Kawasaki

KX250

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 the Kawasaki KX250.

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 loss 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.

Table of Contents

Uncrating

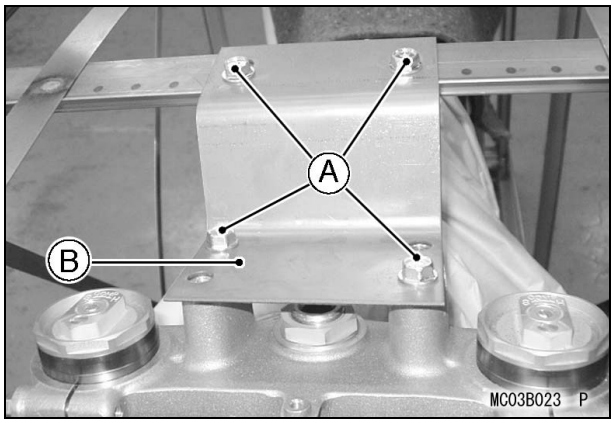
Opening Crate

- 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.
- Unfasten the bands securing the front wheel assembly to the crate and remove it.
- Remove the handlebar, front wheel, and the parts box.

CAUTION

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.

- Remove the crate bolts (D = 8, L = 14) to take off the crate bracket and discard them.



A. Crate Bolts (D = 8, L = 14)

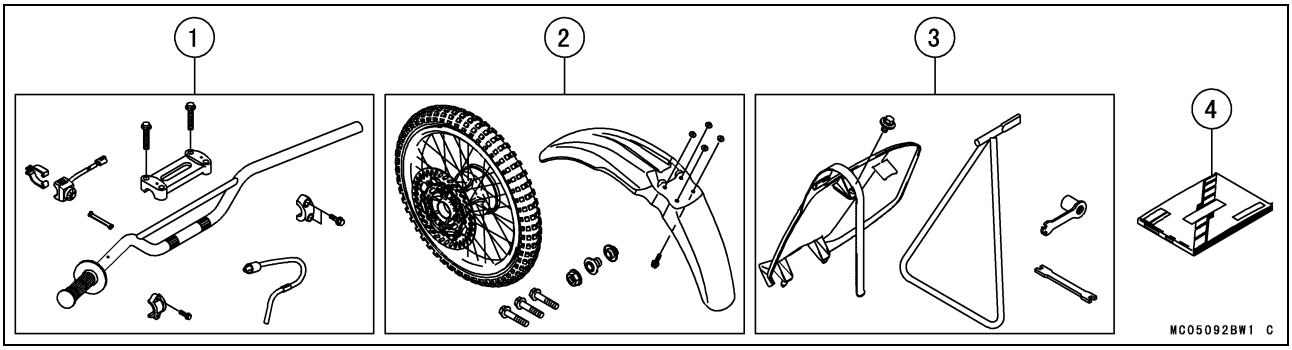
B. Crate Bracket

- Take out all the bolts and screws and remove the top and sides of the crate.

Parts Check

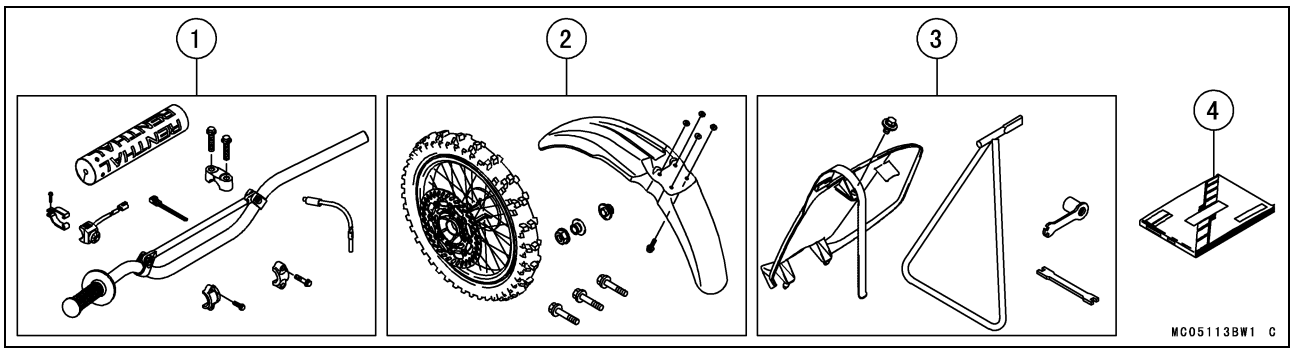
- Open the parts box, and check the parts against the illustrations. There may be minor differences between these illustrations and the actual vehicle parts. In the following charts under Remarks, D = diameter in millimeters, and L = length in millimeters.

KX250-R1



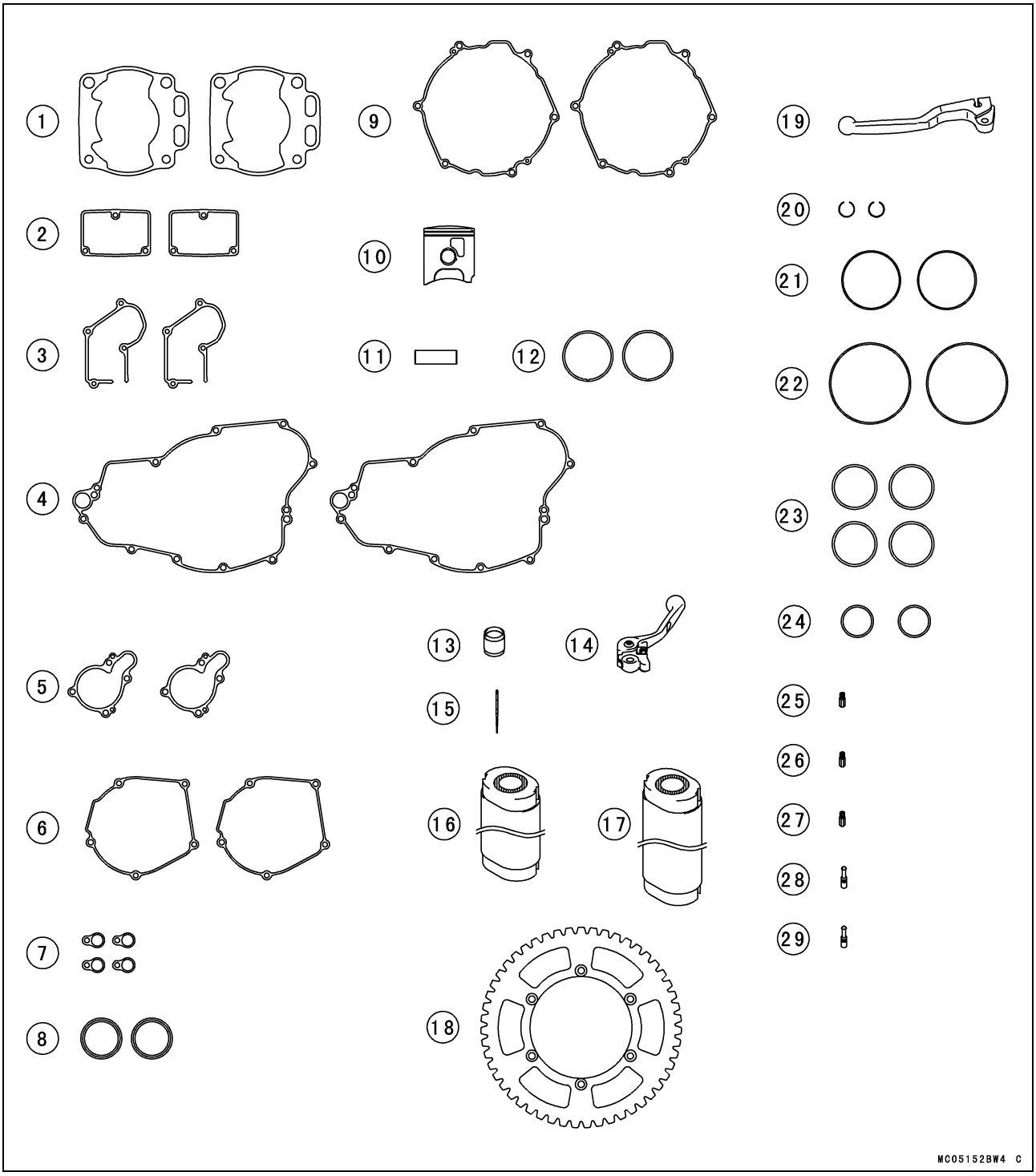
No.	Part Name	Qty	Remarks
1	Handlebar with Grip	1	
	Handlebar Clamp	1	
	Clamp Bolt, Flanged	4	D = 8, L = 30
	Clamp, Master Cylinder	1	
	Clamp Bolt, Master Cylinder	2	D = 6, L = 22
	Clamp, Clutch Lever	1	
	Clamp Bolt with Washer	2	D = 5, L = 16
	Screw, Engine Stop Switch	1	D = 3
	Clamp, Engine Stop Switch	2	
	Wiring Band, Engine Stop Switch Lead	1	L = 51.6
	Fuel Tank Vent Hose with Valve	1	L = 370
2	Front Wheel	1	
	Front Axle Clamp Bolt, LH & RH	3	D = 8, L = 40
	Front Axle Nut	1	D = 18
	Axle Collar, LH	1	L = 29
	Axle Collar, RH	1	L = 19
	Cap, Axle Collar	2	Plastic
	Front Fender with Collars	1	
	Flanged Bolt with Washers	4	D = 6, L = 20
3	Front Number Plate	1	
	Flanged Bolt with Washer, Number Plate	1	D = 6, L = 12
	Stand, Side	1	
	Tool, Wrench, Spark Plug	1	
	Tool, Wrench, Spoke Nipple	1	
4	Owner's Manual	1	

KX250R6F/R7F



No.	Part Name	Qty	Remarks
1	Handlebar with Grip	1	RENTHAL
	Handlebar Clamp	2	
	Clamp Bolt, Flanged	4	D = 8, L = 35
	Handlebar Pad	1	RENTHAL
	Clamp, Master Cylinder	1	
	Clamp Bolt, Master Cylinder	2	D = 6, L = 22
	Clamp, Clutch Lever	1	
	Clamp Bolt with Washer	2	D = 5, L = 16
	Screw, Engine Stop Switch	1	D = 3
	Clamp, Engine Stop Switch	2	
	Wiring Band, Engine Stop Switch Lead	1	L = 100
	Fuel Tank Vent Hose with Valve	1	L = 350
2	Front Wheel	1	
	Front Axle Clamp Bolt, LH & RH	3	D = 8, L = 40
	Front Axle Nut	1	D = 18
	Axle Collar, LH & RH	2	L = 27.5
	Cap, Axle Collar	2	Plastic
	Front Fender with Collars	1	
	Flanged Bolt with Washer	4	D = 6, L = 20
3	Front Number Plate	1	
	Flanged Bolt with Washer, Number Plate	1	D = 6, L = 12
	Stand, Side	1	
	Tool, Wrench, Spark Plug	1	
	Tool, Wrench, Spoke Nipple	1	
4	Owner's Manual	1	

Spare Parts



- Provide these spare parts to your customer(s) after none of those incorrect and/or defaults were securely reserved. These parts and their part numbers are subject to change without prior notice according to the model year.

