3. INSPECTION/ADJUSTMENT

3

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 : 2～6 mm
Spark plug : DPR6EA
Spark plug gap : 0.6 mm ~ 0.7 mm
Valve clearance : IN: 0.10 mm EX: 0.10 mm
Idle speed : 1600±100 rpm

Engine oil capacity:

Cylinder compression: 16±2 kg/cm²
At disassembly : 1.1 Liter
At change : 0.9 Liter
Ignition timing : ECU
Coolant type : Water Cooling

Gear oil capacity :

At disassembly : 0.23 Liter
At change : 0.18 Liter

TIRE

	1 Rider	2 Riders
Front	1.75 kg/cm²	1.75 kg/cm²
Rear	2.0 kg/cm²	2.25 kg/cm²

TIRE SPECIFICATION

Front : 120/70-13
Rear : 140/70-12

TORQUE VALUES

Front axle nut : 2 kg-m
Rear axle nut : 12 kg-m

SPECIAL TOOL

Tappet Adjuster E012

MAINTENANCE SCHEDULE

MAINTENANCE SCHEDULE

Perform the pre-ride inspection **(see page 19)** at each scheduled maintenance period.
This interval should be judged by odometer reading or months, whichever comes first.
I: INSPECT AND CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY
C: CLEAN R: REPLACE A: ADJUST L: LUBRICATE
The following maintenance schedule specifies all maintenance required to keep your scooter in peak operating condition. Maintenance work should be performed in accordance with standards and specifications of KYMCO by properly trained and equipped technicians. Your KYMCO dealer meets all of these requirements.

* Should be serviced by your KYMCO dealer, unless the owner has the proper tools and service data and is mechanically qualified.

** In the interest of safety, we recommend these items be serviced only by your KYMCO dealer.

KYMCO recommends that your KYMCO dealer should road test your scooter after each periodic maintenance is carried out.

NOTE:

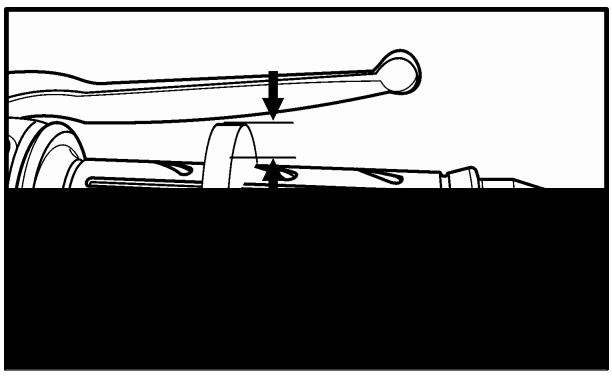
1 At higher odometer readings, repeat at the frequency interval established here.
2 Service more frequently if the scooter is ridden in unusually wet or dusty areas.
3 Service more frequently when riding in rain or at full throttle.
4 Clean every 2000 km (1200 mi) after replacement and replace every 5000 km (3000 mi).
5 Replace every 1 year, or every 4000km (2400mi), whichever comes first. Replacement requires mechanical skill.
6 Replace every 10000 km (6000 mi), or once a year it at every 5000 km (3000 mi). Replacement requires mechanical skill.
7 Replace every 2 years. Replacement requires mechanical skill.

