

## GENERAL INFORMATION

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# MODEL IDENTIFICATION

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

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

The carburetor identification number is on the right side of the carburetor body.

The color code label is attached to the left frame tube under the seat. When ordering a color coded part, always specify its designated color code.

COMMON

DESCRIPTION	TOOL NUMBER	REFER TO SECTION
Wrench, 10 x 12 mm	07708-0030200	3
Adjusting wrench A	07708-0030300	3
Spoke wrench, 5.8 x 6.1 mm	07701-0020300	3
Float level gauge	07401-0010000	4
Valve guide driver, 6.6 mm	07742-0010200	6
Valve spring compressor	07757-0010000	6
Wrench, 17 x 27 mm	07716-0020300	8
Extension bar	07716-0020500	8
Attachment, 32 x 35 mm	07746-0010100	8, 12, 13
Pilot, 20 mm	07746-0040500	8, 10, 13
Pilot, 40 mm	07746-0040900	10
Primary gear holder	07724-0010100	8
Clutch center holder	07724-0050001	8
Driver	07749-0010000	8, 10, 12, 13
Flywheel holder	07725-0040000	9
Rotor puller	07733-0020001	9
Attachment, 52 x 55 mm	07746-0010400	10
Attachment, 62 x 68 mm	07746-0010500	10
Attachment, 72 x 75 mm	07746-0010600	10
Pilot, 17 mm	07746-0040400	10, 13
Attachment, 42 x 47 mm	07746-0010300	10, 12, 13
Pilot, 25 mm	07746-0040600	10
Pilot, 35 mm	07746-0040800	10
Wrench, 30 x 32 mm	07716-0020400	12
Pilot, 15 mm	07746-0040300	12
Remover head, 15 mm	07746-0050400	12
Remover shaft	07746-0050100	12, 13
Remover head, 17 mm	07746-0050500	13
Remover head, 20 mm	07746-0050600	13
Retainer wrench A	07710-0010100	13
Retainer wrench body	07710-0010401	13
Attachment, 24 x 26 mm	07746-0010700	13
Driver	07746-0020100	13
Attachment, 20 mm I.D.	07746-0020400	13
Attachment, 37 x 40 mm	07746-0010200	10, 13

VALVE SEAT CUTTER

DESCRIPTION	TOOL NUMBER	REFER TO SECTION
38.5 mm flat cutter	07780-0012400	} 6
40 mm seat cutter	07780-0010500	
35 mm seat cutter	07780-0012300	
37.5 mm intake cutter	07780-0014100	
6.6 mm cutter holder	07781-0010201	

# ENGINE OIL STRAINER CLEANING

### NOTE

- Perform this maintenance before filling the engine with oil.

Remove the right crankcase cover (page 8-3).

Remove the oil strainer and clean it.

Install the oil strainer.

Install the right crankcase cover (page 8-17).

Fill the crankcase with recommended oil.

## OIL STRAINER NUT

### NOTE

- Clean the screen on the oil strainer nut before filling the frame oil tank with oil.

Remove the oil drain bolt at the frame down tube to drain the oil.

Remove the skid pipe (page 5-3).

Loosen the oil joint nut and disconnect the hose from the oil strainer nut.

Remove the oil strainer nut from the frame down tube.

Clean the screen on the oil strainer nut in solvent and blow with compressed air.

Check that the O-ring is in good condition.

Reinstall the oil strainer and tighten.

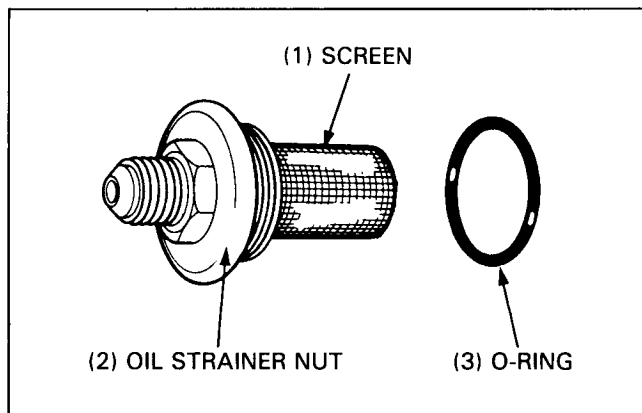
**TORQUE: 55 N·m (5.5 kg-m, 40 ft-lb)**

Reconnect the oil hose and tighten its nut.

