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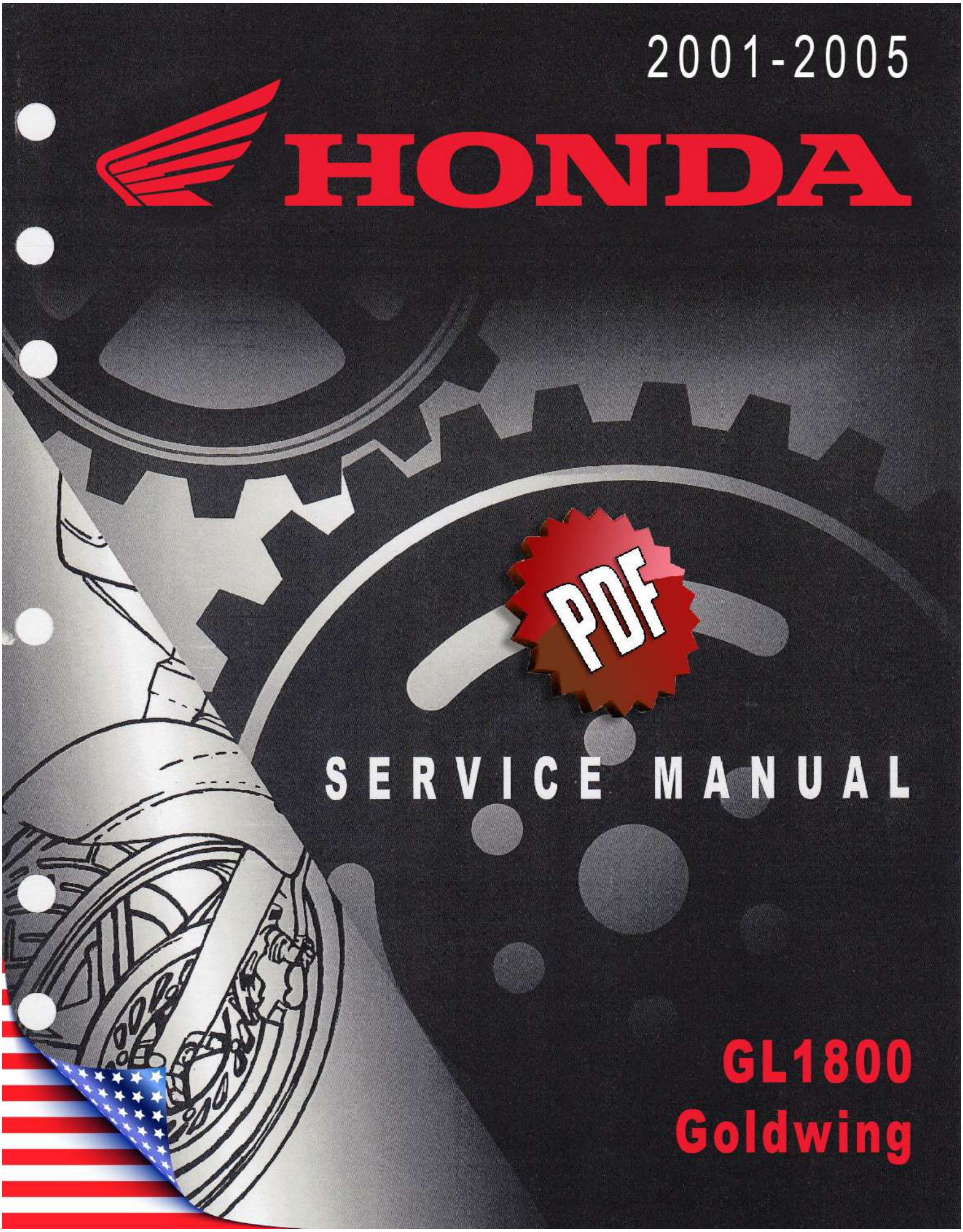

SERVICE MANUAL

GL1800 Goldwing

A Few Words About Safety

Service Information

The service and repair information contained in this manual is intended for use by qualified, professional technicians.
Attempting service or repairs without the proper training, tools, and equipment could cause injury to you or others. It could also damage the vehicle or create an unsafe condition.

This manual describes the proper methods and procedures for performing service, maintenance, and repairs. Some procedures require the use of specially designed tools and dedicated equipment. Any person who intends to use a replacement part, service procedure or a tool that is not recommended by Honda, must determine the risks to their personal safety and the safe operation of the vehicle.

