



Includes:

- Important Safety Information**
- Operating Instructions**
- Maintenance and Storage**

MULE™ 3010/3020/3000

Utility Vehicle

保存版

OWNER'S MANUAL

⚠ WARNING

Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Quick Reference Guide

This Quick Reference Guide will assist you in finding the information you're looking for.

**General
Information**

How to Operate

Safe Operation

**Maintenance
and Adjustment**

Storage

**Troubleshooting
Guide**

A Table of Contents is included after the Foreword.

Whenever you see the symbols shown below, 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 strictly observed, could result in damage to or destruction of equipment.

NOTE

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

MULE3010.....KAF620E
MULE3020.....KAF620F
MULE3000.....KAF620G

EMISSION CONTROL INFORMATION

To protect the environment in which we all live, Kawasaki has incorporated crankcase emission (1) and exhaust emission (2) control systems (EM) in compliance with applicable regulations of the United States Environmental Protection Agency and California Air Resources Board.

1. Crankcase Emission Control System

A sealed-type crankcase emission control system is used to eliminate blow-by gases. The blow-by gases are led to the breather chamber through the crankcase. Then, it is led to the air cleaner.

Oil is separated from the gases while passing through the inside of the breather chamber from the crankcase, and then returned back to the bottom of the crankcase.

2. Exhaust Emission Control System

The exhaust emission control system applied to this engine family is engine modifications that consist of a modified carburetor and ignition system having optimum ignition timing characteristics.

The carburetor has been calibrated to provide lean air/fuel mixture characteristics and optimum fuel economy with a suitable air cleaner and exhaust system.

A maintenance free ignition system provides the most favorable ignition timing and helps maintain a thorough combustion process within the engine which contributes to a reduction of exhaust pollutants entering the atmosphere.

High Altitude Performance Adjustment Information

To improve the EMISSION CONTROL PERFORMANCE of vehicles operated above 4,000 feet, Kawasaki recommends the following modification.

NOTE

- *When properly performed, these specified modifications only are not considered to be emissions system "tampering" and vehicle performance is generally unchanged as a result.*

Installation Instructions:

High altitude adjustment requires replacement of certain carburetor components. Installation of these optional parts may be performed by an authorized Kawasaki dealer, or the consumer, following repair recommendations specified in the appropriate Kawasaki Service Manual.

Maintenance and Warranty

Proper maintenance is necessary to ensure that your vehicle will continue to have low emission levels. This Owner's Manual contains those maintenance recommendations for your vehicle. Those items identified by the Periodic Maintenance Chart are necessary to ensure compliance with the applicable standards.

As the owner of this vehicle, you have the responsibility to make sure that the recommended maintenance is carried out according to the instructions in this Owner's Manual at your own expense.

You should keep a maintenance record for your vehicle. To assist you in keeping this record, we have provided space on pages 120 through 124 of this manual where an authorized Kawasaki dealer, or someone equally competent, can record the maintenance. You should also retain copies of maintenance work orders, bills, etc., as verification of this maintenance.

Tampering with Emission Control System Prohibited

Federal law prohibits the following acts or the causing thereof: (1) the removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purposes of emission control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

Do not tamper with the original emission related parts:

- Carburetor and internal parts
- Spark plugs
- Magneto or electronic battery ignition system
- Fuel filter
- Air cleaner element

PLEASE DO NOT TAMPER WITH NOISE CONTROL SYSTEM

To minimize the noise emissions from this product, Kawasaki has equipped it with effective intake and exhaust silencing systems. They are designed to give optimum performance while maintaining a low noise level. Please do not remove these systems, or alter them in any way which results in an increase in noise level.

FOREWORD

Congratulations on your choice of a new Kawasaki MULE. It is the result of Kawasaki engineering expertise and a tradition of manufacturing high-quality consumer products.

Please read this manual carefully before starting your new vehicle. Be sure you understand its controls, capabilities, limitations, and proper operating procedures. Observe the maintenance requirements listed in this book as well.

More detailed service information is contained in the service manual for this model, which is available from Kawasaki dealers.

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8 BASIC SAFE DRIVING

BASIC SAFE DRIVING

Knowing and following these rules for safe operation will increase your satisfaction with your new Kawasaki vehicle.

Perform the Daily Safety Checks

Refer to the Daily Safety Checks section for a list of items to check each day before use. Habitual performance of these checks will help to insure safer, more reliable usage. Be sure that any irregularities found during these checks are corrected before operating the vehicle.

Drive Carefully and with Good Judgement

We want you to be satisfied with your new Kawasaki vehicle, so drive carefully, safely, and exercise good judgement. Practice basic maneuvers so you can drive confidently and safely.

Read the Owner's Manual

Read and understand this Owner's Manual. This is especially important for inexperienced drivers. Refer to this Owner's Manual if you have any questions.

Off-Highway Use Only

This vehicle is not an all-terrain vehicle; it is designed and equipped to be a multiuse utility vehicle for off-highway use only. Operation on public roads is not recommended.

Operator's Capacity

All operators should possess a valid driver's license. Children may not have the skills and judgement necessary to operate this vehicle safely.

Never Drink and Drive

Alcohol and drugs impair your judgement and slow your reactions. Even drugs prescribed by a physician can be dangerous. Check with your doctor.

Dress Properly

As appropriate to operating conditions wear an approved helmet, eye protection, and protective clothing. Proper clothing can make driving more comfortable and reduce the severity of injury in the event of an accident.

Wearing Seat Belt

Both the operator and passenger should wear the seat belts whenever the vehicle is operated. This will reduce the severity of injury in case of a sudden stop or collision.

Also, to reduce chance of injury, always keep arms and legs inside the cab frame while the vehicle is in motion.

Before Starting the Engine

Three "musts" before starting the engine are:

1. Apply the parking brake,
2. Put the gear shift lever in the "N"(neutral) position,

BASIC SAFE DRIVING 9

3. Check the throttle pedal for proper operation. It should return to its rest position when released.

Use the Parking Brake

Always apply the parking brake before getting out of your vehicle.

Obey Local Laws

Know and obey all laws and regulations governing the use of off-highway vehicles in your area. Respect private property. Always try to preserve nature and the environment.

Refueling

Before refueling the vehicle, shut the engine off and make sure the area is well ventilated and free of any source of flame or sparks. Gasoline is very flammable.

Tire Air Pressure

Tire inflation and type can affect the vehicle's handling characteristics. Check the tire pressure frequently. Use only the recommended tires for replacement.

10 SPECIFICATIONS

SPECIFICATIONS

PERFORMANCE

Maximum Torque 47 N·m (4.8 kg·m, 34.7 ft·lb) @2,500 r/min (rpm)

Minimum Turning Radius

Differential Mode: 3.4 m (11.2 ft)

DIMENSIONS

Overall Length 2,861 mm (112.64 in)

Overall Width 1,460 mm (57.48 in)

Overall Height 1,936 mm (76.22 in) (F) 1,900 mm (74.80 in)

Wheelbase 1,870 mm (73.62 in)

Track: Front 1,160 mm (45.67 in)

Rear 1,180 mm (46.46 in)

Ground Clearance 184 mm (7.24 in) (F) 150 mm (5.91 in)

Dry Weight 580 kg (1,279 lb) (F) 541 kg (1,193 lb) (G) 544 kg (1,200 lb)

Cargo Bed (L x W x H)
1,175 x 1,310 x 288 mm
(46.26 x 51.57 x 11.34 in)

ENGINE

Type OHV, 2-cylinder, 4-stroke, liquid-cooled

Displacement 617 mL (37.6 cu in)

Bore x Stroke 76.0 x 68.0 mm (2.99 x 2.68 in)

Compression Ratio 10.3 : 1

Starting System Electric starter

Cylinder Numbering Method Front to rear, 1-2

SPECIFICATIONS 11

Firing Order		1-2
Carburetor		Mikuni BW26-18
Ignition System		Battery and transistor
Ignition Timing		3°/900 ~ 13°/2,000 ~ 18°/2,500 ~ 23°/3,500 (BTDC °/rpm)
Spark Plug		NGK BPR2ES
Lubrication System		Forced lubrication (wet sump)
Engine Oil		API SF or SG, API SH or SJ with JASO MA class SAE 5W-30, 10W-40, 10W-50, 20W-40 or 20W-50
Engine Oil Capacity		1.8 L (1.9 US qt)
Coolant Capacity		4.3 L (4.5 US qt)
DRIVE TRAIN		
Driving Type		4WD, gear (F)(G) 2WD, gear
Transmission Type		2-speed & reverse, automatic (F)(G) 1-speed & reverse, automatic
Primary Reduction Ratio		3.9 ~ 0.85 (Belt drive torque converter)
Final Reduction Ratio		5.4
Overall Drive Ratio:	Forward	8.360 (High) (F)(G) 8.360 17.212 (Low)
	Reverse	19.372 (F)(G) 9.409
Transmission Gear Ratio:	Forward	1.821 (High) (F)(G) 1.821 3.750 (Low)
	Reverse	4.220 (F)(G) 2.050
Front Final Gear Case Oil		(E) API GL-5 or API GL-6 Hypoid gear oil for Limited Slip Differentials, SAE 85 W-140, SAE90 or SAE140
Front Final Gear Case Oil Capacity		(E) 0.4 L (0.4 US qt)
Transmission Case Oil		API GL-5 SAE 90 [above 5°C (41°F)] SAE 80 [below 5°C (41°F)]
Transmission Case Oil Capacity		2.5 L (2.6 US qt) (F)(G) 2.2 L (2.3 US qt)

12 SPECIFICATIONS

FRAME

Type	Steel tube, ladder type
Castor	7.5°
Trail	35 mm (1.4 in)
Tire Size: Front & Rear	23 x 11.00-10 Tubeless (F) 20 x 10.00-10 Tubeless
Fuel Tank Capacity	20 L (5.3 US gal)

ELECTRICAL EQUIPMENT

Battery	12 V 18 Ah
Headlight	12 V 30 W x 2
Tail/Brake Light	12 V 5/21 W x 2

LOAD CAPACITY

Maximum Vehicle Load (Including occupants and cargo)	603 kg (1,330 lb)
Maximum Cargo Bed Load	363 kg (800 lb)

(E) : KAF620E

(F) : KAF620F

(G) : KAF620G

Specifications subject to change without notice.

SERIAL NUMBER LOCATIONS

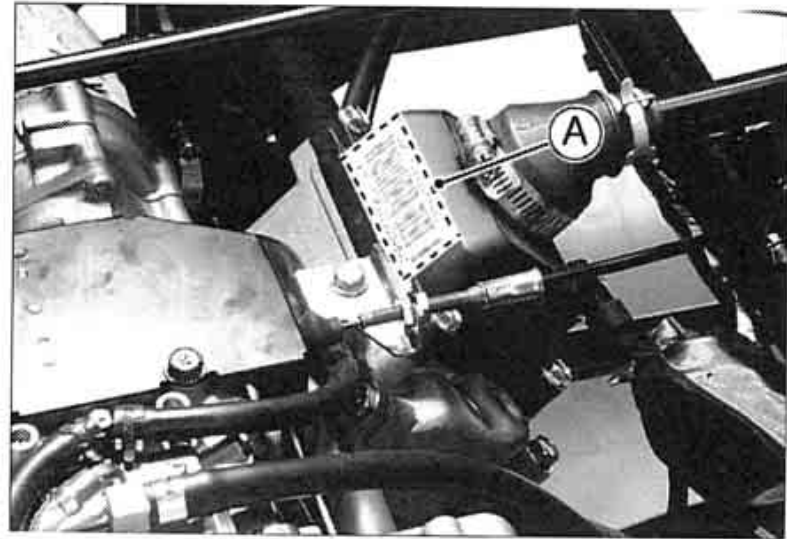
The engine and frame serial numbers are used to register the vehicle. They are the only means of identifying your particular machine from others of the same model type. These serial numbers may be needed by your dealer when ordering parts. In the event of theft, the investigating authorities will require both numbers as well as the model type and any peculiar features of your machine that can help them identify it.

Frame No.



A. Frame Number

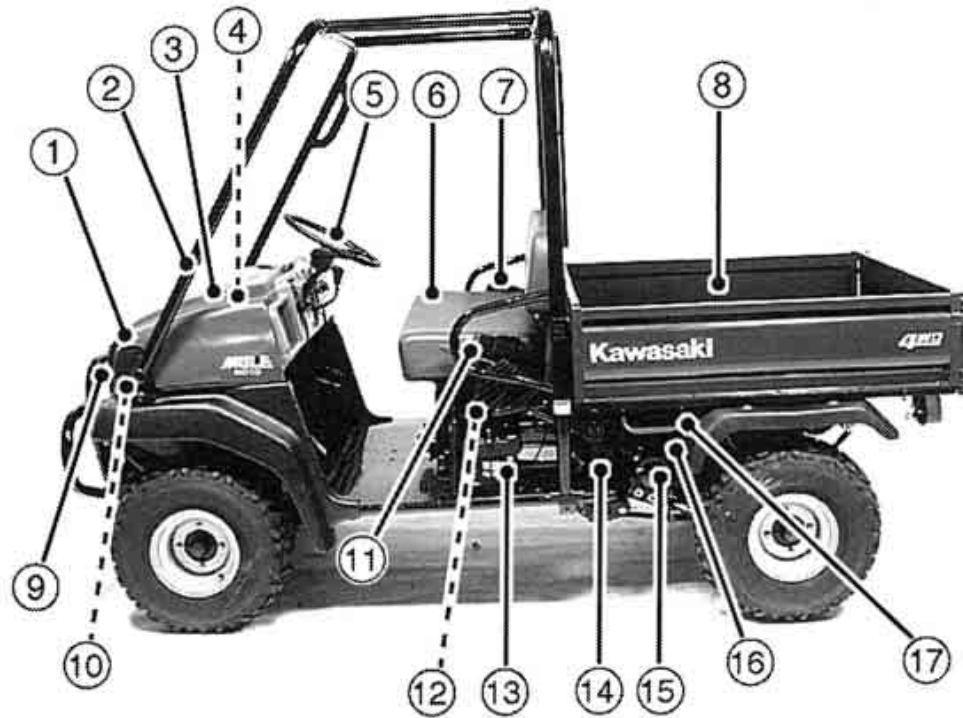
Engine No.



A. Engine Number

14 LOCATION OF PARTS

LOCATION OF PARTS

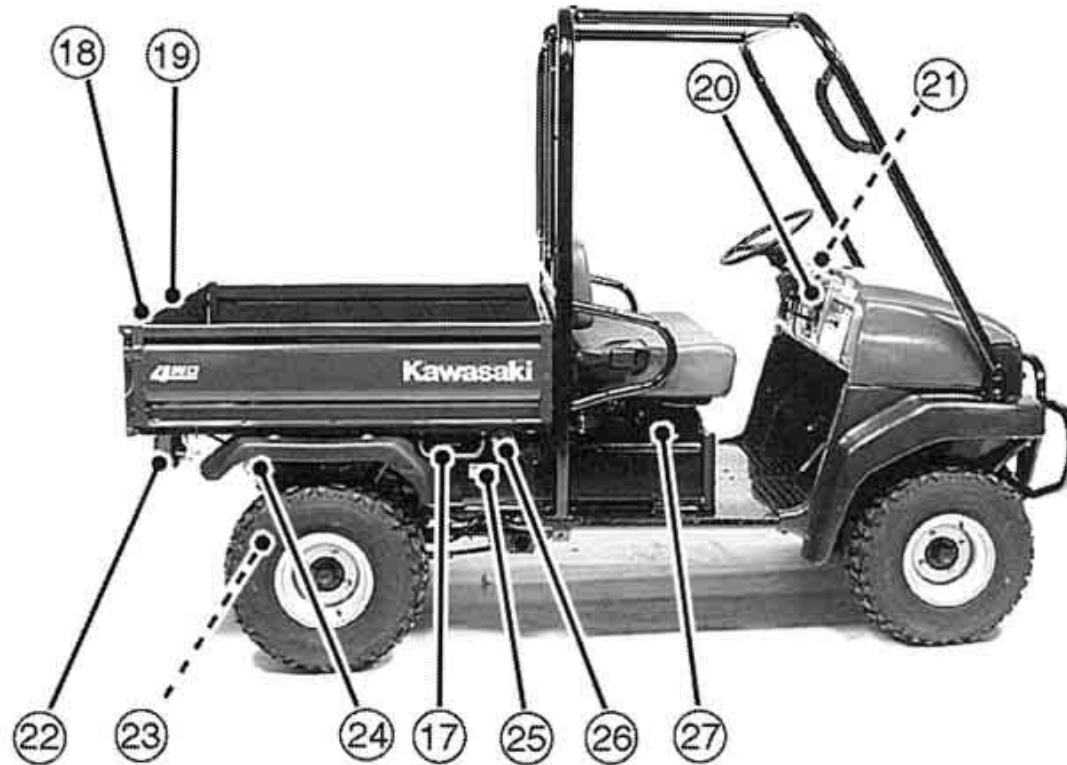


- 1. Headlights
- 2. Cab Frame
- 3. Front Cargo Hood
- 4. Front Cargo Compartment
- 5. Steering Wheel
- 6. Seat

- 7. Seat Belts
- 8. Cargo Bed
- 9. Grille (Front Bumper)
- 10. Radiator
- 11. Parking Brake
- 12. Air Cleaner

- 13. Battery
- 14. Latch
- 15. Air Cleaner (Belt Drive Torque Converter)
- 16. Belt Drive Torque Converter
- 17. Handgrip

LOCATION OF PARTS 15

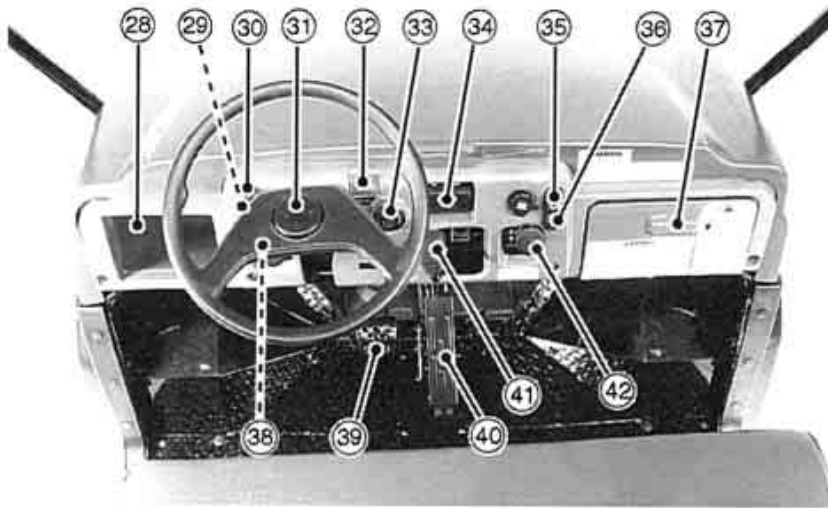


- 18. Latch Handle
- 19. Tail Gate
- 20. Dashboard
- 21. Coolant Reserve Tank

- 22. Tail/Brake Lights
- 23. Trailer Hitch Bracket
- 24. Muffler (Spark Arrester)

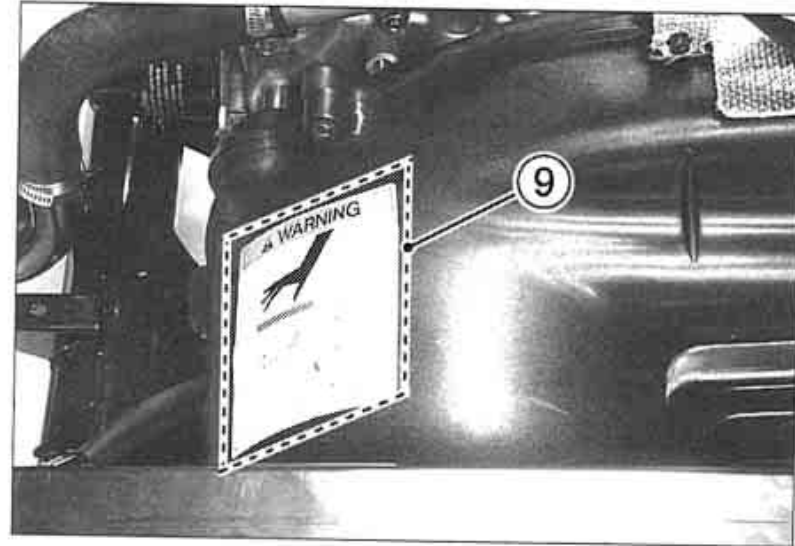
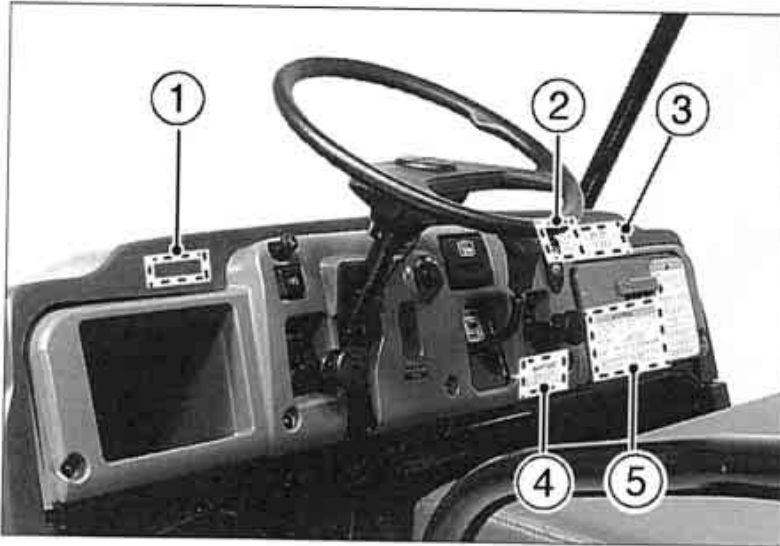
- 25. Fuel Tank
- 26. Fuel Tank Cap
- 27. Fuel Gauge

16 LOCATION OF PARTS



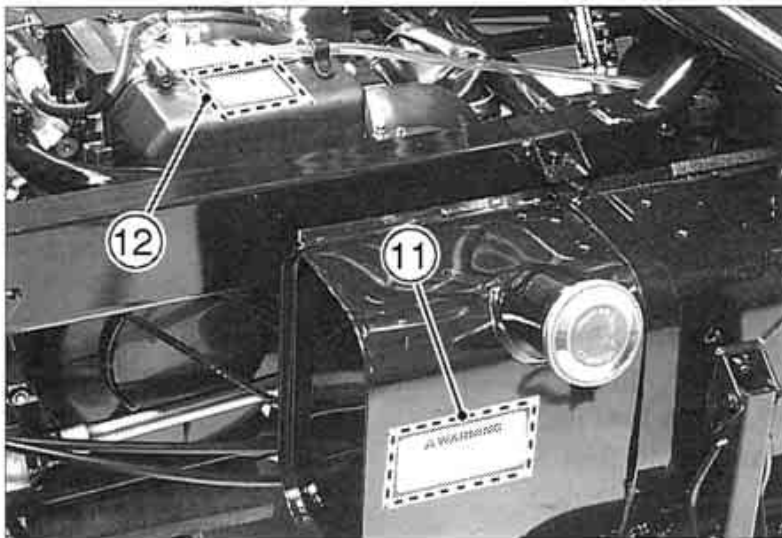
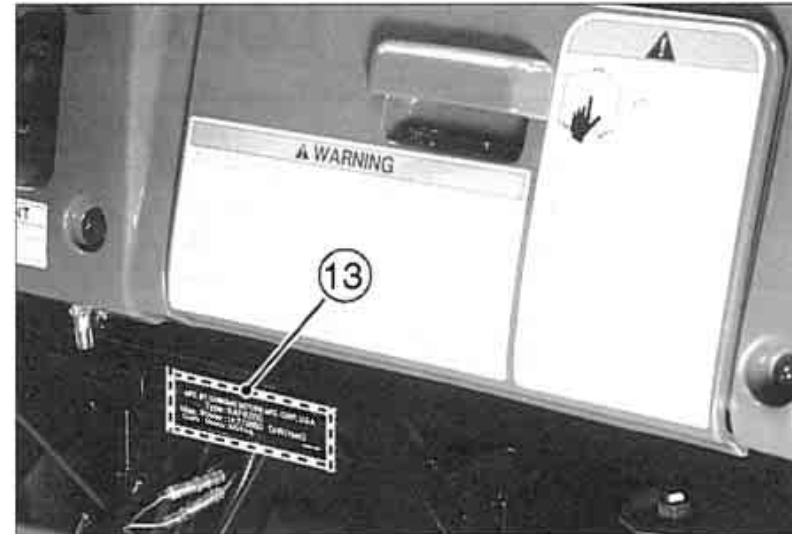
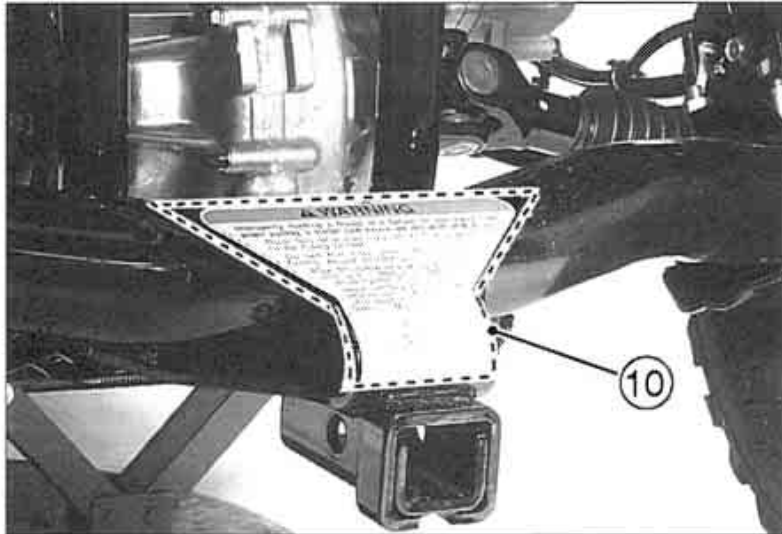
- 28. Left Glove Compartment
- 29. Light Switch
- 30. Choke Knob
- 31. Horn Button
- 32. Hour Meter
- 33. Ignition Switch
- 34. Front Cargo Latch
- 35. Coolant Temperature Warning Light
- 36. Parking Brake Warning Light
- 37. Right Glove Compartment
- 38. Differential Shift Lever
- 39. Brake Pedal
- 40. Throttle Pedal
- 41. Gear Shift Lever
- 42. 2WD-4WD Shift Lever (KAF620E)

LOCATION OF LABELS



1. Warning (Off-Highway Utility Vehicle)
2. Warning (Front Cargo Hood)
3. Caution (Shifting)
4. Important (Hi-Lo Shifting)
5. Warning (General)
6. Important Information (Tires/Max. Load)
7. Warning (Cargo Bed)
8. Cargo Bed Information
9. Warning (Hot Surfaces)

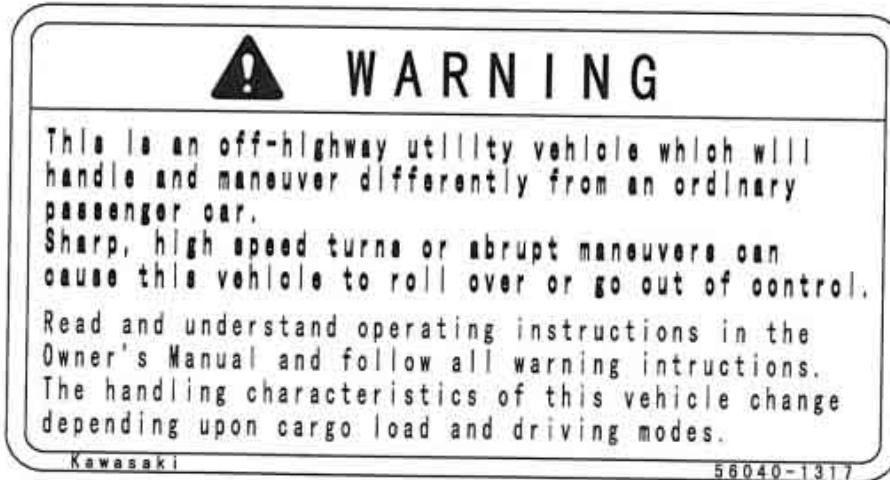
18 LOCATION OF LABELS



- 10. Warning (Towing Bracket/Trailer)
- 11. Warning (Refueling)
- 12. Important Engine Information
- 13. Specification

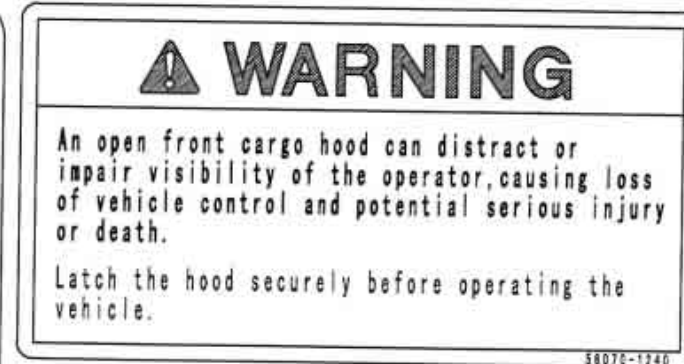
LOCATION OF LABELS 19

①



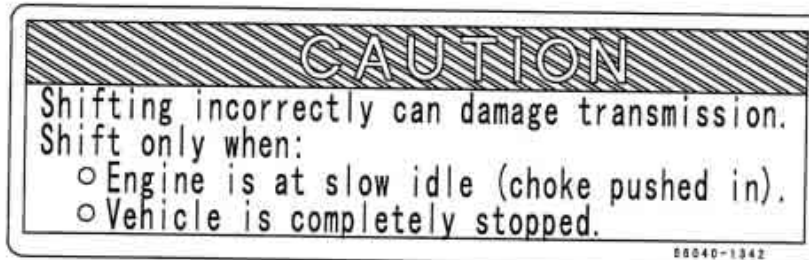
56040-1317

②



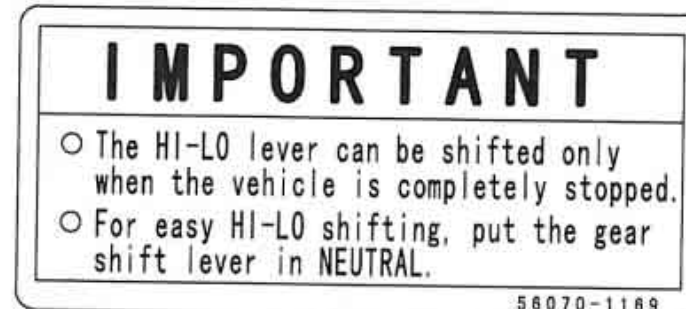
56070-1240

③



56040-1342

④ (KAF620E Only)



56070-1169

20 LOCATION OF LABELS

5

⚠ WARNING	
<p>The Owner's Manual and warning labels contain important information on safe operation of this vehicle.</p> <p>You must read and fully understand the Owner's Manual and warning labels before operating this vehicle. Keep the Owner's Manual with this vehicle at all times.</p>	<p>Protective head gear reduces the risk of head injuries. Use of helmet in rough terrain and a hard hat at construction sites is especially recommended.</p>
<p>Use on public road is hazardous.</p> <p>This vehicle is designed and equipped for off-highway use only.</p>	<p>Seat belts reduce injuries.</p> <p>Always fasten your seat belt.</p>
<p>Children may not have skills and judgement to safely operate this vehicle.</p> <p>All operators should possess a valid driver's license.</p>	<p>Alcohol and drugs impair reaction time and judgement.</p> <p>Never drink and ride.</p>
<p>Carrying passengers out side the passenger compartment can be hazardous.</p> <p>This vehicle is designed to carry the operator and only one passenger in the seat provided.</p>	<p>Failure to apply parking brake may result in vehicle moving inadvertently.</p> <p>Apply parking brake before leaving vehicle.</p>

56040-1339

56040-1339

6 (KAF620E/G)

IMPORTANT INFORMATION
<ul style="list-style-type: none"> •Tires <ul style="list-style-type: none"> Front: 23X11.00-10 Rear : 23X11.00-10 •Cold Tire Pressure <ul style="list-style-type: none"> Front: 89kPa(10psi) Rear : 107kPa(24psi) •Max.Vehicle Load:803kgf(1330lbs) including occupants and cargo.