**TORQUE: 40 N·m (4.0 kg-m, 29 ft-lb)**

Reinstall the skid pipe.

Fill the oil tank to the upper level with the recommended oil.



## OIL PUMP

### REMOVAL

Remove the clutch (page 8-4).

Remove the oil pump driven gear.

### HEADLIGHT AIM

(B model)

Adjust the vertical beam by turning the headlight mounting bolts.

(U model)

Adjust the vertical beam by turning the adjusting screw on the headlight cover.

### CLUTCH

Measure the clutch free play at the lever end.

**FREE PLAY: 10–20 mm (3/8–3/4 in)**

Adjust as follows:

Minor adjustments are made with the upper adjuster.

Pull the cover back.

Loosen the lock nut and turn the adjuster.

Tighten the lock nut and install the cover.

Major adjustments are made with the lower adjuster.

If major adjustment is required, turn the upper adjuster all the way in and back out 1 turn.

Loosen the lower lock nut and turn the adjusting nut.

Tighten the lock nuts.

Check the clutch operation.

## CYLINDER HEAD/VALVES

Unit: mm (in)

ITEM			STANDARD	SERVICE LIMIT
Valve	Stem O.D.	IN	6.575–6.590 (0.2589–0.2594)	6.56 (0.257)
		EX	6.560–6.575 (0.2582–0.2589)	6.55 (0.258)
	Guide I.D.	IN	6.600–6.615 (0.2598–0.2421)	6.63 (0.261)
		EX	6.600–6.615 (0.2598–0.2421)	6.63 (0.261)
	Stem-to-guide clearance	IN	0.010–0.040 (0.0004–0.0016)	0.065 (0.0026)
		EX	0.025–0.055 (0.0010–0.0021)	0.008 (0.0031)
	Valve face width	IN	1.20–1.85 (0.047–0.071)	2.6 (0.10)
		EX	0.9–1.7 (0.04–0.67)	2.4 (0.09)
Cylinder head	Warpage		—	0.10 (0.004)
	Valve seat width	IN/EX	1.2–1.4 (0.05–0.06)	2.0 (0.08)

### TORQUE VALUES

Cylinder head bolt		36 N•m (3.6 kg-m, 26 ft-lb)
Cam sprocket bolt		20 N•m (2.0 kg-m, 14 ft-lb)
Cylinder head cover	6 mm (SH)	10 N•m (1.0 kg-m, 7 ft-lb)
	6 mm bolt	12 N•m (1.2 kg-m, 9 ft-lb)
	8 mm bolt	23 N•m (2.3 kg-m, 17 ft-lb)
Rocker arm shaft		28 N•m (2.8 kg-m, 20 ft-lb)
Sub-rocker arm shaft	IN	28 N•m (2.8 kg-m, 20 ft-lb)
	EX	23 N•m (2.3 kg-m, 17 ft-lb)
Valve adjuster lock nut		25 N•m (2.5 kg-m, 18 ft-lb)

### TOOLS

#### Special

Knock pin puller set	07936–MA70000
– Slider shaft	07936–MA70100
– Remover weight	07741–0010201
Valve guide reamer	07984–5510000
Cam chain tensioner holder	07973–MG30003

#### Common

Valve guide driver, 6.6 mm	07742–0010200 or 07942–6570100
Valve spring compressor	07757–0010000 or 07957–3290001

## CYLINDER HEAD/VALVES

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Install the camshaft bearing setting pins.

Install the cylinder head.

Tighten the cylinder head bolts in a crisscross pattern in two or more steps.

**TORQUE: 30 N·m (3.0 kg-m, 22 ft-lb)**

Tighten the cylinder head nuts.

## CAMSHAFT INSTALLATION

Apply MoS<sub>2</sub> grease to the camshaft bearings and install them onto the camshaft; the sealed bearing goes on the sprocket side with the seal facing out.

