

CHAPTER 2. PERIODIC INSPECTION AND ADJUSTMENTS

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CHAPTER 2. PERIODIC INSPECTION AND ADJUSTMENTS

2-1. INTRODUCTION

This chapter includes all information necessary to perform recommended inspection and adjustment. These preventive maintenance procedures, if followed, will insure more reliable vehicle operation and a longer service life. The need for costly overhaul work will be greatly reduced. This information applies not only to vehicles already in service, but also to new vehicles that are being prepared for sale. Any service technician performing preparation work should be familiar with this entire chapter.

2-2. MAINTENANCE INTERVALS CHARTS

The following charts should be considered strictly as a guide to general maintenance and lubrication intervals. You must take into consideration that weather, terrain, geographical location, and a variety of individual uses. This time schedule should be altered to match individual owners' requirements. For example, if the motorcycle is continually operated in an area of high humidity, then all parts must be lubricated much more frequently than shown on the chart to avoid damage caused by water to metal parts.

A. Maintenance Intervals

Unit: km (mi)

Item	Remarks	Initial			Thereafter every	
		1 month	3 months	6 months	6 months	1 year
Cylinder head/Exhaust system	Decarbonize		○	○	○	
Spark plug	Inspect/Cleaning or replace as required	○	○	○	○	
Air filter	Wet type-Must be washed and damped with Yamalube 2-cycle Oil or SAE 20 motor oil		○	○	○	
Carburetor	Check operation/Fittings		○	○	○	
	Clean/Refit/Adjust			○		○
Autolube pump	Check/Adjust/Air bleeding	○	○	○	○	
▪ Brake system (complete)	Check/Adjust as required-Repair as required	○	○	○	3 months	
▪ Wheels and tires	Check pressure/Wear/Balance/Run out	○	○	○	○	
▪ Suspension system	Check operation/Repair as required	○	○	○	○	
Fuel petcock	Clean/Flush tank as required	○	○	○	○	
▪ Battery	Top-up/Check specific gravity and breather pipe	○	○	○	○	
▪ Lights/Signals	Check operation/Replace as required	○	○	○	○	
▪ Fittings/Fasteners	Tighten before each trip and/or ...	○	○	○	○	

▪ Indicates pre-operation check items.

B. Lubrication Intervals

Unit: km (mi)

Item	Remarks	Type	Initial			Thereafter every	
			1 month	3 months	6 months	6 months	1 year
* Transmission oil	Replace/Warm engine before draining	Yamalube 4-cycle Oil or SAE 10W/30 type "SE" motor oil	○	Check	○		○
* Control and meter cables	Apply thoroughly	SAE 10W/30 motor oil		○	○		○
Throttle grip and housing	Apply lightly	Lithium base grease			○	○	
Brake lever	Apply lightly	Lithium base grease		○	○	○	
Brake cam shaft	Apply lightly	Lithium base grease		○	○	○	
Steering bearings	Inspect thoroughly/Pack moderately	Medium-weight wheel bearing grease			Check		2 years
Speedometer gear housing	Inspect thoroughly/Pack moderately	Lithium base grease					2 years
Wheel bearings	Do not over-pack yearly or ...	Medium-weight wheel bearing grease					○
Middle and final gear	See page 5-7 to repack grease	Lithium base wheel bearing grease (EX. SHELL LETHINAX A)					2 years

* Indicates pre-operation check items.

2-3. ENGINE

A. Carburetor

1. Pilot air screw

Turn air adjusting screw until it lightly seats, then back it out to specification. This adjustment can be made with engine stopped.

Air screw (Turns out): 1-3/4 [1-1/2]

[]: After engine serial No. 3L5-702401

2. Start the engine and let it warm up.

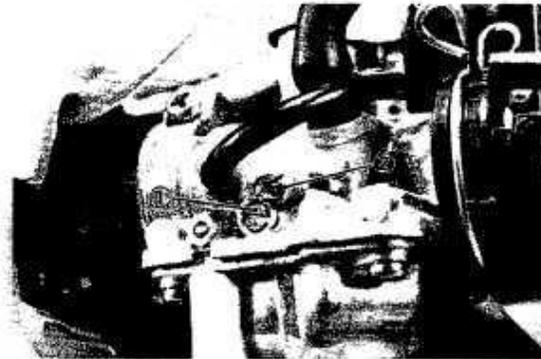
3. Throttle stop screw

Turn throttle stop screw in or out to achieve smooth engine operation at specified idle speed.

