


ELIMINATOR

Motorcycle

OWNER'S MANUAL

 Read this manual carefully. It contains safety information.

GENERAL INFORMATION



Specifications

PERFORMANCE

Minimum Turning Radius 3.0 m (9.8 ft)

DIMENSIONS

Overall Length 2 250 mm (88.58 in.)

Overall Width 785 mm (30.9 in.)

Overall Height:

EL450A/C 1 100 mm (43.31 in.)

EL450B/D 1 140 mm (44.88 in.)

Wheelbase 1 520 mm (59.84 in.)

Road Clearance 150 mm (5.91 in.)

Curb Mass:

EL450A/D 176 kg (388 lb)

EL450B 177 kg (390 lb)

EL450C 175 kg (386 lb)

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ENGINE

Type	DOHC, 2-cylinder, 4-stroke, liquid-cooled
Displacement	451 cm ³ (27.5 cu in.)
Bore × Stroke	70.0 × 58.6 mm (2.76 × 2.31 in.)
Compression Ratio	11.3:1
Starting System	Electric starter
Cylinder Numbering Method	Left to right, 1-2
Firing Order	1-2
Fuel System	FI (Fuel Injection)
Ignition System	Battery and coil (transistorized ignition)
Ignition Timing (Electronically advanced)	10° BTDC @1 300 r/min (rpm) – 48° BTDC @10 000 r/min (rpm)
Spark Plug:	Type
	Gap
Lubrication System	Forced lubrication (wet sump)

Engine Oil:	Type	API SG, SH, SJ, SL or SM with JASO MA, MA1 or MA2
	Viscosity	SAE 10W-40
	Capacity	2.3 L (2.4 US qt)
Coolant Capacity		1.3 L (1.4 US qt)

TRANSMISSION

Transmission Type		6-speed, constant mesh, return shift
Clutch Type		Wet, multi disc
Driving System		Chain drive
Primary Reduction Ratio		2.029 (69/34)
Final Reduction Ratio		3.071 (43/14)
Overall Drive Ratio		6.464 (Top gear)
Gear Ratio:	1st	2.929 (41/14)
	2nd	2.056 (37/18)
	3rd	1.619 (34/21)
	4th	1.333 (32/24)
	5th	1.154 (30/26)
	6th	1.037 (28/27)

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FRAME

Caster		30°
Trail		121 mm (4.76 in.)
Tire Size:	Front	130/70-18 M/C 63H
	Rear	150/80-16 M/C 71H
Rim Size:	Front	18M/C × MT3.00
	Rear	16M/C × MT4.00
Fuel Tank Capacity		13 L (3.4 US gal)
Brake Fluid:	Front	DOT3 or 4
	Rear	DOT4

ELECTRICAL EQUIPMENT

Battery		12 V 8.6 Ah (10 HR)
Headlight:	High Beam	LED
	Low Beam	LED
City Light		LED
Brake/Tail Light		LED

Turn Signal Light	LED
License Plate Light	12 V 5 W (W5W)



Even if any one element of LED (Light Emitting Diode) light does not go on, consult with an authorized Kawasaki dealer.

Specifications are subject to change without notice.

MAINTENANCE AND ADJUSTMENT

The maintenance and adjustments outlined in this chapter must be carried out in accordance with the Daily Checks and Periodic Maintenance to keep the motorcycle in good running condition and to reduce air pollution. **The initial maintenance is vitally important and must not be neglected.**

 **WARNING**

Failure to perform these checks or to correct a problem before operation may result in serious damage or an accident. Always perform daily checks before operation.

Although items other than daily maintenance are described, this maintenance and repair work should be done by qualified technicians. Kawasaki does not recommend doing this work without knowledge and proper tools. Please note that Kawasaki cannot assume any responsibility for damage resulting from incorrect or improper adjustment made by the owner.

 **DANGER**

Exhaust gas contains carbon monoxide, a colorless, odorless poisonous gas. Inhaling carbon monoxide can cause serious brain injury or death. **DO NOT** run the engine in enclosed areas. Operate only in a well-ventilated area.

NOTE

- *If a torque wrench is not available, the maintenance items which require a specific torque value should be serviced by an authorized Kawasaki dealer.*

Daily Checks

Check the following items each day before you ride. The time required is minimal, and habitual performance of these checks will help ensure you a safe, reliable ride.

If any irregularities are found during these checks, contact an authorized Kawasaki dealer. Temporary measures methods are described on each page.

Operation	See Page
Fuel Adequate supply in tank, no leaks	—
Engine oil Oil level between level lines	105
Tires Air pressure (when cold), install the air valve cap Tire wear	128 129
Drive chain Slack: every 1 000 km (600 mile) Lubricate: every 600 km (400 mile)	117 117




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Operation	See Page
Bolts, nuts and fasteners Check for loose and/or missing bolts, nuts and fasteners	—
Steering Action smooth but not loose from lock to lock No binding of control cables	— —
Brakes Brake pad wear Brake fluid level No brake fluid leakage	122 121 —
Throttle Throttle grip free play	113
Clutch Clutch lever free play Clutch lever operates smoothly	115 —
Coolant No coolant leakage	—

Operation	See Page
Coolant level between level lines (when engine is cold)	109
Electrical equipment All lights (head, city, brake/tail, turn signal, license plate, warning/indicator), meter and horn work	—
Engine stop switch Stops engine	—
Side stand Return to its fully up position by spring tension Return spring not weak or not damaged	— —
Rear view mirrors Rear view sight	—

Periodic Maintenance

- *A: Service at number of years shown or indicated odometer reading intervals, whichever comes first.
- *B: For higher odometer readings, repeat at the frequency interval established here.
- *C: Service more frequently when operating in severe conditions: dusty, wet, muddy, high speed, or frequent starting/stopping.
- *D: California model only
- : Emission Related Item

- : Dealer Inspection
- : Dealer Change or Replace
- : Dealer Lubrication

Items	year (*A)	Odometer Reading (*B) × 1 000 km (× 1 000 mile)					See Page
		1 (0.6)	12 (7.6)	24 (15.2)	36 (22.8)	48 (30.4)	
○ Air cleaner element (*C)				↻		↻	112
○ Idle speed		Q	Q	Q	Q	Q	115
○ Throttle control system (play, smooth return, no drag)	Q:1	Q	Q	Q	Q	Q	113
○ Engine vacuum synchronization			Q	Q	Q	Q	—
Fuel system	Q:1	Q	Q	Q	Q	Q	—
Fuel filter				↻		↻	—
Fuel hose	↻:5						—
○ Evaporative emission control system (*D)				Q		Q	—
Cooling system	Q:1	Q	Q	Q	Q	Q	—
Coolant, water hose and O-ring	↻:3				↻		—

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Items	year (*A)	Odometer Reading (*B) × 1 000 km (× 1 000 mile)					See Page
		1 (0.6)	12 (7.6)	24 (15.2)	36 (22.8)	48 (30.4)	
○ Valve clearance				Q		Q	–
○ Air suction system			Q	Q	Q	Q	–
Clutch operation (play, engagement, disengagement)	Q:1	Q	Q	Q	Q	Q	115
Engine oil (*C) and oil filter	↻:1	↻	↻	↻	↻	↻	106
Wheel bearing damage	Q:1		Q	Q	Q	Q	–
Drive chain wear (*C)			Q	Q	Q	Q	–
Drive chain guide wear			Q	Q	Q	Q	–
Brake system	Q:1	Q	Q	Q	Q	Q	–
Brake operation (effectiveness, play, no drag)	Q:1	Q	Q	Q	Q	Q	–
Brake fluid (front and rear)	↻:2			↻		↻	–

Items	year (*A)	Odometer Reading (*B) × 1 000 km (× 1 000 mile)					See Page
		1 (0.6)	12 (7.6)	24 (15.2)	36 (22.8)	48 (30.4)	
Brake hose	:4						—
Rubber parts of brake master cylinder and caliper	:4						—
Suspension system	Q:1		Q	Q	Q	Q	—
Lubrication of rear suspension							—
Steering play	Q:1	Q	Q	Q	Q	Q	—
Steering stem bearing	:2						—
Electrical system	Q:1		Q	Q	Q	Q	—
○ Spark plug							—
Chassis parts	:1						—
Condition of bolts, nuts and fasteners		Q	Q	Q	Q	Q	—

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NOTE

- *All owner daily maintenance items should also be checked at every scheduled dealer service.*



Engine Oil

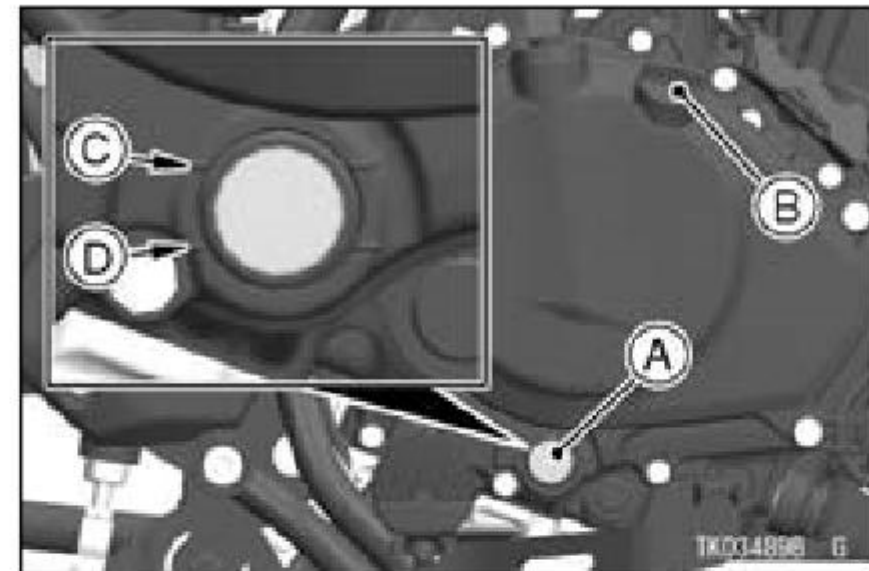
Oil Level Inspection

- If the engine is cold, start the engine and run it for several minutes at idle speed.
- Stop the engine, then wait several minutes until the oil settles.

NOTICE

Racing the engine before the oil reaches every part can cause engine seizure.

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



- 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 and brand of oil that is already in the engine.

