

### 3. INSPECTION/ADJUSTMENT

**3**

#### INSPECTION/ADJUSTMENT

SERVICE INFORMATION -----	3- 1
MAINTENANCE SCHEDULE -----	3- 2
FUEL LINE/FUEL FILTER -----	3- 3
THROTTLE OPERATION -----	3- 3
ENGINE OIL -----	3- 4
AIR CLEANER -----	3- 5
SPARK PLUG -----	3- 5
VALVE CLEARANCE -----	3- 6
CARBURETOR IDLE SPEED -----	3- 6
CYLINDER COMPRESSION -----	3- 7
FUEL TANK CAP CABLE WIRE; SEAT CABLE WIRE -----	3- 7
FINAL REDUCTION GEAR OIL -----	3- 8
DRIVE BELT -----	3- 9
HEADLIGHT AIM -----	3- 9
CLUTCH SHOE WEAR -----	3- 9
COOLING SYSTEM -----	3- 9
BRAKE SYSTEM -----	3-10
NUTS/BOLTS/FASTENERS -----	3-11
WHEELS/TIRES -----	3-11
STEERING HANDLEBAR; SUSPENSION -----	3-11

## SERVICE INFORMATION

 WARNING

- Before running the engine, make sure that the working area is well ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas, which may cause death to people.
- Gasoline is extremely flammable and is explosive under some conditions. The working area must be well ventilated and do not smoke or allow flames or sparks near the working area or fuel storage area.

## ENGINE

Throttle grip free play : 2\_ 6mm

Spark plug : NGK: DPR7EA9

Spark plug gap : 0.7mm

Valve clearance : IN: 0.1mm EX: 0.1mm

Idle speed : 1700±100rpm

Engine oil capacity:

At disassembly : 1.1 liter

At change : 0.9 liter

Gear oil capacity :

At disassembly : 0.20 liter

At change : 0.18 liter

Cylinder compression : 15±2kg/cm

Ignition timing : repeatedly

Coolant type : water cooling

## TIRE

	1 Rider	2 Riders
Front	1.75kg/cm	1.75kg/cm
Rear	2.0kg/cm	2.0kg/cm

**TIRE SPECIFICATION:**

Front : 110/70-16 52P

Rear : 140/70-16 65P

## TORQUE VALUES

Front axle : 29\_ 35N-m

Rear axle nut : 110 130N-m

### 3. INSPECTION/ADJUSTMENT

#### MAINTENANCE SCHEDULE

Perform the periodic maintenance at each scheduled maintenance period.

I: Inspect, and Clean, Adjust, Lubricate or Replace if necessary.

A: Adjust C: Clean R: Replace T: Tighten

Item	Frequency	Whichever comes first ⇨ ⇩	Regular Service Mileage (km)				
			1000	2000	4000	6000	8000
Engine oil		R New scooter 300km	R	R	R	R	R
Engine oil filter screen				C		C	
Fuel filter		Replace at every 6000km					
Gear oil	Note 3	R New scooter 300km		R			R
Valve clearance			A	A		A	
Carburetor				I		I	
Air Cleaner	Note 2,3	I		R			R
Spark plug		Clean at every 3000km and replace if necessary					
Brake system		I	I	I	I	I	I
Drive belt						I	
Suspension				I		I	
Nut, bolt, fastener						I	
Tire				I		I	
Steeringhead bearing		I			I	I	
Brake fluid		Perform pre-ride inspection daily					
Radiator coolant		Replace every year or at every 10000km (R)					
Radiator core					I		I
Radiator cap					I		I
Brake lever				I			I
Brake shoe wear				I			I
Shock absorber				I			I

- In the interest of safety, we recommend these items be serviced only by an authorized KYMCO motorcycle dealer.

Note: 1. For higher odometer readings, repeat at the frequency interval established here.

2. Service more frequently when riding in dusty or rainy areas.

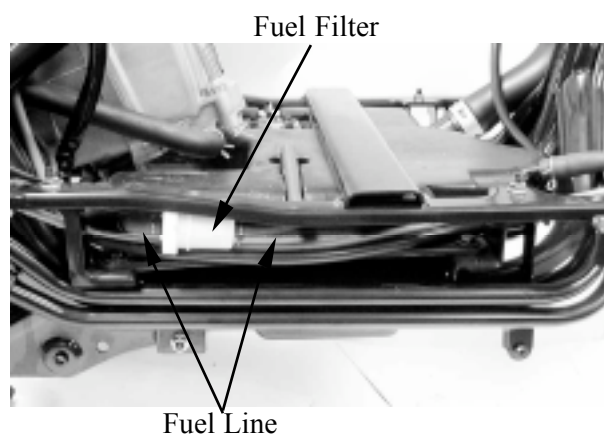
3. Service more frequently when riding in rain or at full throttle.

