

General Information

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1-2 GENERAL INFORMATION

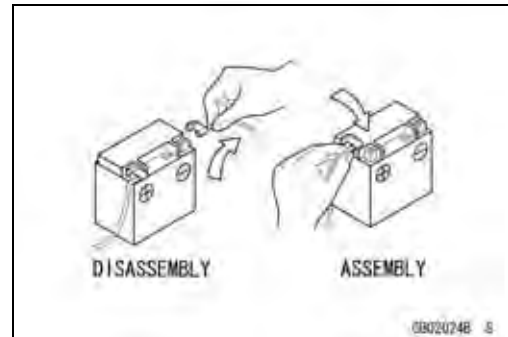
Before Servicing

Before starting to perform an inspection service or carry out a disassembly and reassembly operation on a motorcycle, read the precautions given below. To facilitate actual operations, notes, illustrations, photographs, cautions, and detailed descriptions have been included in each chapter wherever necessary. This section explains the items that require particular attention during the removal and reinstallation or disassembly and reassembly of general parts.

Especially note the following:

Battery Ground

Before completing any service on the motorcycle, disconnect the battery wires from the battery to prevent the engine from accidentally turning over. Disconnect the ground wire (-) first and then the positive (+). When completed with the service, first connect the positive (+) wire to the positive (+) terminal of the battery then the negative (-) wire to the negative terminal.



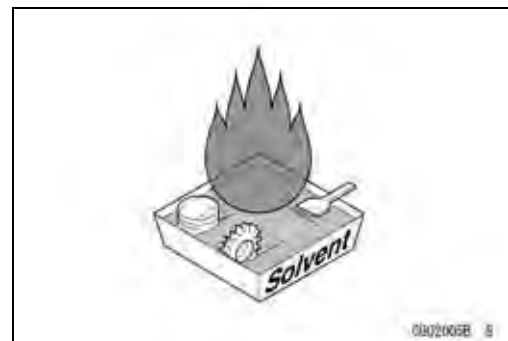
Edges of Parts

Lift large or heavy parts wearing gloves to prevent injury from possible sharp edges on the parts.



Solvent

Use a high flash point solvent when cleaning parts. High flash point solvent should be used according to directions of the solvent manufacturer.



Cleaning vehicle before disassembly

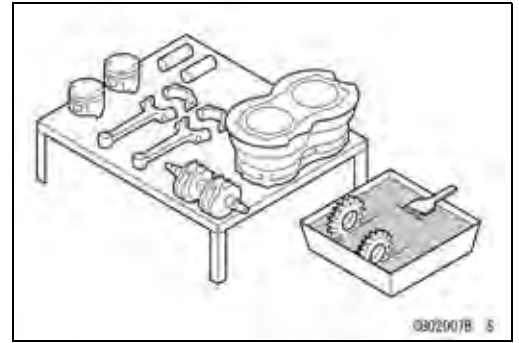
Clean the vehicle thoroughly before disassembly. Dirt or other foreign materials entering into sealed areas during vehicle disassembly can cause excessive wear and decrease performance of the vehicle.



Before Servicing

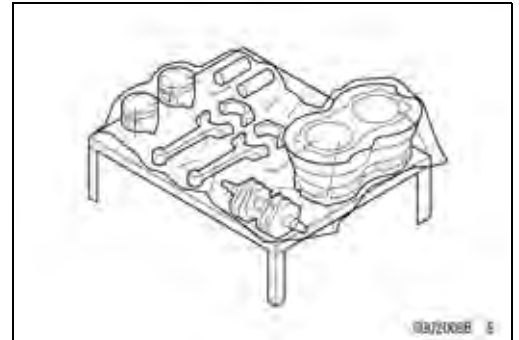
Arrangement and Cleaning of Removed Parts

Disassembled parts are easy to confuse. Arrange the parts according to the order the parts were disassembled and clean the parts in order prior to assembly.



Storage of Removed Parts

After all the parts including subassembly parts have been cleaned, store the parts in a clean area. Put a clean cloth or plastic sheet over the parts to protect from any foreign materials that may collect before re-assembly.



Inspection

Reuse of worn or damaged parts may lead to serious accident. Visually inspect removed parts for corrosion, discoloration, or other damage. Refer to the appropriate sections of this manual for service limits on individual parts. Replace the parts if any damage has been found or if the part is beyond its service limit.



