

Kawasaki **Ninja ZX-6R**



Motorcycle Assembly & Preparation Manual

Foreword

In order to ship Kawasaki vehicles as efficiently as possible, they are partially disassembled before crating. Since some of the most commonly removed parts have a direct bearing on a vehicle's reliability and safety, conscientious pre-sale assembly and preparation becomes extremely important. Good setup procedures can prevent needless warranty claims and give customers a greater sense of confidence in Kawasaki and their Kawasaki Dealers.

This Assembly and Preparation Manual explains step by step procedures of the following items for all Kawasaki motorcycles.

1. Uncrating
2. Assembly
3. Preparation

The selling dealer assumes sole responsibility for any unauthorized modifications prior to sale. Refer to your Service Binder for any Service Bulletins specifying Factory Directed Modifications (Special Claims) which must be performed before the vehicle is ready for sale.

Whenever you see the following symbols heed their instructions! Always follow safe operating and maintenance practices.

WARNING

This warning symbol identifies special instructions or procedures which, if not correctly followed, could result in personal injury, or less of life.

CAUTION

This caution symbol identifies special instructions or procedures which, if not correctly followed, could result in damage to, or destruction of equipment.

NOTE

- *This note symbol indicates points of particular interest for more efficient and convenient operation.*

Kawasaki Heavy Industries, Ltd. accepts no liability for any inaccuracies or omissions in this publication, although every possible measure has been taken to make it as complete and accurate as possible. All procedures and specifications subject to change without notice.

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Uncrating

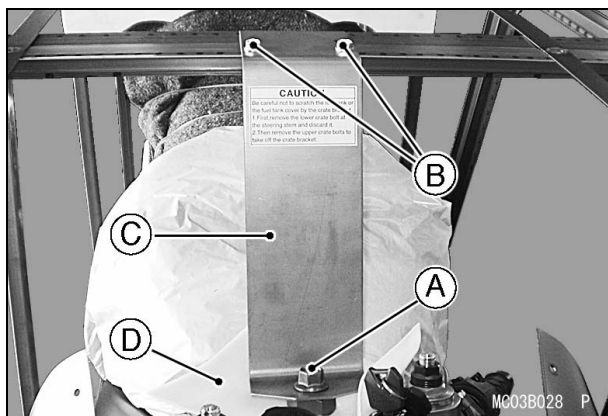
Opening Crate

- Clear a space about 6 m (20 ft) square to give yourself plenty of space to work.
- Place the crate upright on its base.
- Remove the cardboard cover.
- Remove the parts box.

CAUTION

When you remove the crate bracket from the motorcycle, be careful not to drop any parts and bracket onto the fuel tank and other components, and not to scratch the fuel tank by the crate bracket. This could damage the fuel tank or components.

- First, remove the lower crate bolt (D = 22) at the steering stem and discard it.
- Remove the upper crate bolts (D = 8) to take off the crate bracket and foam pad and discard them.



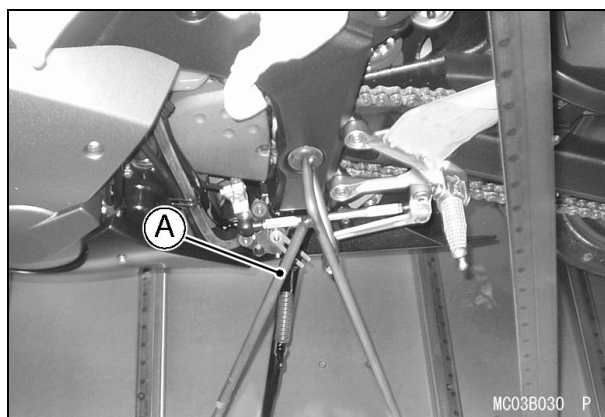
A. Lower Crate Bolt (D = 22)

B. Upper Crate Bolts (D = 8)

C. Crate Bracket

D. Foam Pad

- Take out all the bolts and screws and remove the top and sides of the crate.
- Lift the vehicle upward about 10 cm (4 in.) and remove the two lower support brackets. Roll the vehicle off the crate base.

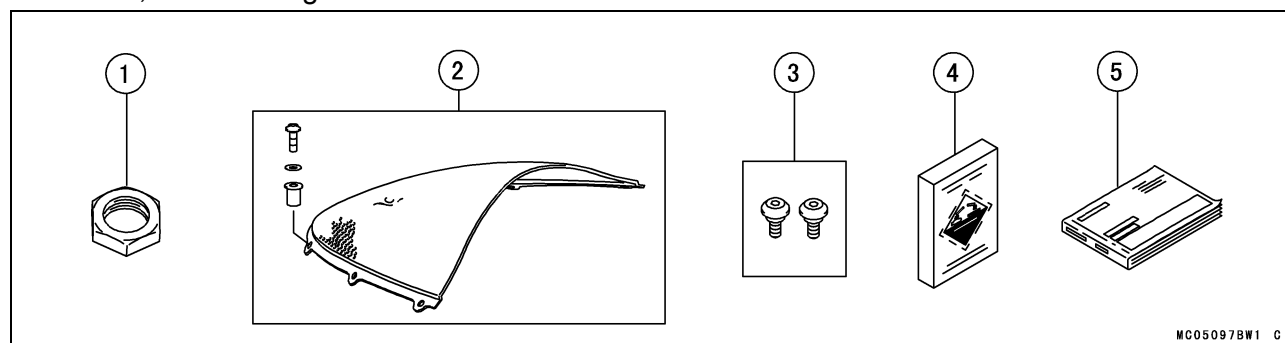


A. Lower Support Bracket

4 ASSEMBLY

Parts Check

- Open the parts box, and check the parts against the illustrations. There may be minor differences between these illustrations and the actual vehicle parts. In the following charts under Remarks, D = diameter in millimeters, and L = length in millimeters.

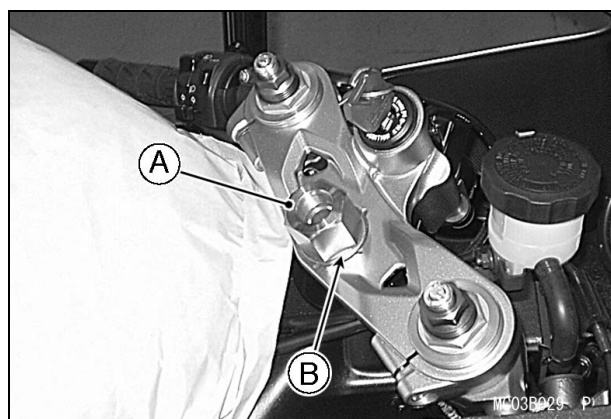


No.	Part Name	Qty	Remarks
1	Steering Stem Head Nut	1	D = 28
2	Plastic Washer	6	D = 5.3 × 11.5
	Socket Bolt	6	D = 5, L = 16
	Wellnut	6	D = 5
	Windshield	1	
3	Socket Bolt, Rider's Seat	2	D = 6, L = 16.3
4	Battery Electrolyte, YTX9-BS	1	12 V 8 Ah
5	Owner's Manual	1	

Assembly

Steering Stem Head Nut

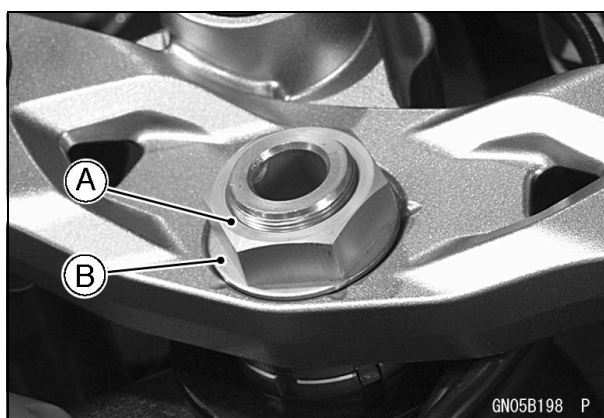
- Remove the steering stem head dummy nut and discard it. Do not remove the steering stem flat washer under the dummy nut.



A. Dummy Nut
B. Flat Washer

- Remove the non-permanent locking agent and clean the steering stem shaft threads.
- Install the steering stem head nut (D = 28) on the flat washer with the chamfered side facing upwards and tighten it to the specified torque.

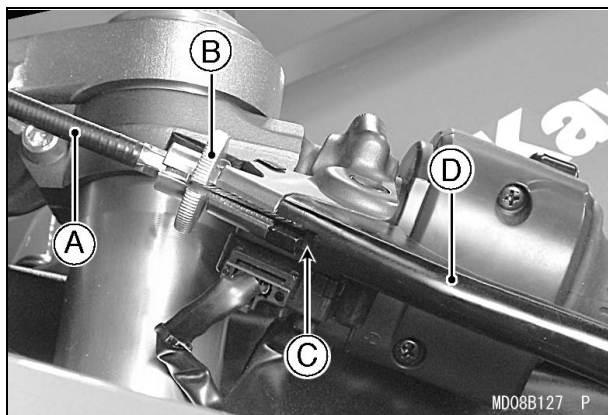
Torque: 78 N·m (8.0 kgf·m, 58 ft·lb)



A. Chamfered Side of Stem Head Nut
B. Flat Washer

Clutch Cable

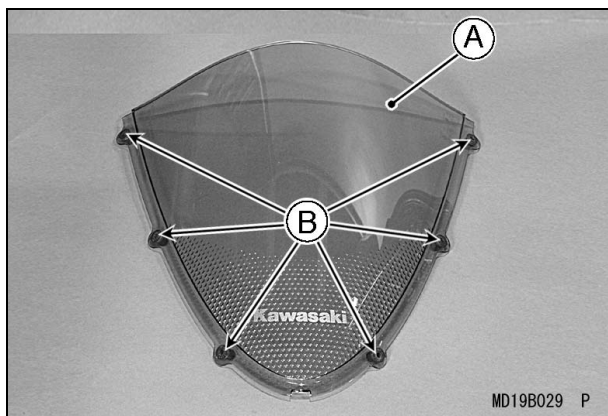
- Apply a light coat of grease on the clutch inner cable.
- Line up the slots on the clutch lever and adjuster.
- Fit the tip of the clutch inner cable into the lever socket, slide the inner cable through the slots, and release the outer cable into the adjuster.



- A. Clutch Cable
- B. Adjuster
- C. Cable Tip
- D. Clutch Lever

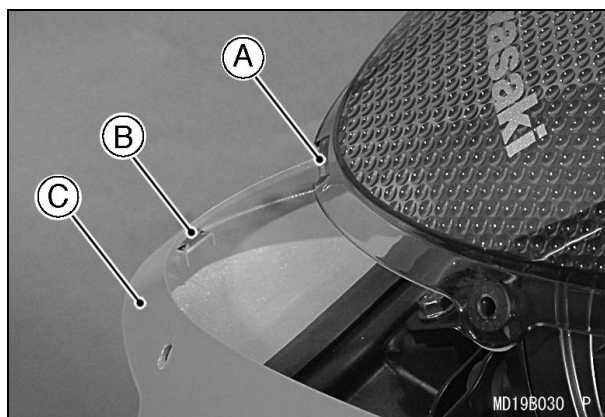
Windshield

- Fit the six wellnuts (D = 5) into the holes in the edge of the windshield from the outside with their flanges out.



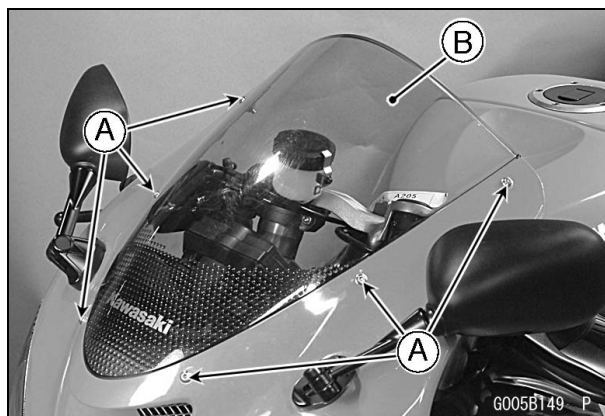
- A. Windshield
- B. Wellnuts

- Put the front tab into the slot of the upper fairing.



- A. Front Tab
- B. Slot
- C. Upper Fairing

- Install the six plastic washers and the socket bolts (D = 5, L = 16) on the upper fairing.



- A. Plastic Washers and Socket Bolts
- B. Windshield

- Tighten the windshield bolts. Do not over tighten the windshield bolts.

Rider's Seat Bolt

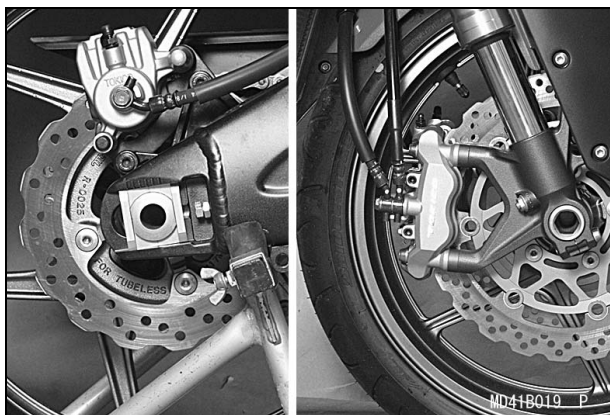
- Install the rider's seat bolts. See "Battery Service" section.

Brake Disc Cleaning

- Clean the front and rear brake discs using oilless solvent.

⚠ WARNING

If not removed, the anticorrosive treatment applied to the brake disc surface will interfere with brake action, and an unsafe riding condition could result.