### 3. INSPECTION/ADJUSTMENT

#### FUEL LINE/FUEL FILTER

Remove the right side cover.  
Check the fuel lines and replace any parts, which show signs of deterioration, damage or leakage.  
Check for dirty or clogged fuel filter and replace with a new one if it is clogged.

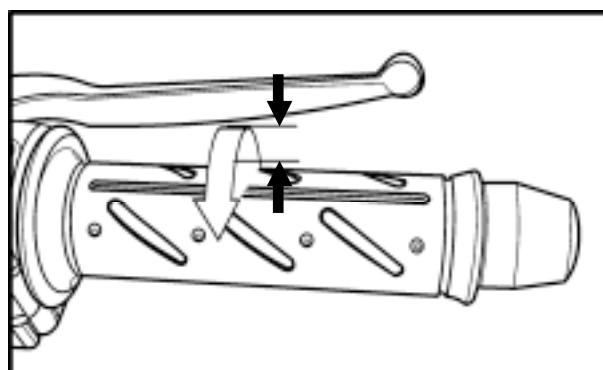
- \* Do not smoke or allow flames or sparks in your working area.



#### THROTTLE OPERATION

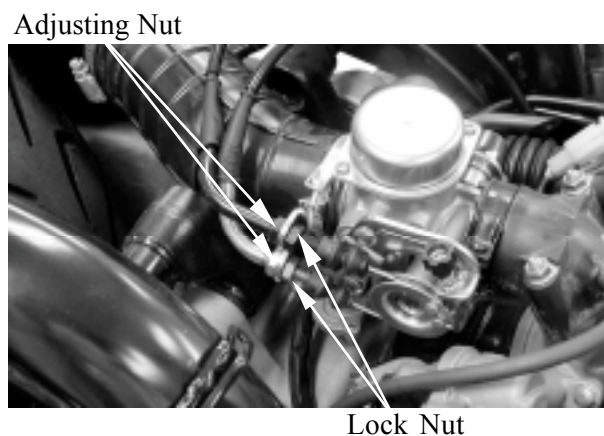
Check the throttle grip for smooth movement.  
Measure the throttle grip free play.

**Free Play:** 2\_ 6mm

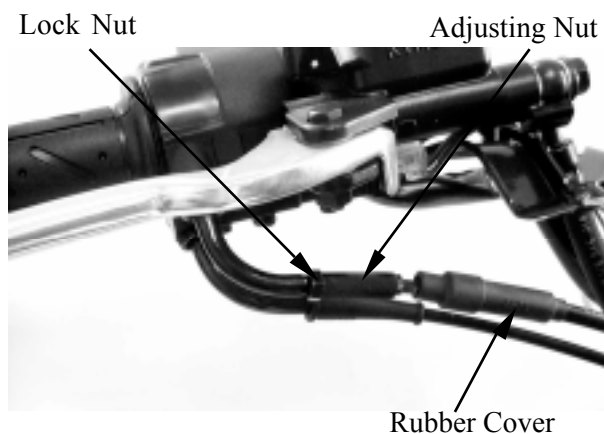


Remove the met-in box.

Major adjustment of the throttle grip free play is made with the adjusting nut at the carburetor side. Adjust by loosening the lock nut and turning the adjusting nut.



Minor adjustment is made with the adjusting nut at the throttle grip side. Slide the rubber cover out and adjust by loosening the lock nut and turning the adjusting nut.



### 3. INSPECTION/ADJUSTMENT

#### ENGINE OIL

##### OIL LEVEL INSPECTION

Stop the engine and support the scooter upright on level ground.  
Wait for 2\_ 3 minutes and check the oil level with the dipstick. Do not screw in the dipstick when making this check.



##### OIL CHANGE

- \* Drain the oil while the engine is warm.

Remove the oil drain bolt to drain the engine oil.

Install the aluminum washer and tighten the oil drain bolt.

**Torque:** 14.7N-m

- \* Replace the aluminum washer with a new one if it is deformed or damaged.

