

Ninja® ZX™-10R
Ninja® ZX™-10R ABS

Motorcycle
Assembly & Preparation
Manual



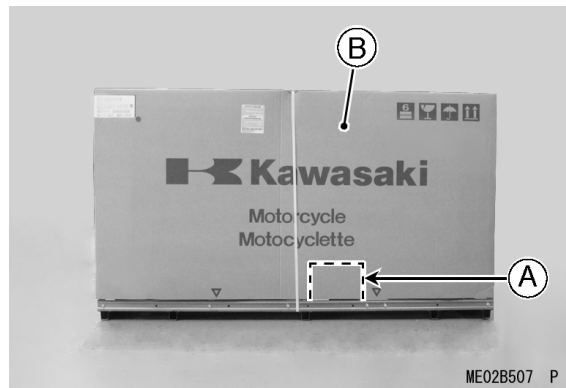
Recharge the Battery First!

This motorcycle comes with a pre-filled, pre-charged sealed battery, eliminating the need for dealers to prepare the battery by filling it with electrolyte. However, the battery must be charged upon initial receipt of each unit since it may have been warehoused for a significant time period before being delivered to your dealership.

After the initial charge at your dealership the battery should be recharged every six months. Because the battery will discharge more rapidly at high ambient temperatures, more frequent charging intervals may be required for dealerships located in hot climate zones.

When the battery is not charged periodically during long term storage, its internal resistance increases and could prevent the battery from being recharged. Refer to the "Battery Service" chapter for details.

The battery is located within the crate at the lower indicated with a dotted line. The battery can be removed from the crate for charging by cutting off a portion of the cardboard cover along the dotted line.



- A. Battery Location**
- B. Cardboard Cover**

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 Ninja ZX-10R and Ninja ZX-10R ABS.

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.

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

NOTE

○*NOTE* indicates information that may help or guide you in the operation or service of the vehicle.

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.

Table of Contents

Uncrating	3
Opening Crate	3
Parts Check	5
Assembly	7
Handlebar Weights	7
Windshield	7
French Label	7
Brake Disc Cleaning	8
Preparation	8
Battery Service	8
Coolant	12
Front Brake	15
Rear Brake	17
Clutch Lever and Cable	19
Drive Chain	19
Front Fork	21
Rear Shock Absorber	22
Tire Air Pressures	23
Fuel	23
Engine Oil (4-stroke)	23
Throttle Grip and Cable	24
Rear Brake Light Switch	25
Headlight Aim	26
Digital Meter	27
Fastener Check	30
Standard Torque Table	32
Test Ride the Motorcycle	32
A & P Check List	32

Uncrating

Opening Crate

⚠ WARNING

Crates have sharp edges and may have nails or screws that can cause cuts and injury. Always wear protective gloves, boots and eye protection when uncrating to prevent injury.



MC03003B S

⚠ WARNING

The steel crate panel plates and fasteners have sharp edges. Always wear protective gloves, boots and eye protection when uncrating to prevent injury.



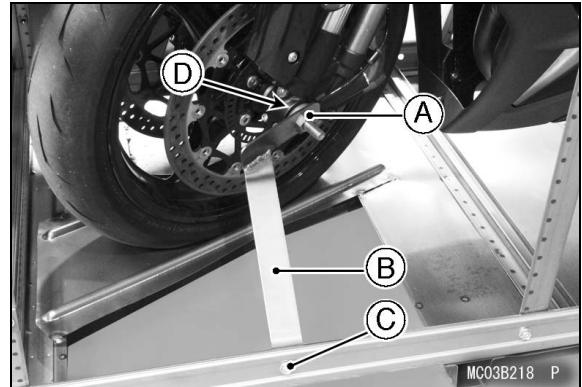
MC03004B S

- 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 boxes.

NOTICE

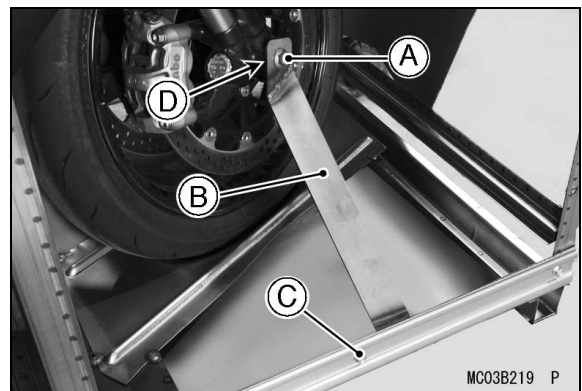
When removing the crate bracket from the motorcycle, be careful not to drop any parts or the bracket onto the fuel tank and other components, and not to scratch the fuel tank or other components with the crate bracket.

- Take out all the bolts and screws and remove the top and sides of the crate.
- Loosen the front axle holding nut.
- Remove the left front support bracket bolt and discard it.
- Remove the front axle holding nut, left front support bracket and rubber washers and discard them.



- A. Front Axle Holding Nut**
- B. Left Front Support Bracket**
- C. Left Front Support Bracket Bolt**
- D. Rubber Washers**

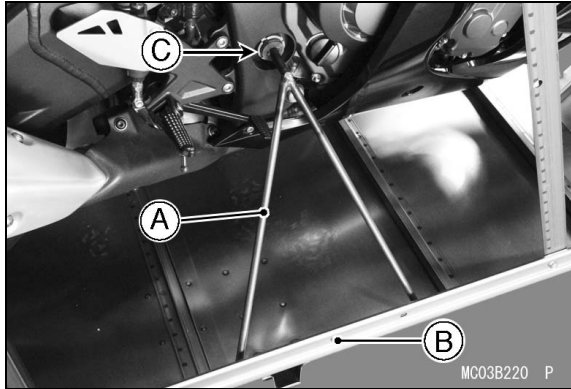
- Remove the right front support bracket bolt and discard it.
- Remove the front axle holding bolt, right front support bracket and rubber washers and discard them.



- A. Front Axle Holding Bolt**
- B. Right Front Support Bracket**
- C. Right Front Support Bracket Bolt**
- D. Rubber Washers**

- Remove the lower support bracket bolt on the left and right sides and discard them.
- Lift the vehicle upward about 10 cm (4 in.).
- Remove the lower support brackets and rubber washers on the left and right sides.
- Roll the vehicle off the crate base.

4 UNCRATING



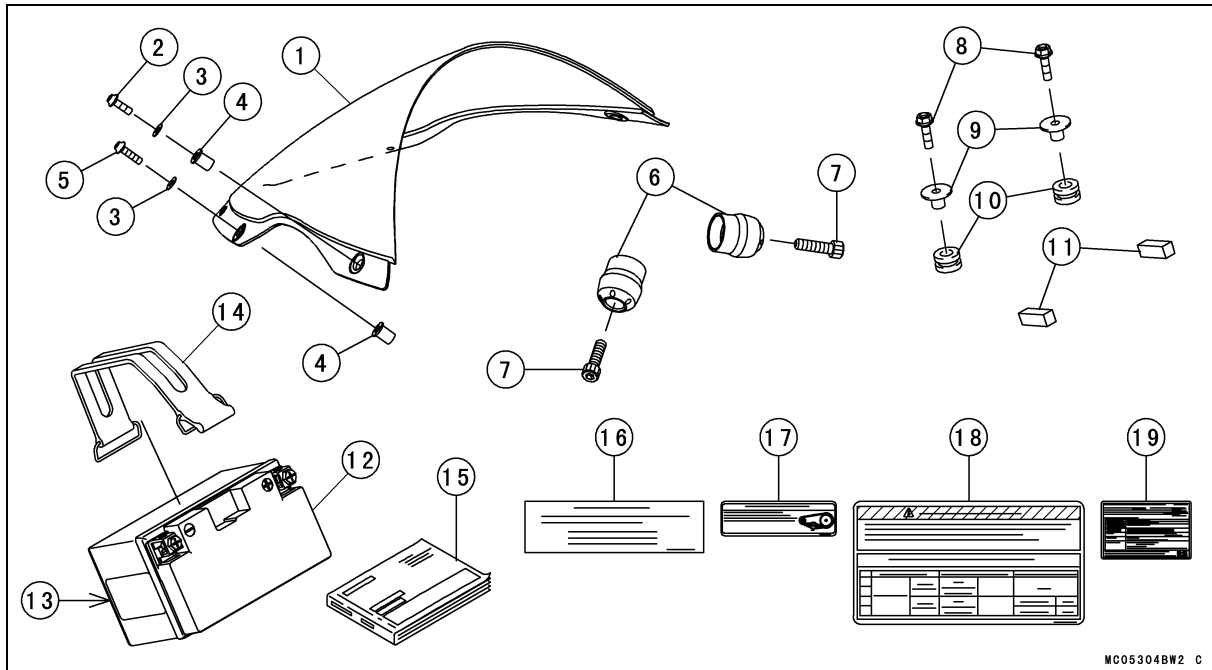
- A. Lower Support Bracket
- B. Lower Support Bracket Bolt
- C. Rubber Washer

NOTICE

When rolling the vehicle off the crate base, sharp edges on the crate can cut or damage tires.
Cover sharp edges with waste cloth for tire protection as necessary.

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.



MC05304BW2 C

No.	Part Name	Qty	Remarks
1	Windshield	1	
2	Socket Bolt, Windshield	4	D = 5.3 × 11.5
3	Plastic Washer	4	D = 5, L = 16
4	Wellnut	4	D = 5
5	Socket Bolt, Windshield	2	D = 5, L = 20
6	Handlebar Weight	2	
7	Weight Bolt with a Non-permanent Locking Agent	2	D = 8, L = 30
8	Flange Bolt, Rider's Seat	2	D = 6, L = 22
9	Collar	2	D = 10, L = 11.5
10	Damper	2	10 × 20 × 12
11	Damper	2	10 × 30 × 10
12	Battery, YTZ10S	1	12 V 8.6 Ah
13	Battery Label	1	
14	Band, Battery	1	
15	Owner's Manual	1	
	(French Label for Canada Model only)		
16	French Table	1	
17	Important Drive Chain Information	1	
18	Tire and Load Data	1	
19	Vehicle Emission Control Information	1	

6 UNCRATING

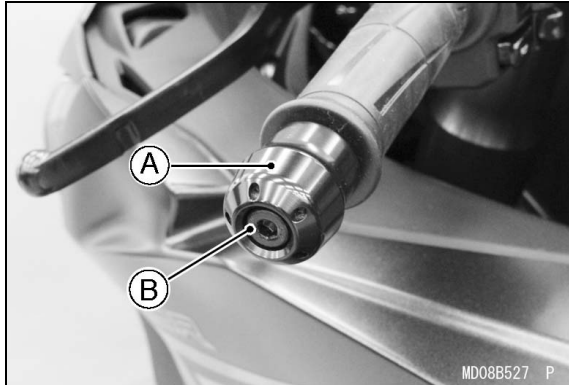


No.	Part Name	Qty	Remarks
1	(ZX100RGFA, ZX1000SGFA and ZX1000SGFB Models only) Mark	1	Do not apply this mark onto the labels.

Assembly

Handlebar Weights

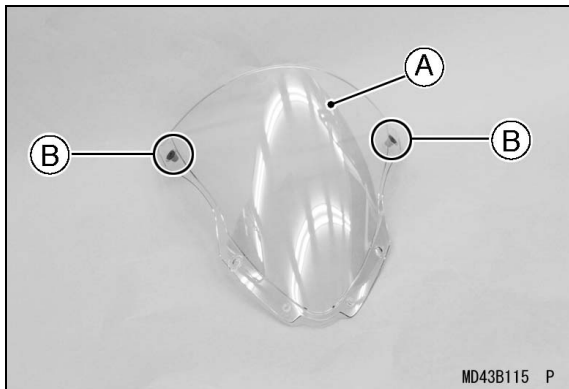
- Install both handlebar weights on the left and right end of the handlebar with the bolts (D = 8, L = 30) with a non-permanent locking agent and tighten them.