If both bearings are the sealed type, point their seals facing away from the camshaft.

### NOTE

Some sources of MoS<sub>2</sub> paste grease with 40% or more molybdenum are:

- Molykote® G-n Paste manufactured by Dow Corning, U.S.A.
- Honda Moly 45 (U.S.A only)
- Rocol ASP manufactured by Rocol Limited, U.K.
- Rocol Paste manufactured by Sumico Lubricant, Japan.

Any other manufacturer's paste grease equivalent to the above may also be used.

Place the cam sprocket outside the cam chain with its dished face toward the left side.

Install camshaft through the sprocket and cam chain.

Turn the crankshaft and align the "T" mark on the flywheel with the index notch on the left crankcase cover.

### TOOL:

**CAM CHAIN TENSIONER HOLDER 07973—MG30003**

Align the timing marks on the cam sprocket with the upper surface of the cylinder head and install the cam chain over the sprocket without rotating the sprocket.

Position the cam sprocket onto the shoulder of the camshaft and install one cam sprocket bolt.

Turn the crankshaft and install the other sprocket bolt. Tighten the sprocket bolts to the specified torque.

**TORQUE: 20 N·m (2.0 kg-m, 14 ft-lb)**

Remove the tensioner holder.

## CLUTCH/KICK STARTER

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Install the clutch outer over the outer guide.  
Install the thrust washer, clutch center.

Install the clutch lock nut and plain washer.  
Install the clutch center holder to hold the clutch center.  
Tighten the lock nut to the specified torque.

**TORQUE: 110 N·m (11 kg·m, 80 ft·lb)**

Remove the clutch center holder.

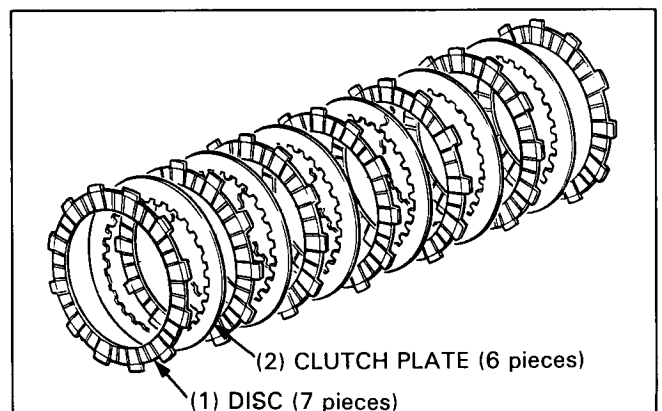
### TOOLS:

**CLUTCH CENTER HOLDER**            07724-0050001  
**EXTENSION**                        07716-0020500  
**LOCK NUT WRENCH, 17 x 27 mm** 07716-0020300

Stake the new clutch lock nut with a punch.  
Install the clutch lifter rod.

Install the clutch release bearing and push rod tip into the pressure plate.

Coat the 7 discs and 6 plates with clean engine oil and install them as shown.



## CRANKSHAFT/BALANCER

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Remove the springs from the drive gear.

Installation is reverse order of removal.

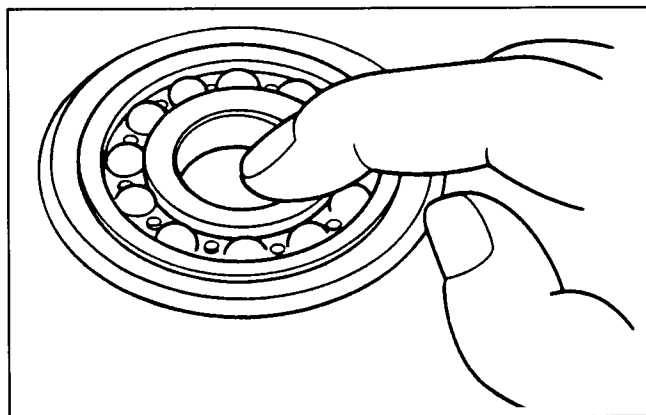
### NOTE

- Align the punch mark on the outer gear between the punch marks on the balancer gear as shown.