FREQUENCY / ITEM		WHICHEVER COMES FIRST		ODOMETER READING [NOTE (1)]							
			X 1000 km	0.3	1	3	5	7	9	11	REFER TO PAGE
			X 1000 mi	0.2	0.6	1.8	3	4.2	5.4	6.6	
		NOTE	MONTH		3	6	12	18	24	30	
*	AIR CLEANER	NOTE 2			I	R	I	R	I	R	31
	SPARK PLUGS	NOTE 4					R				32
*	THROTTLE OPERATION						I		I		31
*	VALVE CLEARANCE			A		A		A		A	-
*	FUEL LINE						I		I		-
	CRANKCASE BREATHER	NOTE 3			C	C	C	C	C	C	-
	ENGINE OIL			R	R	R	R	R	R	R	27
*	ENGINE OIL STRAINER SCREEN			C		C		C		C	-
*	ENGINE IDLE SPEED					I		I		I	-
	RADIATOR COOLANT	NOTE 6					R				-
*	COOLING SYSTEM						I		I		-
*	SECONDARY AIR SUPPLY SYSTEM						I		I		-
*	TRANSMISSION OIL	NOTE 5		R		R		R		R	30
*	DRIVE BELT							I			-
**	CLUTCH SHOE WEAR							I			-
	BRAKE FLUID	NOTE 7				I	I	I	R	I	35
	BRAKE PAD WEAR				I	I	I	I	I	I	36
	BRAKE SYSTEM				I	I	I	I	I	I	-
*	BRAKE LIGHT SWITCH						I		I		-
	SIDE STAND						I		I		-
*	SUSPENSION						I		I		-
*	HEADLIGHT AIM						I		I		-
*	NUTS, BOLTS, FASTENERS			I			I		I		-
**	WHEELS/TIRES				I	I	I	I	I	I	38
**	STEERING BEARINGS			I			I		I		-

THROTTLE OPERATION

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

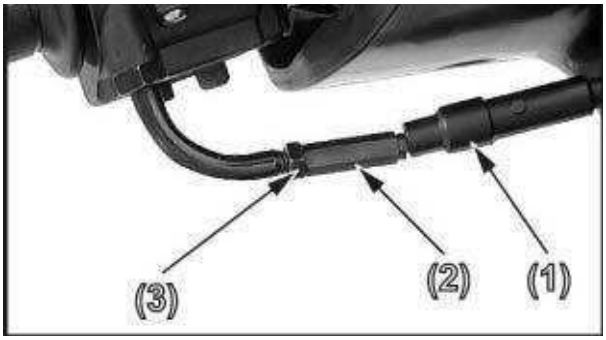
Free Play: 2～6 mm



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

Adjusting Nut Lock Nut

Minor adjustment is made with the adjusting nut at the throttle grip side.
Slide the rubber cover(1) out and adjust by loosening the lock nut(3) and turning the adjusting nut(2).



ENGINE OIL

OIL LEVEL INSPECTION

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

Dipstick

OIL CHANGE

Remove the oil drain bolt to drain the engine oil.
Install the aluminum washer and tighten the oil drain bolt.

Torque: 2.5 kg-m

✻ • Replace the aluminum washer with a new one if it is deformed or damaged.

Pour the recommended oil through the oil filler hole.

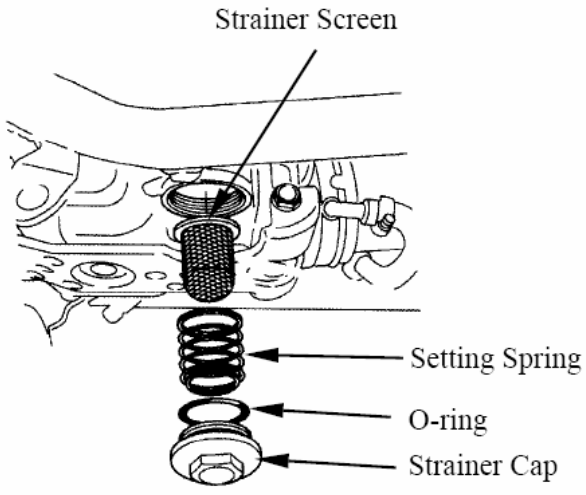

Oil Drain Bolt

OIL CAPACITY

Engine oil capacity: 1.1 L
Engine oil exchanging capacity: 0.9 L
Engine Oil Viscosity : SAE 10W40

