THE AUTO MOTO

USER MANUAL

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Safety and Operational Precautions

Safe driving principles

1. Always inspect the vehicle before driving to avoid accidents and damage occurring to any part of the vehicle.
2. Riders should pass the required DMV test and obtain the required driver license before driving. Never lend the motorcycle to someone without an appropriate license and training on how to drive the vehicle.
3. To avoid accidents, please:
   a. Wear reflective clothing.
   b. Do not drive too close to other vehicles.
   c. Follow all traffic regulations, and never split lanes in traffic.
   d. Speeding causes most accidents, so pay attention to the speed limits and follow them.
   e. Signal when turning or changing lanes.
   f. Turn on the headlights while driving through fog or gloomy weather.
   g. Be attentive at all times, especially at railroad crossings, entrances of parking lots or while in the fast lane.
   h. Always keep your hands on the handlebars and feet on the mat while driving. Passengers should hold on to the armrests or hold on to the driver tightly, while keeping their feet on the rear footpads.

Safe clothing

1. To be protected the driver and passenger should wear motorcycle riding gear such as a DOT approved helmet, dust-veil or glasses, gloves, and so on.
2. Do not wear loose clothing.

Prohibited

1. Do not operate this vehicle if you are under the influence of any substance that may impair your reaction time and judgment.

Technical Specs

Items	Technical Parameters (150cc)
Length (ft)	7.2
Width (ft)	2.7
Height (ft)	5.8
Wheelbase (ft)	5.5
Curb weight (lbs)	325lbs
Passengers	2
Rear tire spec	16x8.0-7
Front tire spec	130/60-13
Battery	12V , 10Ah
Compression ratio	9.0:1
Cylinder diameter x Motion distance (mm)	57.4x57.8
Maximum net power output	5.8/8000
Displacement (ml)	150
Ignition	CDI
Ground clearance (mm)	110
Brake type (front/rear)	Disk/drum
Brake control (front/rear)	Hand/foot operated
Fuel tank capacity (gal)	2.1
Fuel Type	Regular
Oil viscosity	SF 15W/40
Gear oil viscosity	85 W - 140
Clutch type	Dry type, automatic, centrifugal
Engine type	Four-stroke, air-cooled
Engine lubrication type	Compressing splash
Start-up	Electric start-up
Spark plug clearance (mm)	0.7
Fuel consumption	Estimated 83 MPG

Main Components

1. Windshield wiper and sprayer
2. Side mirrors
3. Front turn signal
4. Battery charging port
5. Engine serial number
6. Rear turn signal
7. Seat
8. Manual parking lock
9. VIN number

Main Components

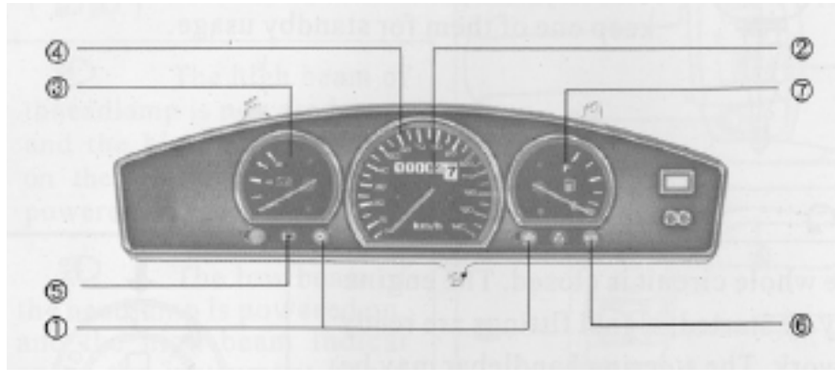
10. Engine family number
11. Rear cargo box
12. Front brake
13. Rear wheel
14. Rear brake pedal
15. Front wheel
16. Accelerator grip

VIN Locations

There are three statutory inscription plates. One statutory inscription plate is in the center of the front box near the foot brake; the other one is on the crossed tube of the front forks. The engine statutory inscription plate is on the right cover of engine.

Functions and Uses of the Components

(1) Instrument Board



1. Turn signal indicator: (← →).

2. Odometer: Shows the total mileage accumulated by the vehicle. (Miles)

3. Voltage meter

4. Speedometer: Indicates your driving speed in Miles and Kilometers per hour.

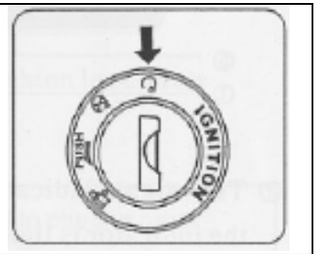
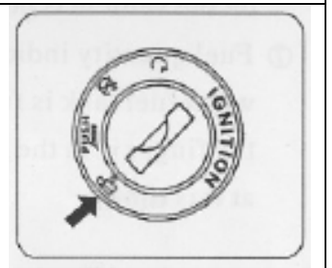
5. High beam indicator: ( ) When lit the high beams are on.