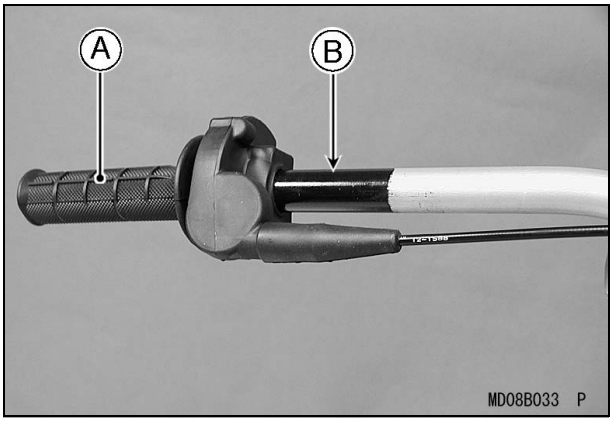
No.	Part Name	Qty	Part Number
1	Gasket, Cylinder Base	2	11061-0091
2	Gasket, Cylinder, Center Cover	2	11061-0092
3	Gasket, Cylinder, RH Cover	2	11061-0093
4	Gasket, Clutch Outside Cover	2	11061-0095
5	Gasket, Water Pump Cover	2	11061-0097
6	Gasket, Generator Cover	2	11061-0098
7	Gasket, Valve Cover	4	11061-0138
8	Gasket, Exhaust Pipe	2	11061-0142
9	Gasket, Clutch Inside Cover	2	11061-0144
10	Piston, Engine	1	13001-0028
**10	Piston, Engine	1	13001-0058
11	Piston Pin	1	13002-1098
12	Piston Ring	2	13003-0029
13	Needle Bearing, Small End	1	13033-1010
14	Front Brake Lever	1	13236-0070
15	Jet Needle, NFUG 2.715	1	16187-0163
*16	Wool, Muffler, L = 240, D = 31	1	18046-1599
17	Wool, Muffler, L = 310, D = 31	1	18046-1397
18	Rear Sprocket, 51T	1	42041-1451
19	Clutch Lever	1	46092-0007
20	Circlip, Piston Pin	2	92033-1336
21	O-Ring, Cylinder Head, In	2	92055-0049
22	O-Ring, Cylinder Head, Out	2	92055-0050
23	O-Ring, Exhaust, 54MM	4	92055-0052
24	O-Ring, Elbow, Water Pump, 19MM	2	92055-1308
25	Main Jet, #158	1	92063-1367
26	Main Jet, #162	1	92063-1369
27	Main Jet, #170	1	92063-1372
28	Slow Jet, #52	1	92064-1130
29	Slow Jet, #48	1	92064-1143

*: Australian Models Only
**: KX250R7F Models Only

Assembly

Handlebar (KX250-R1 Only)

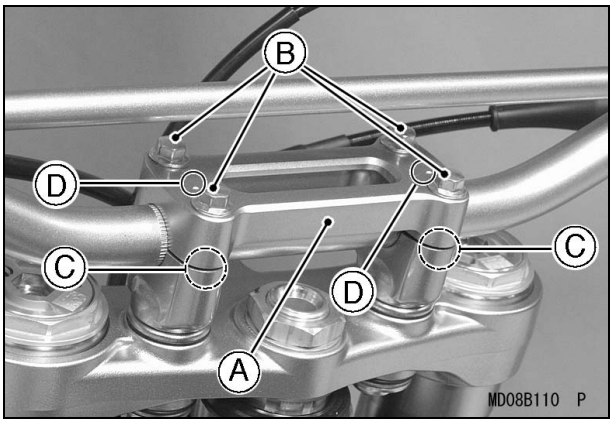
- Apply 2-stroke oil on the throttle grip mounting area of the handlebar.
- Apply a light coat of grease on the exposed portion of the throttle inner cable.
- Slide the throttle grip dust cover and the grip onto the right-hand end of the handlebar.



A. Throttle Grip

B. Apply 2-stroke Oil

- Position the handlebar clamp on the handlebar so that the marks of clamp point toward the rear.

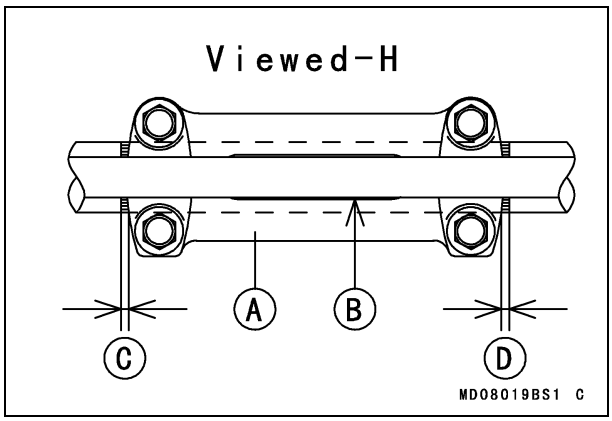


A. Handlebar Clamp

B. Clamp Bolts

C. Gap

D. Marks



A. Handlebar Clamp

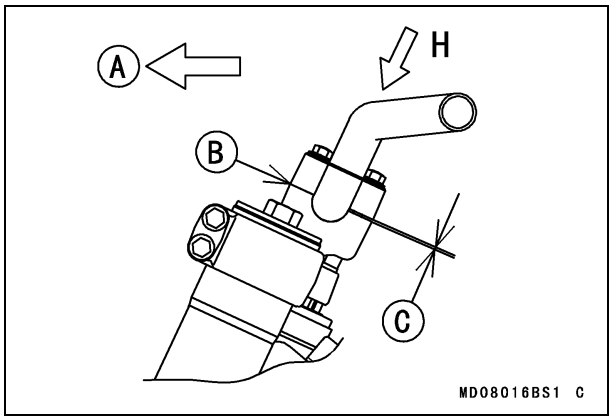
B. Align the clamp slot with the handlebar bridge.

C. C = D

Handlebar Clamp Bolt Tightening

- Tighten the front bolts first, and then the rear bolts to the specified torque. If the handlebar clamp is correctly installed, there will be no gap at the front and a gap at the rear after tightening.

Torque : 25 N·m (2.5 kgf·m, 18 ft·lb)

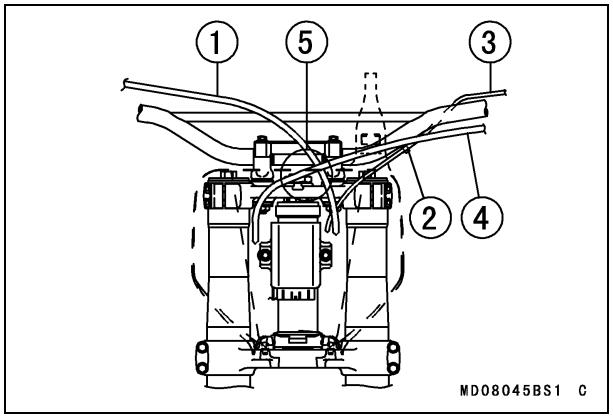


A. Forward

B. No Gap

C. Gap

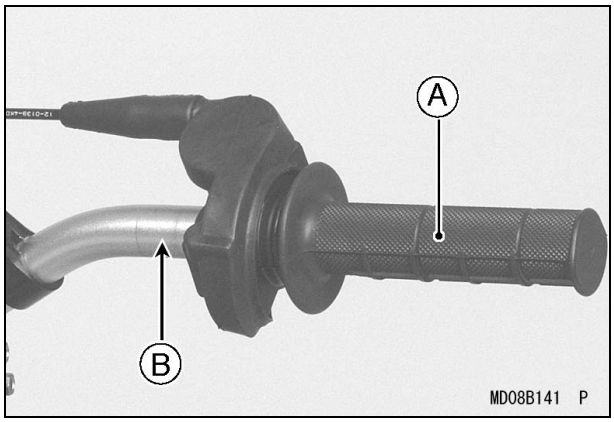
Viewed from Front:



1. **Throttle Cable**
2. **Wiring Band**
3. **Engine Stop Switch Lead**
4. **Clutch Cable**
5. **Route the clutch cable and throttle cable above the front number plate bolt.**

Handlebar (KX250R6F/R7F Only)

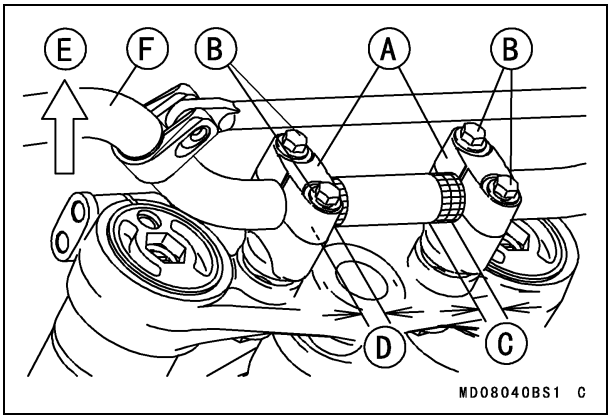
- Apply 2-stroke oil on the throttle grip mounting area of the handlebar.
- Apply a light coat of grease on the exposed portion of the throttle inner cable.
- Slide the throttle grip dust cover and the grip onto the right-hand end of the handlebar.



A. Throttle Grip

B. Apply 2-stroke Oil

- Set the handlebar on the lower handlebar clamps so that the protrusion of graduation in both sides shall be nearly equal, and install the upper handlebar clamps on the handlebar.
- Apply 2-stroke oil to the threads of the handlebar clamp bolts (D = 8, L = 35), and install the clamp bolts.



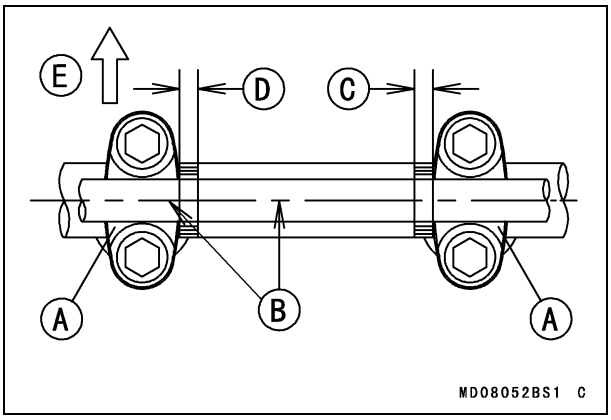
A. Handlebar Clamps (Upper)

B. Clamp Bolts

C. Protrusion (C = D)

E. Forward

F. Handlebar



A. Handlebar Clamp

B. Align the center of the handlebar clamps with the handlebar bridge.

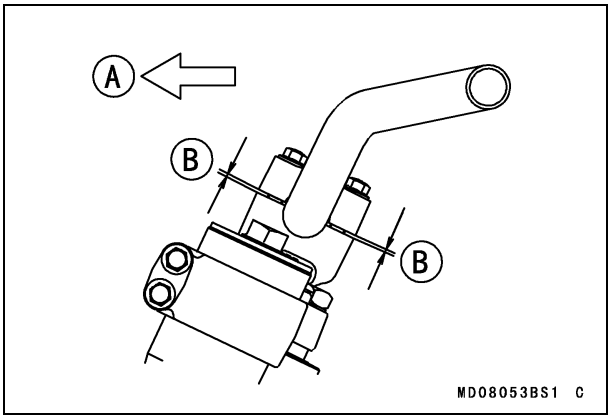
C. Protrusion (C = D)

E. Forward

Handlebar Clamp Bolt Tightening

- Tighten the clamp bolts evenly and tighten them to the specified torque. Make sure that there will be even gap on the front and rear side of the clamp after tightening.

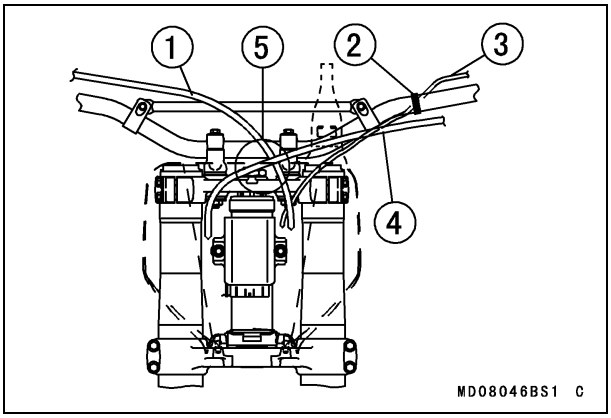
Torque : 25 N·m (2.5 kgf·m, 18 ft·lb)



A. Forward

B. Even Gap

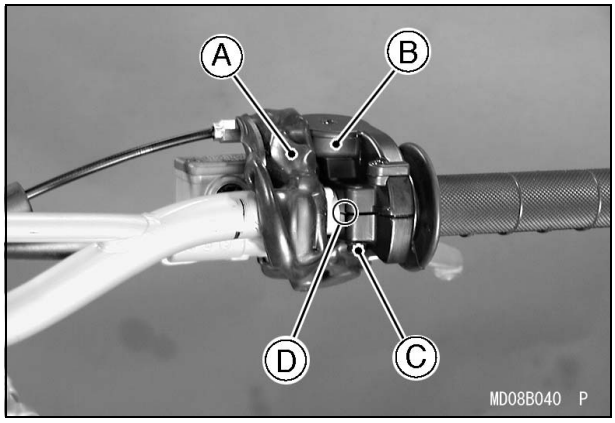
Viewed from Front:



1. **Throttle Cable**
2. **Wiring Band**
3. **Engine Stop Switch Lead**
4. **Clutch Cable**
5. **Route the clutch cable and throttle cable above the front number plate bolt.**

Throttle Grip Assembly (KX250-R1 Only)

- Position the throttle grip assembly so that the parting line of the upper and lower throttle cases align with the punched mark on the handlebar, and tighten the mounting bolts securely with the dust cover slipped off.
- Open and close the throttle grip, and check for proper throttle operation. Install the dust cover.



A. Dust Cover

B. Throttle Case

C. Bolt

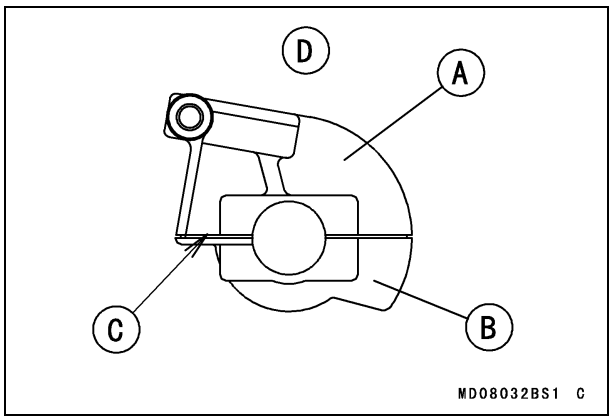
D. Punched Mark

⚠ WARNING

Do not push the throttle grip so far onto the handlebar that the inside of the grip contacts the end of the handlebar. This can interfere with throttle action and could result in loss of control.