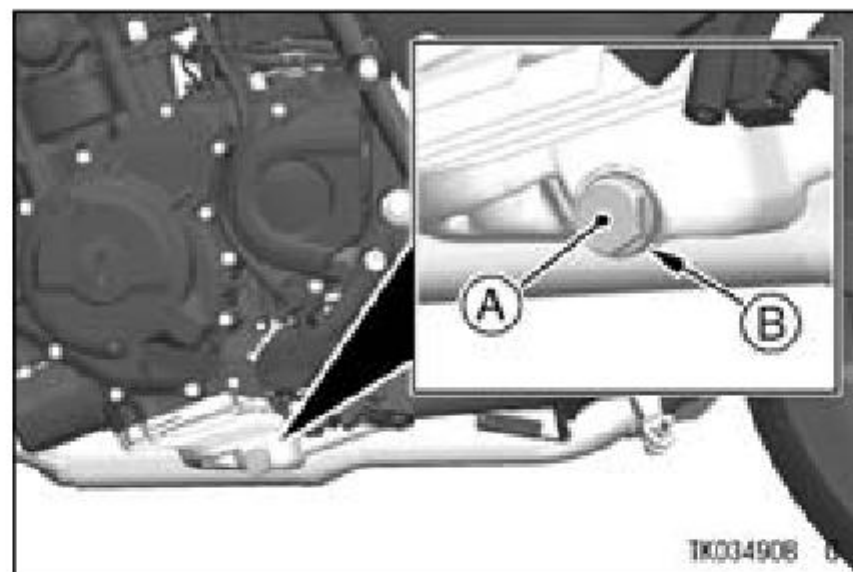
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Oil and/or Oil Filter Change

- Warm up the engine thoroughly, and then stop it.
- Place an oil pan beneath the engine.
- Remove the engine oil drain bolt and gasket.

WARNING

Engine oil is a toxic substance. Dispose of used oil properly. Contact your local authorities for approved disposal methods or possible recycling.

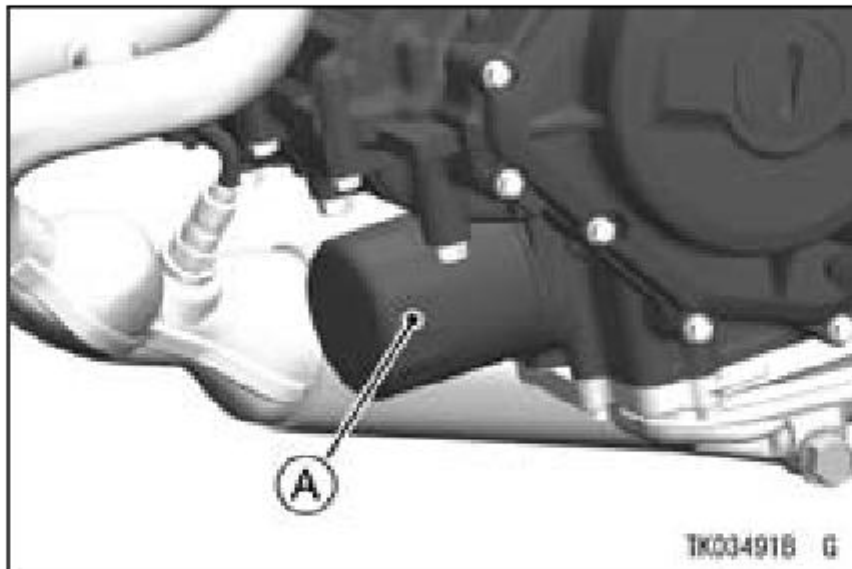


- A. Engine Oil Drain Bolt
- B. Gasket

- Let the oil completely drain with the motorcycle perpendicular to the ground.
- If the oil filter is to be replaced, remove the oil filter and replace it with a new one.

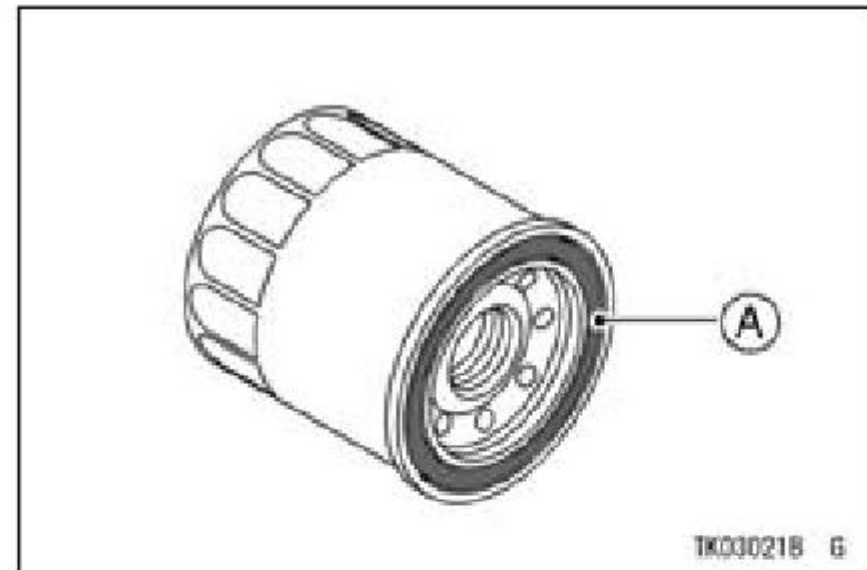
NOTE

- If a torque wrench or required Kawasaki special tool is not available, this item should be serviced by an authorized Kawasaki dealer.



A. Oil Filter

- Apply a thin film of oil to the gasket and tighten the oil filter to the specified torque.



A. Gasket

- Install the drain bolt with a new gasket. Tighten it to the specified torque.

NOTE

- Replace the gasket with a new one.

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Tightening Torque

Oil Filter:

17.5 N·m (1.78 kgf·m, 12.9 ft·lb)

Engine Oil Drain Bolt:

30 N·m (3.1 kgf·m, 22 ft·lb)

- Fill the engine up to the upper level line with a good quality engine oil specified in the table.

Recommended Engine Oil

Type:

Kawasaki Mineral M4*

Kawasaki Synthetic S4*

or other 4-stroke oils with API SG, SH, SJ, SL or SM with JASO MA, MA1 or MA2 rating

Viscosity:

SAE 10W-40

*Kawasaki Mineral M4 and Kawasaki Synthetic S4 have been specifically engineered for your vehicle. Consistent use of these products meets or

exceeds warranty and service requirements and can help to extend the life of your Kawasaki.

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.*

Engine Oil Capacity

1.6 L (1.7 US qt)

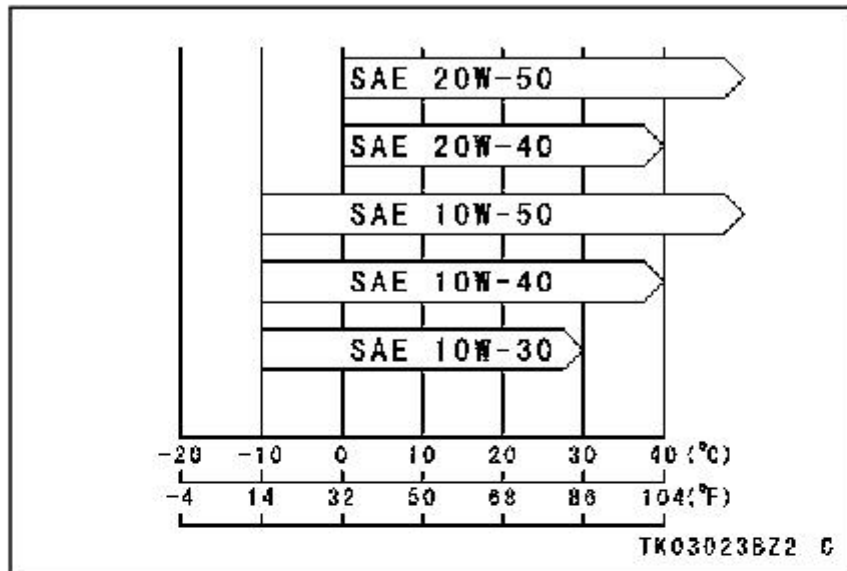
[when filter is not removed]

2.0 L (2.1 US qt)

[when filter is removed]

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

coolant level should be between the F (Full) and L (Low) level lines.

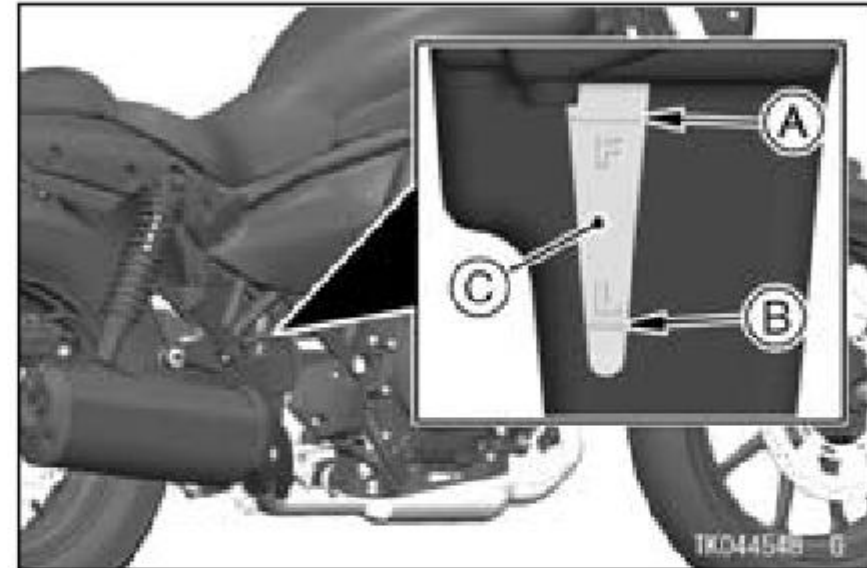


- Start the engine.
- Check the oil level and oil leakage.

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 in right side cover. The



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

NOTE

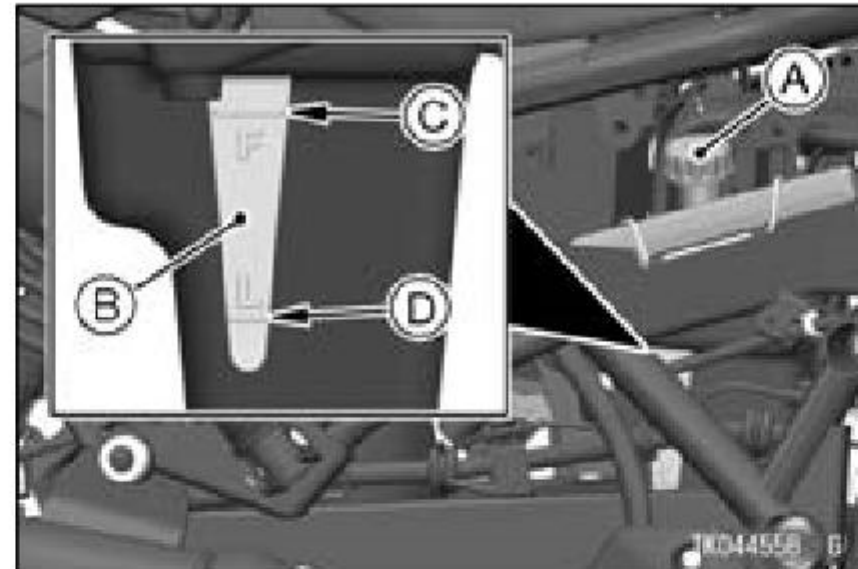
- Check the level when the engine is cold (room or atmospheric temperature).

