROCKER ARM I.D.**

Standard	Service limit
4.005 – 4.025 mm (0.1577 – 0.1585 in)	4.050 mm (0.1594 in)



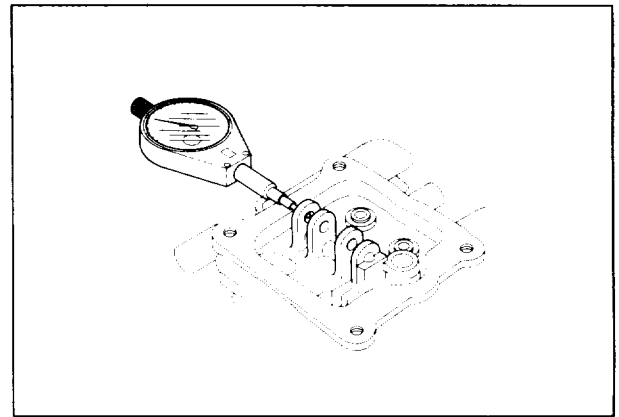
● **ROCKER ARM SHAFT O.D.**

Standard	Service limit
3.990 – 4.000 mm (0.1571 – 0.1575 in)	3.950 mm (0.1555 in)



● **ROCKER ARM SHAFT BEARING I.D.**

Standard	Service limit
4.000 – 4.018 mm (0.1575 – 0.1582 in)	4.050 mm (0.1594 in)