56037-1859

56037-1859

6 (KAF620F)

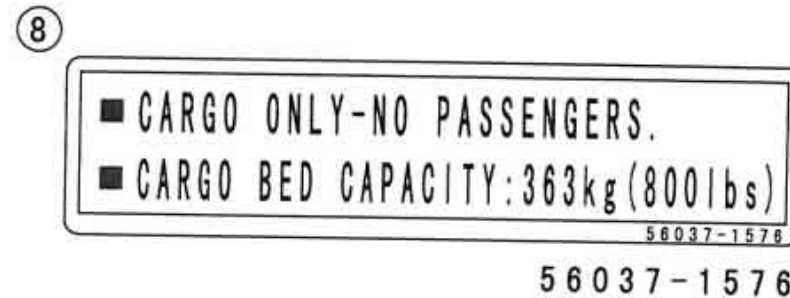
IMPORTANT INFORMATION
<ul style="list-style-type: none"> •Tires <ul style="list-style-type: none"> Front: 20X10.00-10 Rear : 20X10.00-10 •Cold Tire Pressure <ul style="list-style-type: none"> Front: 78kPa(12psi) Rear : 137kPa(20psi) •Max.Vehicle Load:803kgf(1330lbs) including occupants and cargo.

56037-1905

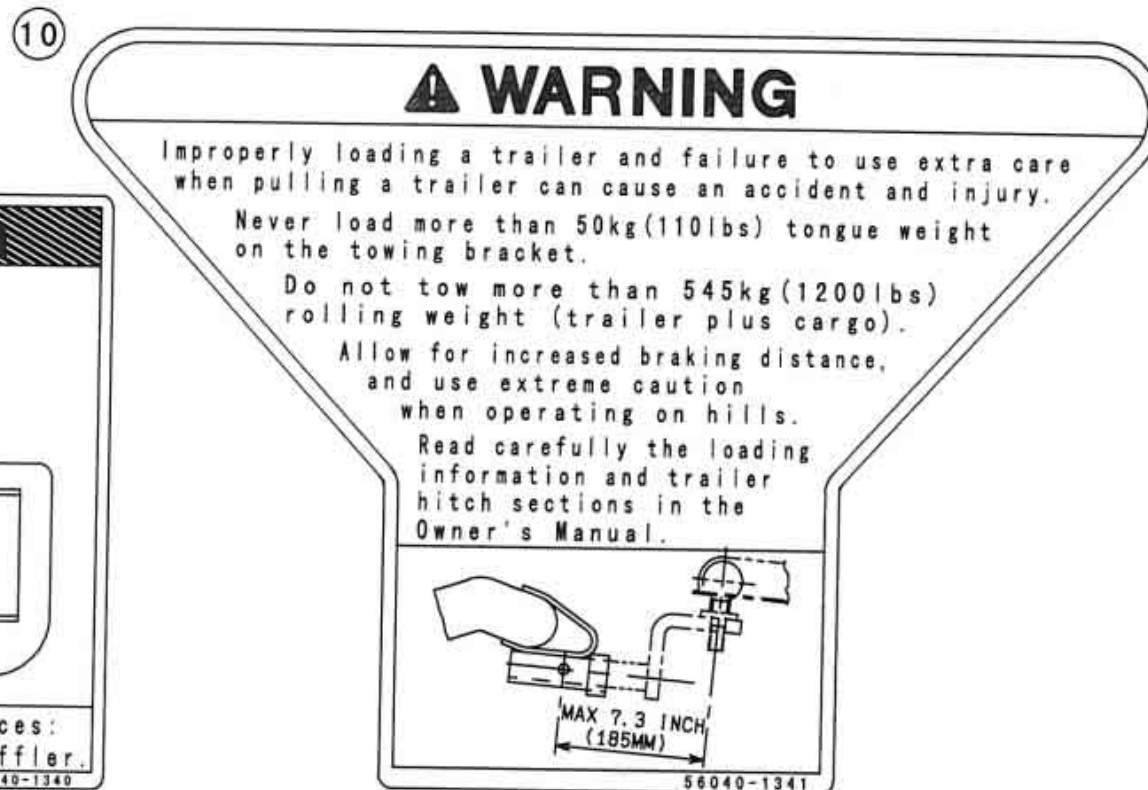
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A87XA200W6 C

LOCATION OF LABELS 21



56040-1340



56040-1341

22 LOCATION OF LABELS

11



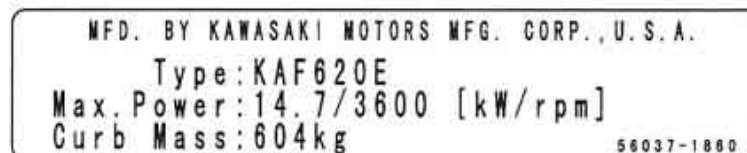
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12



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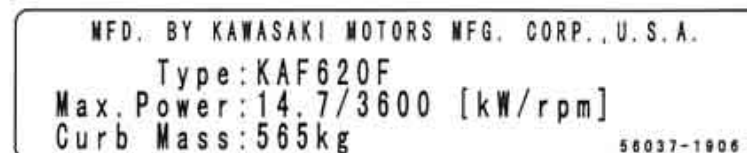
13 (KAF620E)



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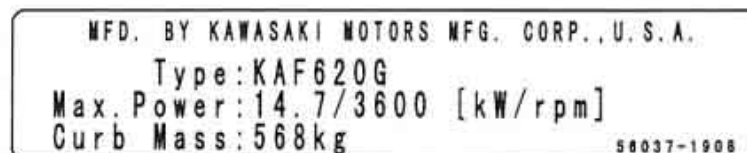
13 (KAF620F)



56037-1906

56037-1906

13 (KAF620G)



56037-1908

56037-1908

LOADING INFORMATION

⚠ WARNING

Incorrect loading, improper installation or use of accessories, or modification of your vehicle may result in an unsafe operating condition. Before you operate it, make sure that the vehicle is not overloaded and that you have followed these instructions.

With the exception of genuine Kawasaki Parts and Accessories, Kawasaki has no control over the design or application of accessories. In some cases, improper installation or use of accessories, or vehicle modifications, will void the utility vehicle warranty. In selecting and using accessories, and in loading the vehicle, you are personally responsible for your own safety and the safety of other person involved.

NOTE

○ *Kawasaki Parts and Accessories have been specially designed for use on Kawasaki utility vehicles. We strongly recommend that all parts and accessories you add to your vehicle be genuine Kawasaki components.*

Because any vehicle is sensitive to increases in weight and changes in weight distribution, you must take care in carrying cargo. The following general guidelines have been prepared to help you make your determinations.

- Reduce speed when carrying cargo. Braking distance is increased. Use extreme caution when climbing and descending hills, and traversing slopes. Carrying cargo and pulling a trailer can make the vehicle difficult to steer and may affect vehicle handling in an unpredictable manner.
- Do not operate this vehicle faster than 16 km/h (10 mph) when pulling a trailer.
- All cargo should be carried as low as possible to reduce the effect on the vehicle's center of gravity. Cargo weight should be equally distributed from side to side. This helps maintain stability by centralizing weight. Avoid carrying cargo that extends beyond the rear of the vehicle. Do not carry cargo on top of the cab frame.
- Do not carry more than 363 kg (800 lb) in the cargo bed.
- Cargo should be securely anchored. Make sure the cargo will not move around while the vehicle is moving. Recheck cargo security as often as possible (while the vehicle is stopped) and adjust as necessary.

CAUTION

The front body work and fenders are not designed to carry cargo or to support your weight. They may break.

24 LOADING INFORMATION

- Always subtract trailer tongue weight from the Maximum Load capacity. Refer to the "Trailer Hitch Bracket" section in the "General Information" chapter.

Maximum Load

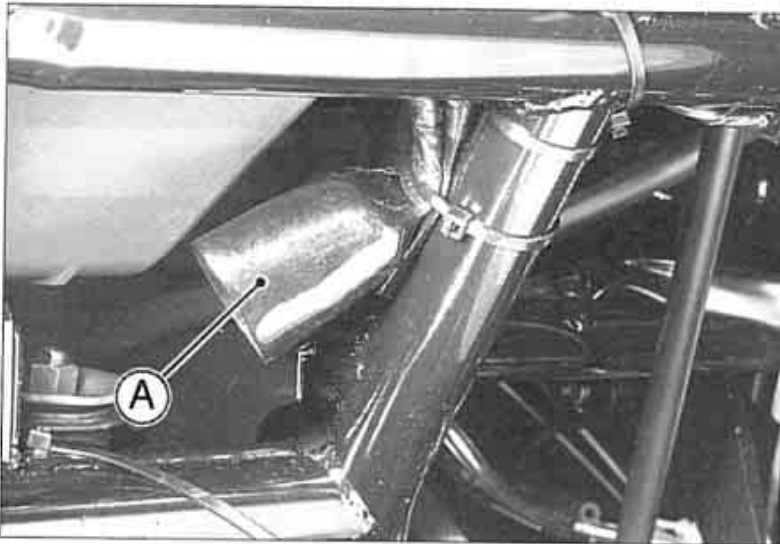
Weight of operator, passenger, and cargo must not exceed 603 kg (1,330 lb).

GENERAL INFORMATION

Lighting/Electrical Accessory Connector

The lighting/electrical accessory 12 volt connectors are located behind the dashboard near the steering wheel.

An auxiliary light or other optional light, or an accessory may be connected to these connectors.



A. Connectors

CAUTION

Do not connect a light or load of more than 60 watts to these connectors, or the battery may become discharged very rapidly.

Brake Pedal

The brake pedal is the left pedal on the foot board. Depress the pedal to slow or stop the vehicle.

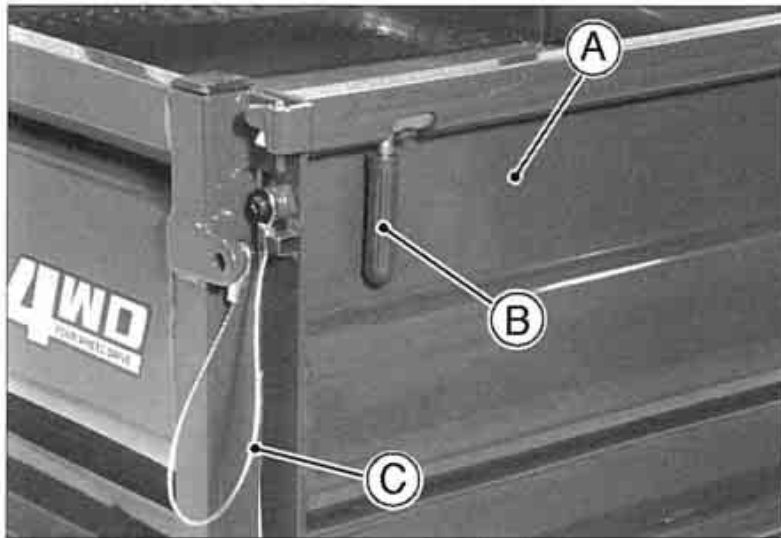


A. Brake Pedal

26 GENERAL INFORMATION

Cargo Bed

For loading and unloading, the tail gate of the cargo bed can be opened. Raise the latch handles at each end of the tail gate and slide both latches towards the center of the vehicle. The tail gate can now be lowered. The gate is held level to the cargo bed floor with wire loops.



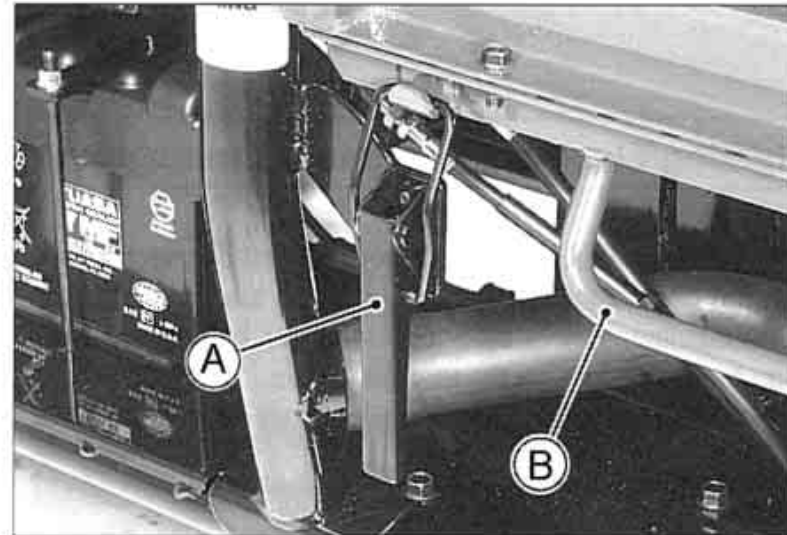
A. Tail Gate

B. Latch Handle

C. Wire Loop

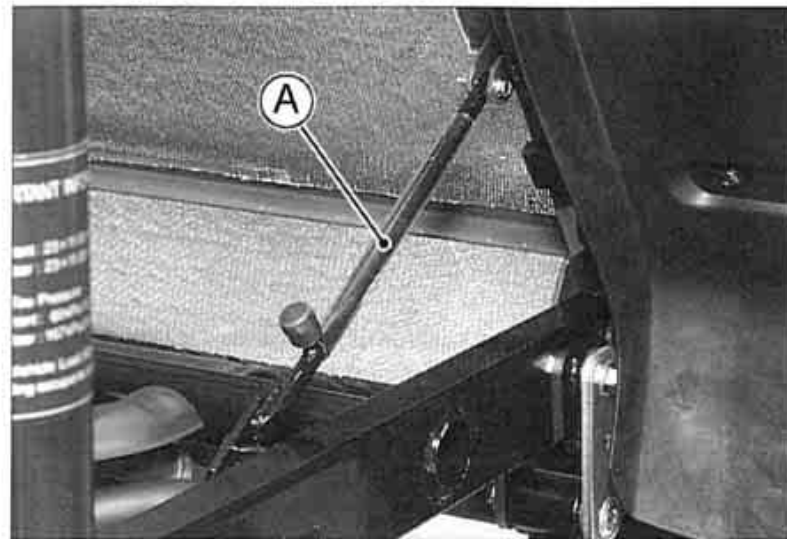
Close the tail gate by lifting it and pushing it firmly closed. Push the handles down to make sure the latches stay securely closed.

The cargo bed may be tilted by releasing the latches on each side, and then lifting the bed with the handgrips. Support the bed in the tilted position with the rod.



A. Latch

B. Handgrip



A. Supporting Rod

GENERAL INFORMATION 27

CAUTION

Do not carry more than the maximum load stated here in the cargo bed.

Maximum Load:

363 kg (800 lb)

⚠ WARNING

Never carry passengers in the cargo bed. They can be tossed about or even thrown off causing serious injury or death.

Never tilt the cargo bed when it is loaded. The vehicle can tip over backwards causing an accident.

Driving with the cargo bed tilted may be hazardous.

Always lower and latch the bed before driving. Be careful not to catch any part of your body, such as hands or arms, between the bed and cab frame or vehicle frame when lifting and lowering the bed. To prevent injury, use only the handgrips provided.

Choke Knob

The choke knob located on the dashboard, to the left of the steering shaft, provides a rich mixture for cold starting.

Pull the choke knob all the way out until it stops and hold it to start the engine. Warm the engine up using the choke and throttle until the idle speed is stable, and then release the choke knob.

Refer to the "Starting the Engine" section in the "How to Operate" chapter for detailed information.



A. Choke Knob

NOTE

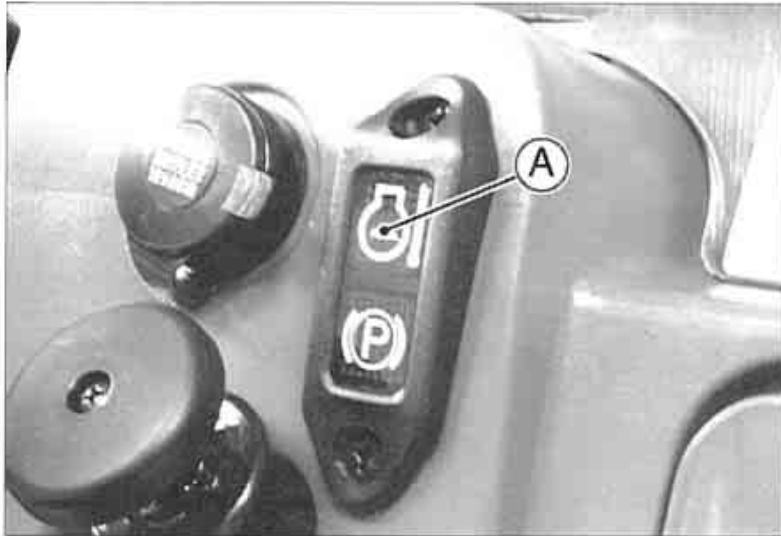
- Spring pressure returns the choke knob to the rest position when released.

28 GENERAL INFORMATION

Coolant Temperature Warning Light

The coolant temperature warning light (TEMP) comes on whenever the coolant temperature rises to 110°C or higher while the vehicle is in operation. If it stays on, stop the engine and check the coolant level in the reserve tank after the engine cools down.

Refer to the "Cooling System" section in the "Maintenance and Adjustment" chapter.



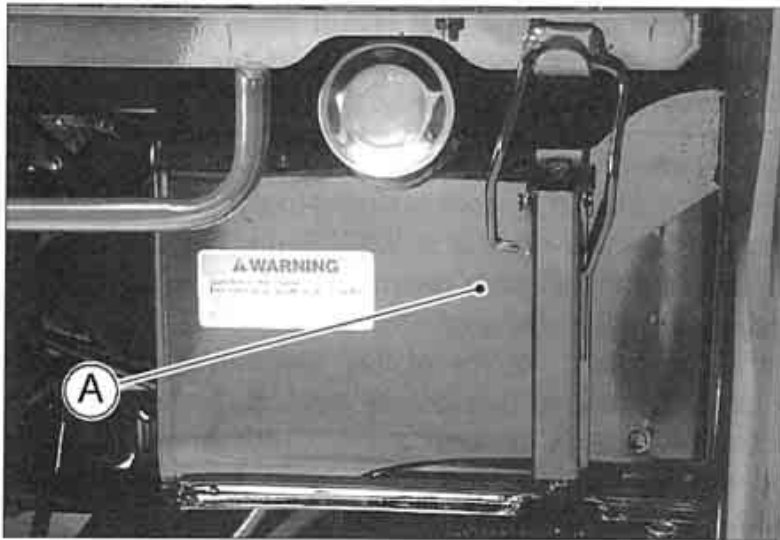
A. Coolant Temperature Warning Light

CAUTION

Do not let the engine continue running with a warning light on. Prolonged engine operation can result in engine damage from overheating.

Fuel Tank

The fuel tank is mounted under the right side of the cargo bed. The gasoline octane rating listed is recommended. Avoid filling the tank in the rain or where heavy dust is blowing, so that the fuel does not get contaminated.



A. Fuel Tank

⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch "OFF". Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

Never fill the tank completely to the top. If the tank is filled completely to the top, heat may cause the fuel to expand and overflow through the vents in the tank cap.

After refueling, make sure the tank cap is closed securely.

If gasoline is spilled on the fuel tank, wipe it off immediately.

30 GENERAL INFORMATION

Fuel Requirements:

Fuel Type

Use clean, fresh unleaded gasoline with a minimum Antiknock Index of 87. The Antiknock Index is posted on service station pumps in the U.S.A. The octane rating of a gasoline is a measure of its resistance to detonation or "knocking." The Antiknock Index is an average of the Research Octane Number (RON) and the Motor Octane Number (MON) as shown in the table below.

Octane Rating Method	Minimum Rating
Antiknock Index $\frac{(\text{RON} + \text{MON})}{2}$	87
Research Octane Number (RON)	91

CAUTION

If engine "knocking" or "pinging" occurs, use a different brand of gasoline of a higher octane rating. If this condition is allowed to continue it can lead to severe engine damage.

Gasoline quality is important. Fuels of low quality or not meeting standard industry specifications may result in unsatisfactory performance. Operating problems that result from the use of poor quality or nonrecommended fuel may not be covered under warranty.

Fuels Containing Oxygenates

Gasoline frequently contains oxygenates (alcohols and ethers) especially in areas of the U.S. and Canada which are required to sell such reformulated fuels as part of a strategy to reduce exhaust emissions.

The types and volume of fuel oxygenates approved for use in unleaded gasoline by the U.S. Environmental Protection Agency include a broad range of alcohols and ethers, but only two components have seen any significant level of commercial use.

Gasoline/Alcohol Blends — Gasoline containing up to 10% ethanol (alcohol produced from agricultural products such as corn), also known as "gasohol" is approved for use.

CAUTION

Avoid using blends of unleaded gasoline and methanol (wood alcohol) whenever possible, and never use "gasohol" containing more than 5% methanol. Fuel system damage and performance problems may result.

Gasoline/Ether Blends — The most common ether is methyl tertiary butyl ether (MTBE). You may use gasoline containing up to 15% MTBE.

NOTE

- *Other oxygenates approved for use in unleaded gasoline include TAME (up to 16.7%) and ETBE (up to 17.2%). Fuel containing these oxygenates can also be used in your Kawasaki.*

CAUTION

Never use gasoline with an octane rating lower than the minimum specified by Kawasaki.

Never use "gasohol" with more than 10% ethanol, or more than 5% methanol. Gasoline containing methanol must also be blended with cosolvents and corrosion inhibitors.

Certain ingredients of gasoline may cause paint fading or damage. Be extra careful not to spill gasoline or gasoline oxygenate blends during refueling.

When not operating your Kawasaki for 30 to 60 days, mix a fuel stabilizer (such as STABIL) with the gasoline in the fuel tank. Fuel stabilizer additives inhibit oxydation of the fuel which minimizes gummy deposits.

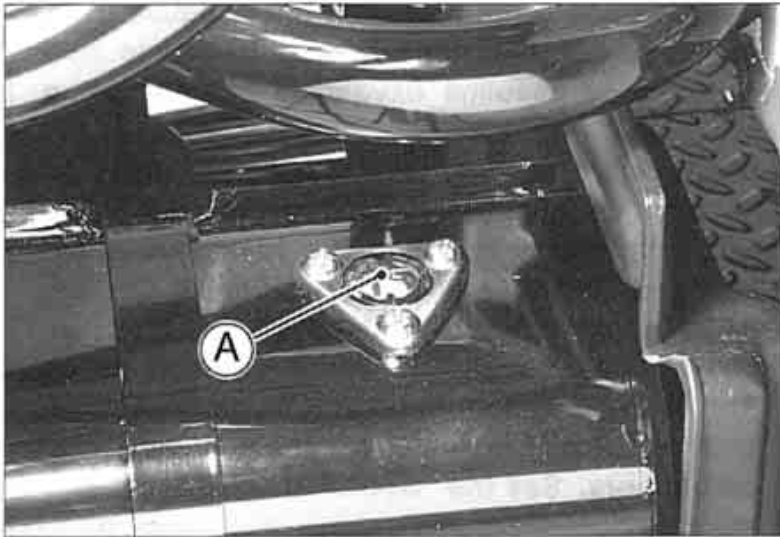
Never store this product with "gasohol" in the fuel system. Before storage it is recommended that you drain all fuel from the fuel tank and carburetors. See the "STORAGE" chapter in this manual.

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Fuel Gauge

The fuel gauge on the fuel tank shows the amount of fuel in the fuel tank.

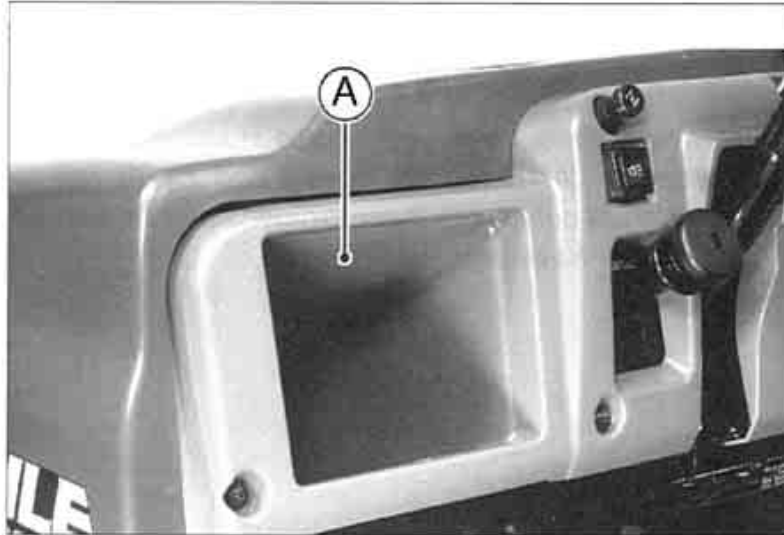
When the red indicator needle comes near the "E"(Empty) mark, refuel at the earliest opportunity.



A. Fuel Gauge

Glove Compartment

A glove compartment is provided at the each end of the dashboard. Store only light items to avoid damage to the inside of the compartments. Release the plug in the bottom of the left and right glove compartments to remove any water that may have entered. Do not put one which must not get wet or dirty in it.



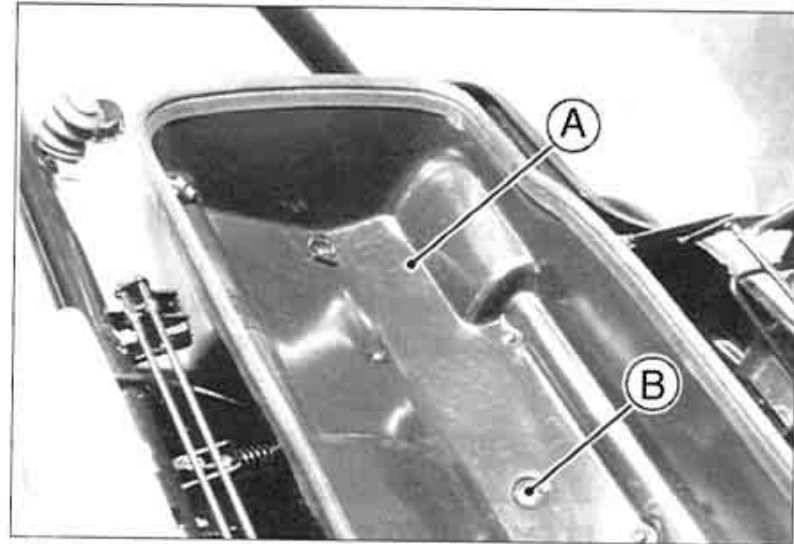
A. Left Glove Compartment



A. Right Glove Compartment

Front Cargo Compartment

The front cargo compartment is located under the front cargo hood. Store only light-weight items in it to avoid damage to the inside of the compartment. Release the plugs in the front cargo compartment to remove any water that may have entered. Do not put one which must not get wet or dirty in it.