Pour the recommended oil through the oil filler hole.

##### Oil Capacity:

At disassembly: 1.1 liter

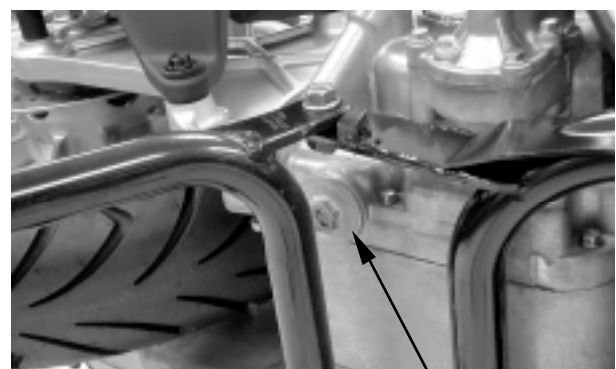
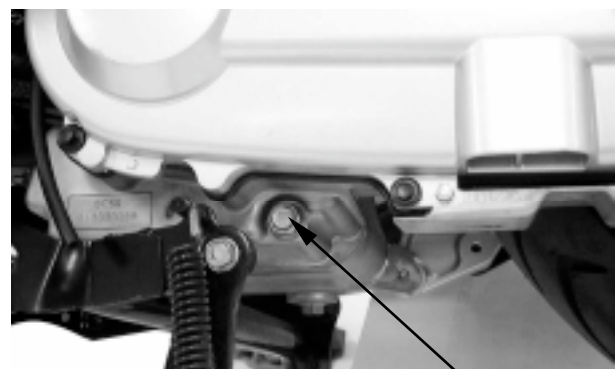
At change: 0.9 liter

##### Recommended Oil:

SAE: 15W40#

API: SJ

Start the engine and check for oil leaks.  
Stop the engine and recheck the oil level.



##### OIL FILTER SCREEN INSPECTION

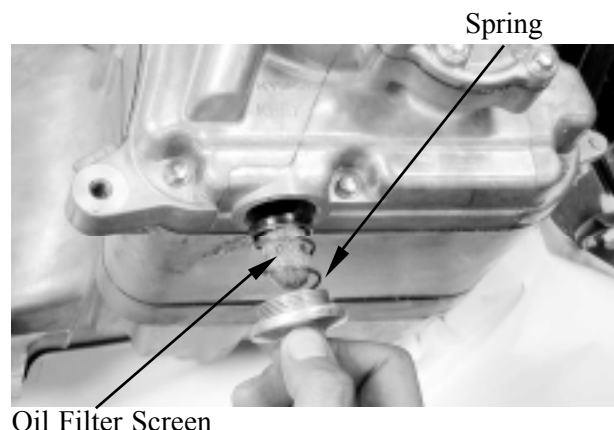
Drain the engine oil.

Remove the oil filter screen and spring.

Clean the oil filter screen.

Install the oil filter screen, spring, and filter screen cap.

Fill the engine with recommended engine oil.

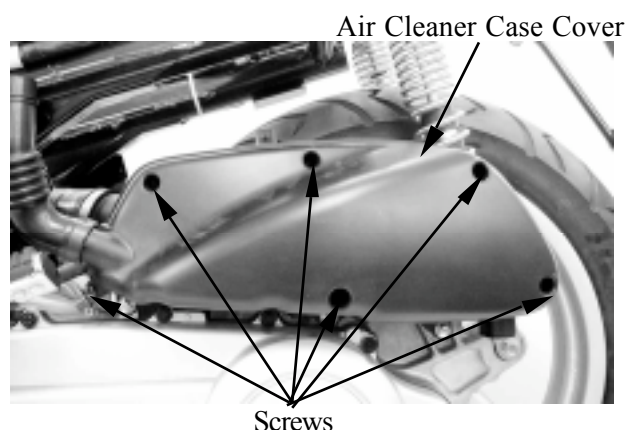


Oil Filter Screen

### 3. INSPECTION/ADJUSTMENT

#### AIR CLEANER

Remove the six air cleaner case cover screws and the cover.



Remove the air cleaner element.  
Check the element and replace it if it is excessively dirty or damaged.

#### CHANGE INTERVAL

More frequent replacement is required when riding in unusually dusty or rainy areas.