6. Radio/ MP3 indicator: When the VCD signal is lit; it indicates that the music player is powered on.

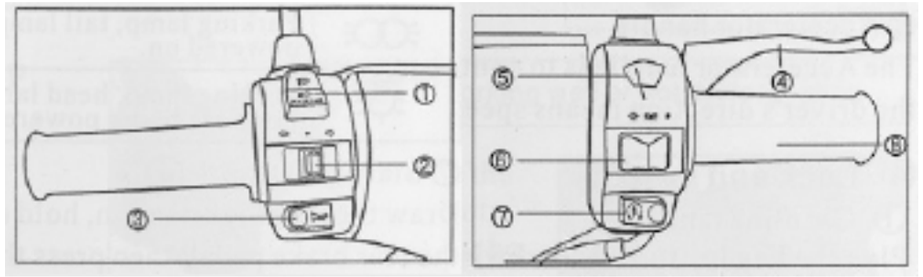
7. Fuel Gauge: ( ) When the needle points at “F” the fuel tank is full. When the needle reaches the red area the vehicle should be refueled as soon as possible.

(2) Ignition Switch

For your convenience, two keys are provided with your vehicle.

1.On position -The engine is ready to be started. -Signals are functional. -The key can't be removed.	
2. Accessory position -The engine cannot be started. -Signals don't work. -The key can be removed. -The parking lock handle can be released and the vehicle can be maneuvered.	
3. Lock position (LOCK) -Move the key into the "" accessory position. At this time pull up the parking lock handle then turn the key to the "Lock" position and then the key can be pulled out. The engine can't be started and signals won't work.	

(3) Left and Right Handlebar Control Switch



1. High beam switch. Daytime running lights are always on while the vehicle is running. To turn the high beams on, press the high beam button; doing so will also illuminate the indicator on the dashboard.

2. Turn signal switch (← →). Switch the button to the left to signal left. Switch the button to the right to signal right. Switch the button to the middle to power off. Lights will flash on the dash for the corresponding direction that you are signaling.

3. Horn. ( )

4. Front brake handle. Compress the handle to activate the front wheel brake.

5. Windshield wiper switch.

6. Flameout switch. When the switch is at ( ) position, the electricity is on, and the engine can be started; when the switch is at ( ), the electricity is off, and the engine flames out immediately.

7. Startup button ( ). The startup button starts the vehicle. Grip the front brake handle while simultaneously pressing the startup button to start the vehicle.

8. Accelerator handle. The accelerator handle controls the speed of the vehicle; twist towards the driver to accelerate, and release gradually to slow down.

9. Hazard lights switch. When pushed all six turn lights will flash.

10. Sprayer switch. When pushed water will be sprayed to clean the windshield.

(4) Accessing the Gas Tank and Windshield Wiper Fluid Tank

1. Cushion Lock. To access the gas tank and the windshield wiper fluid tank, insert the key into the keyhole located on the side of the vehicle and turn it to the right to unlock the seat cushion. You can now lift the seat cushion. Unscrew the aluminum cap to access the gas tank. Remove the rubber cap to access the windshield wiper fluid tank. When done inserting fluids, press the seat down to lock it in place.

⚠ WARNING: Please check that the cushion is locked after pressing it down.

⚠ WARNING: Do not overfill the gasoline and overflow the tank. When pumping gas, make sure the engine is not running. Keep the key in the off position until finished pumping.

(5) Rocker and Parking System

1. The rocker (tilting mechanism) is activated by the parking lock handle. When the parking lock handle is unlocked (down position) as shown in figure 1, the rocker is operational and the vehicle can be rocked from left to right. When the parking lock handle is locked (up position) as shown in figure 2, the rocker is locked.

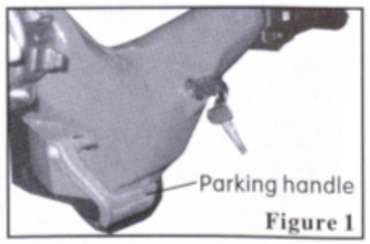


Figure 1

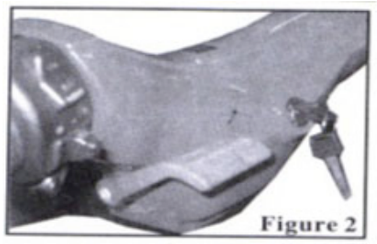


Figure 2

⚠ CAUTION: Check that the rocker is working properly before riding.

