

2006-2011



HONDA



SERVICE MANUAL

TRX680FA/FGA

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the TRX680FA and TRX680FGA.

Follow the Maintenance Schedule (Section 4) recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the standards set by the California Air Resources Board (CARB).

Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 and 4 apply to the whole vehicle. Section 3 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections. Sections 5 through 23 describe parts of the vehicle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on the first page of the section.

Most sections start with an assembly or system illustration, service information and troubleshooting for the section. The subsequent pages give detailed procedure.


If you are not familiar with this vehicle, read Technical Features in section 2.

If you don't know the source of the trouble, go to section 25 Troubleshooting.

Your safety, and the safety of others, is very important. To help you make informed decisions we have provided safety messages and other information throughout this manual. Of course, it is not practical or possible to warn you about all the hazards associated with servicing this vehicle.

You must use your own good judgement.

You will find important safety information in a variety of forms including:

- Safety Labels – on the vehicle
- Safety Messages – preceded by a safety alert symbol  and one of three signal words, DANGER, WARNING, or CAUTION. These signal words mean:

▲ DANGER You WILL be KILLED or SERIOUSLY HURT if you don't follow instructions.

▲ WARNING You CAN be KILLED or SERIOUSLY HURT if you don't follow instructions.

▲ CAUTION You CAN be HURT if you don't follow instructions.

- Instructions – how to service this vehicle correctly and safely.












As you read this manual, you will find information that is preceded by a [NOTICE] symbol. The purpose of this message is to help prevent damage to your vehicle, other property, or the environment.

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SYMBOLS

The symbols used throughout this manual show specific service procedures. If supplementary information is required pertaining to these symbols, it would be explained specifically in the text without the use of the symbols.

	<p>Replace the part(s) with new one(s) before assembly.</p>
	<p>Use the recommended engine oil, unless otherwise specified.</p>
	<p>Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1:1).</p>
	<p>Use multi-purpose grease (lithium based multi-purpose grease NLGI #2 or equivalent).</p>
	<p>Use molybdenum disulfide grease (containing more than 3% molybdenum disulfide, NLGI #2 or equivalent). Example: Molykote® BR-2 plus manufactured by Dow Corning U.S.A. Multi-purpose M-2 manufactured by Mitsubishi Oil, Japan</p>
	<p>Use molybdenum disulfide paste (containing more than 40% molybdenum disulfide, NLGI #2 or equivalent). Example: Molykote® G-n Paste manufactured by Dow Corning U.S.A. Honda Moly 60 (U.S.A. only) Rocol ASP manufactured by Rocol Limited, U.K. Rocol Paste manufactured by Sumico Lubricant, Japan</p>
	<p>Use silicone grease.</p>
	<p>Apply a locking agent. Use a medium strength locking agent unless otherwise specified.</p>
	<p>Apply sealant.</p>
	<p>Use DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.</p>
	<p>Use fork or suspension fluid.</p>