- A. Handlebar Weight**
- B. Bolt (D = 8, L = 30)**

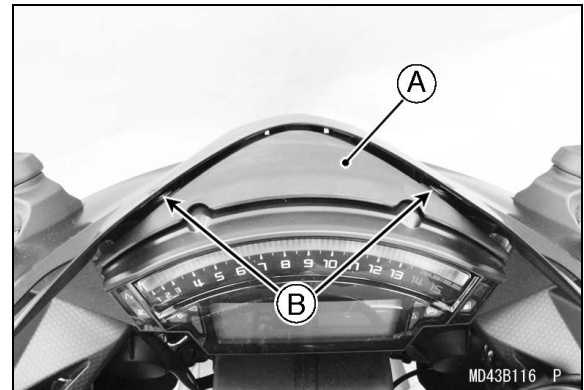
Windshield

- Fit the two wellnuts (D = 5) into the holes in the edge of the windshield.



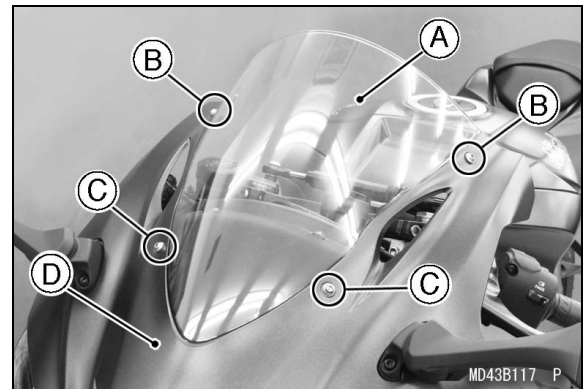
- A. Windshield**
- B. Wellnuts (D = 5)**

- Install the two wellnuts (D = 5) to the center cover.



- A. Center Cover**
- B. Wellnuts (D = 5)**

- Install the windshield.
- Install the four plastic washers (D = 5.3) and the socket bolts (D = 5, L = 16 and D = 5, L = 20) on the upper fairing.



- A. Windshield**
- B. Plastic Washers and Socket Bolts (D = 5, L = 16)**
- C. Plastic Washers and Socket Bolts (D = 5, L = 20)**
- D. Upper Fairing**

- Tighten the four bolts to the specified torque.
Torque: 0.4 N·m (0.04 kgf·m, 3.5 in·lb)

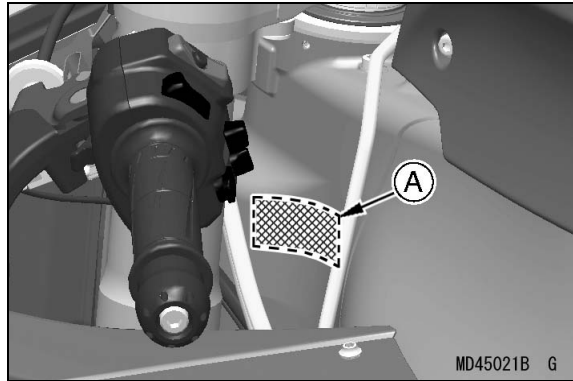
French Label

When required, apply French label in the parts bag over English label on the vehicle.

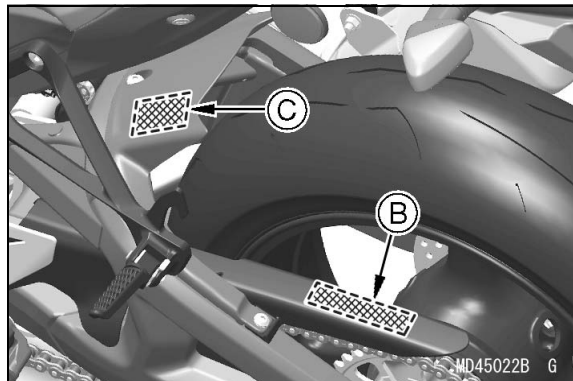
- Wipe off any oil or grease from English label. Refer to the following figure for the label location.
- Peel the label in the parts bag off the backing sheet and apply it over English label.

8 PREPARATION

For Canada Model



A. Vehicle Emission Control Information



B. Important Drive Chain Information

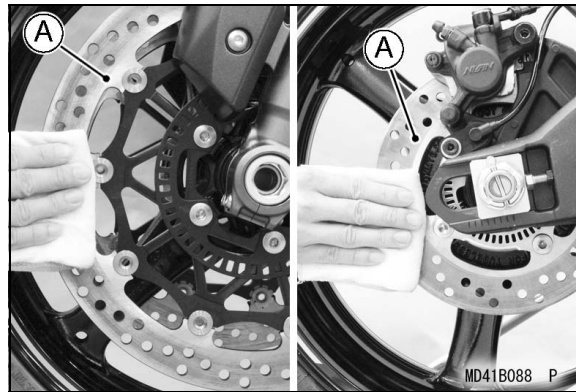
C. Tire and Load Data

Brake Disc Cleaning

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

⚠ WARNING

An anticorrosive treatment applied to the brake discs will increase braking distance and can cause an accident resulting in serious injury or death. Remove the anticorrosive treatment using an oilless solvent.



A. Brake Disc

Preparation

Battery Service

Battery Activation

Charged Battery Service

This motorcycle comes with a pre-filled, pre-charged sealed battery, eliminating the need for dealers to prepare the battery by filling it with electrolyte. However, the battery must be charged upon initial receipt of each unit since it may have been warehoused for a significant time period before being delivered to your dealership.

After the initial charge at your dealership the battery should be recharged every six months. Because the battery will discharge more rapidly at high ambient temperatures, more frequent charging intervals may be required for dealerships located in hot climate zones.

NOTICE

This battery is a pre-filled, pre-charged sealed battery. It is not necessary to fill the battery with electrolyte. Do not try to remove the strip of caps.

Battery Recharging

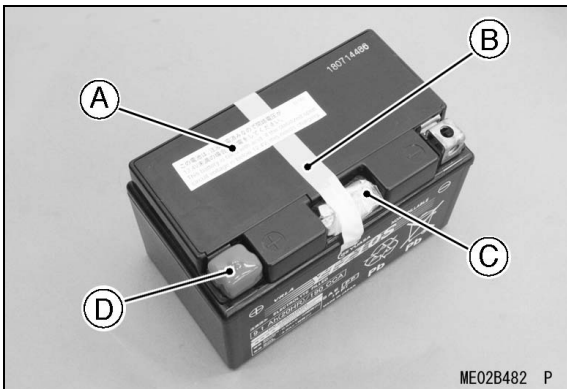
⚠ DANGER

Batteries produce an explosive gas mixture of hydrogen and oxygen that can cause serious injury and burns if ignited. Keep the battery away from sparks and open flames during charging. When using a battery charger, connect the battery to the charger before turning on the charger. This procedure prevents sparks at the battery terminals which could ignite any battery gases.

NOTICE	
<p>Always remove the battery from the vehicle for charging. If the battery is charged while still installed, battery electrolyte may spill and corrode the frame or other parts of the motorcycle. Charging the battery at a rate higher than specified may ruin the battery. Charging at a high rate causes excess heat which can warp the plates and cause internal shorting. Higher-than-normal charging rates also cause the plates to shed active material. Deposits will accumulate, and can cause internal shorting.</p> <p>If the temperature of the electrolyte rises above 45°C (113°F) during charging, reduce the charging rate to lower the temperature, and increase charging time proportionately.</p>	

NOTE

- Never attempt to charge a frozen battery.
- Allow it to warm up to room temperature before charging.
- Never leave a battery on a trickle charger longer than 48 hours. Serious damage to the battery will occur.
- Always install the red insulating cap to the battery positive (+) terminal while the battery is stored.
- Remove the charging label, tape, terminal bolts, terminal nuts and cap.



- A. Charging Label**
- B. Tape**
- C. Terminal Bolts and Nuts**
- D. Cap**

- Charge the battery with the standard charging rates indicated on the battery.

Battery types	YTZ10S
Standard Charge	0.9 A × 5 ~ 10 hours

- Use a recommended battery charger, following the manufacturer's instructions.

Kawasaki-recommended chargers:

Battery Mate 150-9

OptiMate PRO 4-S/PRO S/PRO 2

Yuasa MB-2040/2060

Christie C10122S

- If the recommended 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.
- Determine battery condition after charging.

NOTE

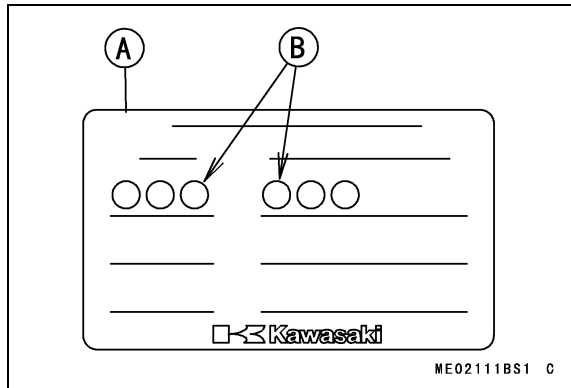
- Determine the condition of the battery 30 minutes after completion of the charge by measuring the terminal voltage according to the table below.

Criteria	Judgement
12.8 V or higher	Good
12.0 ~ 12.8 V	Charge insufficient → Recharge
12.0 V or lower	Unserviceable → Replace

NOTE

- If it is less than 12.8 volts, repeat charging cycle.
- If the minimum voltage specification cannot be reached after three consecutive charging attempts, the battery should be replaced.
- After recharging, record the charging date and the name of person in charge of this job to the label attached on the battery.

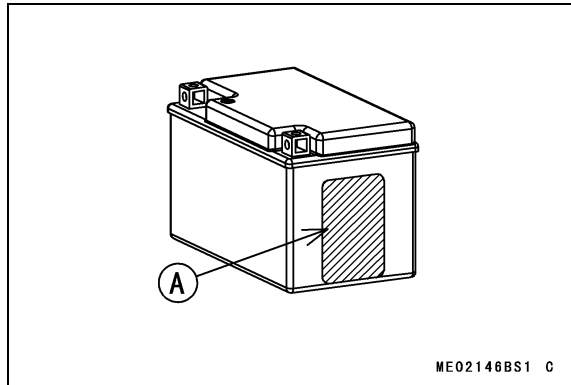
10 PREPARATION



A. Recharging Record Label

B. Record the Charging Date and the Name of Person Here.

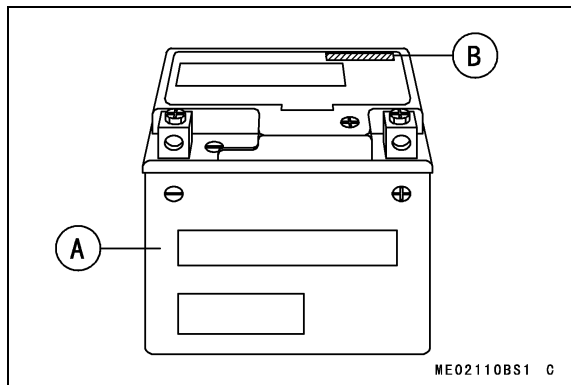
○ The battery recharging record label is attached on the battery side as shown.



A. Battery Recharging Record Label

○ The battery manufacturing date is printed on battery top.