If you need to replace a part, use genuine Honda parts with the correct part number or an equivalent part. We strongly recommend that you do not use replacement parts of inferior quality.

For Your Customer's Safety

Proper service and maintenance are essential to the customer's safety and the reliability of the vehicle. Any error or oversight while servicing a vehicle can result in faulty operation, damage to the vehicle, or injury to others.

⚠WARNING

Improper service or repairs can create an unsafe condition that can cause your customer or others to be seriously hurt or killed.

Follow the procedures and precautions in this manual and other service materials carefully.

For Your Safety

Because this manual is intended for the professional service technician, we do not provide warnings about many basic shop safety practices (e.g., Hot parts – wear gloves). If you have not received shop safety training or do not feel confident about your knowledge of safe servicing practices, we recommended that you do not attempt to perform the procedures described in this manual.

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

⚠WARNING

Failure to properly follow instructions and precautions can cause you to be seriously hurt or killed.

Follow the procedures and precautions in this manual carefully.

Important Safety Precautions

Make sure you have a clear understanding of all basic shop safety practices and that you are wearing appropriate clothing and using safety equipment. When performing any service task, be especially careful of the following:

- Read all of the instructions before you begin, and make sure you have the tools, the replacement or repair parts, and the skills required to perform the tasks safely and completely.
- Protect your eyes by using proper safety glasses, goggles or face shields any time you hammer, drill, grind, pry or work around pressurized air or liquids, and springs or other stored-energy components. If there is any doubt, put on eye protection.
- Use other protective wear when necessary, for example gloves or safety shoes. Handling hot or sharp parts can cause severe burns or cuts. Before you grab something that looks like it can hurt you, stop and put on gloves.
- Protect yourself and others whenever you have the vehicle up in the air. Any time you lift the vehicle, either with a hoist or a jack, make sure that it is always securely supported. Use jack stands.

Make sure the engine is off before you begin any servicing procedures, unless the instruction tells you to do otherwise.
This will help eliminate several potential hazards:

- Carbon monoxide poisoning from engine exhaust. Be sure there is adequate ventilation whenever you run the engine.
- Burns from hot parts or coolant. Let the engine and exhaust system cool before working in those areas.
- Injury from moving parts. If the instruction tells you to run the engine, be sure your hands, fingers and clothing are out of the way.

Gasoline vapors and hydrogen gases from batteries are explosive. To reduce the possibility of a fire or explosion, be careful when working around gasoline or batteries.

- Use only a nonflammable solvent, not gasoline, to clean parts.
- Never drain or store gasoline in an open container.
- Keep all cigarettes, sparks and flames away from the battery and all fuel-related parts.

HOW TO USE THIS MANUAL

This service manual describes the service procedures for the GL1800/ GL1800A.

Follow the Maintenance Schedule (Section 3) recommendations to ensure that the vehicle is in peak operating condition and 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 3 apply to the whole motorcycle. Section 2 illustrates procedures for removal/installation of components that may be required to perform service described in the following sections.
Sections 4 through 22 describe parts of the motorcycle, 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 procedures.

If you don't know the source of the trouble, go to Section 24, 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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HONDA MOTOR CO., LTD.
SERVICE PUBLICATIONS OFFICE

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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.

	Replace the part(s) with new one(s) before assembly.
	Use recommended engine oil, unless otherwise specified.
	Use molybdenum oil solution (mixture of the engine oil and molybdenum grease in a ratio of 1:1).
	Use multi-purpose grease (lithium based multi-purpose grease NLGI #2 or equivalent).
	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
	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
	Use silicone grease.
	Apply a locking agent. Use a medium strength locking agent unless otherwise specified.
	Use sealant.
	Use DOT 3 or DOT 4 brake fluid. Use the recommended brake fluid unless otherwise specified.
	Use fork or suspension fluid.