1. GENERAL INFORMATION

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GENERAL INFORMATION

SERVICE RULES

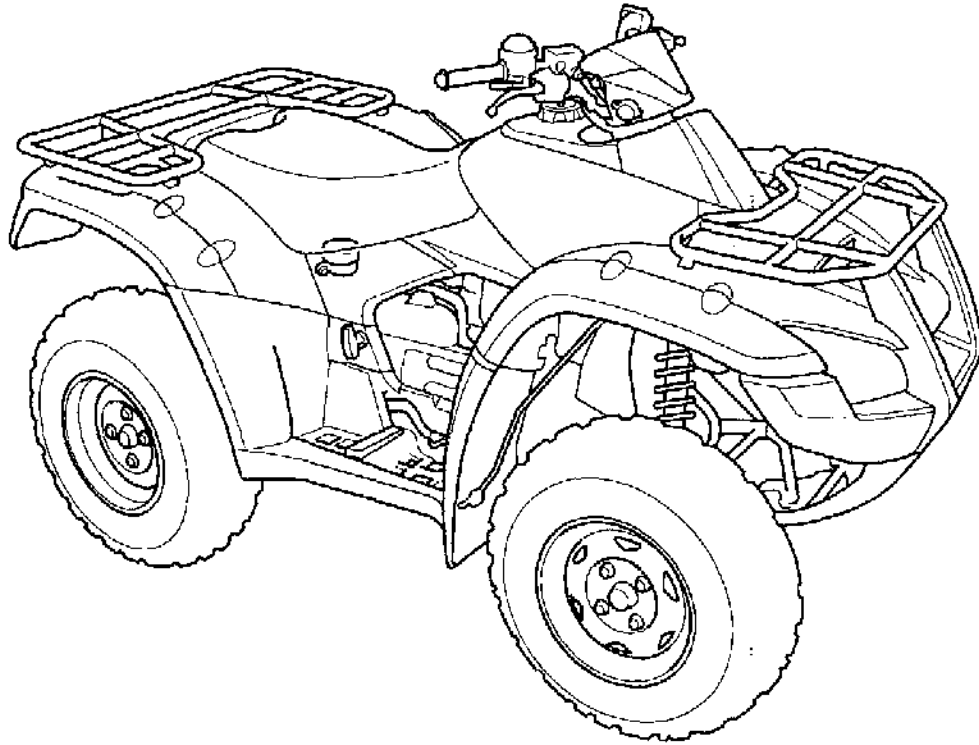
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that do not meet Honda's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing the motorcycle. Metric bolts, nuts and screws are not interchangeable with English fasteners.
4. Install new gaskets, O-rings, cotter pins, and lock plates when reassembling.
5. When tightening bolts or nuts, begin with the larger diameter or inner bolt first. Then tighten to the specified torque diagonally in incremental steps unless a particular sequence is specified.
6. Clean parts in cleaning solvent upon disassembly. Lubricate any sliding surfaces before reassembly.
7. After reassembly, check all parts for proper installation and operation.
8. Route all electrical wires as show in the Cable and Harness Routing (page 1-20).

ABBREVIATION

Throughout this manual, the following abbreviations are used to identify the respective parts or systems.

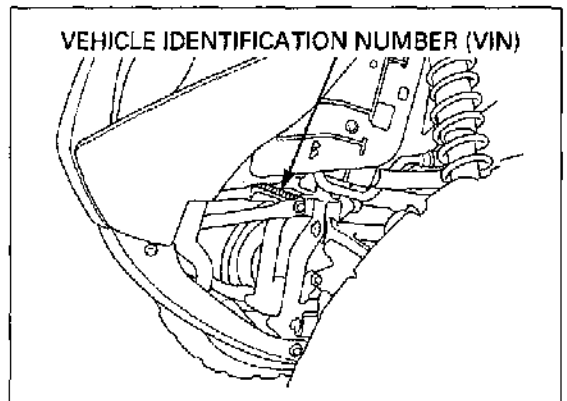
Abbrev. term	Full term
PGM-FI	Programmed Fuel Injection
MAP sensor	Manifold Absolute Pressure sensor
TP sensor	Throttle Position sensor
ECT sensor	Engine Coolant Temperature sensor
IAT sensor	Intake Air Temperature sensor
CKP sensor	Crankshaft Position sensor
VS sensor	Vehicle Speed sensor
EOT sensor	Engine Oil Temperature sensor
IACV	Idle Air Control Valve
PCM (ECM/TCM)	Powertrain Control Module (Engine Control Module/Transmission Control Module)
EEPROM	Electrically Erasable Programmable Read Only Memory
DLC	Data Link Connector
SCS connector	Service Check Short connector
HDS	Honda Diagnostic System
DTC	Diagnostic Trouble Code
MIL	Malfunction Indicator Lamp
A/T	Automatic Transmission
Clutch PC solenoid	Clutch Pressure Control solenoid
4WD	4 Wheel Drive
ESP	Electric Shift Program
GPS	Global Positioning System

MODEL IDENTIFICATION

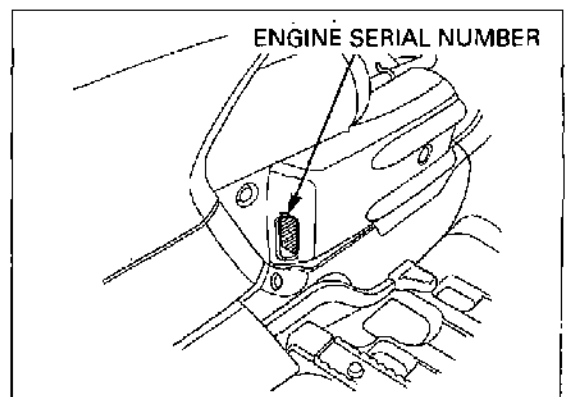


SERIAL NUMBERS

The Vehicle Identification Number (V.I.N) is stamped on the front side of the frame.