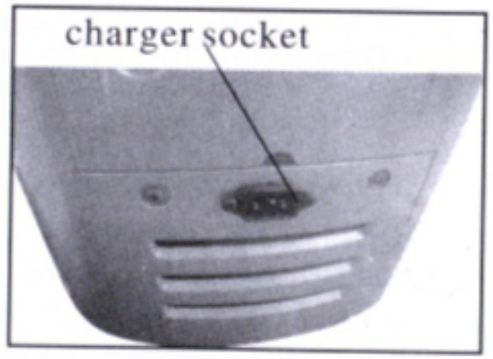
2. When parking, step on the brake pedal while pulling the parking lock handle up to the lock position as shown in figure 2. Then, turn the ignition switch to the (LOCK) position and pull out the key. If done correctly, the brakes are applied and will hold the vehicle stationary to an 18% grade or 10˚ incline.

(6) AM/FM & MP3 System

The operation of the AM/FM & MP3 system is explained in detail through the specifications booklet included with the purchase of your Auto Moto unit.

(7) Battery Charging Port

If the battery does die or doesn't have enough power to start the vehicle, plug the provided cable in to the socket shown in the picture and then plug the other end to the wall socket to charge the battery. If the battery is completely dead the charging period should be ~10 hours.



Starting To Drive Your New Vehicle

(1) Engine Startup

1. Insert the key into the ignition switch, and turn it to the "ON" position

2. Hold the front brake handle down tightly when starting the vehicle.

3. Press the start button to start the engine. (If the vehicle has not been used for a long time, it may not start immediately. Slightly twisting the accelerator handle while pressing the start button will help start the vehicle – if this doesn't work try charging the battery).

4. Release the parking lock handle so that the vehicle can rock freely.

5. Release the rear brake pedal and let go of the front brake handle.

6. Slowly twist the accelerator handle towards the driver to move the vehicle forward.

When starting up in cold weather, it is highly recommended to leave the vehicle on at idle (1700±100r/min) for 3 minutes.

Caution:

- Press the startup button for no longer than 5 seconds to start the vehicle. The interval between attempts should be at least 15 seconds.

- Release the startup button immediately after the engine has started. Do not press the startup button while the engine is running; doing so may cause damage to the starter.

- When idling/stopped while applying the brakes, do not throttle up. The lack of cool air may cause damage to the engine and other relative accessories because you are not moving.

- Don't start the engine in narrow places or in areas that are not well ventilated.

Checks and Adjustments

Caution:

-Correct the malfunctions found during inspection in a timely fashion. Please seek professional help from a licensed technician if you can't repair it yourself.

-Please inspect your vehicle (every time) before driving to ensure your safety.

(1) Pre-check of the vehicle

Thoroughly check the vehicle before driving; this may reduce the chances of any problems arising during operation.

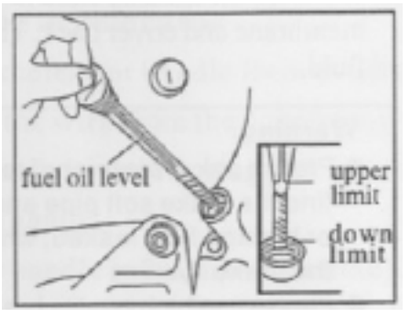
Items	Contents
Gas quantity	Is there enough
Oil quantity	Is there enough
Brakes	Efficiency, smooth response
Rocker	Rock freely from left to right
Accelerator handle	Twists smoothly
Wipers	Work properly
Tires	Air pressure, wear & tear
Lights and indicators	All lights work properly
Battery	Check voltage level
Connections & fittings	Check for loose connections
Mirrors	Position correctly

(2) Checking the Engine Oil

Engine oil is regarded as the life blood of the engine. If the oil is low or too dirty the life of the engine may be shortened. Check the oil regularly and replace it when necessary.

1. Make sure the vehicle is parked on a flat surface when checking the oil.

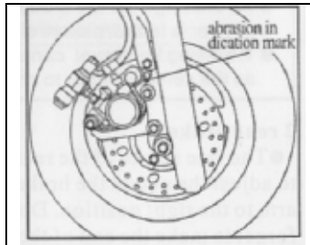
2. For the most accurate reading, wait at least 2 hours after the engine stops before checking the oil.

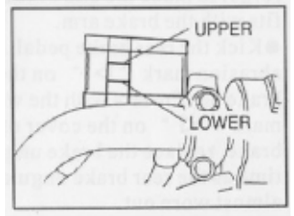


3. The oil filling port is located on the right side of the crank case cover. Remove the dipstick from the port, wipe it clean, plug it back into the port, and remove it once more to check the oil level.

4. If the oil level is close to the lower limit line on the dipstick, refill the oil immediately to reach the upper limit line on the dipstick. When complete, screw the cover on tightly and check for possible oil leaks.