Idling speed: 1,700 r/min

NOTE:

The pilot air and throttle stop screws are separate adjustments but they must be adjusted at the same time to achieve optimum operating condition at engine idle speeds.



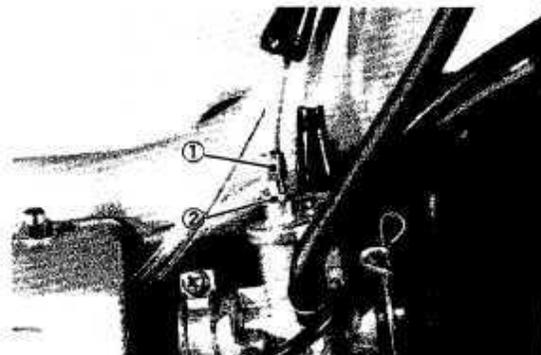
1. Pilot air screw 2. Throttle stop screw

4. Throttle cable

a. Throttle cable 2.

Loosen cable adjuster lock nut (at top of carburetor) and turn cable adjuster until specified free play is obtained. Retighten lock nut.

Free play: 1.0 mm (0.04 in)

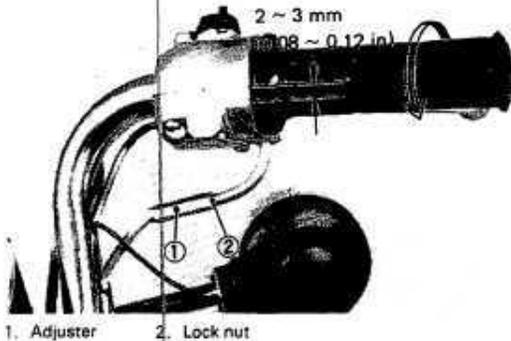


1. Adjuster 2. Lock nut

Air Filter

b. Throttle cable 1.

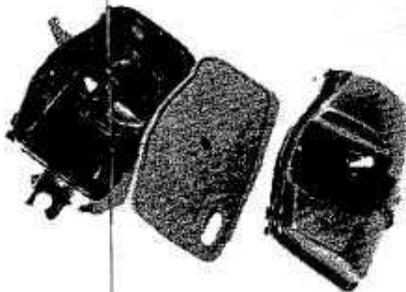
After engine idle speed and throttle cable 2. are set, check play in tuning direction of throttle grip. The play should be 2 ~ 3 mm (0.08 ~ 0.12 in) at grip flange. Loosen the lock nut and turn the wire adjuster to make the necessary adjustment. After adjusting, be sure to tighten the lock nut properly.



1. Adjuster 2. Lock nut

B. Air Cleaner

1. Remove the air cleaner case cap and element assembly.



2. Wash the element gently, but thoroughly, in solvent.
3. Squeeze excess solvent out of element and dry.
4. Pour a small quantity of 20W. motor oil onto cleaner element and work thoroughly into the porous foam material. Element must be damp with oil but not dripping.



5. Re-install the element assembly, case cover and seat.

NOTE:

Each time cleaner element maintenance is performed, check the air inlet to the cleaner case of obstructions. Check the air cleaner joint rubber to the carburetor and manifold fittings for an air-tight seal. Tighten all fittings thoroughly to avoid the possibility of unfiltered air entering the engine.

CAUTION:

Never operate the engine with the air cleaner element removed.

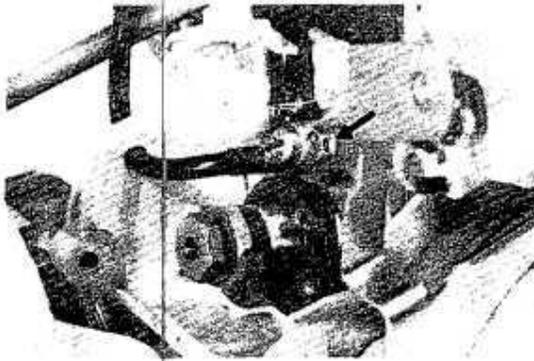
This will allow unfiltered air to enter, causing rapid wear and possible engine damage. Additionally, operation without the cleaner element will affect carburetor jetting with subsequent poor performance and possible engine overheating.