# 11. OIL CASE/CRANKSHAFT/ CYLINDER BLOCK/PISTON/VALVE

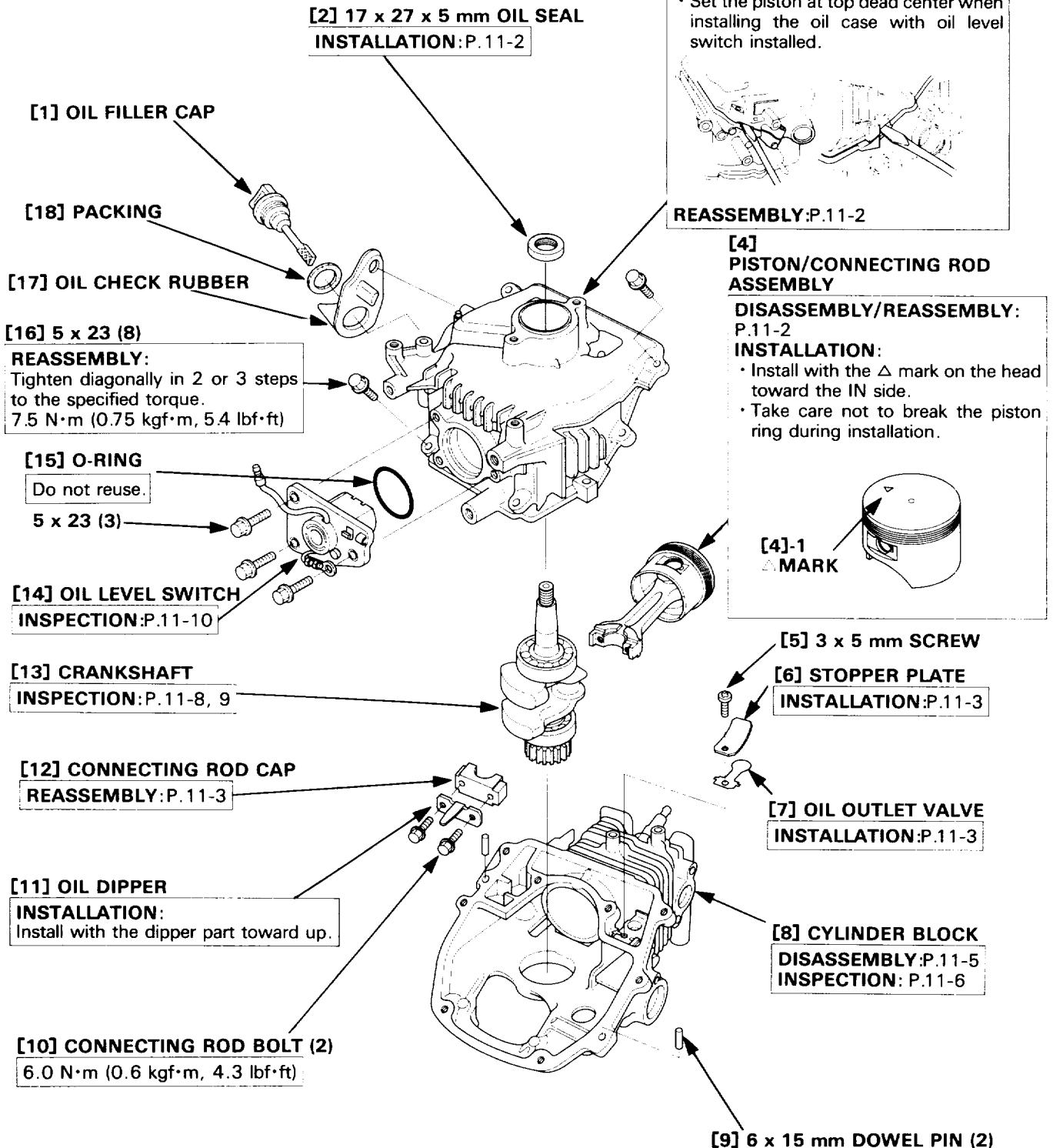
**HONDA**  
EU10i • EU1000i

1. OIL CASE/CRANKSHAFT
2. PISTON

3. VALVE/CYLINDER BLOCK
4. INSPECTION

## 1. OIL CASE/CRANKSHAFT

### a. DISASSEMBLY/REASSEMBLY



● **OIL CASE ASSEMBLY**

- 1) Clean the mating surfaces of the oil case and the cylinder block with a degreasing cleaning agent or a clean shop towel.
- 2) Tighten the two 6 x 15 mm dowel pins against the cylinder block.
- 3) Apply the stick 1.5 to 2.0 mm (0.06 to 0.08 in) in diameter of the liquid packing (Three Bond 1216E or equivalent) to the mating surface of the cylinder block as shown.
- 4) Install the crankcase cover on the cylinder block.

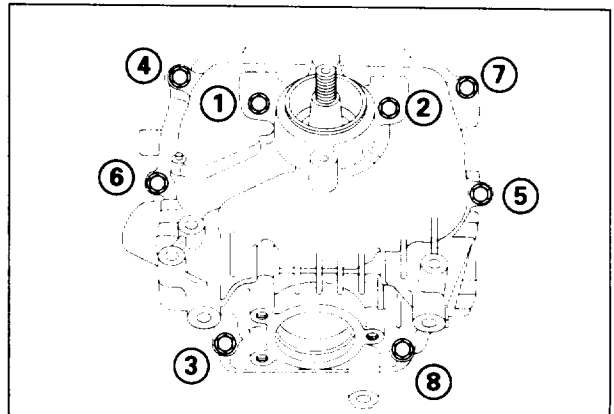
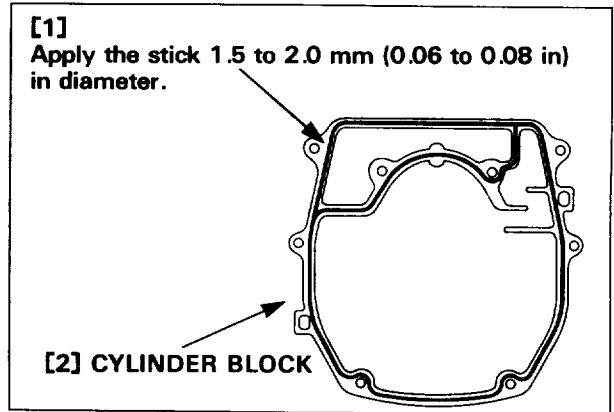
**NOTE:**

- Assemble the oil case with the cylinder block within 3 minutes after application of the liquid packing.
- If it is hard to install the oil case properly, install by turning the crankshaft a little.
- Take care not to damage the oil seal lip.

- 5) Loosely tighten the bolts, then tighten them to the specified torque in the numbered sequence shown.

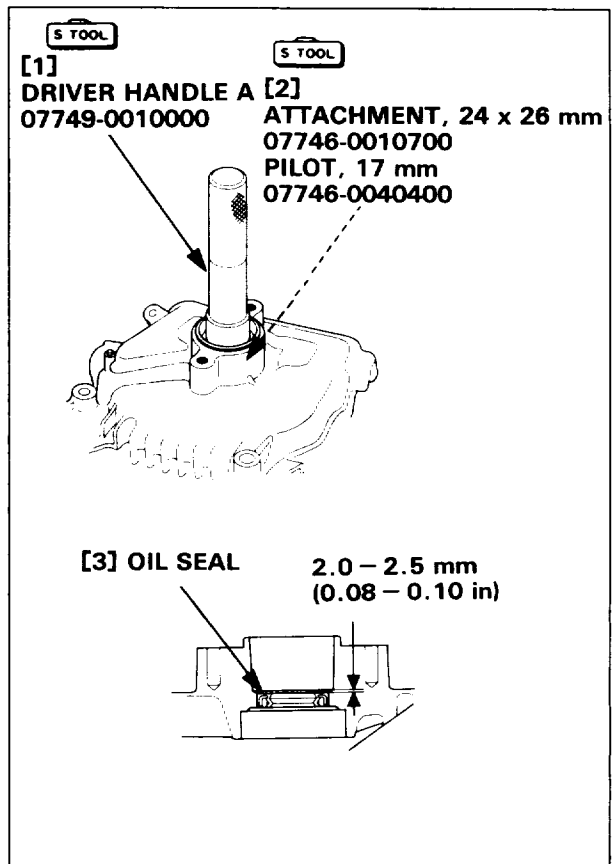
**TORQUE: 7.5 N·m (0.75 kgf·m, 5.4 lbf·ft)**

Wait for 30 minutes after assembly. Do not add oil or start the engine during this period.