## CRANKSHAFT BEARING/TRANSMISSION BEARING INSPECTION

Turn the inner race of the bearings with your finger. The bearings should turn smoothly and quietly. Also check that bearing outer races fit tightly in the crankcase.

Remove and discard the bearings if the races do not turn smoothly, quietly, or if they fit loosely in the crankcase.



## LEFT CRANKCASE BEARING REPLACEMENT

Remove the oil seal.



## FRONT WHEEL/SUSPENSION/STEERING

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Install the front brake master cylinder with "UP" on the bracket facing up. Align the end of the holder with the handlebar punch mark.

Tighten the upper bolt first, then the lower bolt.

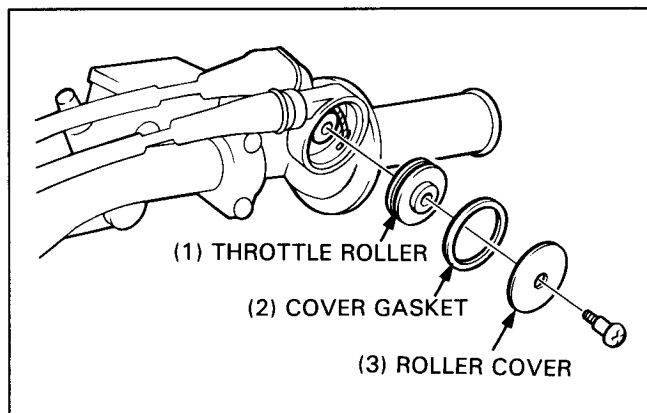
Apply a light coating of Honda silicone lubricant or an equivalent to the throttle grip sliding surface and slide the throttle grip over the handlebar.

Apply grease to the throttle cable ends and the roller.

Connect the throttle cable to the grip.

Connect the throttle cable to the throttle roller and install the throttle roller on the body.

Install the new cover gasket.



Align the split line of the throttle body with the punch mark on the handlebar.

Tighten the forward screw first, then the rear screw.

Install the throttle roller cover on the throttle body and tighten the screw.

**TORQUE: 4.3 N·m (0.43 kg·m, 3 ft·lb)**

Suspension linkage: Swing arm-to-shock arm	45 N·m (4.5 kg-m, 33 ft-lb)
Shock link-to-shock arm	45 N·m (4.5 kg-m, 33 ft-lb)
Shock link-to-frame	70 N·m (7.0 kg-m, 51 ft-lb)
Brake pedal pivot bolt	40 N·m (4.0 kg-m, 29 ft-lb)
Brake arm bolt	10 N·m (1.0 kg-m, 7 ft-lb)

**TOOLS**

**Special**

Bearing driver base	07HMF—KS60100
Spherieal bearing driver	07946—KA30200
Damping valve wrench	07920—KA30001
Bearing remover	07946—MJ00100
Needle bearing remover	07931—MA70000
Slider guide, 14 mm	07974—KA40000
Piston ring sleeve	07974—KA30201
Slider guide attachment	07974—KA30100

**Common**

Retainer wrench A	07710—0010100
Retainer wrench body	07710—0010401
Pilot, 15 mm	07746—0040300
Attachment, 32 x 35 mm	07746—0010100
Pilot, 20 mm	07746—0040500
Pilot, 17 mm	07747—0040400
Attachment, 37 x 40 mm	07747—0010200
Bearing remover shaft	07746—0050100
Remover head, 17 mm	07746—0050500
Remover head, 20 mm	07746—0050600
Driver	07749—0010000
Attachment, 24 x 26 mm	07746—0010700
Driver	07746—0020100
Attachment, 20 mm I.D.	07746—0020400
Attachment, 37 x 40 mm	07746—0010200
Attachment, 42 x 47 mm	07746—0010300

**TROUBLESHOOTING**

**Wobble or Vibration in Motorcycle**

- Bent rim
- Loose wheel bearings
- Loose or bent spokes
- Damaged tire
- Axle not tightened properly
- Swingarm pivot bearing worn
- Chain adjusters not adjusted equally