C. Autolube Pump

1. Air bleeding

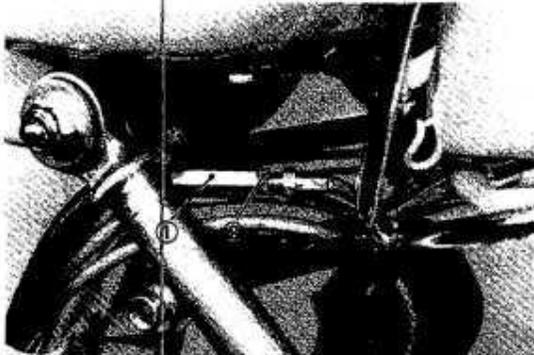
To bleed the oil pump, first remove the bleed screw. Start engine and run at idling speed. Then pull the oil pump wire as much as possible, and continue to run the engine until all air bubbles disappear from the oil flowing out from the bleeder hole.

Reinstall bleed screw.

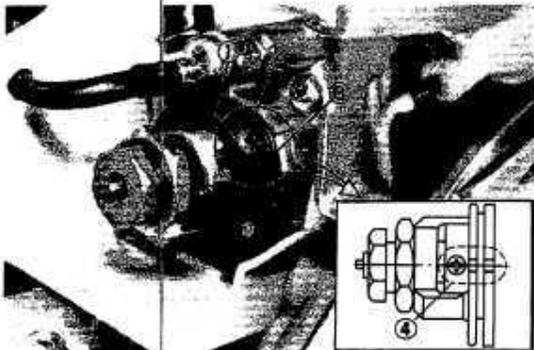


2. Oil pump wire adjustment

- a. Remove the slack in throttle wire 2 by turning the adjusting screw attached to the carburetor.
- b. Loosen the lock nut.
- c. Turn the adjusting screw so that the mark on the adjusting pulley is aligned with the Phillips head screw attached to the adjusting plate.
- d. Screw in the lock nut until tight.



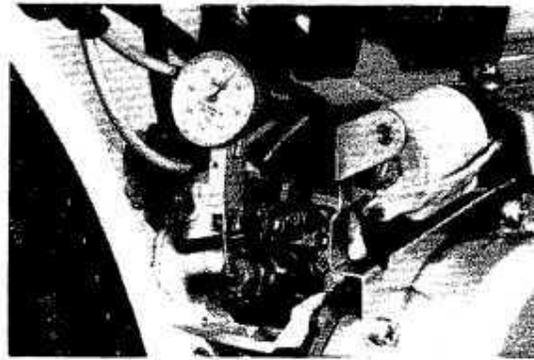
1. Adjuster 2. Lock nut



1. Adjusting pulley 3. Mark
2. Phillips head screw 4. Set position

3. Minimum pump stroke adjustment

Remove the side cover and air cleaner case assembly, set the magnetic stand and dial gauge, and measure the pump stroke while keeping the engine idle.



- a. To adjust the plunger stroke, first loosen the lock nut.
- b. Turn the adjusting bolt in or out for proper adjustment.
Turning the adjusting bolt clockwise decreases the plunger stroke; while turning counterclockwise increases the plunger stroke.
- c. When the correct stroke is attained, tighten the lock nut.

Minimum stroke	0.20 ~ 0.25 mm (0.008 ~ 0.010 in)
Maximum stroke	0.95 ~ 1.10 mm (0.037 ~ 0.043 in)
Pulley color code	Yellow
Pulley adjust mark	

D. Engine and Transmission Oil

1. Engine oil (Autolube oil)

Recommended oil:

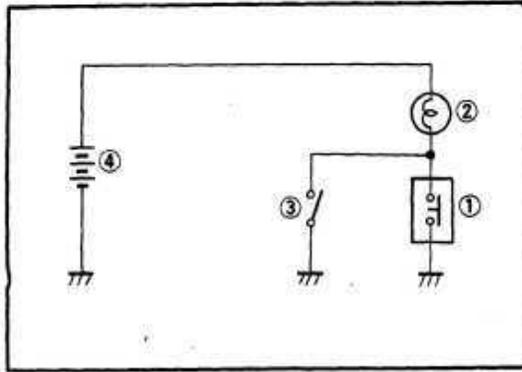
Yamalube 2-cycle Oil

a. Oil warning light

Bulb check: Turn the main switch to "X" position, and if the oil warning light comes on, it is in good condition.

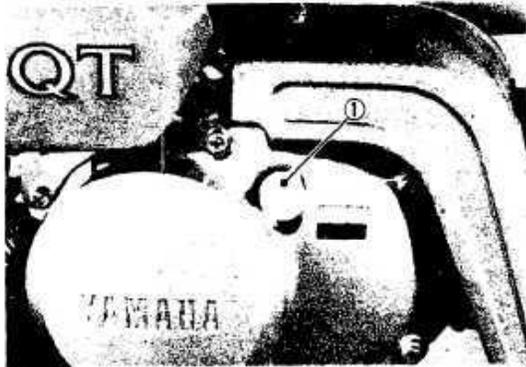
If not, check the light bulb and lead wires.