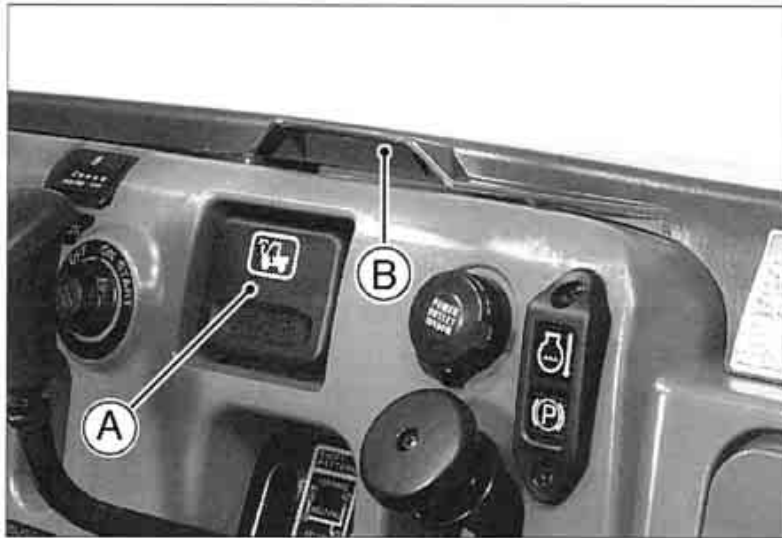


A. Front Cargo Compartment B. Plug

Hood Opening

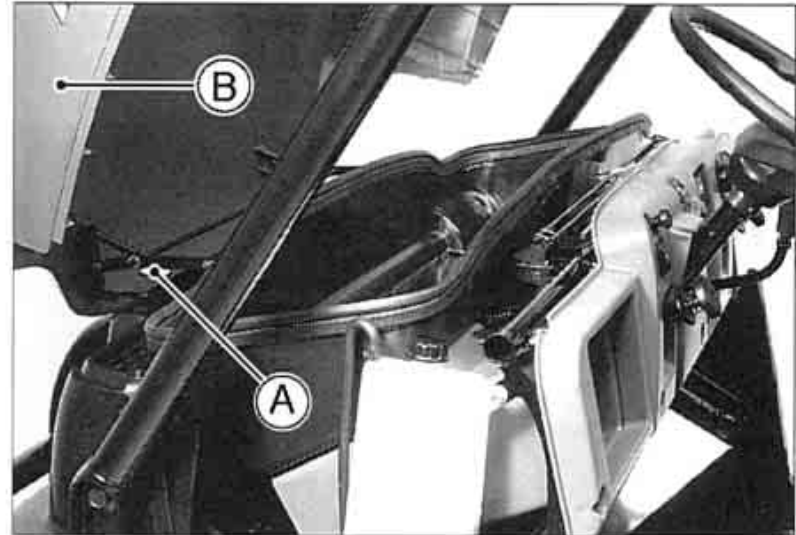
Push the hood release latch and raise the hood until it locks.

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A. Latch

B. Hood



A. Latch

B. Hood

Hood Closing

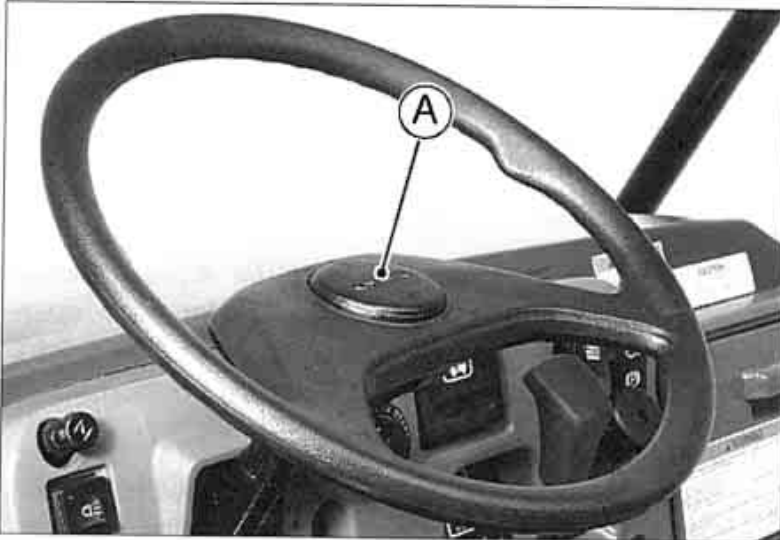
While holding the hood, depress either latch at the front of the cargo hood. Close the hood and push on it to ensure it latches.

▲WARNING

An open front cargo hood can distract or impair visibility of the operator, causing loss of vehicle control and potential serious injury or death. Latch the hood securely before operating the vehicle.

Horn Button

A car type horn button is provided on the center of the steering wheel. Push the horn button to sound the horn.

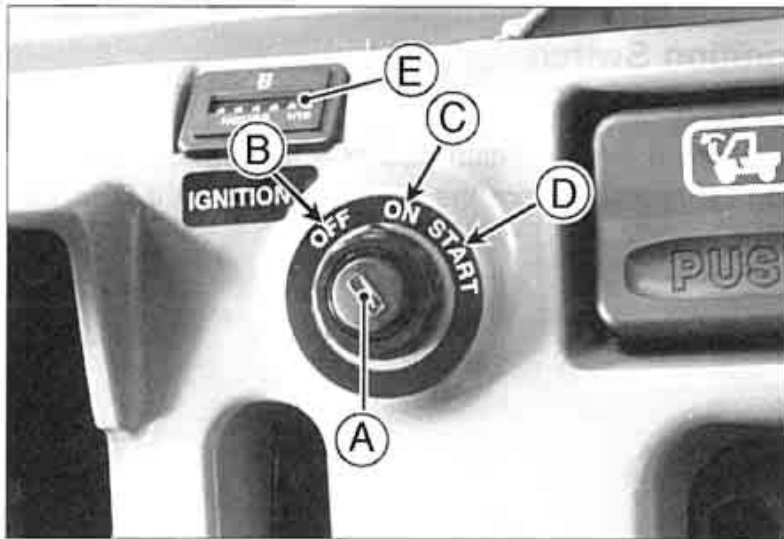


A. Horn Button

Ignition Switch

This is a three-position, key-operated switch. The key can be removed from the switch only when it is in the "OFF" position.

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A. Ignition Switch
 B. "OFF" position
 C. "ON" position
 D. "START" position
 E. Hour Meter

OFF	Engine off. All electrical circuits off.
ON	All electrical equipment can be used. Hour meter works.
START	Electric starter is engaged by holding ignition switch key in this position, only when gear shift lever is in "N"(neutral) position. Upon release, key will return to "ON" position.

CAUTION

Do not operate the starter continuously for more than 5 seconds, or the starter will overheat and the battery power will drop temporarily. Wait 15 seconds between each operation of the starter to let it cool and the battery power recovery. Do not turn the ignition switch key to the "START" position with the engine running, or damage to the starter can result.

NOTE

- The vehicle is equipped with a starter lockout switch. This switch prevents the electric starter from operating when the gear shift lever is in the "H"(High), "L"(Low;KAF620E only) or "R"(Reverse) position.

Blank keys are available at your Kawasaki dealer. Ask your dealer to make any additional spare keys you need, using your original key as a master, or using the key code on the tag with your keys.

Record the code from the tag with your keys here. Participating Kawasaki dealers can use the code to make a new key in the event that your original keys are lost.

Write your key number here.

Hour Meter

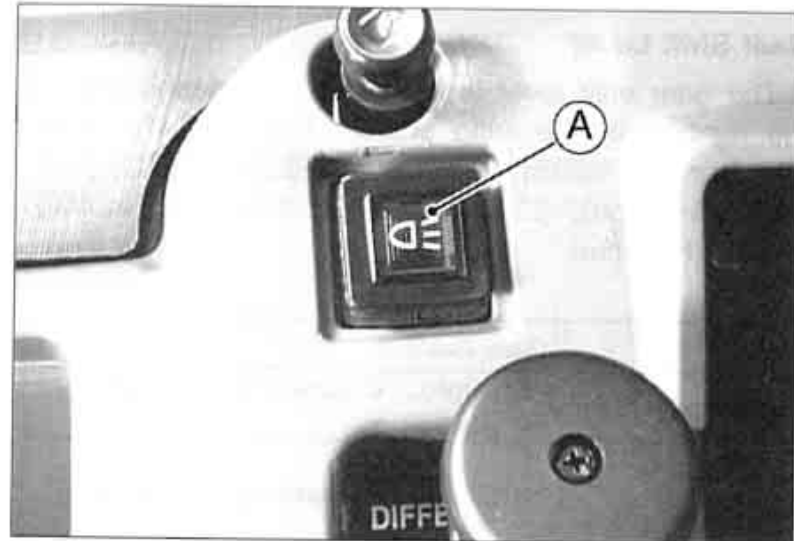
The hour meter shows the total hours that the vehicle has been operated. This meter cannot be reset.

NOTE

- *The data is maintained even if the battery is disconnected.*
- *When the figures come to 99999, they turn back to 00000 and start counting upward again when the ignition switch is turned on or while the vehicle is operated.*

Light Switch

Turn on the headlights and taillights by pushing the light switch in, with the ignition switch key in the "ON" position. The lights go off when the switch is pushed out.



A. Light Switch

38 GENERAL INFORMATION

Shift Levers

This vehicle is equipped with three different shift levers: the gear shift lever, the 2WD-4WD shift lever (KAF620E only) and the differential shift lever.

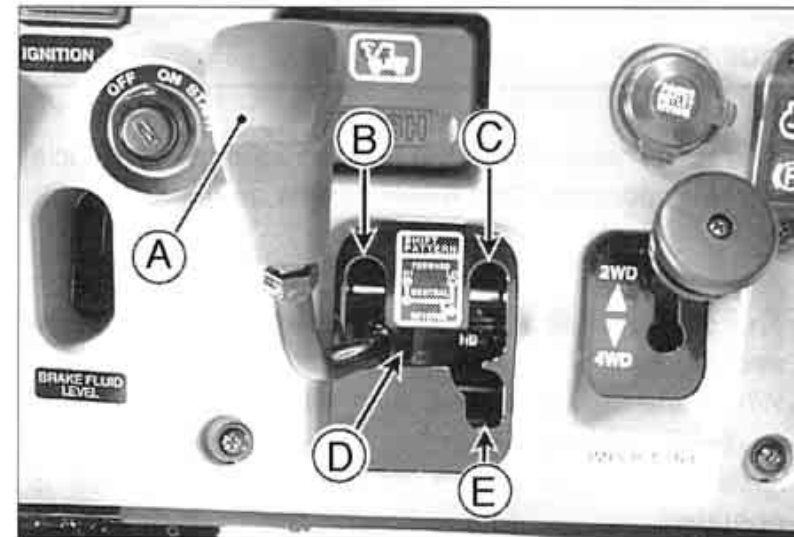
Gear Shift Lever

The gear shift lever is located on the dashboard, to the right of the steering shaft. The gear shift lever has four (KAF620E) or three (KAF620F and G) positions: "H"(High), "L"(Low;KAF620E only), "N"(Neutral), and "R"(Reverse).

Model	Gear Position
KAF620E	"H"(High), "L"(Low), "N"(Neutral), "R"(Reverse)
KAF620F KAF620G	"H"(High), "N"(Neutral), "R"(Reverse)

Make certain that the vehicle is completely stopped and the engine is idling before shifting from "H"(High), "L"(Low; KAF620E only) to "R"(Reverse) or vice versa. Move the gear shift lever up or down as indicated on the label next to the shift lever.

Refer to the "Reversing Gears" section in the "How to Operate" chapter.



- A. Gear Shift Lever
- B. "H"(High) Position
- C. "L"(Low) Position (KAF620E only)
- D. "N"(Neutral) Position
- E. "R"(Reverse) Position

CAUTION

Do not shift from "H"(High), "L"(Low;KAF620E only) to "R"(Reverse) and vice versa when the vehicle is moving or with the engine running above idling speed, or the transmission could be damaged.

The KAF620E is equipped with a sub-transmission to allow maximum transmission efficiency. Use the low gearing for maximum torque at low speeds, for climbing hills, pulling a trailer, or keeping constant low speeds for

agricultural use. The high gearing raises the speed range for ordinary off-highway use. Stop the vehicle before moving the Hi-Lo shift lever.

CAUTION

Use of the high range for heavy loads, climbing hills, and pulling a trailer can lead to premature wear of the torque converter belt and pulleys. Use low range for these conditions.

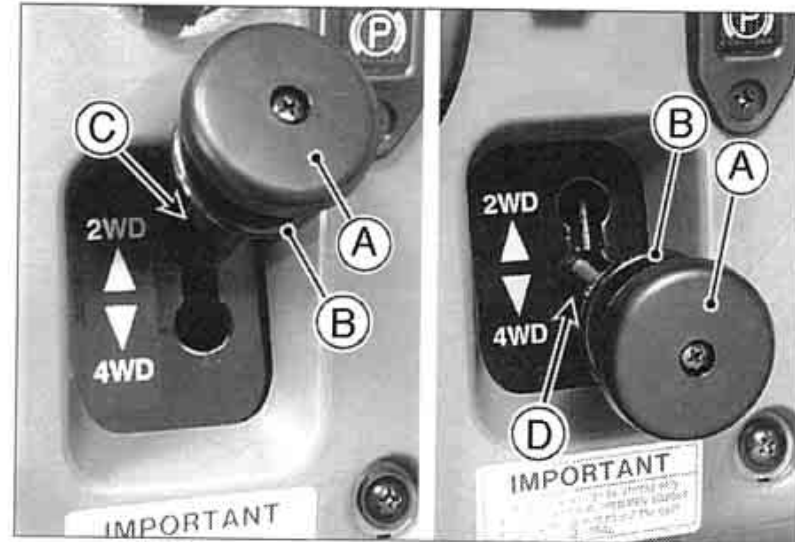
Refer to the "Hi-Lo Shifting" section in the "How to Operate" chapter.

2WD-4WD Shift Lever (KAF620E)

This vehicle can be operated either in "2WD" or "4WD".

The 2WD-4WD shift lever is located on the dashboard, to the right of the steering shaft. Move the 2WD-4WD shift lever up or down on the label to the left of the lever.

Refer to the "2WD-4WD Shifting" section in the "How to Operate" chapter.



A. 2WD-4WD Shift Lever
B. Stopper

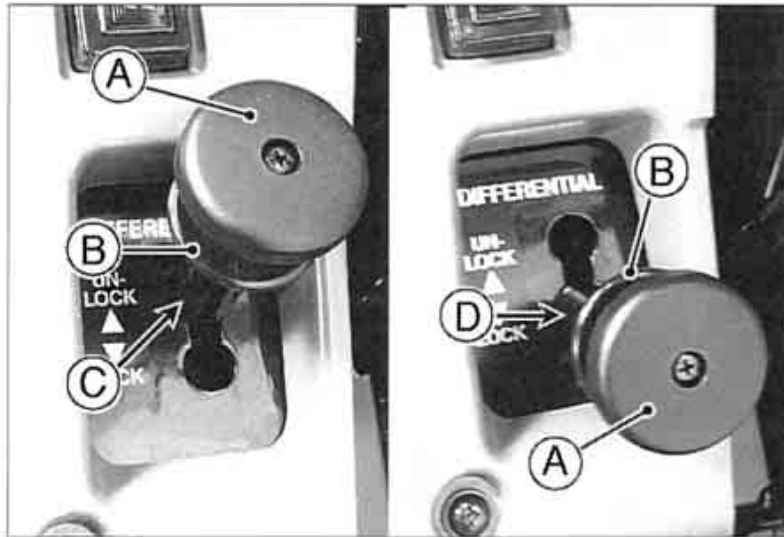
C. "2WD" Position
D. "4WD" Position

Differential Shift Lever

This vehicle is equipped with a dual-mode rear differential. The differential shift lever is located on the dashboard, to the left of the steering shaft. Move the shift lever up or down as indicated on the label next to the shift lever.

Refer to the "Shifting the Differential" section in the "How to Operate" chapter.

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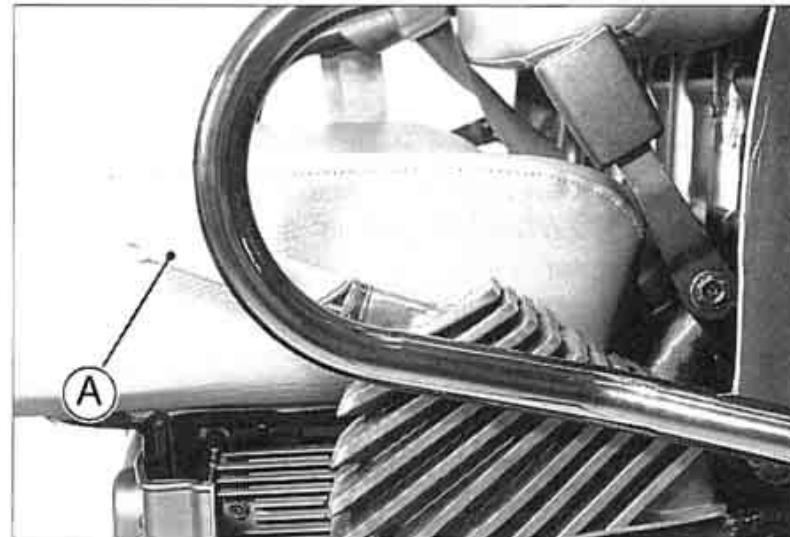
- A. Differential Shift Lever
- B. Stopper
- C. Differential (Unlocked-Axle) Mode Position (UN-LOCK)
- D. Locked-Axle Mode Position (LOCK)

Parking Brake Lever

The parking brake lever is located at the left side of the seat. Pull the lever up and to the rear to apply the parking brake.

To release, push in and hold the knob on the end of the lever and push the lever all the way down. Spring pressure helps return the lever to the released position.

Be sure to release the parking brake before driving off. Failure to do so may result in poor performance and premature wearing of the rear brakes and belt converter system.



A. Parking Brake Lever

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▲ WARNING

Be sure to apply the parking brake before leaving the vehicle. If the vehicle should move, it might be damaged or cause injury.

Parking Brake Warning Light

The parking brake warning light goes on when the parking brake is applied with the ignition switch in the "ON" position.

NOTE

- *This light shows only that the parking brake is on. It does not show the degree of parking brake application.*



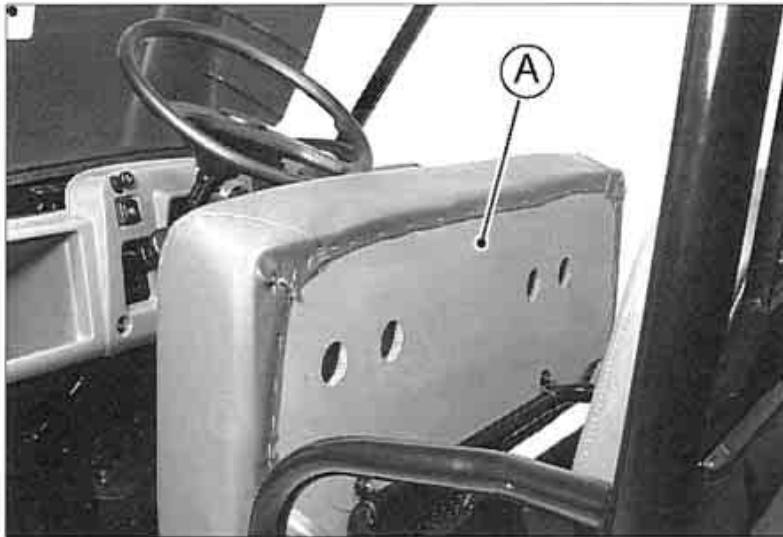
A. Parking Brake Warning Light

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Seat

The seat can be raised for vehicle maintenance and adjustment.

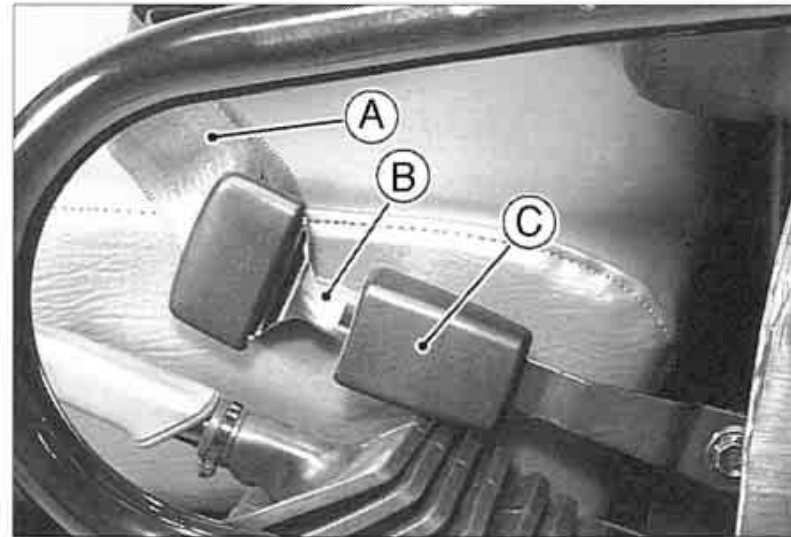
- Pull up on the rear edge of the seat.



A. Seat (Raised Position)

Seat Belts

The vehicle is equipped with lap-style seat belts both for the operator and passenger. Always wear the seat belts when operating and riding in the vehicle.



A. Seat Belt

B. Latch Plate

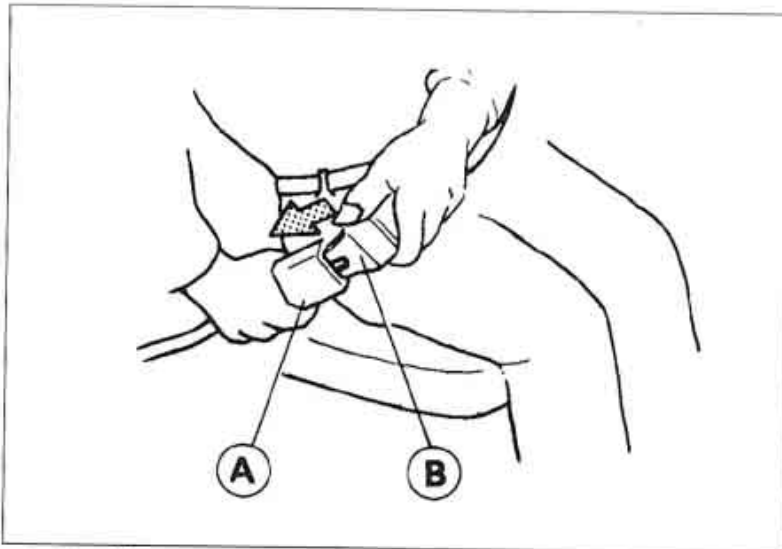
C. Buckle

⚠ WARNING

Seat belts reduce injury. Always wear your seat belt. The lap-style seat belt may not provide adequate protection for small children. Special care is recommended when carrying a child passenger.

GENERAL INFORMATION 43

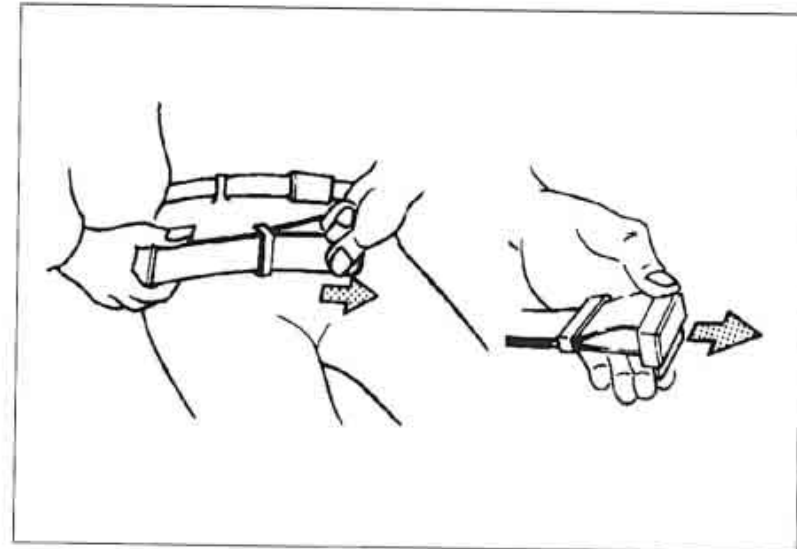
- To wear the seat belt properly, follow this procedure:
1. Place the belt across your lap as low on your hips as possible taking care that the belt is not twisted.
 2. Push the latch plate into the buckle until it clicks.
 3. Adjust the seat belt for a **SNUG FIT**.



A. Buckle

B. Latch Plate

To tighten the belt, pull on the end of the belt coming from the latch plate. To loosen the belt, pull the latch plate at a right angle to the belt.



⚠ WARNING

Always adjust the belt to a **SNUG FIT**. Too much belt slack could reduce protection effectiveness in an accident.

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To unfasten the belt, press the red button in the buckle.



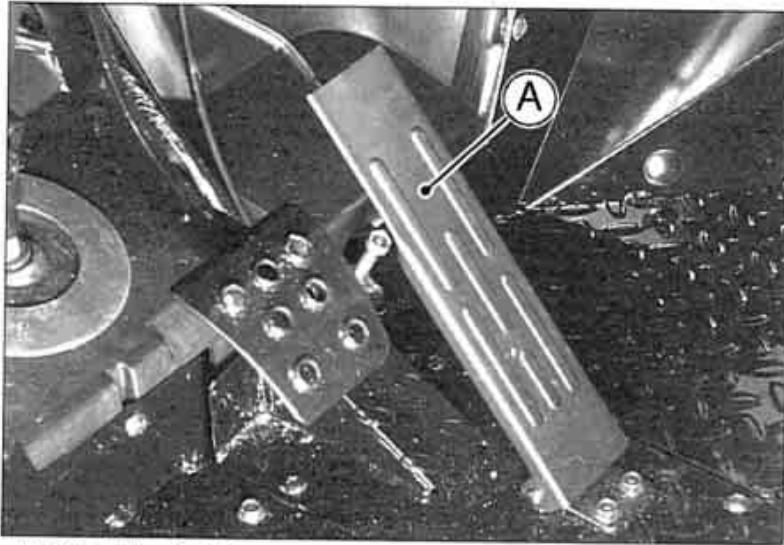
A. Red Button

Steering Wheel

The steering wheel position can be adjusted to suit the operator. Refer to the "Steering Wheel" section in the "Maintenance and Adjustment" chapter.

Throttle Pedal

The throttle pedal is the right pedal on the floor board. Push the pedal down to increase engine speed. Spring pressure returns the pedal to the rest position when released. Always check that the throttle pedal returns normally before starting the engine. In addition, there must be adequate throttle pedal play and stop position. Refer to the "Maintenance and Adjustment" chapter for the throttle pedal adjustment procedure.



A. Throttle Pedal

Trailer Hitch Bracket

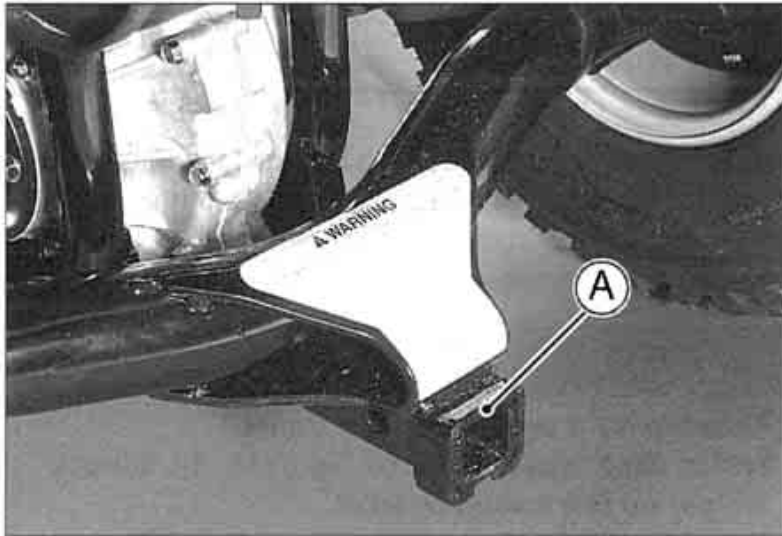
This vehicle is equipped with a bracket for a trailer hitch. Trailer towing equipment is not supplied with this vehicle.