- \* • The air cleaner element has a viscous type paper element. Do not clean it with compressed air.
- Be sure to install the air cleaner element and cover securely.

#### SPARK PLUG

Remove the met-in box and center cover.  
Remove the spark plug cap and spark plug.  
Check the spark plug for wear and fouling deposits.  
Clean any fouling deposits with a spark plug cleaner or a wire brush.



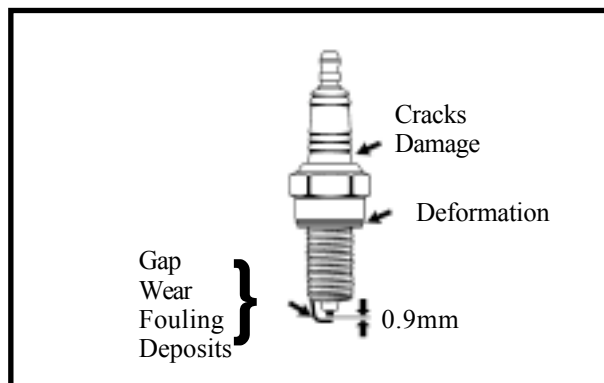
**Specified Spark Plug:** NGK: DPR7EA9

Measure the spark plug gap.

**Spark Plug Gap:** 0.7mm

- \* • When installing, first screw in the spark plug by hand and then tighten it with a spark plug wrench.

**Torque:** 14.7\_ 19.6N-m





### 3. INSPECTION/ADJUSTMENT

#### VALVE CLEARANCE

- \* Inspect and adjust valve clearance while the engine is cold (below 35°C ).

Remove the met-in box and center cover. Disconnect oil vapor recovery tube and secondary air cleaner fresh air outlet hose from cylinder head cover.

Remove two lower bolts and two nuts on the cylinder head cover.

Place the scooter on its side stand and load a person on the rear carrier for remove the two upper bolts on the cylinder head cover and remove cylinder head cover.

Turn the A.C. generator flywheel to the top dead center (TDC) on the compression stroke so that the "T" mark on the flywheel aligns with the index mark on the left crankcase cover.

Inspect and adjust valve clearance.

**Valve Clearance:** IN: 0.1mm  
EX: 0.1mm

Loosen the lock nut and adjust by turning the adjusting nut

**Special**

Valve Adjuster E036

- \* Check the valve clearance again after the lock nut is tightened.

#### CARBURETOR IDLE SPEED

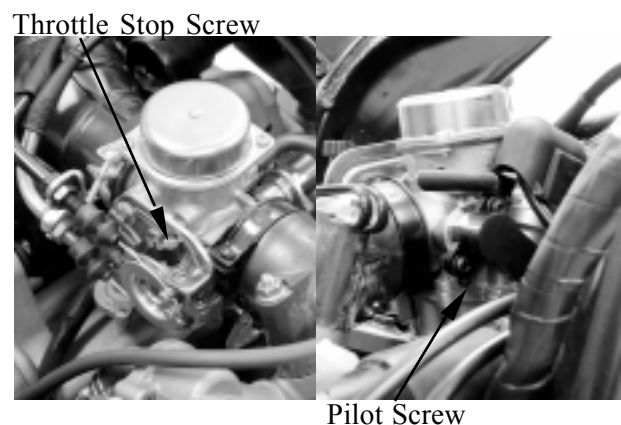
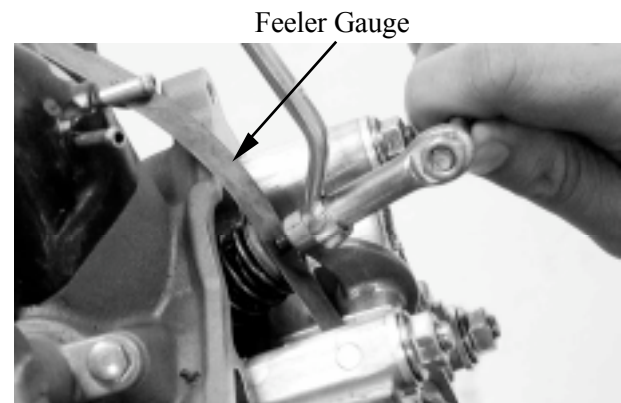
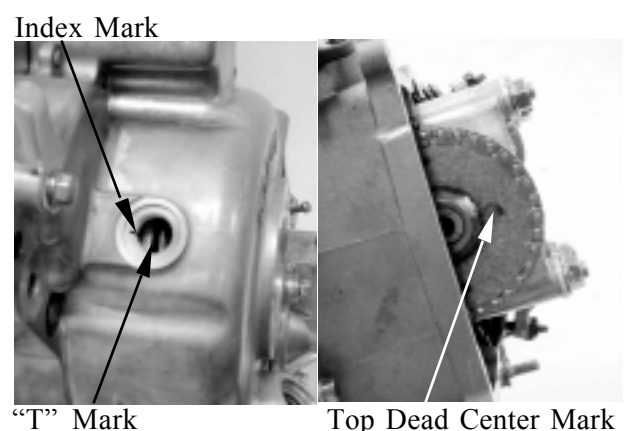
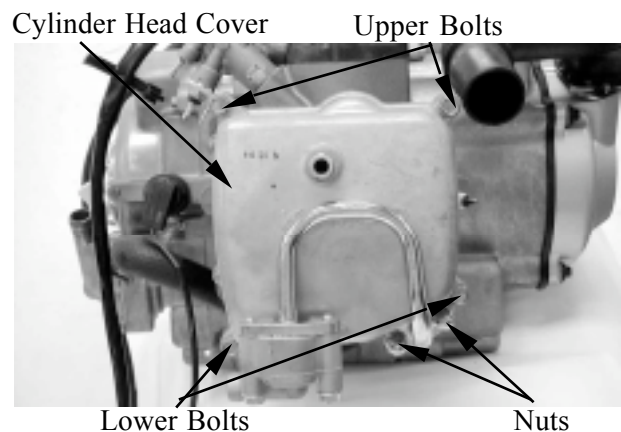
- \* The engine must be warm for accurate idle speed inspection and adjustment.