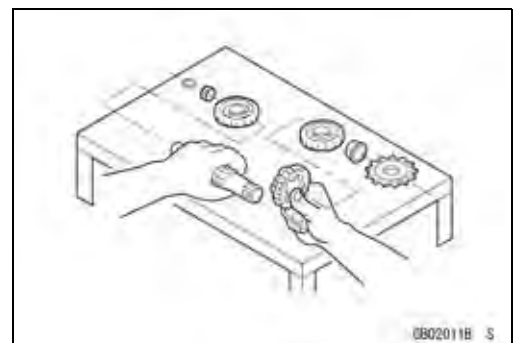
Replacement Parts

Replacement Parts must be KAWASAKI genuine or recommended by KAWASAKI. Gaskets, O rings, Oil seals, Grease seals, circlips or cotter pins must be replaced with new ones whenever disassembled.



Assembly Order

In most cases assembly order is the reverse of disassembly, however, if assembly order is provided in this Service Manual, follow the procedures given.

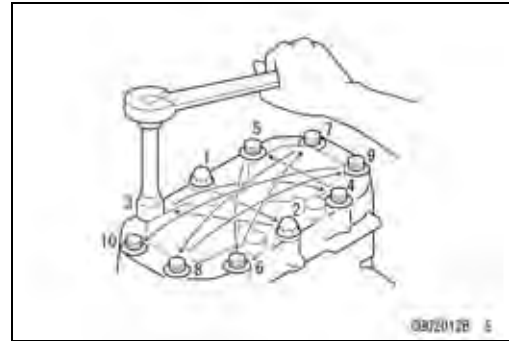


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Before Servicing

Tightening Sequence

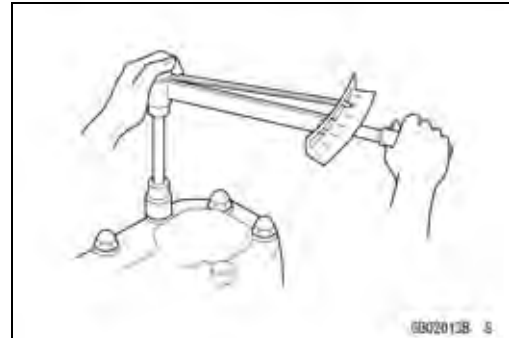
Bolts, nuts, or screws must be tightened according to the specified sequence to prevent case warpage or deformation which can lead to malfunction. If the specified tightening sequence is not indicated, tighten the fasteners alternating diagonally.



Tightening Torque

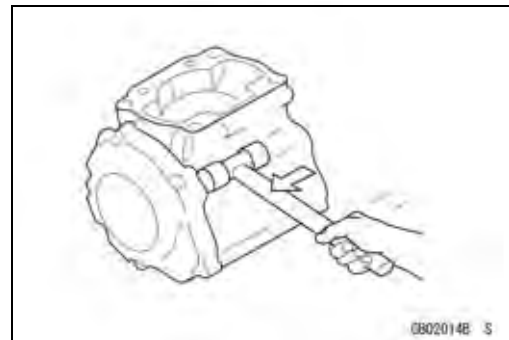
Incorrect torque applied to a bolt, nut, or screw may lead to serious damage. Tighten fasteners to the specified torque using a good quality torque wrench.

Often, the tightening sequence is followed twice—initial tightening and final tightening with torque wrench.



Force

Use common sense during disassembly and assembly, excessive force can cause expensive or hard to repair damage. When necessary, remove screws that have a non-permanent locking agent applied using an impact driver. Use a plastic-faced mallet whenever tapping is necessary.



Gasket, Oring

Hardening, shrinkage, or damage of both gaskets and grease seals after disassembly can reduce sealing performance. Remove old gaskets and clean the sealing surfaces thoroughly so that no gasket material or other material remains. Install new gaskets and replace used grease seal when re-assembling.



Liquid Gasket, Locking Agent

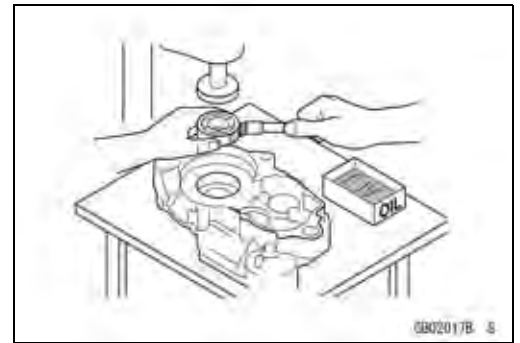
For applications that require Liquid Gasket or a Locking agent, clean the surfaces so that no oil residue remains before applying liquid gasket or locking agent. Do not apply them excessively. Excessive application can clog oil passages and cause serious damage.