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

Coolant Filling

- Remove the right side cover (see Right Side Cover section in the GENERAL INFORMATION chapter).
- Remove the cap from the reserve tank and add coolant through the filler opening between the F (Full) and L (Low) level lines.



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

NOTE

- *In an emergency you can add water alone to the coolant reserve tank, however it must be returned to the correct mixture ratio by the addition of antifreeze concentrate as soon as possible.*

NOTICE

If coolant must be added often, or the reserve tank completely runs dry, there is probably leakage in the system. Have the cooling system inspected by your authorized Kawasaki dealer.

- Install the reserve tank cap.
- Install the removed parts.

Coolant Change

Have the coolant changed by an authorized Kawasaki dealer.

Coolant Requirement**WARNING**

Coolant containing corrosion inhibitors for aluminum engines and radiators include harmful chemicals for human body. Drinking coolant can result in serious injury or death. Use coolant in accordance with the instructions of the manufacturer.

Use a permanent type of antifreeze (soft water and ethylene glycol plus corrosion and rust inhibitor chemicals for aluminum engines and radiators) in the cooling system. On the mixture ratio of coolant, choose the suitable one referring to the relation between freezing point and strength directed on the container.

NOTICE

If hard water is used in the system, it causes scale accumulation in the water passages, and considerably reduces the efficiency of the cooling system.

NOTE

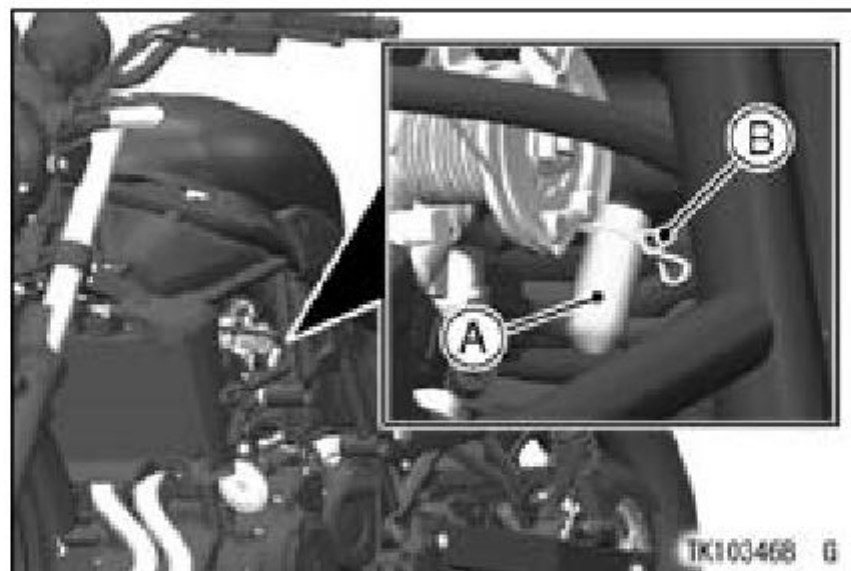
- A permanent type of antifreeze is installed in the cooling system when shipped. It is mixed at 50% and has the freezing point of -35°C (-31°F).

Air Cleaner

This motorcycle's air cleaner element consists of a wet paper filter. Replacement of the air cleaner element should be done by an authorized Kawasaki dealer.

Oil Draining

- Inspect the transparent drain cap located the left lower end of the air cleaner housing to see if any oil has run down.



- A. Transparent Drain Cap
- B. Clamp

- If there is any oil in the drain cap, remove the clamp and drain cap, and drain the oil.

⚠ WARNING

Oil on tires will make them slippery and can cause an accident and injury. Be sure to install the drain cap to the air cleaner housing after draining.

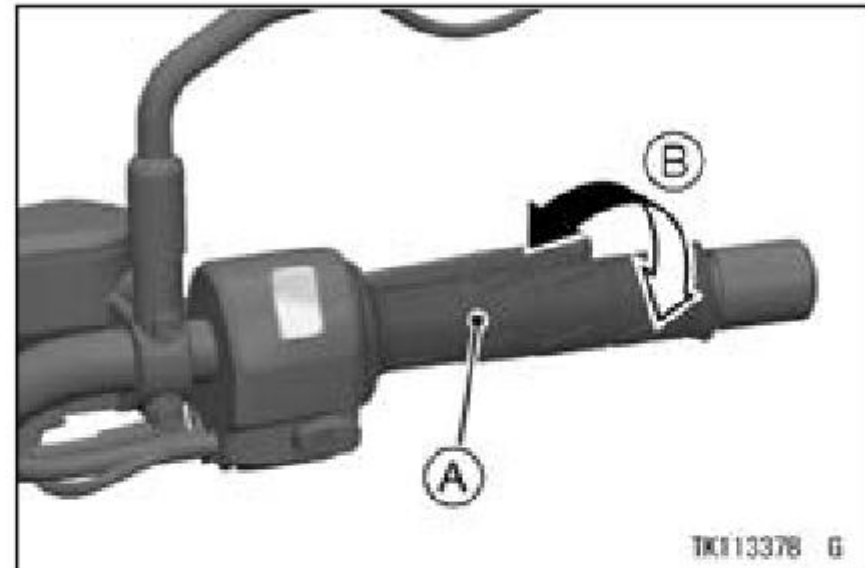
Throttle Control System

Throttle Grip

Throttle Grip Free Play Inspection

- Check that the throttle grip moves smoothly from full open to close, and the throttle closes quickly and completely by the return spring in all steering positions.
- If the throttle grip does not return properly, have the throttle control system checked by an authorized Kawasaki dealer.

- Check the throttle grip free play by turning back and forth.



- A. Throttle Grip
- B. Throttle Grip Free Play

Throttle Grip Free Play

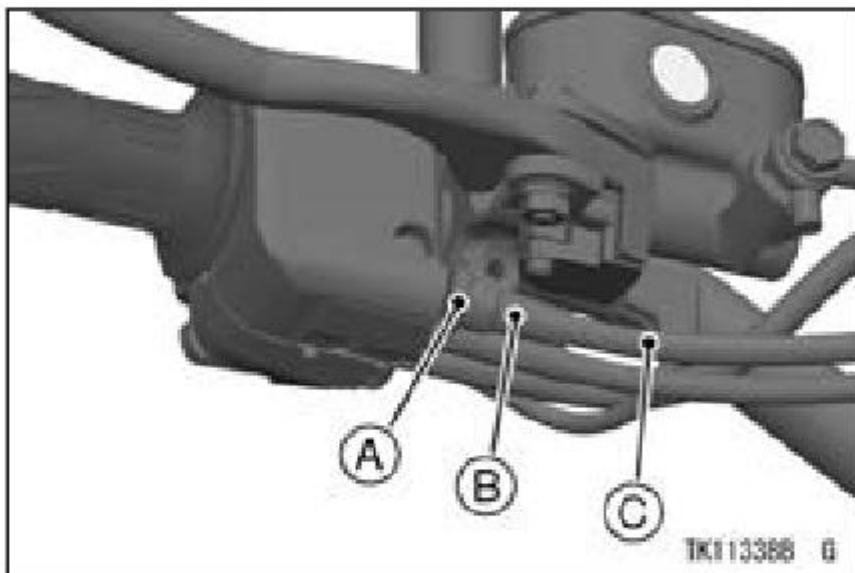
2 – 3 mm (0.08 – 0.12 in.)

- If there is improper play, adjust it.

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Throttle Grip Free Play Adjustment

- Loosen the locknut, and turn the adjuster until the proper amount of throttle grip play is obtained.
- Tighten the locknut.



- A. Locknut
- B. Adjuster
- C. Throttle Cable (Accelerator Cable)

- If the throttle cables cannot be adjusted with the adjuster at the upper

end of the throttle cable, further adjustment of the throttle cables should be done by an authorized Kawasaki dealer.

- With the engine idling, turn the handlebars to each side. If handlebars movement changes the idle speed, the throttle cables may be improperly adjusted or incorrectly routed, or they may be damaged. Be sure to correct any of these conditions before idling.

⚠ WARNING

Operation with improperly adjusted, incorrectly routed, or damaged cables could result in an unsafe riding condition. Be sure the control cables are adjusted and routed correctly, and are free from damage.

Idle Speed

The idle speed inspection should be performed in accordance with the Periodic Maintenance chart.

This motorcycle is equipped with the Idle Speed Control System. If the idle speed is disturbed, inspection of the idle speed control should be done by an authorized Kawasaki dealer.

NOTE

- *While the engine is cold, the fast idle system automatically raises the engine idle speed.*

Idle Speed

1 300 \pm 50 r/min (rpm)

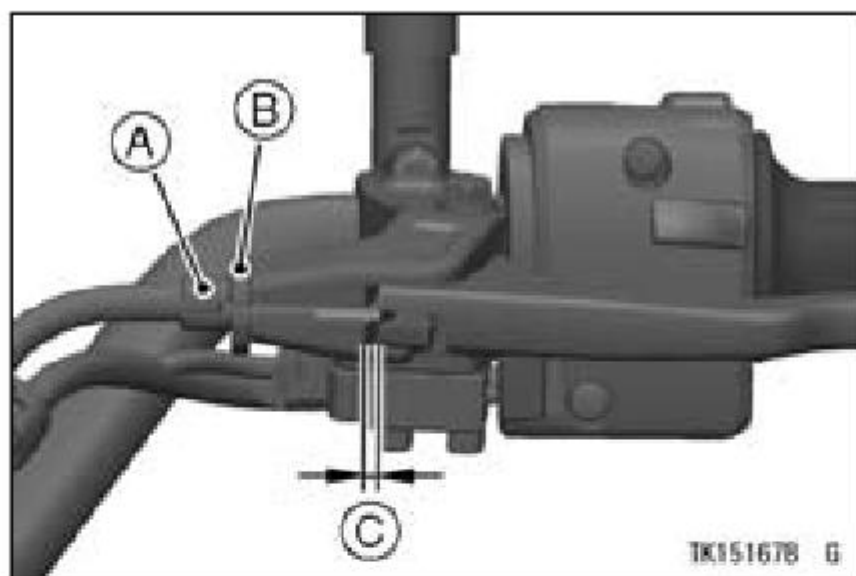
Clutch

Clutch Operation Inspection

- Check that the clutch lever operates properly and that the inner cable slides smoothly. If there is any irregularity, have the clutch cable checked by an authorized Kawasaki dealer.
- Check the clutch lever free play.