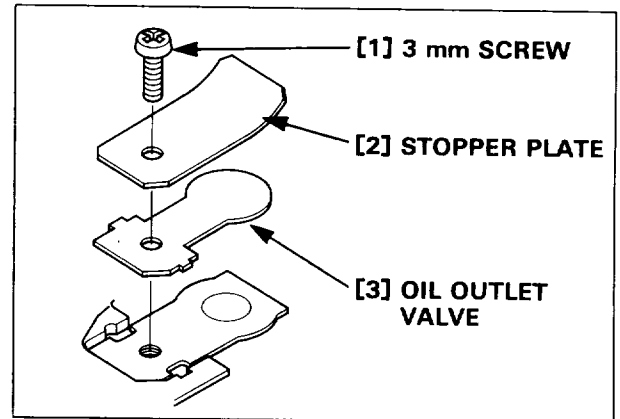
● **OIL SEAL INSTALLATION**

Drive in the oil seal to the depth shown using the special tools.



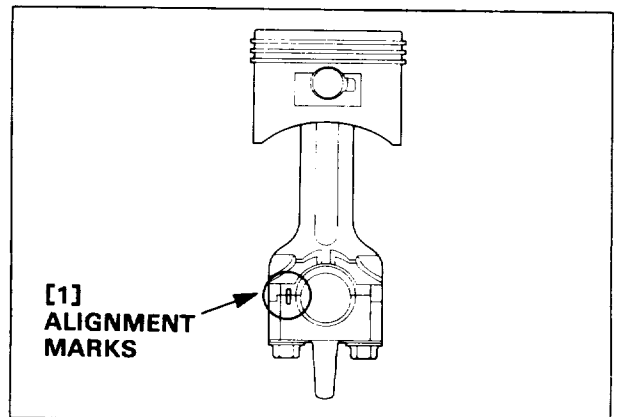
● **BREATHER VALVE INSTALLATION**

- 1) Clean the oil outlet valve, stopper plate and the valve installation section of the cylinder block.
- 2) Install the valve aligning the positioning projection and chamfer of the valve with the groove and chamfer of the cylinder block.
- 3) Install the stopper plate on the valve aligning the chamfered corner of the stopper plate with the chamfer of the cylinder block.
- 4) Tighten the 3 mm screw securely.



● **CONNECTING ROD CAP**

- Install by aligning the alignment marks on the connecting rod big end and on the cap.
- Install with the oil dipper facing the flywheel installation side.