To avoid injury and property damage, observe the following precautions:

⚠ WARNING

- Never carry a passenger in a trailer.**
- Never load more than 50 kg (110 lb) tongue weight on the towing bracket.**
- Do not operate the vehicle faster than 16 km/h (10 mph) when towing. Remember that towing a trailer increases braking distance.**
- Do not tow more than 545 kg (1,200 lb) trailer weight (trailer plus cargo weight).**
- Attach a trailer to the trailer hitch bracket only. Do not attach a trailer to any other location or you may lose control of the vehicle and have an accident.**

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A. Trailer Hitch Bracket

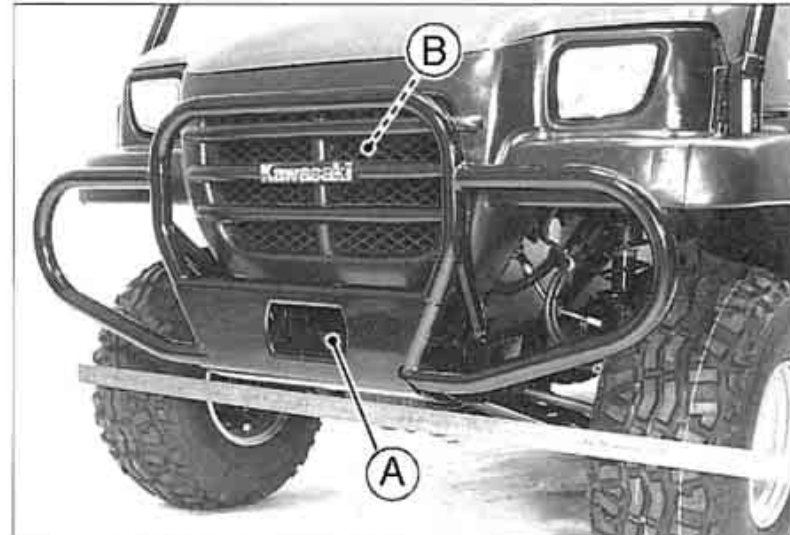
Winch Bracket (KAF620E)

This vehicle is equipped with a bracket for a winch below the radiator. The winch is not supplied with this vehicle.

To avoid injury and property damage, observe the following precautions:

⚠ WARNING

Do not operate or install winch without reading and understanding the operators manual supplied with the winch.



A. Winch Bracket

B. Radiator

HOW TO OPERATE

Daily Safety Checks

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

If any irregularities are found during these checks, refer to the MAINTENANCE AND ADJUSTMENT chapter, see your dealer, or refer to the Service Manual for the action required to return the vehicle to a safe operating condition.

⚠ WARNING

Failure to perform these checks every day before operation may result in serious damage or an accident. Do not start or run the engine in a closed area such as a garage. Exhaust gases contain carbon monoxide; a colorless, odorless, poisonous gas. Breathing exhaust gas leads to carbon monoxide poisoning, asphyxiation, and death.

Fuel.....
 Engine oil.....
 Air Cleaner.....
 Tires.....

Enough fuel in tank, no leaks.
 Oil level between level holes (when engine is cold), no leaks.
 Check the restriction gauge for the red band in the window.
 Air pressure (when cold):

	KAF620E/G	KAF620F
Front	69 kPa (0.7 kg/cm ² , 10 psi)	78 kPa (0.8 kg/cm ² , 12 psi)
Rear	167 kPa (1.7 kg/cm ² , 24 psi)	137 kPa (1.4 kg/cm ² , 20 psi)

Check for cuts, cracks, damage, or excessive wear.
 Check for any imbedded stones or other foreign particles in tread.

Front Final Gear Case and
 Transmission Case.....

No oil leaks.

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Coolant.....	Coolant level between level lines (when engine is cold), no leaks.
Throttle.....	Throttle pedal free play 5 ~ 10 mm (0.2 ~ 0.4 in). Throttle pedal operates smoothly and returns to rest position when released.
Steering.....	Steering wheel free play 0 ~ 20 mm (0 ~ 0.8 in). Action smooth without excessive play, rough spots, or strange noises.
Brakes.....	Check for braking effectiveness (while test running). Brake pedal free play 2 ~ 10 mm (0.1 ~ 0.4 in). Brake fluid level between level lines, no leaks. Parking brake lever travel: 8 ~ 12 clicks.
Electrical Equipment.....	All lights and horn work. Check for dirt on or damage to lights.

Starting the Engine

⚠ WARNING

Never run the vehicle in a closed area, such as a garage. Exhaust gases contain carbon monoxide; a colorless, odorless, poisonous gas. Breathing exhaust gas leads to carbon monoxide poisoning, asphyxiation, and death.

- Wear the seat belts (both operator and passenger).
- Apply the parking brake.
- Put the gear shift lever in the "N"(Neutral) position.
- Put the ignition key in the switch.
- When the engine is cold (same as outside temperature), pull the choke knob all the way out until it stops and hold it.

NOTE

- *When the engine is already warm or the weather is hot (35°C, 95°F or more), do not use the choke.*
- Leaving the throttle open part way (pressing lightly on the throttle pedal), turn the ignition switch key to the "START" position to activate the electric starter. Repeat until the engine starts.

CAUTION

Do not operate the electric starter continuously for more than 5 seconds, or the starter may overheat and the battery power will drop temporarily. Wait 15 seconds between each operation of the starter to let it cool and battery power recover.

NOTE

- *If the engine is flooded, make sure the choke knob is all the way in. Then crank the engine over with the throttle fully open (throttle pedal fully depressed) until the engine starts.*
- *The vehicle is equipped with a starter lockout switch. This switch prevents the electric starter from operating when the gear shift lever is in the "H"(High) , "L"(Low;KAF620E only) or "R"(Reverse) position.*
- Gradually return the choke knob to the "OFF" position a little at a time as necessary to keep the engine running properly during warm-up.

NOTE

- *If you drive the vehicle before the engine is warmed up, return the choke to the "OFF" position as soon as you start moving.*

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Jump Starting

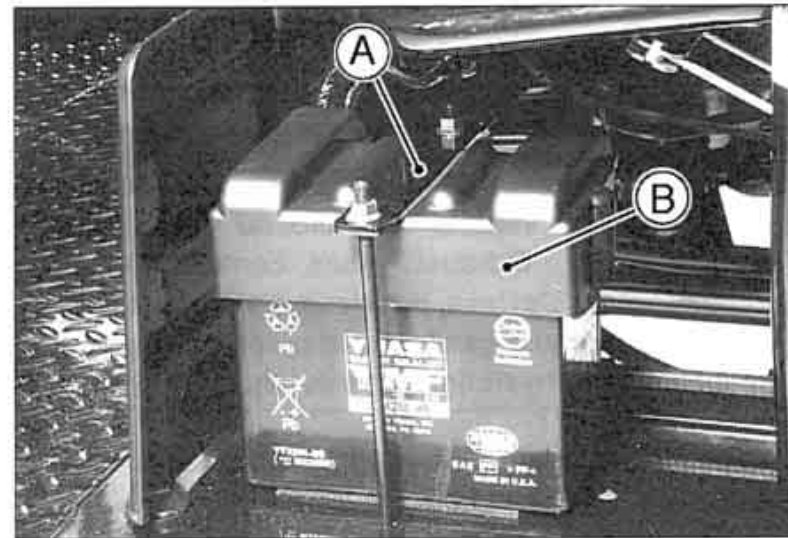
If your vehicle battery is "run down," it should be removed and charged. If this is not practical, a 12 volt booster battery and jumper cables may be used to start the engine.

⚠ WARNING

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 glasses 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.

Connecting Jumper Cables

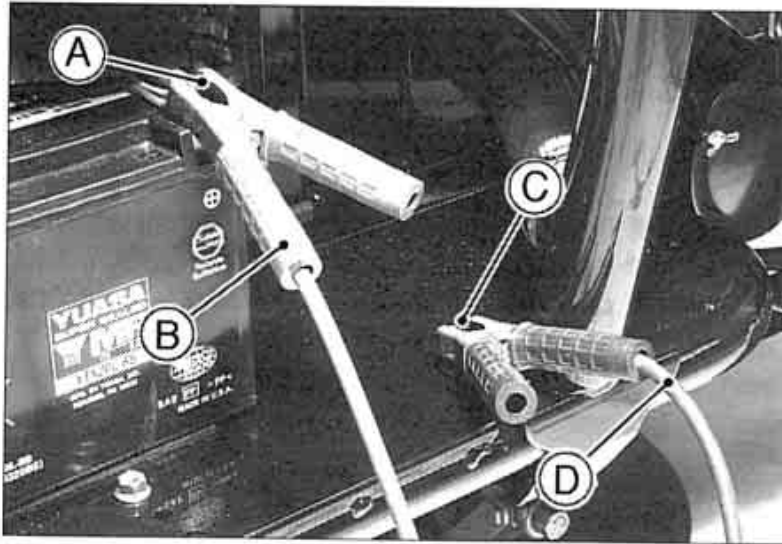
- Make sure the ignition switch is turned to "OFF."
- Remove the battery holder and cover.



A. Holder

B. Cover

- Connect a jumper cable from the positive (+) terminal of the booster battery to the positive (+) terminal of the vehicle battery.



- A. Vehicle Battery Positive (+) Terminal
- B. From Booster Battery Positive (+) Terminal
- C. Unpainted Metal Surface
- D. From Booster Battery Negative (-) Terminal

- Connect another jumper cable from the negative (-) terminal of the booster battery to an unpainted metal surface on your vehicle. Do not use the negative (-) terminal of the battery.

⚠ WARNING

Do not make this last connection at the carburetor or battery. Take care not to touch the positive and negative cables together, and do not lean over the battery when making this last connection. Do not connect to a frozen battery. It could explode. Do not reverse polarity by connecting positive (+) to negative (-), or a battery explosion and serious damage to the electrical system may occur.

- Follow the standard engine starting procedure.

CAUTION

Do not operate the starter continuously for more than 5 seconds, or the starter overheat and the battery power will drop temporarily. Wait 15 seconds between each operation of the starter to let it cool and the battery power recovery.

- After the engine starts, disconnect the jumper cables. Disconnect the negative (-) cable from the vehicle first.
- Reinstall the battery cover and holder.

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Moving Off

- Depress the brake pedal.
- Put the gear shift lever into the "H"(High) or "L"(Low;KAF620E only) position.
- Release the parking brake.
- Gradually increase engine speed by pressing on the throttle pedal.

NOTE

- *Practice starting and stopping (using the brakes) until you are familiar with the controls.*

Braking

NOTE

- *When the throttle pedal is released completely and the engine speed drops near an idle, the vehicle has no engine braking. This is caused by the vehicle's automatic transmission which releases the engine at very low speed to prevent it from stalling. Employ the brakes to control the vehicle's speed.*
- Release the throttle pedal completely.
- Press on the brake pedal evenly and firmly.

WARNING

When carrying cargo or towing a trailer, remember that load weight will increase braking distances. Failure to allow for increased braking distance may result in accident and injury.

Stopping the Engine

- Release the throttle pedal completely.
- Put the gear shift lever into the "N"(Neutral) position.
- Apply the parking brake to help prevent the vehicle from rolling.
- Turn the ignition switch key to the "OFF" position.

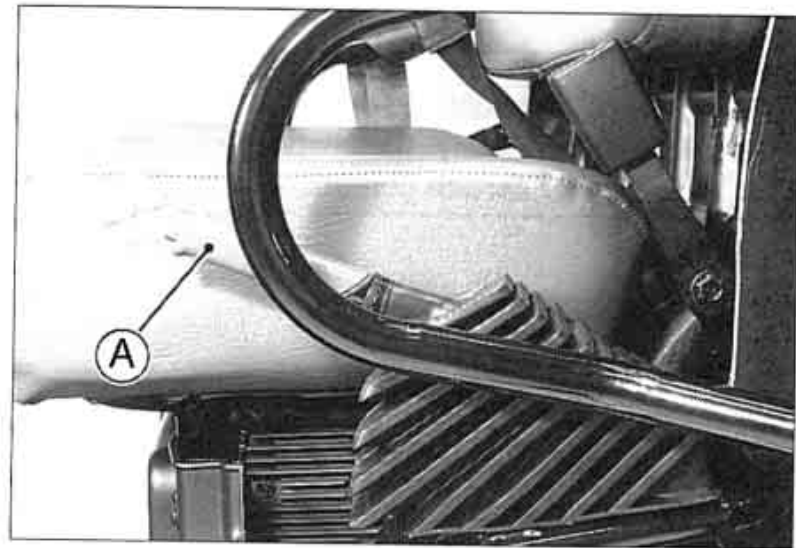
Parking the Mule

- Stop the vehicle on a level surface.

CAUTION

Avoid parking on steeply inclined surfaces.
--

- When the engine has stopped, apply the parking brake to help prevent the vehicle from rolling.



A. Parking Brake Lever

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⚠ WARNING

Be sure to apply the parking brake before leaving the vehicle. If the vehicle should move, it might be damaged or cause injury.

- Remove the ignition switch key to prevent unauthorized use.
- When parking inside a garage or other structure, be sure the structure is well ventilated and the vehicle is not close to any source of flame or sparks. This includes any appliance with a pilot light.

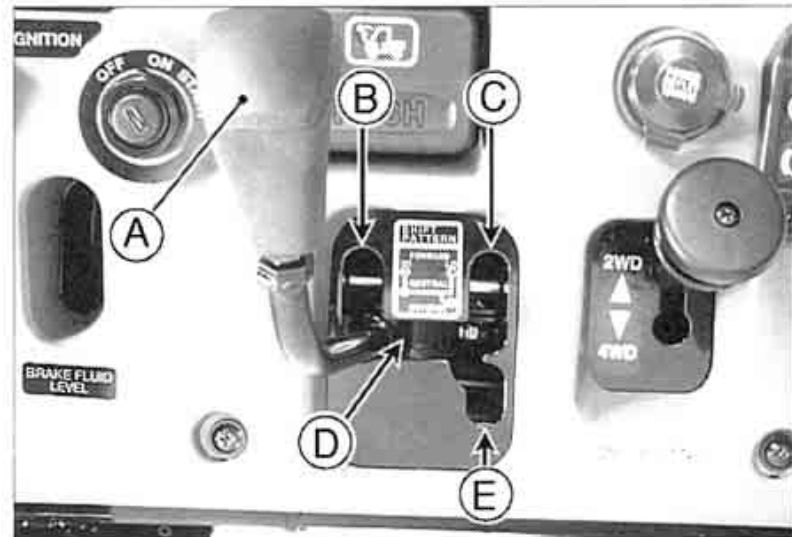
⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions.

Hi-Lo Shifting (KAF620E)

Shifting to Low Range

- Stop the vehicle completely.
- For easy Hi-Lo shifting, put the gear shift lever in neutral.
- Move the shift lever "L"(Low) position.



- A. Gear Shift Lever
- B. "H"(High) Position
- C. "L" (Low) Position
- D. "N"(Neutral) Position
- E. "R"(Reverse) Position

Shifting to High Range

- Stop the vehicle completely.
- Put the gear shift lever in neutral.
- Move the shift lever "H"(High) position.

NOTE

- *Before shifting make certain that the vehicle is completely stopped. The Hi-Lo shift lever cannot be shifted when the vehicle is in motion.*

Reversing Gears

- Release the throttle pedal, and stop the vehicle.
- When you want to operate the vehicle in reverse, stop the vehicle completely, allowing the engine to slow to idling speed, and move the gear shift lever to the "R"(Reverse) position.

CAUTION
Do not shift from "H"(High) or "L"(Low; KAF620E only) to "R"(Reverse) and vice versa when the vehicle is moving or with the engine running above idling speed, or the transmission could be damaged.

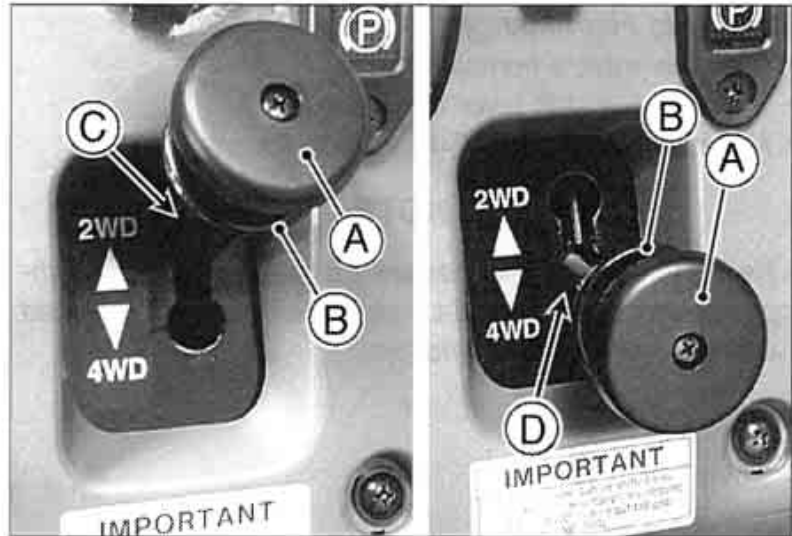
56 HOW TO OPERATE

2WD-4WD Shifting (KAF620E)

- Pull the stopper under the 2WD-4WD shift lever knob and while holding it against the knob, move the shift lever to the all way down "4WD".
- To shift back into "2WD" position, pull and hold the stopper, then move the shift lever all the way up "2WD".

NOTE

- *When the shift lever is moved from "2WD" to "4WD", the transmission shifts immediately. When the shift lever is moved from "4WD" to "2WD", the transmission may not shift all the way into "2WD" until the vehicle has rolled a short distance.*



A. 2WD-4WD Shift Lever
B. Stopper

C. "2WD" Position
D. "4WD" Position

HOW TO OPERATE 57

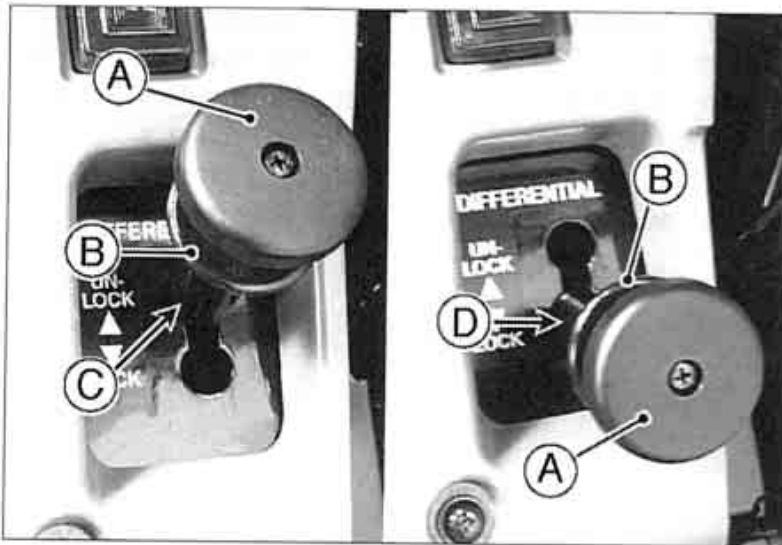
Shifting the Differential

NOTE

- Do not operate the differential shift lever if the vehicle is moving faster than 8 km/h (5 mph).

Shifting to Locked-Axle Mode

- Pull the stopper under the differential shift lever knob and while holding it against the knob, move the shift lever all the way down (LOCK).



- A. Differential Shift Lever
- B. Stopper
- C. Differential (Unlocked-Axle) Mode Position (UN-LOCK)
- D. Locked-Axle Mode Position (LOCK)

Shifting to Differential (Unlocked-Axle) Model

- Pull and hold the stopper, then move the shift lever all the way up (UN-LOCK).

NOTE

- When the shift lever is moved, the differential may not immediately lock or unlock until the vehicle has rolled a short distance.

SAFE OPERATION

Safety is an attitude. Your common sense and good judgement are your best defenses against accident and injury in everything you do. Your safety and the safety of others depends on you and your common sense. Use good judgement in the operation of this or any other motor vehicle.

This vehicle is designed for an operator and one passenger only. Never carry persons in the cargo bed. Refer to the "Loading Information" chapter before operating this vehicle.

Novice operators should practice braking and turning in an open, off-highway area away from other vehicles and persons. The terrain should be flat and free of obstacles, with either a loose or hard dirt surface, but not a mixture of both.

▲ WARNING

Incorrect loading, improper installation or use of accessories, or modification of your vehicle may result in an unsafe operating condition. Before operation, make sure that the vehicle is not overloaded and that you have followed the instructions in the "Loading Information" chapter.

Unfamiliar Terrain

Before driving in a new area be sure to check for hidden obstacles or hazards. Keep your speed down until you know the area well. You must know the terrain you intend to drive on and be familiar with your machine and its handling characteristics. Use existing trails and stay away from hazardous areas such as steep, rocky slopes or swamps. Be cautious when visibility is limited, as you may not be able to see obstacles in your path.

Driving in Reverse

Start the engine following the procedure in the "Starting the Engine" section. Before shifting into reverse, stop the vehicle completely. Refer to the Gear Shift Lever in the "Shift Levers" section and "Reversing Gears" section.

Turn around and look behind you before backing up to be sure there are no obstacles or people in your way. Gradually open the throttle and begin backing up cautiously.

To stop while driving in reverse, close the throttle and gradually apply the brake. Avoid sudden application of the brake.

CAUTION

Do not operate the gear shift lever to change gears while driving the vehicle in reverse, or the transmission may be damaged.
--

Remember:

- Look behind you before backing up.
- Open the throttle gradually.
- To stop, gradually apply the brake.

Driving in "4WD"(KAF620E)

"4WD" gives greater traction when you are climbing steep inclines, or driving on bumpy, sandy or snowy surfaces. It also helps break loose, with the differential locked under certain circumstances, when the vehicle is stuck in the mud. If maximum torque is needed in these situations, shift into the low position with the shift lever. Refer to the "Shift Levers" section and "2WD-4WD Shifting (KAF620E)," "Shifting the Differential," and "Hi-Lo Shifting (KAF620E)" sections.

NOTE

- *Do not drive in "4WD" on paved surfaces, because it increases tire and drive train wear and makes the steering feel tight.*

Remember:

- Use "4WD" on steep inclines or loose surfaces, or when stuck in the mud, with the differential locked if necessary.
- For maximum torque shift into low range.
- Do not drive in "4WD" on paved surfaces.

60 SAFE OPERATION

Turning the Vehicle

The vehicle will turn in a smaller radius with the differential unlocked (in differential mode). In this mode, the rear wheels can turn at different speeds allowing the vehicle to turn tighter and more smoothly. Even in this mode, however, avoid sharp turns to keep the vehicle from tipping. Reduce vehicle speed before entering the turn and use the throttle to maintain an even speed through the turn.

▲ WARNING

Do not make sharp turns, even in the differential mode, in order to avoid loss of control or tipping. In the differential mode, if either rear wheel leaves the ground, it will spin freely, and the wheel on the ground will transmit very little power. When a spinning wheel touches the ground, it may grab abruptly, causing the operator to lose control.

Remember:

- Slow down before entering the turn.
- Maintain an even speed through the turn.

Hills

As with any motor vehicle, loading of the vehicle, and the surface and steepness of the hill are among the critical considerations in climbing, descending or traversing hills. Use extreme caution on hills. Keep in mind that loading changes a vehicle's center of gravity and that the higher the center of gravity, the more likely the vehicle is to tip on uneven surfaces. Slippery, loose, or bumpy surfaces on hills are especially hazardous. Some hills are just too steep to climb. Always use common sense and practice good judgement.

Climbing Hills

Do not attempt to climb hills or steep inclines until you have mastered the controls and basic operating maneuvers of this vehicle. Always go straight uphill and, if the incline is steep and/or the surface is loose, use "4WD" with the differential locked for greater traction, and in low range for maximum torque.

Avoid hills with slippery sides that will cause you to lose traction. Do not climb hills where you cannot see far enough ahead. If you cannot see what is on the other side of the crest of a hill, slow down until you can get a clear view. Don't apply power suddenly while climbing, or the front wheels might rise off the ground. If the vehicle does not have enough power to reach the top of the hill and stalls, allow the vehicle to roll slowly straight back down the hill controlling its descent with the brakes. Leave the gear shift lever in the "H"(High) or "L"(Low;KAF620E) position until you stop at the bottom of the hill.

WARNING

Do not turn sideways to the hill, or the vehicle may roll over.

Remember:

- Some hills are too steep. Use common sense.
- Never ride past your limit of visibility. If you can't see what is on the other side of the crest of a hill, slow down until you can get a clear view.
- Don't turn sideways to the hill.
- If you get stuck on a hill, roll slowly straight back down, using the brake, with the gear shift lever left in the "H"(High) or "L"(Low;KAF620E) position.

NOTE

- *When the throttle pedal is released completely and the engine speed drops near an idle, the vehicle has no engine braking. This is caused by the vehicle's automatic transmission which releases the engine at very low speed to prevent it from stalling. Use the brakes to control the vehicle's speed.*

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Descending Hills

Slow down or stop at the top of a hill so you can pick a straight, safe path for descent to avoid any obstacles. Normally you should descend straight down a hill since driving at an angle could cause the vehicle to lean to one side and possibly tip over. Proceed slowly and cautiously. Apply the brake as necessary. Be careful if the surface is loose because the tires are more likely to skid and braking effectiveness will be reduced.

Turning while descending a slope must be done very carefully and gradually to avoid tipping the vehicle over.

WARNING

Do not turn sideways to the hill, or the vehicle may roll over.

Remember:

- Stop and look for obstacles before descending a hill.
- Go straight downhill.
- Go slowly.
- If you must turn, do so carefully and gradually.

NOTE

- *When the throttle pedal is released completely and the engine speed drops near an idle, the vehicle has no engine braking. This is caused by the vehicle's automatic transmission which releases the engine at very low speed to prevent it from stalling. Use the brakes to control the vehicle's speed.*

Traversing Hillsides

When driving across the side of a hill, reduce vehicle speed and exercise extreme caution to prevent tipping or loss of control. Avoid hills with slippery sides that will cause you to lose traction. Also avoid traversing hillsides covered with rocks or other obstacles which may cause you to lose your balance or tip over.

When driving on soft terrain, steer slightly uphill to keep the vehicle on a straight line across the hillside.

If the vehicle begins to tip, steer downhill if possible to regain control.

Sliding and Skidding

Obviously, on slippery or loose surfaces, special care is required. Sliding any vehicle may be hazardous because the wheels may suddenly regain traction and cause the vehicle to tip or overturn. Therefore, never drive "over your head" or when you are unsure or unprepared for the surface.

Often you can correct a skid by turning the wheels in the direction of the skid. Do not apply heavy braking force or accelerate when skidding, since this may cause further loss of control.

Use caution and maintain low speeds to avoid uncontrolled skidding on areas covered with clay, mud, ice, or snow. Use "4WD" (KAF620E) and low (KAF620E) range gearing efficiently. These conditions are particularly hazardous when descending a hill or making a turn. Remember that this vehicle is not for use on public streets, roads, or highways.

Remember:

- Be especially careful on very slippery surfaces.
- Don't drive on public streets, roads, or highways.

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Driving through Water

Avoid driving through water whenever it is possible. When driving across shallow water, choose a location to enter and exit the water where the banks are not too steep or slippery. Check before entering for rocks, holes or other obstacles which may cause you to overturn or become stuck or submerged.

Observe the following rules for operating the vehicle in water.



A. Axle Cap

⚠ WARNING

Never operate the vehicle in rivers or streams where the water is flowing quickly. Such operation could lead to an accident if the vehicle loses traction and is swept into the current.

Never operate the vehicle in fast following water or in water deeper than the bottom edge of the axle caps.

After prolonged exposure to water, the wheel bearings may require relubrication or replacement.

Wash the vehicle in fresh water if it has been exposed to salt water or operated in muddy conditions.

⚠ WARNING

Wet brakes provide greatly reduced efficiency and could lead to an accident and injury. After operation in water, always apply the brakes long enough for friction to dry the linings. Also, the brake that gets wet may wear out faster. Check for brake wear more frequently if the vehicle is used in water.

Remember:



- Avoid driving through water whenever possible.
- Don't drive in deep and fast moving water.
- Dry out the brakes.

MAINTENANCE AND ADJUSTMENT



Periodic Maintenance Chart

In addition to the following items, always perform the Daily Safety Checks listed in the HOW TO OPERATE chapter.