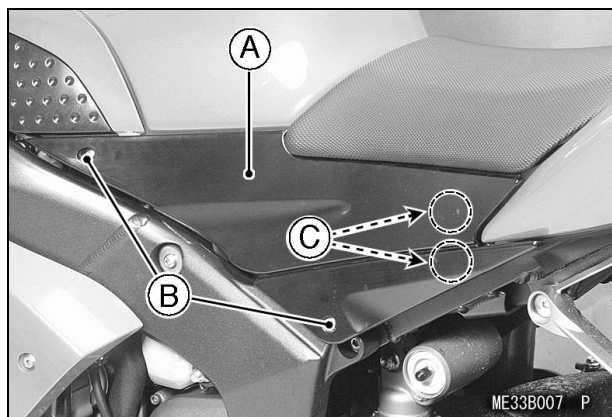


Preparation

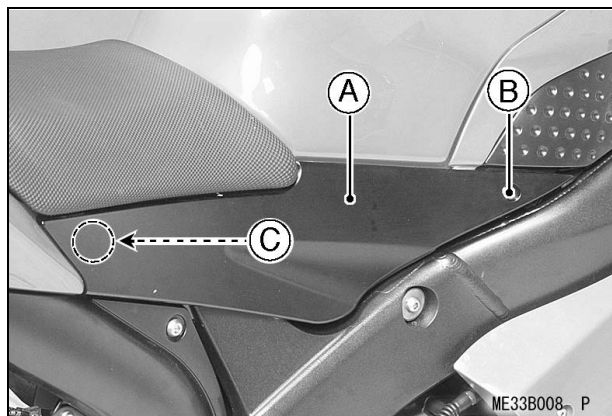
Battery Service

Rider's Seat Removal

- Unscrew the left and right side cover bolts (D = 6) (3) and remove the covers by pulling them outward to clear the projections.

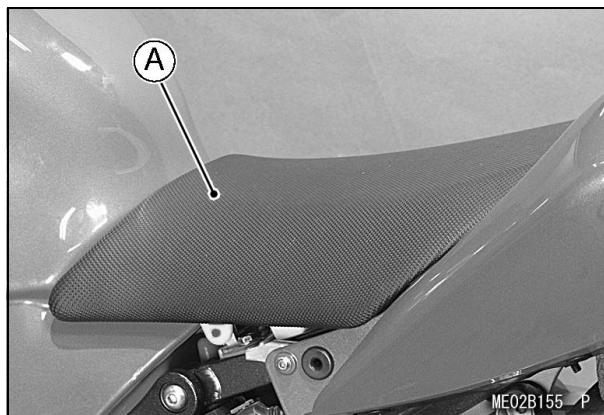


- A. Left Side Cover**
- B. Bolts (D = 6)**
- C. Projections**



- A. Right Side Cover**
- B. Bolt (D = 6)**
- C. Projection**

- Remove the rider's seat by pulling the front of it up and forward.



A. Rider's Seat

The battery used in this motorcycle is a sealed type and never needs to be refilled. Follow the procedure for activating a new battery to ensure the best possible battery performance.

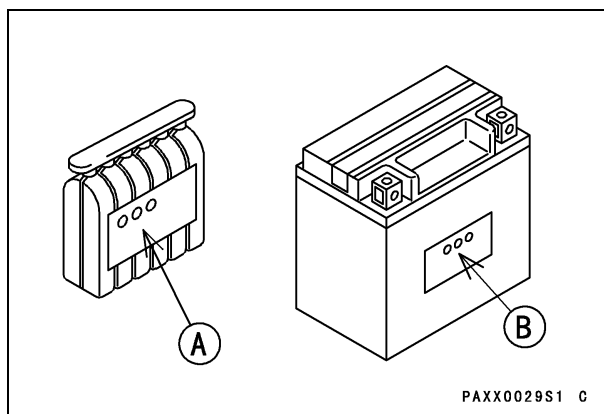
Activating the battery requires two steps, filling the battery with electrolyte, and charging. Read the electrolyte safety label and the following procedures carefully before battery activation.

CAUTION

Incorrect Battery Activation will reduce battery performance and service life. Be sure to strictly follow the Battery Service instructions in this Manual.

- Make sure to use the electrolyte packed in the crate with the unit.
- Make sure that the model name of the electrolyte container matches the model name of the battery. These names must be the same.

Battery Model Name for ZX636-C1: YTX9-BS



- A. Model Name of the Electrolyte**
- B. Model Name of the Battery**

CAUTION

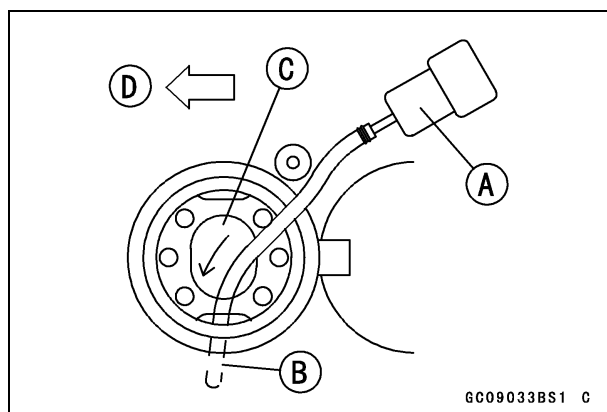
Sealed battery electrolyte has a higher concentration of sulfuric acid. Each container contains the proper amount of electrolyte for its specific battery. Insufficient or incorrect electrolyte will reduce battery performance and service life. Electrolyte over capacity can lead to battery cracking or leaking and result in corrosion damage to the vehicle.

Battery Removal

- Check for fuel in the fuel tank.
- If fuel remains in the fuel tank, do the following procedures.
- Draw the fuel out from the fuel tank with a commercially available pump.
- Use a soft plastic hose as a pump inlet hose in order to insert the hose smoothly.
- Put the hose through the filler opening into the tank and draw the fuel out.

⚠ WARNING

The fuel could not be removed completely from the fuel tank. Be careful for remained fuel spillage.



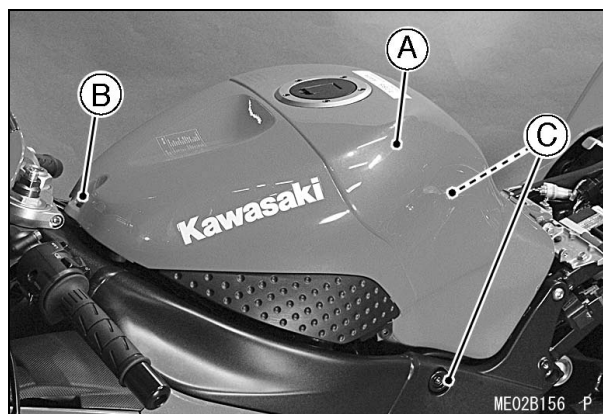
A. Commercially Available Pump

B. Soft Plastic Hose

C. Filler Opening

D. Front

- Remove the fuel tank bolts (D = 6, D = 8) (3).

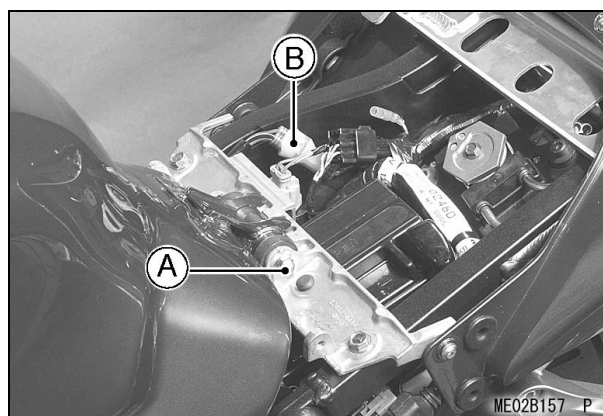


A. Fuel Tank

B. Fuel Tank Bolt (D = 6)

C. Fuel Tank Bolts (D = 8)

- Remove the fuel tank pivot bolt (D = 6).
- Disconnect the fuel pump connector (4P).



A. Fuel Tank Pivot Bolt (D = 6)

B. Fuel Pump Connector (4P)

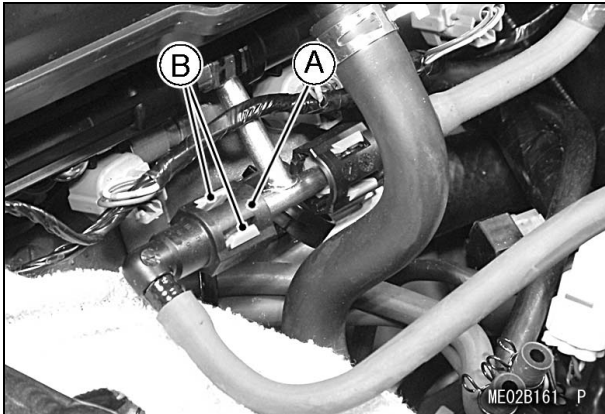
- Open the fuel tank cap to lower the pressure in the tank.

NOTE

○ During tank removal, keep the tank cap open to release pressure in the tank. This reduces fuel spillage.

- Be sure to place a piece of cloth around the fuel hose joint.
- Push the joint lock claws.

8 PREPARATION



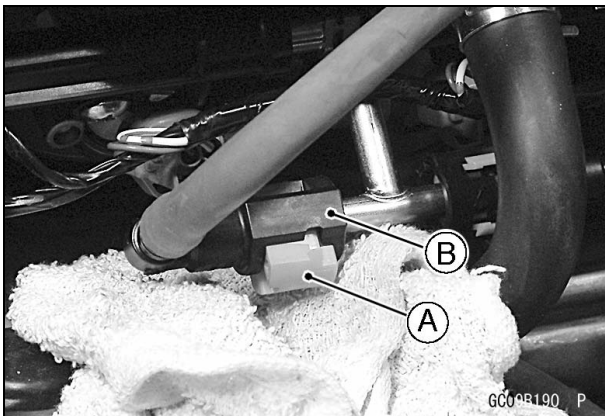
A. Fuel Hose Joint
B. Joint Lock Claws

- Pull the joint lock.
- Pull the fuel hose joint out of the delivery pipe.

⚠ WARNING

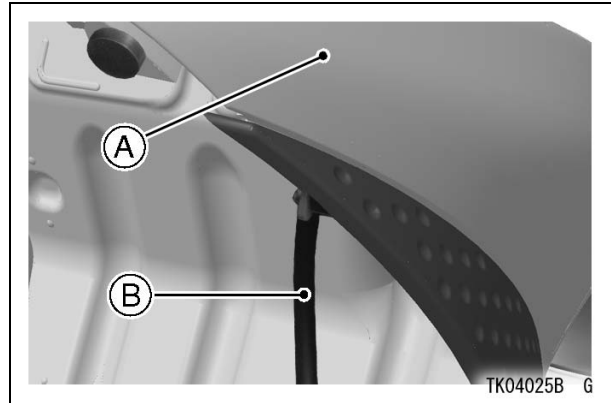
Be prepared for fuel spillage; any spilled fuel must be completely wiped up immediately.

When the fuel hose is disconnected, fuel spills out from the hose and the pipe because of residual pressure. Cover the hose connection with a piece of clean cloth to prevent fuel spillage.



A. Joint Lock
B. Fuel Hose Joint

- Remove the drain hose from the fuel tank.



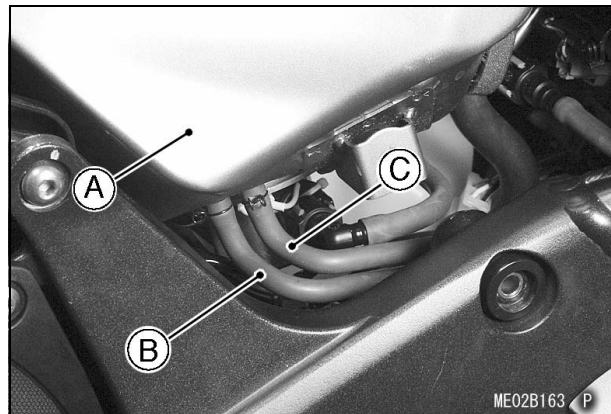
A. Fuel Tank
B. Drain Hose

- Close the fuel tank cap.
- Remove the fuel tank, and place it on a flat surface.
- For California Model, note the following.

CAUTION

For California model, if gasoline, solvent, water or any other liquid enters the canister, the canister's vapor absorbing capacity is greatly reduced. If the canister does become contaminated, replace it with a new one.

- Remove the fuel return hose (red) and breather hose (blue) from the fuel tank.



A. Fuel Tank
B. Fuel Return Hose (Red)
C. Breather Hose (Blue)

- Be sure to plug the evaporative fuel return hose to prevent fuel spilling before fuel tank removal.

⚠ WARNING

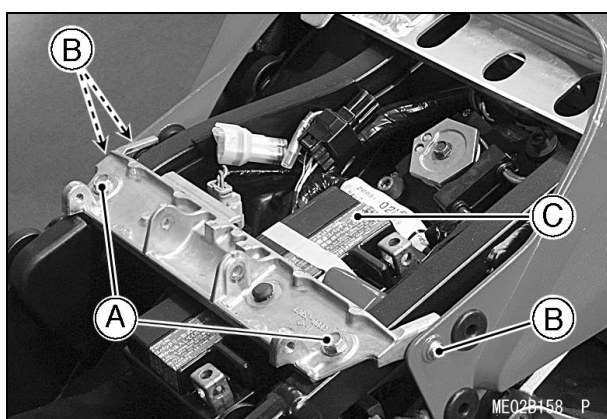
For California model, be careful not to spill the gasoline through the return hose. Spilled fuel is hazardous.