(3) Checks and Adjustments for the Braking System





Warning

- If you find that the soft brake hose and the joining piece are distorted, cracked, or broken and fluid is leaking, please ask a professional technician to check and repair the problem immediately.
- Please use high quality braking fluid.
- Please add braking fluid of the same specification. (Mixing braking fluids of different specifications may lead to a toxic chemical reaction and result in brake system failure).
- When adding braking fluid, make sure that no water enters the master cylinder, as this will cause the boiling point of the braking fluid to be lowered.
- Clean spilled braking fluid immediately. (Braking fluid will erode painted surfaces or rubber parts).
- If the braking fluid level cannot reach the standard position, please ask the service center to check and diagnose the problem.

Front Brake

- Check the brake pads regularly to determine whether they have worn down to the caution line. If so, see a technician to change both brake pads.

- If the brake handle feels soft but the brake pads are still in good condition, it may be a result of low brake fluid or there might be a leak in the system.

- To check for fluid leakage hold the brake handle tightly for several minutes. After doing so, check to see whether there is any fluid leaking from the any of the connections along the brake line or from the reservoir.

Refilling the Brake Fluid:

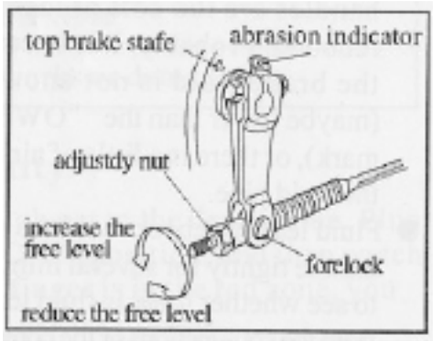
a. Position the handlebar horizontally so that the brake fluid reservoir is level.
b. Remove both the cover of the reservoir and the membrane.
c. Fill the reservoir with the specified fluid to the upper oil level, then put the membrane and cover back.

This vehicle uses DOT #3 or DOT #4 brake fluid

Rear Brake

- Turn the nut on the brake arm to the right.
- Make sure the end of the nut fits flush with the brake arm.
- Step on the braking pedal. If the abrasion mark “>” on the rear brake hoof meets with the worn mark “<” on the cover of the brake, replace the brake pads in a timely fashion as the rear brake pads have almost worn out.

The vehicle is equipped with a linkage braking system; the free stroke of the braking pedal should be 20-30mm.



(4) Checks and Adjustments for the Rocker and Parking Lock

1. Rocker (Tilting Mechanism)

If you have difficulty locking the rocker, you can adjust the compression stroke of the spring, according to figure 1.

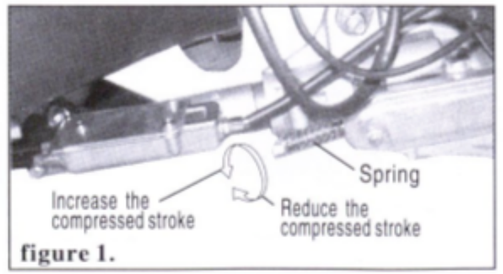


figure 1.

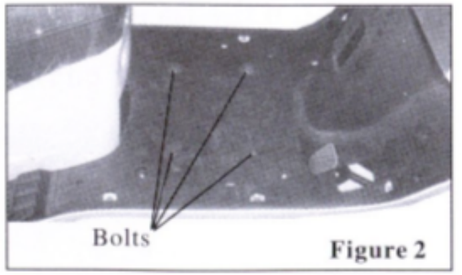


Figure 2

2. Parking Lock

If the parking lock handle does not work properly, please follow the steps below to inspect and adjust it.

- Remove the floor mat and loosen the three screws on the floorboard to remove the small plastic cover. (Figure 2)
- Hold nut #1 stationary and turn nut #2 clockwise to tighten. (Figure 3)
- If you have adjusted the nuts, and the parking lock still does not work properly, please inspect whether spring 1, spring 2, pawl, or pawl-wheel is not working properly. If there are any issues found with the springs replace the springs immediately.

