

# 1. INSPECTION/ADJUSTMENT

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## INSPECTION/ADJUSTMENT

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# 1. INSPECTION/ADJUSTMENT

## SERVICE INFORMATION

### GENERAL

**⚠ 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.

### SPECIFICATIONS

#### ENGINE

Throttle grip free play : 2~6mm  
 Spark plug : NGK: DPR7EA-9  
 Spark plug gap : 0.9mm  
 Valve clearance : IN: 0.1mm                      EX: 0.1mm  
 Idle speed : 1450±50rpm

Engine oil capacity:    Cylinder compression : 16.5±2kg/cm<sup>2</sup>  
     At disassembly : 1.1 liter                                      Ignition timing : repeatedly  
     At change : 0.9 liter    Coolant capacity : 1165cc  
 Gear oil capacity :    Radiator capacity : 825cc  
     At disassembly : 0.20 liter                                      Reserve tank capacity : 340cc  
     At change : 0.18 liter

#### TIRE FOR M2-250

	1 Rider	2 Riders
Front	1.75kg/cm <sup>2</sup>	1.75kg/cm <sup>2</sup>
Rear	2.00kg/cm <sup>2</sup>	2.25kg/cm <sup>2</sup>

#### TIRE SPECIFICATION:

Front : 120/60-13  
 Rear : 140/60-13

#### TORQUE VALUES

Front axle nut : 14.8~68.6N-m  
 Rear axle nut : 107.8~127.4N-m

# 1. 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	10000
Engine oil			R New motorcycle 300km	R	R	R	R	R
Engine oil filter screen					C		C	
Fuel filter screen								R
Gear oil	Note 3		R New motorcycle 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	
Steering head 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 pad 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.

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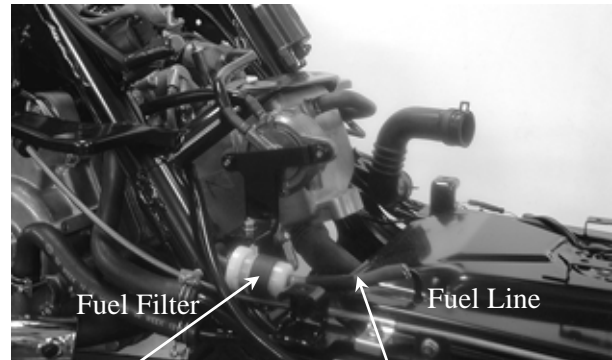
## FUEL LINE/FUEL FILTER

Remove the center 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.



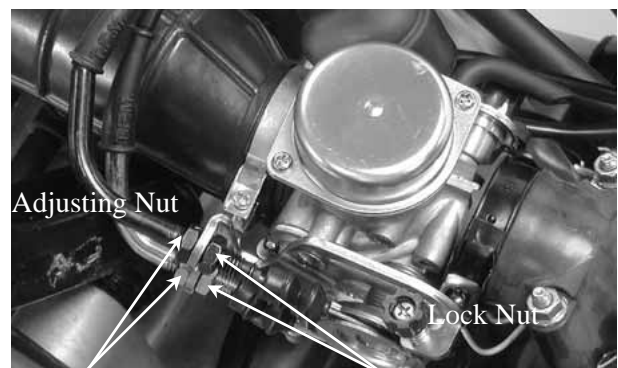
## THROTTLE OPERATION

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

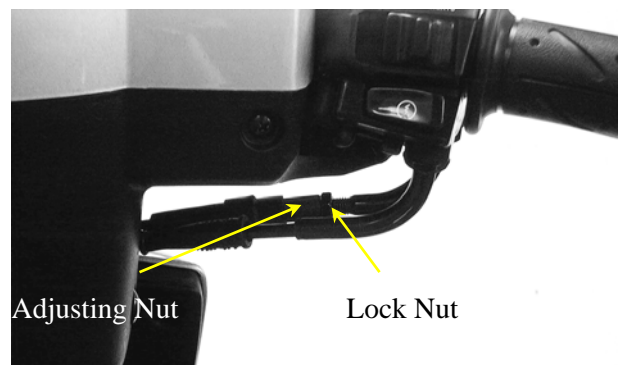
**Free Play:** 2~6mm



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.