Clutch Lever Free Play

2 – 3 mm (0.08 – 0.12 in.)



- A. Adjuster
- B. Locknut
- C. Clutch Lever Free Play

- If the free play is incorrect, adjust the clutch lever free play as follows.

Clutch Lever Free Play Adjustment

- Loosen the locknut, and turn the adjuster so that the clutch lever will have the specified free play.

⚠ **WARNING**

Excess clutch lever free play could prevent clutch disengagement and cause a crash resulting in serious injury or death. When adjusting the clutch lever free play, be sure the upper end of the clutch outer cable is fully seated in its fitting so that it doesn't slip into place later and create excessive free play.

- Tighten the locknut.
- If it cannot be done, have the clutch cable adjusted by an authorized Kawasaki dealer.

NOTE

- *After the adjustment is made, start the engine and check that the clutch does not slip and that it releases properly.*

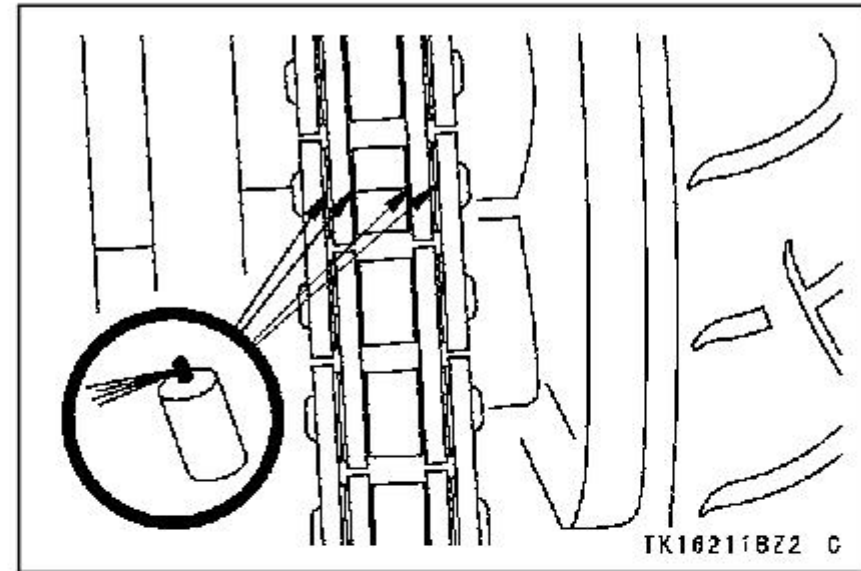
Drive Chain

Drive Chain Lubrication

Lubrication is necessary after riding through rain or on wet roads, or any time that the chain appears dry.

Use a lubricant for sealed chains to prevent deterioration of chain seals. If the chain is especially dirty, clean it using a cleaner for sealed chains following the instructions supplied by the chain cleaner manufacturer.

- Apply lubricant to the sides of the rollers so that it will penetrate to the rollers and bushings. Apply lubricant to the seals so that the seals will be coated with lubricant. Wipe off any excess lubricant.



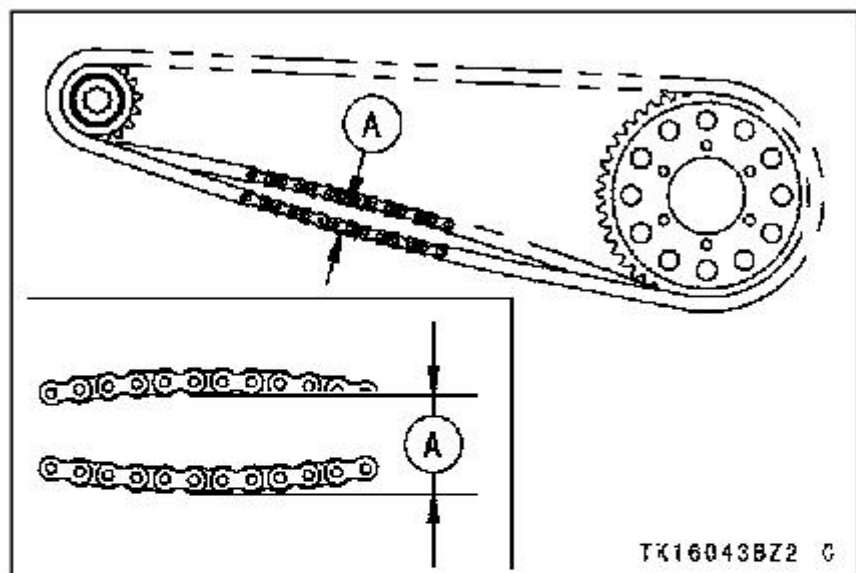
- Wipe off any lubricant that gets on the tire surface.

Drive Chain Slack Inspection

- Set the motorcycle up on its side stand.
- Clean the chain if it is dirty, and lubricate it if it appears dry.
- 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

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chain midway between the engine sprocket and rear wheel sprocket.



A. Chain Slack

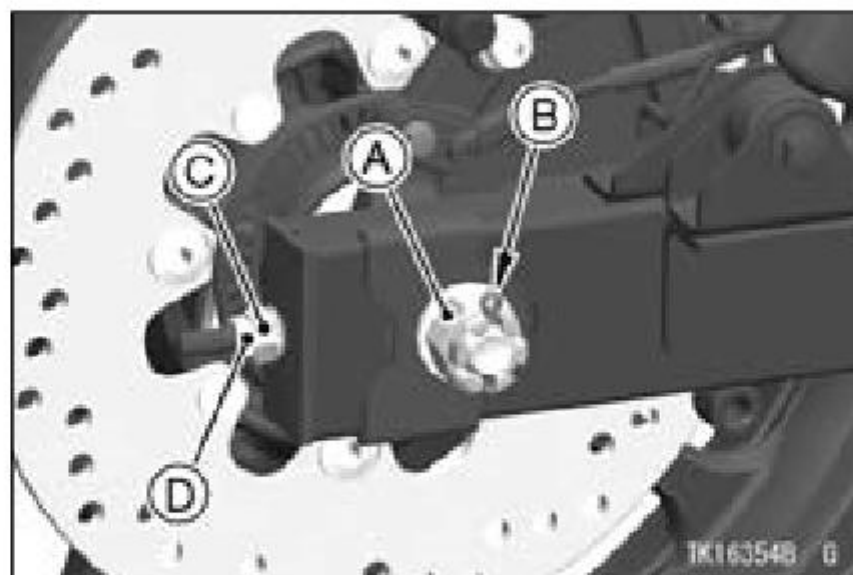
- If the drive chain is too tight or too loose, adjust it so that the chain slack is within the standard value.

Drive Chain Slack

Standard: 20 – 30 mm (0.8 – 1.2 in.)

Drive Chain Slack Adjustment

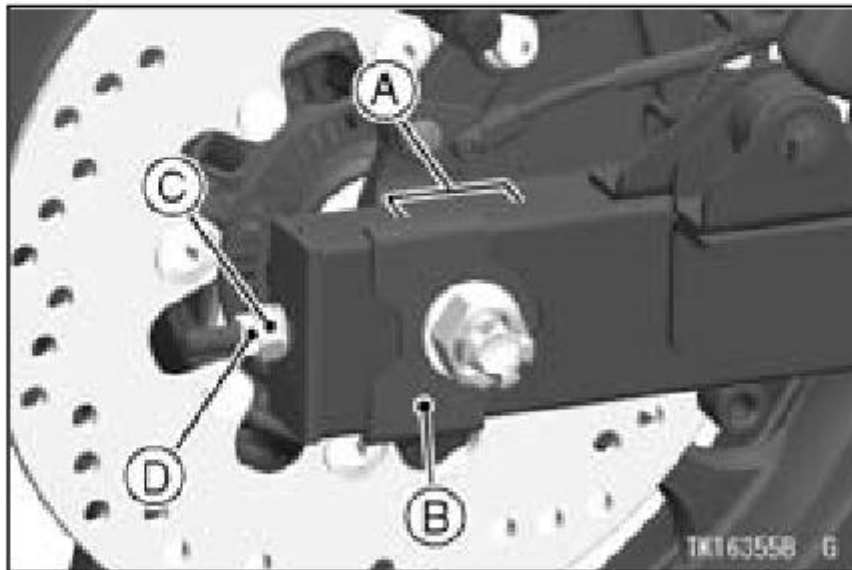
- Loosen the left and right chain adjuster locknuts.
- Remove the cotter pin, and loosen the axle nut.



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

- If the chain is too loose or too tight, turn the left and right chain adjusters evenly to adjust the drive chain slack.

- Turn both chain adjusters evenly until the drive chain has the correct amount of slack. To keep the chain and wheel properly aligned, the left wheel alignment indicator should align with the same swingarm mark that the right wheel alignment indicator aligns with.



- A. Marks
- B. Wheel Alignment Indicator
- C. Adjuster
- D. Locknut

NOTE

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

WARNING

Misalignment of the wheel will result in abnormal wear, and may result in an unsafe riding condition. Align the rear wheel using the marks on the swingarm or measuring the distance between the center of the axle and swingarm pivot.

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

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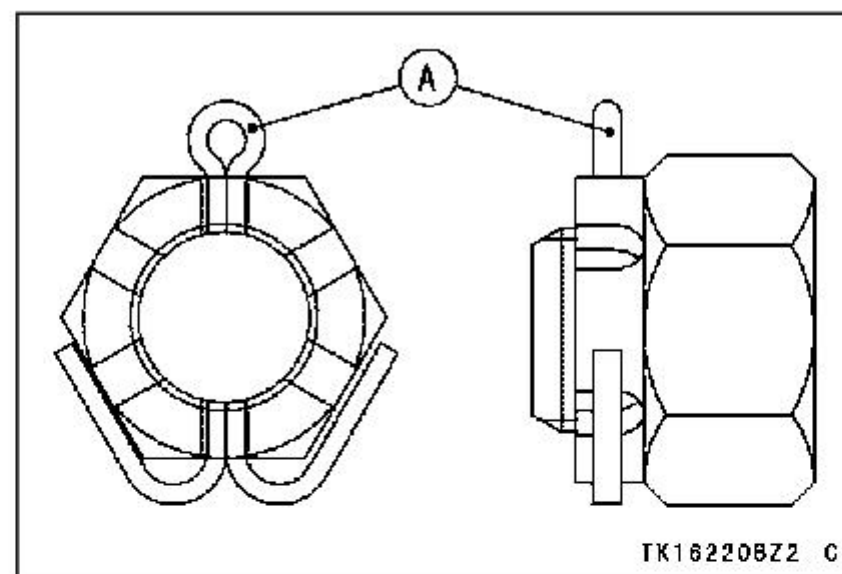
Tightening Torque

Axle Nut:

98 N·m (10 kgf·m, 72 ft·lb)

NOTE

- *If a torque wrench is not available, this item should be serviced by an authorized Kawasaki dealer.*
- Rotate the wheel, measure the chain slack again at the tightest position, and readjust if necessary.
- Install a new cotter pin through the axle nut and axle, and spread its ends.