- = Clean, adjust, lubricate, replace parts as necessary.
- D = Service to be performed by an authorized Kawasaki Dealer.
- * = Service more frequently when operated in mud, dust, or other harsh riding conditions.
- = Emission Related

OPERATION	FREQUENCY			
	Whichever Comes first   Every	First Service	Regular Service	
		After 50 hrs. or 1,000 km of use	Every 250 hrs. or 5,000 km of use	Every 500 hrs. or 10,000 km of use
ENGINE				
Converter belt - - check*			D	
Converter driven pulley shoe - - check*				D
Converter air cleaner element - - clean*		●	●	
Converter dust or water - - drain*				●
○ Fuel filter - - change*				●
○ Fuel system cleanliness - - check*				●
○ Air cleaner element - - clean*		●	●	●
○ Intake chamber water - - drain*		●	●	
○ Spark plug - - clean and gap			●	

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OPERATION	FREQUENCY			
	Whichever Comes first   Every	First Service	Regular Service	
		After 50 hrs. or 1,000 km of use	Every 250 hrs. or 5,000 km of use	Every 500 hrs. or 10,000 km of use
<input type="radio"/> Valve clearance - - check		D		D
Engine oil - - change*	1 year	●	●	
Oil filter - - replace*		●		●
<input type="radio"/> Throttle pedal play - - check		●		●
<input type="radio"/> Idle speed - - adjust		●	●	
External carburetor mechanism (Throttle lever roller and choke lever cam)- - clean*		●	●	
Spark arrester - - clean			●	
Radiator - - clean*		●	●	
Radiator hoses and connections - - check*	1 year	D		D
Fuel hose - - replace	4 years (D)			
Coolant - - change	2 years (D)			
Coolant filter - - clean	1 year (D)			
CHASSIS				
Steering - - check		●	●	
Steering and axle shaft joint dust boots - - check		D	D	

MAINTENANCE AND ADJUSTMENT 67

OPERATION	FREQUENCY			
	Whichever Comes first   Every	First Service	Regular Service	
		After 50 hrs. or 1,000 km of use	Every 250 hrs. or 5,000 km of use	Every 500 hrs. or 10,000 km of use
Brake pedal play - - check*		●	●	
Parking brake lever - - check		●	●	
Brake hose and pipe - - check		D	D	
Brake fluid level - - check		●	●	
Brake wear - - check*			D	
Tire wear - - check*		●	●	
Brake light switch - - check		●	●	
Seat belt - - check			●	
General lubrication - - perform*			D	
Bolts, nuts, and fasteners tightness - - check		D	D	
Wheel nuts tightness - - check		●	●	
Front final gear case oil (KAF620E) and transmission case oil - - change*	1 year	●		●
Brake fluid - - change	2 years (D)			
Brake master cylinder cup and dust seal - - replace	2 years (D)			
Brake wheel cylinder assembly - - replace	2 years (D)			
Brake hose - - replace	4 years (D)			

68 MAINTENANCE AND ADJUSTMENT

Engine Oil

In order for the engine to function properly, maintain the engine oil at the proper level, and change the oil and oil filter in accordance with the Periodic Maintenance Chart. Not only do dirt and metal particles collect in the oil, but the oil itself loses its lubricative quality if used too long.

⚠ WARNING

Vehicle operation with insufficient, deteriorated, or contaminated engine oil will cause accelerated wear and may result in engine seizure, accident, and injury.

Oil Level Inspection

- If the oil has just been changed, start the engine and run it for several minutes at idle speed. This fills the oil filter with oil. Stop the engine, then wait several minutes until the oil settles.

CAUTION

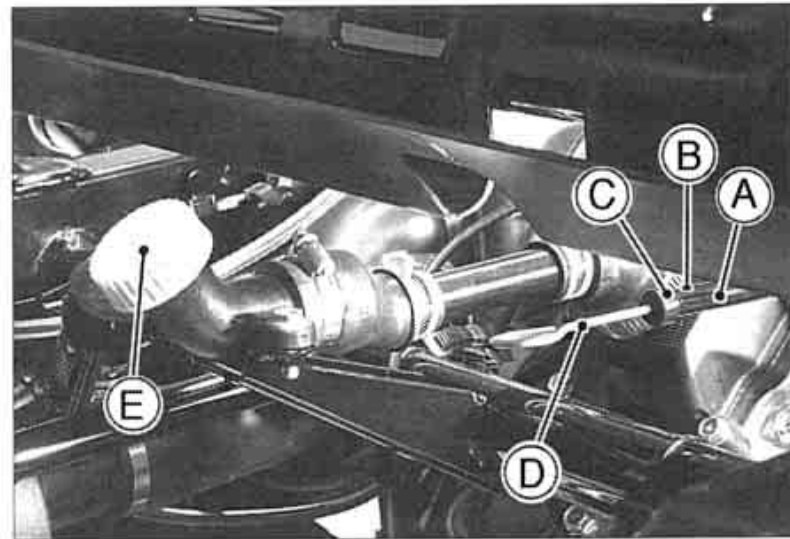
Racing the engine before the oil reaches every part can cause engine damage.

- If the vehicle has just been used, wait several minutes for all the oil to drain down.
- Park the vehicle on level ground.
- Pull up on the rear edge of the seat.

- Pull up the dipstick out of the dipstick tube, wipe it dry, and insert it into the tube securely with the indent upward.

NOTE

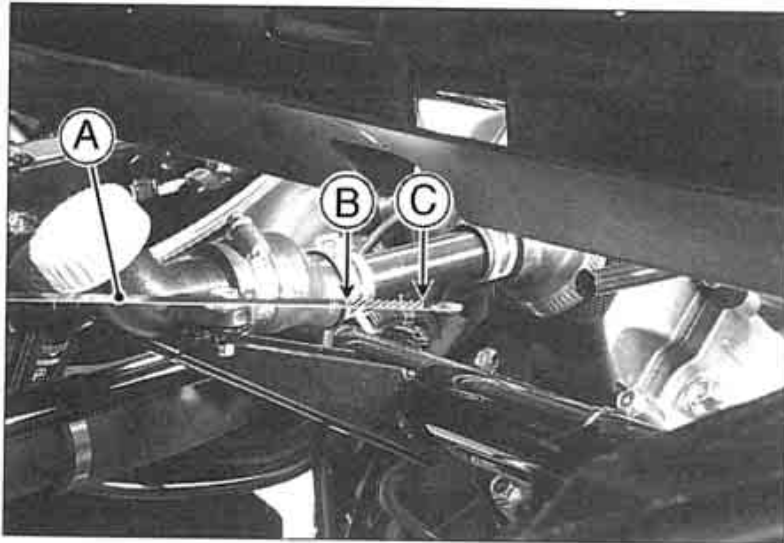
- *It is necessary to match indent of the dipstick with the mark on the tube to measure a correct amount of oil.*



- A. Dipstick Tube**
- B. Mark**
- C. Indent**

- D. Dipstick**
- E. Oil Filler Cap**

- Pull out the dipstick and check the oil level. The oil level should be between the "F"(Full) and "L"(Low) lines on the dipstick.
- Reinsert the dipstick till it bottoms into the tube securely.

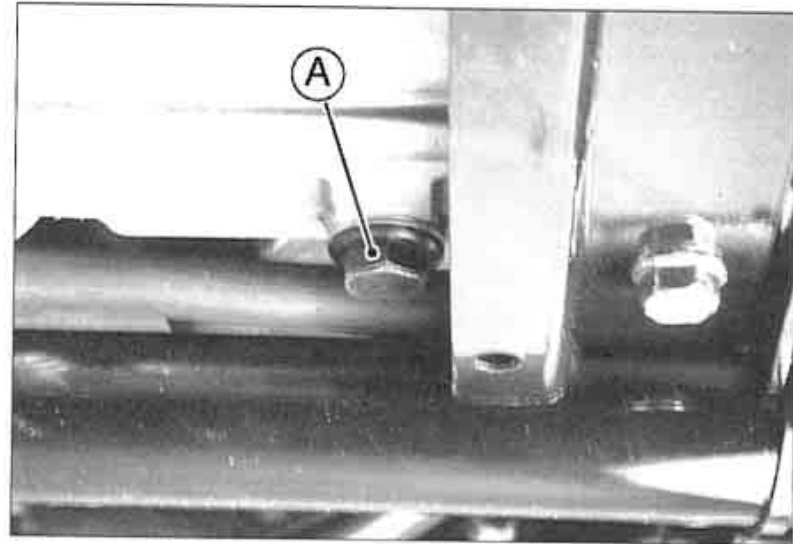


A. Dipstick
B. "F"(Full) Line
C. "L"(Low) Line

- If the oil level is too high, remove the excess oil, using a syringe or other suitable device.
- If the oil level is too low, unscrew the oil filler cap and add the correct amount of oil. Use the same type and brand of oil that is already in the engine.
- Install the filler cap.

Oil and/or Oil Filter Change

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



A. Drain Plug

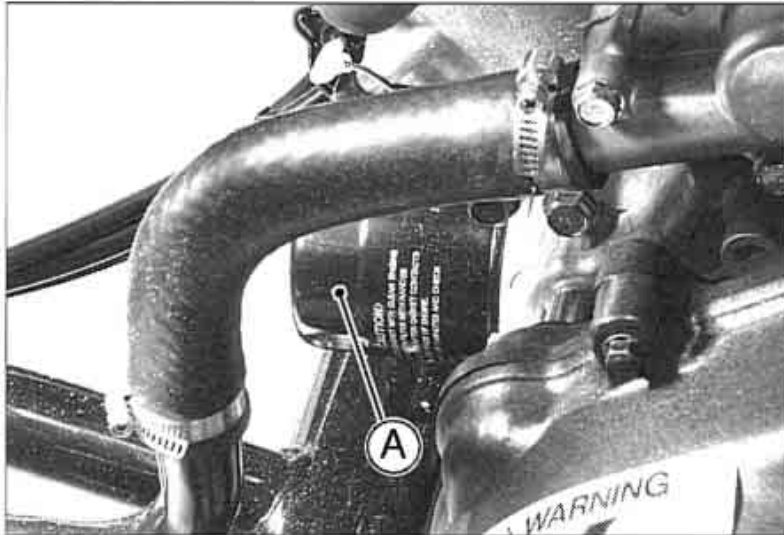
- With the vehicle held level, let the oil drain completely.

⚠ WARNING

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

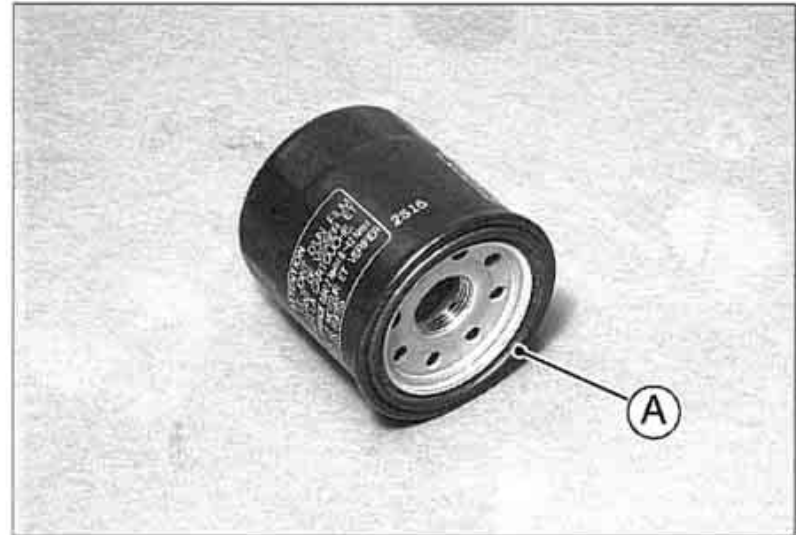
- If the oil filter is to be changed, first lift the cargo bed to support it with the rod, and then remove the oil filter cartridge and replace it with a new one.

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A. Cartridge

- Apply a thin film of oil to the packing and screw the cartridge in until the packing touches the engine, then turn it 3/4 turn.



A. Packing

- Install the drain plug with its gasket. Tighten it to the specified torque.

NOTE

- *Replace any damaged gaskets with new ones.*
- Fill the engine up to the "F"(Full) line on the dipstick with good quality motor oil as specified in the table.
- Start the engine and check for oil leakage.

Tightening Torque

Drain Plug: 22 N·m (2.2 kg·m, 16.0 ft·lb)

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Engine Oil

Grade:	API SF, or SG class API SH or SJ with JASO MA
Viscosity:	SAE 5W-30, 10W-40, 10W-50, 20W-40, or 20W-50

Engine Oil Capacity

when filter is not removed	1.5 L (1.6 US qt)
when filter is removed	1.8 L (1.9 US qt)

Front Final Gear Case Oil (KAF620E)

In order for the differential, pinion, and ring gears to function properly, check the oil level and change the oil in accordance with the Periodic Maintenance Chart.

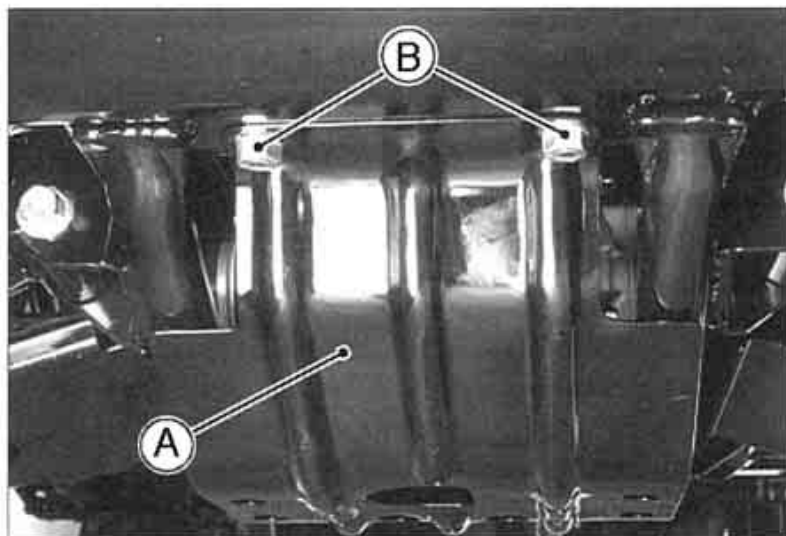
⚠ WARNING

Vehicle operation with insufficient, deteriorated, or contaminated oil causes accelerated wear of the differential, pinion, and ring gears and may result in seizure. Seizure can lock the front and rear wheels and skid the front and rear tires, with consequent loss of control.

Oil Level Inspection

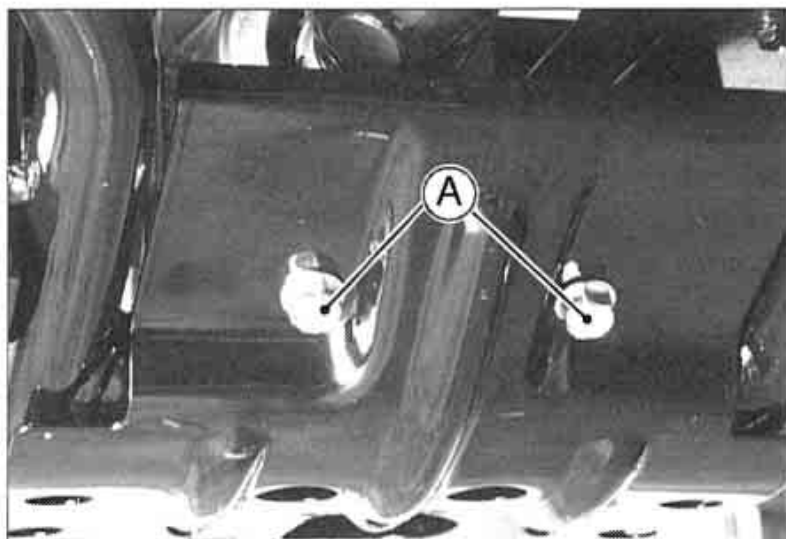
- Remove the front final gear case guard by removing the mounting bolts and nuts.

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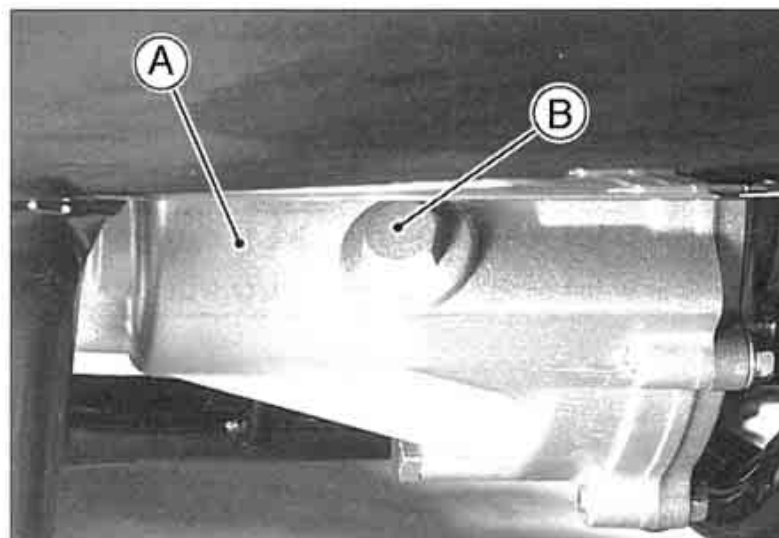
A. Guard

B. Nuts



A. Bolts

- With the vehicle level front-to-rear and side-to-side, remove the filler cap from the front final gear case.



A. Front Final Gear Case

B. Filler Cap

CAUTION

Be careful not to allow any dirt or foreign materials to enter the gear case.

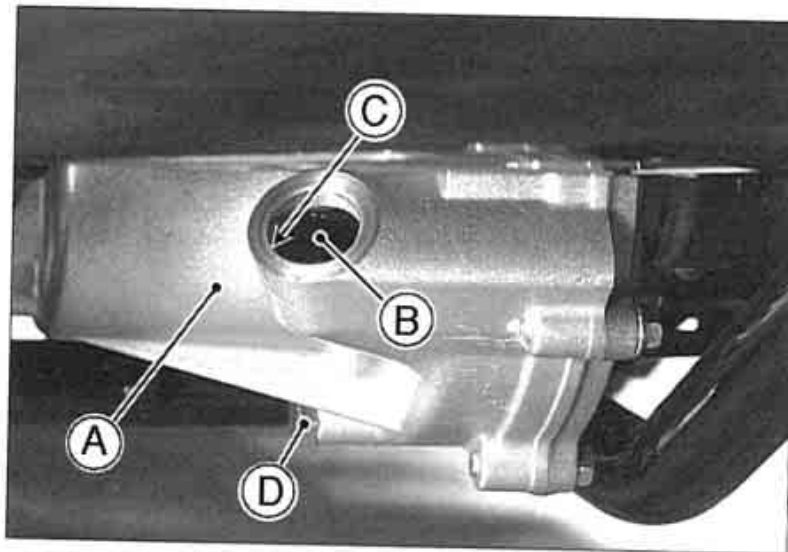
- Check the oil level. The oil level should come to the bottom thread of the filler opening. If it is low, add oil through the oil filler opening as necessary.

MAINTENANCE AND ADJUSTMENT 73

Oil Change

NOTE

- *Before draining the oil, warm it up by running the vehicle. Warm oil drains easily and picks up any sediment.*
- Remove the front final gear case guard.
- With the vehicle level, place an oil pan beneath the gear case.
- Remove the filler cap and drain plug.



A. Front Final Gear Case
B. Filler Opening

C. Bottom Thread
D. Drain Plug

- Install the filler cap.

NOTE

- *Use the same type and brand of oil that is already in the gear case.*

⚠ WARNING

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

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▲WARNING

When draining or filling the gear case, be careful that no oil gets on the tires or rims. Oil on tires can make them slippery which can cause an accident and injury. Clean off any oil that inadvertently gets on them with soap and water.

- After the oil has completely drained out, install the drain plug and gasket. If the gasket is damaged, replace it with a new one.

Tightening Torque

Drain Plug: 14.7 N·m (1.5 kg·m, 10.8 ft·lb)

- Fill the gear case up to the bottom thread of the filler opening with a good quality oil as specified in the table.

Front Final Gear Case Oil

Oil Capacity	about 400 mL (0.4 US qt)
Oil Type	API "GL-5" or API "GL-6" Hypoid gear oil for Limited Slip Differentials, SAE 85W-140, SAE90 or SAE140

- Install the filler cap and gear case guard.

Transmission Case Oil

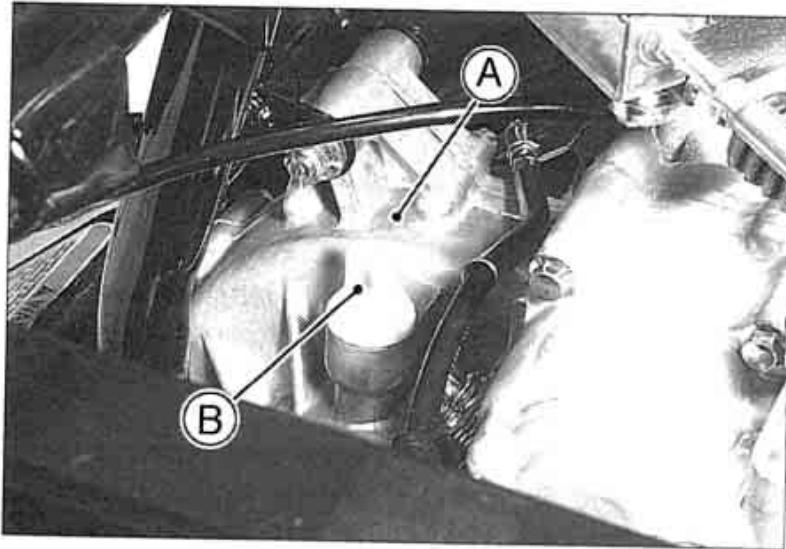
In order for the transmission, differential, pinion, and ring gears to function properly, check the oil level and change the oil in accordance with the Periodic Maintenance Chart.

▲WARNING

Vehicle operation with insufficient, deteriorated, or contaminated oil causes accelerated wear of the transmission, differential, pinion, and ring gears and may result in seizure. Seizure can lock the rear wheels and skid the rear tires, with consequent loss of control.

Oil Level Inspection

- Park the vehicle on level ground.
- Lift the cargo bed and support it with the rod.
- Unscrew the oil filler plug, wipe its dipstick dry, and insert it into the filler hole but DO NOT SCREW IT IN.



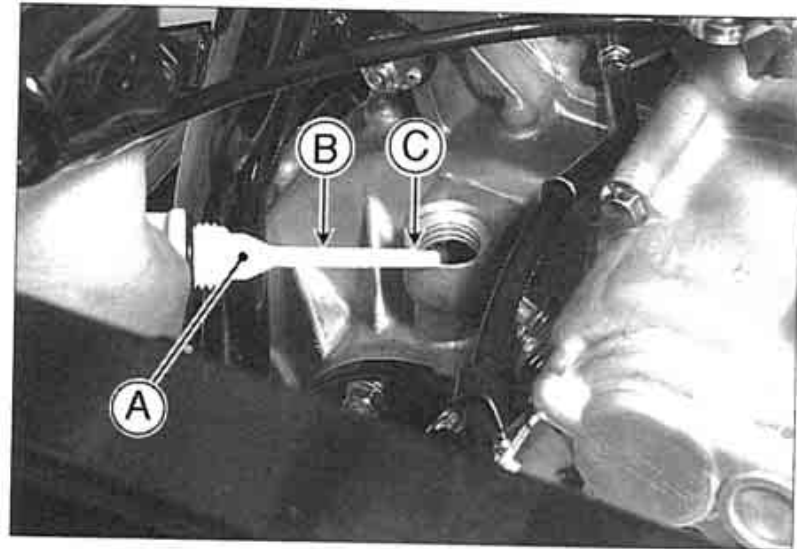
A. Transmission Case

B. Oil Filler Plug

CAUTION

Be careful not to allow any dirt or foreign materials to enter the transmission case.

- Pull out the dipstick and check the oil level. The oil level should be between the "H"(High) and "L"(Low) lines on the dipstick.



A. Dipstick

B. "H" (High) Line

C. "L" (Low) Line

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

NOTE

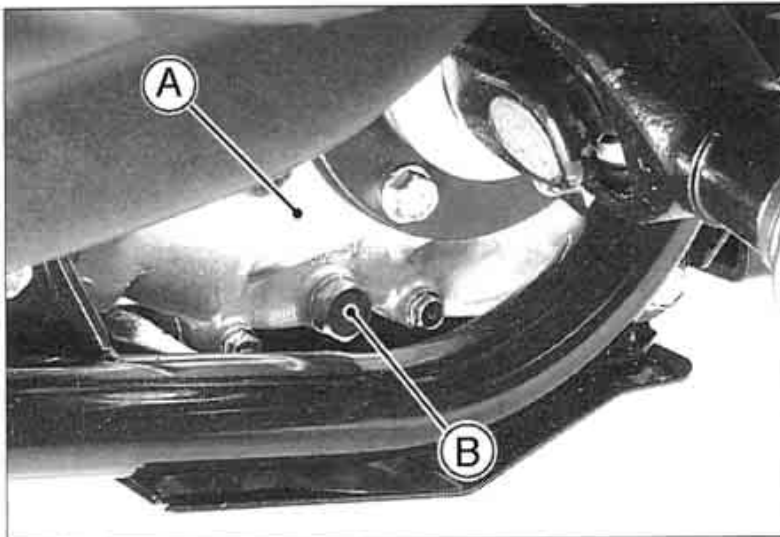
- Use the same type and brand of oil that is already in the transmission case.

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Oil Change

NOTE

- Before draining the oil, warm it up by running the vehicle. Warm oil drains easily and picks up any sediment.
- With the vehicle level, place an oil pan beneath the transmission case.
- Remove the drain plug.



A. Transmission Case

B. Drain Plug

⚠ WARNING

To avoid a serious burn, never touch a hot muffler or exhaust pipe during oil draining.

- Lift the cargo bed and support it with the rod.
- Remove the filler plug.

⚠ WARNING

When draining or filling the transmission case, be careful that no oil gets on the tires or rims. Oil on tires can make them slippery which can cause an accident and injury. Clean off any oil that inadvertently gets on them with soap and water.

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

- After the oil has completely drained out, install the drain plug with its gasket. Tighten it to the specified torque. If the gasket is damaged, replace it with a new one.
- Fill the transmission case up to the "H"(High) line on the dipstick with a good quality oil as specified in the table.

Tightening Torque

Drain Plug: 14.7 N·m (1.5 kg·m, 10.8 ft·lb)

Transmission Case Oil Type

API "GL-5" Hypoid gear oil
above 5°C (41°F) SAE 90
below 5°C (41°F) SAE 80

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Transmission Case Oil Capacity

KAF620E:	2.5 L (2.6 US qt)
KAF620F/G:	2.2 L (2.3 US qt)

- Install the filler plug.

Cooling System

Radiator and Cooling Fan

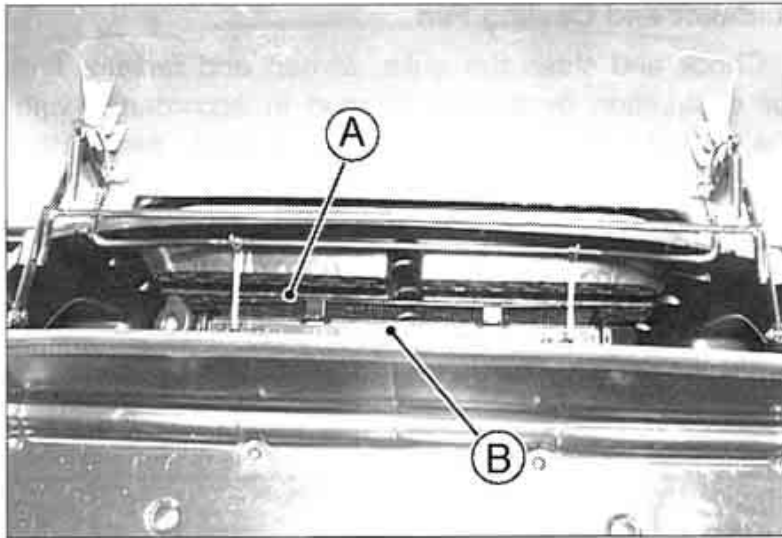
Check and clean the grille, screen and radiator fins for obstruction by insects or mud in accordance with the Periodic Maintenance Chart. In dusty areas, the radiator should be cleaned more frequently than the recommended interval.

⚠ WARNING

The cooling fan turns on automatically, even with the ignition switch off. Keep your hands and clothing away from the fan blades at all times.

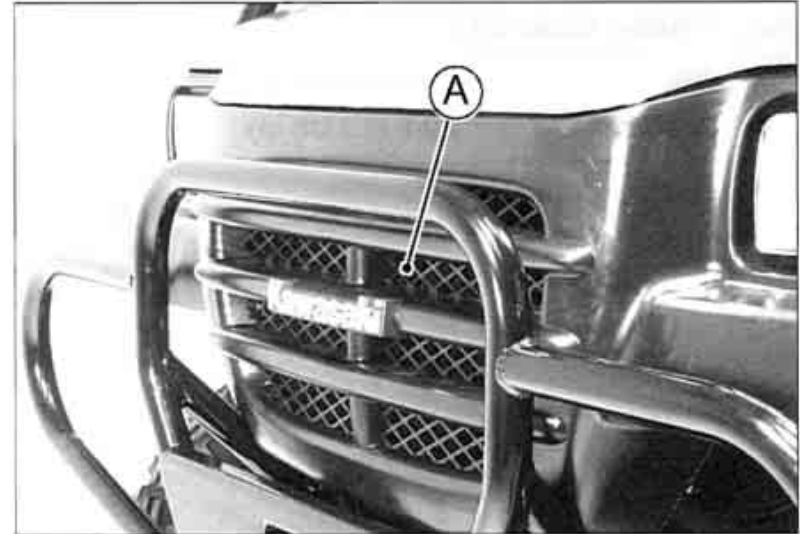
78 MAINTENANCE AND ADJUSTMENT

- Lift the front cargo hood up. Refer to the "Front Cargo Compartment" section in the "General Information" chapter.



A. Screen

B. Radiator



A. Grille

- Clean the grille, screen, and radiator fins of any obstructions with a stream of low-pressure water.
- If insects or mud can not be completely removed, it should be cleaned by an authorized Kawasaki dealer.

CAUTION

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.

Coolant

Coolant absorbs excessive heat from the engine and transfers it to the air at the radiator. If the coolant level becomes low, the engine overheats and may suffer damage. Check the coolant level each day before operating the vehicle, and replenish coolant if the level is low. Change the coolant in accordance with the Periodic Maintenance Chart.