## 2. PISTON

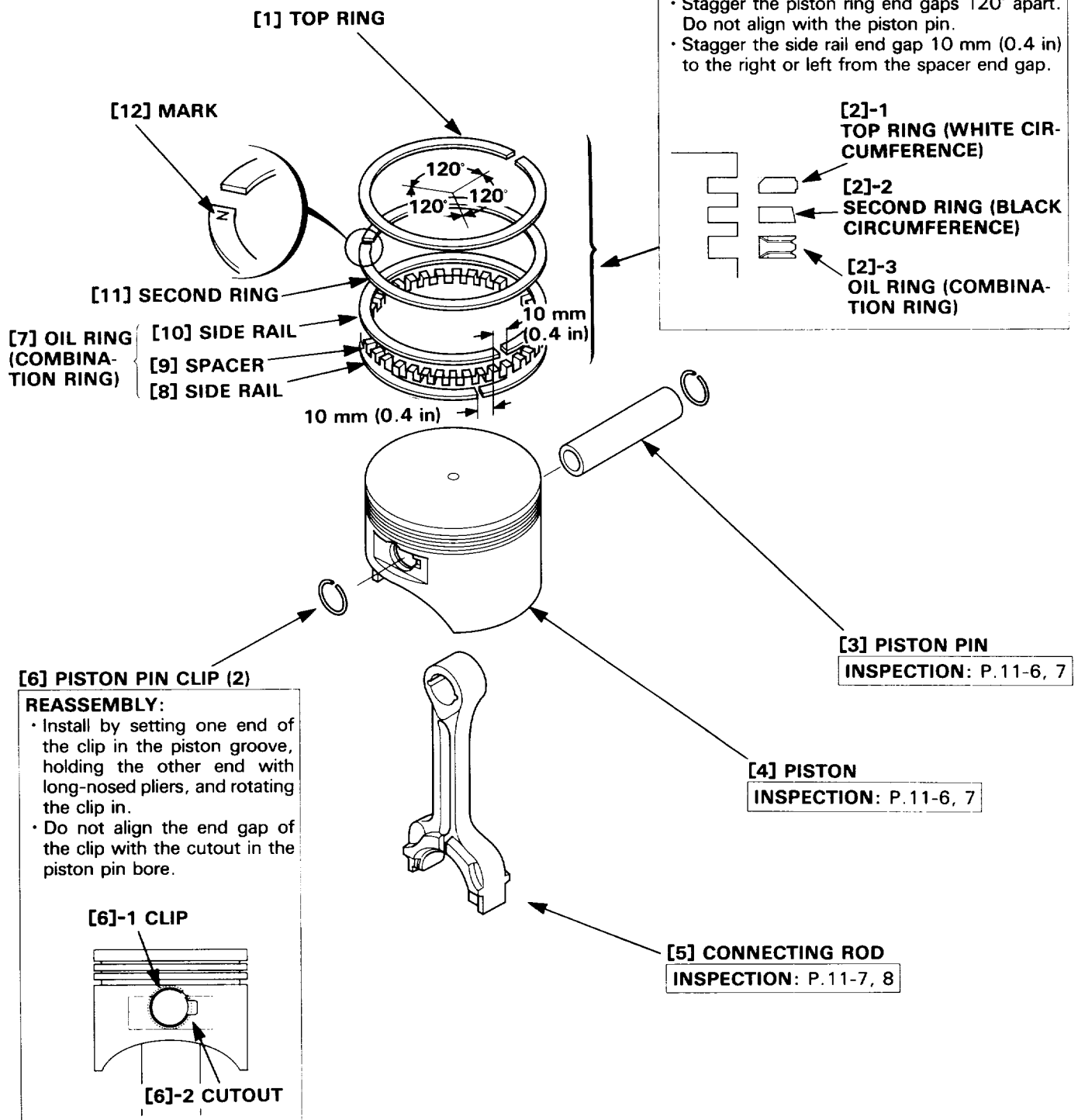
### a. DISASSEMBLY/REASSEMBLY

#### [2] PISTON RINGS

**INSPECTION:** P.10-6

**REASSEMBLY:**

- Install the top ring with chamfered section facing up.
- Install the second ring with the mark facing upward as shown.
- Do not interchange the top ring and the second ring.
- After assembly, check for smooth movement of the piston ring.
- Stagger the piston ring end gaps 120° apart. Do not align with the piston pin.
- Stagger the side rail end gap 10 mm (0.4 in) to the right or left from the spacer end gap.



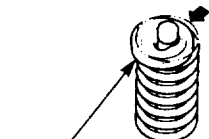
### 3. VALVE/CYLINDER BLOCK

#### a. DISASSEMBLY/REASSEMBLY

##### [1] VALVE SPRING RETAINER (2)

**DISASSEMBLY:**

Push down and slide the retainer to the side, so the valve stem slips through the hole at the side of the retainer.



[1]-1 VALVE SPRING RETAINER

**REASSEMBLY:**

Install the valve spring retainer while holding the valve with the handle of a driver or hammer.

##### [2] VALVE SPRING (2)

INSPECTION:P.11-9

##### [6] VALVE GUIDE

INSPECTION:P.11-9

##### [3] CYLINDER BLOCK

INSPECTION:P.11-9

##### [5] EXHAUST VALVE

**REASSEMBLY:**

- Remove carbon deposits before installation.
- Check the valve head for damage.

INSPECTION:P.11-9

##### [4] INLET VALVE

**REASSEMBLY:**

- Remove carbon deposits before installation.
- Check the valve head for damage.
- Do not interchange with the exhaust valve.

VALVE HEAD DIAMETER:

IN:17.5 mm

EX:15.5 mm

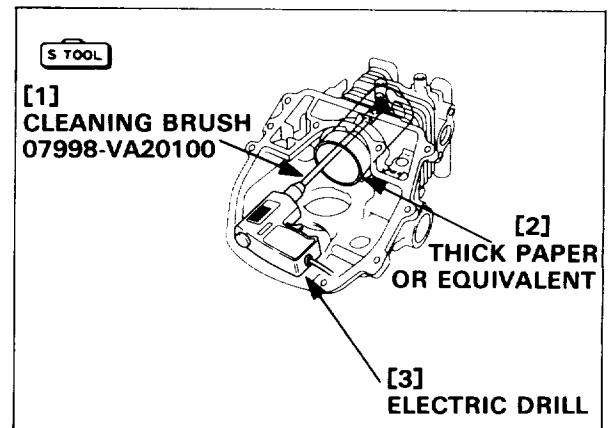
INSPECTION:P.11-9

#### b. COMBUSTION CHAMBER CLEANING

- 1) Prepare a protective lining of thick paper or equivalent material, with a diameter large enough to fit against the inner wall of the cylinder, and insert it into the cylinder.
- 2) Attach a cleaning brush to an electric drill and clean the combustion chamber.

**CAUTION:**

- Be sure to insert a thick paper into the cylinder to protect the inner wall of the cylinder during cleaning.
- Do not press the cleaning brush with force against the combustion chamber.