Example) 01 09 10 XX
Day Month Year Mfg. location

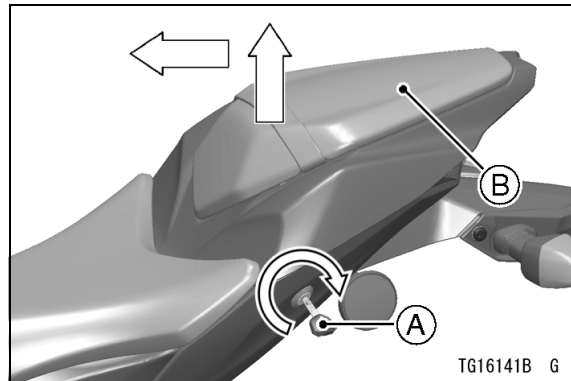


A. Battery

B. Manufacturing Date

Battery Installation

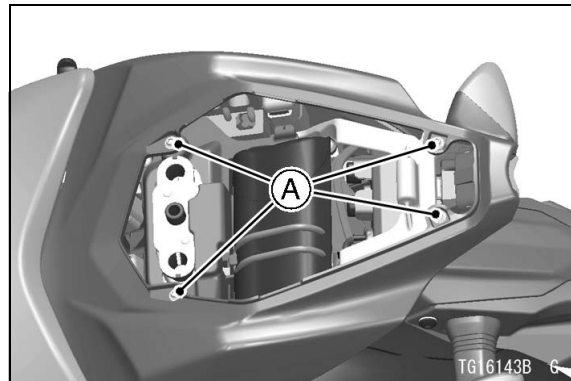
- Inspect the battery voltage using a voltmeter, and recharge the battery if the voltage reading is below 12.8 volts just before delivering to your customer to ensure the maximum performance and customer satisfaction. (Refer to the "Battery Recharging" section.)
- Wipe off any dirt of the battery.
- Turn the ignition switch off.
- Insert the ignition key into the seat lock.
- Lift the front part of the passenger's seat upward while turning the key clockwise.
- Remove the passenger's seat forward.



A. Ignition Key

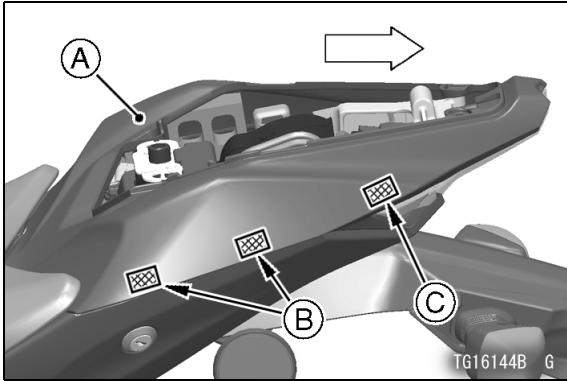
B. Passenger's Seat

- Remove the seat cover bolts and washers.



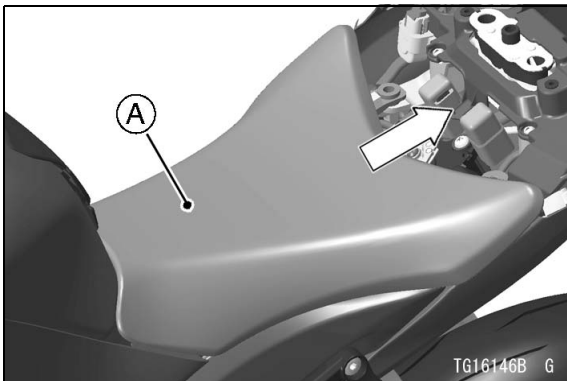
A. Seat Cover Bolts and Washers

- Remove the upper seat cover backward to clear the hook portions.



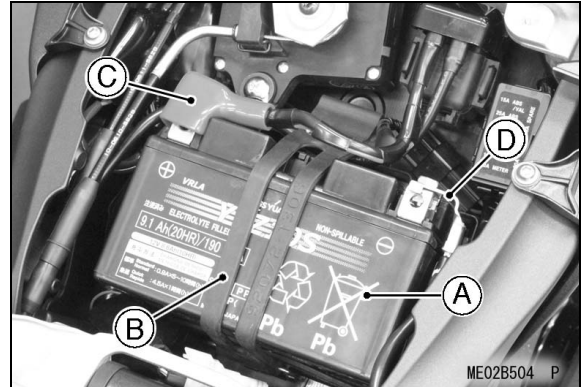
- A. Upper Seat Cover**
- B. Hook and Slot (Both Sides)**
- C. Hooks (Both Sides)**

- Remove the rider's seat backward.



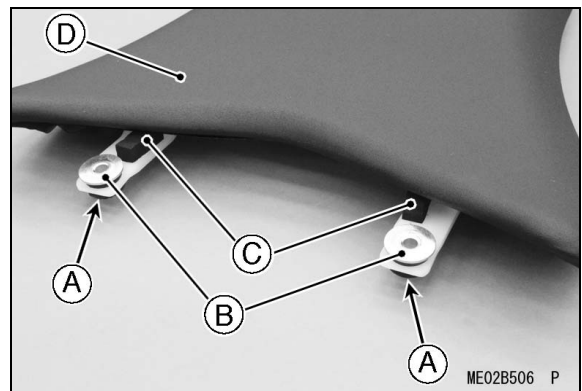
A. Rider's Seat

- Place the battery in the battery case.
- Install the band.
- Connect the positive (+) cable to the (+) terminal first.
- Then connect the negative (-) cable to the (-) terminal.
- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the (+) terminal with the red cap.



- A. Battery**
- B. Band**
- C. Red Cap and (+) Terminal**
- D. (-) Terminal**

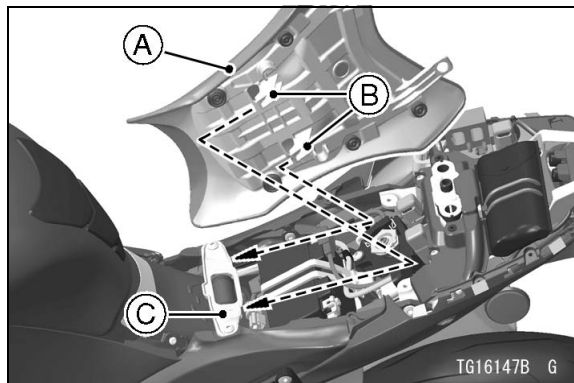
- Install the mounting dampers (10 × 20 × 12) and collars (D = 10, L = 11.5) into the holes of the rider's seat stay.
- Install the dampers (10 × 30 × 10) on the rider's seat stay.



- A. Dampers (10 × 20 × 12)**
- B. Collars (D = 10, L = 11.5)**
- C. Dampers (10 × 30 × 10)**
- D. Rider's Seat**

- Insert the hooks on the rider's seat under the fuel tank bracket.

12 PREPARATION

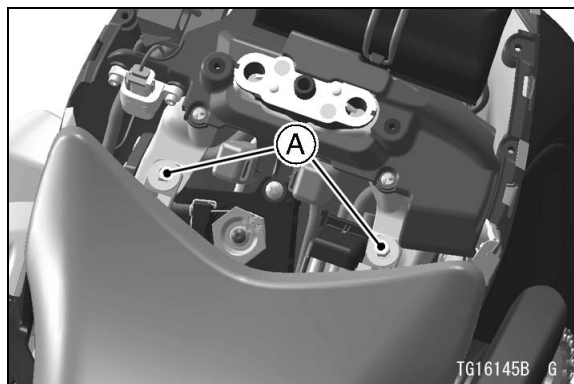


A. Rider's Seat

B. Hooks

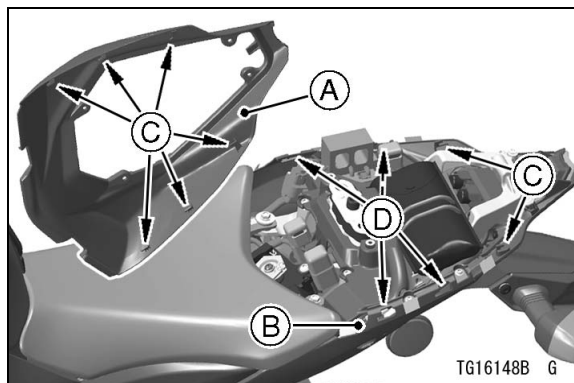
C. Fuel Tank Bracket

- Tighten the rider's seat bolts (D = 6, L = 22).



A. Rider's Seat Bolts (D = 6, L = 22)

- Fit the hook portions of the upper seat cover to the slots and hooks of the lower seat cover.



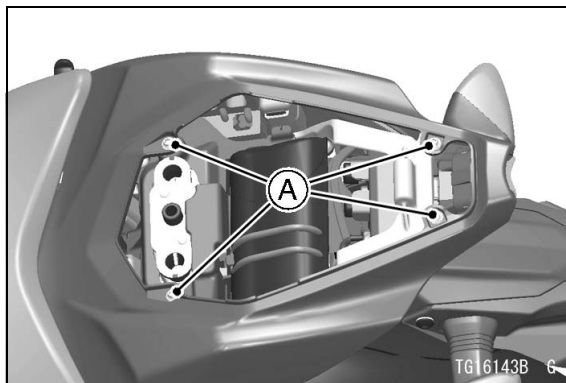
A. Upper Seat Cover

B. Lower Seat Cover

C. Hooks

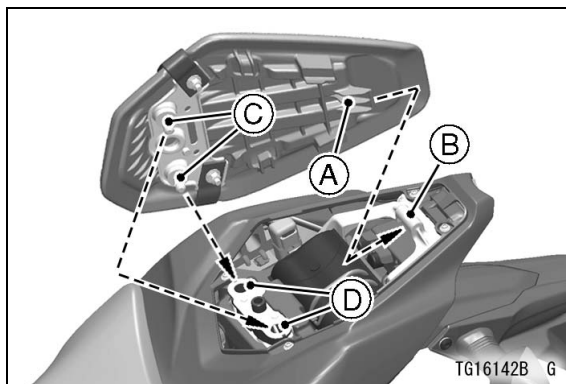
D. Slots

- Tighten the seat cover bolts together with the washers.



A. Seat Cover Bolts and Washers

- Insert the hook on the rear of the passenger's seat into the slot in the frame.
- Insert the projections at the front of the passenger's seat into the latch holes on the frame.
- Push down the front part of the passenger's seat until the lock clicks.



A. Hook

B. Slot

C. Projections

D. Latch Holes

- Pull up the front and rear ends of the passenger's seat to make sure they are securely locked.

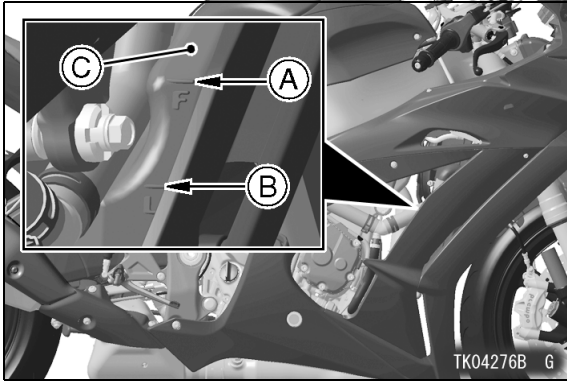
Coolant

Coolant Level Inspection

- Position 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 behind of the right lower fairing. 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).