Throttle Grip Assembly (KX250R6F/R7F Only)

- Position the throttle cases with grip assembly so that the parting line of the upper and lower throttle cases horizontally.



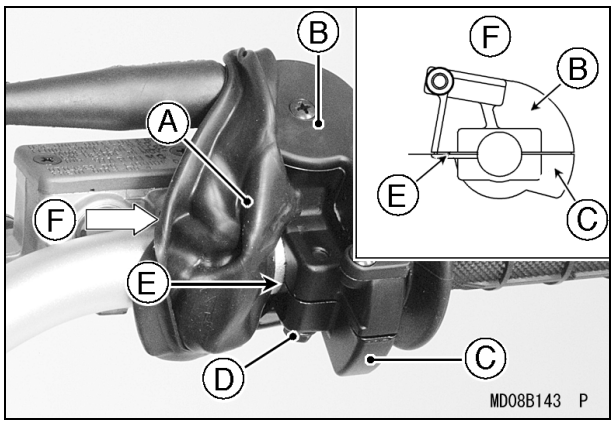
A. Throttle Case (Upper)

B. Throttle Case (Lower)

C. Position the Throttle Cases Parting Line Horizontally.

D. Viewed Throttle Cases from Left Side.

- Tighten the mounting bolts securely with the dust cover slipped off.
- Open and close the throttle grip, and check for proper throttle operation. Install dust cover.



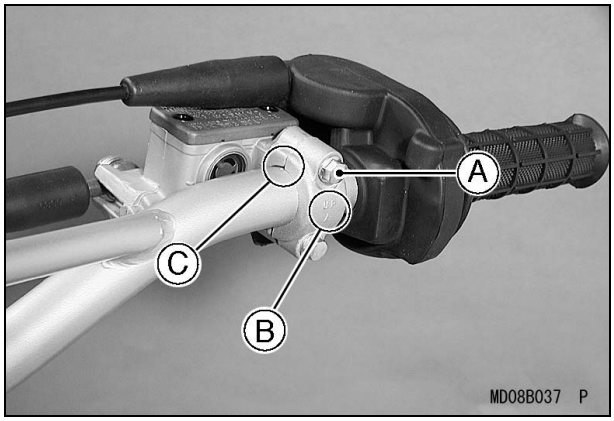
A. Dust Cover
B. Throttle Case (Upper)
C. Throttle Case (Lower)
D. Bolt
E. Position the Throttle Cases Parting Line Horizontally.
F. Viewed Throttle Cases from Left Side.

⚠ WARNING

Do not push the throttle grip so far onto the handlebar that the inside of the grip contacts the end of the handlebar. This can interfere with throttle action and could result in loss of control.

Front Brake Master Cylinder (KX250-R1 Only)

- Install the master cylinder with the clamps on the handlebar.
- Position the master cylinder so that the vertical parting line of the front and rear master cylinder clamps align with the punched mark on the handlebar.



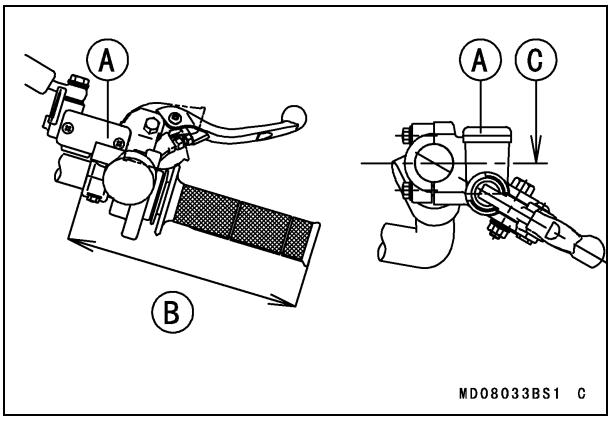
A. Bolt (Upper)
B. UP Mark
C. Punched Mark

- Tighten the upper clamp bolt first and then the lower bolt to the specified torque.

Torque : 8.8 N·m (0.90 kgf·m, 78 in·lb)

Front Brake Master Cylinder (KX250R6F/R7F Only)

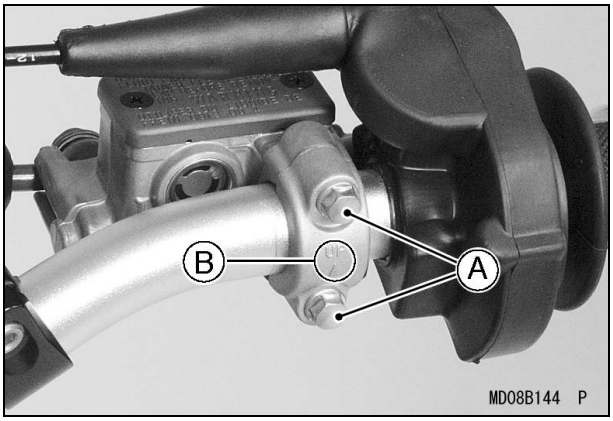
- Install the master cylinder with the clamp and bolts (D = 6, L = 22) on the handlebar so that the master cylinder horizontally.



A. Front Brake Master Cylinder
B. 185 mm (7.3 in.)
C. Horizontal Line

- Tighten the upper clamp bolt first and then the lower bolt to the specified torque.

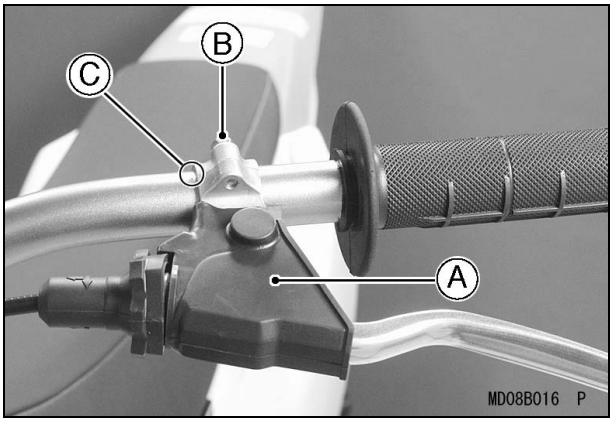
Torque : 8.8 N·m (0.90 kgf·m, 78 in·lb)



A. Bolts (D = 6, L = 22)
B. UP Mark

Clutch Lever Assembly (KX250-R1 Only)

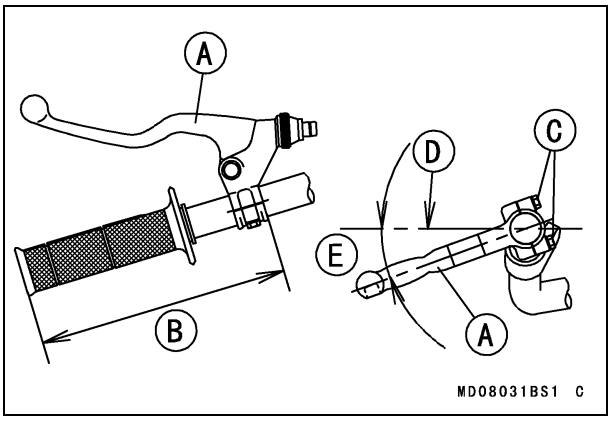
- Install the clutch lever with the clamps and bolts (D = 5, L = 16) on the handlebar so that the vertical parting line of the front and rear clutch lever clamps align with the punched mark on the handlebar.
- Tighten the clamp bolts.



A. Clutch Lever Assy and Dust Cover
B. Bolt (D = 5, L = 16)
C. Punched Mark

Clutch Lever Assembly (KX250R6F/R7F Only)

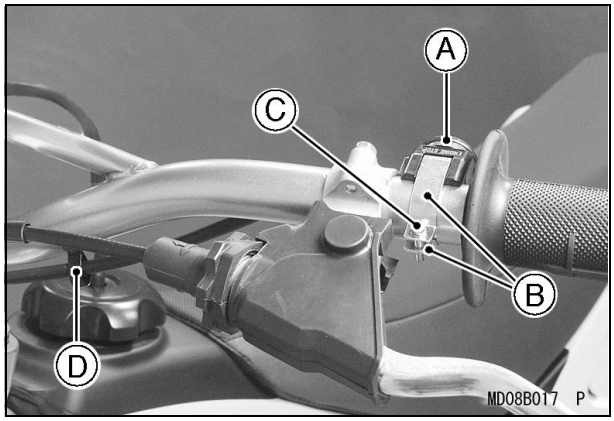
- Install the clutch lever with the clamp and bolts (D = 5, L = 16) on the handlebar as shown.
- Tighten the clamp bolts.



A. Clutch Lever Assy
B. 180 mm (7.1 in.)
C. Bolts (D = 5, L = 16)
D. Horizontal Line
E. 20° ±5°

Engine Stop Switch (KX250-R1 Only)

- Install the engine stop switch and its clamps between the grip and the clutch lever with the small screw and tighten it.

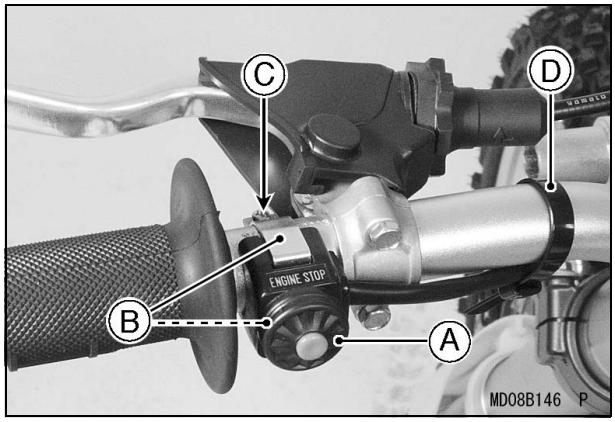


A. Engine Stop Switch
B. Clamps
C. Screw
D. Wiring Band

- Fix the engine stop switch lead to the handlebar with the wiring band (L = 51.6).

Engine Stop Switch (KX250R6F/R7F Only)

- Install the engine stop switch and its clamps between the grip and the clutch lever with the small screw and tighten it.

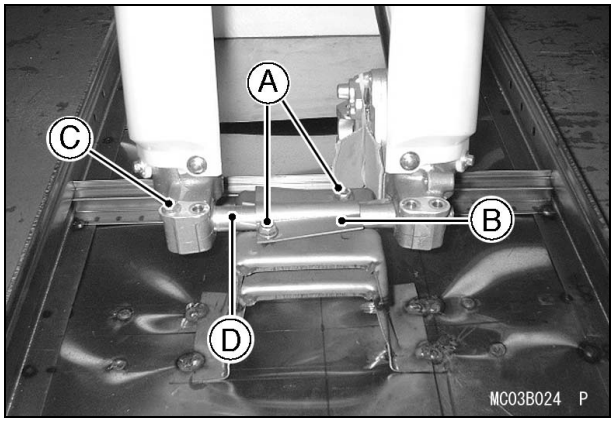


A. Engine Stop Switch
B. Clamps
C. Screw
D. Wiring Band (L = 100)

- Fix the engine stop switch lead to the handlebar with the wiring band (L = 100).

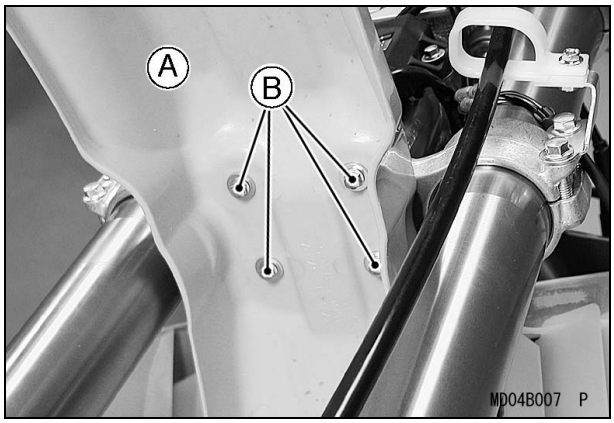
Front Fender

- Remove the crate bolts (D = 8, L = 30) to take off the crate bracket and discard them.



A. Crate Bolts (D = 8, L = 30)
B. Crate Bracket
C. Clamp Bolt (Right)
D. Front Axle

- Lift the motorcycle off the crate base and support the motorcycle with a suitable stand or jack to install the front fender and wheel.
- Discard the crate base.
- Loosen the right side axle clamp bolt and remove the front axle.
- The front fender has four inserted collars.
- Position the front fender between the fork legs and fasten it to the steering stem bracket with four bolts (D = 6, L = 20).