- If liquid or gasoline flows into the breather hose, remove the hose and blow it clean with compressed air.
- Be careful of fuel spillage from the fuel tank since fuel still remains in the fuel tank and fuel pump.

⚠ WARNING

Store the fuel tank in an area which is well-ventilated and free from any source of flame or sparks. Do not smoke in this area. Place the fuel tank on a flat surface and plug the fuel pipes to prevent fuel leakage.

- Remove the fuel tank bracket bolts.
- Remove the left seat cover bolt (D = 6) (1) and right seat cover bolts (D = 6) (2).



A. Fuel Tank Bracket Bolts (D = 6)

B. Seat Cover Bolts (D = 6)

C. Battery

- Take the battery out of the battery case.

Battery Specifications

Make	Yuasa
Battery Type	YTX9-BS
Battery Capacity	12 V 8 Ah
Electrolyte Capacity	0.40 L
Battery/Electrolyte Set P/No.	26012-1326

Battery Activation

Filling the Battery with Electrolyte

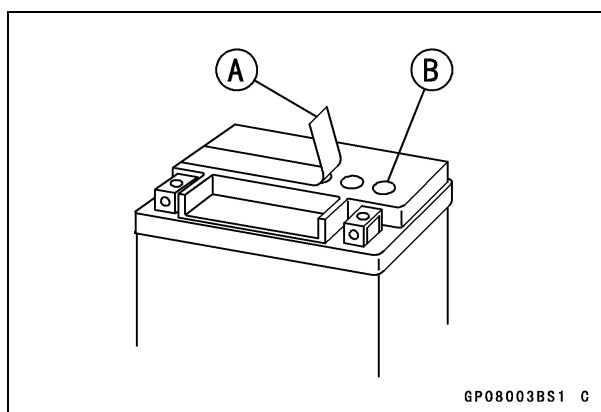
CAUTION

Do not remove the aluminum sealing sheet [A] from the filler ports [B] until just prior to use. Be sure to use the dedicated electrolyte container for correct electrolyte volume.

- Place the battery on a level surface.
- Check to see that the sealing sheet has no peeling, tears, or holes in it.
- Remove the sealing sheet.

NOTE

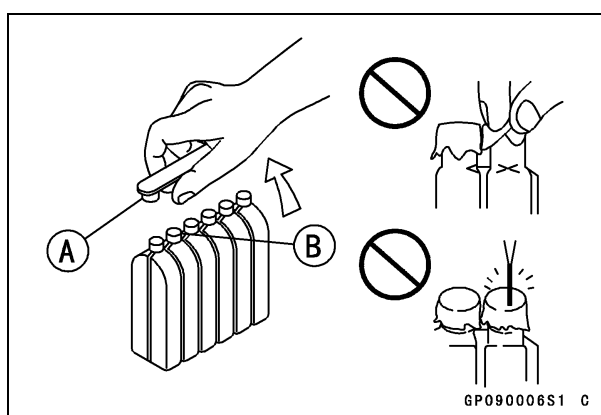
- The battery is vacuum sealed. If the sealing sheet has leaked air into the battery, it may require a longer initial charge.



- Remove the electrolyte container from the vinyl bag.
- Detach the strip of caps [A] from the container and set aside, these will be used later to seal the battery.

NOTE

- Do not pierce or otherwise open the sealed cells [B] of the electrolyte container. Do not attempt to separate individual cells.

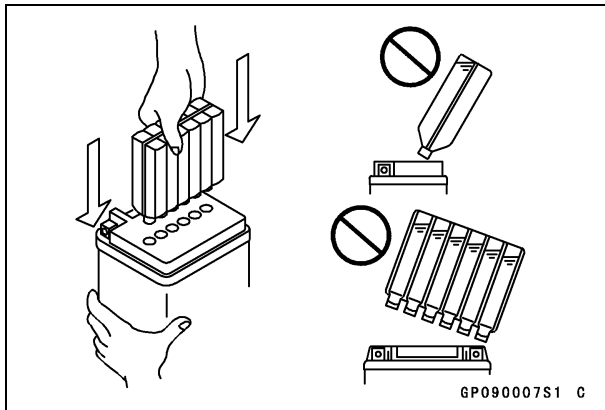


- Place the electrolyte container upside down with the six sealed cells into the filler ports of the battery. Hold the container level, push down to break the seals of all six cells. You will see air bubbles rising into each cell as the ports fill.

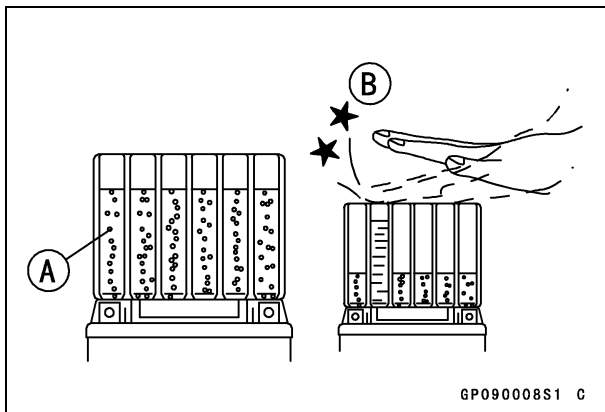
NOTE

- Do not tilt the electrolyte container.

10 PREPARATION



- Check the electrolyte flow.
- If no air bubbles [A] are coming up from the filler ports, or if the container cells have not emptied completely, tap the container [B] a few times.



- Keep the container in place for **20 minutes** or more. Don't remove the container from the battery until it's empty, the battery requires all the electrolyte from the container for proper operation.

CAUTION

Removal of the container before it is completely empty can shorten the service life of the battery. Do not remove the electrolyte container until it is completely empty and 20 minutes have elapsed.

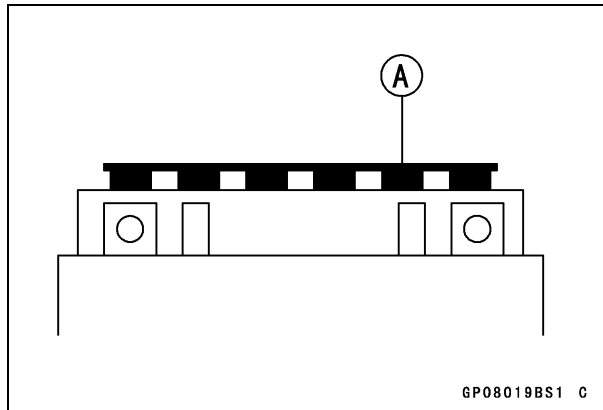
- Gently remove the container from the battery.
- Let the battery sit for **30 minutes** prior to charging to allow the electrolyte to permeate into the plates for optimum performance.

NOTE

- *Charging the battery immediately after filling can shorten service life. Let the battery sit for at least **30 minutes** after filling.*

Initial Charge

- Place the strip of caps loosely over the filler ports.



A. Strip

- Newly activated sealed batteries require an initial charge.

Standard Charge 0.9 A × 5 ~ 10 hours

- If using a recommended battery charger, follow the charger's instructions for newly activated sealed battery.

Kawasaki-recommended chargers:

Optimate III

Yuasa 1.5 Amp Automatic Charger

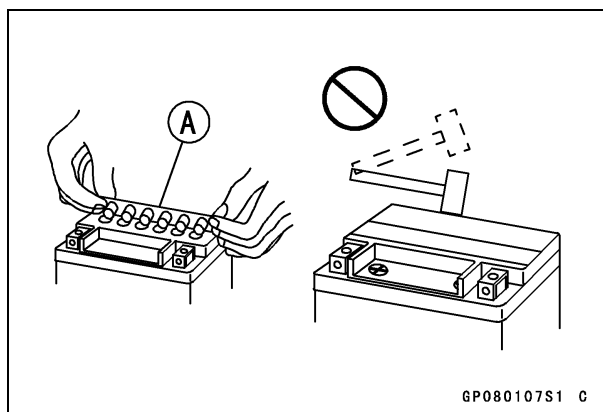
Battery Mate 150-9

- If the above chargers are not available, use equivalent one.

NOTE

- *Charging rates will vary depending on how long the battery has been stored, temperature, and the type of charger used. Let battery sit 30 minutes after initial charge, then check voltage using a voltmeter. If it is not at least 12.8 volts, repeat charging cycle.*

- After charging is completed, press down firmly with both hands to seat the strip of caps [A] into the battery (don't pound or hammer). When properly installed, the strip of caps will be level with the top of the battery.



CAUTION

Once the strip of caps [A] is installed onto the battery, never remove the caps, nor add water or electrolyte to the battery.

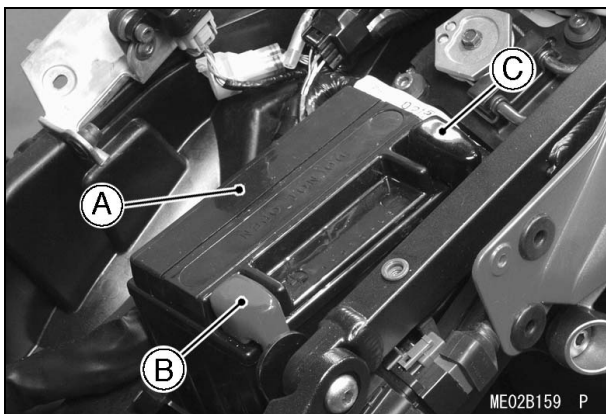
NOTE

- To ensure maximum battery life and customer satisfaction, it is recommended the battery be load tested at three times its amp-hour rating for 15 seconds.

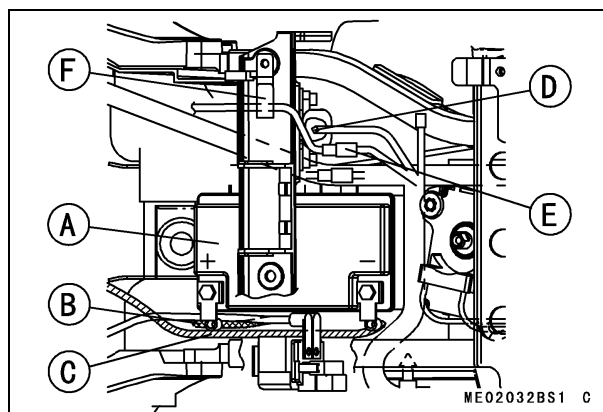
Re-check voltage and if less than 12.8 volts repeat the charging cycle and load test. If still below 12.8 volts the battery is defective.

Battery Installation

- Turn the ignition switch OFF.
- Route the battery cables as shown, and first connect the red capped positive cable (+) to the positive terminal, and then negative cable (–) to the negative terminal.
- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the terminals with their protective caps.

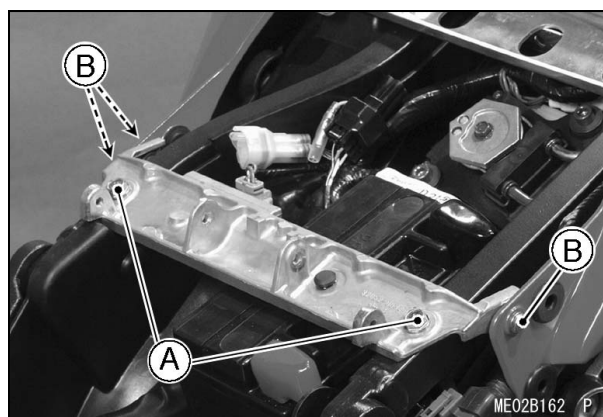


- A. Battery
- B. Positive Cable (+)
- C. Negative Cable (–)



- A. Battery
- B. Positive Cable (+)
- C. Negative Cable (–)
- D. Vehicle-down Sensor
- E. Fuel Pump Connector (4P)
- F. Clamp

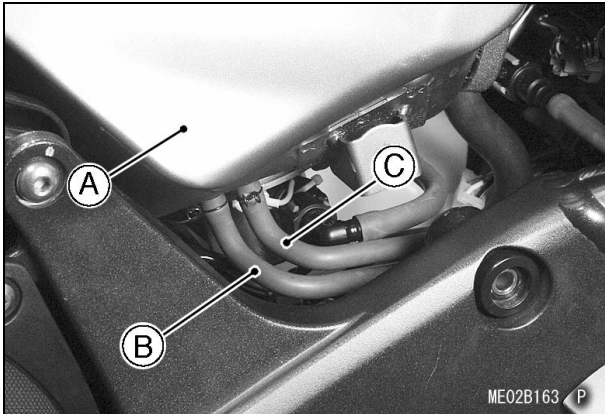
- Reinstall the fuel tank bracket and tighten the bolts (D = 6) (2).
- Reinstall the left and right seat cover bolts (D = 6) (3) and tighten them.



- A. Fuel Tank Bracket Bolts (D = 6)
- B. Seat Cover Bolts (D = 6)

- For California Model, note the following.
 - To prevent the gasoline from flowing into or out of the canister, hold the separator perpendicular to the ground.
 - Route the hoses correctly. Make sure they do not get pinched or kinked.
 - Route the hoses with a minimum of bending so that the air or vapor will not be obstructed.