OIL FILTER SCREEN INSPECTION

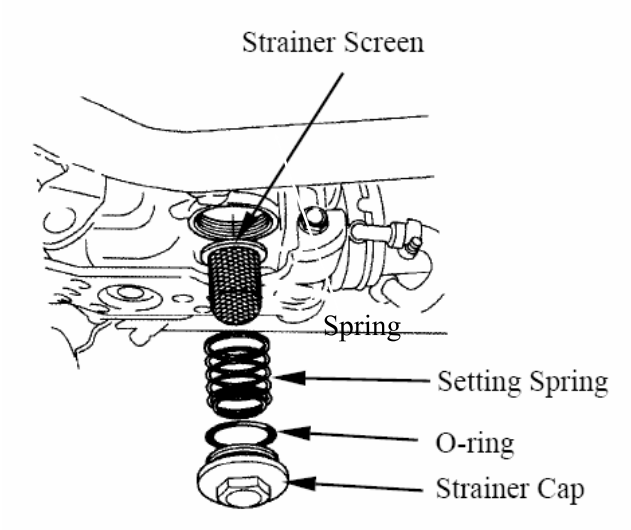
Drain the engine oil.
Remove the oil filter screen attaching the left-under crankcase.
Clean the oil filter screen.
Install the oil filter screen and filter screen cap.
Fill the engine with recommended engine oil.



OIL FILTER REPLACEMENT

Remove the oil filler cap attaching the right-under crankcase cover.

The spring will come out when the filter cap is removed.
Let the engine oil drain out.
Check that the O-ring is in good condition.



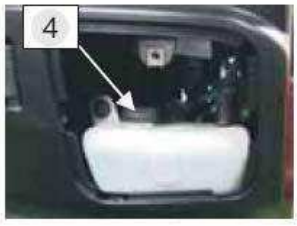
Install a new oil filter.

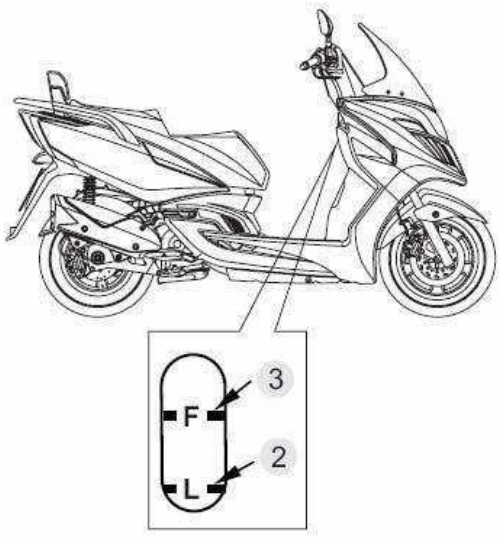
* Make sure the rubber seal on the oil filter facing the left crankcase.

Coolant level inspection

The reserve tank is behind the leg shield.
Check the coolant level through the inspection window (1) while the engine is at the normal operating temperature, with the scooter In an upright position.

If the coolant level is below the LOWER level mark (2) ,remove the cover reserve tank, remove the lid screw , and then the reserve tank cap (4) to add coolant mixture until it reaches the upper level mark .





⚠ WARNING

Add coolant to the reserve tank only. Do not attempt to add coolant by removing the radiator cap. Coolant in the radiator is under pressure and is very hot and can cause serious burns.

AIR CLEANER

AIR FILTER REPLACEMENT

Remove screws attaching to remove air cleaner cover.
Remove screws attaching to remove filter.
Check the filter and replace it if it is excessively dirty or damaged.

Air Cleaner Filter

CHANGE INTERVAL

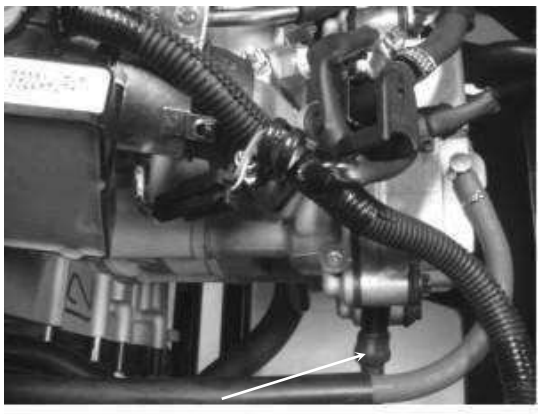
More frequent replacement is required when riding in unusually dusty or rainy areas.

* • 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 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.