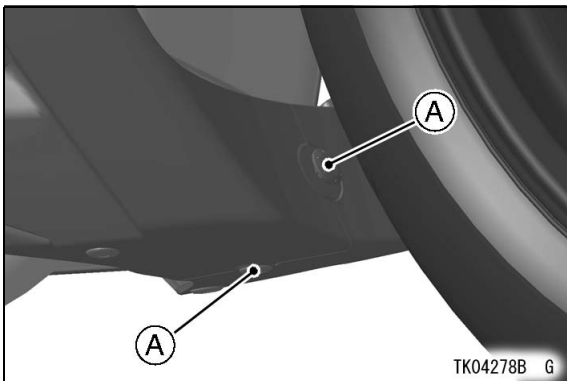
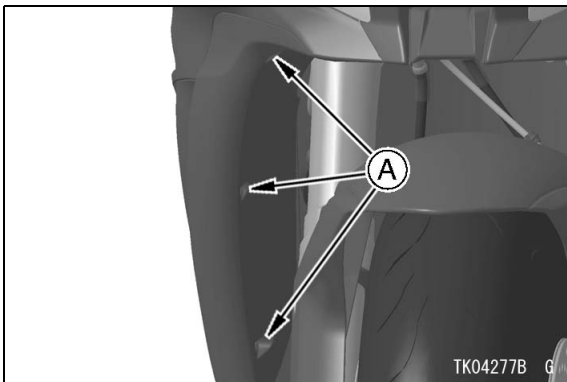


- A. F (Full) Level Line
- B. L (Low) Level Line
- C. Reserve Tank

- If the amount of coolant is insufficient, add coolant into the reserve tank.

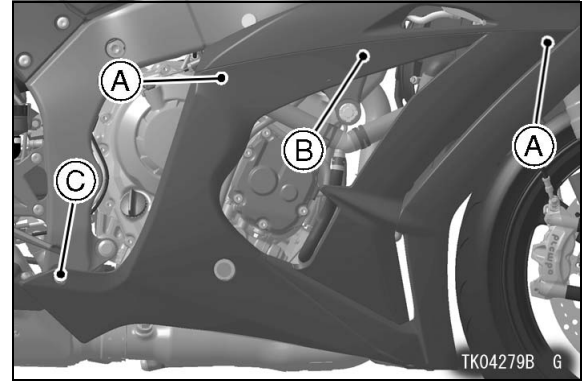
Coolant filling

- Remove the quick rivets.



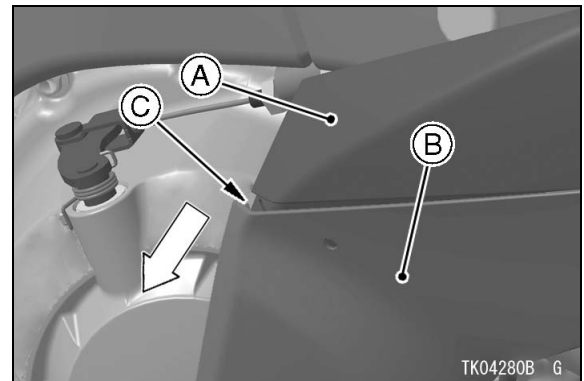
A. Quick Rivets

- Remove the bolts and washers.
- Remove the bolt and collar.
- Remove the bolt.



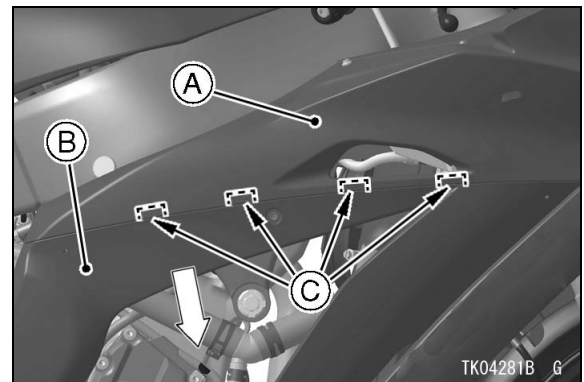
- A. Bolts and Washers
- B. Bolt and Collar
- C. Bolt

- Clear the tab of the lower fairing outward from the upper fairing.



- A. Upper Fairing
- B. Lower Fairing
- C. Tab

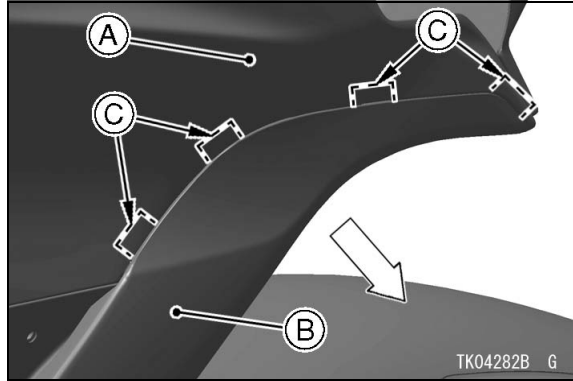
- Clear the tabs of the lower fairing downward from the upper fairing.



- A. Upper Fairing
- B. Lower Fairing
- C. Tabs

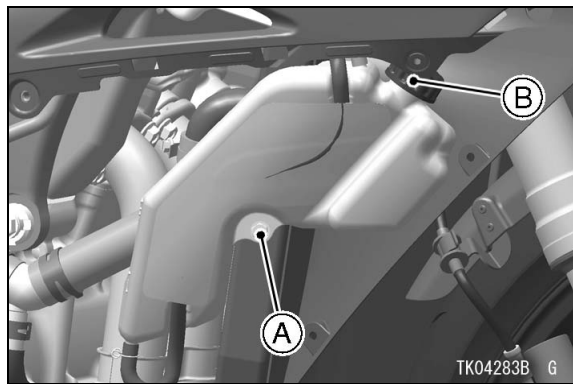
- Clear the tabs of the lower fairing downward from the upper fairing.

14 PREPARATION



- A. Upper Fairing
- B. Lower Fairing
- C. Tabs

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



- A. Coolant Reserve Tank Bolt
- B. Reserve Tank Cap

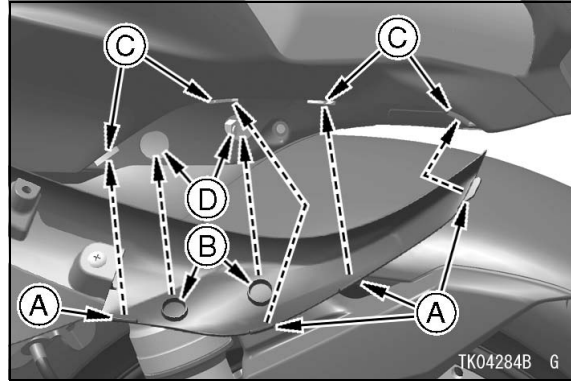
NOTE

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

- Install the reserve tank cap.
- Install the reserve tank and tighten the coolant reserve tank bolt.

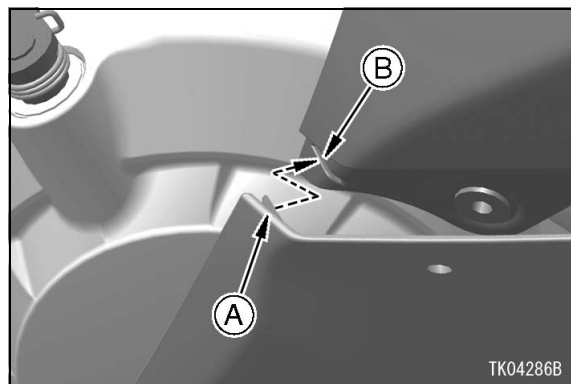
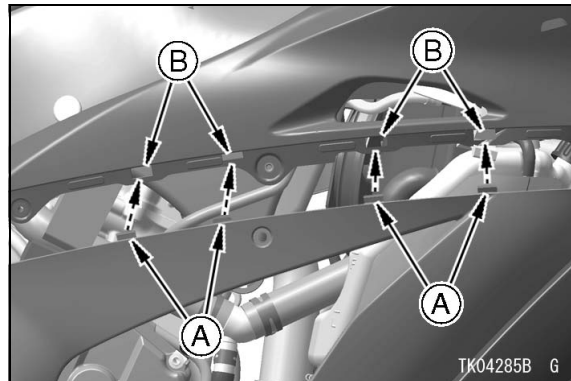
Torque: 8.0 N·m (0.82 kgf·m, 71 in·lb)

- Insert the tabs of the lower fairing into the slots of the upper fairing.
- Insert the projections of the lower fairing into the holes of the upper fairing.



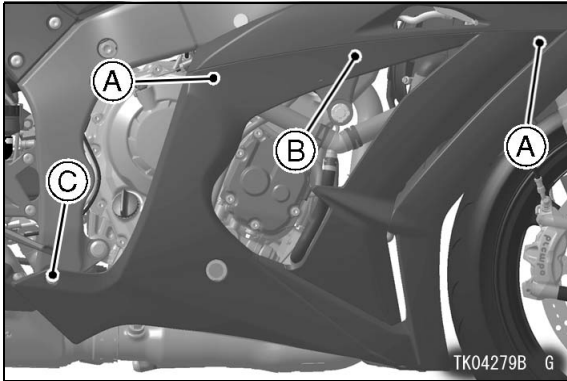
- A. Tabs
- B. Projections
- C. Slots
- D. Holes

- Insert the tabs of the lower fairing into the slots of the upper fairing.



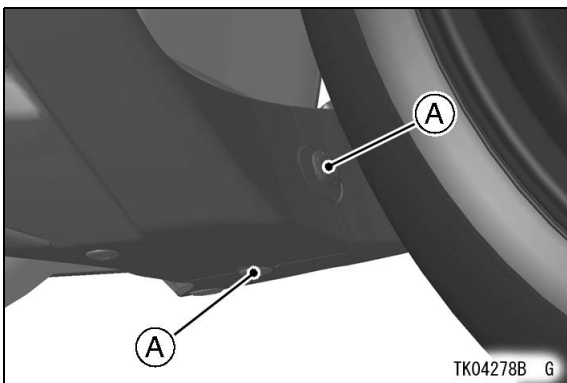
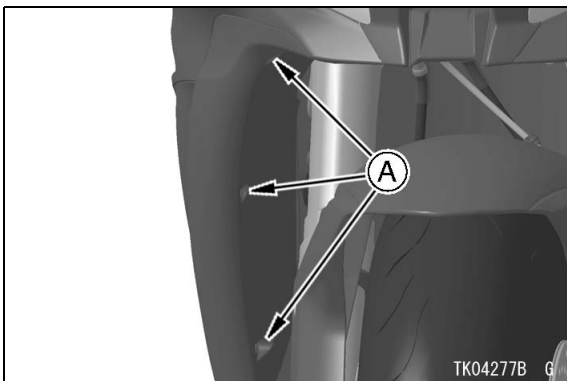
- A. Tabs
- B. Slots

- Install the washer and collar.
- Tighten the bolts.



- A. Washers and Bolts
- B. Collar and Bolt
- C. Bolt

- Install the quick rivets.

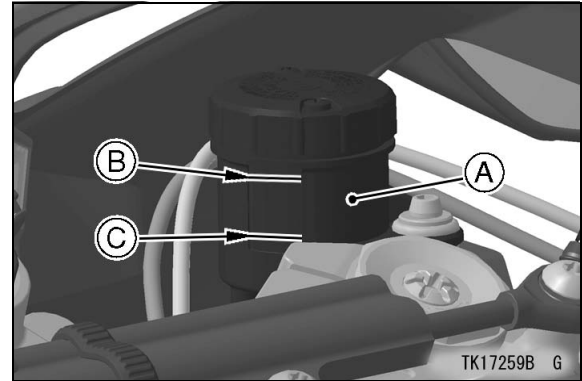


- A. Quick Rivets

Front Brake

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.