**Soft Suspension**

- Weak spring
- Improper rear suspension damping or spring preload adjustment

**Hard Suspension**

- Improper rear suspension damping or spring preload adjustment
- Spring thrust sleeve binding
- Bent shock absorber rod
- Swingarm pivot bearings damaged

**Suspension Noise**

- Faulty rear damper
- Loose fasteners
- Worn suspension linkage pivot bushings

**Poor Brake Performance**

- Improper brake adjustment
- Worn brake shoes
- Brake linings oily, greasy or dirty
- Worn brake cam
- Worn brake drum
- Brake arm serrations improperly engaged
- Brake shoes worn at cam contact area

## REAR WHEEL/BRAKE/SUSPENSION

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Install the special tool onto the piston rod.  
Install the rod guide case carefully over the piston rod.

**TOOL:**  
**SLIDER GUIDE, 14 mm**                    **07974—KA40000**

### NOTE

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- Be careful not to damage the dust seal lip or turn it inside out.
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Remove the special tool.

Check the rod guide case movement by sliding it fully up and down by hand.

Install the rebound spring.  
Install the valve stopper onto the piston rod with its polished surface up.  
Install the compression valves, washers, piston and rebound valves onto the piston rod.

### NOTE

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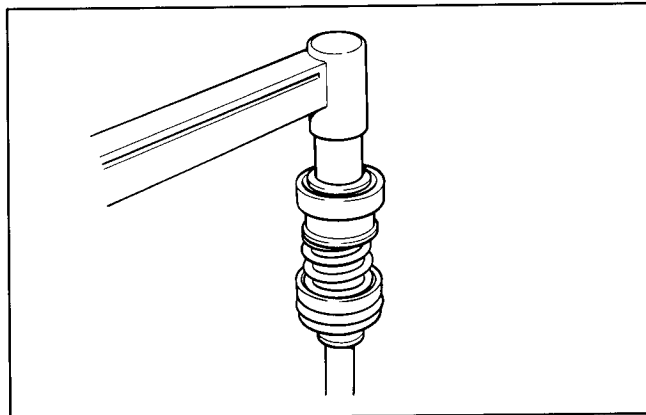
- Note the installation direction of the piston and valves.
  - Be careful not to bind the valves when installing the piston onto the piston rod. Also check that they are concentric with the piston rod.
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Install the piston washer onto the damper rod with its polished surface down.

Screw a new end nut on the damper rod while pressing the piston down.  
Place the damper rod in a vise with soft jaws or a shop towel, being careful not to damage the lower mount.

Make sure that the valves are not binding and tighten the end nut.

**TORQUE: 38 N·m (3.8 kg-m, 27 ft-lb)**



Coat the new O-rings and piston ring with clean shock oil or silicone grease.  
Coat the inside of the damper case with clean shock oil and insert the rod assembly.

### NOTE

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- Install the piston rod into the damper case while compressing the piston ring slightly, so that the piston ring will not interfere with the case.
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## REAR WHEEL/BRAKE/SUSPENSION

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### SPHERICAL BEARING REPLACEMENT

Remove the side collars and dust seals.  
Remove the circlips.

Press out the spherical bearing from the shock arm and discard it.

Install a circlip into the lower groove.  
Press a new spherical bearing into the shock arm.  
Set the second circlip into place.

**TOOLS:**  
**SPHERICAL BEARING DRIVER**      **07946—KA30200**  
**BEARING DRIVER BASE**          **07HMF—KS60100**

### INSTALLATION

Apply MoS<sub>2</sub> grease to the spherical bearing, collars and dust seal.

#### NOTE

Some sources of MoS<sub>2</sub> paste grease with 40% or more molybdenum are:

- Molykote® G-n Paste manufactured by Dow Corning, U.S.A.
- Honda Moly 45 (U.S.A. only).
- Rocol ASP manufactured by Rocol Limited, U.K.
- Rocol Paste manufactured by Sumico Lubricant, Japan.

Any other manufacturer's paste grease equivalent to the above may also be used.

Apply grease to the shock linkage collars, bearings and dust seal lips.

#### NOTE

- Make sure that the needle rollers of the needle bearings are in position before installing the pivot collars.