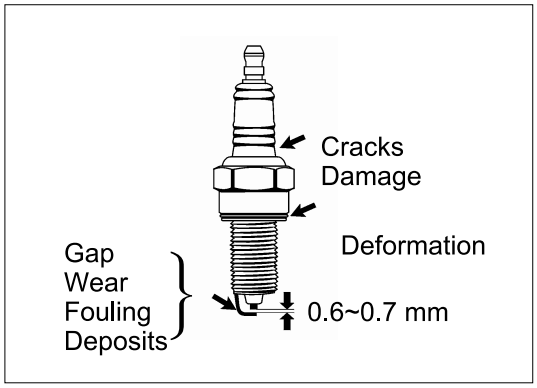
Specified Spark Plug: NGK-CR7E
Measure the spark plug gap.
Spark Plug Gap: 0.6 – 0.7 mm



Spark Plug

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

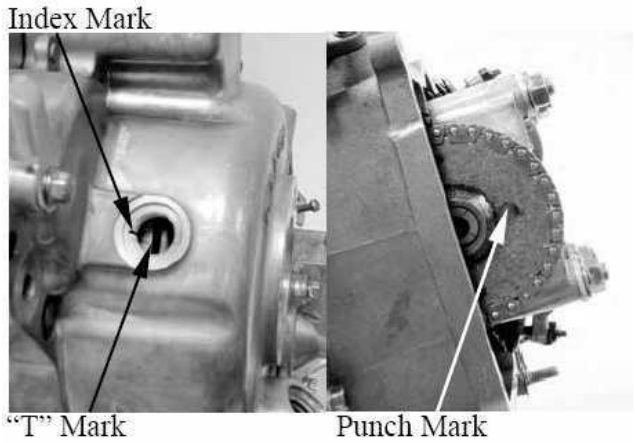
Torque:17.2 N-m



VALVE CLEARANCE

* • Inspect and adjust valve clearance while the engine is cold (below 35℃).

Remove the seat assy and luggage box.
Remove the four bolts and then cylinder head cover.



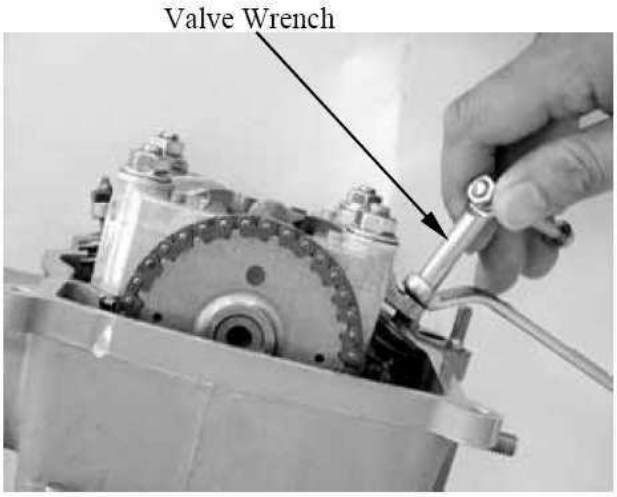
Turn the A.C. generator flywheel to the top dead center (TDC) on the compression stroke so that the "T" mark on the flywheel aligns with the index mark on the left crankcase cover.
Inspect and adjust valve clearance.

Valve Clearance: IN: 0.10 mm
EX: 0.10 mm

Loosen the lock nut and adjust by turning the adjusting nut

Special

Valve Adjuster E012
Feeler Gauge



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

CYLINDER COMPRESSION

Warm up the engine before compression test.
Remove the center cover and luggage box.
Remove the spark plug.
Insert a compression gauge.
Open the throttle fully and push the starter button to test the compression.

Max. Compression: 16±2 kg/cm^2 - 570 rpm

If the compression is low, check for the following:
- Leaky valves
- Valve clearance too small
- Leaking cylinder head gasket
- Worn piston rings
- Worn piston/cylinder

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

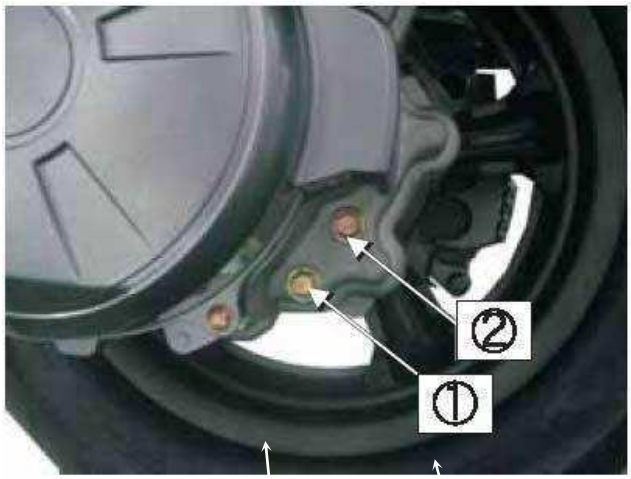
FINAL REDUCTION GEAR OIL

✻ • Place the scooter on its main stand on level ground.