Lift up the seat and remove the inspection cover.

Warm up the engine before this operation. Start the engine and connect a tachometer. Turn the throttle stop screw to obtain the specified idle speed.

**Idle Speed:** 1700±100rpm

When the engine misses or run erratic, adjust the pilot screw.



### 3. INSPECTION/ADJUSTMENT

#### CYLINDER COMPRESSION

Warm up the engine before compression test.  
Remove the center cover and spark plug cap.  
Remove the spark plug.  
Insert a compression gauge.  
Open the throttle valves fully and pushes the starter button to test the compression.

**Compression:**  $15 \pm 2 \text{ kg/cm}_2$

If the compression is low, check for the following:

- \_Leaky valves
- \_Valve clearance too small
- \_Leaking cylinder head gasket
- \_Worn pistons
- \_Worn piston/cylinder

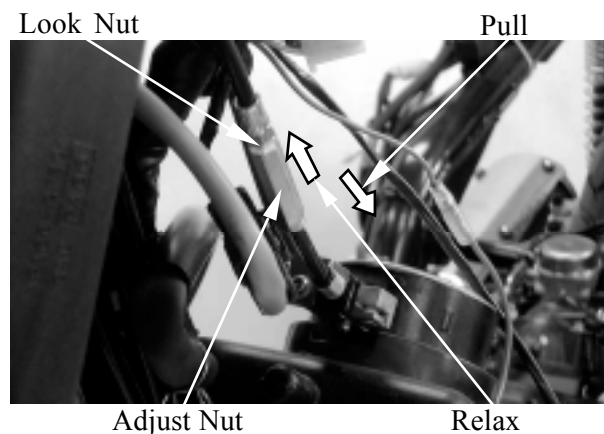
If the compression is high, it indicates that carbon deposits have accumulated on the combustion chamber and the piston head.



Compression Gauge

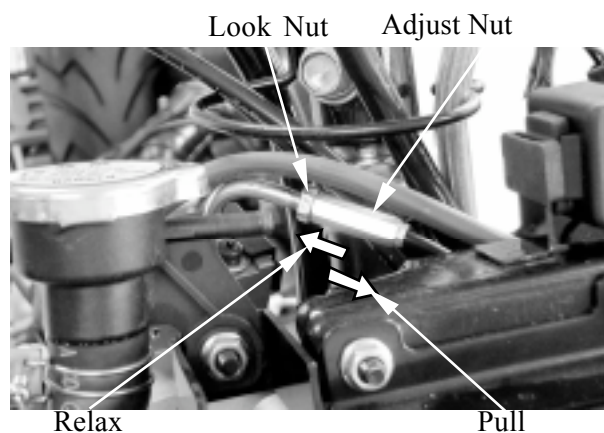
#### FUEL TANK CAP CABLE WIRE

Please remove the front cover to inspect the fuel tank cap cable wire slack when operate the fuel tank cap hardly.