12 PREPARATION

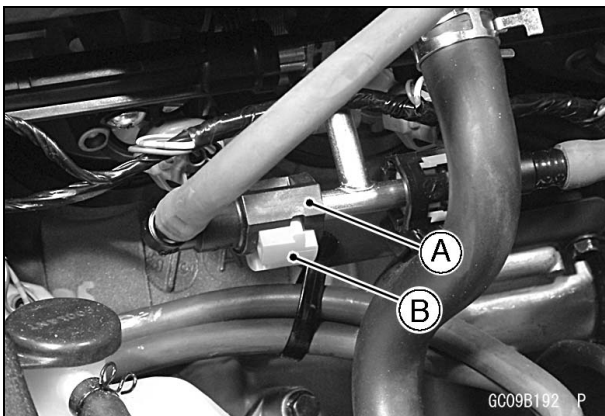


A. Fuel Tank

B. Fuel Return Hose (Red)

C. Breather Hose (Blue)

- Pull the joint lock.
- Insert the fuel hose joint straight onto the delivery pipe until the hose joint clicks.
- Push the joint lock until the hose joint clicks.



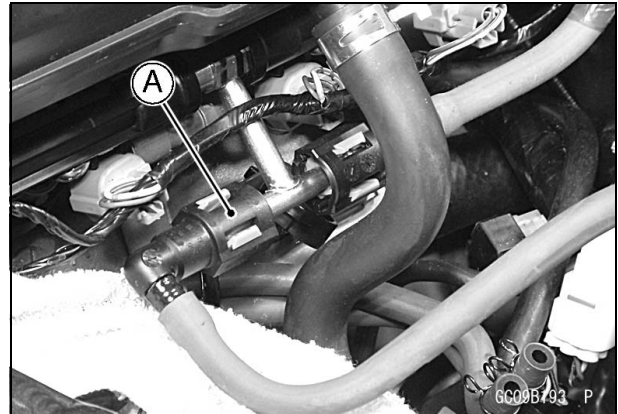
A. Fuel Hose Joint

B. Joint Lock

- Push and pull the hose joint back and forth more than two times and make sure it is locked and doesn't come off, when the hose joint is correctly installed, it should slide on the delivery pipe about 5 mm (0.2 in.).

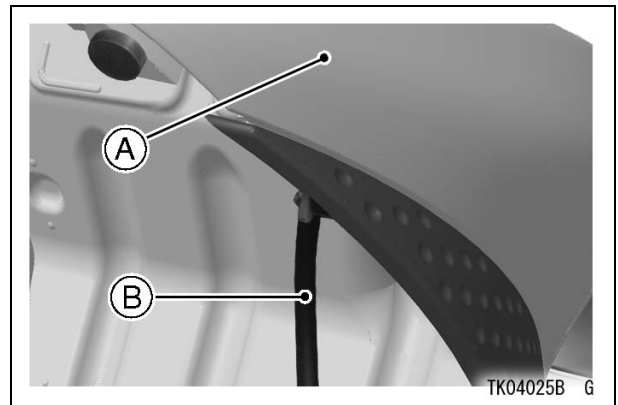
⚠ WARNING

Make sure the hose joint is installed correctly on the delivery pipe by sliding the joint, or the fuel could leak.



A. Fuel Hose Joint

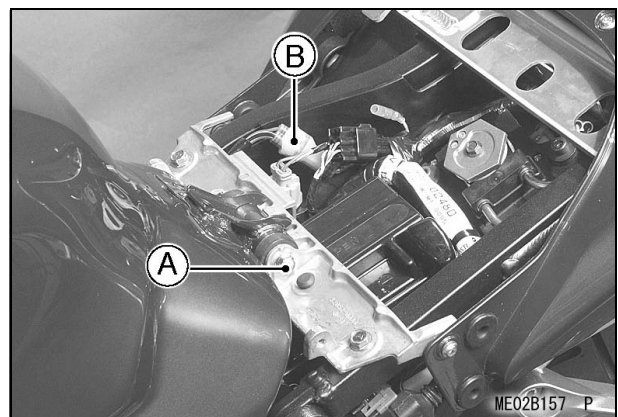
- When installing the fuel tank, check that the hose is securely connected to the tank, and be sure not to pinch this or any other hose or wire with the fuel tank.



A. Fuel Tank

B. Drain Hose

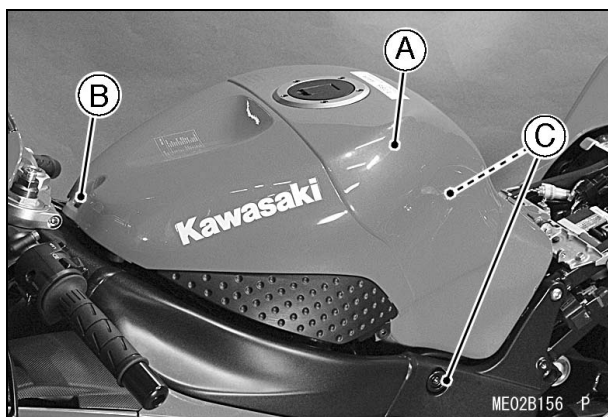
- Reinstall the fuel tank pivot bolt (D = 6) and tighten it.
- Connect the fuel pump connector (4P).



A. Fuel Tank Pivot Bolt (D = 6)

B. Fuel Pump Connector (4P)

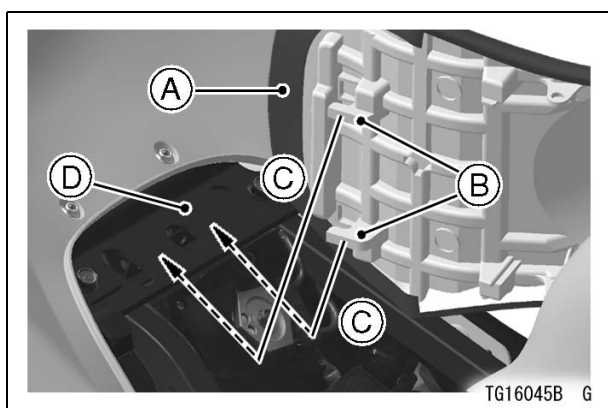
- Reinstall the fuel tank bolts (D = 6, D = 8) (3) and tighten them.



- A. Fuel Tank
- B. Fuel Tank Bolt (D = 6)
- C. Fuel Tank Bolts (D = 8)

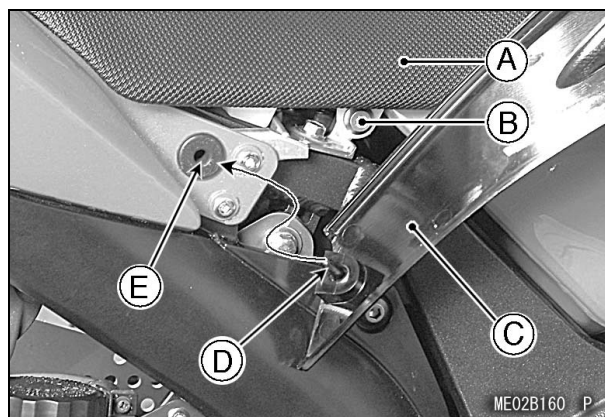
Rider's Seat Installation

- Insert the tabs on the rear of the rider's seat under the bracket.



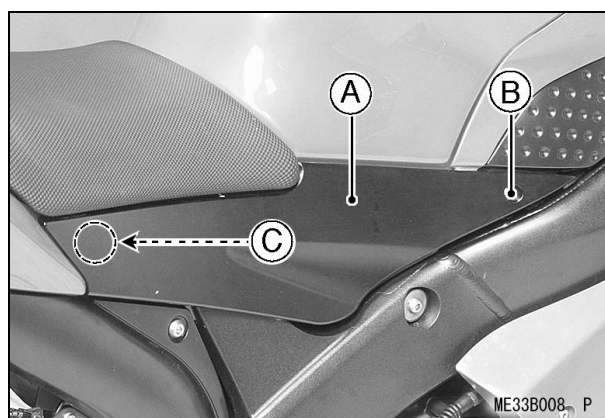
- A. Rider's Seat
- B. Tabs
- C. Insert
- D. Bracket

- Install the rider's seat bolts (D = 6, L = 16.3)(2) and tighten them.
- Insert the projections of both side covers into the grommets.



- A. Rider's Seat
- B. Rider's Seat Bolt
- C. Right Side Cover
- D. Projection
- E. Grommet

- Install the side cover bolts (D = 6) and tighten them.



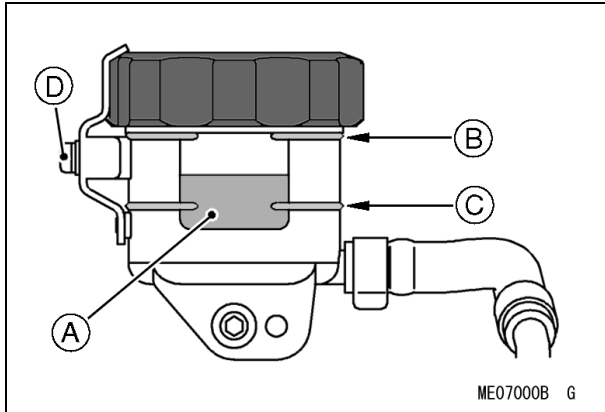
- A. Right Side Cover
- B. Bolt (D = 6)
- C. Projection

Front Brake Fluid

Front Brake Fluid Level Inspection

- With the front brake fluid reservoir held horizontal, check that the fluid level is between the upper and lower level lines.

14 PREPARATION



- A. Front Brake Fluid Reservoir**
- B. Upper Level Line**
- C. Lower Level Line**
- D. Cap Stopper Screw**

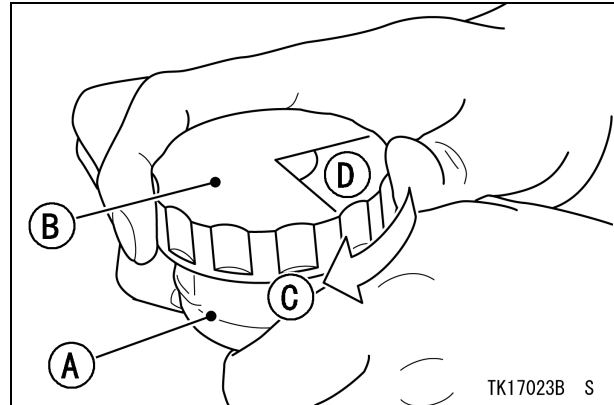
- If the fluid level in the reservoir is lower than the lower level line, check for fluid leaks in the front brake lines and fill the reservoir.
- Loosen the cap stopper screw to remove the front brake fluid reservoir cap and diaphragm.
- Fill the reservoir to the upper level line with DOT4 brake fluid.

⚠ WARNING

Never reuse old brake fluid.
Do not use fluid from a container that has been left unsealed or that has been open for a long time.
Do not mix two types of fluid for use in the brakes. This lowers the brake fluid boiling point and could reduce brake effectiveness. It may also cause the rubber brake parts to deteriorate.
Don't leave the reservoir cap off for any length of time to prevent moisture contamination of the fluid.
Don't add or change brake fluid in the rain or during conditions of blowing dust or debris.

NOTE

- *First, tighten the front brake fluid reservoir cap clockwise by hand until slight resistance is felt indicating that the cap is seated on the reservoir body, then tighten the cap an additional 1/6 turn while holding the brake fluid reservoir body.*



- A. Reservoir**
- B. Cap**
- C. Clockwise**
- D. 1/6 turn**

CAUTION

Brake fluid quickly ruins painted surfaces. Wipe up any spilled fluid immediately.

- Operate the brake lever several times.
- If it feels spongy, there might be air in the brake line.
- If necessary, bleed the air in the front brake line.
- Also check for fluid leakage around the fittings.

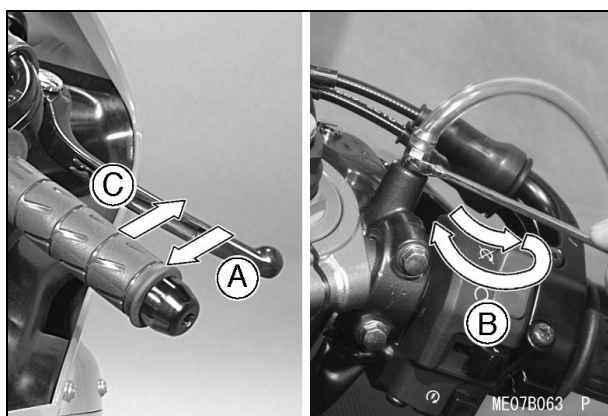
Front Brake Line Air Bleeding

- Remove the reservoir cap and diaphragm, and check that there is plenty of fluid in the reservoir.

NOTE

- *The fluid level must be checked several times, during the bleeding operation and replenished as necessary. If the fluid in the reservoir runs completely out any time during bleeding, the bleeding operation must be repeated from the beginning since air will have entered the line.*

- Attach a clear plastic hose to the bleed valve on front master cylinder and run the other end of the hose into a container.
- With the reservoir cap off, slowly pump the brake lever several times until no air bubbles can be seen rising up through the fluid from the holes at the bottom of the reservoir. This bleeds the air from the brake master cylinder end of the line.
- Pump the brake lever a few times until it becomes hard and then, holding the lever squeezed, quickly open (turn counterclockwise) and close the bleed valve. Then release the lever. Repeat this operation until no more air can be seen coming out into the plastic hose.