1. GENERAL INFORMATION

SERVICE RULES

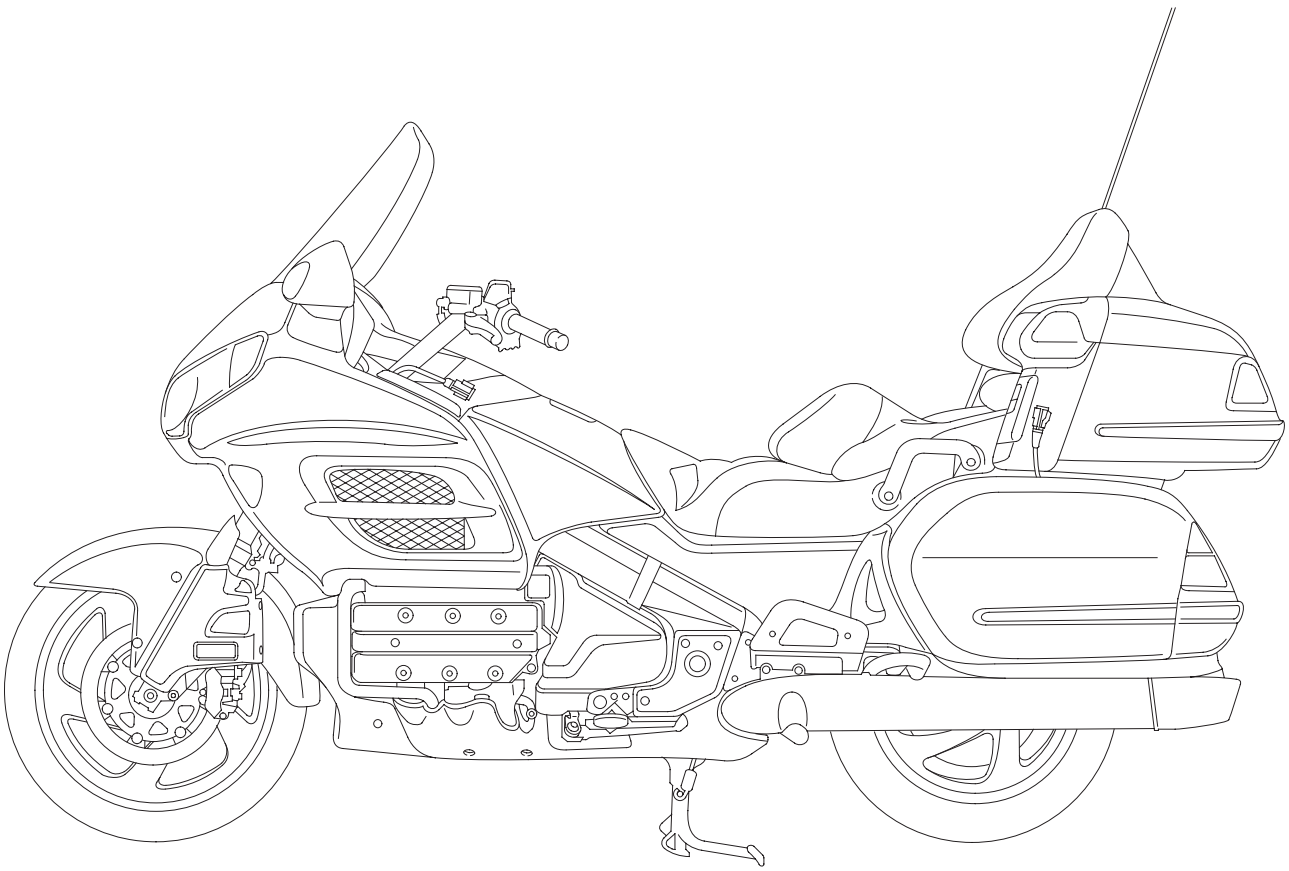
1. Use genuine Honda or Honda-recommended parts and lubricants or their equivalents. Parts that don't meet HONDA's design specifications may cause damage to the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing 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 shown in the Cable & Harness Routing (page 1-23).

MODEL IDENTIFICATION

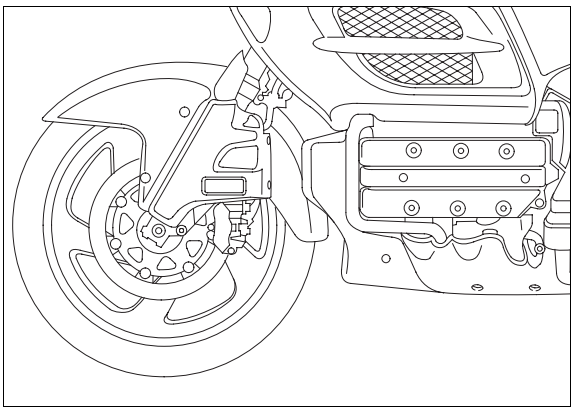
This manual covers 2 types of GL1800 models:

- GL1800 – no ABS
- GL1800A – equipped with ABS

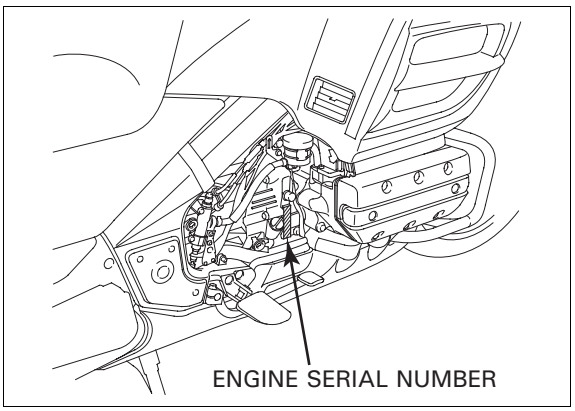
Be sure to refer to the procedure for the appropriate version of the GL1800.



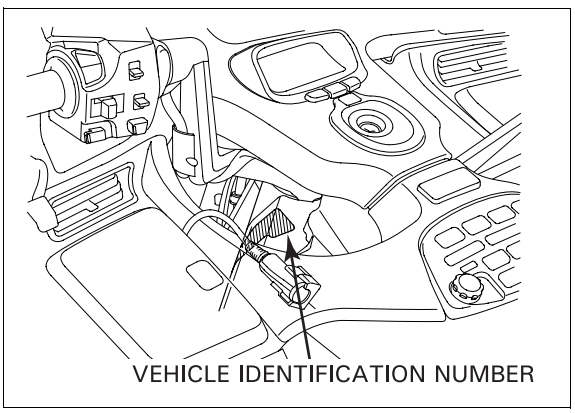
The frame serial number is stamped on the right side of the steering head.



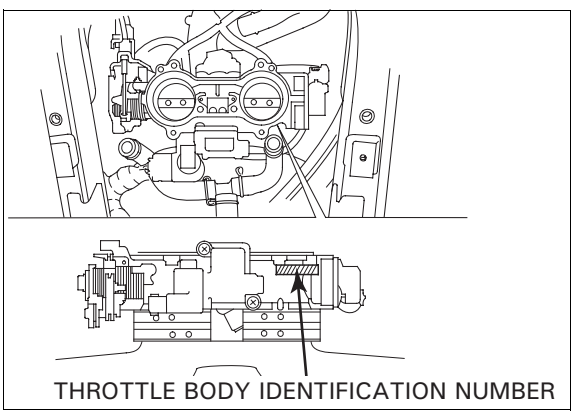
The engine serial number is stamped on the right side of the crankcase.



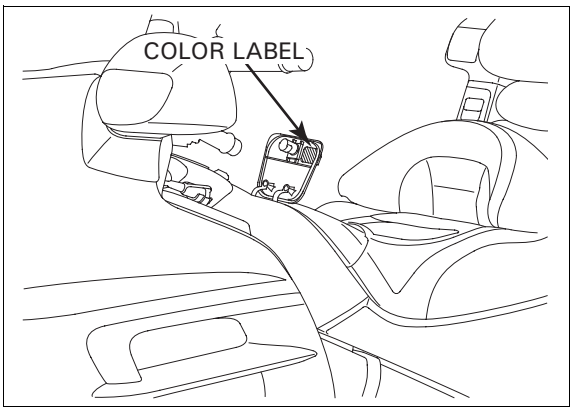
The Vehicle Identification Number (VIN) is located on the left side of the frame near the steering head.



The throttle body identification number is stamped on the rear of the throttle body.

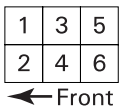


The color label is attached on the back of the fuel fill compartment lid. When ordering color-coded parts, always specify the designated color code.