#### SEAT CABLE WIRE

Please remove the front cover to inspect the seat cable wire when operate the seat hardly.





### 3. INSPECTION/ADJUSTMENT

#### FINAL REDUCTION GEAR OIL

- \* Place the scooter on its main stand on level ground.

Stop the engine and remove the oil checks bolt.

The oil level shall be at the oil check blowhole.

If the oil level is low, add the recommended oil SAE90# to the proper level.

Install the oil check bolt.

- \* Make sure that the sealing washer is in good condition.

Oil Check Bolt Hole/Oil Filler



Oil Drain Bolt/Sealing

#### GEAR OIL CHANGE

Remove the oil check bolt.

Remove the oil drains bolt and drain the oil thoroughly.

Install the oil drain bolt.

**Torque:** 9.8N-m

- \* Make sure that the sealing washer is in good condition.

Fill the final reduction with the recommended oil SAE90#.

#### Gear Oil Capacity:

At disassembly : 230cc

At change : 180cc

Reinstall the oil check bolt and check for oil leaks.

#### DRIVE BELT

Remove the left crankcase cover.

Inspect the drive belt for cracks or excessive wear.

Replace the drive belt with a new one if necessary and in accordance with the Maintenance Schedule.



Drive Belt

### 3. INSPECTION/ADJUSTMENT

#### HEADLIGHT AIM

Turn the ignition switch ON.  
Turn on the headlight switch.  
Adjust the headlight aim by turning the headlight aim adjusting bolt.



Headlight Aim Adjusting Bolt

#### CLUTCH SHOE WEAR

Start the engine and check the clutch operation by increasing the engine speed gradually.  
If the motorcycle tends to creep or the engine stalls, check the clutch shoes for wear and replace if necessary.



#### COOLING SYSTEM

##### COOLANT LEVEL INSPECTION

Place the scooter on its main stand on level ground.

Check the coolant level of the reserve tank and the level should be between the upper and lower level lines.

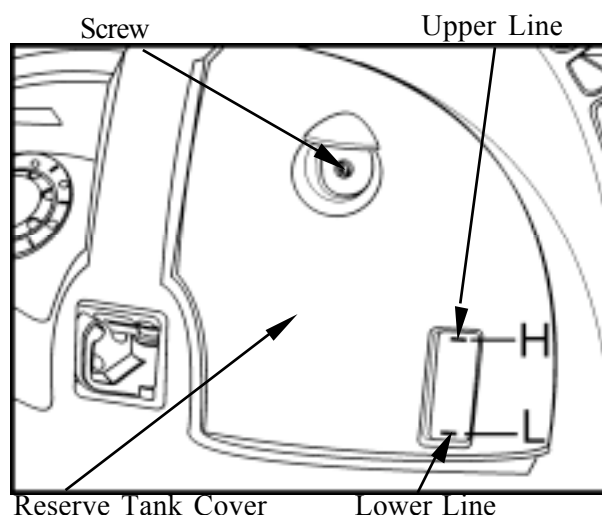
If necessary, remove the screw and reserve tank cover to fill the reserve tank with recommended coolant to the "F" level line.

**Recommended Coolant:** SIGMA Coolant  
(Standard Concentration 30%)

- \* The coolant level does not change no matter the engine is warm or cold. Fill to the "F" (upper) line.

##### COOLANT REPLACEMENT

- \* Perform this operation when the engine is cold.



### 3. INSPECTION/ADJUSTMENT

Remove the front cover.  
Remove the radiator cap.  
Remove the drain bolt to drain the coolant and tilt the scooter to the right and the coolant will drain more easily.  
Drain the coolant in the reserve tank.  
Reinstall the drain bolt.  
Fill the radiator coolant.