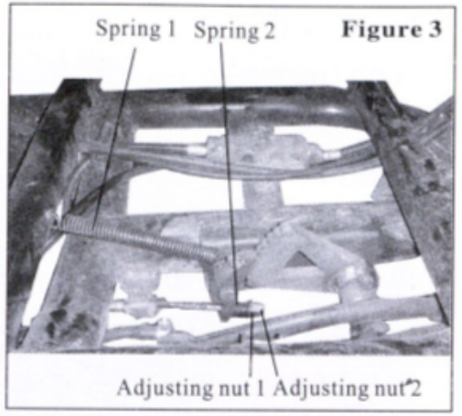


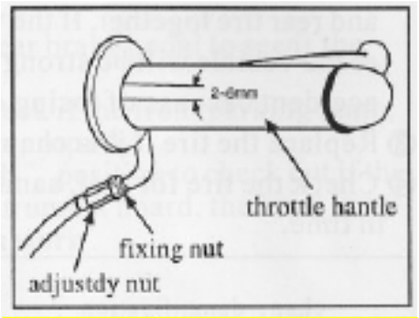
Figure 3

(5) Checks and Adjustments for the Accelerator

Make sure that the engine idles properly before you make any adjustments to the accelerator. If the engine doesn't idle properly you must adjust the idle first

1. Check the twisting capability of the accelerator handle from wide open to closed. Check the condition of the wire from the accelerator handle to the carburetor. If the wire is broken, frail, or not well laid replace it or have it laid again.

2. When adjusting the free stroke of the accelerator handle, loosen the fixing nut and turn the adjusting nut to the desired position, then tighten the fixing nut.



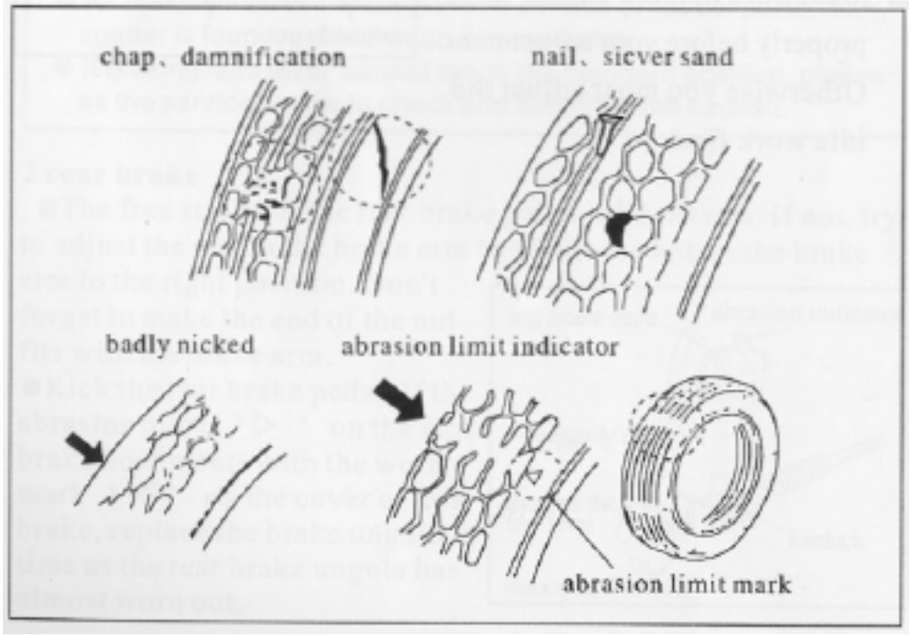
(6) Checking the Tires

1. Regularly check the tire pressure (when the tires are cool). Abnormal tire pressure may result in excessive abrasion and ware of the tires, which can be dangerous to you and the vehicle.

2. When the depth of the grooves in the middle of the front and rear tires are less 1.6 mm or the tire looks worn or cracked, replace both the front and rear tires. If the veins are over abraded, the stability of the vehicle will be strongly affected, which may potentially cause an accident due to lose of control.

3. Replace the tires if they are worn, damaged or badly nicked.

4. Check the tires for nails, sand or dirt in the veins.



(7) Checking the Front and Rear Shock Absorbers

Press down on the handlebar and on the seat, bouncing the cab, to see if the shock absorbers are working properly.

(8) Checking the Handlebar

1. Turn the handlebar in every direction to see if it moves freely.

2. Check the agility of the handlebar. Make sure there are no restrictions.

3. If the handlebar is crooked when the front wheel is pointing foreword, the handlebar is out of alignment. Consult a technician immediately and refrain from driving until corrected.

(9) Checking the Lights and Indicators

1. Turn the ignition switch to the “ON”  position and start the vehicle. The low beams should illuminate along with the instrument panel.

2. Turn on the left and the right turn signals to make sure that the front and rear indicator lights flash in unison.

3. Hold the front brake and push the rear brake pedal to see if the brake lights work.

4. Turn on the high beam light switch and check if the high beams work properly.

5. Press the horn to see if it sounds.

(10) Checking the Instrument Board

Turn the ignition switch to the “ON”  position, and start the engine.