Remove the transmission fluid drain bolt.
Remove the transmission fluid filler bolt, then slowly rotate the rear wheel to drain the fluid.
Fill the transmission with the recommend fluid to the capacity listed below.

Transmission fluid type: SAE 90
Transmission fluid capacity: 0.23 L
Transmission fluid exchanging capacity: 0.18 L

Install the transmission filler bolt and tighten it to the specified torque.

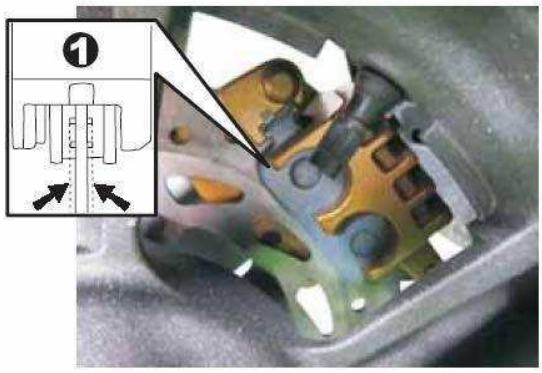


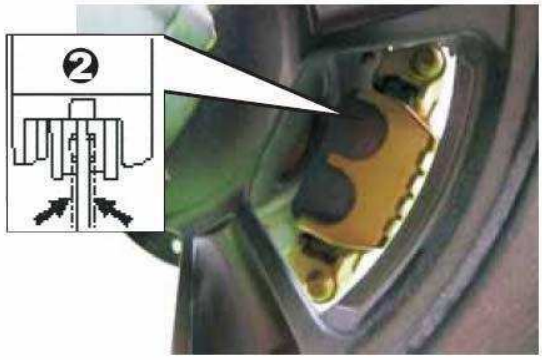
DRIVE BELT

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.

BRAKE DISK/BRAKE PAD

Check the brake disk surface for scratches, unevenness or abnormal wear.
Check if the brake disk runout 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.

BRAKE FLUID

Turn the steering handlebar upright and check if both brake fluid levels 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.

CLUTCH SHOE WEAR

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

SUSPENSION

FRONT

Check the action of the front shock absorbers by compressing them several times.

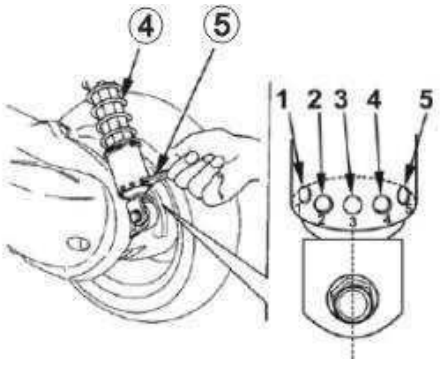
Check the entire shock absorber assembly for oil leaks, looseness or damage.

REAR

Each shock absorber(4) on your scooter has 5 spring preload adjustment positions for different load or riding conditions.

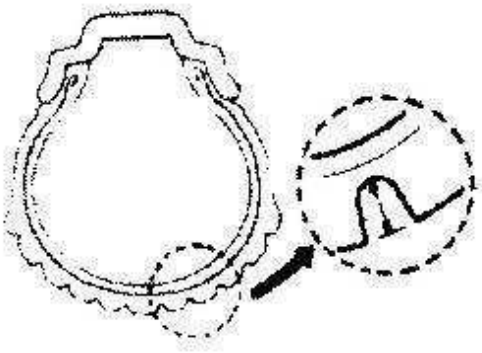
Use a pin spanner(5) to adjust the rear shock spring preload. Position 1 is for light loads and smooth road conditions. Position 3 to 5 increase spring preload for a stiffer rear suspension and can be used when the scooter is heavily loaded.