- A. Front 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 front brake lines and fill the reservoir.
- Loosen the reservoir cap screws to remove the front brake fluid reservoir cap and diaphragm.
- Fill the reservoir to the upper level line with DOT4 brake fluid, reinstall the diaphragm and reservoir cap.
- Tighten the reservoir cap screws to the specified torque.

Torque: 0.70 N·m (0.07 kgf·m, 6.2 in·lb)

⚠ WARNING

When working with the disc brake, observe the precautions listed below.

- 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 and brands of fluid for use in the brake. This lowers the brake fluid boiling point and could cause the brake to be ineffective. It may also cause the rubber brake parts to deteriorate.
- Don't leave the reservoir cap off for any length of time to avoid moisture contamination of the fluid.
- Don't change the fluid in the rain or when a strong wind is blowing.
- Brake fluid quickly damages painted surfaces; any spilled fluid should be completely wiped up immediately.
- If any of the brake line fittings or the bleed valve is opened at any time, the **AIR MUST BE BLED FROM THE BRAKE LINE.**

16 PREPARATION

- 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.

Brake Line Air Bleeding

- Loosen the reservoir cap screws to remove the front brake fluid reservoir cap and diaphragm, and check that there is plenty of fluid in the reservoir.

NOTICE

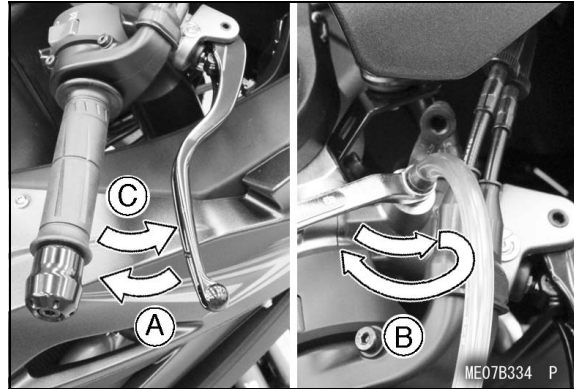
Brake fluid quickly damages painted surfaces. Wipe up any spilled fluid immediately.

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 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.

NOTICE

After pumping the brake lever several times, releasing it without opening and closing of the bleed valve may cause brake fluid to be blown back from the master cylinder reservoir. Brake fluid spilt on painted surfaces and plastic parts will quickly damage them. Be sure to open and close the bleed valve.



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

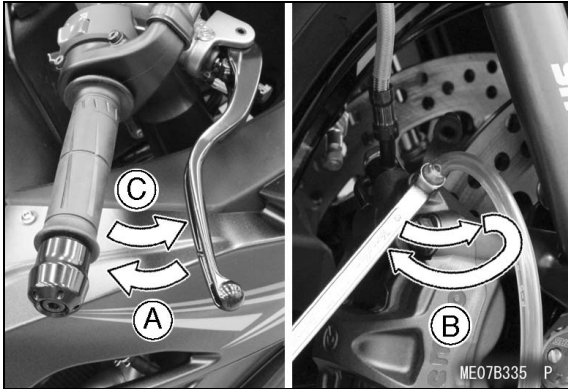
- Tighten the front master cylinder bleed valve to the specified torque.

Torque: 5.5 N·m (0.56 kgf·m, 49 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.

NOTICE

After pumping the brake lever several times, releasing it without opening and closing of the bleed valve may cause brake fluid to be blown back from the master cylinder reservoir. Brake fluid spilt on painted surfaces and plastic parts will quickly damage them. Be sure to open and close the bleed valve.



- A. Hold the brake lever applied.**
- B. Quickly open and close the bleed valve on the front brake caliper.**
- 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: 16 N·m (1.6 kgf·m, 12 ft·lb)

- Reinstall the diaphragm and reservoir cap.
- Tighten the reservoir cap screws to the specified torque.

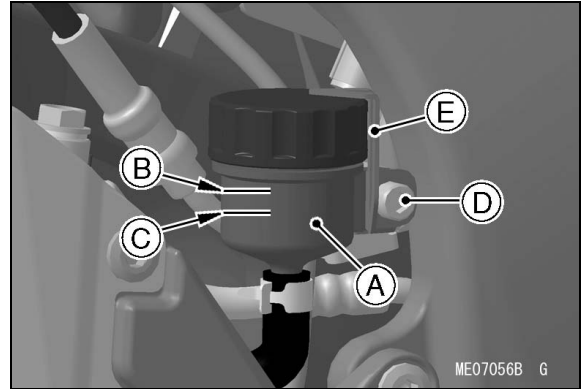
Torque: 0.70 N·m (0.07 kgf·m, 6.2 in·lb)

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

Rear Brake

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.



- A. Rear Brake Fluid Reservoir**
- B. Upper Level Line**
- C. Lower Level Line**
- D. Reservoir Cap Stopper Bolt**
- E. Reservoir Cap Stopper**

- 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.
- Loosen the reservoir cap stopper bolt to remove the reservoir cap stopper, reservoir cap and diaphragm.
- Fill the reservoir to the upper level line with DOT4 brake fluid, reinstall the diaphragm and reservoir cap.

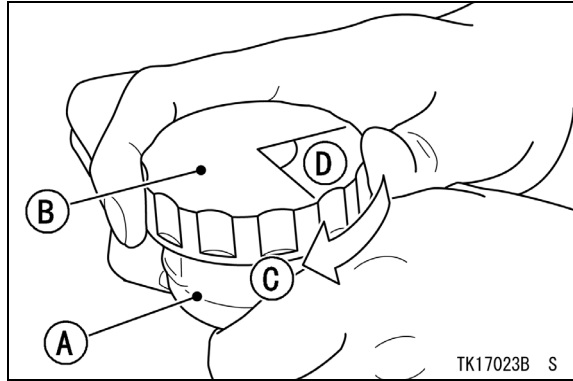
NOTICE

Brake fluid quickly damages 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.*

18 PREPARATION



A. Rear Brake Fluid Reservoir

B. Reservoir Cap

C. Clockwise

D. 1/6 turn

- Reinstall the reservoir cap stopper.
- Tighten the reservoir cap stopper bolt.
- 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.

Brake Line Air Bleeding

- Loosen the reservoir cap stopper screw to remove the rear brake reservoir cap and diaphragm, and check that there is plenty of fluid in the reservoir.

NOTICE

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

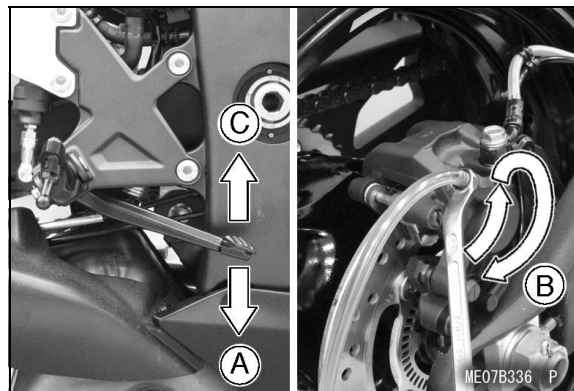
NOTE

- *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.

NOTICE

After pumping the brake pedal several times, releasing it without opening and closing of the bleed valve may cause brake fluid to be blown back from the master cylinder reservoir. Brake fluid spilt on painted surfaces and plastic parts will quickly damage them. Be sure to open and close the bleed valve.



A. Hold the brake pedal applied.

B. Quickly open and close the bleed valve on the rear brake caliper.

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: 8.0 N·m (0.82 kgf·m, 71 in·lb)

- Reinstall 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.

- Reinstall the reservoir cap stopper.
- Tighten the reservoir cap stopper bolt.
- Apply the brake forcefully for a few seconds, and check for fluid leakage around the fittings.

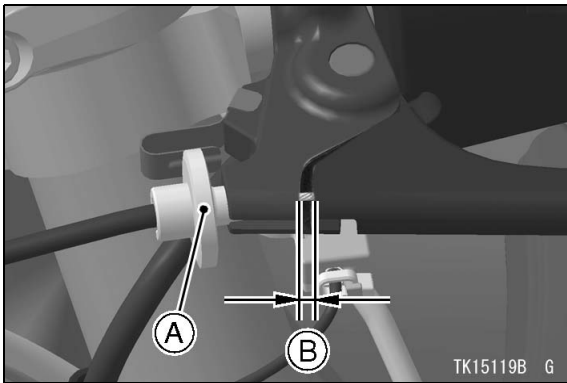
Clutch Lever and Cable

Clutch Lever Free Play Inspection

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

Clutch Lever Free Play:

2 ~ 3 mm (0.08 ~ 0.12 in.)



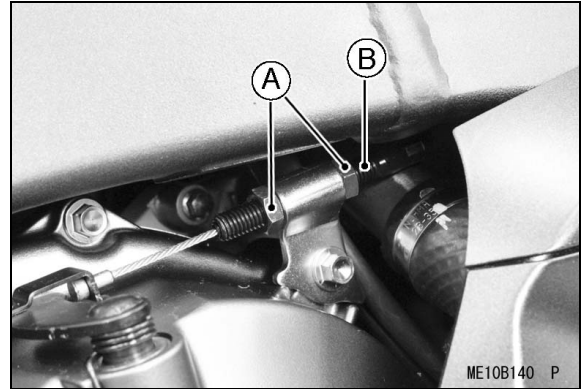
A. Adjuster

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

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

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 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

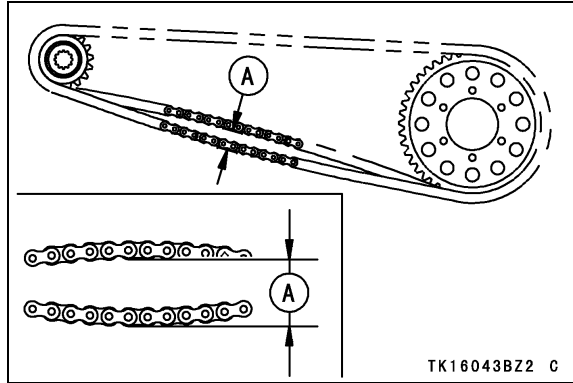
Misalignment of the wheel will result in abnormal tire wear and can cause an unsafe riding condition. Be sure the wheel is properly aligned.

- 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 wheel sprocket.

Drive Chain Slack:

25 ~ 35 mm (1.0 ~ 1.4 in.)

20 PREPARATION



A. 25 ~ 35 mm (1.0 ~ 1.4 in.)

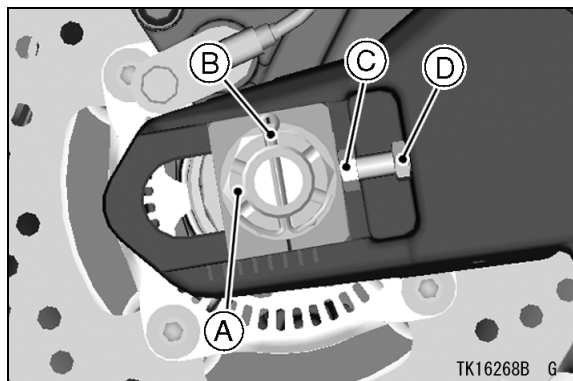
- If the drive chain is too tight or too loose, adjust it so that the chain slack will be within the standard value.

⚠ 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. Inspect the chain for damage and proper adjustment.