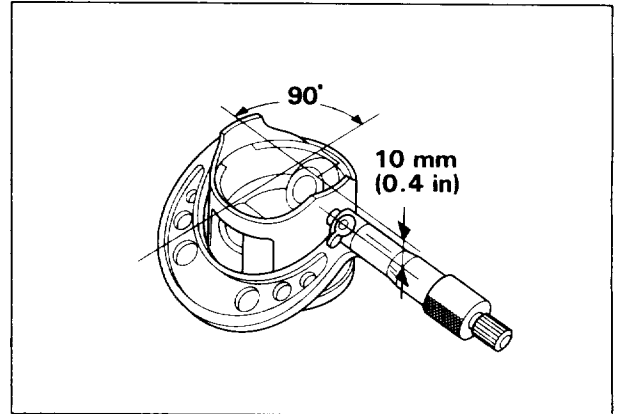


## 4. INSPECTION

### ● PISTON SKIRT O.D.

Measure and record the piston O.D. at a point 10 mm (0.4in) from the bottom of the skirt and 90° to the piston pin bore.

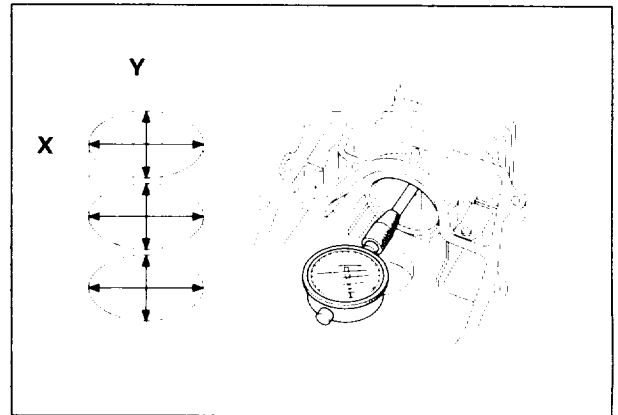
Standard	Service limit
41.770 – 41.790 mm (1.6445 – 1.6453 in)	41.700 mm (1.6417 in)



### ● CYLINDER SLEEVE I.D.

Measure and record the cylinder I.D. at three levels in both the \*X\* axis (parallel to piston pin) and the \*Y\* axis (perpendicular to piston pin). Take the maximum reading of each measurement to determine the cylinder I.D.

Standard	Service limit
41.800 – 41.815 mm (1.6457 – 1.6463 in)	41.900 mm (1.6496 in)

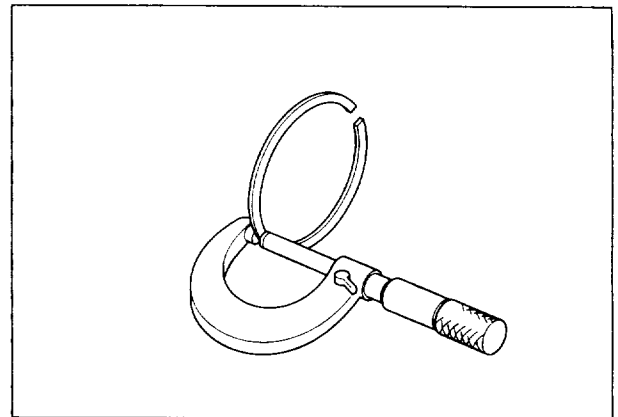


### ● PISTON-TO-CYLINDER CLEARANCE

Standard	Service limit
0.010 – 0.045 mm (0.0004 – 0.0018 in)	0.120 mm (0.0047 in)

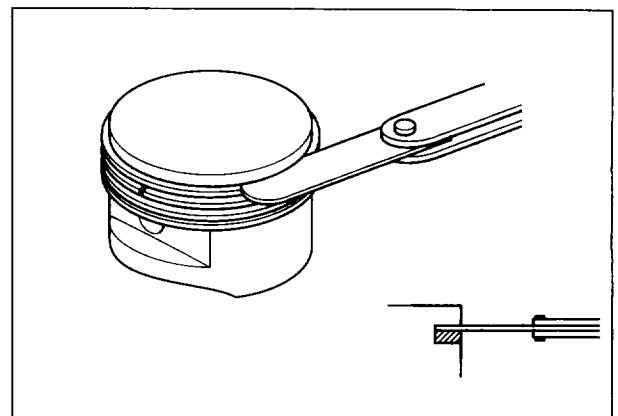
### ● PISTON RING WIDTH

	Standard	Service limit
Top	0.77 – 0.79 mm (0.030 – 0.031 in)	0.720 mm (0.0283 in)
Second	0.97 – 0.99 mm (0.031 – 0.039 in)	0.920 mm (0.0362 in)



### ● RING SIDE CLEARANCE

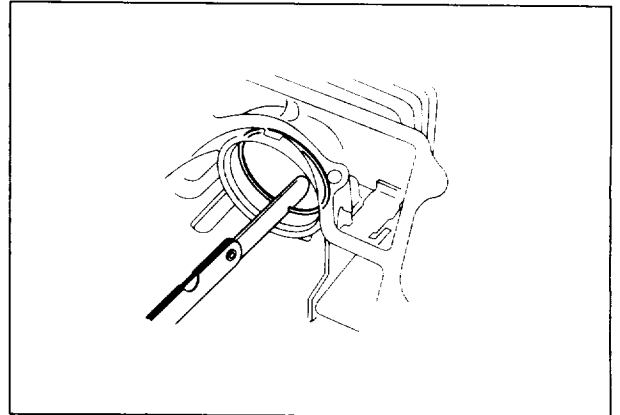
	Standard	Service limit
Top/ Second	0.015 – 0.050 mm (0.0006 – 0.0020 in)	0.120 mm (0.0047 in)