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## ENGINE OIL

### OIL LEVEL INSPECTION

Stop the engine and support the motorcycle 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

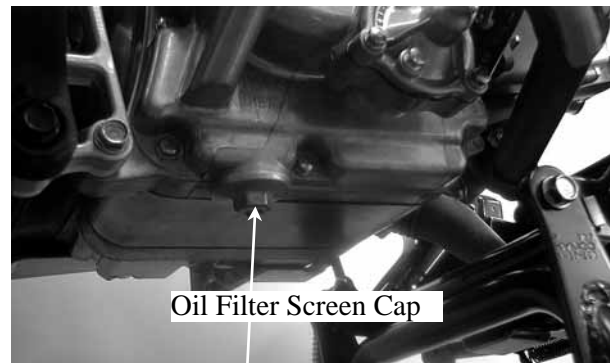
At change: 0.9 liter

### Recommended Oil:

SAE: 15W40#

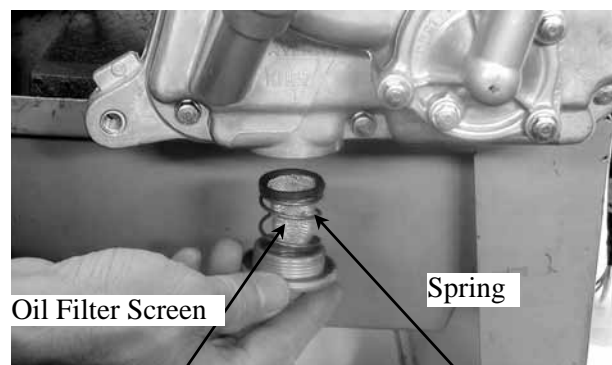
API: SG/CD

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.



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## AIR CLEANER

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



Air Cleaner Case 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.

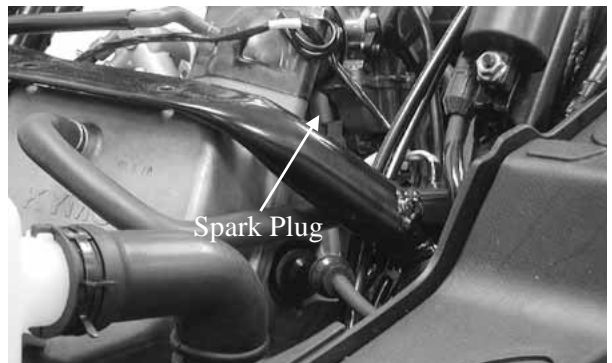
- \* 
  - The air cleaner element has a viscous type paper element. Do not clean it with compressed air.
  - Be sure to install the air cleaner element and cover securely.



Air Cleaner Element

## SPARK PLUG

Remove the frame 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.



Spark Plug

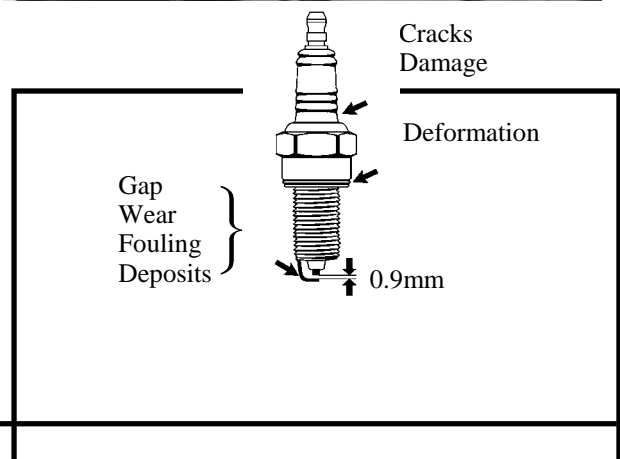
**Specified Spark Plug:** NGK: DP7EA9

Measure the spark plug gap.

**Spark Plug Gap:** 0.9mm

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

**Torque:** 7.8~9.8N-m



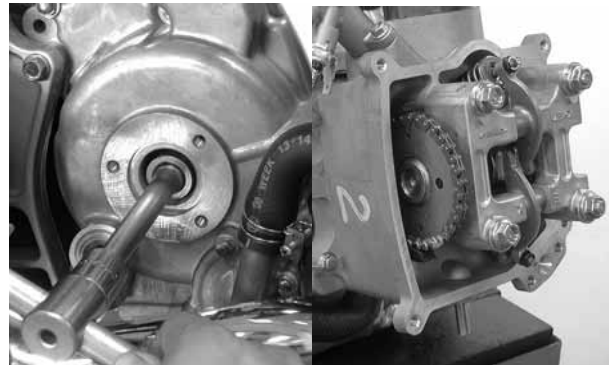
# 1. INSPECTION/ADJUSTMENT

## VALVE CLEARANCE

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

Remove the 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.

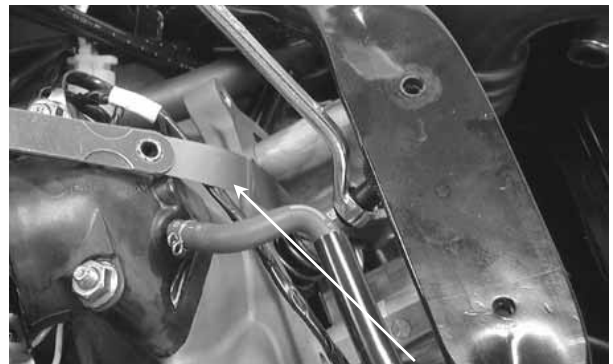
**Valve Clearance:** IN: 0.1mm  
EX: 0.1mm