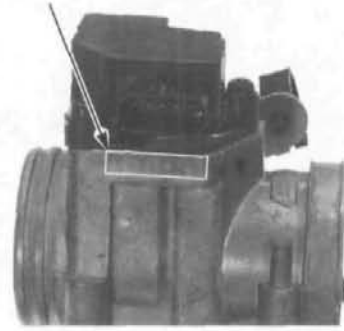
The engine serial number is stamped on the right side of the crankcase.



GENERAL INFORMATION

The throttle body identification number is stamped on the left side of the throttle body.

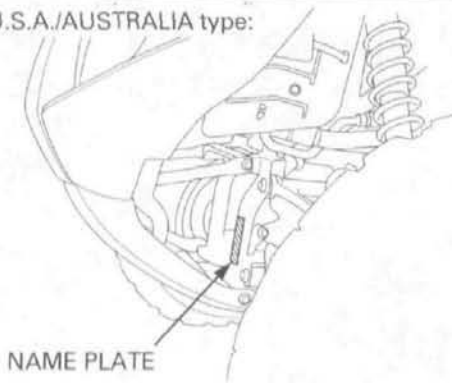
THROTTLE BODY
IDENTIFICATION NUMBER



LABELS

The name plate (U.S.A. and AUSTRALIA type) is located on the left frame down tube.

U.S.A./AUSTRALIA type:



NAME PLATE

The safety certification label (Canada type only) is located on the right frame down tube.

Canada type:



SAFETY CERTIFICATION LABEL

The color label is attached on the right side of the frame under the seat. When ordering color coded parts, always specify the designated color code.

COLOR LABEL



The Vehicle Emission Control Information Label is attached on the left side of the rear fender under the seat.



GENERAL SPECIFICATIONS

	ITEM	SPECIFICATIONS
DIMENSIONS	Overall length	2,113 mm (83.2 in)
	Overall width	1,189 mm (46.8 in)
	Overall height	1,207 mm (47.5 in)
	Wheelbase	1,289 mm (50.7 in)
	Front tread	915 mm (36.0 in)
	Rear tread	945 mm (37.2 in)
	Seat height	875 mm (34.5 in)
	Footpeg height	341 mm (13.4 in)
	Ground clearance	234 mm (9.2 in)
	Curb weight	291 kg (642 lbs)
	Maximum weight capacity	220 kg (485 lbs)
FRAME	Frame type	Double cradle
	Front suspension	Double wish-bone
	Front wheel travel	175 mm (6.9 in)
	Front damper	Double tube
	Rear suspension	Double wish-bone
	Rear wheel travel	203 mm (8.0 in)
	Rear damper	Single tube
	Front tire size	AT25 x 8R12 ★ ★
	Rear tire size	AT25 x 10R12 ★ ★
	Front rim size	12 x 6.0 AT
	Rear rim size	12 x 7.5 AT
	Front tire brand	KT515 (DUNLOP)
	Rear tire brand	KT511 (DUNLOP)
	Front brake	Hydraulic disc brake
	Rear brake	Hydraulic/mechanical disc brake
	Caster angle	1.6°
	Trail length	2.1 mm (3/16 in)
Camber angle	0°	
Fuel tank capacity	17 liters (4.5 US gal, 3.7 Imp gal)	
Fuel tank reserve capacity	4.1 liters (1.08 US gal, 0.90 Imp gal)	