1. Check if the hands of the instrument cluster work properly.

2. Drive slowly to check if the odometer works.

(11) Checking the Side Mirrors

1. While seated in driving position, manually adjust each of the side mirrors to your eye level.

(12) Checking the License Plate

1. Check if the license plate is damaged or missing.

Breaking in Your New Vehicle

The engine in a new vehicle needs to be properly broken in. When parts of the engine are worn in correctly a natural clearance is produced in the cylinder, which will extend the life of the engine. Proper break in procedures should be followed during the first 600 miles. The essentials of a proper break in are as follows:

1. Maximum speed during break in should not exceed 40mph.

2. After starting the vehicle, idle the engine adequately to let the oil flow to all of the important parts of the engine before driving.

3. While driving; vary your speed frequently so that the vehicle does not constantly remain at the same RPM. Avoid running the engine at low speeds for extended periods of time. Don’t drive the vehicle at a high speed or at wide open throttle.

4. Try to stay on level roads while driving.

** It is recommended that a professional technician inspect the vehicle after driving the first 600 miles to ensure that the engine has been properly broken in**

Routine Inspections and Maintenance

In order to extend the life of your vehicle, please execute timely inspections and maintenance according to the attached timetables.

(1) Inspecting and Cleaning the Spark Plug

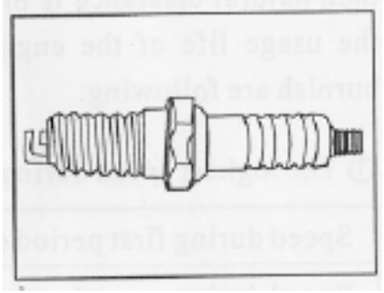
1. Inspecting the spark plug:

- Disassemble the spark plug and keep it connected to the coil.

- Hold the spark plug while in the coil so that it touches the metal frame of the vehicle.

-Turn the ignition switch to the “ON” position and push the start button. If the ignition system is functioning correctly, you will notice a spark arcing from the plug to the frame. If there is no spark, replace the plug.

**** If a new spark plug is needed please use spark plug # CR7HSA****



Warning:

DO NOT inspect the spark plug around the cylinder cover, because the spark being produced may ignite the flammable gases in the cylinder.

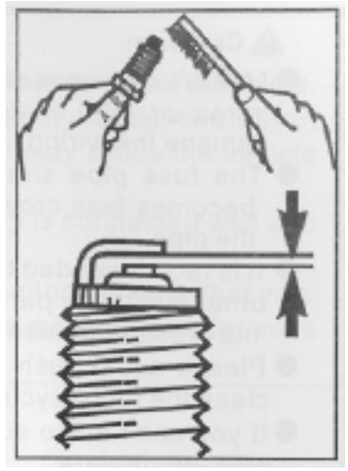
In order to reduce the possibility of being shocked, make certain that you touch the tip of the spark plug to a location on the frame that is not painted, where the metal is exposed.

Warning:
People with heart conditions (or with a pace maker) should not perform this inspection.

2. Cleaning the spark plug:

- Carbon deposit or an oversized clearance in the plug will lead to a malfunctioning ignition. Use a spark plug cleaner to clean the carbon deposits.

- Make sure that the pole clearance of the plug is 0.7 mm.



Caution:

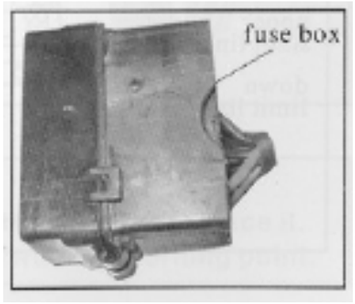
- Tightening the plug excessively may cause damage to the thread of the cylinder cover.
- Please avoid impurities entering the engine through the plughole while disassembling the plug.

(2) Inspecting and Replacing of Fuse

Turn off the ignition switch before inspecting if the fuse is blown. Make sure that the all power to the vehicle is cut before inspecting the fuse pipe. To inspect the fuse, unscrew and remove the small door that houses the battery. Next, locate the fuse that is connected to the positive side of the battery and open the small plastic case that contains it. Inspect

the fuse and make sure that it is not burnt or broken in the center. If the fuse is burnt or broken in the center the fuse has blown and needs to be replaced.

If the fuse needs to be replaced, please use the specified fuse (15A). Remove the two screws on the cover of the battery, and open the cover. Open the fuse box and take out the fuse and replace if necessary.



Fuse specs: 15A

(3) Cleaning the Air Filter

Please periodically clean the air filter. If it is clogged, the intake resistance will increase and output power will decrease causing an increase in fuel consumption.