GENERAL SPECIFICATIONS

ITEM		SPECIFICATIONS
DIMENSIONS	Overall length	2,635 mm (103.7 in)
	Overall width	945 mm (37.2 in)
	Overall height	1,455 mm (57.3 in)
	Wheelbase	1,690 mm (66.5 in)
	Seat height	740 mm (29.1 in)
	Footpeg height	251 mm (9.9 in)
	Ground clearance	125 mm (4.9 in)
	Dry weight	No ABS: 359 kg (791 lbs) ABS model: 362 kg (798 lbs)
	Curb weight	No ABS: 399 kg (880 lbs) ABS model: 402 kg (886 lbs)
	Maximum weight capacity	U.S.A type: 189 kg (417 lbs) Canada type: 193 kg (425 lbs)
FRAME	Frame type	Diamond
	Front suspension	Telescopic fork
	Front axle travel	122 mm (4.8 in)
	Rear suspension	Swingarm
	Rear axle travel	105 mm (4.1 in)
	Front tire size	130/70R18M/C 63H
	Rear tire size	180/60R16M/C 74H
	Front tire brand	D250F (Dunlop), G709 RADIAL (Bridgestone)
	Rear tire brand	D250 (Dunlop), G704 RADIAL (Bridgestone)
	Brake system	Linked Brake System (LBS: All models) with Anti-lock Brake System (ABS: GL1800A)
	Front brake	Hydraulic double disc
	Rear brake	Hydraulic single disc
	Caster angle	29° 15’
	Trail length	109 mm (4.3 in)
	Fuel tank capacity	25 liters (6.6 US gal, 5.5 Imp gal)

ITEM			SPECIFICATIONS
ENGINE	Cylinder arrangement		Flat six
	Bore and stroke		74.0 x 71.0 mm (2.91 x 2.80 in)
	Displacement		1,832 cm^3 (111.8 cu-in)
	Compression ratio		9.8 : 1
	Valve train		Silent cam chain driven, OHC
	Intake valve	opens	–5° BTDC (5° ATDC) (at 1 mm lift)
		closes	30° ABDC (at 1 mm lift)
	Exhaust valve	opens	30° BBDC (at 1 mm lift)
		closes	–5° ATDC (5° BTDC) (at 1 mm lift)
	Lubrication system		Forced pressure and wet sump
	Oil pump type		Trochoid
	Cooling system		Liquid cooled
	Air filtration		Viscous paper element
	Engine dry weight		118.3 kg (260.8 lbs)
	Firing order		1 – 4 – 5 – 2 – 3 – 6
	Cylinder number		
FUEL DELIVERY SYSTEM	Type		Programmed Fuel Injection (PGM-FI)
	Throttle bore		40 mm (1.6 in)
DRIVE TRAIN	Clutch system		Multi-plate, wet (hydraulically assisted)
	Clutch operation system		Hydraulically operated
	Transmission		Constant mesh, 5-speeds with reverse
	Primary reduction		1.591 (78/49)
	Secondary reduction (output drive)		1.028 (36/35)
	Final reduction		2.750 (33/12)
	Gear ratio	1st	2.375 (38/16)
		2nd	1.454 (32/22)
		3rd	1.068 (31/29)
		4th	0.843 (27/32)
		5th	0.686 (24/35)
	Gearshift pattern		Left foot operated return system, 1 – N – 2 – 3 – 4 – 5
ELECTRICAL	Ignition system		Full transistorized ignition
	Starting system		Electric starter motor
	Charging system		Triple phase output alternator
	Regulator/rectifier		Triple phase full-wave rectification with field coil
	Lighting system		Battery

LUBRICATION SYSTEM SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Engine oil capacity	After draining		3.6 liters (3.8 US qt, 3.2 Imp qt)	–
	After draining/filter change		3.7 liters (3.9 US qt, 3.3 Imp qt)	–
	After disassembly		4.6 liters (4.9 US qt, 4.0 Imp qt)	–
Recommended engine oil			Pro Honda GN4 or HP4 (without molybdenum additives) 4-stroke oil or equivalent motor oil API service classification SG or Higher JASO T 903 standard: MA Viscosity: SAE 10W-40	–
Oil pressure (at oil pressure switch)			530 kPa (5.4 kgf/cm^2, 77 psi) at 5,000 rpm/80° C (176° F)	–
Oil pump	Tip clearance		0.15 (0.006)	0.20 (0.008)
	Body clearance	Feed side	0.15 – 0.21 (0.006 – 0.008)	0.35 (0.014)
		Scavenge side	0.15 – 0.22 (0.006 – 0.009)	0.35 (0.014)
	Side clearance		0.02 – 0.09 (0.001 – 0.004)	0.12 (0.005)