Oil level check: Turn the main switch to "ON" position, and if the oil warning light does not come on, the oil level in the tank is correct. If lights up, add Yamaha 2-cycle engine oil. For further details, refer to page 6-9.



1. Oil level gauge
2. Oil warning light
3. Oil warning light check switch (Main switch)
4. Battery

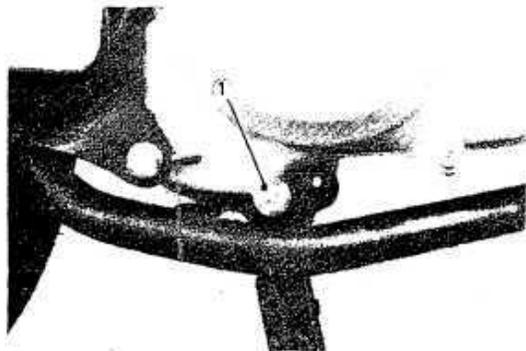
2. Transmission
 - a. Replace the transmission oil once a year.



1. Oil filler cap

Recommended oil:
Yamalube 4-cycle oil or
SAE 10W/30 "SE" motor oil

- b. A drain plug is located on the bottom of the right crankcase cover. With the engine warm, remove the plug and drain oil. Re-install plug and add fresh oil.



1. Drain plug

Transmission drain plug torque:
2 m·kg (14 ft·lb)

Transmission oil quantity:
Total (dry): 350 cc (0.37 US. qt)
Exchange: 300 cc (0.32 US. qt)

E. Cylinder Head

Check torque of cylinder head holding nuts. Tighten in a crisscross pattern.

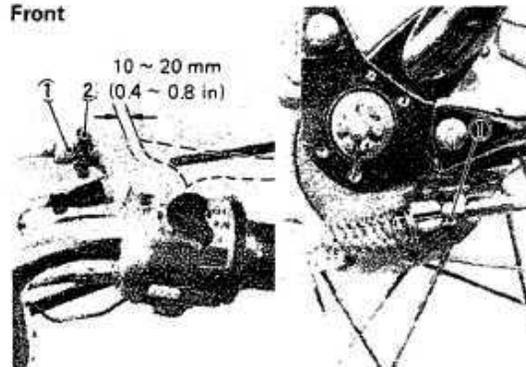
Cylinder head nut torque:
1.0 m·kg (7.0 ft·lb)

2-4. CHASSIS

A. Brake and Wheel (Front, Rear)

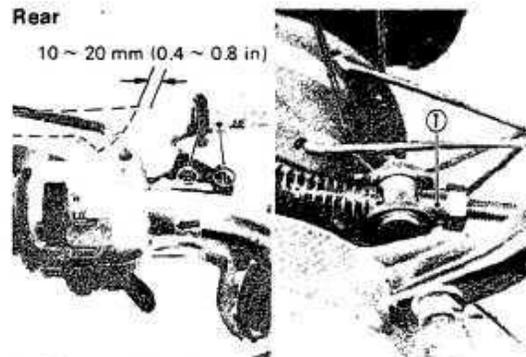
1. Inspection and adjustment of brakes
Check the free play of both brake lever. If the free play is off the specification, make an adjustment by turning adjuster and lock nut.

Front



1. Adjuster 2. Lock nut

Rear

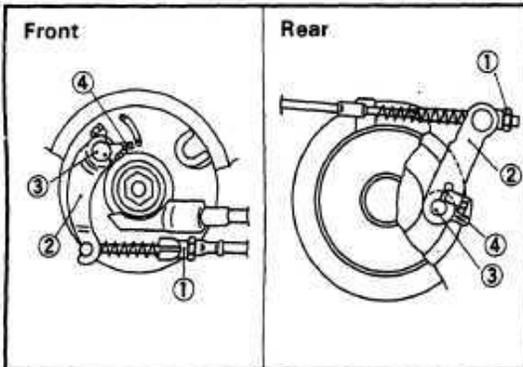
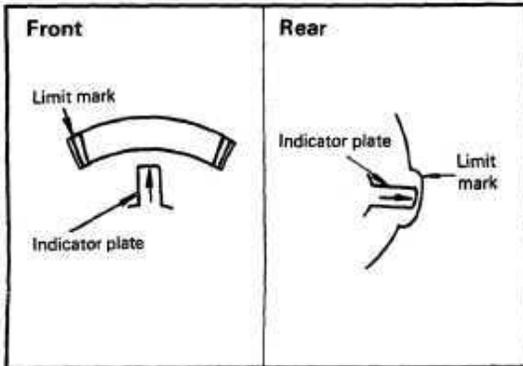