## IGNITION COIL

### REMOVAL

Remove the seat and fuel tank.  
Disconnect the leads.  
Remove the attaching bolts and remove the coil.

### INSTALLATION

Install the ignition coil in the reverse order of removal.

### INSPECTION

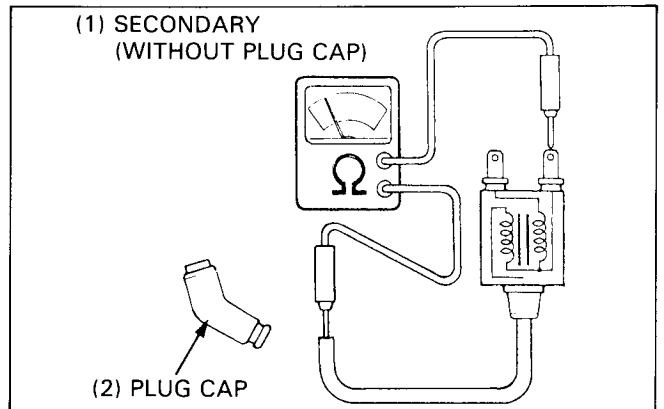
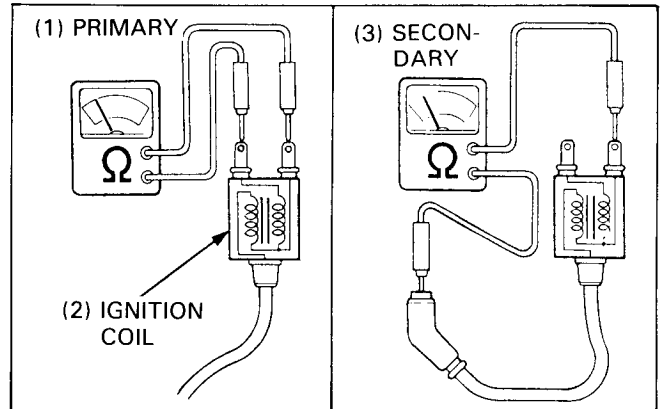
Disconnect the spark plug wire from the ignition coil.  
Measure the resistance of the primary and secondary coil.

**PRIMARY:** 0.1–0.3  $\Omega$  (20°C/68°F)  
**SECONDARY:** 7.4–11 k $\Omega$  (with spark plug cap, 20°C/68°F)

If the resistance of the secondary coil is outside the specification, check resistance without the spark plug cap to confirm the cause.

Remove the plug cap from the spark plug wire.

**SECONDARY:** 3.7–4.5 k $\Omega$   
(without spark plug cap, 20°C/68°F)



## EXCITER COIL

### INSPECTION

#### NOTE

- It is not necessary to remove the stator coil to make this inspection.

Perform the system inspection (page 16-3).  
Disconnect the exciter coil wire connector.

The exciter coil is normal if there is continuity between the black/red wire and ground.