● **PISTON RING END GAP**

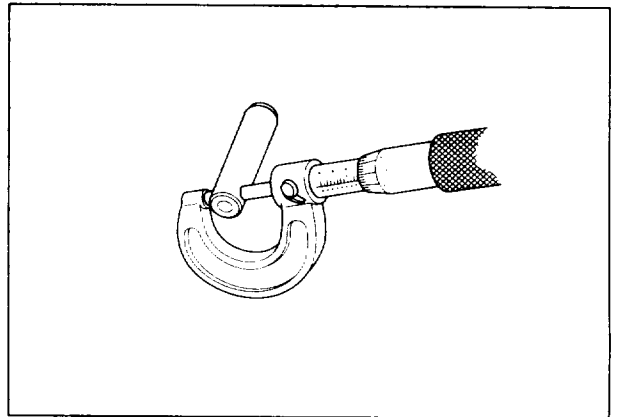
Use the top of the piston to position the ring horizontally in the cylinder, and measure the piston ring end gap.

	Standard	Service limit
Top/ Second	0.150 – 0.300 mm (0.0059 – 0.0118 in)	0.600 mm (0.0236 in)



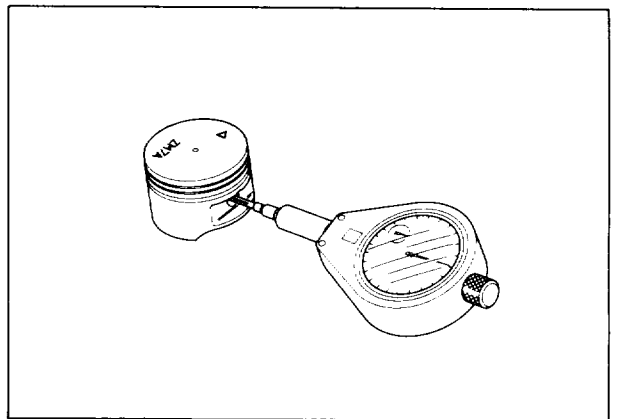
● **PISTON PIN O. D.**

Standard	Service limit
9.994 – 10.000 mm (0.3935 – 0.3937 in)	9.950 mm (0.3917 in)



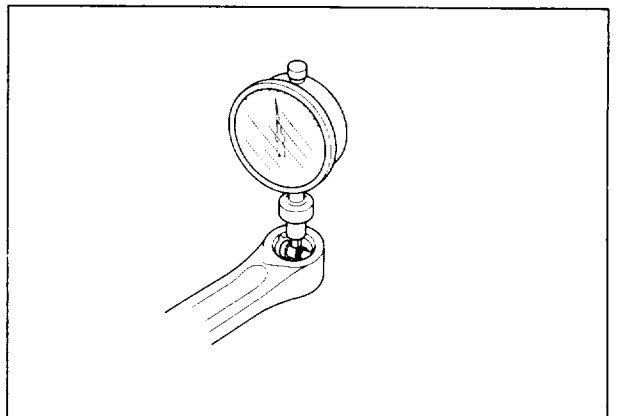
● **PISTON PIN BORE I. D.**

Standard	Service limit
10.002 – 10.008 mm (0.3938 – 0.3940 in)	10.050 mm (0.3957 in)



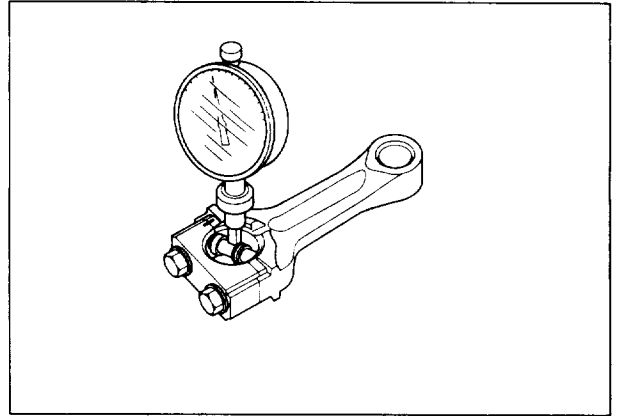
● **CONNECTING ROD SMALL END I. D.**

Standard	Service limit
10.006 – 10.017 mm (0.3939 – 0.3944 in)	10.050 mm (0.3957 in)