NOTE

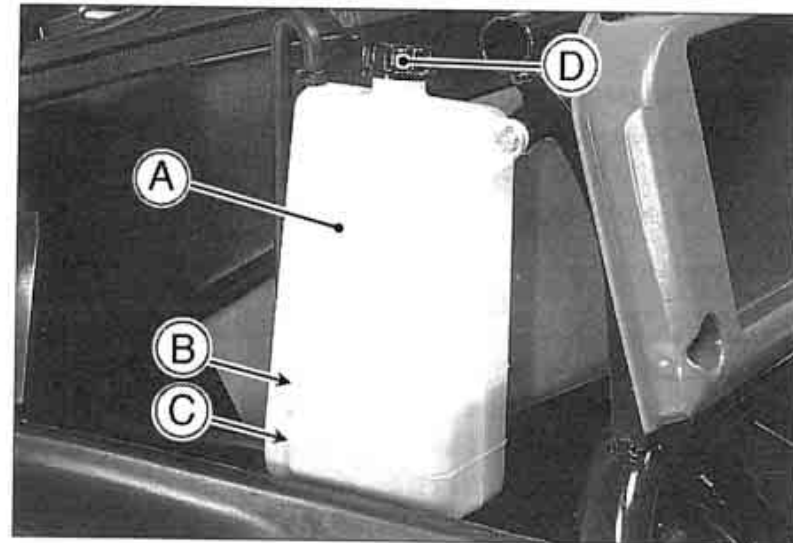
- A permanent type of antifreeze is installed in the cooling system when shipped. It is colored green and contains ethylene glycol. It is mixed at 50% with water and has a freezing point of -35°C (-31°F).

Coolant Level Inspection

- Situate the vehicle on level ground.
- Lift the front cargo hood up. Refer to the "Front Cargo Compartment" section in the "General Information" chapter.
- Check the coolant level through the coolant level gauge on the reserve tank. The coolant level should be between the "F"(Full) and "L"(Low) marks.

NOTE

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



A. Reserve Tank
 B. "F"(Full) Mark
 C. "L"(Low) Mark
 D. Cap

- If the amount of coolant is insufficient, unscrew the cap from the reserve tank and add coolant through the filler opening to the "F"(Full) mark. Install the cap.

Recommended Coolant Solution

Coolant Mixture Ratio:

Water 50%: Antifreeze 50% (1 : 1)

Recommended Antifreeze:

Permanent type antifreeze (ethylene glycol plus corrosion and rust inhibitor chemicals for aluminum engines and radiator).

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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.*

CAUTION

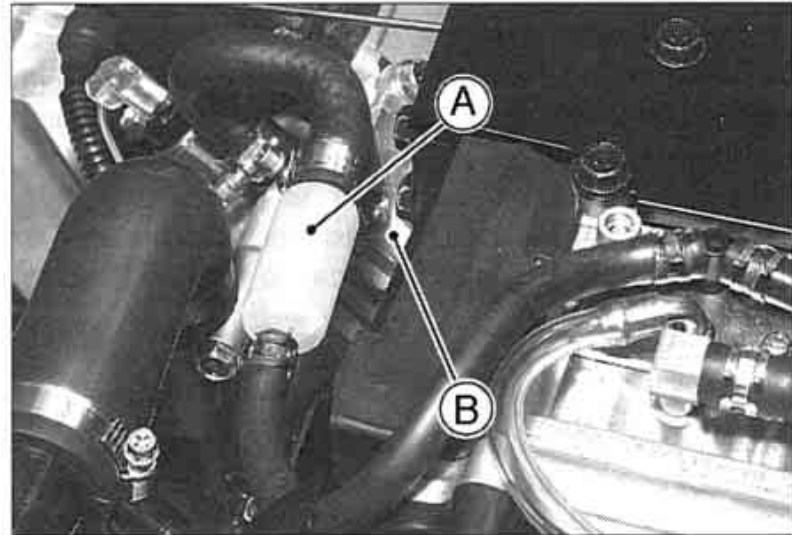
If coolant must be added often, or the reserve tank completely runs dry, there is probably leakage in the system. Have the cooling system inspected by your authorized Kawasaki dealer.

Coolant Change

Have the coolant changed by an authorized Kawasaki dealer.

Coolant Filter

Have the coolant filter of the carburetor system cleaned according to the interval specified by the Periodic Maintenance Chart by an authorized Kawasaki dealer.



A. Coolant Filter

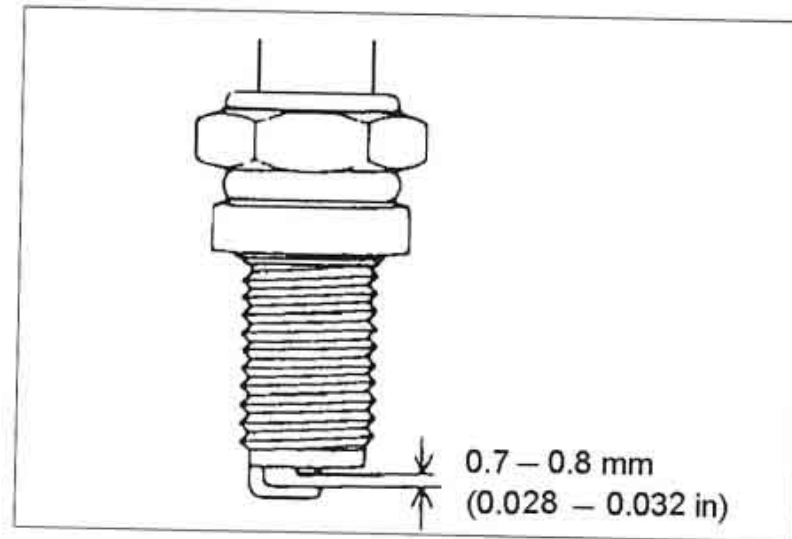
B. Carburetor

Spark Plugs

The standard spark plug is shown in the table. The spark plug should be taken out periodically in accordance with the Periodic Maintenance Chart for cleaning, inspection, and resetting of the plug gap.

Maintenance

If the plug is oily or has carbon built up on it, have it cleaned, preferably in a sand-blasting device, and then clean off any abrasive particles. The plug may also be cleaned using a high flash-point solvent and a wire brush to other suitable tool. Measure the gap with a wire-type thickness gauge, and adjust the gap if incorrect by bending the outer electrode. If the insulator is cracked, replace the plug. Use the standard plug.



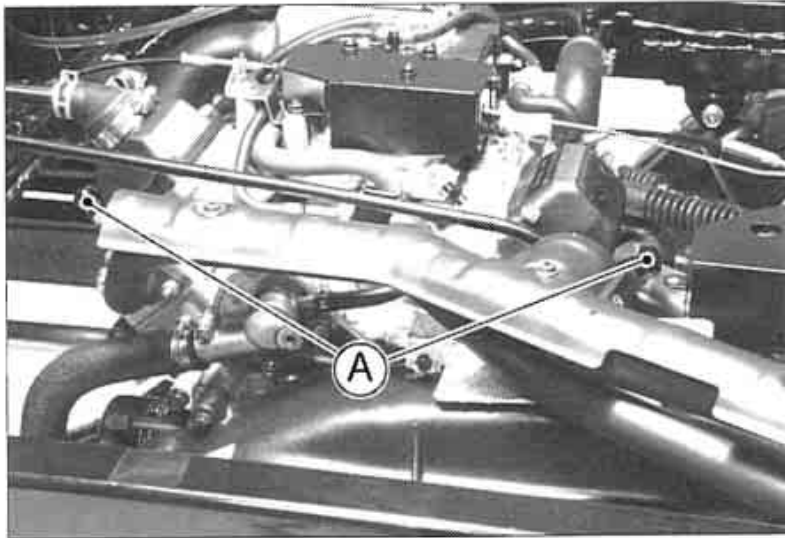
Spark Plug

Standard Plug	NGK BPR2ES
Plug Gap	0.7 ~ 0.8 mm (0.028 ~ 0.032 in)
Tightening Torque	17 N·m (1.7 kg·m, 12.0 ft·lb)

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Spark Plug Removal

- Lift the cargo bed to support it with the rod.
- Carefully pull the spark plug caps from the spark plugs.



A. Spark Plug Caps

- Unscrew the spark plugs.

Valve Clearance

Valve and valve seat wear decrease valve clearance, upsetting valve timing.

CAUTION

If valve clearance is left unadjusted, wear will eventually cause the valves to remain partly open; which lowers performance, burns the valves and valve seats, and may cause serious engine damage.

Valve clearance for each valve should be checked and adjusted in accordance with the Periodic Maintenance Chart.

Inspection and adjustment should be done by an authorized Kawasaki dealer.

Valve Clearance (EX & IN) : 0.25 mm (0.010 in)

Engine Air Cleaner

A clogged engine air cleaner restricts the engine's air intake, increasing fuel consumption, reducing engine power, and causing spark plug fouling.

▲WARNING

A clogged air cleaner may allow dirt and dust to enter the carburetor and the throttle may stick or become impossible resulting in a hazardous operating condition.

CAUTION

A clogged air cleaner may allow dirt and dust to enter the engine causing excessive wear and possible engine damage.

The air filter element should be cleaned in accordance with the Periodic Maintenance Chart. In dusty areas, the elements should be cleaned more frequently than the recommended interval.

The engine air filter restriction gauge show whether the air cleaner is clogged. Whenever the red band shows in the gauge window, the air filter element should be cleaned. After servicing the air filter element, the restriction gauge should be reset by pushing the button at the end of the gauge.

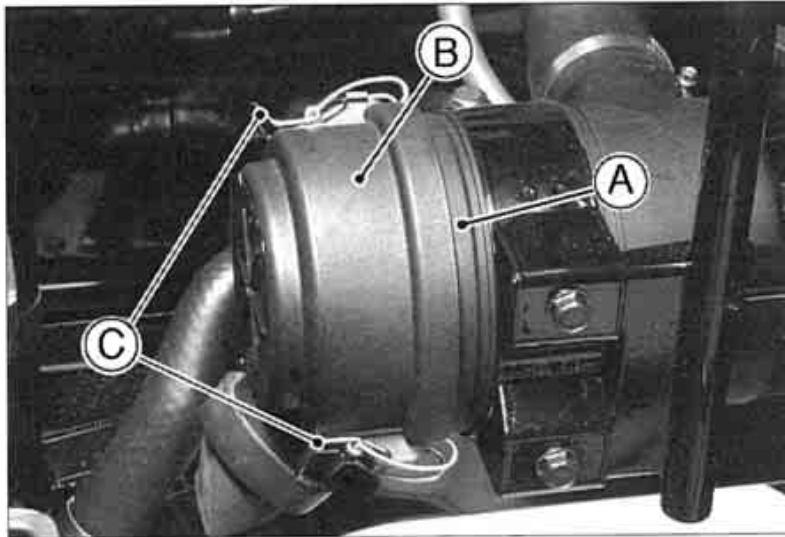


A. Air Filter Restriction Gauge

Element Removal

- Raise the seat.
- Pull up the snaps and remove the air cleaner housing cap from the housing.

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A. Air Cleaner Housing C. Snaps
B. Cap

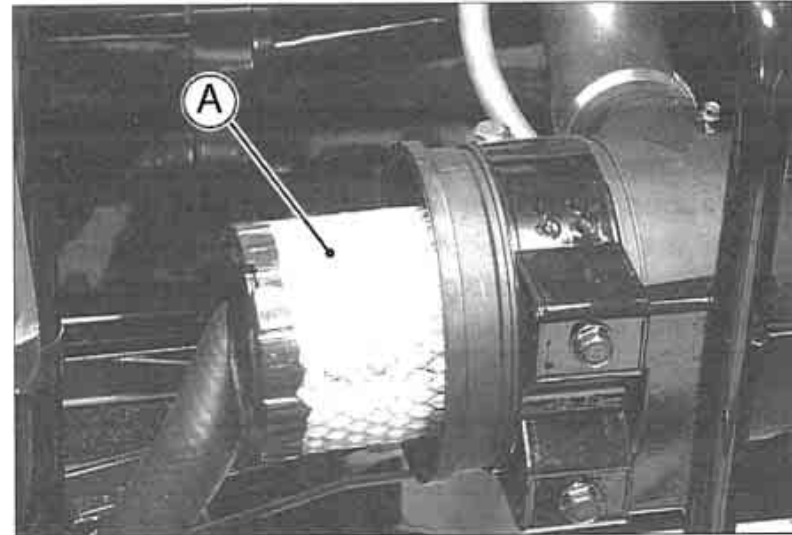
- Pull the air cleaner element out of the housing.
- Push a clean, lint-free towel into the air cleaner housing to keep dirt or other foreign material from entering.

▲ WARNING

If dirt or dust is allowed to pass through into the carburetor, the throttle may stick or become inoperative resulting in a hazardous operating condition.

CAUTION

If dirt gets into the engine, excessive engine and possible engine damage may occur.



A. Paper Element

NOTE

- Element installation is performed in the reverse order of removal.
- Install the cap with its drain facing downward.

Element Cleaning

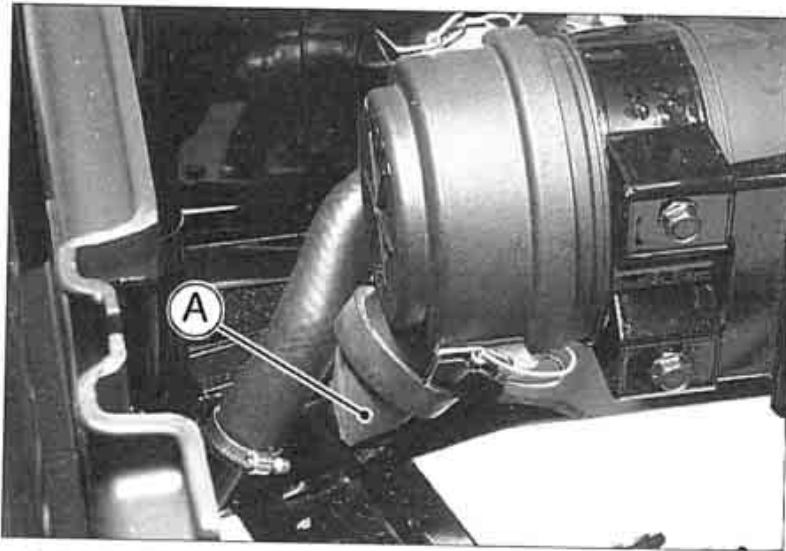
- Remove the element (see Element Removal).
- Clean the paper element by tapping it lightly to loosen dust.

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- Blow away the remaining dust by applying compressed air from the inside to the outside (from the clean side to the dirty side).
- Inspect the element material for damage. If any part of the element is damaged, the element must be replaced.
- Reset the air filter restriction gauge (push its button).

Dust and/or Water Inspection

- Push open the drain hose on the bottom of the air cleaner housing to expel dust and/or water accumulated inside.



A. Drain Hose

Spark Arrester

This vehicle is equipped with a spark arrester approved for off-highway use by the U.S. Forest Service. It must be properly maintained to ensure its efficiency. Clean the spark arrester in accordance with the Periodic Maintenance Chart.

CAUTION

The spark arrester must be functioning properly to provide adequate fire protection.

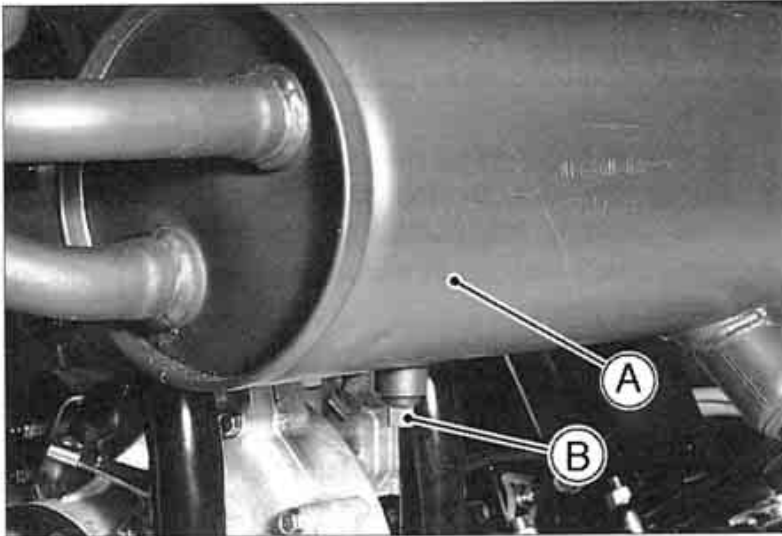
Spark Arrester Cleaning

⚠ WARNING

To avoid burns, wear gloves while cleaning the spark arrester. Since the engine must be run during this procedure, the muffler will become hot.

- Remove the drain plug from the muffler.

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A. Spark Arrester (inside the muffler)
B. Drain Plug

- Apply the parking brake.
- In an open area away from combustible materials, start the engine with the gear shift lever in the "N"(Neutral) position.
- Raise and lower engine speed while tapping on the muffler with a rubber mallet until carbon particles are purged from the muffler.

⚠ WARNING

Do not run the engine in a closed area. Exhaust gases contain carbon monoxide; a colorless, odorless, poisonous gas. Breathing exhaust gas leads to carbon monoxide poisoning, asphyxiation, and death.

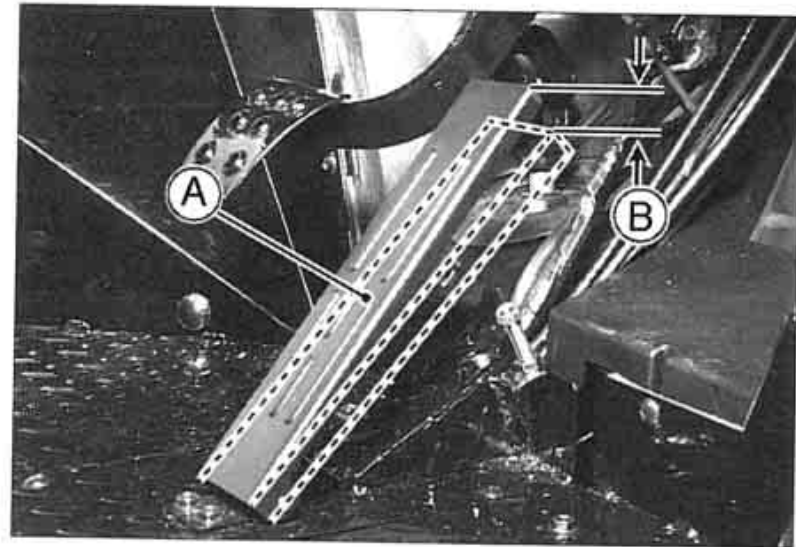
- Stop the engine.
- Install the drain plug.

Throttle Pedal

If the throttle pedal has excessive play due to either cable stretch or misadjustment, it will cause a delay in throttle response, especially at low engine speed. Also, the throttle may not open fully. If the throttle pedal has no play, the throttle may be hard to control, and the idle speed may be erratic. Check the throttle pedal play periodically in accordance with the Periodic Maintenance Chart, and adjust the play if necessary.

Throttle Pedal Play Inspection

- Apply the parking brake.
- Put the gear shift lever in the "N"(Neutral) position.
- Start the engine, and warm it up thoroughly.
- Measure the distance the throttle pedal moves before the engine begins to pick up speed. Free play should be 5 ~ 10 mm (0.2 ~ 0.4 in).



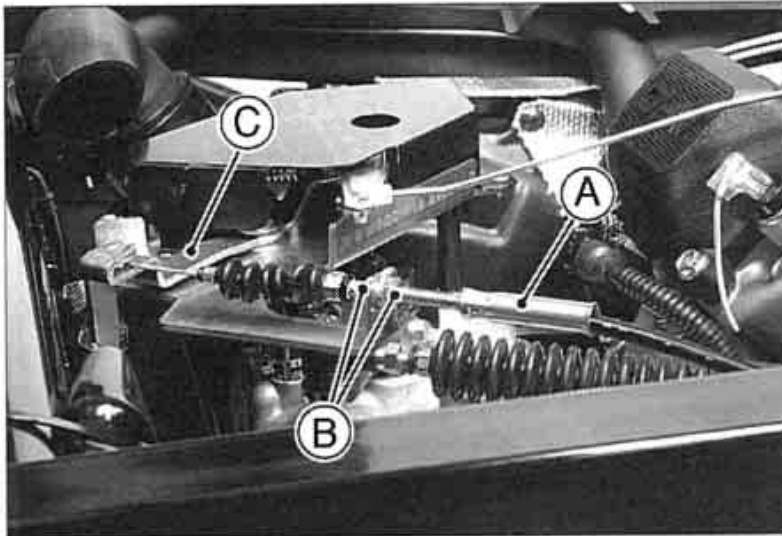
A. Throttle Pedal

B. 5 ~ 10 mm (0.2 ~ 0.4 in)

Throttle Pedal Play Adjustment

- Lift the cargo bed and support it with the rod.
- Loosen and turn the throttle cable mounting nuts located above the transmission case until the proper amount of throttle pedal play is obtained.

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A. Throttle Cable
B. Mounting Nuts

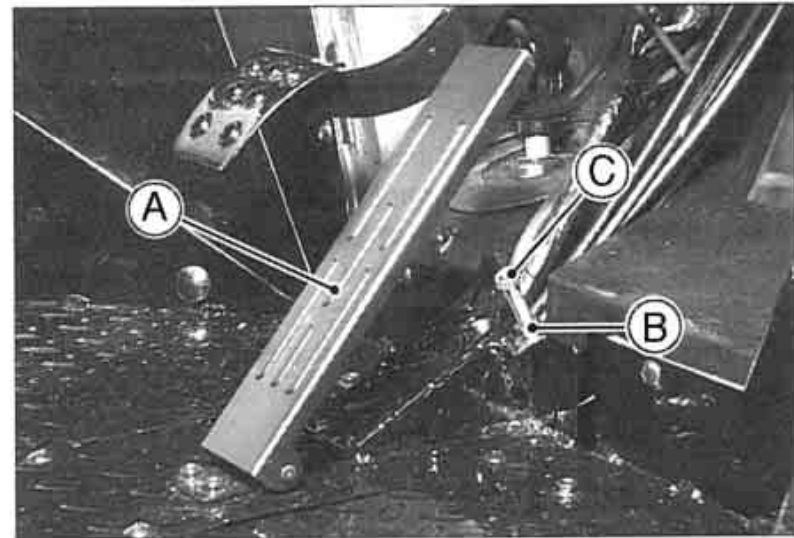
C. Accel Lever

- Tighten the mounting nuts securely.

Throttle Pedal Stop Position Adjustment

The full throttle pedal stop position can be adjusted to prevent pulling the throttle cable more than required.

- Loosen the locknut.
- Screw in the throttle pedal stop bolt.
- Depress the throttle pedal until the speed control lever above the transmission case is in the fully opened position and hold it there.
- Turn the throttle pedal stop bolt until the bolt head lightly touches the bottom the throttle pedal.
- Tighten the locknut securely.



A. Throttle Pedal
B. Locknut

C. Throttle Pedal Stop Bolt

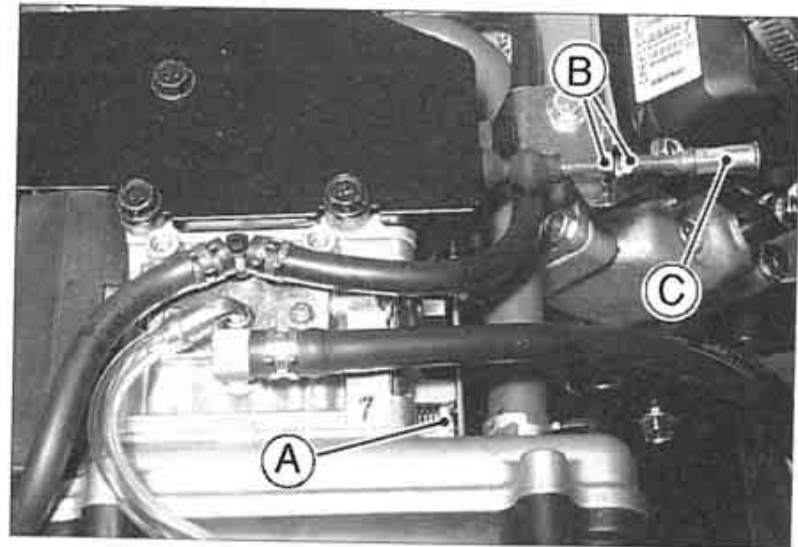
Choke Knob

Pulling the choke knob makes the carburetor provide a rich mixture for easy starting when the engine is cold.

If starting is difficult or rich fuel mixture trouble occurs, inspect the choke knob, and adjust it if necessary.

Inspection

- Check that the choke knob returns properly and that the inner cable slides smoothly. If there is any irregularity, have the choke cable checked by an authorized Kawasaki dealer.
- Lift the cargo bed and support it with the rod.
- Make sure the choke knob all the way in to its released position.
- To determine the amount of choke cable play at the knob, pull the choke knob out until the starter lever at the carburetor starts to move; the amount of choke knob travel is the amount of cable play.

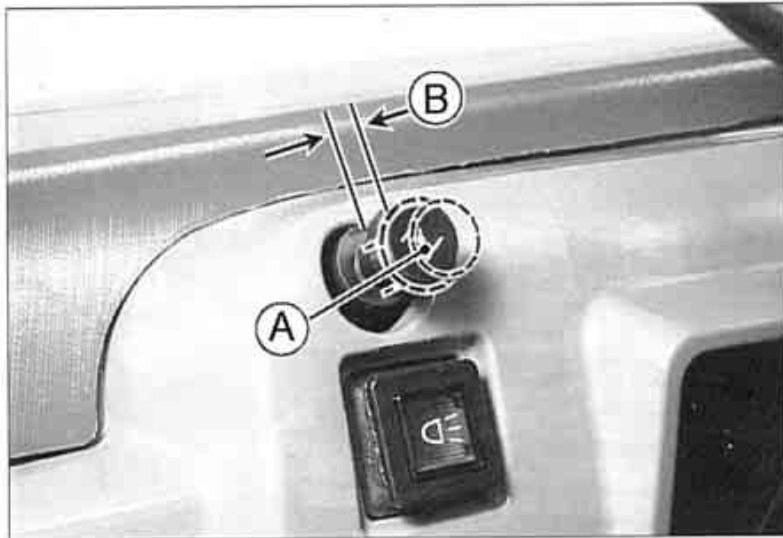


A. Starter Lever
B. Mounting Nuts

C. Choke Cable

- The proper amount of play is 0 ~ 1 mm (0.00 ~ 0.04 in) at the choke knob. If there is too much or too little play, adjust the choke cable.

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A. Choke Knob

B. 0 ~ 1 mm (0.00 ~ 0.04 in)

Adjustment

- Loosen and turn the choke cable mounting nuts next to the starter lever until the cable has the proper amount of play.
- Tighten the nuts after adjustment.

Carburetor

The idle speed adjustment should be performed in accordance with the Periodic Maintenance Chart or whenever the idle speed is changed.

The following procedure covers the idle speed adjustment.

Idle Speed Adjustment

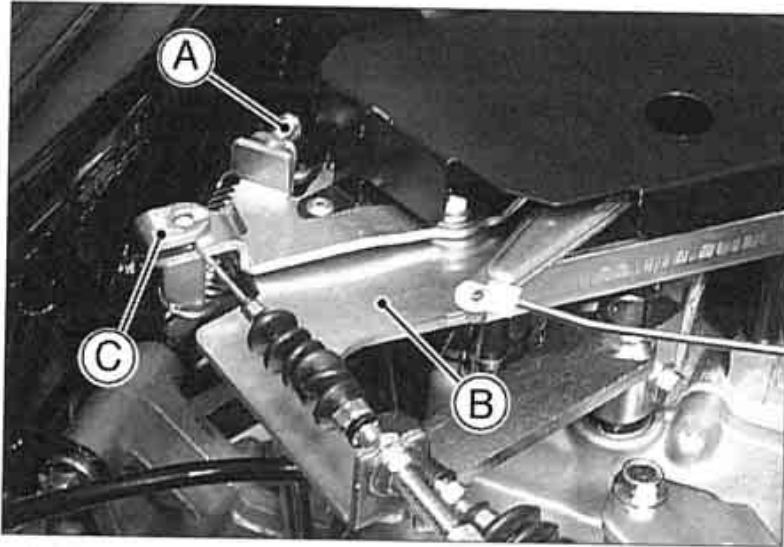
- Apply the parking brake.
- Put the gear shift lever in the "N"(Neutral) position.
- Start the engine, and warm it up thoroughly.

⚠ WARNING

Do not run the engine in a closed area. Exhaust gases contain carbon monoxide; a colorless, odorless, poisonous gas. Breathing exhaust gas leads to carbon monoxide poisoning, asphyxiation, and death.

- Lift the cargo bed to support it with the rod.
- Loosen the accel lever stopper screw on the control panel above the transmission case.