Be certain to adjust both shock absorbers to the same spring preload positions.



NUTS/BOLTS/FASTENERS

Check all important chassis nuts and bolts for looseness.
Tighten them to their specified torque values if any looseness is found.



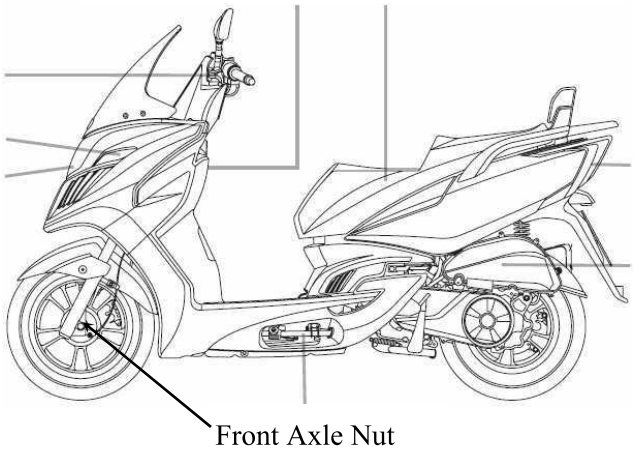
WHEELS/TIRES

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	1 Rider (with passenger)
Front	1.75 kg/cm^2	1.75 kg/cm^2
Rear	2.0 kg/cm^2	2.25 kg/cm^2



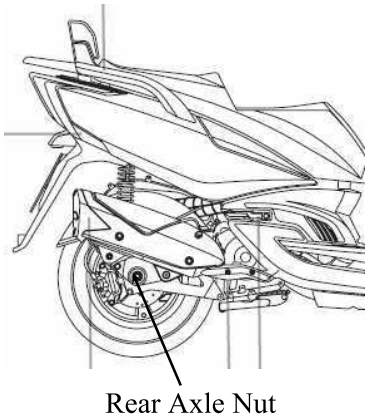
Tire Size:

Front 120/70-14
Rear 10/70-13

Check the front axle nut for looseness.
Check the rear axle nut for looseness.
If the axle nuts are loose, tighten them to the specified torques.

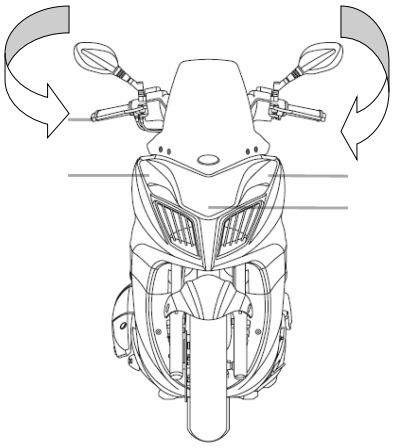
Torque:

Front axle nut 2 kg-m
Rear axle nut 12 kg-m



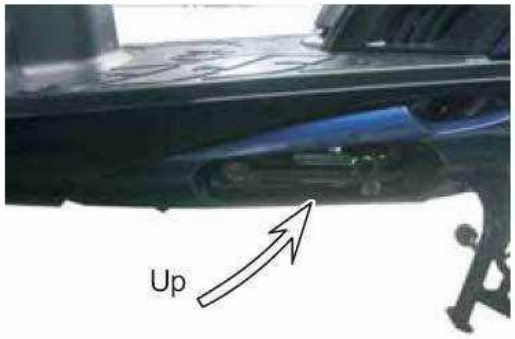
STEERING HANDLEBAR

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.



SIDE STAND

Your scooter's side stand is not only necessary when you park, but it contains an important safety feature. This feature cuts-off the ignition if you try to ride the scooter when the side stand is down. Perform the following side stand inspection.



INTERLOCK FUNCTION CHECK

Check the side stand ignition cut-off system,

1. Place the scooter on its center stand.
2. Put the side stand up and start the engine.
3. Lower the side stand. The engine should stop as you put the side stand down.

* If the side stand system does not operate as described, see your KYMCO dealer for service.