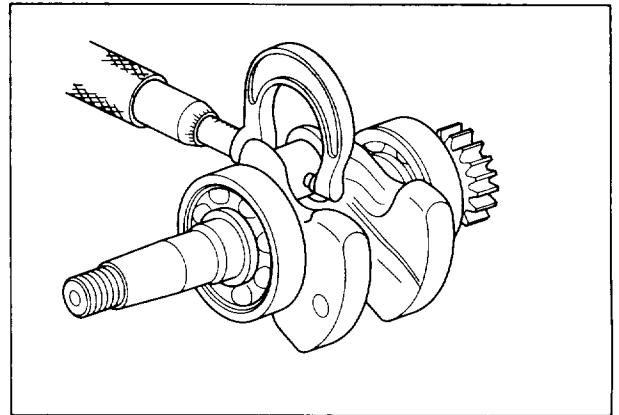
● **CONNECTING ROD BIG END I. D.**

Standard	Service limit
15.000 – 15.011 mm (0.5906 – 0.5910 in)	15.040 mm (0.5921 in)



● **CRANK PIN O. D.**

Standard	Service limit
14.973 – 14.984 mm (0.5895 – 0.5899 in)	14.940 mm (0.5882 in)



● **CONNECTING ROD BIG END OIL CLEARANCE**

- 1) Clean the crank pin and the connecting rod big end.
- 2) Set a plastigauge on the crank pin. Install the connecting rod cap and tighten the connecting rod bolt to the specified torque.

**TORQUE: 6.0 N·m (0.6 kgf·m, 4.3 lbf·ft)**

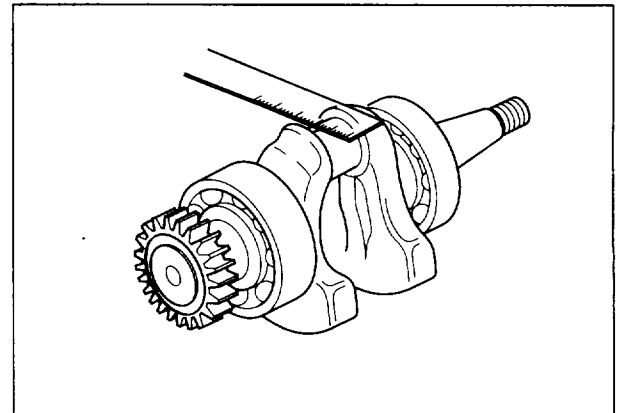
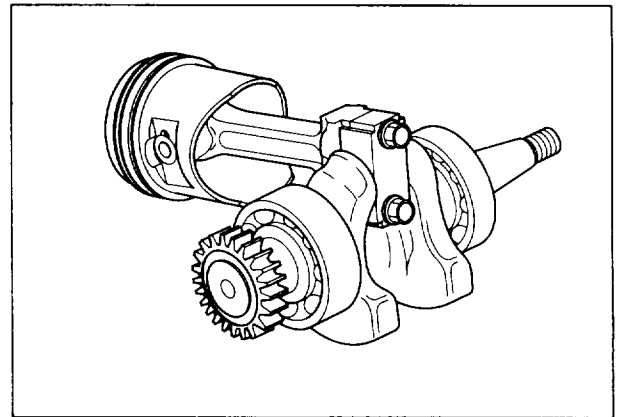
**NOTE:**

- Set the plastigauge in the axial direction on the crank pin.
- Hold the crankshaft not to turn when tightening the bolt.

- 3) Remove the connecting rod cap and measure the plastigauge with the plastigauge scale.

Standard	Service limit
0.016 – 0.038 mm (0.0006 – 0.0015 in)	0.100 mm (0.0039 in)

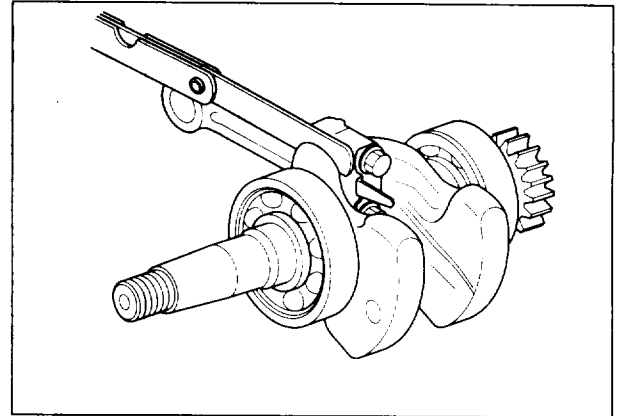
- 4) If the measurement exceeds the service limit, replace the connecting rod and recheck the clearance. If the clearance, measured by using a new connecting rod, exceeds the service limit, replace the crankshaft.



● **CONNECTING ROD BIG END SIDE CLEARANCE**

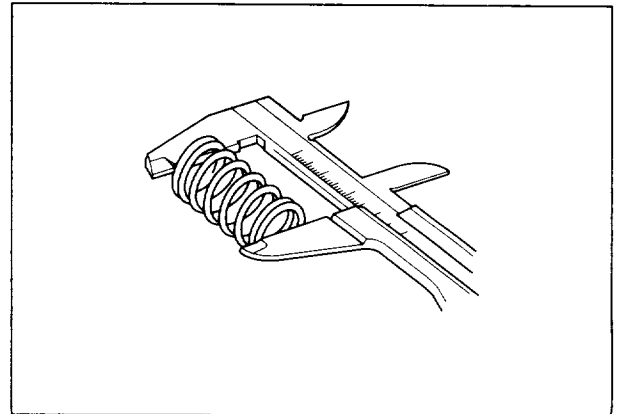
Measure the clearance using a feeler gauge.