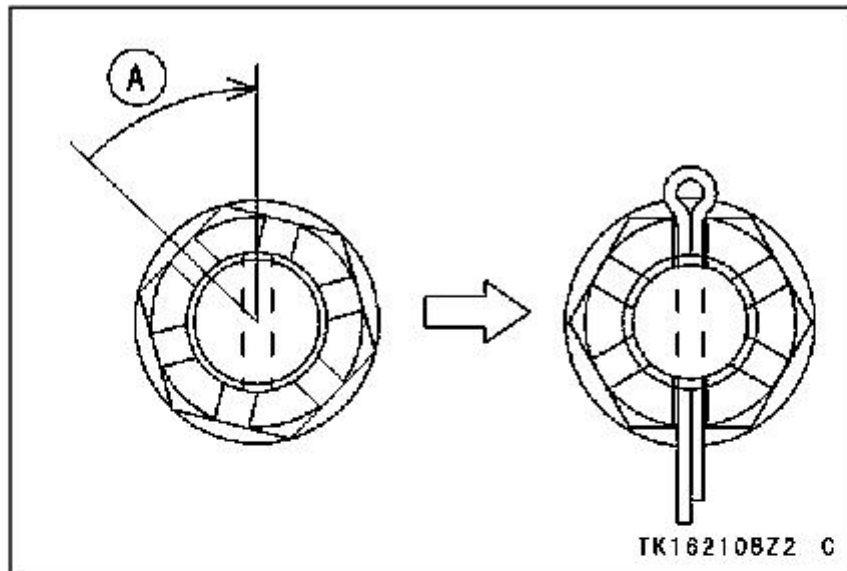
A. Cotter Pin

NOTE

- *When inserting the cotter pin, if the slots in the nut do not align with the cotter pin hole in the axle shaft, 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.*

Brakes

If you feel there is something wrong when applying the brakes, have the brake system checked by an authorized Kawasaki dealer immediately.



A. Turn Clockwise

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 install a new cotter pin.

- Check the rear brake (see Brakes section).

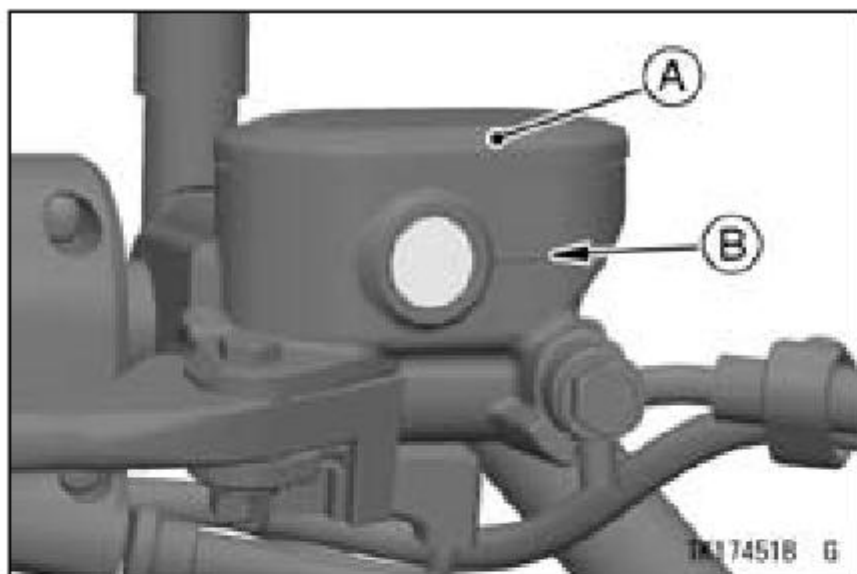
WARNING

Air in the brake lines diminish braking performance and can cause an accident resulting in injury or death. If the brake lever or pedal feels mushy when it is applied, there might be air in the brake lines or the brake may be defective. Have the brake checked immediately by an authorized Kawasaki dealer.

Brake Fluid Level Inspection

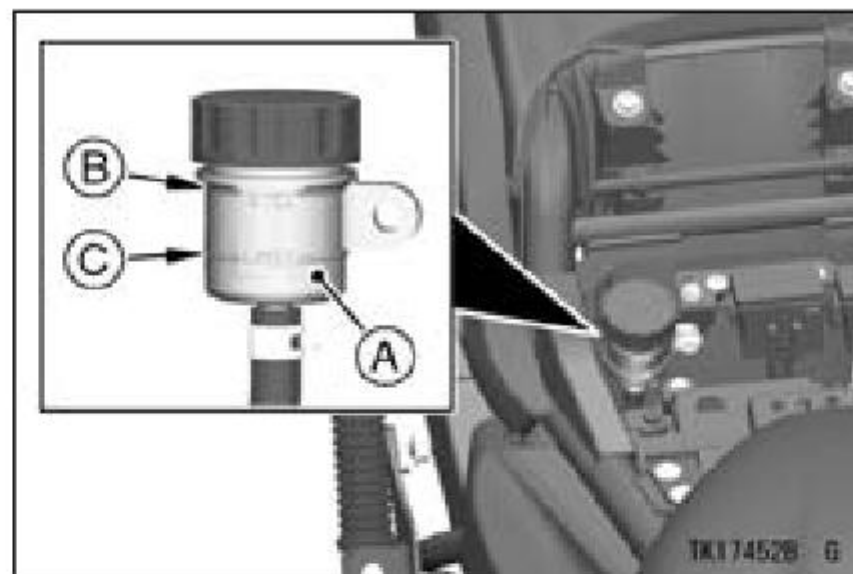
- With the front brake fluid reservoir held horizontal, the brake fluid level must be above the lower level line.

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A. Front Brake Fluid Reservoir
B. Lower Level Line

- With the rear brake fluid reservoir held horizontal, the brake fluid level must be kept between the upper and lower level lines.



A. Rear Brake Fluid Reservoir
B. Upper Level Line
C. Lower Level Line

- If the fluid level is lower than the lower level line it may indicate that the fluid is leaking. In this case, have the brake system inspected by an authorized Kawasaki dealer.

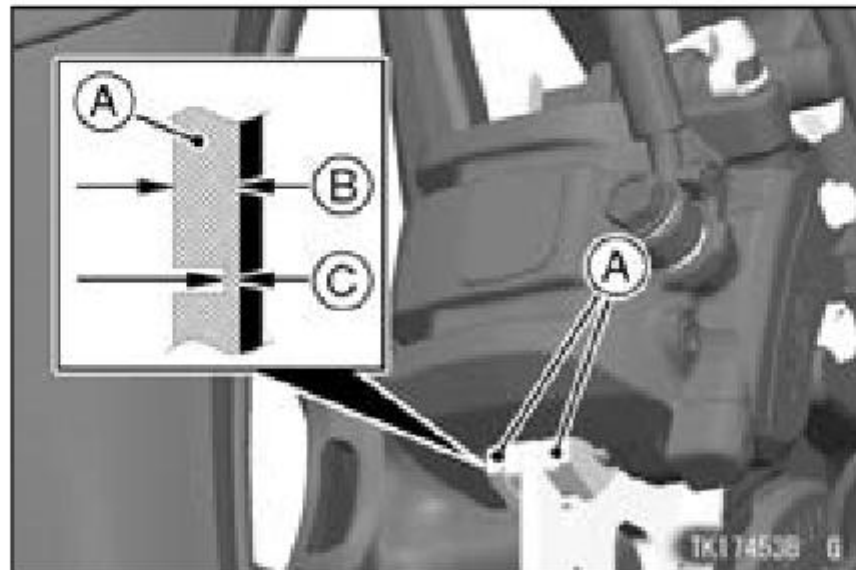
Brake Pad Wear Inspection

Inspect the brakes for wear. For each front and rear disc brake caliper, if the

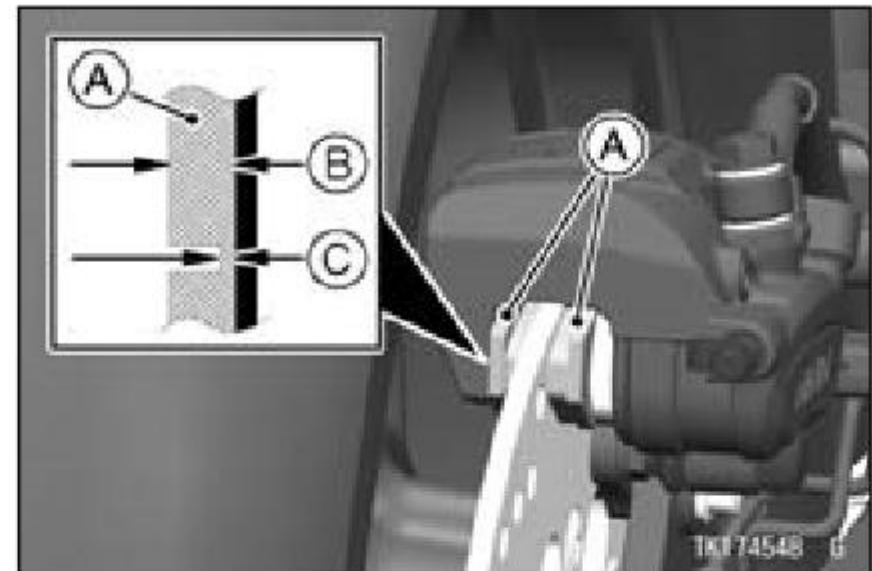
thickness of either pad lining is less than below table, replace both pads in the caliper as a set. Pad replacement should be done by an authorized Kawasaki dealer.

Lining Thickness Service Limit

Front	1.0 mm (0.04 in.)
Rear	1.5 mm (0.06 in.)