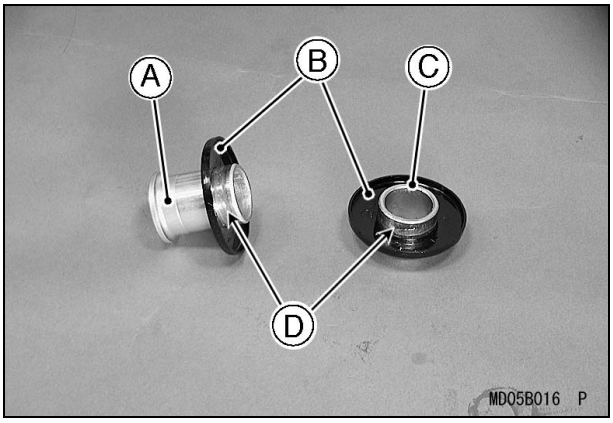
A. Front Fender
B. Bolts (D = 6, L = 20)

Front Wheel Assembly (KX250-R1 Only)

Axle Collar:

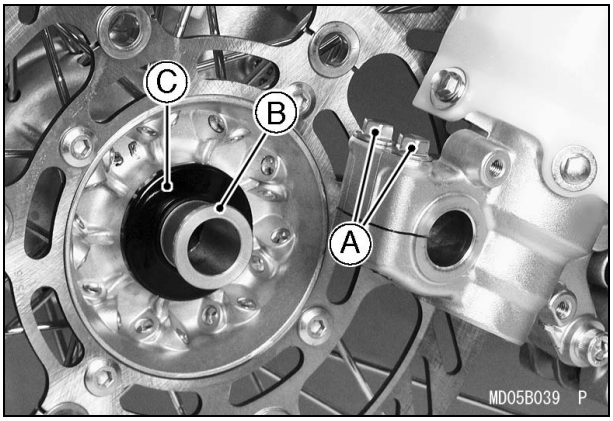
NOTE

○*Fit the projection on the cap to the groove on each collar.*



A. Longer Collar
B. Caps
C. Shorter Collar
D. Apply Grease

- Install the longer collar (L = 29) and cap on the left side of the hub, and the shorter collar (L = 19) and cap on the right side.



A. Axle Clamp Bolts (left)
B. Longer Collar (left)
C. Cap

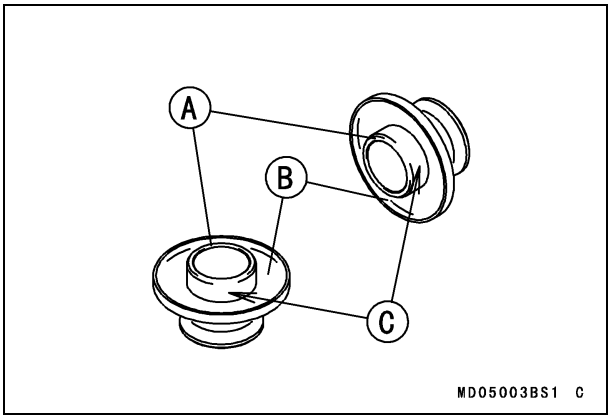
- Loosely install the front axle clamp bolts (D = 8, L = 40) (3).

Front Wheel Assembly (KX250R6F/R7F Only)

Axle Collar:

NOTE

○*Fit the projection on the cap to the groove on each collar.*

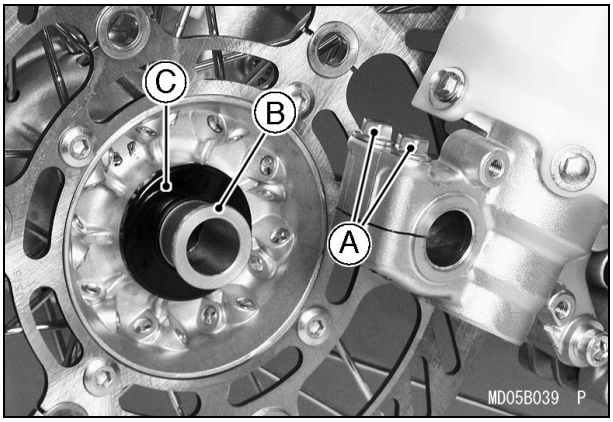


A. Collars (L = 27.5)

B. Caps

C. Apply Grease

- Fit the axle collars (L = 27.5) and caps on both sides of the front wheel hub. The collars are identical.



A. Axle Clamp Bolts (Left)

B. Collar (L = 27.5)

C. Cap

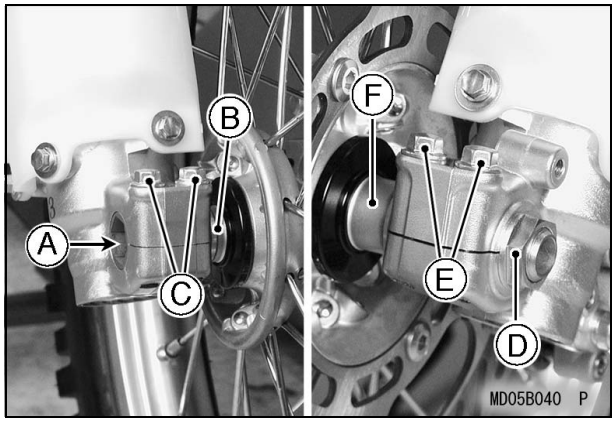
- Loosely install the front axle clamp bolts (D = 8, L = 40) (3).

Front Wheel Installation

- Put the front wheel assembly between the fork legs.
- Insert the front brake disc into the front brake pads.
- Insert the front axle from the right side of the vehicle and install the front axle nut.
- Tighten the axle nut to the specified torque.

Front Axle Nut Torque:

79 N·m (8.0 kgf·m, 58 ft·lb)



A. Front Axle

B. Collar

C. Clamp Bolts (Right)

D. Front Axle Nut

E. Clamp Bolts (Left)

F. Collar

- Gradually tighten the left side axle clamp bolts to the specified torque.

Front Axle Clamp Bolt Torque:

20 N·m (2.0 kgf·m, 14 ft·lb)

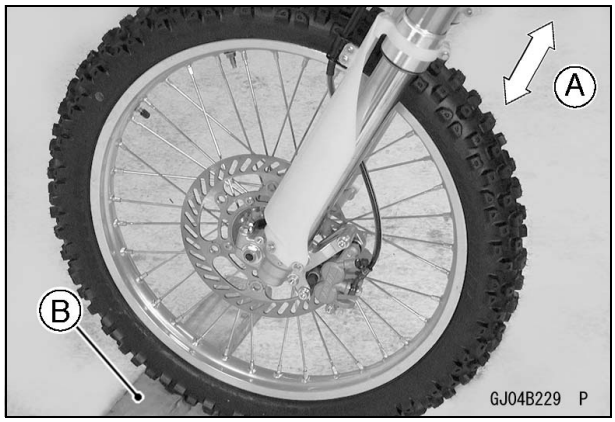
NOTE

○*Tighten the two axle clamp bolts alternately two times to ensure even tightening torque.*

- Before tightening the right side axle clamp bolts, pump the front fork up and down 4 or 5 times to align the right front fork leg and to seat the front axle. Do not pull the brake lever when pumping the fork.

NOTE

○*Do not apply the front brake during this process to stop the motorcycle from rolling forward. Put a block in front of the front wheel to stop moving.*



A. Pump the fork up and down.

B. Block

- Gradually tighten the right side axle clamp bolts to the specified torque.

Front Axle Clamp Bolt Torque:
20 N·m (2.0 kgf·m, 14 ft·lb)

NOTE

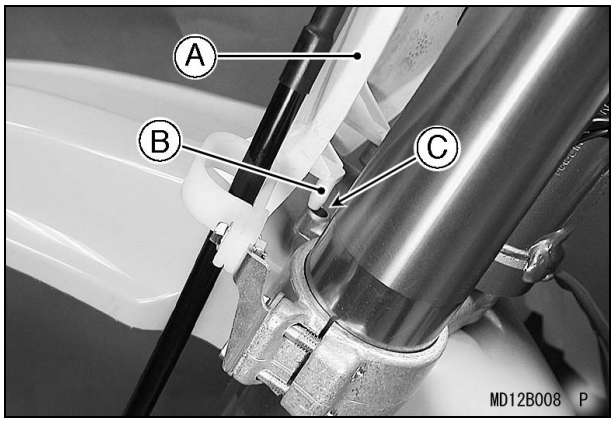
○*Tighten the two front axle clamp bolts alternately two times to ensure even tightening torque.*

⚠ WARNING

Do not attempt to ride the motorcycle until a full brake lever is obtained by pumping the brake lever until the pads are against the disc. The brake will not function on the first application of the lever if this is not done.

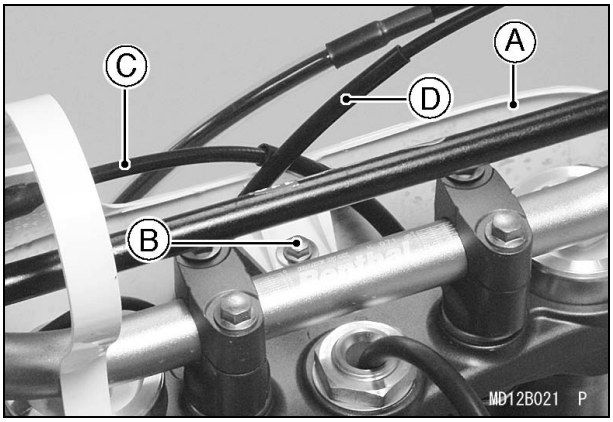
Front Number Plate

- Position the front number plate between the brake hose and the front fork, and fit the two projections on the number plate into the holes in the steering stem bracket.



A. Front Number Plate
B. Projection
C. Hole

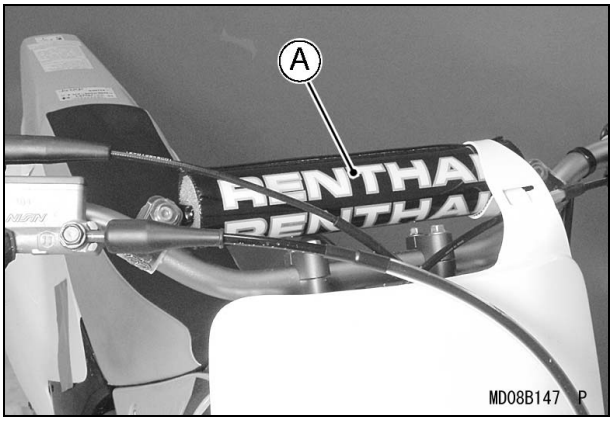
- Route the clutch cable and throttle cable above the front number plate bolt as show.
- Fasten the number plate to the stem head with the flanged bolt (D = 6, L = 12) and attach the belt to the handlebar bridge and latch the belt.



A. Front Number Plate
B. Bolt (D = 6, L = 12)
C. Clutch Cable
D. Throttle Cable

Handlebar Pad Installation (KX250R6F/R7F Only)

- Before attach the belt, install the handlebar pad onto the handlebar bridge as shown.

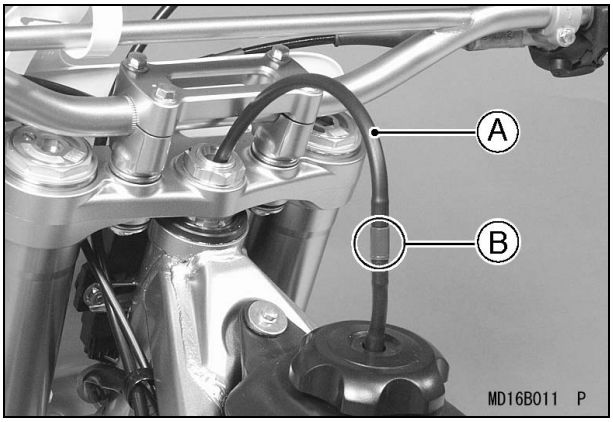


A. Handlebar Pad

- Attach the number plate belt to the handlebar pad and latch the belt.

Fuel Tank Vent Hose

- Fit the shorter hose end of the vent hose into the fuel tank cap, making sure the arrow on the valve points toward the cap.



A. Vent Hose

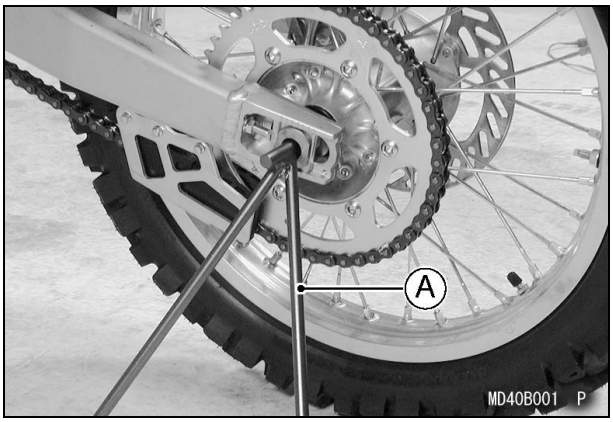
B. Arrow

- Fit the other end into the hole of the steering stem shaft.

Side Stand

Usage:

- Fit the flat bar end of the side stand into the rear axle shaft.