FUEL SYSTEM (Programmed Fuel Injection) SPECIFICATIONS

ITEM	SPECIFICATIONS
Throttle body identification number	GQ61A
Throttle grip free play	2 – 6 mm (1/12 – 1/4)
Intake air temperature sensor resistance (20° C/68° F)	2.2 – 2.7 kΩ
Engine coolant temperature sensor resistance (20° C/68° F)	2.3 – 2.6 kΩ
Throttle sensor resistance (20° C/68° F)	4 – 6 kΩ
Fuel injector resistance (20° C/68° F)	11.1 – 12.3 Ω
Camshaft position sensor peak voltage	0.7 V minimum
Ignition pulse generator peak voltage	0.7 V minimum
Manifold absolute pressure at idle	400 – 450 mm Hg (15.7 – 17.7 in Hg)
Fuel pressure at idle	343 kPa (3.5 kgf/cm^2, 50 psi)
Fuel pump flow (at 12 V)	133 cm^3 (4.5 US oz, 4.7 Imp oz) minimum/10 seconds
Idle speed	700 ±70 rpm

COOLING SYSTEM SPECIFICATIONS

ITEM		SPECIFICATIONS
Coolant capacity	Radiator and engine	3.53 liters (3.73 US qt, 3.11 Imp qt)
	Reserve tank	0.65 liter (0.69 US qt, 0.57 Imp qt)
Radiator cap relief pressure		108 – 137 kPa (1.1 – 1.4 kgf/cm^2, 16 – 20 psi)
Thermostat	Begin to open	76 – 80° C (169 – 176° F)
	Fully open	90° C (194° F)
	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 recommended antifreeze and soft water

CYLINDER HEAD/VALVE SPECIFICATIONS

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Cylinder compression at 300 rpm			1,383 kPa (14.1 kgf/cm^2, 201 psi)	–
Valve clearance		IN	0.15 (0.006)	–
		EX	0.22 (0.009)	–
Camshaft	Cam lobe height	IN	41.610 – 41.690 (1.6382 – 1.6413)	41.58 (1.637)
		EX	41.680 – 41.760 (1.6409 – 1.6441)	41.65 (1.640)
	Runout		–	0.03 (0.001)
	Journal O.D.		27.959 – 27.980 (1.1007 – 1.1016)	27.96 (1.101)
	Journal I.D.		28.000 – 28.021 (1.1024 – 1.1032)	28.05 (1.104)
	Oil clearance		0.020 – 0.062 (0.0008 – 0.0024)	0.10 (0.004)
Valve lifter	Valve lifter O.D.	IN/EX	28.978 – 28.993 (1.1409 – 1.1415)	28.97 (1.141)
	Valve lifter bore I.D.	IN/EX	29.010 – 29.026 (1.1421 – 1.1428)	29.04 (1.143)
Valve, valve guide	Valve stem O.D.	IN	4.970 – 4.995 (0.1957 – 0.1967)	4.96 (0.195)
		EX	4.955 – 4.980 (0.1951 – 0.1961)	4.95 (0.195)
	Valve guide I.D.	IN/EX	5.000 – 5.012 (0.1969 – 0.1973)	5.04 (0.198)
	Stem-to-guide clearance	IN	0.005 – 0.042 (0.0002 – 0.0017)	0.075 (0.0030)
		EX	0.020 – 0.057 (0.0008 – 0.0022)	0.085 (0.0033)
	Valve guide projection above cylinder head	IN/EX	11.8 – 12.0 (0.46 – 0.47)	–
	Valve seat width	IN/EX	0.9 – 1.1 (0.035 – 0.043)	1.5 (0.06)
Valve spring	Free length	IN/EX	38.20 (1.504)	37.0 (1.46)
Cylinder head warpage			–	0.10 (0.004)

CLUTCH SPECIFICATIONS

Unit: mm (in)

ITEM		STANDARD	SERVICE LIMIT
Specified clutch fluid		DOT 4 brake fluid	–
Clutch master cylinder	Cylinder I.D.	14.000 – 14.043 (0.5512 – 0.5529)	14.055 (0.5533)
	Piston O.D.	13.957 – 13.984 (0.5495 – 0.5506)	13.945 (0.5490)
Clutch	Clutch spring free height	4.8 (0.19)	4.6 (0.18)
	Clutch lifter spring free height	2.9 (0.11)	2.5 (0.10)
	Disc thickness	3.72 – 3.88 (0.146 – 0.153)	3.5 (0.14)
	Plate warpage	–	0.30 (0.012)