A. Front Brake Pads
 B. Lining Thickness
 C. Service Limit



A. Rear Brake Pads
 B. Lining Thickness
 C. Service Limit

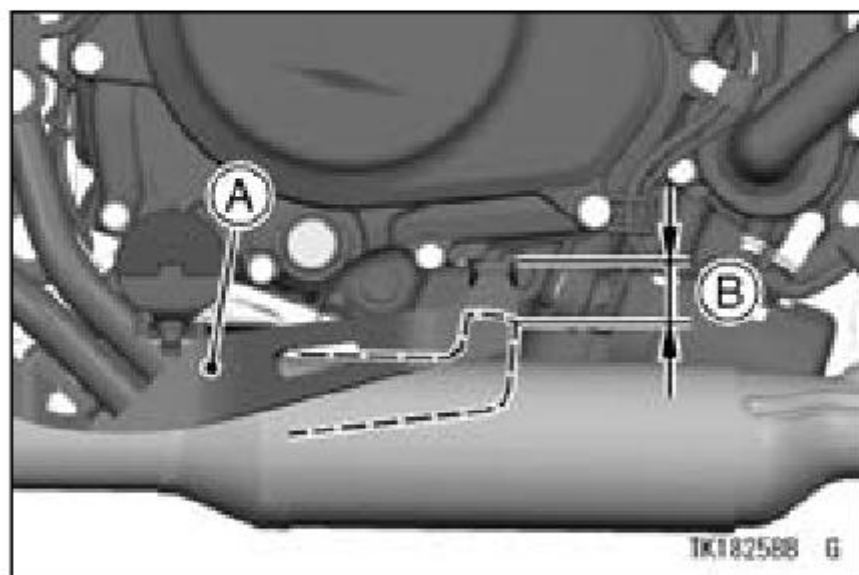
Brake Light Switches

Brake Light Switch Inspection

- Turn the ignition switch on.
- The brake light should go on when the front brake is applied.

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- If it does not, ask your authorized Kawasaki dealer to inspect the front brake light switch.
- Check the operation of the rear brake light switch by depressing the brake pedal. The brake light should go on after the proper pedal travel.



A. Brake Pedal
B. Brake Pedal Travel

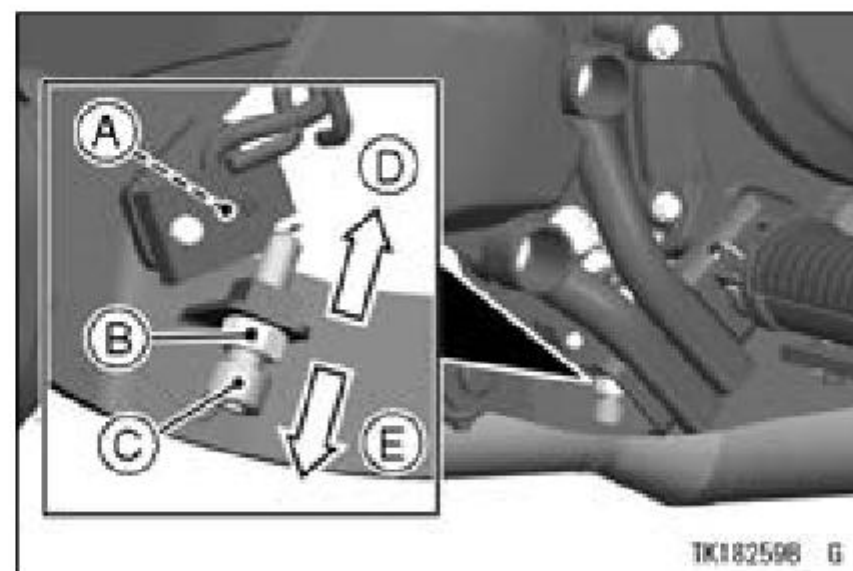
- If the light does not come on, adjust the rear brake light switch.

Brake Pedal Travel

10 mm (0.39 in.)

Brake Light Switch Adjustment

- Loosen the locknut.
- To adjust the rear brake light switch, turn the adjusting bolt up or down.



A. Rear Brake Light Switch
B. Locknut
C. Adjusting Bolt
D. Lights later
E. Lights sooner

- Tighten the locknut securely while holding the adjusting bolt.

Suspension System

Front Fork

NOTICE

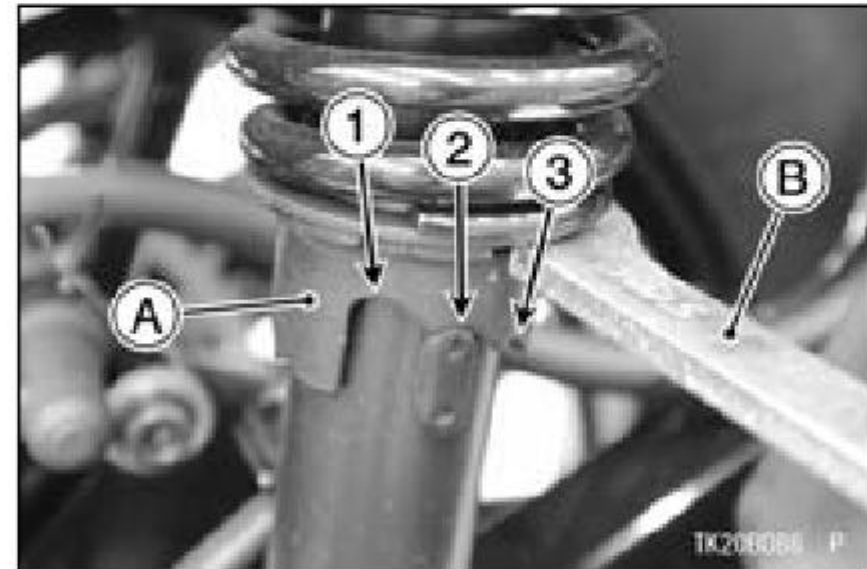
After riding on the normal road, the unpaved road and in the rainy weather, clean off any dirt (grit, mud or insect etc.) that stuck to inner tube before it hardens. If the motorcycle keeps running with the dirt stuck to the inner tube, the oil seal will be damaged and it causes the oil leak.

Rear Shock Absorber

Spring Preload Adjustment

The spring preload adjuster on the rear shock absorber has 5 positions.

- In accordance with the setting table, turn the preload adjuster with the wrench from the tool kit.



A. Spring Preload Adjuster
B. Wrench

NOTICE

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

NOTE

- *The standard and setting limit are shown in the Setting Table.*

Setting Table

Rear Shock Absorber Spring Preload Setting

	Softest setting limit	Standard	Hardest setting limit
Adjuster Position	1st	2nd	5th
Spring Action	Weak	←→	Strong
Setting	Soft	←→	Hard
Load	Light	←→	Heavy
Road	Good	←→	Bad
Speed	Low	←→	High

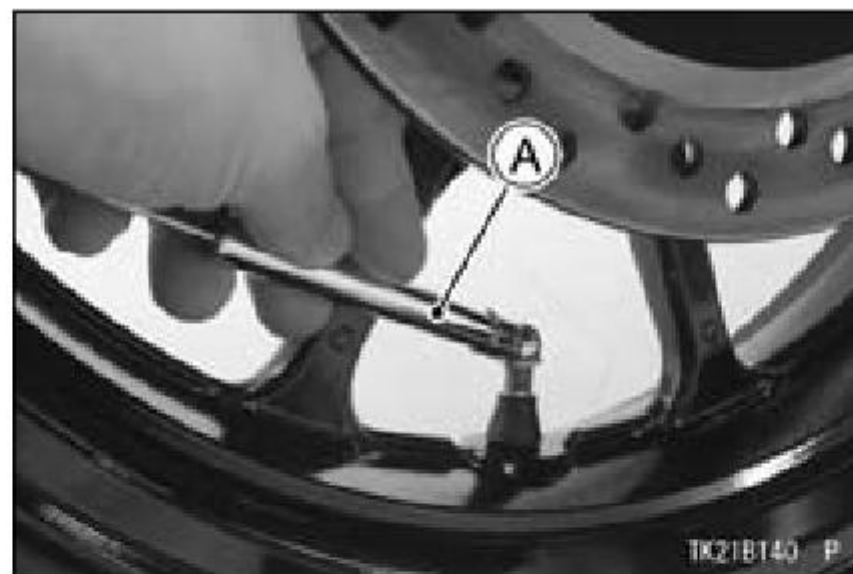
Wheels

Tire Pressure Inspection

- Remove the air valve cap.
- Check the tire pressure often, using an accurate gauge.
- Make sure to install the air valve cap securely.

NOTE

- *Measure the tire pressure when the tires are cold (that is, when the motorcycle has not been ridden more than 1.6 km (1 mile) during the past 3 hours).*
- *Tire pressure is affected by changes in ambient temperature and altitude, and so the tire pressure should be checked and adjusted when your riding involves wide variations in temperature or altitude.*



A. Tire Pressure Gauge

Tire Air Pressure (when cold)

Front	200 kPa (2.00 kgf/cm ² , 29 psi)
Rear	225 kPa (2.25 kgf/cm ² , 32 psi)

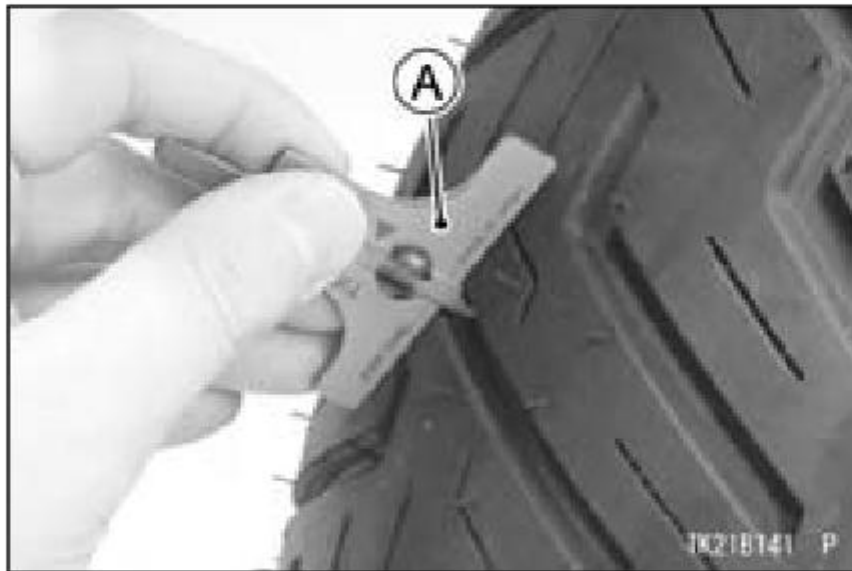
Tire Wear, Damage

As the tire tread wears down, the tire becomes more susceptible to puncture and failure. An accepted estimate is that 90% of all tire failures occur during the last 10% of tread life (90% worn).

So it is false economy and unsafe to use the tires until they are bald.

Tire Wear Inspection

- Measure the depth of the tread with a depth gauge, and replace any tire that has worn down to the minimum allowable tread depth.