A. Side Stand

NOTE

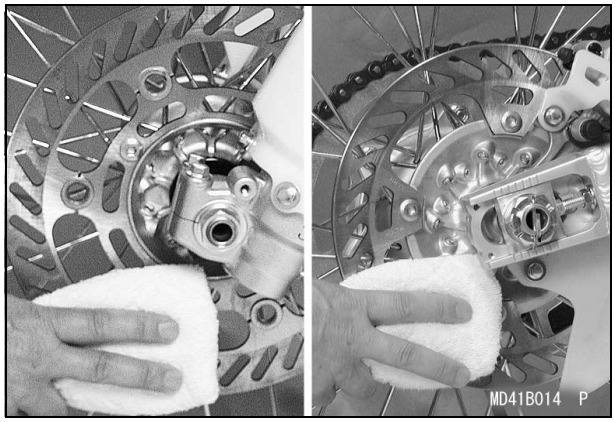
○*Do not start the engine or attempt to ride the motorcycle when the side stand is installed.*

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.



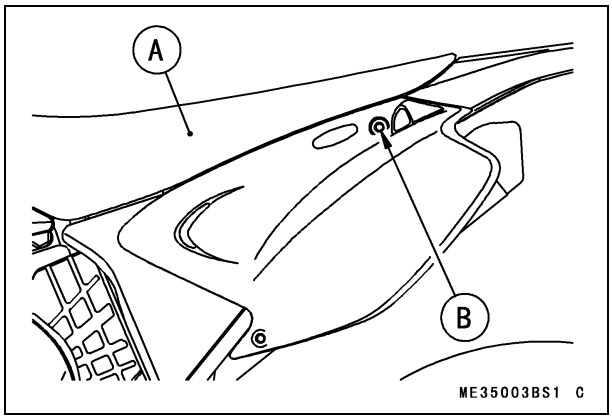
Preparation

Air Cleaner

Air Cleaner Element Inspection

The foam cleaner element on off road models is oiled prior to shipping, however, over time the filter will dry and filtration performance will diminish.

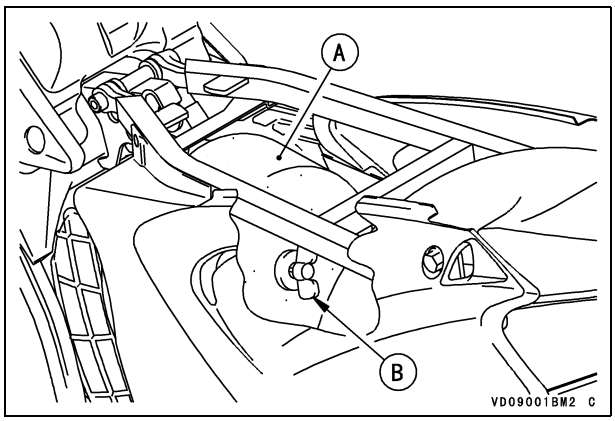
- Remove the seat mounting bolts (left and right) (2) to remove the seat.



A. Seat

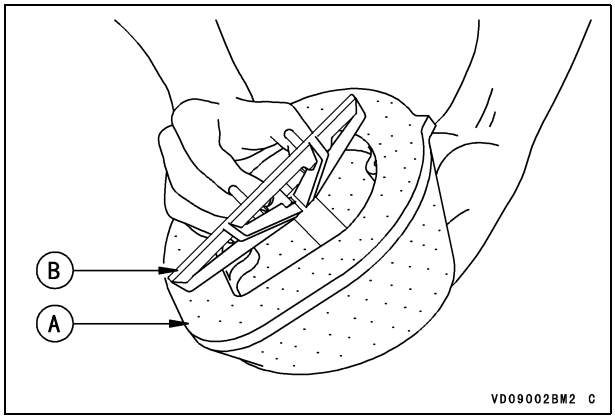
B. Bolt

- Inspect the foam air cleaner element for proper oiling.
- If the foam air cleaner element is dry, remove the wing bolt, and take out the air cleaner element.



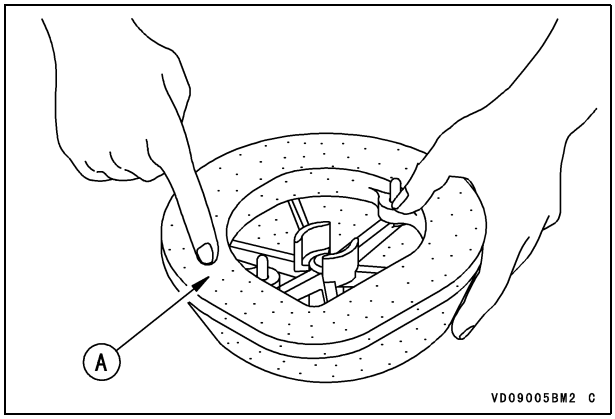
A. Air Cleaner Element
B. Wing Bolt

- Take the element off its holder.



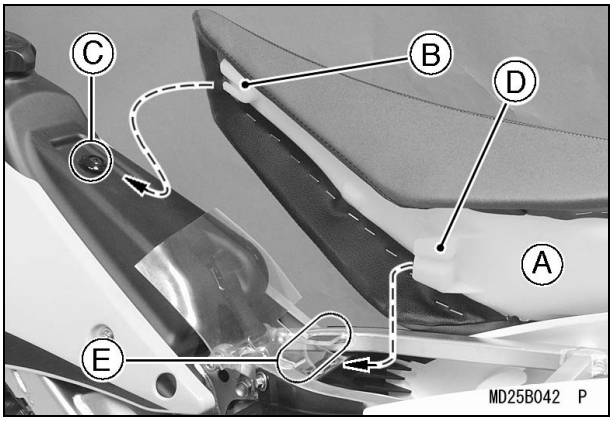
A. Air Cleaner Element
B. Holder

- Saturate the element with high-quality foam air filter oil and make sure that the oil is evenly applied throughout the element. Squeeze out the excess oil, but do not wring the element as this could cause tearing. In this case, too much oil is better than too little. Finally pat the inside of the element with a paper towel to remove any excess oil.
- Install the element onto its holder, and coat the element lip and lip seat with a thick layer of all-purpose grease to assure a complete seal.



A. Apply Grease.

- Install the air cleaner element so that its tab faces upward and its projections align with the holes in the housing, and tighten the wing bolt, making sure that it is properly seated and sealed.
- To install the seat, align the front hook on the seat with front receiver on the fuel tank. Slide the seat forward so that center hook engages first followed by the front hook.



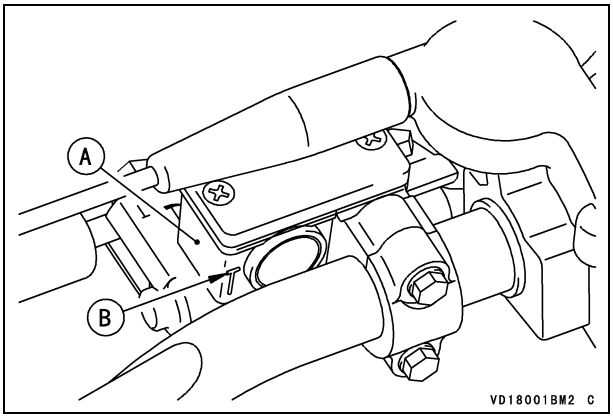
A. Seat
B. Front Hook
C. Front Receiver
D. Center Hook
E. Receiver

- Fasten the seat mounting bolts (left and right).

Front Brake Fluid

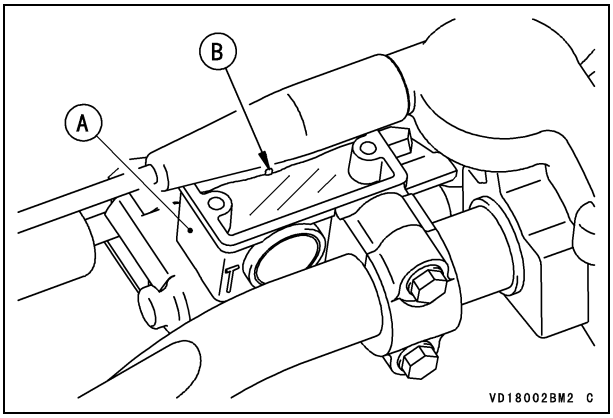
Front Brake Fluid Level Inspection

- With the front brake fluid reservoir held horizontal, check that the fluid level is above the minimum level line.



A. Front Brake Fluid Reservoir
B. Minimum Level Line

- If the fluid level in the reservoir is below the minimum level line, check for fluid leaks in the front brake lines, and fill the reservoir.
- Remove the reservoir cap and diaphragm, and fill the reservoir to the maximum level line with DOT4 brake fluid.



A. Front Brake Fluid Reservoir

B. Maximum Level Line

⚠ 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 avoid moisture contamination of the fluid.
Don't add or change brake fluid in the rain or during conditions of blowing dust or debris.

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 lines.
- Also check for fluid leakage around the fittings.

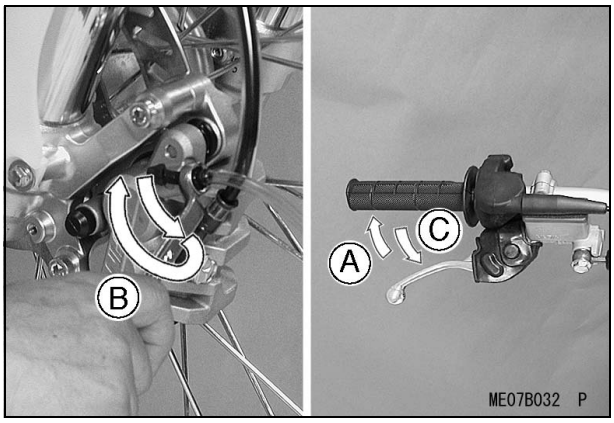
Front Brake Line Air Bleeding

- 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 done over again from the beginning since air will have entered the line.*

- Attach a clear plastic hose to the bleed valve on the 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.

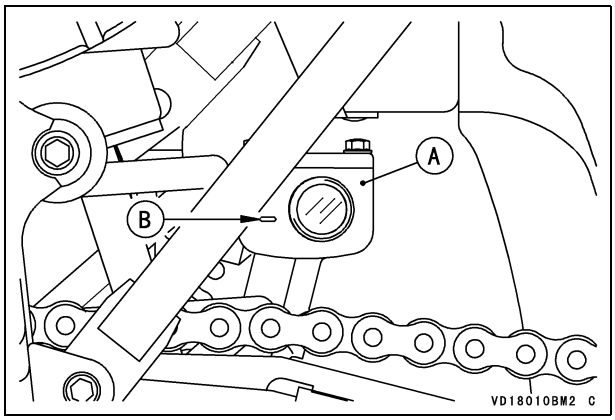
- When air bleeding is finished, check that the fluid level is between the maximum and minimum level lines.
- Install the diaphragm and reservoir cap.
- Tighten the bleed valve to the specified torque.

  Torque : 7.8 N·m (0.80 kgf·m, 69 in·lb)
- Apply the brake forcefully for a few seconds, and check for fluid leakage around the fittings.

Rear Brake Fluid

Rear Brake Fluid Level Inspection

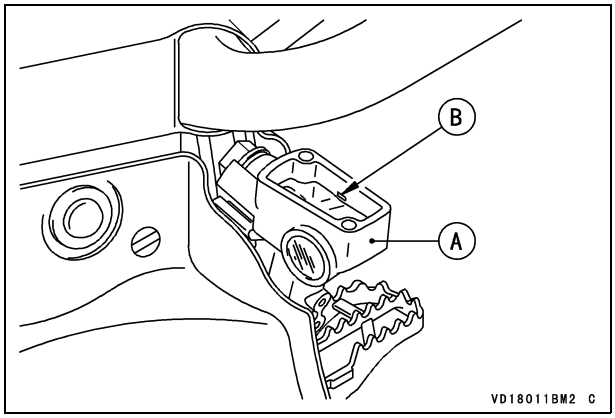
- With the rear brake fluid reservoir positioned horizontally, check that the fluid level is above the minimum level line.



A. Rear Brake Fluid Reservoir

B. Minimum Level Line

- If the fluid level in the reservoir is below the minimum level line, check for fluid leaks in the rear brake lines, and fill the reservoir.
- Remove the reservoir cap and diaphragm, and fill the reservoir to the maximum level line with DOT4 brake fluid.



A. Rear Brake Fluid Reservoir

B. Maximum Level Line

- 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 lines.
- Also check for fluid leakage around the fittings.

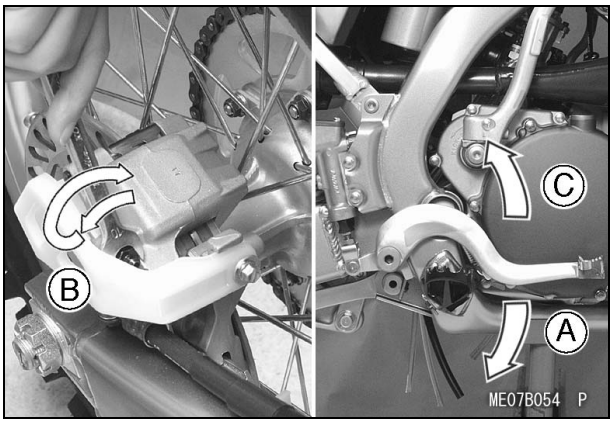
Rear Brake Line Air Bleeding

- 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 done over again 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, push the pedal and hold, then quickly open (turn counterclockwise) and close the bleed valve. Release the pedal. Repeat this operation until no more air can be seen coming up 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 the fluid level.
- Install the diaphragm and reservoir cap.
- Tighten the bleed valve to the specified torque.