GENERAL INFORMATION

ITEM	SPECIFICATIONS
ENGINE	Cylinder arrangement Bore and stroke Displacement Compression ratio Valve train Intake valve opens at 1 mm (0.04 in) lift Intake valve closes at 1 mm (0.04 in) lift Exhaust valve opens at 1 mm (0.04 in) lift Exhaust valve closes at 1 mm (0.04 in) lift Lubrication system Oil pump type Cooling system Air filtration Engine dry weight
Single cylinder, longitudinally installed 102 x 82.6 mm (4.02 x 3.25 in) 674.9 cm ³ (41.19 cu-in) 9.2: 1 OHV 8° BTDC 45° ABDC 45° BBDC 5° ATDC Forced pressure (dry sump) Trochoid Liquid cooled Oiled urethane foam 60.4 kg (133.2 lbs)	
CARBURATION	Type Throttle bore
PGM-FI (Programmed Fuel Injection) 40 mm (1.57 in)	
DRIVE TRAIN	Transmission Shift clutch (1st, 2nd and 3rd clutches) Primary reduction Secondary reduction Final reduction Transmission ratio Gearshift pattern
Automatic (Torque converter + 3-speed drive system and reverse) Multi-plate, wet (hydraulic clutch with electric controlled) 1.333 (64/48) 2.000 (38/19) 2.375 (38/16) 3.231 (42/13) 3.154 (41/13) 2.053 (39/19) 1.375 (33/24) 0.933 (28/30) 2.138 (39/19 x 25/24) D - N - R 2-mode: 3-speed Automatic and Manual (ESP; 3 speeds) 1-mode (fixed low ratio)	
ELECTRICAL	Ignition system Starting system Charging system Regulator/rectifier Lighting system
Full Transistorized Ignition Electric starter motor and emergency recoil starter Triple phase output alternator FET shorted, triple phase full wave rectification Battery	

LUBRICATION SYSTEM SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Engine oil capacity	After draining	2.7 liters (2.9 US qt, 2.4 Imp qt)	-
	After draining/filter change	2.9 liters (3.1 US qt, 2.6 Imp qt)	-
	After disassembly	4.1 liters (4.3 US qt, 3.6 Imp qt)	-
Recommended engine oil		Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil (USA & Canada), or Honda 4-stroke oil (Canada only), or an equivalent motorcycle oil API service classification: SG or Higher (except oils labeled as energy conserving on the circular API service label) JASO T 903 standard: MA Viscosity: SAE 10W-40, 5W-30	-
Oil pressure at 5,000 rpm (min^{-1})/80°C (176°F)		785 kPa (8.0 kgf/cm ² , 114 psi)	-
Oil pump rotor	Tip clearance	0.15 (0.006)	0.20 (0.008)
	Body clearance	0.12 – 0.22 (0.005 – 0.009)	0.25 (0.010)
	Side clearance	0.02 – 0.09 (0.001 – 0.004)	0.11 (0.004)

FUEL SYSTEM SPECIFICATIONS

ITEM	SPECIFICATIONS
Throttle body identification number	G067A
Idle speed	1,400 ± 50 rpm (min^{-1})
Throttle lever free play	3 – 8 mm (1/8 – 5/16 in)
ECT sensor resistance (20°C/68°F)	2.3 – 2.6 kΩ
Fuel injector resistance (at 20°C/68°F)	11.1 – 12.3 Ω
Fuel pressure	284 – 304 kPa (2.9 – 3.1 kgf/cm ² , 41 – 44 psi)
Fuel pump flow (at 12 V)	71 cm ³ (2.4 US oz, 2.5 Imp oz) minimum/10 seconds

COOLING SYSTEM SPECIFICATIONS

ITEM	SPECIFICATIONS	
Coolant capacity	Radiator and engine	2.0 liters (2.1 US qt, 1.8 Imp qt)
	Reserve tank	0.46 liter (0.49 US qt, 0.40 Imp qt)
Radiator cap relief pressure		108 – 137 kPa (1.1 – 1.4 kgf/cm ² , 16 – 20 psi)
Thermostat	Begin to open	80 – 84°C
	Fully open	95°C
	Valve lift	8 mm (0.3 in) minimum
Recommended antifreeze		Pro Honda HP Coolant or an equivalent high quality ethylene glycol antifreeze containing silicate-free corrosion inhibitors
Standard coolant concentration		1:1 mixture with distilled water