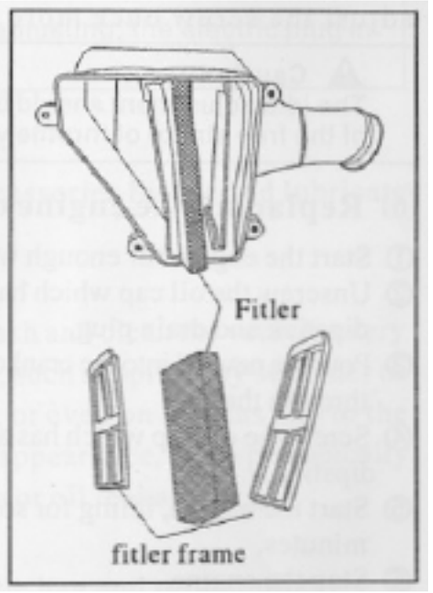
1. Unscrew the three bolts to remove the air box cover (which is located to the left of the exhaust in front of the carburetor).

2. Remove the air box cover.

3. Pull out the bracket that contains the air filter than detach the air filter from the bracket by unscrewing the center nut and bolt.

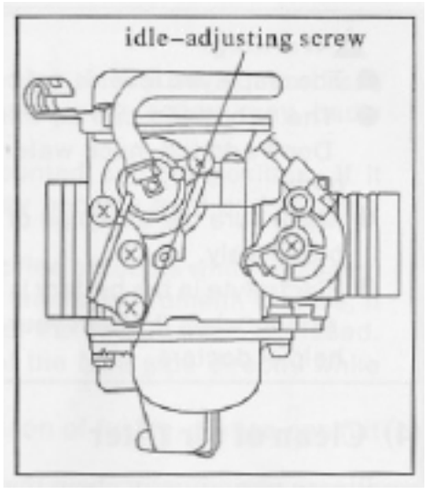
4. To clean the filter, immerse the filter into soap and water and compress it with your hands to wash.

5. Once the filter is completely dry, immerse it in oil. After saturation, take it out and extrude oil.



Caution:

- If the strainer is damaged or too dirty replace it.
- Do not wash it with gasoline or other liquids with low combustion temperatures.



(4) Idling Adjustment

1. Start the engine and let it warm-up.
2. Adjust the idle screw on the carburetor to make the rotation speed 1400 +/- 100 r/min. Turn the screw clockwise to increase the idle speed, and counter-clockwise to decrease the idle speed.
3. Twist the throttle several times to see if the idle speed changes. If the idle speed is not steady, adjust the screw once more to a steady position.

Caution:

- The idle adjustment should be taken out before you adjust the free stroke of throttle valve wire.

(5) Replacing the Engine Oil

1. Start the engine and let it warm-up.
2. Unscrew the oil cap with attached dipstick and then remove the drain plug to allow the oil to exit the engine.
3. Re-apply the drain plug and pour the new oil into the crankcase through the dip-stick opening.
4. Screw the oil cap with attached dipstick back on.
5. Start the engine, and let it idle for a few minutes.
6. Stop the engine.
7. Make sure the vehicle is on level ground and then check to make sure that the oil reaches the upper limit line on the dipstick.

Attention:
The recommended oil is SD 10W/30. You may use other oil viscosities at your discretion but DO NOT mix the two viscosities of oil together.

(6) Lubricating the Rocker.

- If the rocker (tilting mechanism) squeaks, refill the rocker with grease by attaching the grease gun to the Zerk fitting located at the top of the rocker and slowly refill.

(7) Cleaning the Vehicle

- The vehicle should be cleaned every time it comes in contact with salt water, or heavy dust / dirt.

1. Preparation for cleaning
- Wrap the exhaust pipe with a plastic bag or similar covering (make sure that the exhaust pipe is not hot before doing so).
- Wrap the brake, handlebar, and the control switches on the handlebar with plastic bags.
- Cover the ignition (key hole) with adhesive tape.
- Block the entrance of the air-filter with plastic, cloth, or adhesive tape.

2. Do not spray the following parts directly with water.
- Instruments
- Front brake
- Rear hub
- Spark plug
- Engine
- Front hub
- Front fork bearing
- Bottom of the fuel tank

3. When finished washing
- Take the plastic, cloth, and/or adhesive tape off.
- Clean the entrance of the air filter.
- Lubricate the axles, nuts and bolts.
- Start the engine and allow it to idle for a few minutes.
- Check the brakes before driving the vehicle.

 Danger:
- Do not lubricate the brake disc by waxing it or oiling it as this may cause you to lose control of the brakes causing an accident.
- Use cleansers that do not contain oil to clean the brakes. Cleansers without oil include trichloroethylene or acetone.
- Do not spray the brakes with high-pressure water when washing the vehicle.

(8) Long-term Storage of the Vehicle

1. Storing of the vehicle
When storing the vehicle for longer than a month, especially in winter, it is recommended that you perform the following steps to protect the longevity of your vehicle.

- Clean the vehicle before storing.
-Start the engine and let it run for 5 minutes, then turn off the vehicle and empty all of the oil in the engine.