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

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

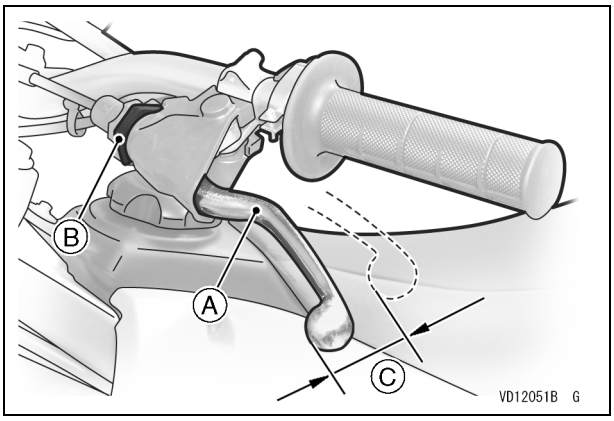
Clutch Lever and Cable

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:

8 ~ 13 mm (0.3 ~ 0.5 in.)



A. Clutch Lever

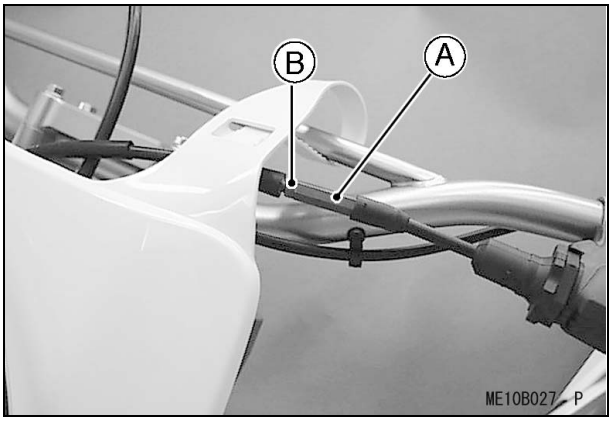
B. Adjuster (with Dust Cover)

C. 8 ~ 13 mm (0.3 ~ 0.5 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 8 ~ 13 mm (0.3 ~ 0.5 in.) of free play.
- If it cannot be done, use the adjuster on the middle of the cable as follows.
- Turn the adjuster in all the way.
- Slide the dust cover out of place.
- Loosen the locknut on the middle (upper end) of the clutch cable, and turn the adjuster so that the clutch lever play is 8 ~ 13 mm (0.3 ~ 0.5 in.).



A. Adjuster

B. Locknut

- Tighten the locknut and slide the dust cover back in place.

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.

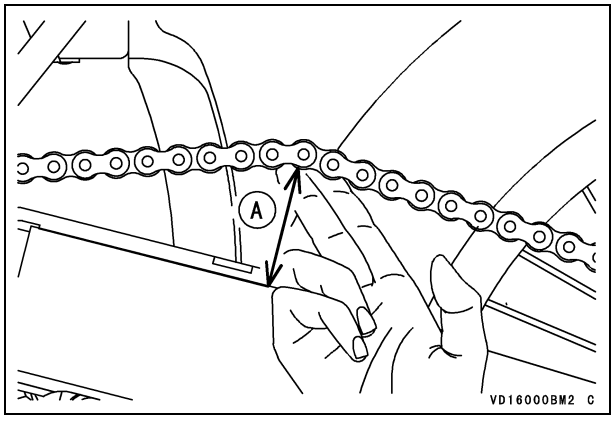
⚠ WARNING

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

- Raise the rear wheel off the ground, rotate the rear wheel to find the place where the chain is tightest (because it wears unevenly).
- Push up the drive chain in the middle of the upper chain run to measure the chain slack. The distance between the chain and the swingarm (at the end of the chain slipper) should be 52 ~ 62 mm (2.0 ~ 2.5 in.).

Drive Chain Slack:

52 ~ 62 mm (2.0 ~ 2.5 in.)



A. 52 ~ 62 mm (2.0 ~ 2.5 in.)

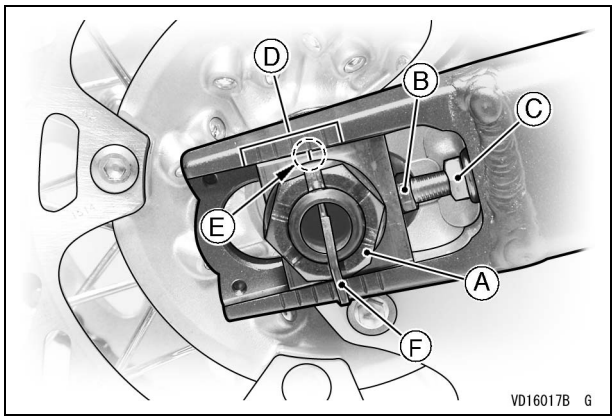
- Adjust the drive chain if its slack is out of specification.

⚠ 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

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



A. Rear Axle Nut
B. Chain Adjusting Bolt
C. Chain Adjuster Locknut
D. Marks
E. Notch
F. Cotter Pin

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

NOTE

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

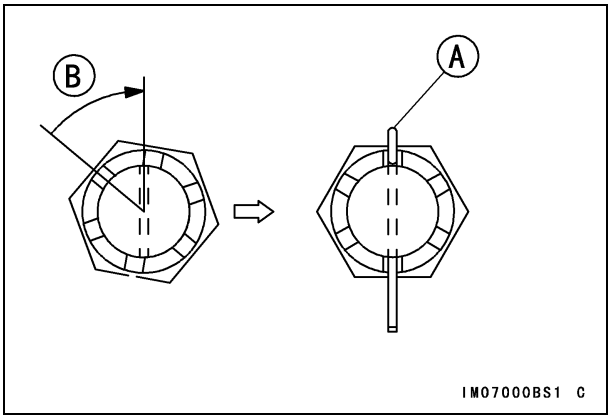
- Tighten both chain adjuster locknuts.
- Tighten the rear axle nut to the specified torque.

Torque : 110 N·m (11.0 kgf·m, 80 ft·lb)

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

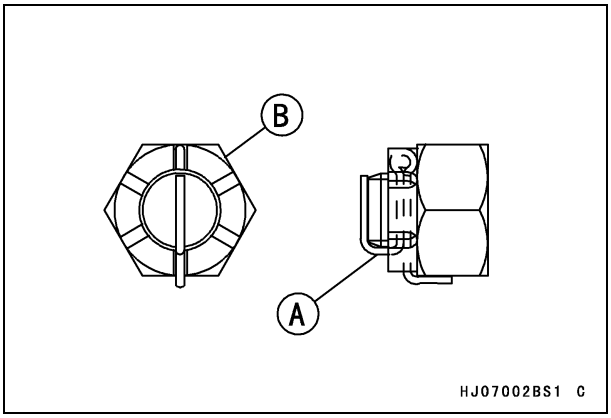
NOTE

○*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 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.

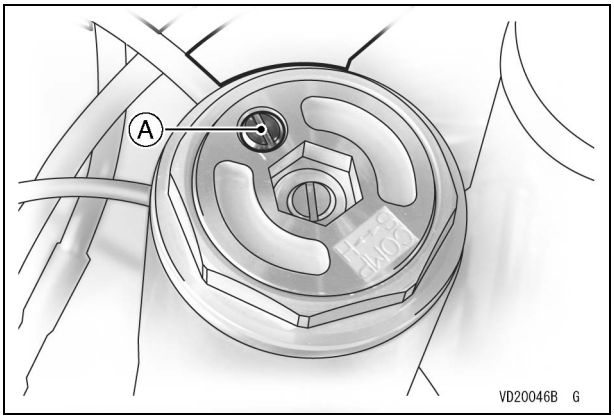
- Check the rear brake effectiveness.

Front Fork

Air Pressure Adjustment

The standard air pressure in the front fork legs is **atmospheric**. Since the air pressure in the fork legs increases with normal use, the fork action stiffens during operation.

- Raise the front wheel off the ground using a jack (special tool).
- Remove the screw on each front fork top plug to let the air pressure equalize. Then, reinstall the screws.



A. Screw

Compression Damping Adjustment

- Check the position of the compression damping adjusters on the top of the fork tubes.

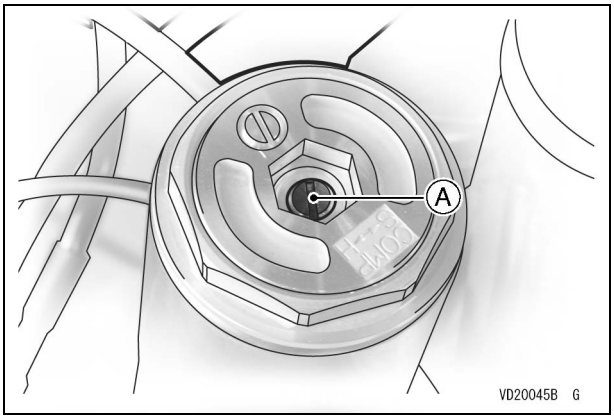
STD Compression Damping:

KX250-R1:

10 clicks (Counterclockwise from the fully seated position)

KX250R6F/R7F:

11 clicks (Counterclockwise from the fully seated position)



A. Compression Damping Adjuster

- To adjust the compression damping, turn the adjuster on each front fork cylinder valve with a flat-head screwdriver. Adjust the compression damping to the standard setting position.

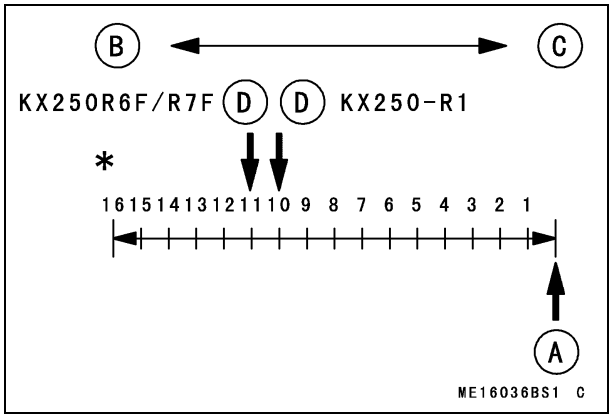
CAUTION

The right and left fork tubes must be adjusted evenly.

CAUTION

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

Compression Damping Settings



A. Seated Position (Adjuster turned fully clockwise)

B. Softer (Counterclockwise)

C. Harder (Clockwise)

D. Standard Setting

*: Number of turns counterclockwise usable range-16 clicks or more.

Rebound Damping Adjustment

- Check the position of the rebound damping adjusters on the bottom of the fork tubes.
- Clean the bottom of the fork tubes.
- Remove the caps on the bottom of the fork tubes.

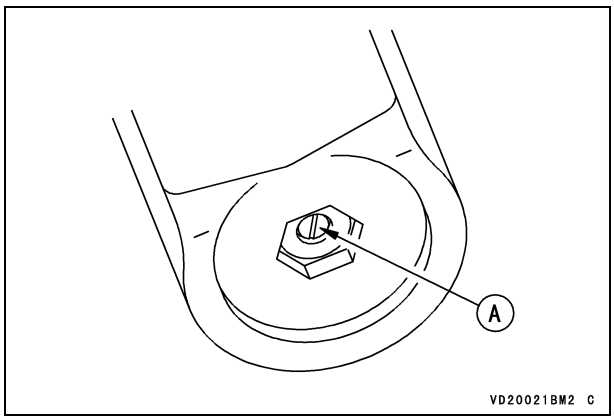
STD Rebound Damping:

KX250-R1:

12 clicks (Counterclockwise from the fully seated position)

KX250R6F/R7F:

11 clicks (Counterclockwise from the fully seated position)



A. Rebound Damping Adjuster

- To adjust the rebound damping, turn the adjuster on each front fork tubes with a flat-head screwdriver. Adjust the rebound damping to the standard setting position.

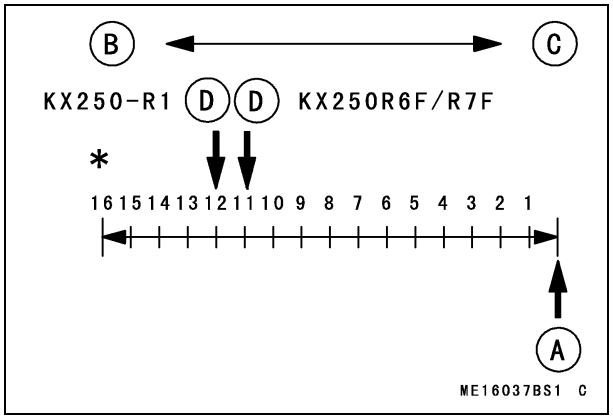
CAUTION

The right and left fork tubes must be adjusted evenly.

CAUTION

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

Rebound Damping Settings



A. Seated Position (Adjuster turned fully clockwise)

B. Softer (Counterclockwise)

C. Harder (Clockwise)

D. Standard Setting

*: Number of turns counterclockwise usable range-16 clicks or more.

- Install the caps on the bottom of the fork tubes.