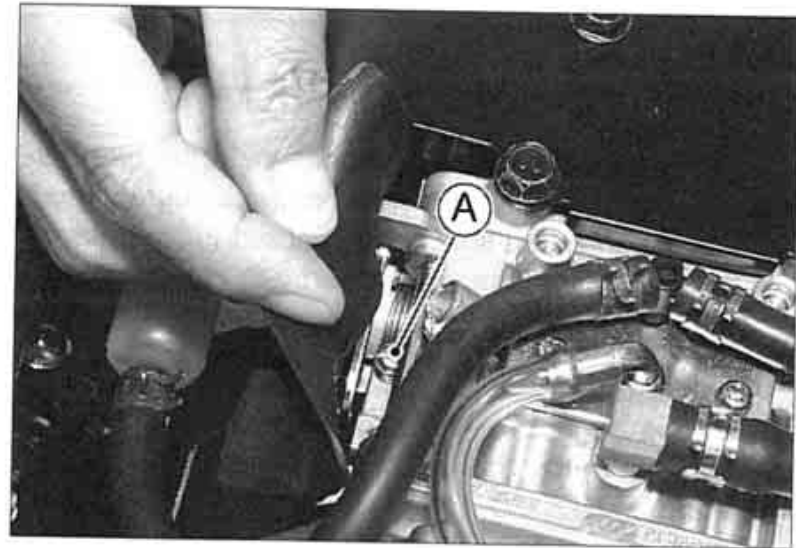
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A. Accel Lever Stopper Screw C. Accel Lever
B. Control Panel

- Adjust the idle speed to the lowest stable speed by turning the idle adjusting screw located on the carburetor.

Idle Speed:	about 900 ±50r/min (rpm)
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A. Idle Adjusting Screw

- Depress and release the throttle pedal a few times to make sure that the idle speed does not change. Readjust if necessary.
- After adjustment screw the accel lever stopper screw in until the screw lightly touches the accel lever.

NOTE

- *The idling speed could become unstable with the throttle valve stuck closed, if the adjustment screw is turned excessively.*

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Fuel System

Accumulation of moisture or sediment in the fuel system can restrict the flow of fuel and cause carburetor malfunction. The system should be checked in accordance with the Periodic Maintenance Chart.

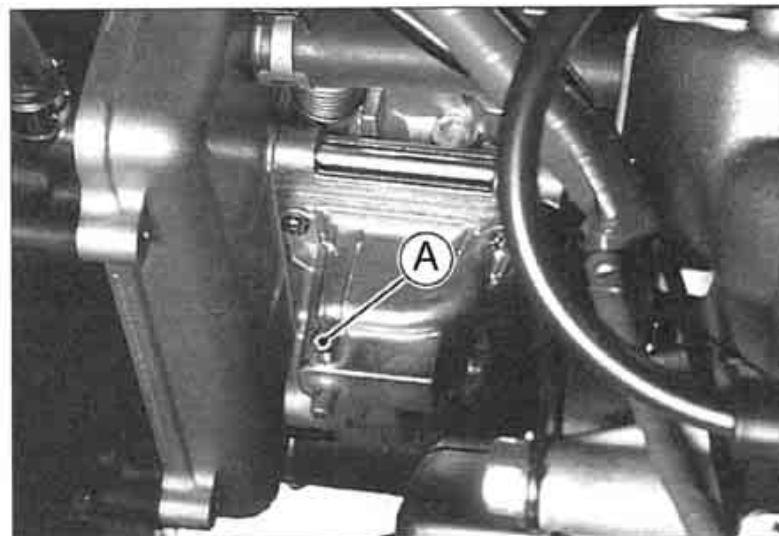
⚠ WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Turn the ignition switch "OFF". Do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

Make sure the engine is cold before working. Wipe any fuel off the engine before starting it.

Dust and/or Water Inspection

- Lift the cargo bed to support it with the rod.
- Place a suitable container under the carburetor.
- Turn out the drain screw a few turns to drain the carburetor, and check to see if water or dirt has accumulated in the carburetor.



A. Drain Screw

- Tighten the drain screw.

NOTE

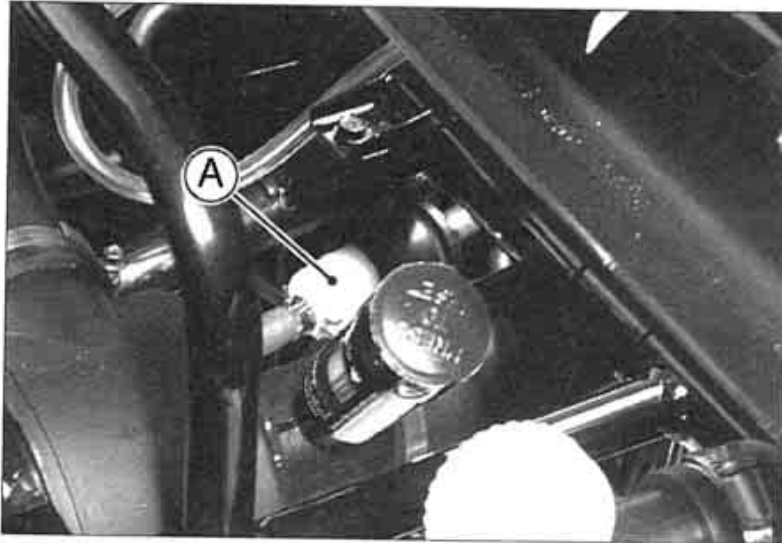
- *If any water or dirt appears during the above operation, have the fuel system checked by an authorized Kawasaki dealer.*

Fuel Filter

The vehicle is equipped the fuel filter at the middle of the fuel line to prevent dirt or other foreign material from entering the carburetor and fuel pump.

Have your authorized Kawasaki dealer inspect and clean or replace the fuel filter in accordance with the Periodic Maintenance Chart, or whenever you find from

outside any foreign material or water trapped in the fuel filter.



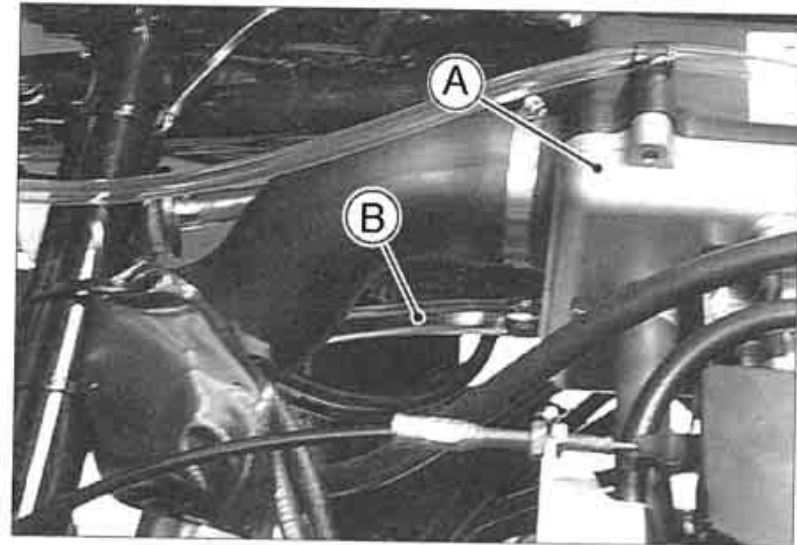
A. Fuel Filter

Intake Chamber Drain Hose

Dust and/or Water Inspection

The intake chamber drain hose should be inspected in accordance with the Periodic Maintenance Chart.

- Lift the cargo bed to support it with the rod.
- Remove the clamp then the drain hose on the intake chamber to expel dust and/or water accumulated inside.



A. Intake Chamber

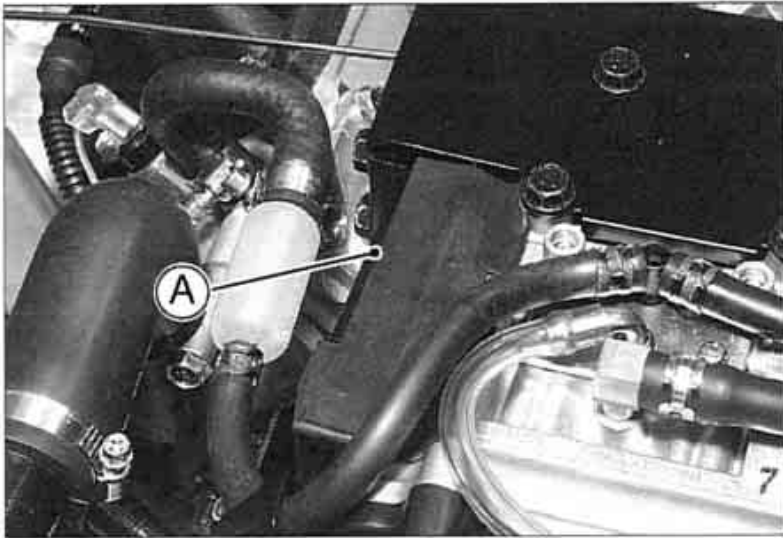
B. Drain Hose

External Carburetor Mechanism

External Carburetor Mechanism inside of carburetor cover, throttle lever roller and choke lever cam should be cleaned in accordance with the Periodic Maintenance Chart.

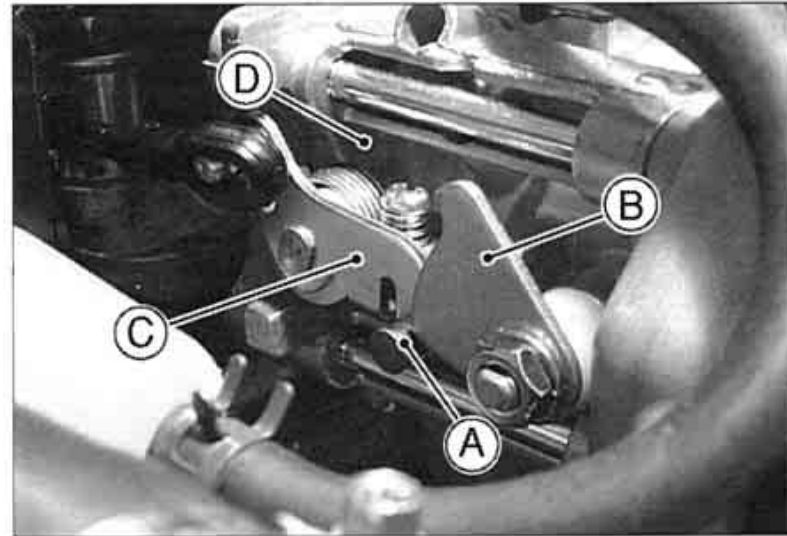
- Lift the cargo bed to support it with the rod.
- Remove the carburetor cover.

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A. Carburetor Cover

- Clean and lubricate the throttle lever roller and choke lever cam, with a penetrating rust inhibitor, such as WD40 or BEL-RAY 6 in 1.



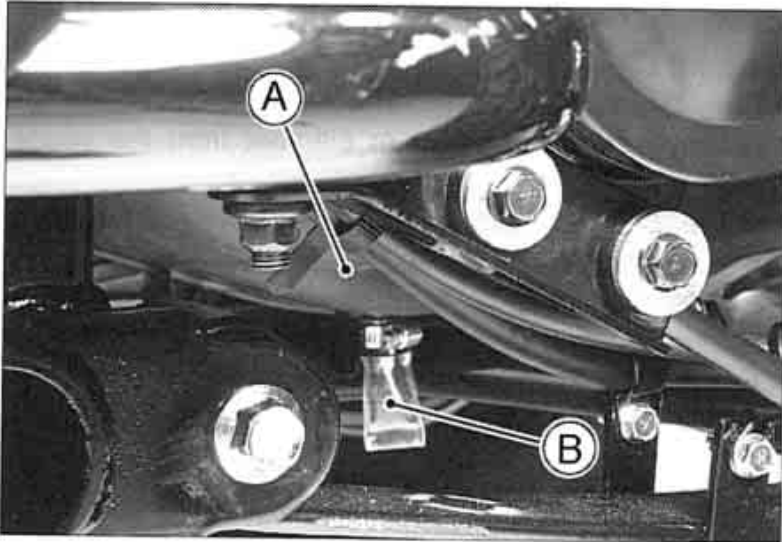
A. Throttle Lever Roller
B. Choke Lever Cam

C. Throttle Valve Lever
D. Carburetor

Belt Drive Torque Converter

The vehicle is equipped with a belt drive torque converter type automatic transmission. The belt, driven pulley shoes and drain hose should be checked in accordance with the Periodic Maintenance Chart.

The belt and driven pulley shoes inspection should be done by an authorized Kawasaki dealer.



A. Belt Drive Torque Converter (inside)
B. Drain Hose

Dust and/or Water Inspection

- Unscrew the clamp screw and remove the drain hose on the bottom of the converter housing to expel dust and/or water accumulated inside.

Belt Drive Torque Converter Air Cleaner

A clogged belt drive torque converter air cleaner may cause the torque converter to malfunction.

CAUTION

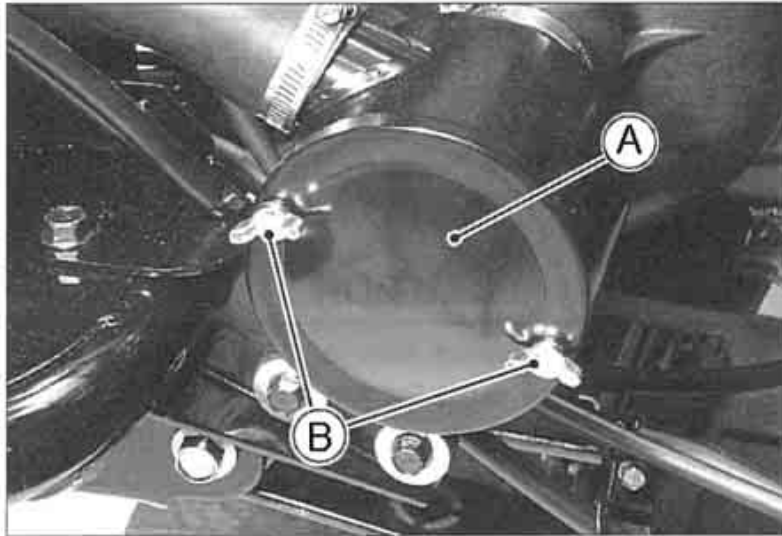
A clogged air cleaner may allow dirt and dust to enter the belt drive torque converter causing excessive wear of the inner parts and loss of driving power.

The air cleaner elements must be cleaned in accordance with the Periodic Maintenance Chart. In dusty areas, the elements should be cleaned more frequently than the recommended interval. The elements should be replaced if they are damaged.

Element Removal

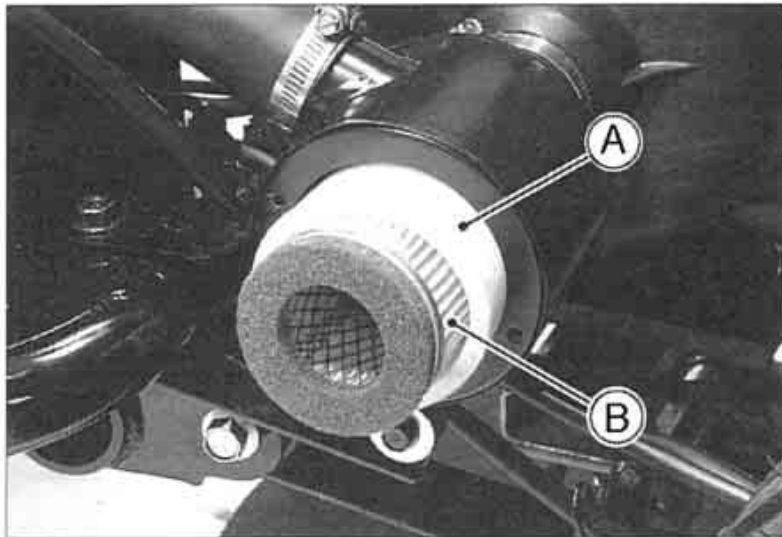
- For the belt drive torque converter air cleaner take off the wingbolts and remove the air cleaner housing cap.
- Pull the air cleaner element out of the housing.
- Push a clean, lint-free towel into the air cleaner housing to keep dirt or other foreign material from entering.

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A. Cap

B. Wingbolts



A. Foam Element

B. Paper Element

CAUTION

If dirt gets into the belt drive torque converter, excessive wear and loss of driving power may result.

NOTE

- Element installation is performed in the reverse order of removal.

Element Cleaning

- Remove the element (see Element Removal).
- Remove the urethane foam element from the paper element.
- Clean the foam element in a bath of high flash-point solvent using a soft bristle brush.
- Squeeze it dry in a clean towel. Do not wring the element or blow it dry; the element can be damaged.
- Inspect the foam element for damage. If it is torn, punctured, or hardened, replace it.

NOTE

- Replace the foam element after cleaning it five times or if it is damaged.
- After cleaning, saturate the foam element with SE, SF or SG class SAE 10W40 oil, squeeze out excess oil, then wrap it in a clean rag and squeeze it as dry as possible. Be careful not to tear the foam element.
- Clean the paper element by tapping it lightly to loosen dust.

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- Blow away the remaining dust by applying compressed air from the inside to the outside (from the clean side to the dirty side).
- Inspect the element material for damage. If any part of the element is damaged, the element must be replaced.

Brakes

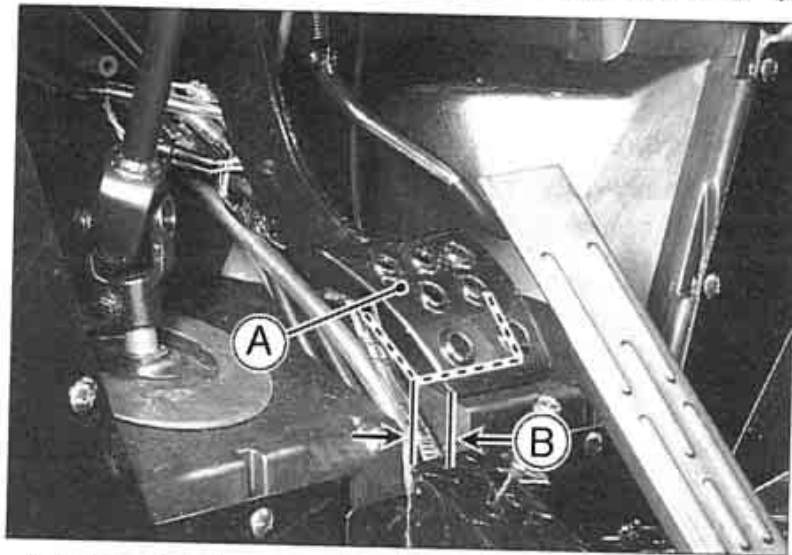
The vehicle is equipped with hydraulically activated drum brakes on all four wheels.

Brake Pedal

Brake Pedal Free Play Inspection

In accordance with the Periodic Maintenance Chart, check the brake pedal free play.

- Depress the brake pedal lightly by hand.
- There should be 2 ~ 10 mm (0.1 ~ 0.4 in) of free play.



A. Brake Pedal

B. 2 ~ 10 mm (0.1 ~ 0.4 in)

- If the brake pedal has more or less free play than specified or the pedal action feels rough or "catchy,"

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have the brake system inspected immediately by an authorized Kawasaki dealer.

Brake Shoe Linings

Brake Shoe Lining Wear Inspection

In accordance with the Periodic Maintenance Chart have the brake shoe linings checked for wear by an authorized Kawasaki dealer.

Brake Fluid

In accordance with the Periodic Maintenance Chart, inspect the brake fluid level in the reservoir and change the brake fluid. The brake fluid should also be changed if it becomes contaminated with dirt or water.

Fluid Requirement

Use heavy-duty brake fluid only from a fresh, unopened container marked D.O.T.3.

▲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 and brands 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.

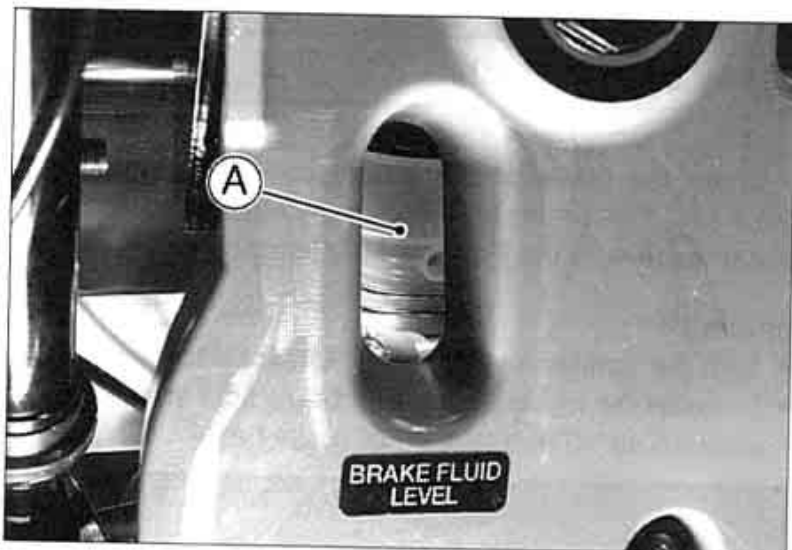
Don't leave the reservoir cap off for any length of time, to avoid moisture contamination of the fluid. Don't add or change brake fluid in the rain or during conditions of blowing dust or debris.

CAUTION

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

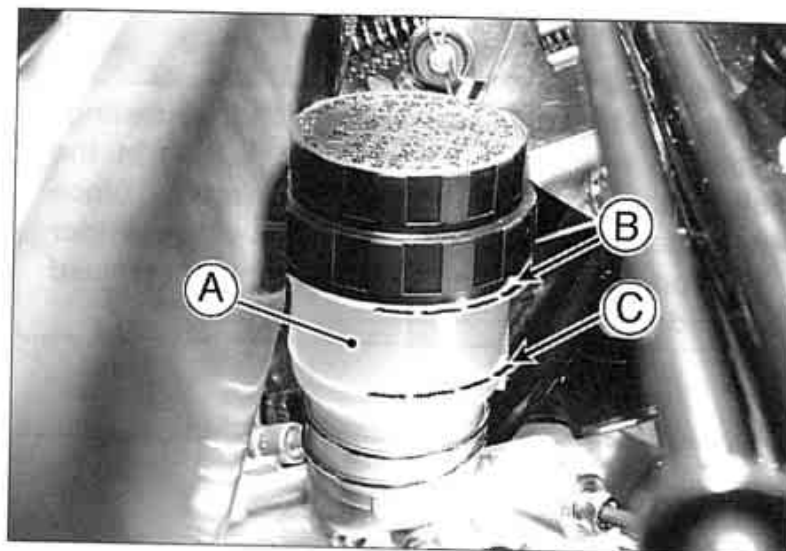
Fluid Level Inspection

- With the vehicle on level ground, check that, through the inspection hole in the dashboard, the fluid level in the reservoir is between the upper (marked MAX) and lower (marked MIN) level lines.



A. Inspection Hole

- If the fluid level is lower than the lower level line, check for fluid leaks in the brake lines, and open the front cargo hood (see "Front Cargo Compartment" section in the "General Information" chapter) and fill the reservoir to the upper level line.



A. Brake Fluid Reservoir
 B. Upper Level Line (MAX)
 C. Lower Level Line (MIN)

⚠ WARNING

Change the fluid in the brake system completely if the fluid level is low but the type and brand of the fluid already in the reservoir are unknown.

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

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⚠ WARNING

If the brake pedal has a soft or "spongy feeling" when it is applied, there might be air in the brake lines or the brake may be defective. Since it is dangerous to operate the vehicle under such conditions, have the brake system serviced immediately.

Fluid Change

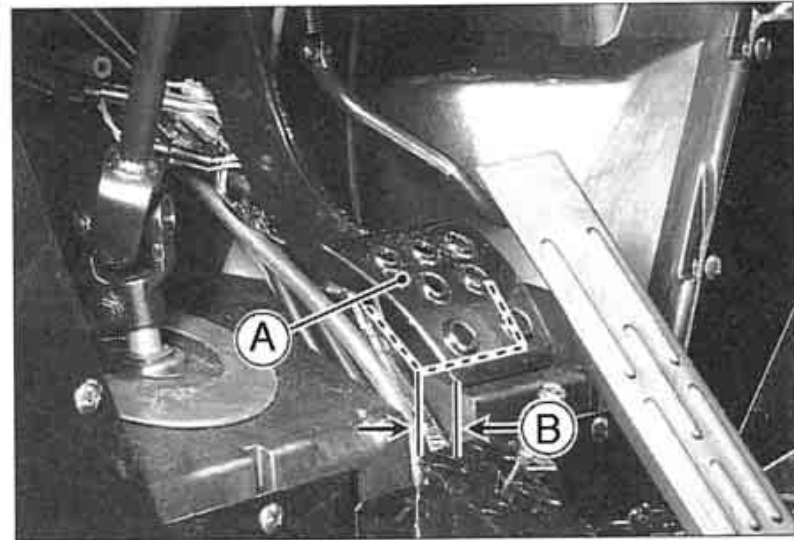
Have the brake fluid changed by an authorized Kawasaki dealer.

Brake Light Switch

When the brake pedal is depressed, the brake light goes on. The brake light switch should be inspected in accordance with the Periodic Maintenance Chart.

Inspection

- Turn the ignition switch to the "ON" position.
- Depress the brake pedal. The brake light should go on after about 10 mm (0.4 in) of pedal travel.



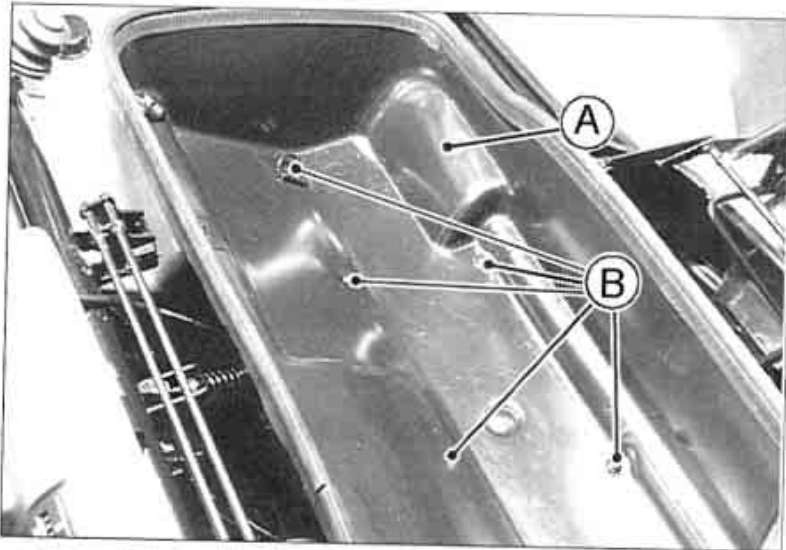
A. Brake Pedal

B. 10 mm (0.4 in)

- If it does not, check the bulb and, if necessary, adjust the brake light switch.

Adjustment

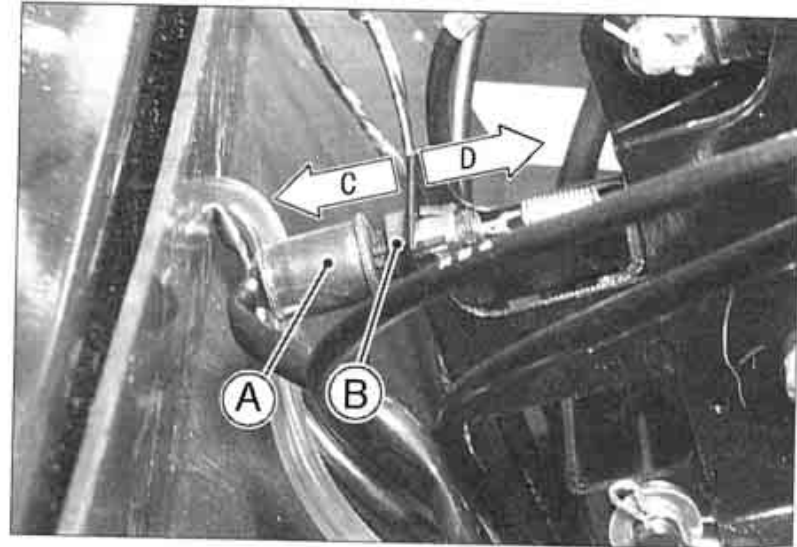
- Open the front cargo hood (see "Front Cargo Compartment" section in the "General Information" chapter).
- Unscrew 12 the screws and remove the front cargo compartment for easier access to the brake light switch.



A. Front Cargo Compartment

B. Screws

- To adjust the brake light switch (located on the bracket at the foremost section near the brake fluid reservoir), move the switch forward or rearward, by turning the adjusting nut.



A. Brake Light Switch
B. Adjusting Nut

C. Lights sooner.
D. Lights later.

CAUTION

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

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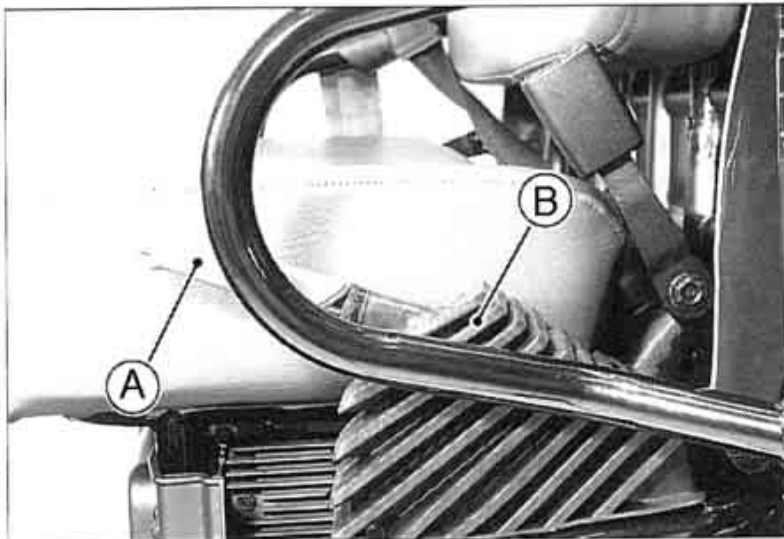
Parking Brake Lever

The parking brake helps hold the vehicle from rolling while parked.