1. Adjuster 2. Lock nut

2. Adjustment and brake shoe replacement
Camshaft lever adjustment
If the free play adjustment of the brake lever is impossible with the adjuster and at the same time, if the indicator is still before the limit mark, make an adjustment by turning the camshaft lever one tooth.

CAUTION:

Do not turn the camshaft lever more than one tooth.



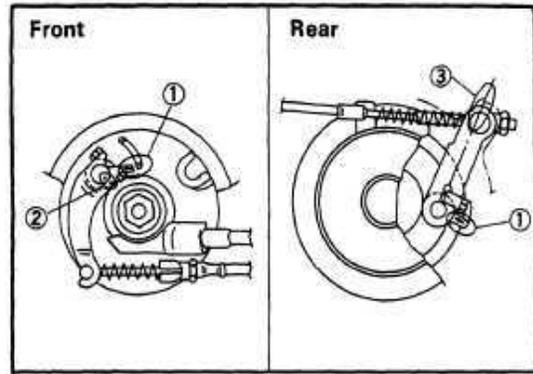
1. Adjuster
2. Camshaft lever
3. Camshaft
4. Indicator plate

3. Brake shoe replacement

When the indicator mark is lined up with the limit mark, replace the brake shoe.

When replacing the brake shoe, bring the punch mark on the camshaft lever to align with the punch mark on the camshaft.

When installing the rear brake, be sure to align the projection on the drive shaft housing with the center of the camshaft lever.



1. Indicator set position
2. Punch mark
3. Set position

4. Front axle
Check axle nut.

Front axle nut torque:
5.5 m-kG (40 ft-lb)

5. Rear axle
Check axle nut.

Rear axle nut torque: 6 m-kG (43 ft-lb)

6. Tire pressure

Front	1.25 kg/cm ² (18 psi)
Rear	2.0 kg/cm ² (28 psi)

B. Steering and Suspension

1. Steering head adjustment

The steering assembly should be checked periodically for any looseness. Do this as follows:

- a. Block machine up so that front wheel is off the ground.
- b. Grasp bottom of forks and gently rock fork assembly backward and forward, checking for any looseness in the steering assembly bearings.



- c. If steering head needs adjustment, using steering nut wrench, adjust steering head fitting nut until steering head is tight without binding when forks are turned.

NOTE:
Excessive tightening of this nut will cause rapid wear of ball bearings and races. Re-check for looseness and freedom of movement.



- d. Tighten steering fitting bolt.

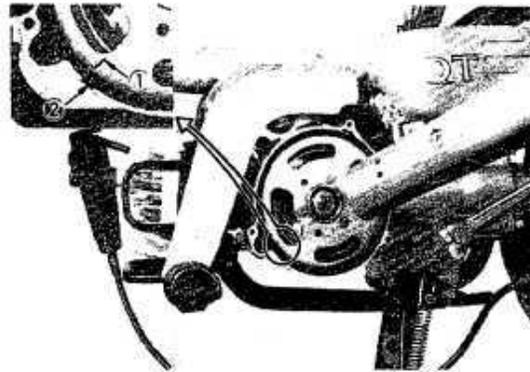
NOTE:
After completing steering adjustment, make certain forks pivot from stop to stop without binding. If binding is noticed, repeat adjustment.

2. Suspension
- Check all suspension for proper operation.
 - Check all suspension for proper tightness.

2-5. ELECTRICAL

A. Ignition Timing (C.D.I.)

- Ignition timing is checked with timing light by observing the position of the stationary pointer marked on the crankcase and the marks on the magneto flywheel. Ignition timing of this motorcycle is non adjustable for checking.



1. Mark 2. Stationary pointer

- Checking the ignition timing
Using a timing light, check to see that the stationary pointer and mark on the magneto flywheel, are aligned.
 - Remove the crankcase cover (L).
 - Connect the timing light to the spark plug lead wire.
 - Start the engine and keep it running at the specified speed. Use a tachometer for checking.