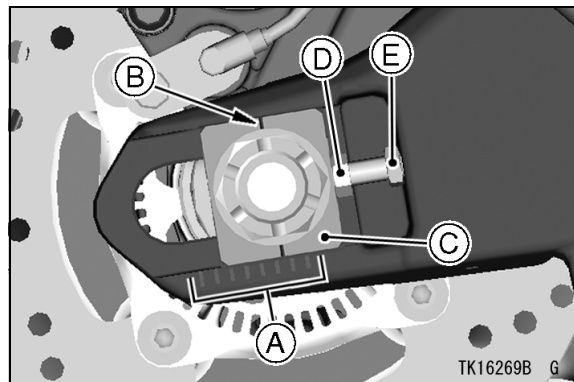
Drive Chain Slack Adjustment

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



- A. Rear Axle Nut
- B. Cotter Pin
- C. Chain Adjuster
- D. Chain Adjuster 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. Chain Adjuster
- E. Chain Adjuster 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: 130 N·m (13.3 kgf·m, 95.9 ft·lb)

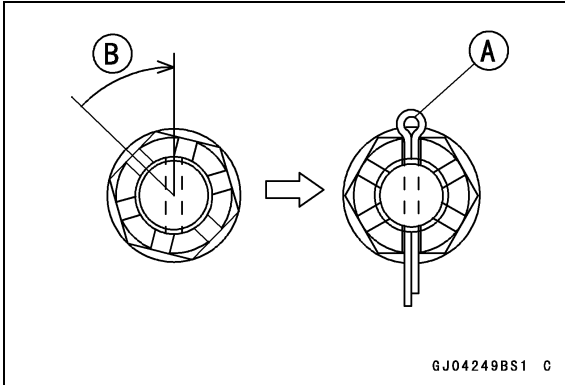
- Rotate the wheel, measure the chain slack again at the tightest position, and readjust if necessary.
- Install a new cotter pin.

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.

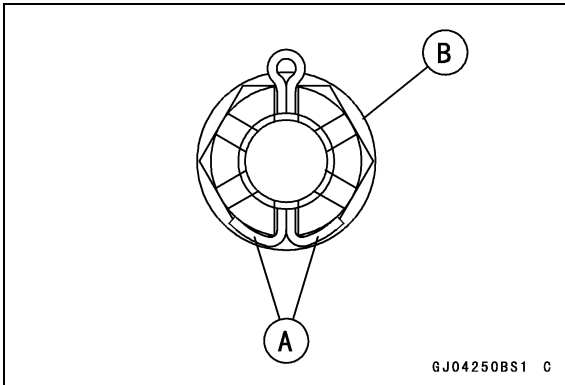
○ It should be within 30 degrees.

○ 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

A loose axle nut can lead to an accident resulting in serious injury or death. Tighten the axle nut to the proper torque and be sure the cotter pin is installed correctly.

- Check the rear brake effectiveness.

Front Fork

⚠ WARNING

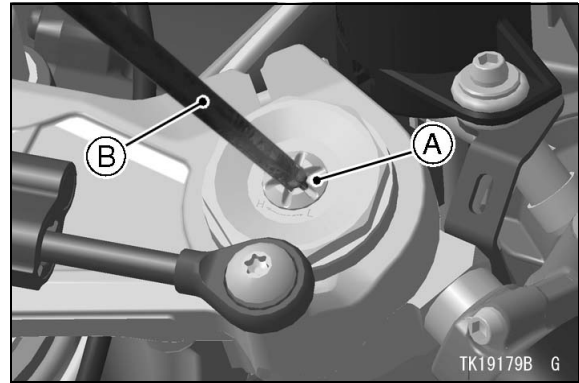
If both spring preload adjusters and both rebound and compression damping force adjusters are not adjusted equally, handling may be impaired and a hazardous condition may result. Set all suspension adjusters equally to the recommended settings.

Spring Preload Adjustment

- Check the position of the spring preload adjusters on the each fork leg.

STD Spring Preload:

6 turns in (Clockwise from the fully seated position).



- A. Spring Preload Adjuster
- B. Allen Wrench

- To adjust the spring preload, turn the adjuster with the Allen wrench or suitable tool. Adjust the spring preload to the standard setting position.

NOTICE

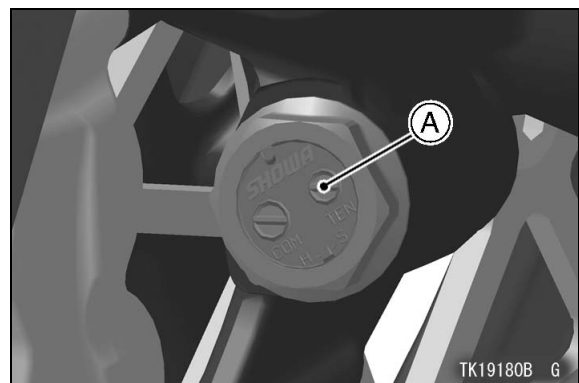
Do not turn the adjuster beyond the fully seated position or the adjusting mechanism may be damaged.

Rebound Damping Force Adjustment

- Check the position of the rebound damping force adjusters on the each fork leg.

STD Rebound Damping Force:

2 1/2 turns out (Counterclockwise from the fully seated position).



- A. Rebound Damping Force Adjuster

22 PREPARATION

- To adjust the rebound damping force, turn the adjuster with flat tip screwdriver. Adjust the rebound damping force to the standard setting position.

NOTICE

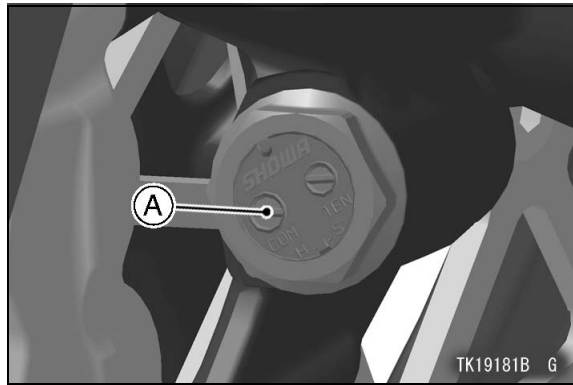
Do not turn the adjuster beyond the fully seated position or the adjusting mechanism may be damaged.

Compression Damping Force Adjustment

- Check the position of the compression damping force adjuster on the each fork leg.

STD Compression Damping Force:

3 1/2 turns out (Counterclockwise from the fully seated position).



A. Compression Damping Force Adjuster

- To adjust the compression damping force, turn the adjuster with flat tip screwdriver. Adjust the compression damping force to the standard setting position.

NOTICE

Do not turn the adjuster beyond the fully seated position or the adjusting mechanism may be damaged.

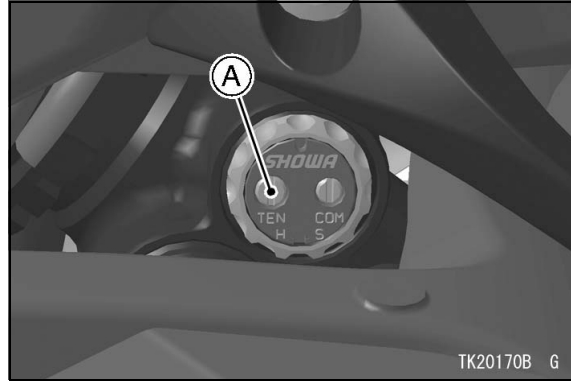
Rear Shock Absorber

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:

2 1/4 turns out (Counterclockwise from the fully seated position).



A. Rebound Damping Force Adjuster

- To adjust the rear shock absorber rebound damping force, turn the adjuster with a flat tip screwdriver. Adjust the rebound damping force to the standard setting position.

NOTICE

Do not turn the adjuster beyond the fully seated position or the adjusting mechanism may be damaged.

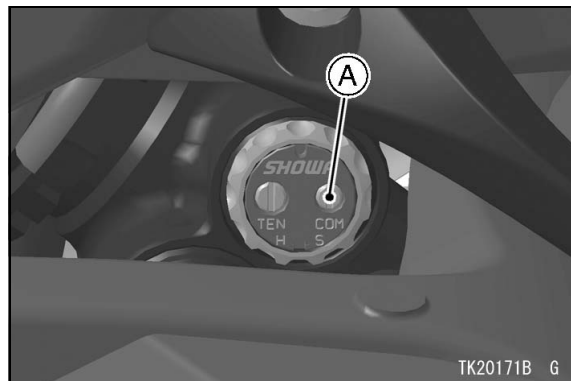
Compression Damping Force Adjustment

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

STD Compression Damping:

1 turn out (Counterclockwise from the fully seated position)

- To adjust the rear shock absorber compression damping force, turn the adjuster with a flat tip screwdriver. Adjust the compression damping force to the standard setting position.



A. Compression Damping Force Adjuster

NOTICE

Do not turn the adjuster beyond the fully seated position or the adjusting mechanism may be damaged.

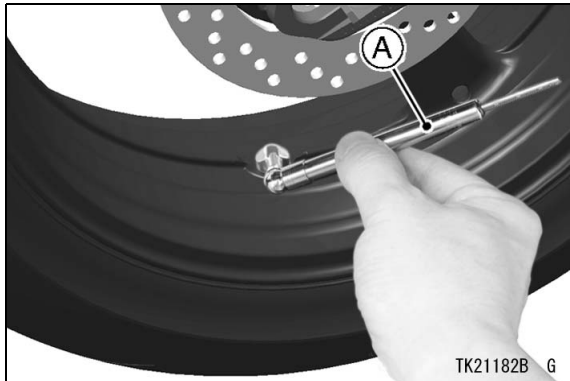
Tire Air Pressures

- 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 (2.50 kgf/cm², 36 psi)

Rear: 290 kPa (2.90 kgf/cm², 42 psi)



A. Tire Air Pressure Gauge

Fuel

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions, creating the potential for serious burns. When filling the tank, turn the ignition switch off. Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

- 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 octane rating shown below.

For US, Canada and California Specifications

Fuel Type	Unleaded Gasoline	
Minimum Octane Rating	Antiknock Index 90	(RON + MON) 2

For Other than US, Canada and California Specifications

Use clean, fresh unleaded gasoline with an octane rating equal to or higher than that shown in the table.

Fuel Type	Unleaded Gasoline
Minimum Octane Rating	Research Octane Number (RON) 95

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

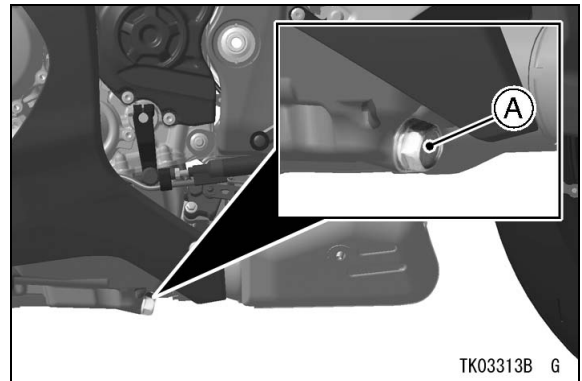
Engine Oil (4-stroke)

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 bolt tightness.

Torque: 29 N·m (3.0 kgf·m, 21 ft·lb)



A. Engine Oil Drain Bolt

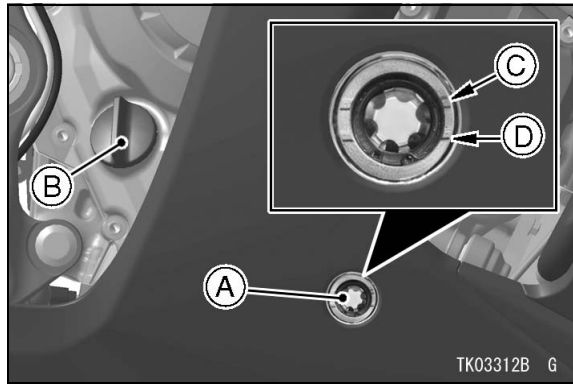
- Park the vehicle on level ground.
- Before starting the engine, check that the engine has oil.
- With the motorcycle held level, check that the engine has oil through the oil level inspection window in the lower right side of the engine.