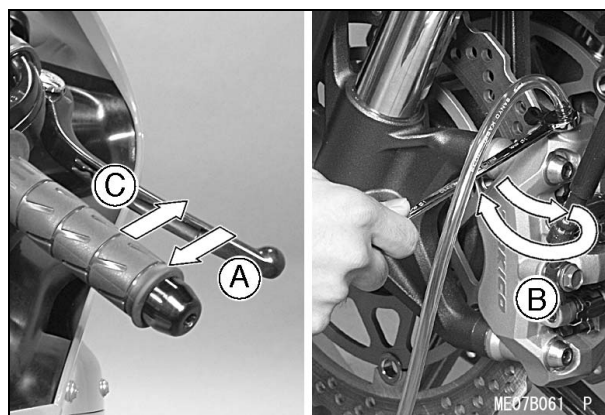


- A. Hold the brake lever applied.**
- B. Quickly open and close the bleed valve.**
- C. Release the brake lever.**

- Tighten the bleed valve to the specified torque.

Torque: 5.9 N·m (0.60 kgf·m, 52 in·lb)

- Attach a clear plastic hose to the bleed valve on each front brake caliper and run the other end of the hose into a container.
- With the reservoir cap off, slowly pump the brake lever several times until no air bubbles can be seen rising up through the fluid from the holes at the bottom of the reservoir. This bleeds the air from the brake master cylinder end of the line.
- Pump the brake lever a few times until it becomes hard and then, holding the lever squeezed, quickly open (turn counterclockwise) and close the bleed valve. Then release the lever. Repeat this operation until no more air can be seen coming out into the plastic hose.



- A. Hold the brake lever applied.**
- B. Quickly open and close the bleed valve.**
- C. Release the brake lever.**

- Repeat the previous step one more time for the other front disc brake.
- When air bleeding is finished, check that the fluid level is between the upper and lower level lines.
- Tighten the bleed valve(s) to the specified torque.

Torque: 7.8 N·m (0.80 kgf·m, 69 in·lb)

- Install the diaphragm and reservoir cap.

NOTE

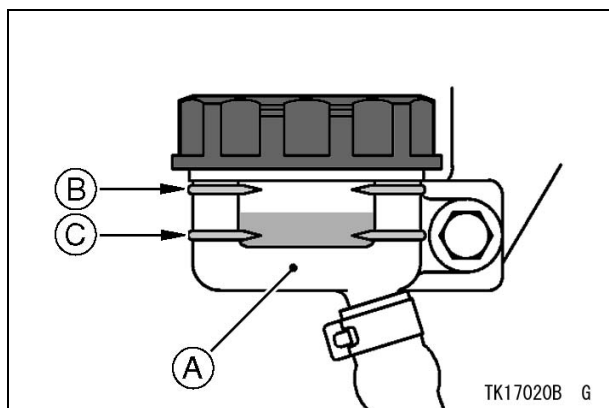
- First, tighten the front brake fluid reservoir cap clockwise by hand until slight resistance is felt indicating that the cap is seated on the reservoir body, then tighten the cap an additional 1/6 turn while holding the brake fluid reservoir body.
- Apply the brake forcefully for a few seconds, and check for fluid leakage around the fittings.

Rear Brake Fluid

Rear Brake Fluid Level Inspection

- With the rear brake fluid reservoir held horizontal, check that the fluid level is between the upper and lower level lines.

16 PREPARATION



A. Rear Brake Fluid Reservoir

B. Upper Level Line

C. Lower Level Line

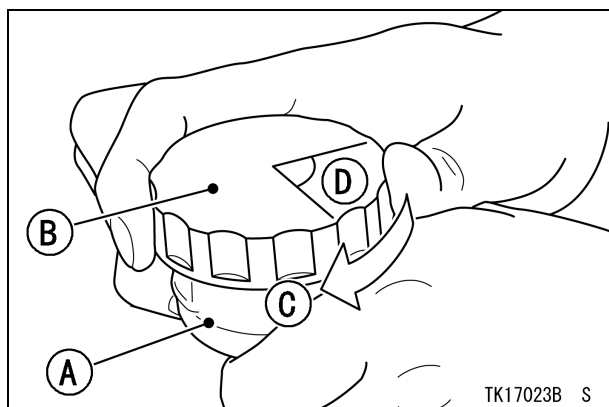
- If the fluid level in the reservoir is lower than the lower level line, check for fluid leaks in the brake line, and fill the reservoir.
- Remove the reservoir cap and diaphragm, and fill the reservoir to the upper level line with DOT4 brake fluid.

CAUTION

Brake fluid quickly ruins painted surfaces. Wipe up any spilled fluid immediately.

NOTE

- First, tighten the rear brake fluid reservoir cap clockwise by hand until slight resistance is felt indicating that the cap is seated on the reservoir body, then tighten the cap an additional 1/6 turn while holding the brake fluid reservoir body.



A. Reservoir

B. Cap

C. Clockwise

D. 1/6 turn

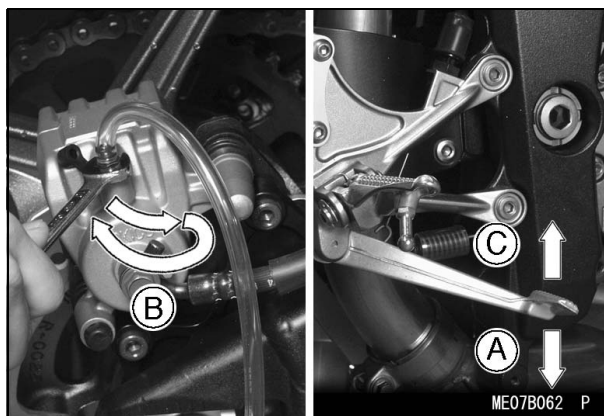
- Operate the brake pedal several times.
- If it feels spongy, there might be air in the brake line.
- If necessary, bleed the air in the rear brake line.
- Also check for fluid leakage around the fittings.

Rear Brake Line Air Bleeding

- Remove the rear brake reservoir cap and diaphragm, and check that there is plenty of fluid in the reservoir.

NOTE

- The fluid level must be checked several times, during the bleeding operation and replenished as necessary. If the fluid in the reservoir runs completely out any time during bleeding, the bleeding operation must be repeated from the beginning since air will have entered the line.
- Attach a clear plastic hose to the bleed valve on the rear brake caliper and run the other end of the hose into a container.
- With the reservoir cap off, slowly pump the brake pedal several times until no air bubbles can be seen rising up through the fluid from the holes at the bottom of the reservoir. This bleeds the air from the rear brake master cylinder end of the line.
- Pump the brake pedal a few times until it becomes hard and then, holding the pedal pushed down, quickly open (turn counter-clockwise) and close the bleed valve. Then release the pedal. Repeat this operation until no more air can be seen coming out into the plastic hose.



A. Hold the brake pedal applied.

B. Quickly open and close the bleed valve.

C. Release the brake pedal.

- When air bleeding is finished, check that the fluid level is between the upper and lower level lines.
- Tighten the bleed valve to the specified torque.

Torque: 7.8 N·m (0.80 kgf·m, 69 in·lb)

- Install the diaphragm and reservoir cap.

NOTE

○First, tighten the rear brake fluid reservoir cap clockwise by hand until slight resistance is felt indicating that the cap is seated on the reservoir body, then tighten the cap an additional 1/6 turn while holding the brake fluid reservoir body.

- Apply the brake forcefully for a few seconds, and check for fluid leakage around the fittings.

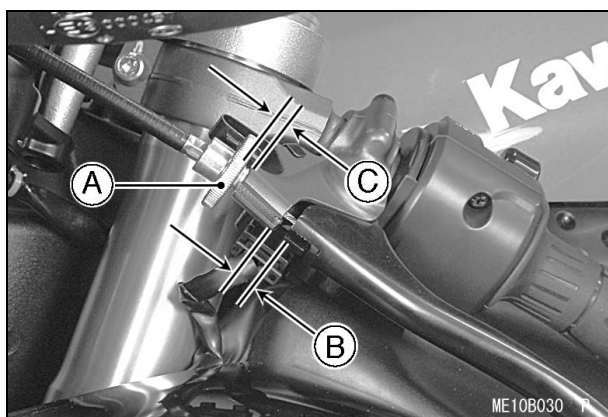
Clutch Lever and Cable

Clutch Lever Free Play Inspection

- Check that the clutch lever has the specified amount of free play as shown in the figure.

Clutch Lever Free Play:

2 ~ 3 mm (0.08 ~ 0.12 in.)



A. Adjuster

B. Free Play: 2 ~ 3 mm (0.08 ~ 0.12 in.)

C. 4 ~ 6 mm (0.16 ~ 0.24 in.)

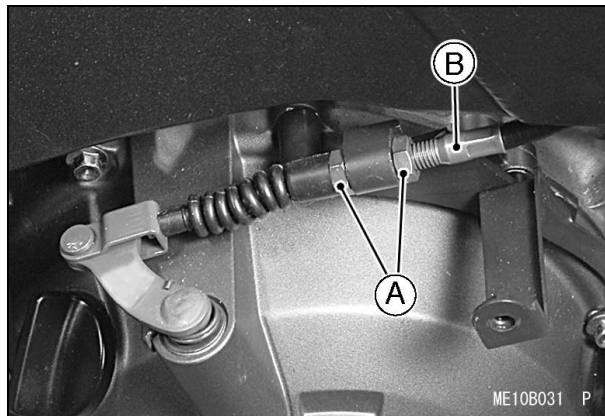
- If the free play is incorrect, adjust the free play.

NOTE

○Before checking the clutch lever free play, make sure that the gap between clutch lever holder and adjuster is 4 ~ 6 mm (0.16 ~ 0.24 in.).

Clutch Lever Free Play Adjustment

- Turn the adjuster so that the clutch lever will have 2 ~ 3 mm (0.08 ~ 0.12 in.) of free play.
- If it cannot be done, use the adjusting nuts at the lower end of the clutch cable.



A. Adjusting Nuts

B. Clutch Cable

NOTE

- After the adjustment is made, start the engine and check that the clutch does not slip and that it releases properly.
- For minor corrections, use the adjuster at the clutch lever.

Drive Chain

Drive Chain Slack and Wheel Alignment Inspection

- Set the motorcycle up on its side stand.
- Make sure that the drive chain has the specified amount of play, and that the left and right notches are on the same marks or points on the left and right of the swingarm.

⚠ WARNING

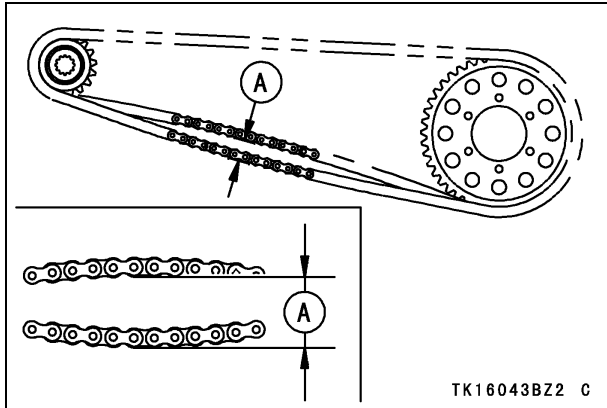
Misalignment of the wheel will result in abnormal wear, and may result in an unsafe riding condition.

- Rotate the rear wheel to find the position where the chain is tightest, and measure the maximum chain slack by pulling up and pushing down the chain midway between the engine sprocket and rear sprocket.

Drive Chain Slack:

30 ~ 35 mm (1.2 ~ 1.4 in.)

18 PREPARATION



A. 30 ~ 35 mm (1.2 ~ 1.4 in.)

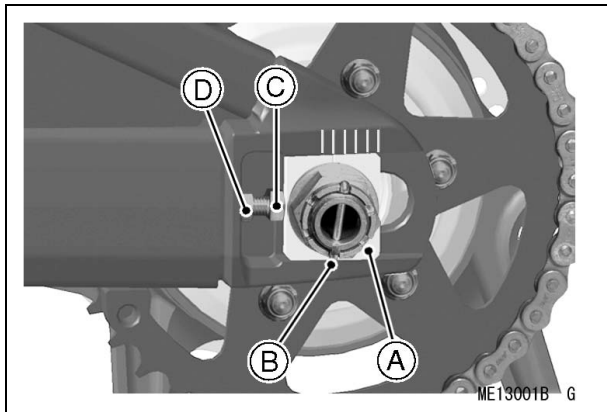
- If the drive chain is too tight or too loose, adjust it so that the chain slack will be within the standard value.

⚠ WARNING

A chain that breaks or jumps off the sprockets could snag on the engine sprocket or lock the rear wheel, severely damaging the motorcycle and causing it to go out of control.

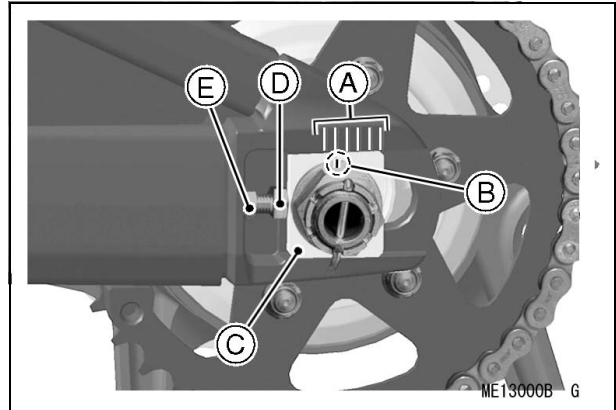
Drive Chain Slack Adjustment

- Remove the cotter pin, and loosen the rear axle nut.
- Loosen the left and right chain adjuster locknuts.