GENERAL INFORMATION

CYLINDER HEAD/VALVE/CAMSHAFT SPECIFICATIONS

ITEM		STANDARD		SERVICE LIMIT
Cylinder compression at 350 rpm (min^{-1})		550 kPa (5.6 kgf/cm ² , 80 psi)		-
Valve clearance		IN	0.15 (0.006)	-
		EX	0.33 (0.013)	-
Valve, valve guide	Valve stem O.D.	IN	5.475 - 5.490 (0.2156 - 0.2161)	5.45 (0.215)
		EX	5.455 - 5.470 (0.2148 - 0.2154)	5.43 (0.214)
	Valve guide I.D.	IN/EX	5.500 - 5.512 (0.2165 - 0.2170)	5.53 (0.218)
	Stem-to-guide clearance	IN	0.010 - 0.037 (0.0004 - 0.0015)	0.12 (0.005)
		EX	0.030 - 0.057 (0.0012 - 0.0022)	0.14 (0.006)
	Valve guide projection above cylinder head	IN	14.8 - 15.2 (0.58 - 0.60)	-
EX		17.3 - 17.7 (0.68 - 0.70)	-	
Valve seat width	IN/EX	1.0 - 1.1 (0.039 - 0.043)	1.4 (0.06)	
Valve spring	Free length	Inner	37.20 (1.465)	36.3 (1.43)
		Outer	44.20 (1.740)	43.1 (1.70)
Rocker arm	Arm I.D.	IN/EX	12.000 - 12.018 (0.4724 - 0.4731)	12.05 (0.474)
	Shaft O.D.	IN/EX	11.964 - 11.984 (0.4710 - 0.4718)	11.92 (0.469)
	Arm-to-shaft clearance	IN/EX	0.016 - 0.054 (0.0006 - 0.0021)	0.08 (0.003)
Camshaft and cam follower	Cam lobe height	IN	35.015 - 35.175 (1.3785 - 1.3848)	34.840 (1.3717)
		EX	35.394 - 35.554 (1.3935 - 1.3998)	35.144 (1.3824)
	Cam follower O.D.	IN/EX	22.467 - 22.482 (0.8845 - 0.8851)	22.46 (0.884)
	Follower bore I.D.	IN/EX	22.510 - 22.526 (0.8862 - 0.8868)	22.54 (0.887)
Follower-to-bore clearance	IN/EX	0.028 - 0.059 (0.0011 - 0.0023)	0.07 (0.003)	
Cylinder head warpage		-		0.05 (0.002)

CYLINDER/PISTON SPECIFICATIONS

ITEM		STANDARD		SERVICE LIMIT	
Cylinder	I.D.	102.000 - 102.015 (4.0157 - 4.0163)		102.05 (4.018)	
	Out-of-round	-		0.05 (0.002)	
	Taper	-		0.05 (0.002)	
	Warpage	-		0.05 (0.002)	
Piston, piston pin, piston ring	Piston O.D. at 20 (0.8) from bottom	101.960 - 101.990 (4.0142 - 4.0153)		101.90 (4.012)	
	Piston pin hole I.D.	23.002 - 23.008 (0.9056 - 0.9058)		23.03 (0.907)	
	Piston pin O.D.	22.994 - 23.000 (0.9053 - 0.9055)		22.98 (0.905)	
	Piston-to-piston pin clearance	0.002 - 0.014 (0.0001 - 0.0006)		0.04 (0.002)	
	Piston ring end gap	Top	0.25 - 0.35 (0.010 - 0.014)		0.5 (0.02)
		Second	0.40 - 0.55 (0.016 - 0.022)		0.7 (0.03)
		Oil (side rail)	0.20 - 0.70 (0.008 - 0.028)		0.9 (0.04)
Piston ring-to-ring groove clearance	Top	0.045 - 0.080 (0.0018 - 0.0031)		0.095 (0.0037)	
	Second	0.025 - 0.060 (0.0010 - 0.0024)		0.075 (0.0030)	
Cylinder-to-piston clearance		0.010 - 0.055 (0.0004 - 0.0022)		0.19 (0.007)	
Connecting rod small end I.D.		23.030 - 23.050 (0.9067 - 0.9075)		23.06 (0.908)	
Connecting rod-to-piston pin clearance		0.030 - 0.056 (0.0012 - 0.0022)		0.08 (0.003)	

ALTERNATOR/STARTER CLUTCH SPECIFICATIONS

ITEM	STANDARD	SERVICE LIMIT
Starter driven gear boss O.D.	51.705 - 51.718 (2.0356 - 2.0361)	51.61 (2.032)
Torque limiter slip torque	53 - 84 N·m (5.4 - 8.6 kgf·m, 39 - 62 lbf·ft)	-

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