Timing checking speed: 5,000 r/min

- While running the engine at the specified speed, check to see that the stationary pointer is aligned with the magneto mark. If the marks are out of alignment, check to see that the woodruff key is broken or crankshaft assembly is out of alignment.

Ignition timing:
0.94 mm (0.037 in) B.T.D.C.

B. Spark Plug

The spark plug indicates how the engine is operating. If the engine is operating correctly, and the motorcycle is being ridden correctly, then the tip of the white insulator around the positive electrode of the spark plug will be a medium tan color. If the insulator is very dark brown or black color, then a plug with a hotter heat range might be required. This situation is quite common during the engine break-in period.

If the insulator tip shows a very light tan or white color is actually pure white and glazed or if electrodes show signs of melting, then a spark plug with a colder heat ranges is required. Remember, the insulator area surrounding the positive electrode of the spark plug must be a medium tan color. If it is not, check carburetion, timing and ignition adjustments. The spark plug must be removed and checked. Check electrode wear, insulator color, and electrode gap.

Spark plug gap:
0.6 ~ 0.7 mm (0.024 ~ 0.028 in)

Engine heat and combustion chamber deposits will cause any spark plug to slowly break down and erode. If the electrodes finally become too worn, or if for any reason you believe the spark plug is not functioning correctly, replace it.

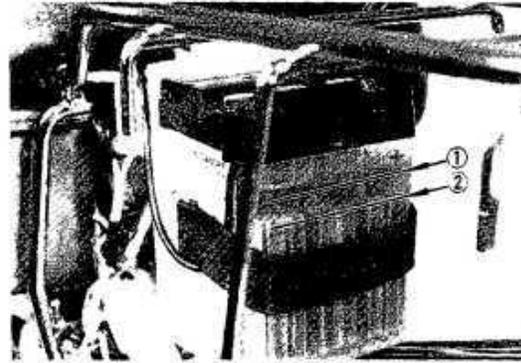
When installing the plug, always clean the gasket surface, use a new gasket, wipe off any grime that might be present on the surface of the spark plug, torque the spark plug properly.

Standard Spark Plug	Tighting Torque
NGK: BP4HS	2.0 m-kG (14 ft-lb)

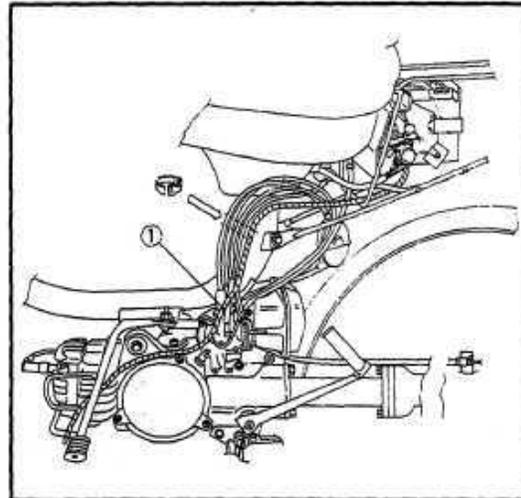
C. Battery

A poorly maintained battery will deteriorate quickly. The battery fluid should be checked at least once a month.

1. The level should be between the upper and lower level marks. Use only distilled water for refilling. Normal tap water contains minerals which are harmful to a battery; therefore, refill only with distilled water.
2. Always make sure the connections are correct when installing the battery. The red lead is for the + terminal and the black lead is for the - terminal. Make sure the breather pipe is properly connected and is not damaged or obstructed.



1. Upper level 2. Lower level



1. Battery breather pipe

NOTE:

A new battery must be properly serviced and charged before installation.

Charging current: 0.4 Amps.
Charging hours: 10 hrs.

WARNING:

Battery electrolyte is poisonous and dangerous, causing severe burns, etc. Contains sulfuric acid. Avoid contact with skin, eyes or clothing.

Antidote:

EXTERNAL-Flush with water.

INTERNAL-Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg or vegetable oil. Call physician immediately.

Eyes:

Flush with water for 15 minutes and get prompt medical attention.

Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in enclosed space.

Always shield eyes when working near batteries.

KEEP OUT OF REACH OF CHILDREN.

D. Headlight Beam Adjustment

When necessary, adjust the headlight beam as follows:

1. About horizontally by tightening or loosening the adjusting screw, as in the illustration.

To adjust to the right: tighten the screw

To adjust to the left: loosen the screw

2. Adjust vertically by moving the headlight body.



1. Adjusting screw