- A. Rear Axle Nut**
- B. Cotter Pin**
- C. Adjuster**
- D. Locknut**

- If the chain is too loose, turn out the left and right chain adjusters evenly.
- If the chain is too tight, turn in the left and right chain adjusters evenly.
- Turn both chain adjusters evenly until the drive chain has the correct amount of slack. To keep the chain and wheel properly aligned, the wheel alignment indicator notches should align with the same marks on each side of the swingarm.



- A. Marks**
- B. Notch**
- C. Indicator**
- D. Adjuster**
- E. Locknut**

NOTE

○ Wheel alignment can also be checked using the straightedge or string method.

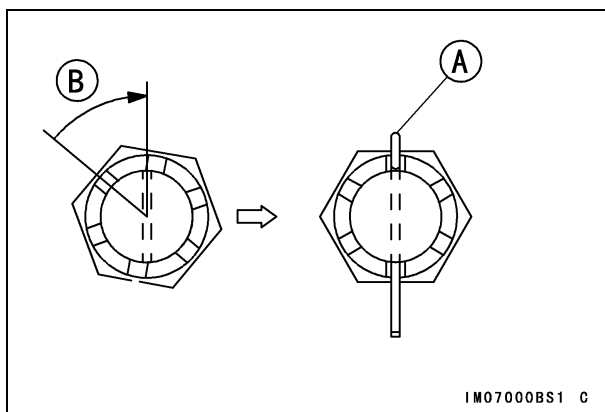
- Tighten both chain adjuster locknuts.
- Tighten the rear axle nut to the specified torque.

Torque: 127 N·m (13.0 kgf·m, 94 ft·lb)

- Rotate the wheel, measure the chain slack again at the tightest position, and readjust if necessary.
- Install a new cotter pin.

NOTE

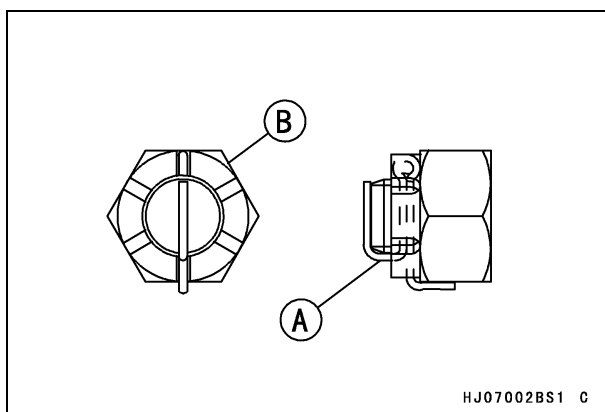
- When inserting the cotter pin, if the slots in the nut do not align with the cotter pin hole in the axle, tighten the nut clockwise up to the next alignment.
- It should be within 30 degrees.
- Loosen once and tighten again when the slot goes past the nearest hole.



A. Cotter Pin

B. Turning Clockwise

- Bend the cotter pin over the nut.



A. Cotter Pin

B. Nut

⚠ WARNING

If the rear axle nut is not securely tightened or the cotter pin is not installed, an unsafe riding condition may result.

- Check the rear brake effectiveness.

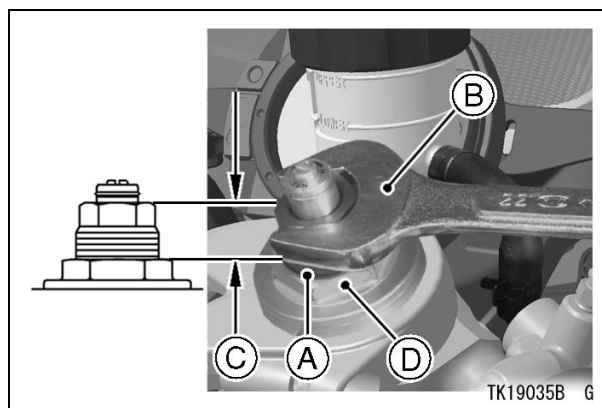
Front Fork

Spring Preload Adjustment

- Check the position of the spring preload adjusters on the left and right fork legs.

STD Spring Preload:

17 mm (0.7 in.) from the top of adjuster



A. Spring Preload Adjuster

B. Wrench

C. 17 mm (0.7 in.)

D. Nut

- Turn the spring preload adjusters into the nut to increase spring force and out to decrease spring force using a 22 mm wrench. The adjusting range stretches 10 ~ 25 mm (0.4 ~ 1.0 in.) from the top of each adjuster. Be sure to turn both adjusters to the same position.

⚠ WARNING

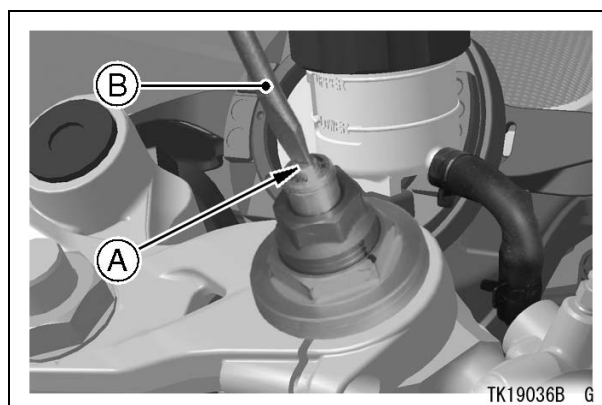
If both spring preload adjusters and both rebound and compression damping force adjusters are not adjusted equally, handling may be impaired and a hazardous condition may result.

Rebound Damping Force Adjustment

- Check the position of the rebound damping force adjusters on the left and right fork legs.

STD Rebound Damping Force:

1 3/4 turns out (Counterclockwise from the fully seated position).



A. Rebound Damping Force Adjuster

B. Screwdriver

CAUTION

Do not force to turn the rebound damping force adjuster from the fully seated position or the adjusting mechanism may be damaged.

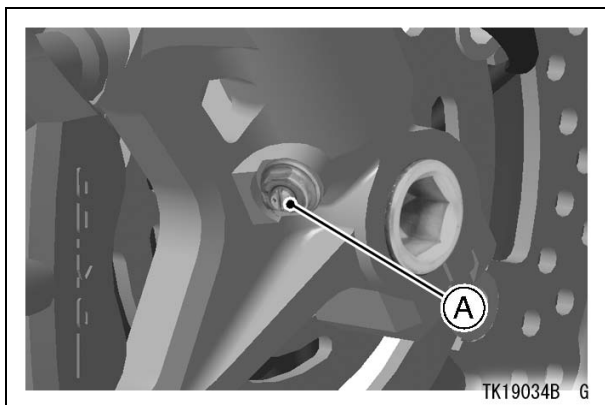
- Turn the rebound damping force adjuster all the way into the spring preload adjuster with a screwdriver. This makes the damping force greatest.
- Turn out the adjuster to decrease damping force. Be sure to turn both adjusters by the same number of turns.

Compression Damping Force Adjustment

- Check the position of the compression damping force adjusters on the bottom of the left and right fork legs.

STD Compression Damping Force:

3/4 turn out (Counterclockwise from the fully seated position).



A. Compression Damping Force Adjuster

CAUTION

Do not force to turn the compression damping force adjuster from the fully seated position or the adjusting mechanism may be damaged.

- Turn the compression damping force adjuster all the way clockwise with a screwdriver to make the damping force greatest.
- Turn the adjuster counterclockwise to decrease damping force. Be sure to turn both adjusters by the same number of turns.

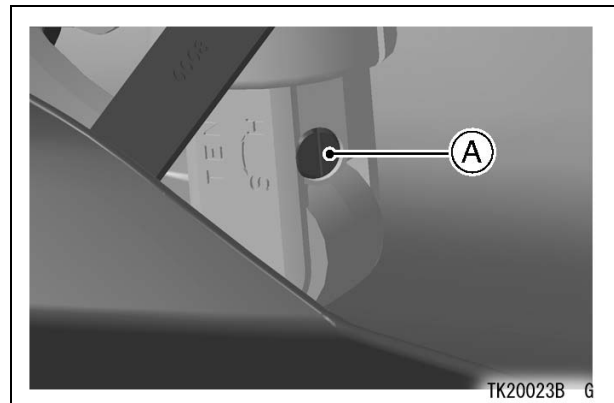
Rear Shock Absorber

Rebound Damping Force Adjustment

- Check the position of the rebound damping force adjuster at the lower end of the rear shock absorber.

STD Rebound Damping Force:

9 clicks (Counterclockwise from the fully seated position).



A. Rebound Damping Force Adjuster

CAUTION

Do not force to turn the rebound damping force adjuster from the fully seated position or the adjusting mechanism may be damaged.

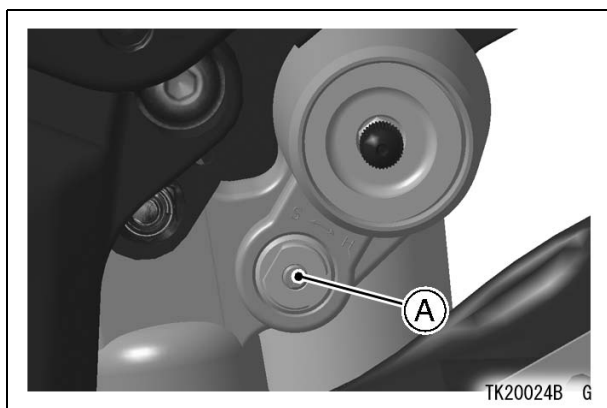
- Turn the rebound damping force adjuster all the way clockwise with a screwdriver to make the damping force greatest.
- Turn the adjuster counterclockwise to decrease damping force.

Compression Damping Force Adjustment

- Check the position of the compression damping force adjuster on the gas reservoir at the upper end of the rear shock absorber.

STD Compression Damping Force:

3/4 turn out (Counterclockwise from the fully seated position).



A. Compression Damping Force Adjuster

CAUTION

Do not force to turn the compression damping force adjuster from the fully seated position or the adjusting mechanism may be damaged.

- Turn the compression damping force adjuster all the way clockwise with a screwdriver to make the damping force greatest.
- Turn the adjuster counterclockwise to decrease damping force.

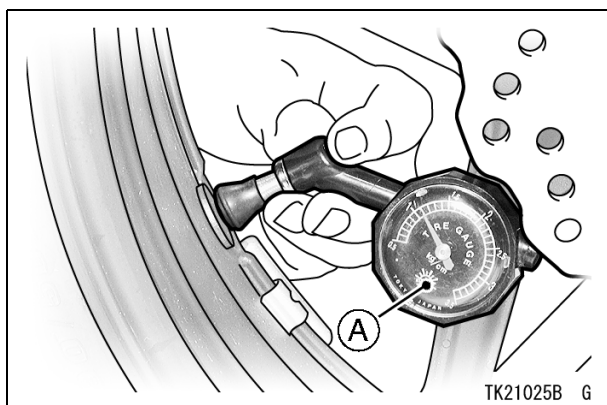
Tire Air Pressures

- To prevent flat-spotting during shipment, the tires are over-inflated before crating. Adjust the pressures to the specified values in the front and rear, and make sure to tighten the caps securely.

Tire Air Pressure [when cold]:

Front: 250 kPa (2.5 kgf/cm², 36 psi)

Rear: 290 kPa (2.9 kgf/cm², 42 psi)



A. Tire Air Pressure Gauge

Fuel

⚠ WARNING

Fill the tank in a well-ventilated area, and take ample care that there are no sparks or open flames anywhere near the work area.

- Open the fuel tank cap, and check for debris in the fuel tank.
- Fill the fuel tank with one gallon or four liters of unleaded gasoline. Use a gasoline with a minimum Antiknock Index rating according to the recommendation of your country. Refer to the following table.

The antiknock index is an average of the Research Octane Number (RON) and the Motor Octane Number (MON), as shown in the table.

Octane Rating Method	Minimum Rating
Antiknock Index $\frac{(RON + MON)}{2}$	90
Research Octane Number (RON)	95

- Close the fuel tank cap, and check for any leaks.

Coolant

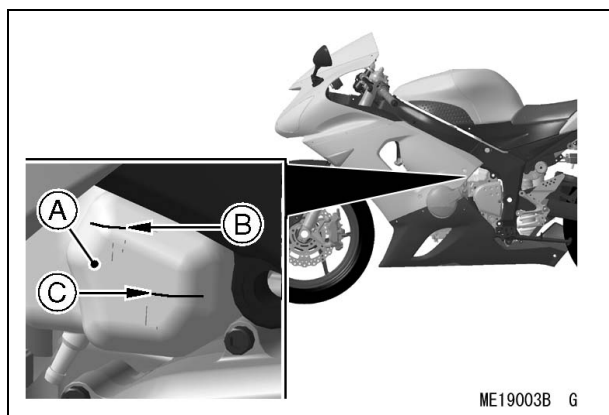
Coolant Level Inspection

- Situate the motorcycle so that it is perpendicular to the ground.
- Check the coolant level through the coolant level gauge on the reserve tank located to the left of the engine. The coolant level should be between the F (Full) and L (Low) level lines.

NOTE

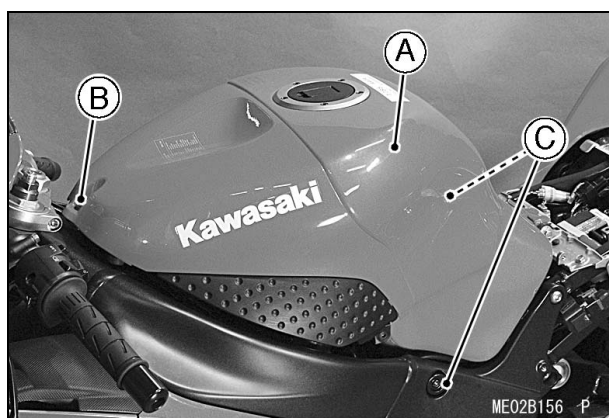
- Check the level when the engine is cold (room or atmospheric temperature).