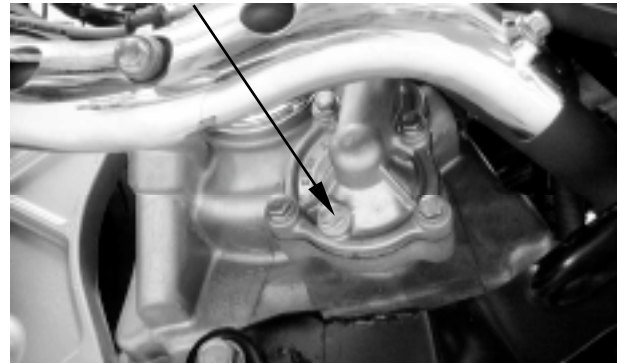
- \* • The coolant freezing point should be 5°C lower than the temperature of the riding area.

Radiator Cap



Start the engine and check if there are no bubbles in the coolant and the coolant level is stable. Reinstall the radiator cap.  
If there are bubbles in the coolant, bleed air from the system.  
Fill the reserve tank with the recommended coolant up to the upper line.

Drain Bolt



#### BRAKE SYSTEM

##### BRAKE FLUID

Turn the steering handlebar upright and check if the front/rear brake fluid level is at the upper limit. If the brake fluid is insufficient, fill to the upper limit.

**Specified Brake Fluid:** DOT-4

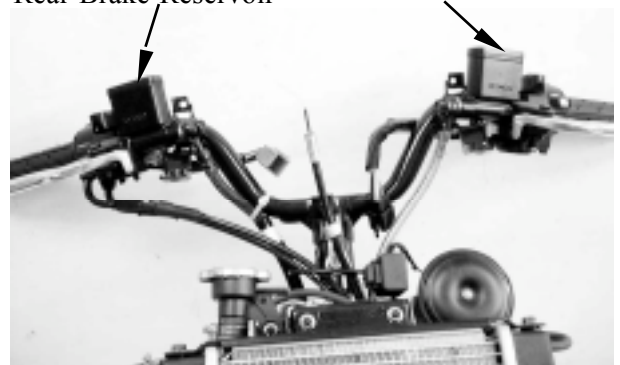
- \* • The brake fluid level will decrease if the brake pads are worn.

##### BRAKE DISK/BRAKE PAD

Check the brake disk surface for scratches, unevenness or abnormal wear.  
Check if the brake disk rubout is within the specified service limit.  
Check if the brake pad wear exceeds the wear indicator line.

- \* • Keep grease or oil off the brake disk to avoid brake failure.

Rear Brake Reservoir      Front Brake Reservoir



Brake Disk



Wear Indicator Line

### 3. INSPECTION/ADJUSTMENT

#### NUTS/BOLTS/FASTENERS

Check all important chassis nuts and bolts for looseness.

Tighten them to their specified torque values if any looseness is found.

#### WHEELS/TIRES

Check the tires for cuts, imbedded nails or other damages.

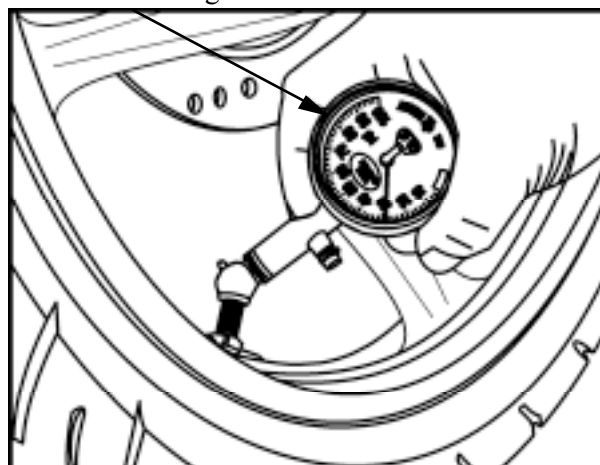
Check the tire pressure.

- \* • Tire pressure should be checked when tires are cold.

Tire Pressure

	1 Rider	2 Riders
Front	1.75kg/cm <sub>2</sub>	1.75kg/cm <sub>2</sub>
Rear	2.00kg/cm <sub>2</sub>	2.0kg/cm <sub>2</sub>

Pressure Gauge



#### STEERING HANDLEBAR

Raise the front wheel off the ground and check that the steering handlebar rotates freely.

If the handlebar moves unevenly, binds, or has vertical movement, adjust the steering head bearing.



#### SUSPENSION

Check the action of the front/rear shock absorbers by compressing them several times. Check the entire shock absorber assembly for oil leaks looseness or damage.

Jack the rear wheels off the ground and move the rear wheel sideways with force to see if the engine hanger bushings are worn.

Replace the engine hanger bushings if there is any looseness.