Before Servicing

Press

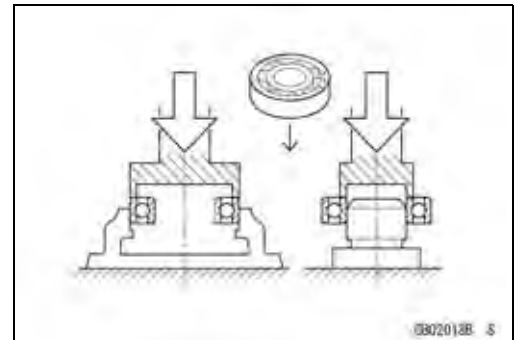
For items such as bearings or oil seals that must be pressed into place, apply small amount of oil to the contact area. Be sure to maintain proper alignment and use smooth movements when installing.



Ball Bearing and Needle Bearing

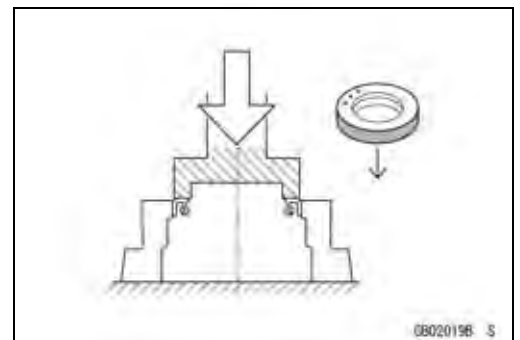
Do not remove pressed ball or needle unless removal is absolutely necessary. Replace with new ones whenever removed. Press bearings with the manufacturer and size marks facing out. Press the bearing into place by putting pressure on the correct bearing race as shown.

Pressing the incorrect race can cause pressure between the inner and outer race and result in bearing damage.



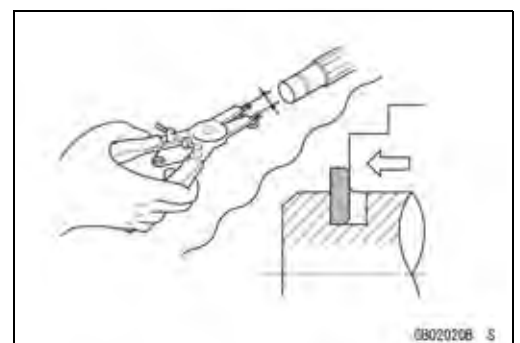
Oil Seal, Grease Seal

Do not remove pressed oil or grease seals unless removal is necessary. Replace with new ones whenever removed. Press new oil seals with manufacture and size marks facing out. Make sure the seal is aligned properly when installing.



Circlips, Cotter Pins

Replace circlips or cotter pins that were removed with new ones. Install the circlip with its sharp edge facing outward and its chamfered side facing inward to prevent the clip from being pushed out of its groove when loaded. Take care not to open the clip excessively when installing to prevent deformation.



Lubrication

It is important to lubricate rotating or sliding parts during assembly to minimize wear during initial operation. Lubrication points are called out throughout this manual, apply the specific oil or grease as specified.

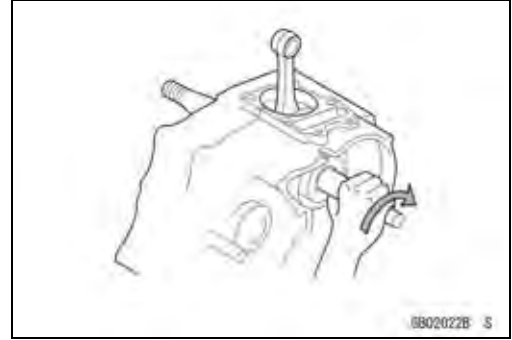


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Before Servicing

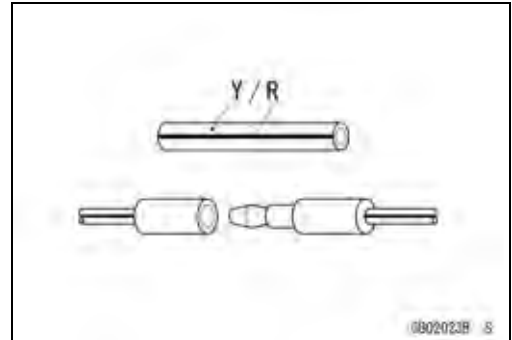
Direction of Engine Rotation

When rotating the crankshaft by hand, the free play amount of rotating direction will affect the adjustment. Rotate the crankshaft to positive direction (clockwise viewed from output side).