NOTICE

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.
- With the motorcycle held level, check the engine oil level through the oil level inspection window. The oil level should come up between the upper and lower level lines next to the oil level inspection window.

24 PREPARATION



- A. Oil Level Inspection Window**
- 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 SG, SH, SJ, SL or SM with JASO MA, MA1 or MA2

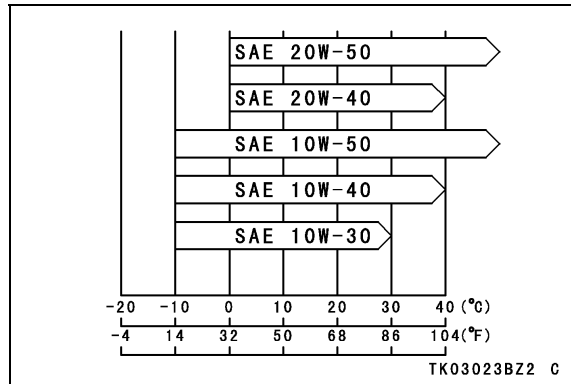
Viscosity: SAE 10W-40

Capacity: 2.9 L (3.1 US qt)
[when filter is not removed]
3.3 L (3.5 US qt)
[when filter is removed]

NOTE

○Do not add any chemical additive to the oil. Oils fulfilling the above requirements are fully formulated and provide adequate lubrication for both the engine and the clutch.

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

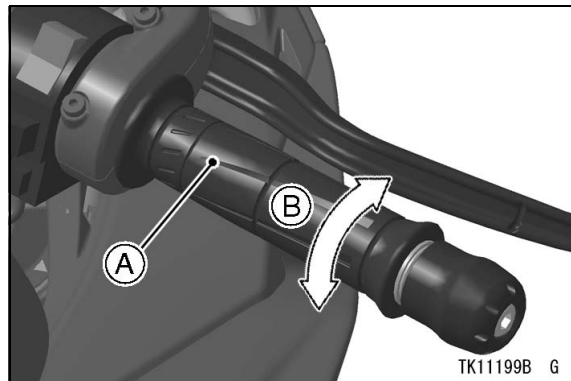
Throttle Grip Free Play Inspection

- 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.



A. Throttle Grip

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

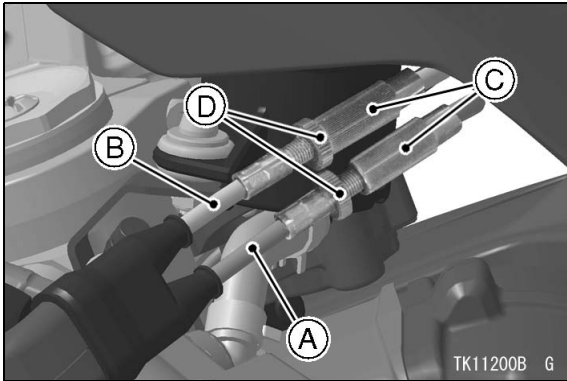
- Run the engine at idle speed, and turn the handlebars all the way to the right and left to ensure that the idle speed does not change. If the idle speed increases, check the throttle grip free play.

⚠ WARNING

Operation with incorrectly routed, improperly adjusted or damaged cables could result in an unsafe riding condition. Be sure the cables are routed correctly, properly adjusted and are not damaged in any way.

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.



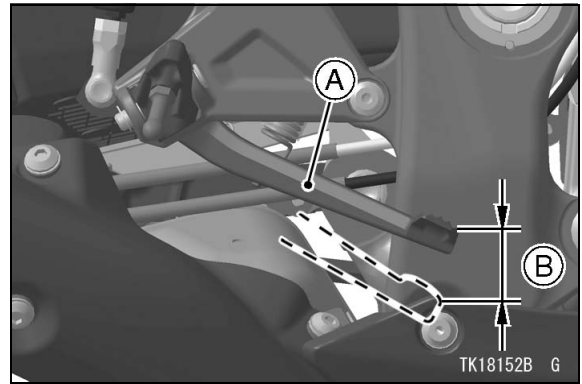
- A. Decelerator Cable**
- B. Accelerator Cable**
- C. Adjusters**
- D. Locknuts**

- Turn out the accelerator cable adjuster until the specified amount of play is obtained. Tighten the locknut.
- Run the engine at idle speed, and turn the handlebars 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.

Rear Brake Light Switch

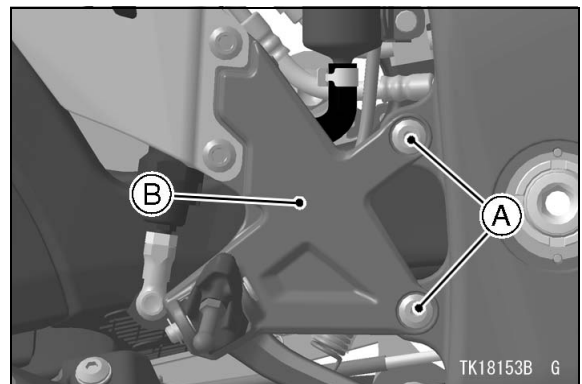
Rear Brake Light Switch Adjustment

- Turn the ignition switch on. The brake light should illuminate when the brake pedal is depressed about 10 mm (0.4 in.)



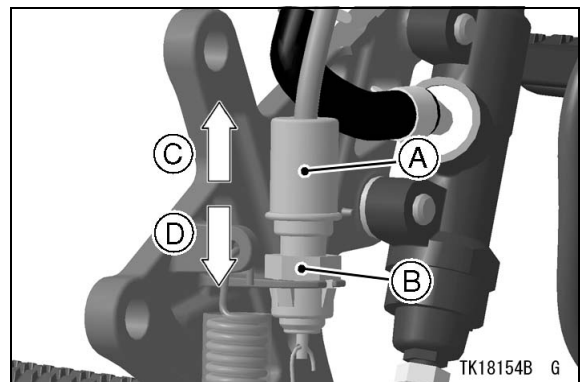
- A. Brake Pedal**
- B. 10 mm (0.4 in.)**

- If it does not, turn the adjusting nut at the rear brake light switch as required.
- Remove the right front footpeg bracket bolts.
- Pull the front footpeg bracket a little bit outward.



- A. Bolts**
- B. Right Front Footpeg Bracket**

- To adjust the rear brake light switch, move the switch up or down by turning the adjusting nut.



- A. Rear Brake Light Switch**
- B. Adjusting Nut**
- C. Lights sooner**
- D. Lights later**

NOTICE

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

- Install the right front footpeg bracket.
- Tighten the right front footpeg bracket bolts to the specified torque.

Torque: 25 N·m (2.5 kgf·m, 18 ft·lb)

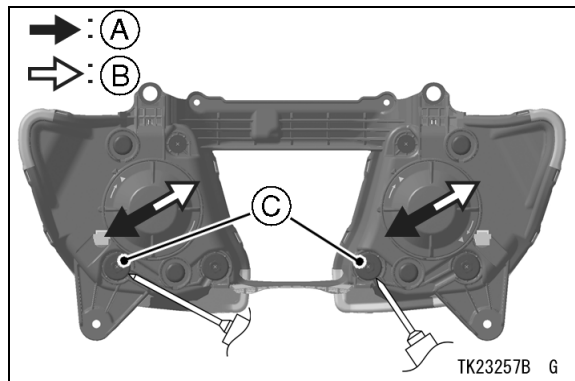
Headlight Aim

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

The headlight adjusters operate as following tables.

Left Adjusters

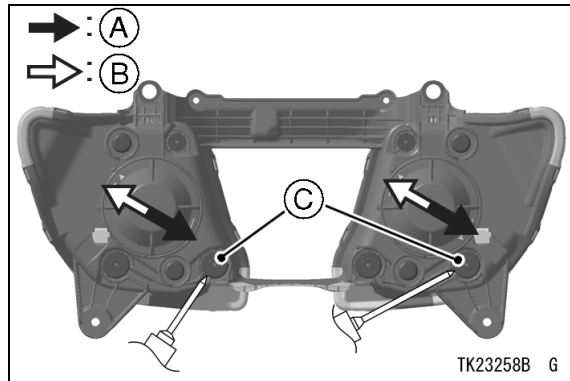
Turning Direction	Moving Direction of Beam
Clockwise	Lower Left
Counterclockwise	Upper Right



- A. when turning adjuster clockwise**
- B. when turning adjuster counterclockwise**
- C. Left Adjusters**

Right Adjusters

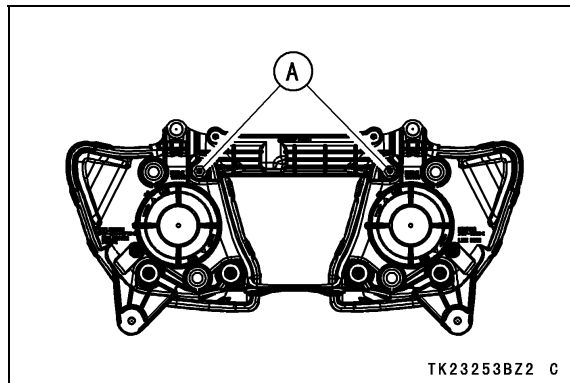
Turning Direction	Moving Direction of Beam
Clockwise	Lower Right
Counterclockwise	Upper Left



- A. when turning adjuster clockwise**
- B. when turning adjuster counterclockwise**
- C. Right Adjusters**

NOTE

○ Do not turn the upper bolts because the reflector in the headlight comes off.



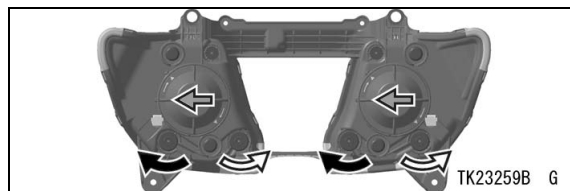
- A. Upper bolts are not adjusters.**

Horizontal Adjustment

The headlight beam is adjustable horizontally. If not properly adjusted horizontally, the beam will point to one side rather than straight ahead.

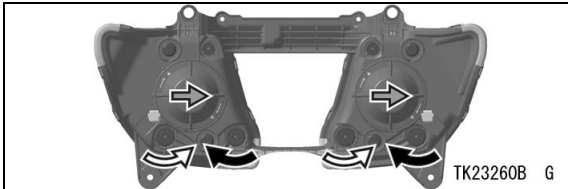
- To move the headlight beam leftward, turn the left adjuster clockwise and turn the right adjuster counterclockwise same number as the left adjuster was turned until the beam points straight ahead.

Left Adjuster	Clockwise
Right Adjuster	Counterclockwise



- To move the headlight beam rightward, turn the left adjuster counterclockwise and turn the right adjuster clockwise same number as the left adjuster was turned until the beam points straight ahead.

Left Adjuster	Counterclockwise
Right Adjuster	Clockwise

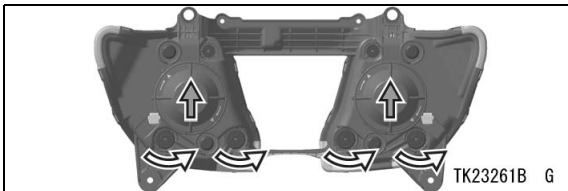


Vertical Adjustment

The headlight beam is adjustable vertically. If adjusted too low, neither low nor high beam will illuminate the road far enough ahead. If adjusted too high, the high beam will fail to illuminate the road close ahead, and the low beam will blind oncoming drivers.