**STANDARD:** 230–320  $\Omega$  (20°C/68°F)

## SPECIFICATIONS

ITEM		SPECIFICATION		
DIMENSIONS	Overall length	2,250 mm (88.6 in)		
	Overall width	875 mm (34.4 in)		
	Overall height (ED, B, U model)	1,265 mm (49.6 in)		
	(DK model)	1,215 mm (47.8 in)		
	Ground clearance	345 mm (13.6 in)		
	Wheelbase (ED, B, DK model)	1,455 mm (57.3 in)		
	(U model)	1,450 mm (57.1 in)		
	Seat height	955 mm (37.6 in)		
	Footpeg height	430 mm (16.92 in)		
	Dry weight (ED, B model)	128 kg (282.2 lbs)		
(U, DK model)	129 kg (284.4 lbs)			
Curb weight (ED, B, DK model)	139 kg (306.5 lbs)			
(U model)	140 kg (308.7 lbs)			
FRAME	Type	Semi-double cradle		
	Front suspension, travel	Telescopic, 295 mm (11.6 in)		
	Rear suspension, travel	Pro-link, 280 mm (11.0 in)		
	Tire size	(ED, B model)		(U, DK model)
		Front	80/100-21 51M	3.00-21-51P
	Rear	110/100-18 64M	4.50-18-64P	
	Tire pressure front	100 kPa (1.0 kg/cm <sup>2</sup> , 15 psi)		
	Rear	100 kPa (1.0 kg/cm <sup>2</sup> , 15 psi)		
	Front brake, swept area	Disc, dual piston caliper, 306 cm <sup>2</sup> (47.4 sq-in)		
	Rear brake, swept area	Disc, single piston caliper, 303 cm <sup>2</sup> (47.0 sq-in)		
Fuel capacity	10.0 lit (2.65 U.S. gal, 2.20 Imp gal)			
Fuel reserve capacity	2.0 lit (0.53 U.S. gal, 0.44 Imp gal)			
Caster angle	27°			
Trail	105 mm (4.1 in)			
Fork oil capacity	585 cc (19.78 oz)			
ENGINE	Type	Gasoline, air cooled 4-stroke SOHC		
	Cylinder arrangement	Single cylinder inclined 15°		
	Bore and stroke	97 x 80 mm (3.82 x 3.15 in)		
	Displacement	591 cm <sup>3</sup> (36.1 cu-in)		
	Compression ratio	9.0 : 1		
	Valve train	4-valve, chain driven SOHC, RFVC		
	Oil capacity	2.3 lit. (2.4 U.S. gal, 2.0 Imp gal)		
	Lubrication system	Forced pressure and dry sump		
	Air filtration system	Oiled polyurethane foam		
	Cylinder compression	637 kPa (6.5 kg/cm <sup>2</sup> , 92.5 psi) with Decompressor effected		
	Intake valve Opens	5° (BTDC) at 1 mm lift		
	Closes	40° (ABDC) at 1 mm lift		
	Exhaust valve Opens	45° (BBDC) at 1 mm lift		
	Closes	5° (ATDC) at 1 mm lift		
	Valve clearance Intake	0.10 mm (0.004 in)		
Exhaust	0.12 mm (0.005 in)			

Unit: mm (in)

FRONT WHEEL/SUSPENSION/STEERING			
ITEM		STANDARD	SERVICE LIMIT
Cold tire pressure		147 kPa (1.5 kgf/cm <sup>2</sup> , 15 psi)	—
Axle runout		—	0.2 (0.01)
Wheel rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Wheel rim-to-hub distance		20.25 (0.797)	—
Fork spring free length		576.0 (22.68)	570 (22.4)
Fork tube runout		—	0.2 (0.01)
Recommended fork oil		Fork fluid (SS-7)	—
Fork oil level		125 (4.9)	115 – 145 (4.5 – 5.7)
Fork oil capacity		585 cm <sup>3</sup> (19.8 US oz, 20.6 Imp oz)	—

Unit: mm (in)

REAR WHEEL/SUSPENSION			
ITEM		STANDARD	SERVICE LIMIT
Cold tire pressure		147 kPa (1.5 kgf/cm <sup>2</sup> , 15 psi)	—
Axle runout		—	0.2 (0.01)
Wheel rim runout	Radial	—	2.0 (0.08)
	Axial	—	2.0 (0.08)
Wheel rim-to-hub distance		19.0 (0.75)	—
Drive chain slack		35 – 45 (1-3/8 – 1-3/4)	—
Drive chain length	B, ED types	—	1,723 (67.8)
	DK, U types	—	1,659 (65.3)
Replacement drive chain	B, ED types	D.I.D. 520V8 or RK 520M04	—
	DK, U types	D.I.D. 520V8 or RK 520MOZ6	—
Drive chain guide slider thickness		—	To the indicator
Drive chain slider thickness		—	4.0 (0.15)
Recommended shock oil		Fork fluid (SS-8)	—
Damper gas pressure/compressed gas		1,471 kPa (15.0 kgf/cm <sup>3</sup> , 213 psi)/Nitrogen	—
Shock absorber spring free length		215.5 (8.5)	213.3 (8.4)
Shock absorber spring preload length		200.0 (7.9)	195.0 – 205.0 (7.7 – 8.1)