Standard	Service limit
0.1 – 0.6 mm (0.004 – 0.024 in)	0.8 mm (0.031 in)



● **VALVE SPRING FREE LENGTH**

Standard	Service limit
23.7 mm (0.93 in)	22.8 mm (0.90 in)



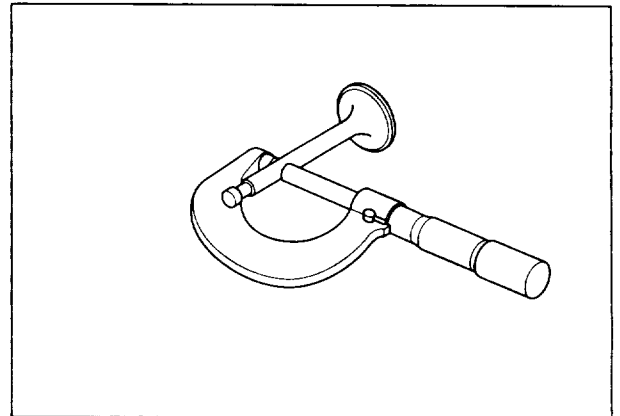
● **VALVE STEM O. D.**

Inspect each valve face for pitting or wear irregularities.  
Inspect each valve stem for bending or abnormal stem wear.

Insert the valve into the valve guide and check for operation.

Measure the valve stem O.D. at the sliding surface of the valve guide.

	Standard	Service limit
IN	3.970 – 3.985 mm (0.15623 – 0.1569 in)	3.900 mm (0.1535 in)
EX	3.935 – 3.950 mm (0.1549 – 0.1555 in)	3.880 mm (0.1528 in)



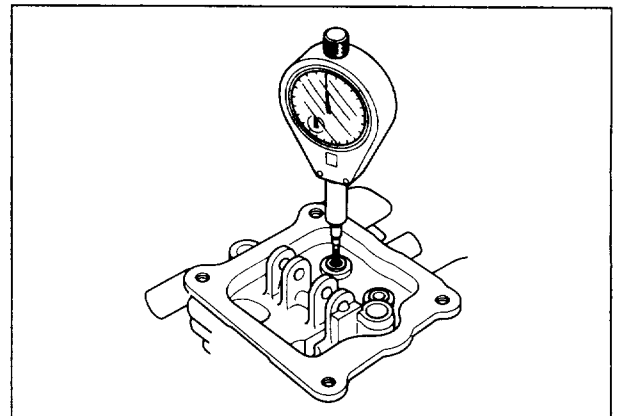
● **VALVE GUIDE I. D.**

	Standard	Service limit
IN/EX	4.000 – 4.018 mm (0.1575 – 0.1582 in)	4.060 mm (0.1598 in)

If the measurement exceeds the service limit, replace the cylinder barrel.

● **VALVE STEM-TO-GUIDE CLEARANCE**

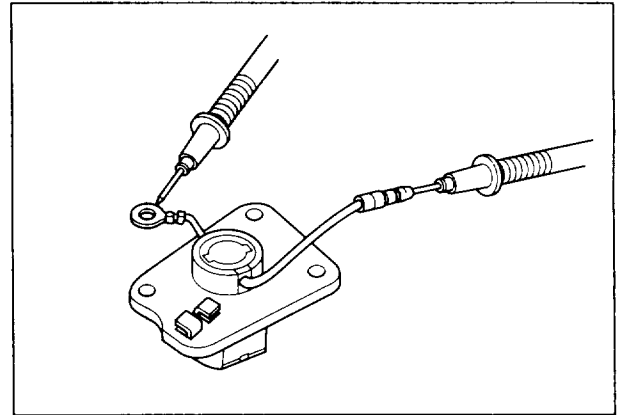
	Standard	Service limit
IN	0.015 – 0.048 mm (0.0006 – 0.0019 in)	0.098 mm (0.0039 in)
EX	0.050 – 0.083 mm (0.0020 – 0.0033 in)	0.098 mm (0.0039 in)



● **OIL LEVEL SWITCH**

Check for continuity between the oil level switch's yellow lead wire and the ground terminal (green lead).

- 1) The oil level switch is normal if there is no continuity with the switch upside down.
- 2) There must be continuity between the wires with the switch of the straight side up.
- 3) Suspend the switch in a container filled with oil and check the float operation. The switch is normal if there is continuity between the wires initially, and no continuity when the switch is soaked in the oil.



# HONDA

EU 10i • EU 1000i

SHOP MANUAL  
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WERKSTATT-HANDBUCH  
MANUAL DE TALLER

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