Loosen the lock nut and adjust by turning the adjusting nut

Special

Valve Wrench

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



Throttle Stop Screw      Valve Wrench

## 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:** 1450±50rpm

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



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## CYLINDER COMPRESSION

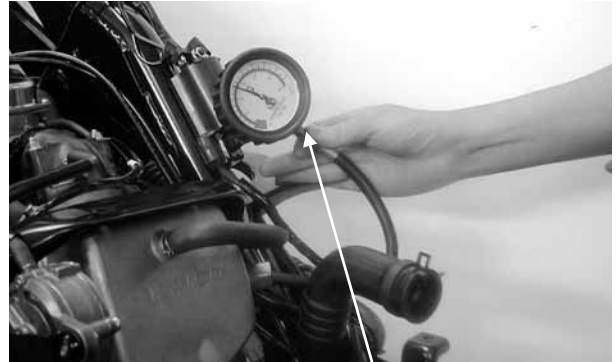
Warm up the engine before compression test.  
Remove the center cover and spark plug cap.  
Remove the spark plug.  
Insert a compression gauge.  
Open the throttle valves fully and pushes the starter button to test the compression.

**Compression:**  $16.5 \pm 2 \text{kg/cm}^2$

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.





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## FINAL REDUCTION GEAR OIL

- \* Place the motorcycle 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 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 : 200cc

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.

Oil Drain Bolt/Sealing Washer



Drive Belt

# 1. 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.

## 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.



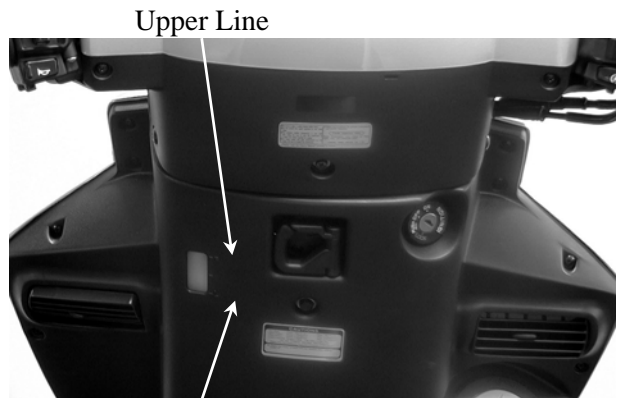
## COOLING SYSTEM

### COOLANT LEVEL INSPECTION

Place the motorcycle 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, fill the reserve tank with recommended coolant to the "F" level line.  
**Recommended Coolant:** SIGMA Coolant  
(Standard Concentration 30%)

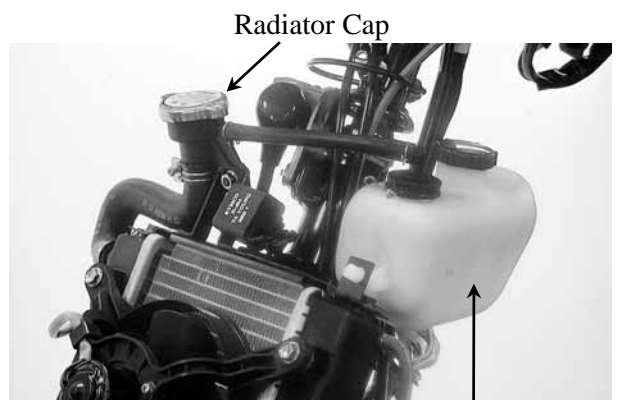
- \* • The coolant level does not change no matter the engine is warm or cold. Fill to the "F" (upper) line.



### COOLANT REPLACEMENT

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

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



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

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Coolant capacity : 1165cc

Radiator capacity : 825cc

Reserve tank capacity : 340cc

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.

## BRAKE SYSTEM

### BRAKE LEVER

Measure the front and rear brake lever free plays.



### 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-3

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



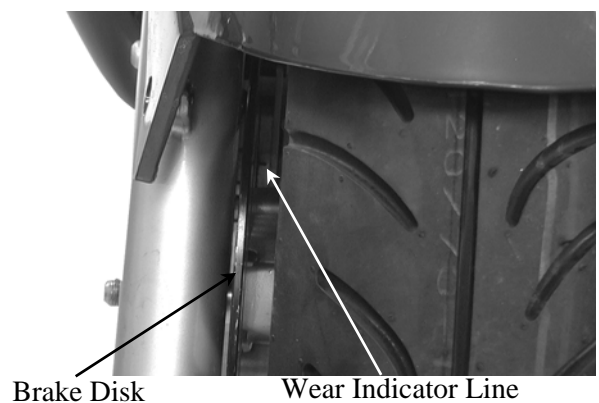
### BRAKE DISK/BRAKE PAD

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.



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## 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.
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Tire Pressure

	1 Rider	2 Riders
Front	1.75kg/cm <sup>2</sup>	1.75kg/cm <sup>2</sup>
Rear	2.00kg/cm <sup>2</sup>	2.25kg/cm <sup>2</sup>

## 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.