Rear Shock Absorber

Rebound Damping Adjustment

- Check the position of the rebound damping adjuster at the bottom of the rear shock absorber.

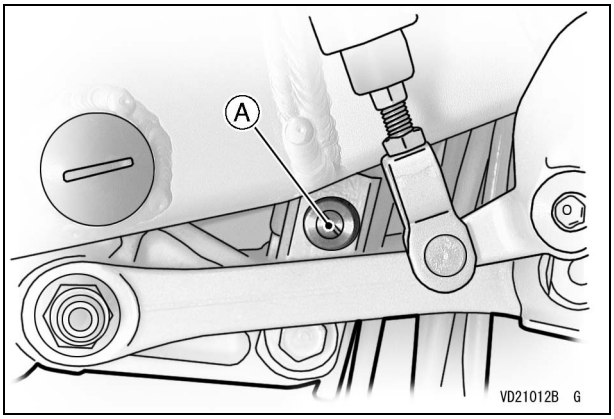
STD Rebound Damping:

KX250-R1:

9 Clicks (Counterclockwise from the fully seated position)

KX250R6F/R7F:

10 Clicks (Counterclockwise from the fully seated position)



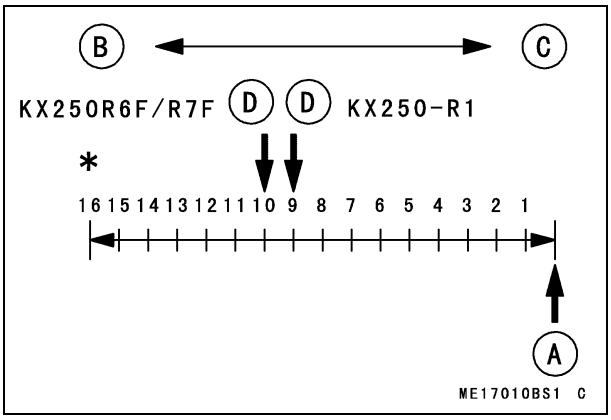
A. Rebound Damping Adjuster

- To adjust the rear shock absorber rebound damping, turn the rebound damping adjuster at the bottom of the rear shock absorber with a flat-head screwdriver. Adjust the rebound damping to the standard setting position.

CAUTION

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

Rebound Damping Settings



A. Seated Position (Adjuster turned fully clockwise)

B. Softer (Counterclockwise)

C. Harder (Clockwise)

D. Standard Setting

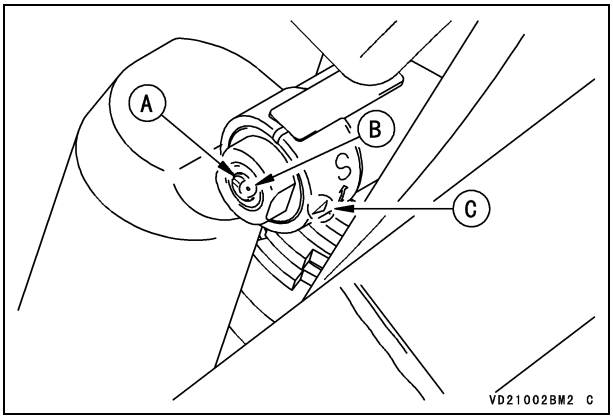
*: Number of turns counterclockwise usable range-16 clicks or more.

Compression Damping Adjustment (KX250-R1 Only)

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

STD Compression Damping:

12 Clicks (Counterclockwise from the fully seated position)



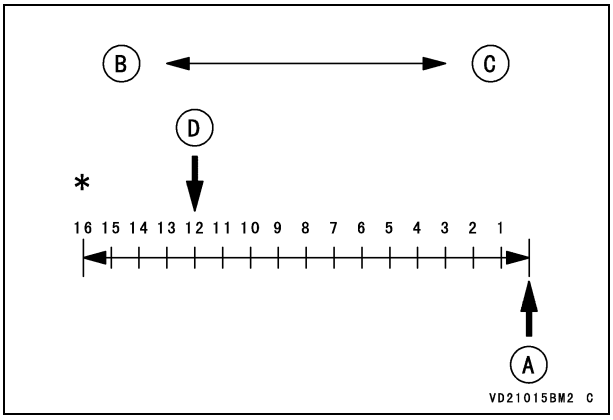
A. Compression Damping Adjuster
B. Punched Mark
C. Arrow Mark

- To adjust compression damping, turn the compression damping adjuster on the gas reservoir with the blade of a screwdriver until you feel a click. Adjust the compression damping to the standard position.

CAUTION

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

Compression Damping Settings



A. Seated Position (Adjuster turned fully clockwise)
B. Softer (Counterclockwise)
C. Harder (Clockwise)
D. Standard Setting

*: Number of turns counterclockwise usable range-16 clicks or more.

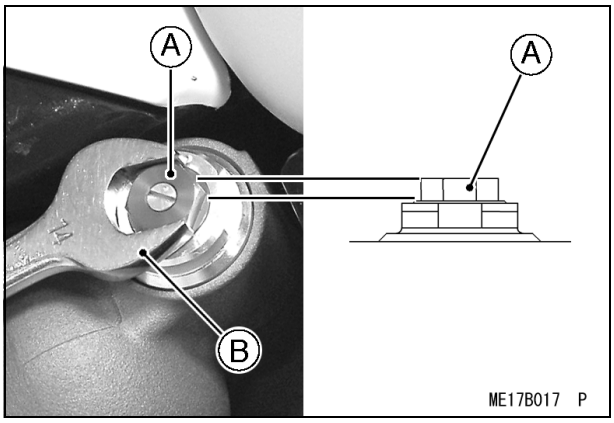
Compression Damping Adjustment (KX250R6F/R7F Only)

There are two adjustments you can make to rear shock absorber gas reservoir.

- Check the position of the high and low speed compression damping adjusters on the gas reservoir at the upper end of the rear shock absorber.

STD High Speed Compression Damping:
1 1/4 Turns out (Counterclockwise from the fully seated position)

- To adjust the high speed compression damping, turn the adjuster all the way clockwise with a wrench to make damping greatest.
- Turn the adjuster counterclockwise to decrease damping. Adjust the high speed compression damping to the standard position.



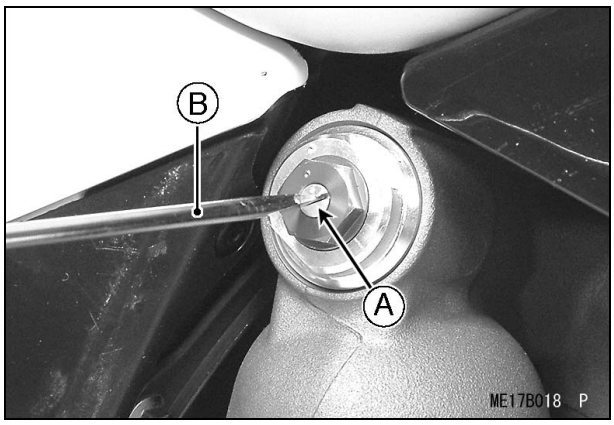
A. High Speed Compression Damping Adjuster
B. Wrench

CAUTION

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

STD Low Speed Compression Damping:
12 Clicks (Counterclockwise from the fully seated position)

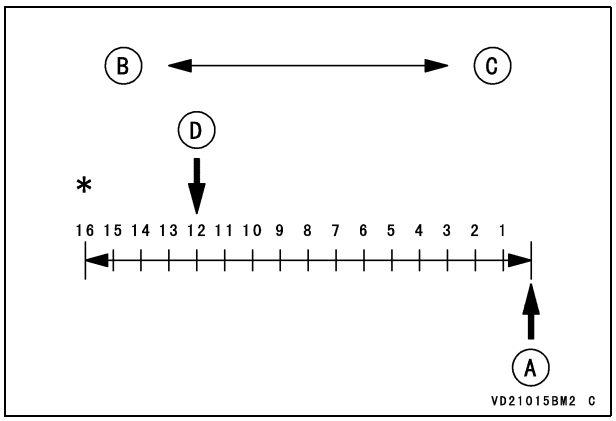
- To adjust the low speed compression damping, turn the adjuster all the way clockwise with a screwdriver to make the damping greatest.
- Turn the adjuster counterclockwise to decrease damping. Adjust the low speed compression damping to the standard position.



A. Low Speed Compression Damping Adjuster

B. Screwdriver

Low Speed Compression Damping Settings



A. Seated Position (Adjuster Turn Fully Clockwise)

B. Softer (Counterclockwise)

C. Harder (Clockwise)

D. Standard Setting

*: Number of turns counterclockwise usable range-16 clicks or more.

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: 80 ~ 100 kPa
(0.8 ~ 1.0 kgf/cm², 11 ~ 14 psi)

Rear: 80 ~ 100 kPa
(0.8 ~ 1.0 kgf/cm², 11 ~ 14 psi)

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.

- Fill the fuel tank with one gallon of unleaded gasoline/oil mixture (32 : 1). The oil must be a good quality, two stroke racing oil.
- Use a gasoline with a minimum antiknock index rating in accordance with the regulations 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	(RON + MON) / 2	90
Research Octane Number (RON)		95

- Close the fuel tank cap. Turn the fuel tap lever a few times, and check for any leaks.

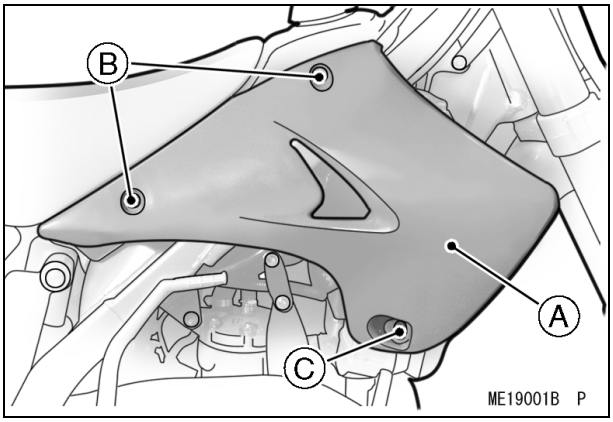
Coolant

NOTE

○*The coolant originally filled into the cooling system contains 50% of a permanent, ethylene-glycol-based antifreeze, has a freezing point of –35°C (–31°F) and a green appearance.*

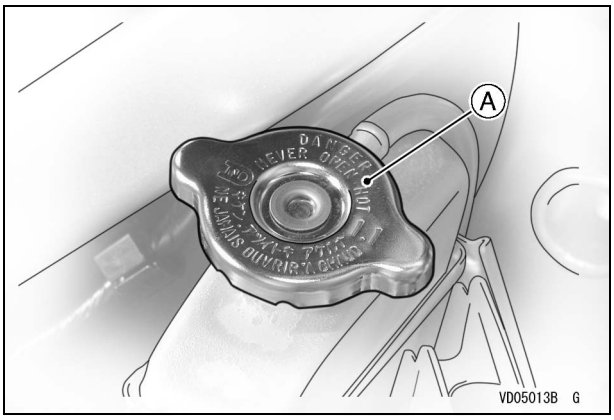
Coolant Level Inspection

- Lean the motorcycle slightly to the left until the radiator cap is level to the ground.
- Loosen the bolts (D = 6, L = 12) (2), (D = 6, L = 20) (1) and remove the right shroud.



A. Right Shroud
B. Bolts (D = 6, L = 12)
C. Bolt (D = 6, L = 20)

- Remove the radiator cap in two steps.
- First, turn the cap counterclockwise to the first stop and wait there for a few seconds.
- Then, push and turn the cap further in the same direction and remove it.

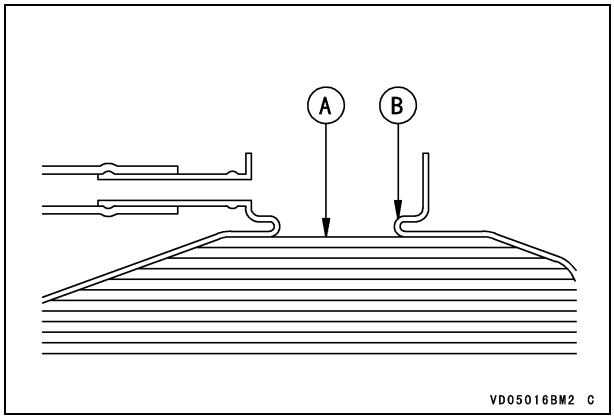


A. Radiator Cap

- Check the coolant level in the radiator. The coolant should come up to the bottom of the radiator filler neck.

NOTE

○*Check the coolant level when the engine is cold (room or ambient temperature).*



A. Coolant Level
B. Filler Neck

- If the coolant level is low, add coolant through the radiator filler opening to the bottom of the filler neck.
- Install the radiator cap and right shroud.