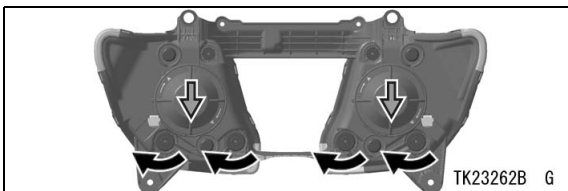
- To move the headlight beam upward, turn the both adjusters counterclockwise same number.

Both Adjusters	Counterclockwise
----------------	------------------



- To move the headlight beam downward, turn the both adjusters clockwise same number.

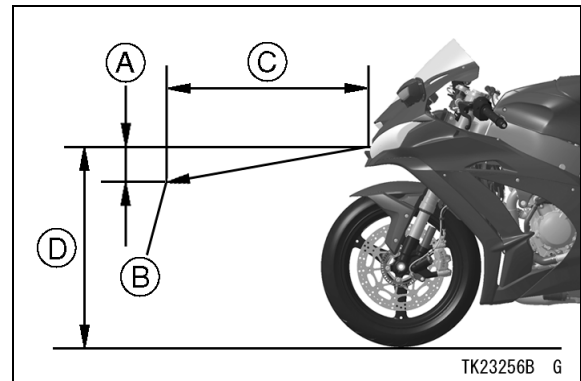
Both Adjusters	Clockwise
----------------	-----------



For US and Canada Models

NOTE

- On high beam, the brightest point should be slightly below horizontal. The proper angle is 0.4 degrees below horizontal. This is a 50 mm (2.0 in.) drop at 7.6 m (25 ft) measured from the center of the headlight, with the motorcycle on its wheels and the rider seated.

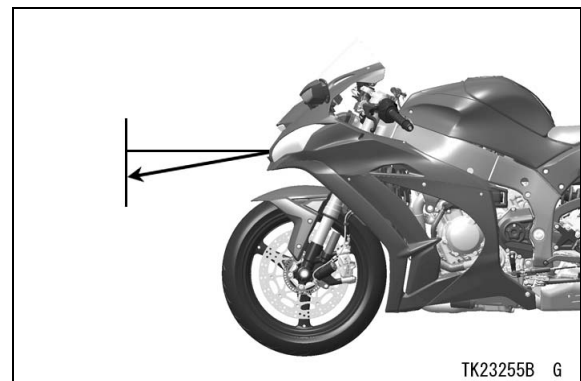


- A. 50 mm (2.0 in.)
- B. Center of Brightest Spot
- C. 7.6 m (25 ft)
- D. Height of Headlight Center

For other than US and Canada Models

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 Unit Setting: km/h, mph

km/h-Mph Display can alternate between English and metric modes (mph and km/h) on the digital meter. Make sure that mph or

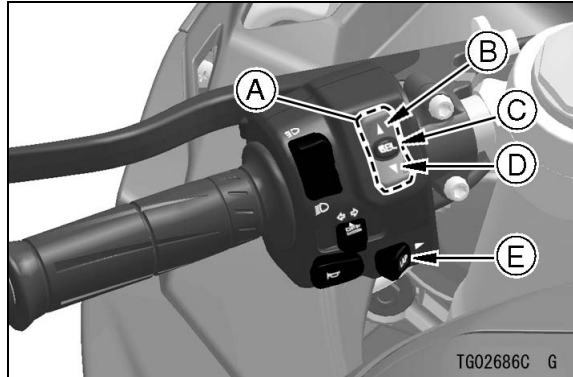
28 PREPARATION

km/h is correctly displayed according to local regulations before sale.

NOTE

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

- Turn the ignition switch on.
- Push the “SEL” button to display the odometer.



A. Multifunction Button

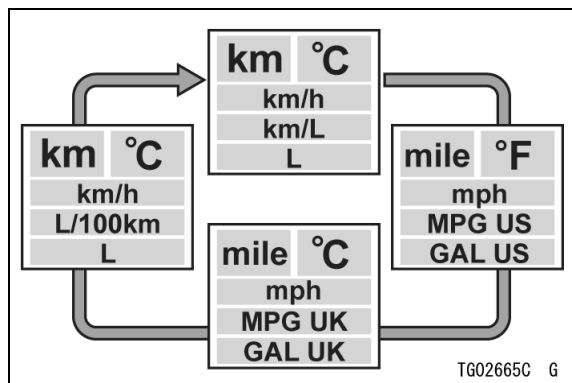
B. Upper Button

C. “SEL” Button

D. Lower Button

E. Lap Switch

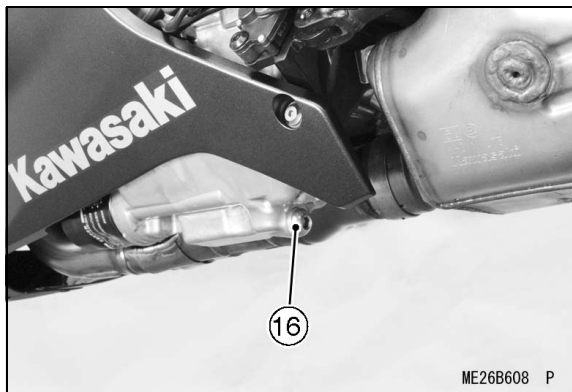
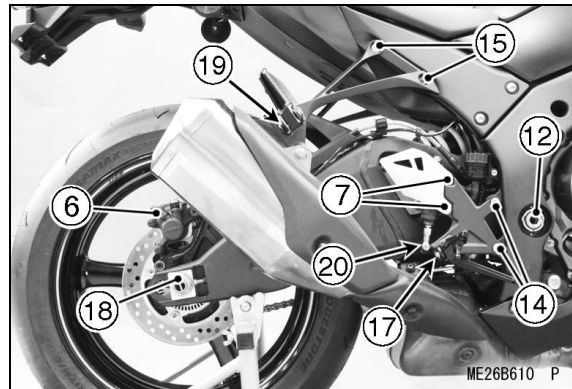
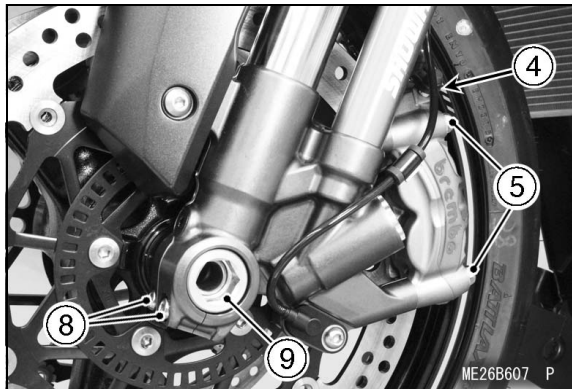
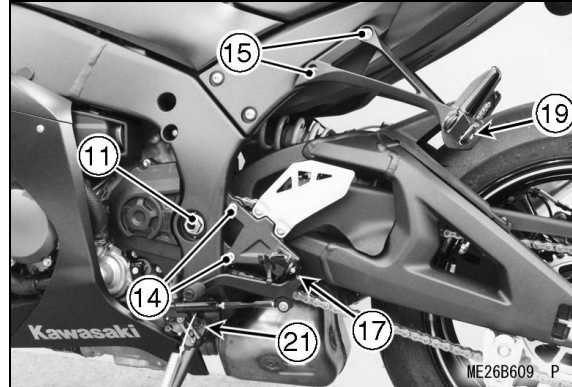
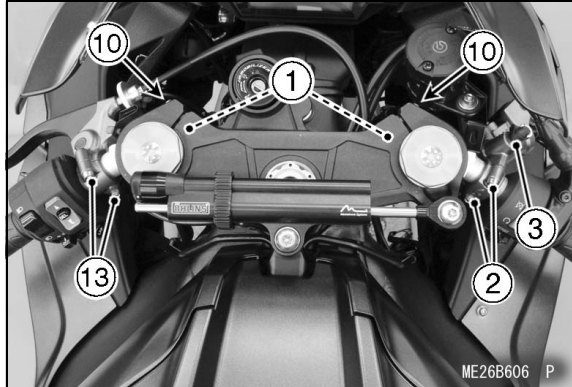
- Push the “SEL” button while turning the lap switch rightward. The display units can be shifted in the following order.



This page intentionally left blank.

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	
Steering					
1	Handlebar clamp bolt (Left and Right)	25	2.5	18	
Brakes					
2	Front master cylinder clamp bolts	9.0	0.92	80 in·lb	
3	Front master cylinder bleed valve	5.5	0.56	49 in·lb	
4	Front caliper bleed valve (Left and Right)	16	1.6	12	
5	Front caliper mounting bolt (Left and Right)	35	3.6	26	
6	Rear caliper bleed valve	8.0	0.82	71 in·lb	
7	Rear master cylinder mounting bolts	25	2.5	18	
Wheels/Tires					
8	Front axle clamp bolts (Left and Right)	20	2.0	15	
9	Front axle nut	130	13.3	95.9	
Suspension					
10	Front fork clamp bolts (Upper) (Left and Right)	20	2.0	15	
11	Swingarm pivot shaft nut	110	11.2	81.1	
12	Swingarm pivot adjusting collar locknut	100	10.2	73.8	
Others					
13	Clutch lever clamp bolts	9.0	0.92	80 in·lb	
14	Front footpeg bracket bolts (Left and Right)	25	2.5	18	
15	Rear footpeg bracket bolts (Left and Right)	25	2.5	18	
Engine Oil Drain					
16	Engine oil drain bolt	29	3.0	21	
Cotter Pin or Circlip					
17	Front footpeg pin circlip (Left and Right)	–	–	–	
18	Rear axle nut cotter pin	–	–	–	
19	Rear footpeg pin circlip (Left and Right)	–	–	–	
20	Rear master cylinder push rod cotter pin	–	–	–	
21	Side stand bolt cotter pin	–	–	–	

Standard Torque Table

The tables below, relating tightening torque to thread diameter, lists the basic torque for the bolts, nuts and screws. Use these tables for the bolts, nuts and screws which are not specified the tightening torque particularly on the previous pages. All of the values are for use with dry solvent-cleaned threads.

Basic Torque for General Fasteners For Bolts and Nuts

Threads Diameter (mm)	Torque		
	N·m	kgf·m	ft·lb
5	4.5	0.46	40 in·lb
6	8.0	0.82	71 in·lb
8	20	2.0	15
10	35	3.6	26
12	60	6.1	44

For Screws, Plastic Part Tightening Portions and Plastic Washer Tightening Portions

Threads Diameter (mm)	Torque		
	N·m	kgf·m	ft·lb
4	1.2	0.12	11 in·lb
5	3.0	0.31	27 in·lb
6	4.0	0.41	35 in·lb

For Self-Tapping Screws

Threads Diameter (mm)	Torque		
	N·m	kgf·m	ft·lb
All	1.2	0.12	11 in·lb

For Wellnuts

Threads Diameter (mm)	Torque		
	N·m	kgf·m	ft·lb
4	0.2	0.02	1.8 in·lb
5	0.5	0.05	4.4 in·lb
6	1.0	0.10	8.9 in·lb

Test Ride the Motorcycle

- Complete the test ride checklist.

Control Cables:

Throttle 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 serious injury or death. A break-in period of 160 km (100 miles) is necessary to establish normal tire traction. During break-in, avoid sudden and maximum braking, acceleration, and hard cornering.

A & P Check List

- Complete the A & P Check List.

MODEL APPLICATION

Year	Model	Name
2016	ZX1000RG	Ninja ZX-10R
2016	ZX1000SG	Ninja ZX-10R ABS