22 PREPARATION



- A. Reserve Tank**
- B. F (Full) Level Line**
- C. L (Low) Level Line**

- If the amount of coolant is insufficient, do the following procedures to add coolant.
- Remove the rider's seat.
- Remove the fuel tank bolts.

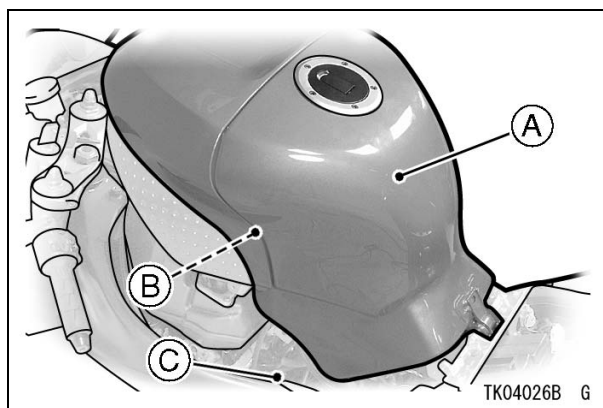


- A. Fuel Tank**
- B. Fuel Tank Bolt (D = 6)**
- C. Fuel Tank Bolts (D = 8)**

- Raise the front of the fuel tank.

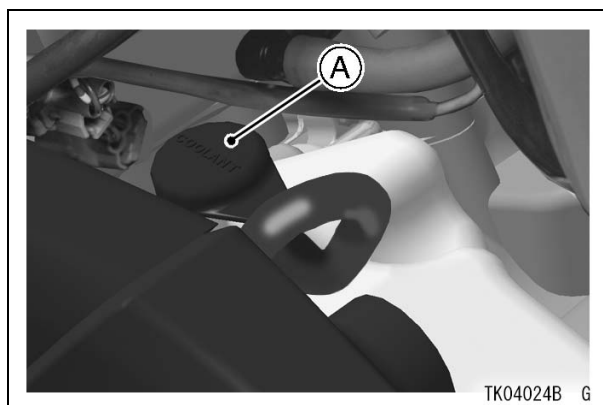
NOTE

- To keep the fuel tank raised, support it from below with a suitable object. Be careful not to drop or damage the fuel tank.



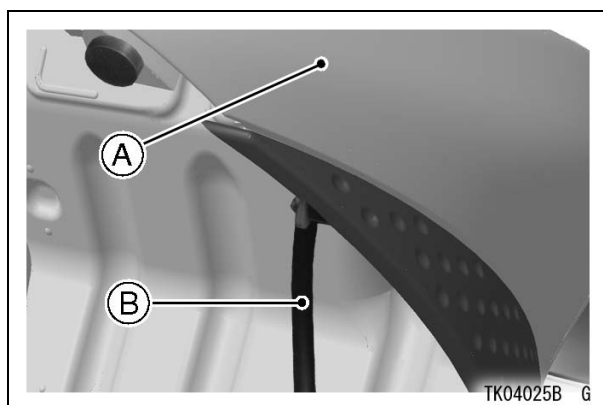
- A. Fuel Tank**
- B. Suitable Object**
- C. Reserve Tank**

- Remove the cap from the reserve tank and add coolant through the filler opening to the F (Full) level line.



- A. Reserve Tank Cap**

- Install the reserve tank cap.
- Install the fuel tank in the reverse order of removal.
- When installing the fuel tank, check that the drain hose is securely connected to the tank, and be sure not to pinch this or any other hose or wire with the fuel tank.



- A. Fuel Tank**
- B. Drain Hose**

- Install the parts removed.

NOTE

○A permanent type of antifreeze is installed in the cooling system when shipped. It is colored green and contains ethylene glycol. It is mixed at 50% and has the freezing point of -35°C (-31°F).

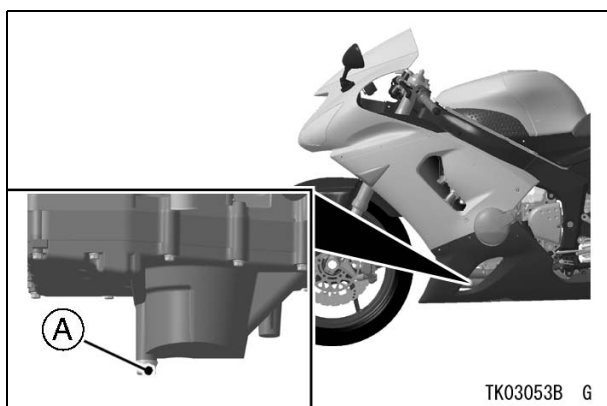
Engine Oil (4-stroke)

Engine Oil Level Inspection

NOTE

○This vehicle's engine is filled with 10W-40 oil from the factory. **DO NOT DRAIN** and refill the crankcase before use. Check oil level and drain plug tightness.

Engine Oil Drain Plug Torque:
29 N·m (3.0 kgf·m, 22 ft·lb)



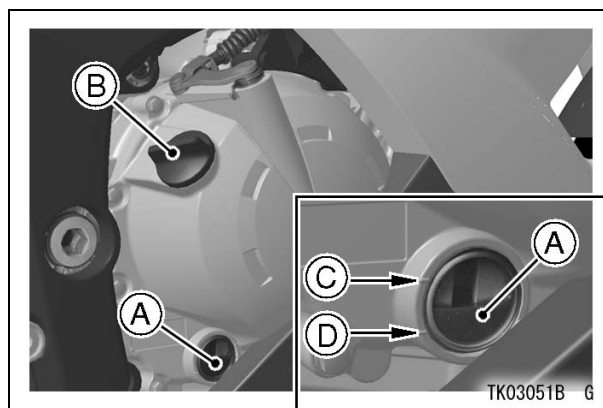
A. Engine Oil Drain Plug

- Park the vehicle on level ground.
- Before starting the engine, check that the engine has oil.
- Check that the engine has oil through the oil level sight gauge in the lower side of the clutch cover.

CAUTION

If the engine is run without oil, it will be severely damaged.

- Start the engine and run it for several minutes at idle speed. Stop the engine, then wait several minutes until the oil settles.
- Check the engine oil level through the oil level sight gauge. The oil level should come up between the upper and lower level lines next to the gauge.



A. Oil Level Sight Gauge

B. Oil Filler Cap

C. Upper Level Line

D. Lower Level Line

- If the oil level is too high, remove the excess oil through the oil filler opening, using a syringe or some other suitable device.
- If the oil level is too low, add oil to reach the correct level. Use the same type of oil that is already in the engine.
- When replacing the cap, be sure the O-ring is in place, and tighten the cap in finger tight.

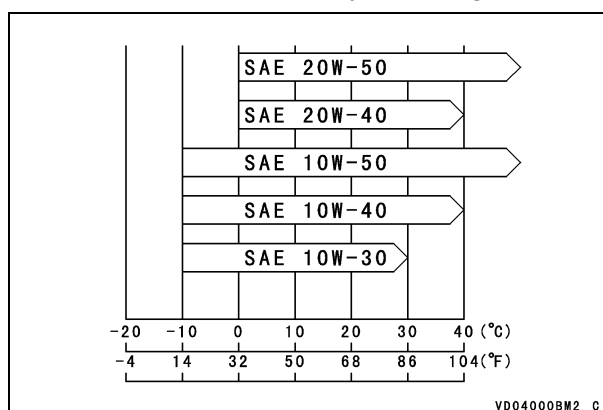
Recommended Engine Oil

Type: API SE, SF or SG
 API SH or SJ with JASO MA

Viscosity: SAE 10W-40

Capacity: 3.4 L (3.6 US qt)
 [when filter is not removed]
 3.6 L (3.8 US qt)
 [when filter is removed]

Although 10W-40 engine oil is the recommended oil for most conditions, the oil viscosity may need to be changed to accommodate atmospheric conditions in your riding area.



Throttle Grip and Cable

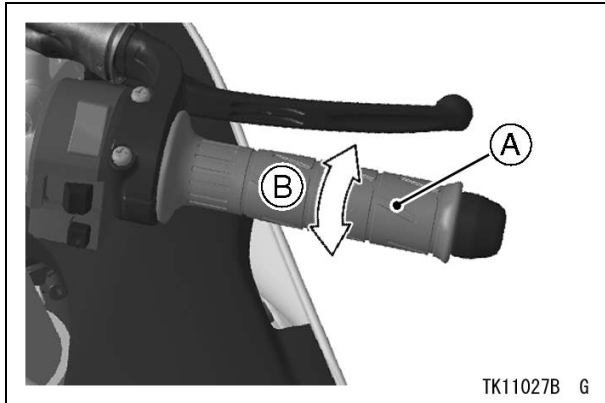
Throttle Grip Free Play Inspection

- Inspect the throttle grip free play. If the free play is incorrect, adjust the throttle cables.

Throttle Grip Free Play:

2 ~ 3 mm (0.08 ~ 0.12 in.)

- Check that the throttle grip moves smoothly from full open to close, and the throttle closes quickly and completely in all steering positions by the return spring. If the throttle grip does not return properly, check the throttle cable routing, grip free play, and for possible cable damage. Then lubricate the throttle cables.



TK11027B G

A. Throttle Grip

B. 2 ~ 3 mm (0.08 ~ 0.12 in.)

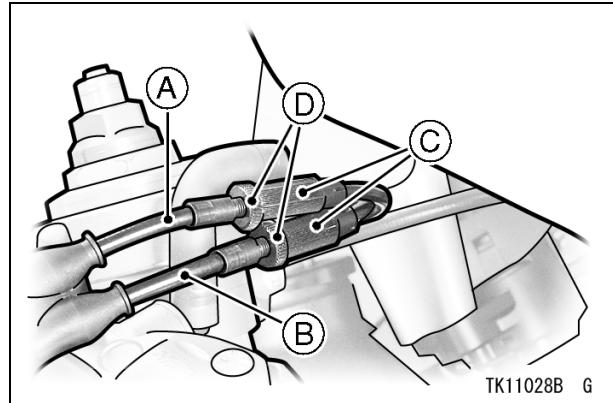
- Run the engine at idle speed, and turn the handlebar all the way to the right and left to ensure that the idle speed does not change. If the idle speed increases, check the throttle grip free play.

⚠ WARNING

Operation with an improperly adjusted, incorrectly routed, or damaged cable could result in an unsafe riding condition.

Throttle Grip Free Play Adjustment

- Loosen both locknuts of the throttle cables and turn both adjusters in completely to give the throttle grip plenty of play.
- Turn out the decelerator cable adjuster until there is no play when the throttle grip is completely closed. Tighten the locknut.



TK11028B G

A. Accelerator Cable

B. Decelerator Cable

C. Adjusters

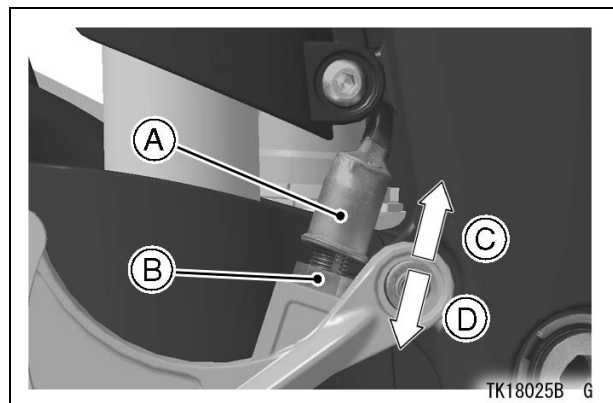
D. Locknuts

- Turn out the accelerator cable adjuster until the specified amount of play is obtained. Tighten the locknut.

Rear Brake Light Switch

Rear Brake Light Switch Adjustment

- Turn on the ignition switch. The brake light should illuminate when the brake pedal is depressed about 10 mm (0.4 in.)
- If it does not, turn the adjusting nut at the rear brake light switch as required.



TK18025B G

A. Rear Brake Light Switch

B. Adjusting Nut

C. Lights sooner.

D. Lights later.

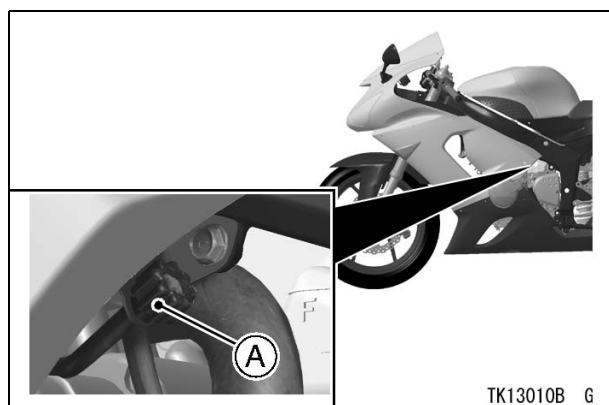
CAUTION

To avoid damaging the electrical connections inside the switch, be sure that the switch body does not turn during adjustment.

Idle Speed Adjustment

- Start the engine and warm it up thoroughly.
- Adjust the idle speed to 1 250 ~ 1 350 r/min (rpm) by turning the idle adjusting screw.

Idle Speed: 1 250 ~ 1 350 r/min (rpm)



A. Idle Adjusting Screw

- Open and close the throttle grip a few times to make sure that the idle speed does not change.
- With the engine idling, turn the handlebar to each side. If handlebar movement changes the idle speed, check the throttle cable routing and free play.