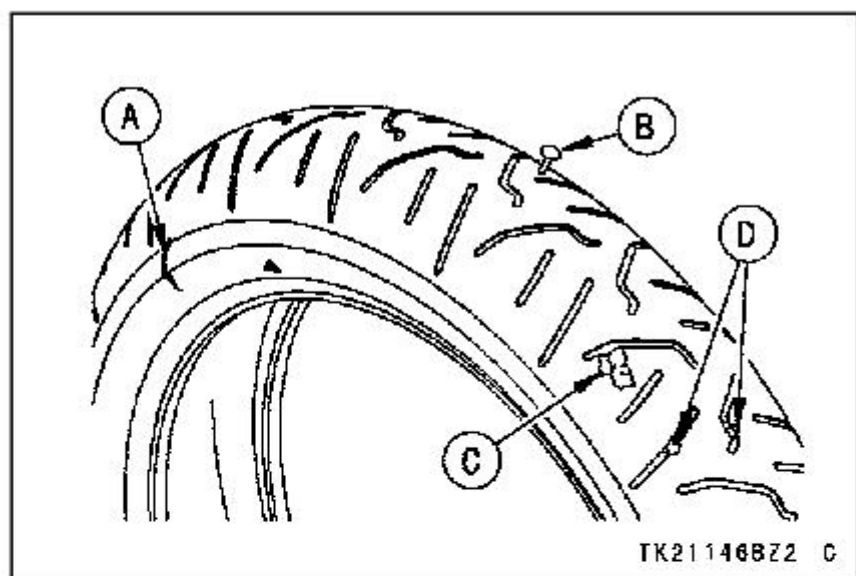


A. Tire Depth Gauge

Minimum Tread Depth

Front	–	1 mm (0.04 in.)
Rear	Under 130 km/h (80 mph)	2 mm (0.08 in.)
	Over 130 km/h (80 mph)	3 mm (0.12 in.)

- Visually inspect the tire for cracks and cuts, replacing the tire in case of bad damage. Swelling or high spots indicate internal damage, requiring tire replacement.



- A. Crack or Cut
- B. Nail
- C. Swelling or High Spot
- D. Stone

- Remove any imbedded stones or other foreign particles from the tread.

NOTE

- *Have the wheel balance inspected whenever a new tire is installed.*

⚠ WARNING

Tires that have been punctured and repaired do not have the same capabilities as undamaged tires and can suddenly fail, causing an accident resulting in serious injury or death. Replace damaged tires as soon as possible. To ensure safe handling and stability, use only the recommended standard tires for replacement, inflated to the standard pressure. If it is necessary to ride on a repaired tire, do not exceed 100 km/h (60 mph) until the tire is replaced.

NOTE

- *When operating on public roadways, keep maximum speed under traffic law limits.*

Recommended Standard Tire

Front	Make, Type: IRC, GS-23F Size: 130/70-18 M/C 63H
Rear	Make, Type: IRC, GS-23R Size: 150/80-16 M/C 71H

 **WARNING**

Mixing tire brands and types can adversely affect handling and cause an accident resulting in injury or death. Always use the same manufacturer's tires on both front and rear wheels.

 **WARNING**

New tires are slippery and may cause loss of control and injury. A break-in period of 160 km (100 miles) is necessary to establish normal tire traction. During break-in, avoid sudden and maximum braking and acceleration, and hard cornering.

Battery

The battery installed in this motorcycle is a sealed type, so it is not necessary to check the battery electrolyte level or add distilled water.

NOTICE

Never remove the sealing strip, or the battery can be damaged. Do not install a conventional battery in this motorcycle, or the electrical system cannot work properly.

Make	Yuasa Battery
Type	YTZ10

Battery Maintenance

It is the owner's responsibility to keep the battery fully charged. Failure to do so can lead to battery failure and leave you stranded.

If you are riding your vehicle infrequently, inspect the battery voltage weekly using a voltmeter. If it drops below 12.8 volts, the battery should be charged using an appropriate charger (check with your Kawasaki dealer).

If you will not be using the motorcycle for longer than two weeks, the battery should be charged using an appropriate charger. Do not use an automotive-type quick charger that may overcharge the battery and damage it.

NOTE

○ *Leaving the battery connected causes the electrical components (clock etc.) to make the battery discharged, resulting the over discharge of the battery. In this case, the repair or replacement of the battery is not included in the warranty. If you do not drive for four weeks or more, disconnect the battery from the vehicle.*

Kawasaki-recommended chargers are:

Battery Mate 150-9

OptiMate 4

Yuasa MB-2040/2060

Christie C10122S

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

For more details, ask your Kawasaki dealer.

Battery Charging

- Charge the battery following the instructions of your battery charger.
- The charger will keep the battery fully charged until you are ready to re-install the battery in the motorcycle (see Battery Installation).

⚠ DANGER

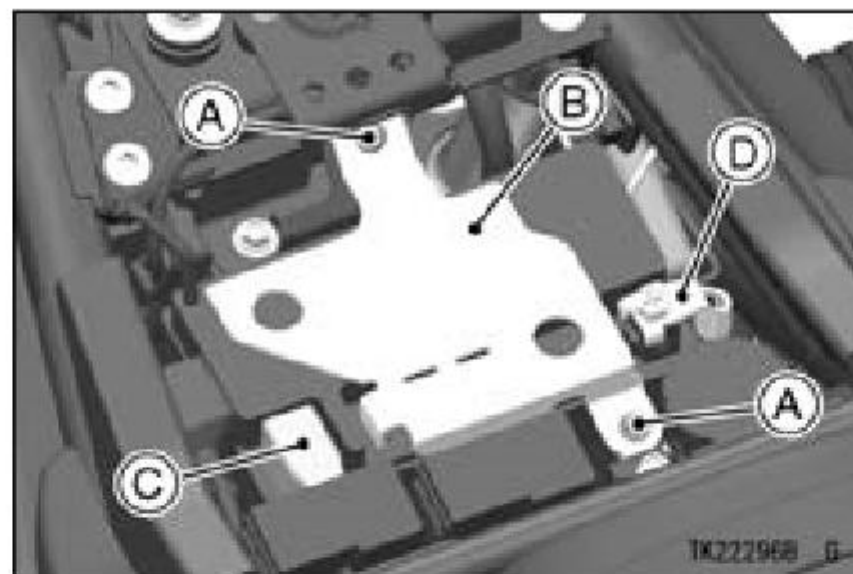
- **Battery acid generates hydrogen gas which is flammable and explosive under certain conditions. It is present within a battery at all times, even in a discharged condition. Keep all flames and sparks (cigarettes) away from the battery.**
- **Wear eye protection when working with a battery. In the event of battery acid contact with skin, eyes, or clothing, wash the affected areas immediately with water for at least five minutes. Seek medical attention.**

 **WARNING**

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Battery Removal

- Make sure the ignition switch is turned off.
- Remove the rider's seat (see Seats section in the GENERAL INFORMATION chapter).
- Remove the bolts and bracket.
- Disconnect the negative (–) cable from the (–) terminal.
- Slide the red cap from the positive (+) terminal.
- Disconnect the positive (+) cable from the (+) terminal.



- A. Bolts
- B. Bracket
- C. Red Cap and (+) Terminal
- D. (–) Terminal

- Take the battery out of the battery case.
- Clean the battery using a solution of baking soda and water. Be sure that the cable connections are clean.

Battery Installation

- Place the battery on the battery case.

- Connect the positive (+) cable to the (+) terminal, and then connect the negative (–) cable to the (–) terminal.

NOTE

- *When connecting the battery negative (–) cable, be sure to tighten the terminal bolt while pressing the battery cable terminal against the battery terminal.*

NOTICE

Installing the negative (–) cable to the (+) terminal of the battery or the positive (+) cable to the (–) terminal of the battery can seriously damage the electrical system.

- Put a light coat of grease on the terminals to prevent corrosion.
- Cover the (+) terminal with the red cap.
- Install the removed parts.

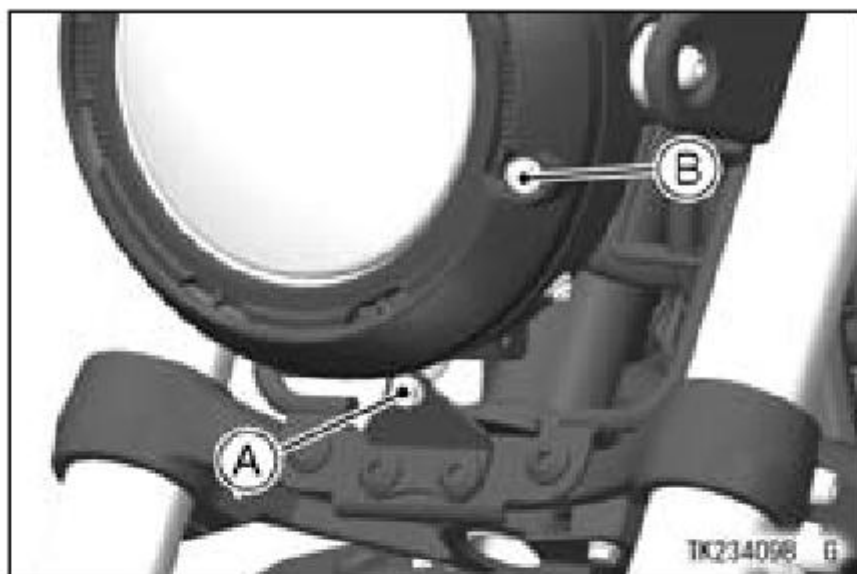
Headlight

Headlight aiming should be done by an authorized Kawasaki dealer.

Horizontal Adjustment

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

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



A. Vertical Adjuster
B. Horizontal Adjuster

Vertical Adjustment

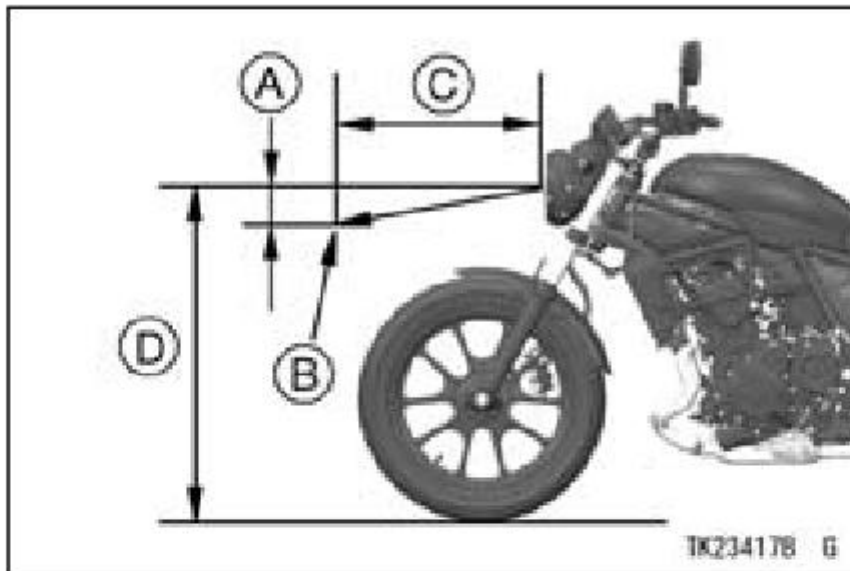
The headlight beam is adjustable vertically. If adjusted too low, neither low nor high beam will illuminate the road

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.