Electrical Wires

A two-color wire is identified first by the primary color and then the stripe color. Unless instructed otherwise, electrical wires must be connected to those of the same color.



Model Identification

ZR1000-A1 Left Side View:



ZR1000-A1 Right Side View:



1-8 GENERAL INFORMATION

General Specifications

Items	ZR1000-A1 ~
Dimensions: Overall length Overall width Overall height Wheelbase Road clearance Seat height Dry mass Curb mass: Front Rear Fuel tank capacity	2 080 mm (81.9 in.) 770 mm (30.3 in.) 1 055 mm (41.5 in.) 1 420 mm (55.9 in.) 145 mm (5.7 in.) 820 mm (32.3 in.) 198 kg (410.1 lb) 110 kg (242.6 lb) 111 kg (244.8 lb) 18 L (5.0 US gal.)
Performance: Minimum turning radius	2.8 m (9.2 ft)
Engine: Type Cooling system Bore and stroke Displacement Compression ratio Maximum horsepower Maximum torque Carburetion system Starting system Ignition system Timing advance Ignition timing Spark plug Cylinder numbering method Firing order Valve timing: Inlet Open Close Duration Exhaust Open Close Duration	4-stroke, DOHC, 4-cylinder Liquid-cooled 77.2 × 50.9 mm (3.0 × 2.0 in.) 953 mL (58.15 cu in.) 11.2 93.4 kW (127 PS) @10 000 r/min (rpm), (MY, AU) 90.5 kW (123 PS) @10 000 r/min (rpm) (HR) 78.2 kW (106 PS) @10 000 r/min (rpm) (US) - - - 95.6 N·m (9.7 kgf·m, 71 ft·lb) @8 000 r/min (rpm), (MY, AU) 92.7 N·m (9.4 kgf·m, 68 ft·lb) @8 000 r/min (rpm) (HR) 86.3 N·m (8.8 kgf·m, 64 ft·lb) @7 500 r/min (rpm) (US) - - - FI (Fuel Injection) Keihin TTK38 × 4 Electric starter Battery and coil (transistorized) Electronically advanced(digital igniter) From 10° BTDC @1 100 r/min (rpm) to 36° BTDC @7 500 r/min (rpm) NGK CR9EK or ND U27ETR Left to right, 1-2-3-4 1-2-4-3 38° BTDC 66° ABDC 284° 57° BBDC 31° ATDC 268°

General Specifications

Items	ZR1000-A1 ~
Lubrication system Engine oil: Type Viscosity Capacity	Forced lubrication (wet sump with cooler) API SE, SF or SG API SH or SJ with JASO MA SAE10W-40 3.8 L (4.0 US qt)
Drive Train: Primary reduction system: Type Reduction ratio Clutch type Transmission: Type Gear ratios: 1st 2nd 3rd 4th 5th 6th Final drive system: Type Reduction ratio Overall drive ratio	Gear 1.714 (84/49) Wet multi disc 6-speed, constant mesh, return shift 2.571 (36/14) 1.941 (33/17) 1.555 (28/18) 1.333 (28/21) 1.200 (24/20) 1.095 (23/21) Chain drive 2.625 (42/16) 4.929 @Top gear
Frame: Type Caster (rake angle) Trail Front tire: Type Size Rear tire: Type Size Front suspension: Type Wheel travel Rear suspension: Type Wheel travel Brake Type: Front Rear	Tubular, diamond 24° 101 mm (4.0 in.) Tubeless 120/70 ZR17 M/C (58W) Tubeless 190/50 ZR17 M/C (73W) Telescopic fork (upside-down) 120 mm (4.7 in.) Swingarm (uni-trak) 138 mm (5.4 in.) Dual discs Single disc
Electrical Equipment: Battery Headlight: Type Bulb	12 V 8 Ah Semi-sealed beam 12 V 55 W × 2/55 W (Hi/Lo)

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General Specifications

Items	ZR1000-A1 ~
Tail/brake light	12 V 0.5/3.8 W (LED) (US, CA, Cal) 12 V 0.5/5W (LED)
Alternator: Type Rated output	Three-phase AC 24 A/ 14 V @5 000 r/min (rpm)

Specifications are subject to change without notice, and may not apply to every country.

(AU): Australia Model

(US): U.S.A. Model

(CA): Canada Model

(Cal): California Model

(MY): Malaysia Model

(HR): with Honeycomb Catalytic Converter Model (Restricted model)