⚠ WARNING

Operation with improperly routed, or damaged throttle cable could result in an unsafe riding condition.

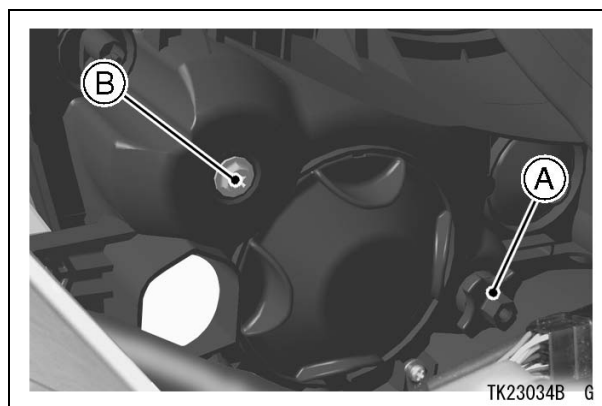
- Check for any exhaust leaks and correct if necessary.

Headlight Aim

The headlight beam is adjustable both horizontally and vertically. Headlight aim must be correctly adjusted for safe riding as well as on-coming drivers. In most areas it is illegal to ride with an improperly adjusted headlights.

Horizontal Adjustment

- Turn the horizontal adjuster in or out until the beam points straight ahead.



A. Horizontal Adjuster

B. Vertical Adjuster

Vertical Adjustment

- Turn the vertical adjuster in or out to adjust the headlight vertically.

NOTE

○ On high beam, the brightest point should be slightly below horizontal with the motorcycle on its wheels and the rider seated. Adjust the headlight to the proper angle according to local regulation.

Digital Meter

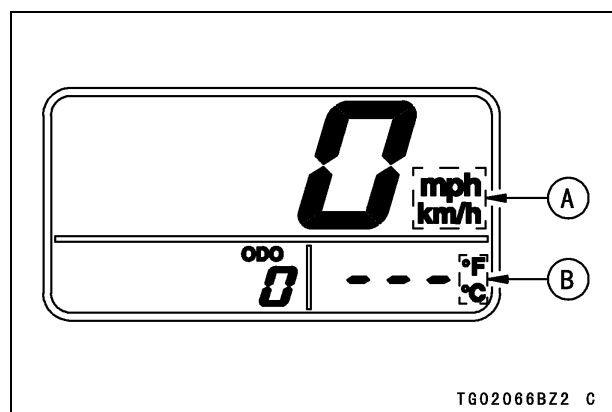
Check the Mile/Km Display in the Digital Meter:

Mile/Km Display can alternate between U.S. and metric modes (mile and km) in the digital meter. Make sure that km or mile is correctly displayed according to local regulations before sale.

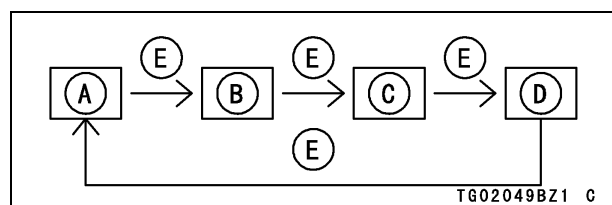
NOTE

○ Do not operate the vehicle with the digital meter displaying in the wrong unit (km or mile) of the digital meter. Shift the km/mile display in the digital meter as follows.

- Turn the ignition key to "ON".
- The km/mile (or °C/°F temperature) display shifts by pushing the RESET button while the MODE button is pushed in.

**A. Km/Mile Display****B. °C/°F Display**

- The km/mile (and °C/°F temperature) display shifts as follows.

**A. Km and °C Display****B. Mile and °F Display****C. Mile and °C Display****D. Km and °F Display****E. Push RESET Button with MODE Button in****NOTE**

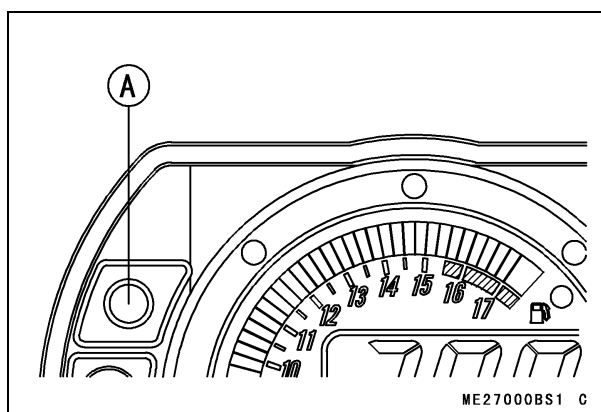
- The data is maintained even if the battery is disconnected.

Change the Shift Up Indicator Light Mode to “OFF”:

The Shift-up indicator light can be used in closed course competition. Do not use the shift-up indicator during everyday riding.

The shift-up indicator light has three modes, light off, light on (dim) and light on (bright).

- Change the light mode to “OFF” in the tachometer.
- Turn the ignition key to “ON”.
- Push the MODE and RESET button simultaneously for more than 2 seconds.
- To change the shift-up indicator light mode, push the MODE button and the shift-up indicator light will shift between light on (bright), light on (dim), and off.

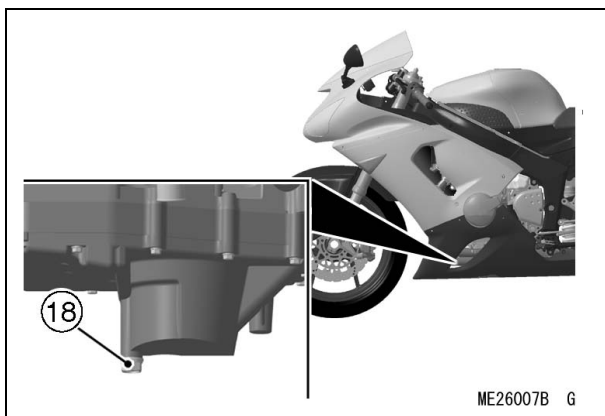
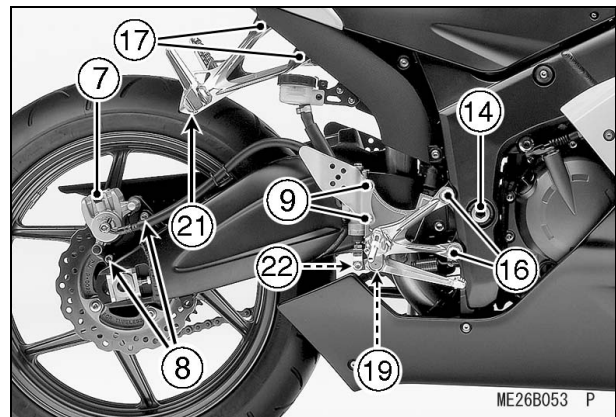
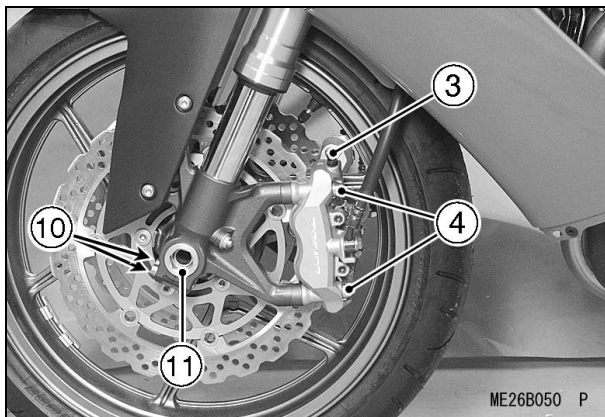
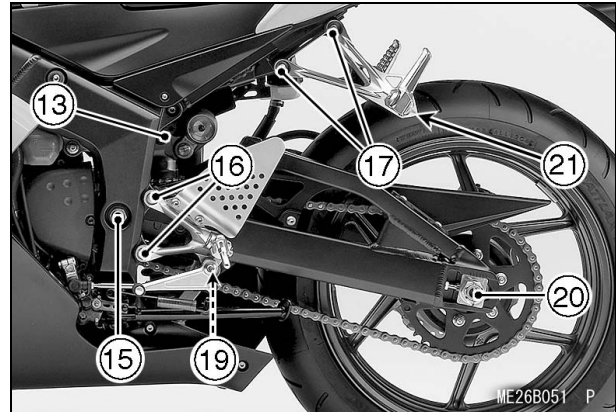
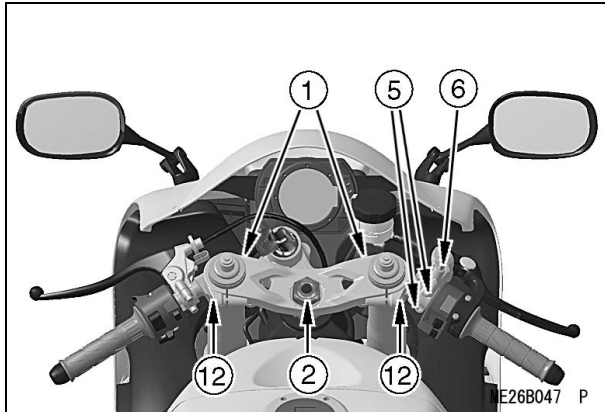
**A. Shift Up Indicator Light**

- To complete the adjustment, push the MODE button and RESET button simultaneously for more than two seconds.

Dummy Page

Fastener Check

- The torque values listed are for assembly and preparation items only, see the appropriate Service Manual for a more comprehensive list. Check tightness of all fasteners that are in the table before retail delivery. Also check to see that each cotter pin or circlip is in place.



No.	Fastener	Torque			Remarks
		N·m	kgf·m	ft·lb	
Frame/Steering					
1	Handlebar bolts	25	2.5	18	
2	Steering stem head nut	78	8.0	58	
Brake					
3	Front caliper bleed valves	7.8	0.80	69 in·lb	
4	Front caliper mounting bolts	34	3.5	25	
5	Front master cylinder clamp bolts	8.8	0.90	78 in·lb	S
6	Front master cylinder bleed valve	5.9	0.60	52 in·lb	
7	Rear brake bleed valve	7.8	0.80	69 in·lb	
8	Rear caliper mounting bolts	25	2.5	18	
9	Rear master cylinder mounting bolts	25	2.5	18	
Wheel					
10	Front axle clamp bolts	20	2.0	15	AL
11	Front axle nut	127	13.0	94	
Suspension					
12	Front fork clamp bolts (Upper)	20	2.0	15	
13	Rear shock absorber mounting nut (Upper)	34	3.5	25	
14	Swingarm pivot adjusting collar locknut	98	10	72	
15	Swingarm pivot shaft nut	108	11	81	
Others					
16	Front footpeg bracket bolts	25	2.5	18	
17	Rear footpeg bracket bolts	25	2.5	18	
Engine					
18	Engine oil drain plug	29	3.0	22	
Cotter pin or Circlip					
19	Front footpeg pin circlip	—	—	—	
20	Rear axle nut cotter pin	—	—	—	
21	Rear footpeg pin circlip	—	—	—	
22	Rear master cylinder cotter pin	—	—	—	

AL: Tighten the two clamp bolts alternately two times to ensure even tightening torque.

S: Tighten the upper clamp bolt first, and then the lower clamp bolt.

Standard Torque Table

This table relating tightening torque to thread diameter, lists the basic torque for bolts and nuts. Use this table for only the bolts and nuts which do not require a specific torque value. All of the values are for use with dry solvent-cleaned threads.

General Fasteners

Threads dia. (mm)	Torque		
	N·m	kgf·m	ft·lb
5	3.4 ~ 4.9	0.35 ~ 0.50	30 ~ 43 in·lb
6	5.9 ~ 7.8	0.60 ~ 0.80	52 ~ 69 in·lb
8	14 ~ 19	1.4 ~ 1.9	10.0 ~ 13.5
10	25 ~ 34	2.6 ~ 3.5	19.0 ~ 25
12	44 ~ 61	4.5 ~ 6.2	33 ~ 45
14	73 ~ 98	7.4 ~ 10.0	54 ~ 72
16	115 ~ 155	11.5 ~ 16.0	83 ~ 115
18	165 ~ 225	17.0 ~ 23.0	125 ~ 165
20	225 ~ 325	23.0 ~ 33.0	165 ~ 240

Test Ride the Motorcycle

- Complete the test ride checklist.

Control Cables:

Throttle control cables must work without binding in any steering position.

Steering:

Action is free from lock-to-lock.

Suspension:

Check operation front and rear.

Engine:

Electric starter works properly and engine starts promptly. Good throttle response and return.

Transmission and Clutch:

Smooth operation.

Brakes:

Adequate, smooth stopping power, No drag.

Digital Meter:

Check operation

Electrical System:

Headlight - check high and low beams.

Taillight - check operation.

Brake Light - check operation.

Turn Signal Lights - check operation.

Horn - check operation.

Instrument Lights and Indicator Lights -

Check operation.

Engine Stop Switch Works:

Starter Interlock Switch Works:

No Unusual Noises:

No Fuel, Oil, Brake Fluid, or Coolant Leaks:

PREPARATION COMPLETE.

WARNING

New tires are slippery and may cause loss of control and injury. A break-in period of 160 km (100 miles) is necessary to establish normal tire traction.

During break-in, avoid sudden and maximum braking and acceleration, and hard cornering.

A & P Check List

- Complete the A & P Check List.

MODEL APPLICATION

Year	Model	Name
2005	ZX636-C1	Ninja ZX-6R



KAWASAKI HEAVY INDUSTRIES, LTD.
Consumer Products & Machinery Company

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