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

NOTE

- *On high beam, the brightest points 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

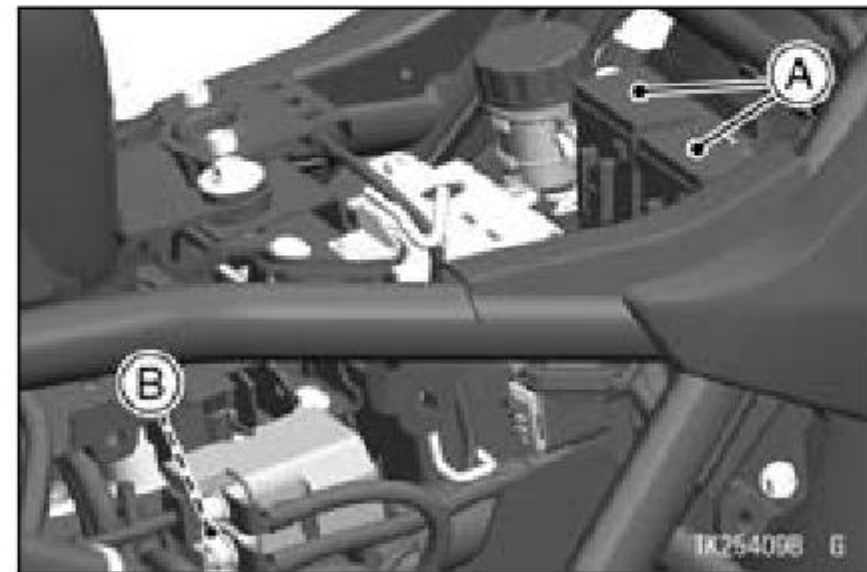
Fuses

Fuses are arranged in the fuse boxes located behind the left side cover. The main fuse is located under the fuel tank. If a fuse fails during operation, inspect the electrical system to determine the

cause, and then replace it with a new fuse of proper amperage.

If the fuse fails repeatedly, there is something wrong with the electrical system. Have the motorcycle checked by an authorized Kawasaki dealer.

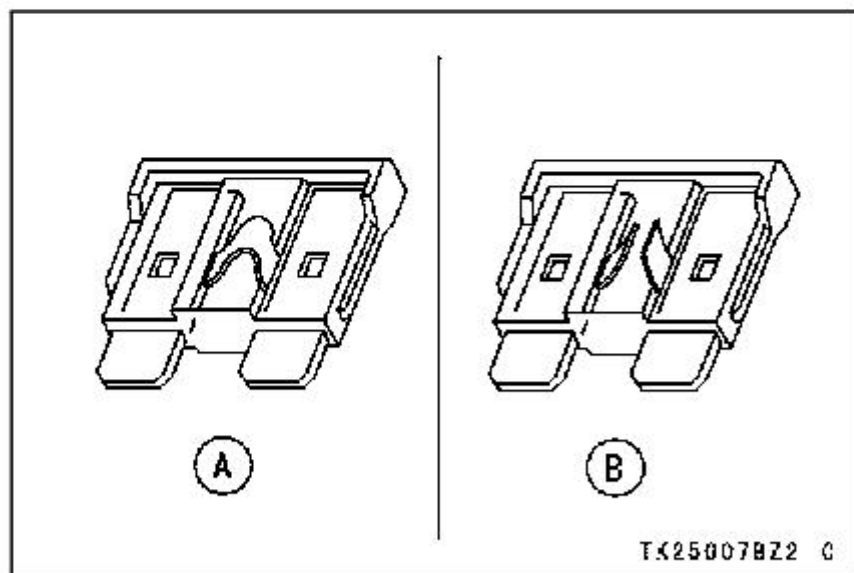
The main fuse removal should be done by an authorized Kawasaki dealer.



- A. Fuse Boxes
- B. Main Fuse


WARNING

Substituting fuses can cause wiring to overheat, catch fire and/or fail. Do not use any substitute for the standard fuse. Replace the blown fuse with a new one of the correct capacity, as specified on the fuse boxes and main fuse.



A. Normal
B. Failed

General Lubrication

Lubricate the points shown below, with either engine oil or regular grease, in accordance with the Periodic Maintenance Chart or whenever the vehicle has been operated under wet or rainy conditions.

Before lubricating each part, clean off any rusty spots with rust remover and wipe off any grease, oil, dirt, or grime.

Apply motor oil to the following pivots

- Side Stand
- Clutch Lever
- Front Brake Lever
- Rear Brake Pedal

Lubricate the following cables with a pressure cable luber

- (K) Clutch Inner Cable
- (K) Throttle Inner Cables

Apply grease to the following points

- **(K)** Clutch Inner Cable Upper End
- **(K)** Throttle Inner Cable Upper Ends

(K): Should be serviced by an authorized Kawasaki dealer.

NOTE

- *After connecting the cables, adjust them.*

Cleaning

General Precautions

Frequent and proper care of your vehicle will enhance its appearance, optimize overall performance, and extend its useful life. Covering your vehicle with a high quality, breathable vehicle cover will help protect its finish from harmful UV rays, pollutants, and reduce the amount of dust reaching its surfaces.

**WARNING**

Build-up of debris or flammable material in and around the vehicle chassis, engine, and exhaust can cause mechanical problems and increase the risk of fire. When operating the vehicle in conditions that allow debris or flammable material to collect in and around the vehicle, inspect the engine, electrical component and exhaust areas frequently. If debris or flammable materials have collected, park the vehicle outside and stop the engine. Allow the engine to cool, then remove any collected debris. Do not park or store the vehicle in an enclosed space prior to inspecting for build-up of debris or flammable materials.

- Be sure the engine and exhaust are cool before washing.
- When washing the vehicle, always use a mild neutral detergent and water.
- Avoid applying all harsh chemicals, solvents, degreaser, oil remover, electrical contact cleaner, and household cleaning products such as ammonia-based window cleaners. They will damage or deteriorate painted parts, plastic parts, rubber parts and other synthetic parts including covers and headlight lens.
- Avoid applying degreaser to seals, brake pads, and tires.
- Gasoline, brake fluid, and coolant will damage the finish of painted and plastic surfaces: wash them off immediately.
- Avoid wire brushes, steel wool, and all other abrasive pads or brushes.

- Take care when washing the headlight lens and other plastic parts as they can easily be scratched.

NOTE

- *After riding in an area where the roads are salted or near the ocean, immediately wash your vehicle with cold water. Do not use warm water as it accelerates the chemical reaction of the salt. After drying, apply a corrosion protection spray on all metal and chrome surfaces to prevent corrosion.*
- *Condensation may form on the inside of the headlight lens after riding in the rain, washing the vehicle or humid weather. To remove the moisture, start the engine and turn on the headlight. Gradually the condensation on the inside of the lens will clear off.*

Radiator

Clean off any obstructions with a stream of low-pressure water.

NOTICE

Using high-pressure water, as from a car wash facility, could damage the radiator fins and impair the radiator's effectiveness. Do not obstruct or deflect airflow through the radiator by installing unauthorized accessories in front of the radiator or behind the cooling fan. Interference with the radiator airflow can lead to overheating and consequent engine damage.

Matte Paint Parts

- When washing the vehicle, always use a mild neutral detergent and water, or cleaners for matte paint.

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- The matte paint effect may be lost when the paint is excessively rubbed.
- If any doubt, consult an authorized Kawasaki dealer.

Plastic Parts

After washing, use a soft cloth to gently dry plastic parts. When dry, treat the headlight lens and other non-painted plastic parts with an approved plastic cleaner/polisher product.

NOTICE

Plastic parts may deteriorate and break if they come in contact with chemical substances or household cleaning products such as gasoline, brake fluid, window cleaners, thread-locking agents, or other harsh chemicals. If a plastic part comes in contact with any harsh chemical substance, wash it off immediately with water and a mild neutral detergent, and then inspect for damage. Avoid using abrasive pads or brushes to clean plastic parts, as they will damage the part's finish.

Chrome and Aluminum

Chrome and uncoated aluminum parts can be treated with a chrome/aluminum polish. Coated aluminum

should be washed with a mild neutral detergent and finished with a spray polish. Aluminum wheels, both painted and unpainted can be cleaned with special non-acid based wheel spray cleaners.

Leather, Vinyl, and Rubber

If your vehicle has leather accessories, special care must be taken. Use a leather cleaner/treatment to clean and care for leather accessories. Washing leather parts with detergent and water will damage them, shortening their life.

Vinyl parts should be washed with the rest of the vehicle, then treated with a vinyl treatment.

The sidewalls of tires and other rubber components should be treated with a rubber protectant to help prolong their useful life.

Where to be Careful

Avoid spraying water with any great force near the following places.

- Disc brake master cylinder and caliper.
- Under the rider's seat, left side cover and fuel tank - if water gets into the fuse box or battery, it can ground out the spark. When this happens the vehicle will not operate properly and the affected parts must be wiped dry.

NOTICE

Coin operated, high pressure spray washers are not recommended. Water may be forced into bearings and other components causing eventual failure from rust and corrosion. Some soaps are highly alkaline and may leave a residue or cause spotting.

NOTE

○ *Abrasive cleanser or high pressure washer will damage the surface finish on the bodywork.*

Washing Your Vehicle

- Before washing, precautions must be taken to keep water off the following parts.

Muffler rear opening - cover with a plastic bag.

Ignition switch - cover the keyhole with tape.

- Rinse your vehicle with cold water from a garden hose to remove any loose dirt.
- Mix a mild neutral detergent (designed for motorcycles or automobiles) and water in a bucket. Use a soft cloth or sponge to wash your vehicle.
- After washing, rinse your vehicle thoroughly with clean water to remove any residue (residue from the detergent can damage parts of your vehicle).
- Remove the plastic bag and tape.
- Use a soft cloth to dry your vehicle. As you dry, inspect your vehicle for chips and scratches. Do not let the water air dry as this can damage the painted surfaces.

- Carefully ride your vehicle at a slow speed and apply the brakes several times. This helps dry the brakes

and restores them to normal operating performance.