In accordance with the Periodic Maintenance Chart, check that the parking brake lever functions properly.

Inspection

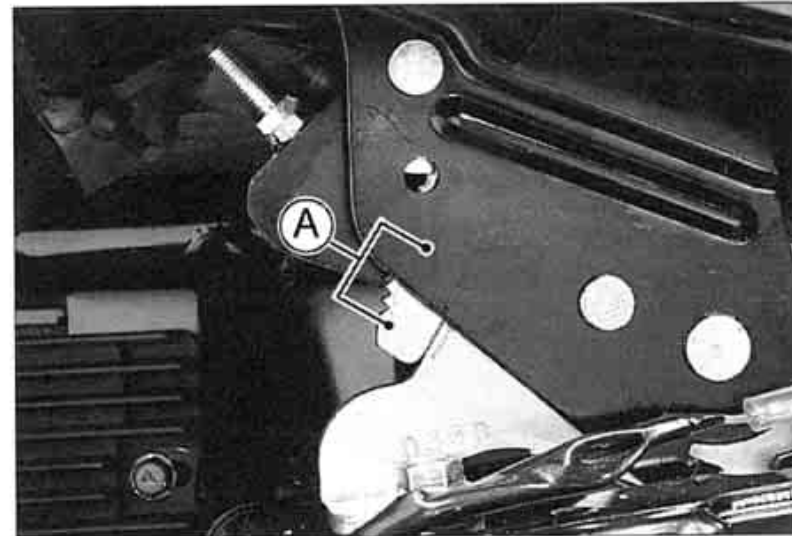
- Pull the rubber boot up on the bottom.



A. Parking Brake Lever

B. Rubber Boot

- Pull the parking brake lever up and to the rear.
- After 8 to 12 clicks of lever travel, the vehicle should not roll while parked.



A. 8 ~ 12 clicks

- If it does, adjust the parking brake lever.

Adjustment

- Loosen the locknut (upper nut) on the middle of the parking brake lever, and turn the nut next to the locknut until the brake lever will only move 8 ~ 12 clicks upward.

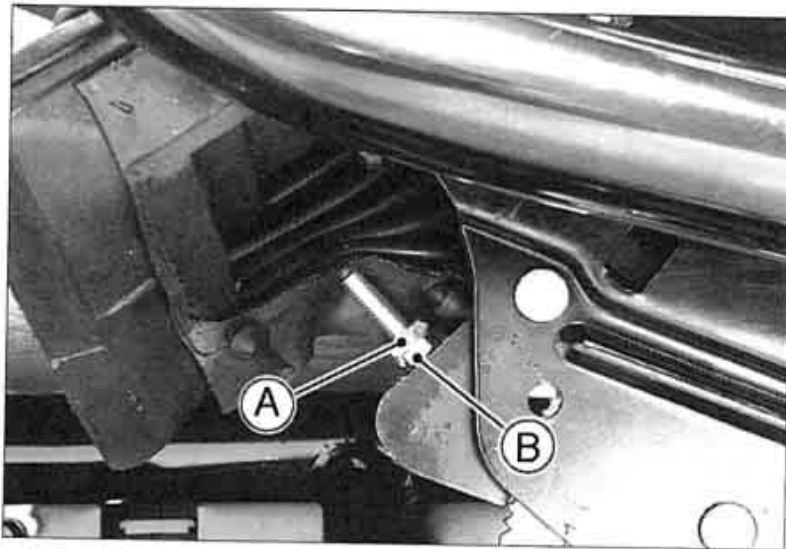
MAINTENANCE AND ADJUSTMENT 103

Steering Wheel

In accordance with the Periodic Maintenance Chart, check the steering wheel for the specified free play and smooth operation.

Free Play Inspection

- Park the vehicle on level ground.
- Lightly turn the steering wheel left and right.
- There should be 0 ~ 20 mm (0 ~ 0.8 in) of free play.
- If there is excessive free play or strange noises, or the steering feels rough or "catchy," have the steering system checked by an authorized Kawasaki dealer.



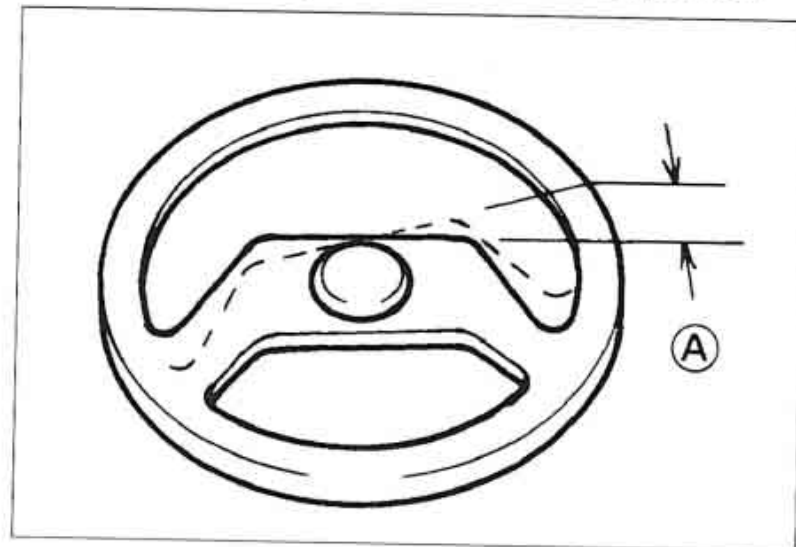
A. Locknut

B. Nut

- Tighten the locknut securely.
- Reinstall the rubber boot making sure that the projections on its lower edge are completely pushed into the holes in the bracket.

NOTE

- Be sure to hold the cable end with a wrench to prevent the cable from twisting.
- If the brake lever can not be adjusted with the nuts shown here, or if there is any doubt as to the condition or braking effectiveness, have the parking brake system inspected by an authorized Kawasaki dealer.



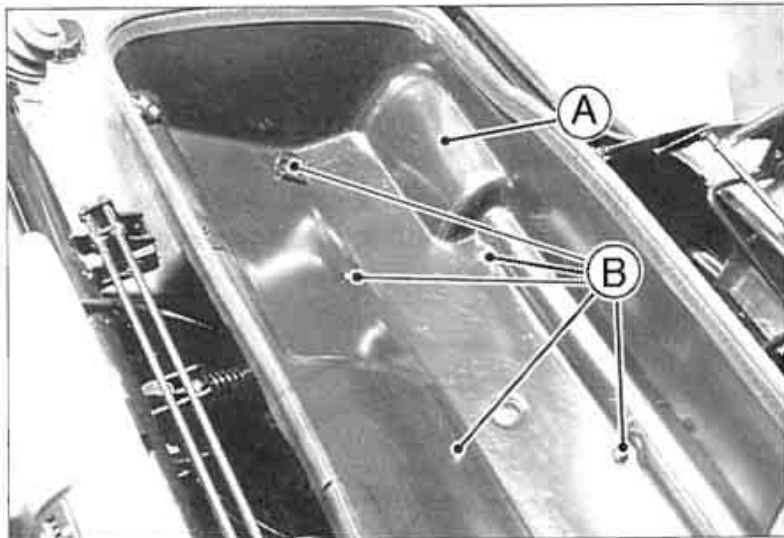
A. 0 ~ 20 mm (0 ~ 0.8 in)

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Steering Position Adjustment

The steering wheel position can be adjusted to suit the operator.

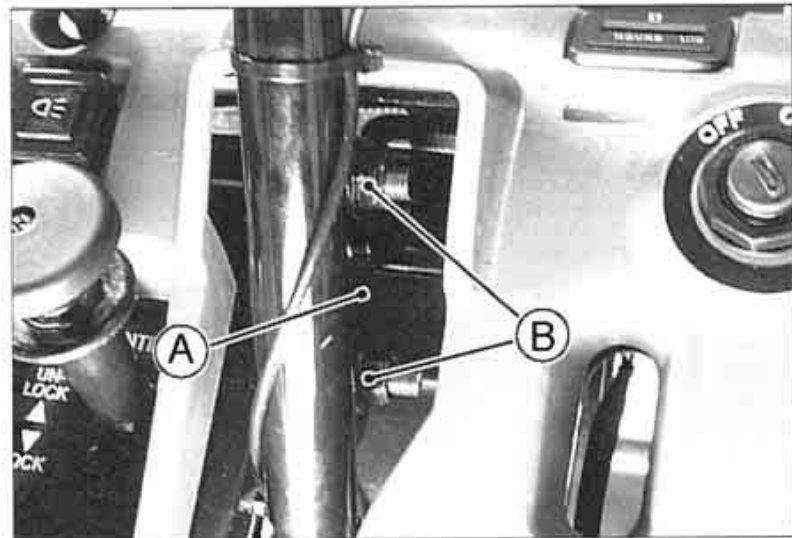
- Open the front cargo hood (see the "Front Cargo Compartment" section "General Information" chapter).
- Unscrew 12 the screws and remove the front cargo compartment for easier access to the steering column bracket.



A. Front Cargo Compartment

B. Screws

- Loosen the upper and lower nuts on the steering column bracket and move the steering wheel up or down.



A. Steering Column Bracket

B. Nuts

- Tighten the bolts and nuts.
- Reinstall the front cargo compartment.
- Close the front cargo hood.

MAINTENANCE AND ADJUSTMENT 105

Wheels

Rims

The rims are a drop-center, tubeless tire design. Take care not to damage the sealing surfaces of the tire or rim when removing or installing tires. Note that the rims, like automotive rims, are not symmetrical. All wheels must be installed so that the valve stems are on the outside of the vehicle.

Wheel Nuts

Check for wheel nuts tightness in accordance with the Periodic Maintenance Chart.

Tightening Torque: 150 N·m (15 kg·m, 110 ft·lb)

Tires

The front and rear tires are knobby tubeless tires. When replacing tires, check the valve stems and cores for damage. Take care not to damage the tire sealing surfaces of the rims.

Standard Tires (front and rear):

KAF620E/G	23 x 11.00-10 DUNLOP KT869A
KAF620F	20 x 10.00-10 GOOD YEAR POWER RIB

NOTE

- *Tires are an important part of the suspension of the vehicle. Tire construction characteristics and tire inflation pressure can greatly influence vehicle handling. Kawasaki recommends that you always replace tires with standard replacement tires as shown above. It is also very important to have tires of the same type and size on all axles, and at the same inflation pressure, on each axle.*
- *Installation of non-standard tires, or use of different tires on one axle, can change or impair the handling of the vehicle.*
- *Installation of tubeless tires on rims requires compressed air and is normally recommended as a dealer service operation. Nevertheless, a tube can be inserted into the tire by the operator as an emergency repair.*

Payload and Tire Pressure

Failure to maintain proper inflation pressures or observe payload limits for your tires can change or impair handling and performance of the vehicle. The maximum recommended load carrying capacity is 603 kg (1,330 lb).

Use a tire pressure gauge to accurately set tire pressure.

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⚠ WARNING

Inflate both front tires to the same pressure and both rear tires to the same pressure. Operating with unequally or improperly pressurized tires can adversely affect steering or handling.

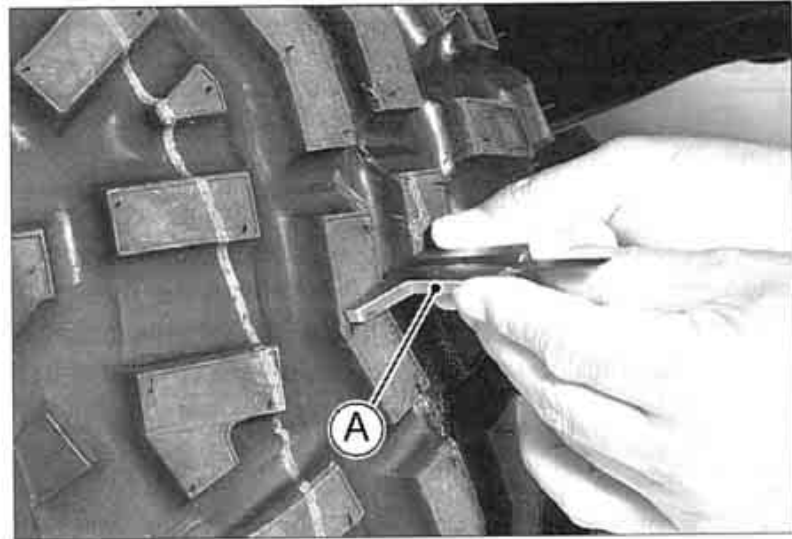
Tire Air Pressure (when cold)

		KAF620E/G	KAF620F
Normal Use	Front	69 kPa (0.7 kg/cm ² , 10 psi)	78 kPa (0.8 kg/cm ² , 12 psi)
	Rear	167 kPa (1.7 kg/cm ² , 24 psi)	137 kPa (1.4 kg/cm ² , 20 psi)
Maximum (to seat beads)	Front and Rear	250 kPa (2.5 kg/cm ² , 36 psi)	150 kPa (1.5 kg/cm ² , 22 psi)

Tire Wear, Damage

As tire tread wears down, tires become more susceptible to puncture and failure.

- In accordance with the Periodic Maintenance Chart, measure the depth of the tread with a depth gauge, and replace any tire that has worn down to the minimum allowable tread depth.



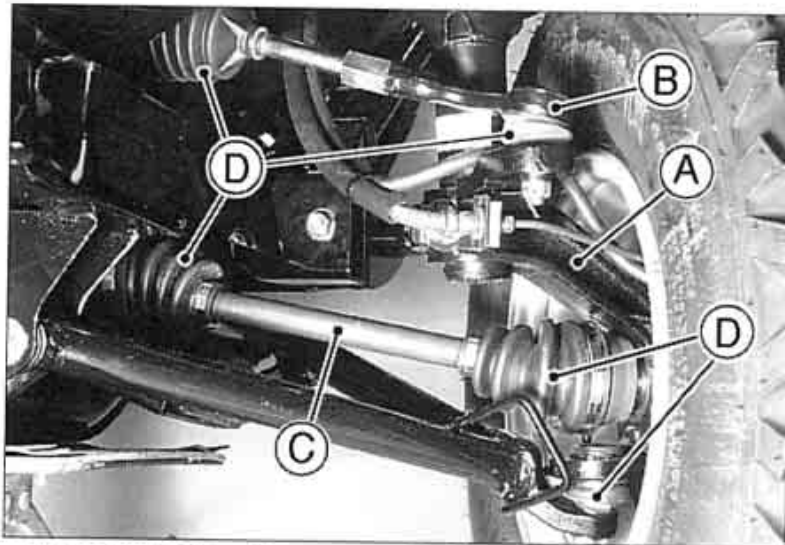
A. Tire Depth Gauge

Minimum Tread Depth: 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.
- Remove any imbedded stones or other foreign particles from the tread.

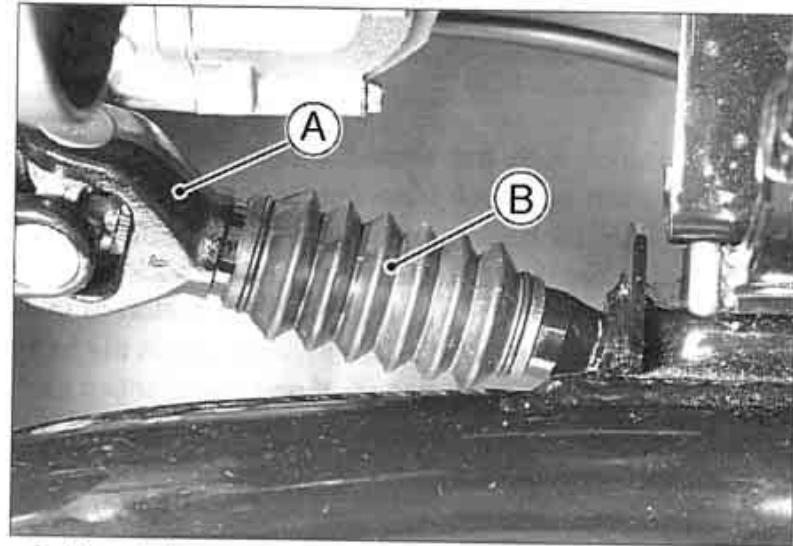
Joint Boots

In accordance with the Periodic Maintenance Chart, inspect the joint boots on the front axles, tie rod ends, steering knuckles, and rear axle shafts for cracks, holes, damage or deterioration. If there is any one of them, have the joint boot replaced by an authorized Kawasaki dealer.



A. Steering Knuckle
B. Tie Rod

C. Front Axle
D. Joint Boots



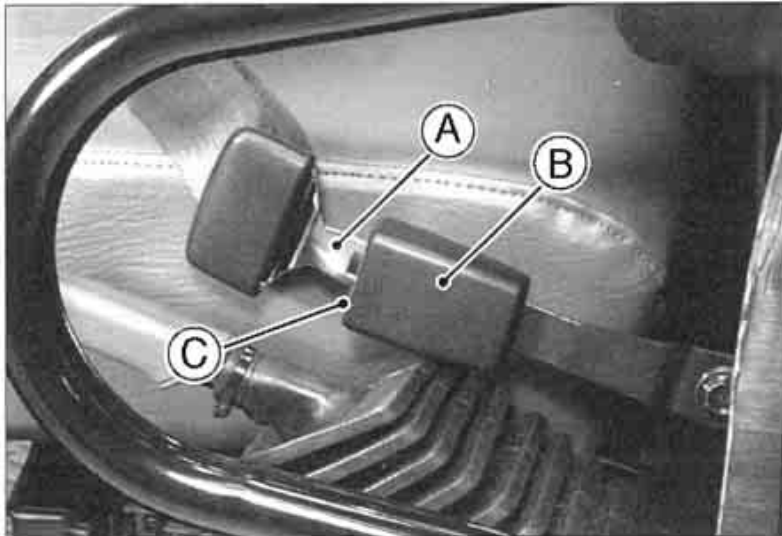
A. Rear Axle

B. Joint Boot

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Seat Belts

In accordance with the Periodic Maintenance Chart, check that each seat belt functions properly. Push the latch plate into the buckle until it clicks. The latch plate must slide smoothly into the buckle. The click sound shows it is securely latched. Push the red button in the buckle to make sure it releases freely. Also check the belt webbing for wear, cuts or damage. If any irregularities are found, have the seat belt system checked or replaced by an authorized Kawasaki dealer.



A. Latch Plate
B. Buckle

C. Red Button

Headlight Beam

- The headlight beams can be adjusted vertically.
- Turn the adjusting screw on each headlight rim in or out to adjust the headlight vertically.









A. Adjusting Screws

Battery

The battery is located under the left end of the seat.

⚠ WARNING

Heed the battery safety label shown here.

⚠ DANGER/POISON			
 SHIELD EYES EXPLOSIVE GASES CAN CAUSE BLINDNESS OR INJURY	 NO SPARKS • FLAMES • SMOKING	 SULFURIC ACID CAN CAUSE BLINDNESS OR SEVERE BURNS	FLUSH EYES IMMEDIATELY WITH WATER  GET MEDICAL HELP FAST
KEEP OUT OF REACH OF CHILDREN			
IN U.S.A., YUASA INC. SERVICED BY : READING, PA. 19612		 LEAD RETURN RECYCLE Pb	
			

⚠ WARNING

Electrolyte contains sulfuric acid which is harmful to skin, eyes, and clothing. Wear eye protection and rubber gloves. If spillage occurs on body or clothing, rinse at once with water for at least 15 minutes. Rinse empty package with large quantities of water.

DESTROY EMPTY PACKAGE TO PREVENT ACCIDENTS!
ALWAYS WEAR EYE PROTECTION!

The battery installed in this vehicle is a maintenance-free type, so it is not necessary to check the battery electrolyte level or add distilled water.

The sealing strip should not be pulled off once the specified electrolyte has been installed in the battery for initial service.

Since the electrical system of this vehicle is designed to use only a maintenance-free battery, do not replace it with a conventional battery.

CAUTION

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

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NOTE

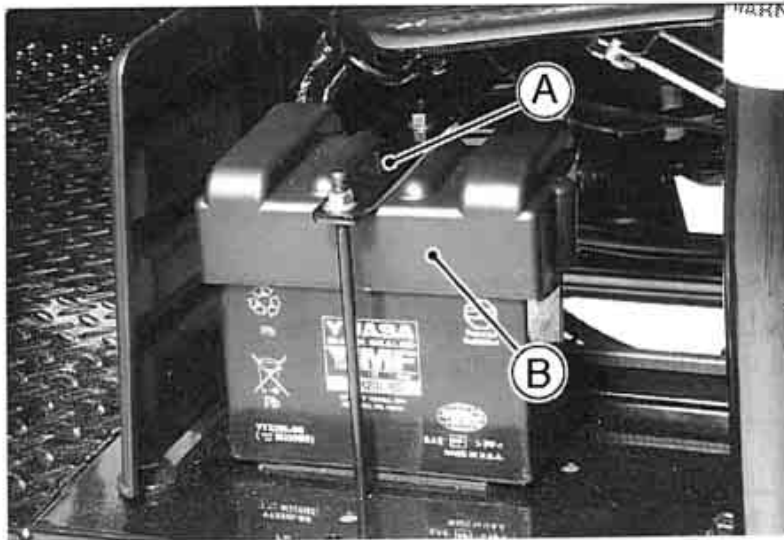
- If you charge the maintenance-free battery, never fail to observe the instructions shown in the label on the battery.

⚠ WARNING

Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

Battery Removal

- Remove the battery holder and cover.



A. Holder

B. Cover

- Disconnect the leads from the battery, first from the (-) terminal and then the (+) terminal.

NOTE

- There is no need to separate the smaller leads clamped with the main battery leads.



A. (+) Terminal

B. (-) Terminal

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

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Battery Installation

- Check that the rubber dampers on the battery holder and the floor board are properly in place.
- Put the battery in place on the rubber damper.
- Connect the three positive leads to the (+) terminal, and then connect the negative lead to the (-) terminal.

Battery Lead	Lead Color
Positive	Red + White, Red, White + Brown
Negative	Black + Black/Yellow

NOTE

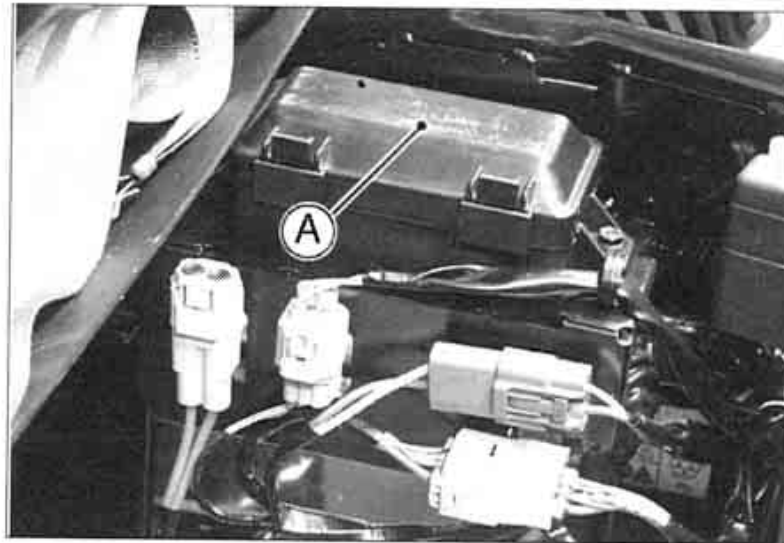
- *Be sure to reconnect any other leads.*
- Put a light coat of grease on the terminals to prevent corrosion.
- Reinstall the battery cover and holder.

Fuse

There are seven fuses in the fuse box under the seat. If the electrical systems do not function, inspect the fuse. Before replacing a fuse, check the wiring harness and electrical equipment for bare wires or other possible causes.

CAUTION

Do not use a fuse of a higher capacity than the specified fuse rating, or damage to the electrical system could result. Refer to the Fuse Location label on the other side fuse case lid.



A. Fuse Cases

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General Lubrication

In accordance with the Periodic Maintenance Chart, have the general lubrication performed by an authorized Kawasaki dealer or perform it referring to the Service Manual for this vehicle.

Cleaning

To prolong the life of your vehicle, wash it down immediately after it has been splashed with sea water or exposed to salt air, or operated on rainy days, rough terrain, or in dusty areas.

Preparation for Washing

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.
- Air cleaner intake (middle of the rear cab frame top) - close opening with tape, or stuff in rags.
- Horn button - cover with tape.

Where to be Careful

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

- Front and rear brakes - if water gets into the brake drums, they will not work effectively until they have dried out.
- Under the seat - if water gets into the ignition coils or into the spark plug caps, it can ground out the spark. When this happens the vehicle will not operate properly and the affected parts must be wiped dry.

CAUTION

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.

After Washing

- Remove the plastic bag and tape, and open the air cleaner intake.
- Lubricate as indicated in the "General Lubrication" section.
- Test the brakes before operation.
- Start the engine and run it for 5 minutes to dry it thoroughly.

Bolt and Nut Tightening

In accordance with the Periodic Maintenance Chart, have the tightness of the bolts, nuts, and fasteners checked by an authorized Kawasaki dealer.

STORAGE

Preparation for Storage:

- Clean the entire vehicle thoroughly.
- Run the engine for about five minutes to warm the oil, shut it off and drain the engine oil.

⚠WARNING

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

- Put in fresh engine oil.
- Empty the fuel from the fuel tank, and empty the carburetor by loosening the drain screw at the float bowl. Catch the fuel in a suitable container. (After a period of time, fuel will break down and could clog the fuel system.) Close the drain screw when finished.

⚠WARNING

Gasoline is extremely flammable and can be explosive under certain conditions. Do not smoke. Turn the ignition switch "OFF". Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

⚠WARNING

Gasoline is a toxic substance. Dispose of fuel properly. Contact your local authorities for approved disposal methods.

NOTE

- *As an alternative to draining the fuel system, a fuel stabilizer, such as STA-BIL, may be used. Follow the manufacturer's instructions for use.*

⚠WARNING

Fuel stabilizers may contain poisonous substances. Heed the manufacturer's warnings for use.

- Remove the spark plugs and spray fogging oil, such as Kawasaki K-Kare Fogging Oil (part number K61030-002), directly into each cylinder. Turn the engine over several times with the ignition switch key to coat the cylinder walls. Install the spark plugs.

⚠ WARNING

Do not lean over the engine when performing this procedure. An air/oil mist may be forcibly ejected from the spark plug holes and could get into your eyes. If you do get some in your eyes, wash your eyes immediately with liberal amounts of clean, fresh water. Consult a physician as soon as possible.

- Put boards under the front and rear wheels to keep dampness away from the tire rubber.
- Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or in the brakes.
- Lubricate all the cables as indicated in the General Lubrication section.
- Remove the battery, and store it where it will not be exposed to direct sunlight, moisture, or freezing temperatures. During storage it should be given a slow charge (one ampere or less) about once a month.

CAUTION

Keep the battery well charged during cold weather so that the electrolyte does not freeze and crack open the battery. The more discharged a battery becomes, the more easily it freezes. Never remove the sealing strip, or the battery can be damaged.

- Tie a plastic bag over the exhaust pipe and air cleaner inlet (rear cab frame top) to prevent moisture or small animals from entering.
- Put a cover over the vehicle to keep dust and dirt from collecting on it.

Removal from Storage:

⚠ WARNING

Do not run the engine in a closed area. Exhaust gases contain carbon monoxide; a colorless, odorless, poisonous gas. Breathing exhaust gas leads to carbon monoxide poisoning, asphyxiation, and death.

- Remove the plastic bags from the exhaust pipe and air cleaner inlet.
- Clean the terminals of the battery, charge the battery if necessary, and install it in the vehicle.
- Make sure the spark plugs are tight.
- Fill the fuel tank with fuel.
- Check all the points listed in the "Daily Safety Checks" section.
- Lubricate as indicated in the "General Lubrication" section.

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TROUBLESHOOTING GUIDE

Starter Motor Won't Turn

- Fuse failed (be sure to check for cause of failure)
- Battery leads do not make good electrical contact with battery terminals
- Battery discharged

Engine Cranks, But Won't Start

- No fuel in tank
- Fuel filter clogged
- Water in fuel
- Choke is not used when engine is cold
- Air filter clogged or inlet blocked
- Engine flooded
- Fuel tank vent clogged
- Spark plug wire not on spark plug
- Spark plug dirty

Engine Stops

- No fuel in tank
- Water in fuel
- Fuel filter clogged
- Choke left on too long
- Air filter clogged or inlet blocked
- Fuel tank cap vent clogged
- Engine overheated
- Too much idling or low speed running (not enough air flow)
- Overloaded

- Wrong spark plug
- Radiator clogged
- Coolant level too low
- Coolant deteriorated
- Engine oil low

No Power

- Engine overheated
- Too much idling or low speed running (not enough air flow)
- Overloaded
- Wrong spark plug
- Radiator clogged
- Coolant level too low
- Coolant deteriorated
- Engine oil low
- Compression leakage
- Valve clearance insufficient
- Fuel filter clogged
- Air filter clogged or inlet blocked
- Spark plug dirty or worn
- Choke left on
- Engine oil incorrect
- Water in fuel