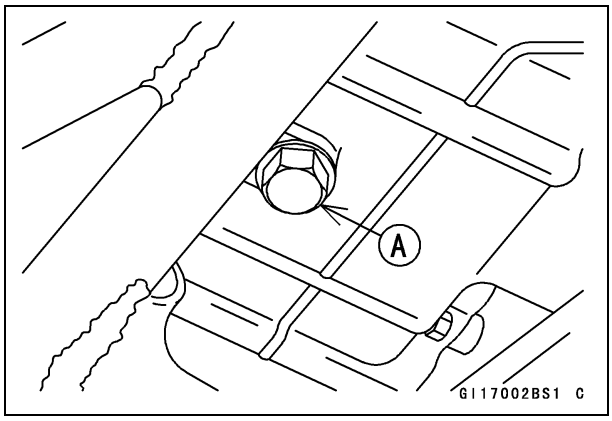
Transmission Oil

Transmission Oil Level Inspection

NOTE

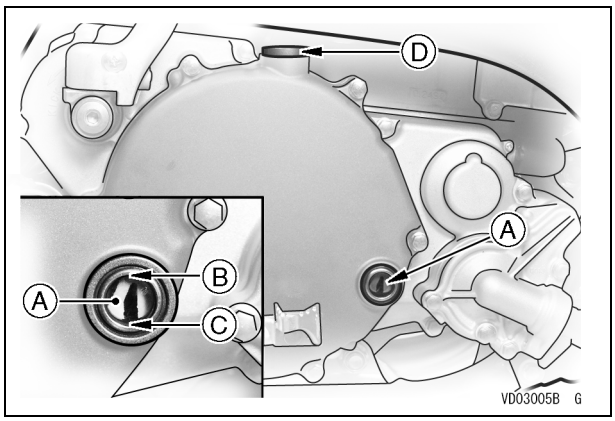
○*This vehicle's transmission is filled with 10W -40 oil from the factory. DO NOT DRAIN and refill the transmission before use. Check oil level and drain plug tightness.*

Transmission Oil Drain Plug Torque:
20 N·m (2.0 kgf·m, 14 ft·lb)



A. Transmission Oil Drain Plug

- Park the vehicle so that it is level, both side-to -side and front-to-rear.
- Before starting the engine, verify that the transmission has oil.
- With the motorcycle perpendicular to the ground, check the transmission oil level through the oil level sight gauge on the lower right side of the engine. The oil should come up to the center of the oil level gauge.



A. Oil Level Sight Gauge

B. Maximum

C. Minimum

D. Oil Filler Cap

- If the oil level is too high, remove the excess oil using a syringe or other suitable device.
- If the oil level is low, add the correct amount of oil through the oil filler opening.

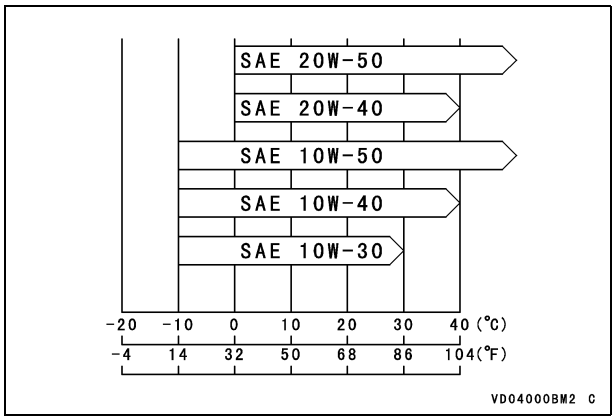
CAUTION

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

Recommended Transmission Oil

Type:	**API SE, SF or SG**
	API SH, SJ or SL with JASO MA
Viscosity:	**SAE 10W-40**
Capacity:	**0.85 L (0.90 US qt)**

Although 10W-40 transmission 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

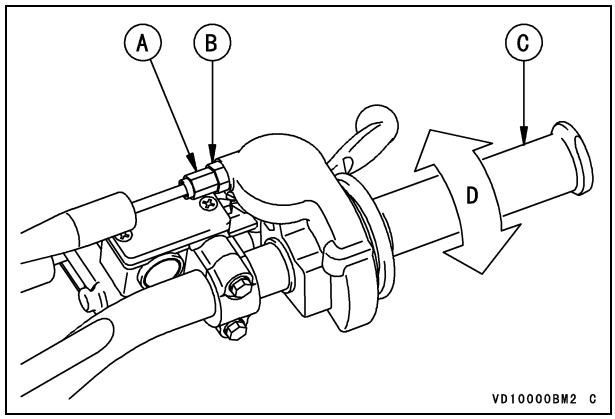
Throttle Grip Free Play Inspection

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

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 cable.



A. Adjuster

B. Locknut

C. Throttle Grip

D. 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 and the cable routing.

⚠ WARNING

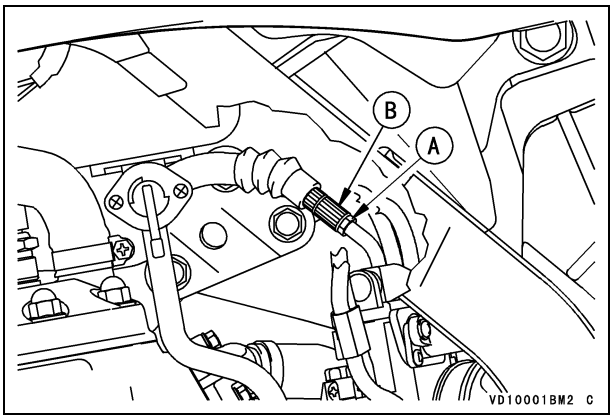
Operation with an improperly adjusted, incorrectly routed, or damaged cable could result in an unsafe riding condition.

Throttle Grip Free Play Adjustment

- Slide the cable adjuster dust cover out of place.
- Loosen the locknut at the throttle grip and turn the adjuster until the specified amount of play is obtained.
- Tighten the locknut and slide the dust cover back in place.

NOTE

○*If the proper throttle grip free play cannot be adjusted at the throttle grip or the middle of the cable, use the adjuster at the carburetor. Do not forget to securely tighten the locknut.*



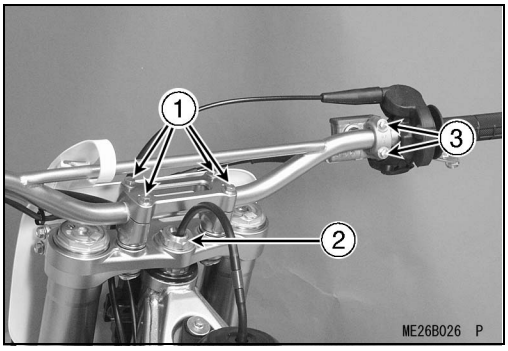
A. Locknut

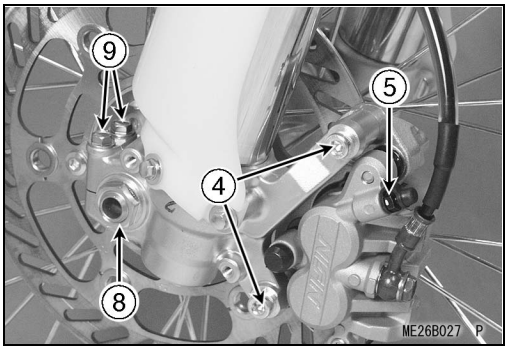
B. Adjuster

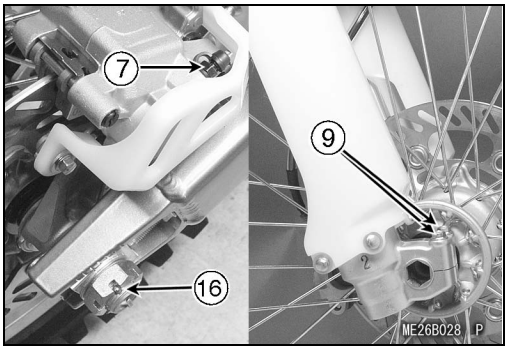
Dummy Page

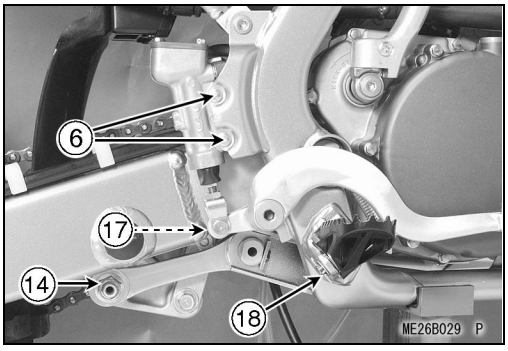
Fastener Check

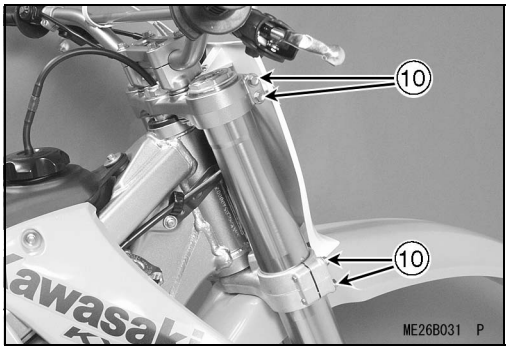
- The torque values listed are for assembly and preparation items only, see the appropriate Service Manual for a more comprehensive list. Check tightness of all fasteners that are in the table before retail delivery. Also check to see that each cotter pin or circlip is in place.

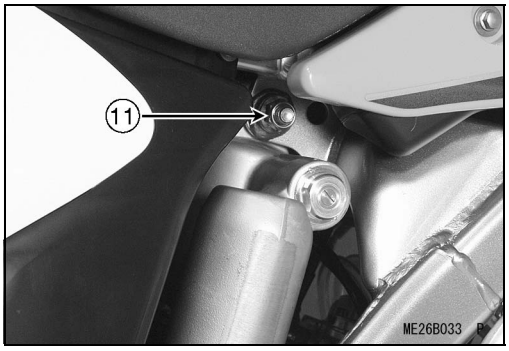


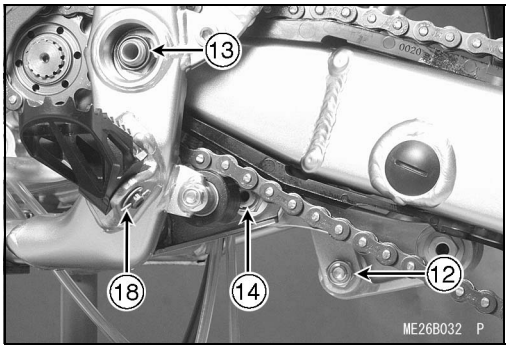


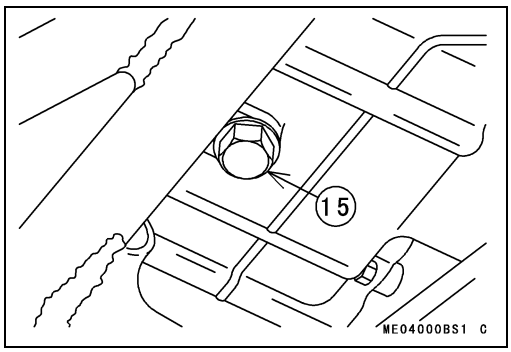












No.	Fastener	Torque			Remarks
		N·m	kgf·m	ft·lb	
Steering					
1	Handlebar clamp bolts	25	2.5	18	
2	Steering stem head nut (for KX250-R1)	79	8.0	58	
2	Steering stem head nut (for KX250R6F/R7F)	98	10.0	72	
Brake					
3	Front master cylinder clamp bolts	8.8	0.90	78 in·lb	S
4	Front caliper mounting bolts	25	2.5	18	
5	Front brake bleed valve	7.8	0.80	69 in·lb	
6	Rear master cylinder mounting bolts	10	1.0	89 in·lb	
7	Rear brake bleed valve	7.8	0.80	69 in·lb	
Wheel					
8	Front axle nut	79	8.0	58	
9	Front axle clamp bolts (Left and Right)	20	2.0	14	AL
Suspension					
10	Front fork clamp bolts (Upper and Lower)	20	2.0	14	AL
11	Rear shock absorber mounting nut (Upper)	39	4.0	29	
12	Rear shock absorber mounting nut (Lower)	34	3.5	25	
13	Swingarm pivot shaft nut	98	10.0	72	
14	Rear suspension tie rod nuts	83	8.5	61	
Transmission Oil Drain Plug					
15	Transmission oil drain plug	20	2.0	14	
Cotter Pin or Circlip					
16	Rear axle nut cotter pin	–	–	–	
17	Rear master cylinder cotter pin	–	–	–	
18	Footpeg cotter pins (Left and Right)	–	–	–	

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 ~ 25.0
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 check list.

Control Cables:

Throttle cable must work without binding in any steering position.

Steering:

Action is free from lock–to–lock.

Suspension:

Check operation front and rear.

Engine:

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

Transmission and Clutch:

Smooth operation.

Brake:

Adequate, smooth stopping power, No drag.

Engine Stop Switch Works:

No Unusual Noises:

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

PREPARATION COMPLETE.

A&P Check List

- Complete the A&P Check List.

MODEL APPLICATION

Year	Model	Name
2005	KX250-R1	KX250
2006	KX250R6F	KX250
2007	KX250R7F	KX250

Kawasaki
KAWASAKI HEAVY INDUSTRIES, LTD.
Consumer Products & Machinery Company
Part No. 99939-1310-04