 Caution: Engine oil is poisonous, and must be dealt with carefully and properly disposed of.

- Refill new oil into the engine.
- Empty all of the fuel from the fuel tank; unscrew the fuel drain plug at the bottom of the carburetor to drain the left over fuel in the carburetor.
- Remove the empty fuel tank; add in about 250 ml of oil. Shake the tank several times for the oil to coat fuel tank evenly from the inside and then pour the left over oil out. Or you may spray the inside of the tank with anti-corrosion spray. When finished, put the cap back on.

- Take the spark plug out and spray the inside cylinder with fogging oil, through the spark plug hole. Press the startup button several times to get the oil to cover the inner surface of the cylinder wall evenly. Then screw the spark plug back in.
- Inflate the tires to the rated pressure. Lay some pads under the tires in order to keep the tires from touching the ground directly.
- Spray oil on unpainted metal parts to prevent them from rusting. Make sure that the brakes and the plastic accessories don't come in contact with the oil.
-Wrap a thin film around the exhaust muffler in order to prevent water and fog from entering the exhaust pipe.
- Cover the vehicle with cloth or a well-ventilated material and store the vehicle in a place where the temperature doesn't fluctuate often.

2. Driving the vehicle after a long storage period.

- Take the cover and the thin film off the vehicle and clean the vehicle.
- Check the battery voltage. If the voltage is below 10.8v charge the battery.
- Check whether the spark plug is tight; tighten if loose.
-Rinse the inside of the fuel tank with fuel then empty all of the fuel from the tank before refilling.
-Check the vehicle according to the "Pre-check of the vehicle" section.
-Lubricate the bearings.
-Perform a test drive in a safe place to check whether the vehicle is in good working condition.

Troubleshooting Chart

Malfunctioning Parts	Symptoms of Malfunction	Causes	Troubleshooting
Driving gear / clutch / driven gear / kick starter	Vehicle doesn't move after start up	1. CVT belt worn or broken 2. Variator plate broken 3. Clutch bushing worn or broken 4. Clutch spring worn or broken	1. Replace belt 2. Replace variator plate 3. Replace bushing 4. Replace spring
	Engine stops, or runs slowly	Clutch spring is broken	Replace spring
	Doesn't sustain high speeds or is underpowered	1. Driving belt worn 2. Worn clutch spring 3. Clutch roller is worn 4. Variator surface is dirty	1. Replace belt 2. Replace spring 3. Replace roller 4. Clean the surface of the variator
Reduction gear	Vehicle doesn't move after starting	1. Transmission gears are broken 2. Transmission is locked	1. Replace transmission gears 2.Check and repair transmission
	Abnormal noise	1. Gear worn, blocked or cracked 2. Bearing worn or broken	1. Replace gear 2. Replace bearing
	Oil leakage	1. Too much oil 2. Oil seal abraded 3. Crank case cracked	1. Discharge overfilled oil 2. Replace oil seal 3. Replace crank case
Flywheel / starter	Engine wont start	1. Flywheel teeth are broken 2. Idle gear of the starter is broken 3. Blown fuse in the starter system	1. Replace or check and repair flywheel 2. Replace idle gear 3. Check and fix
		4. Bad Battery 5. Bad connection of cables at the binding post of the battery 6. Bad connection of ground cable	4. Recharge or replace 5. Reconnect 6. Reconnect

Malfunctioning Parts	Symptoms of Malfunction	Causes	Troubleshooting
Electric starter	Engine runs, vehicle doesn't move	1. Motor kick back, incorrect setting of crank shaft 2. Malfunction of the clutch 3. Drive gear or idle gear is damaged	1. Resetting reconnecting 2. Check and repair 3. Replace the drive gear or idle gear
Front wheel / suspension system / steering	Hard to steer	1. Riser bearing / retainer broken 2. Riser bearing improperly adjusted 3. Tires underinflated 4. Tires are leaking air	1. Replace 2. Adjust 3. Inflate 4. Fix the tire
	Leans to one side when driving	1. Front fork bent 2. Front axis bent 3. Front and rear wheel are not aligned 4. Malfunction in bearing of wheels 5. Rear tire pressures are uneven	1. Replace 2. Replace 3. Align 4. Check and fix 5. Inflate tires to the same psi
	Front wheel wobbles	1. Rim bent 2. Bearing worn 3. Tire pressure leaking	1. Replace 2. Replace 3. Fix tire, inflate
	Front wheel does not rotate freely	1. Malfunction of tire bearing 2. Malfunction of speed meter gear 3. Improper adjustment of the brake caliper	1. Check and replace 2. Check and replace 3. Adjust
Rear wheel / suspension / brake system	Rear wheels wobble	1. Rim is bent 2. Axle is loose 3. Tires under inflated	1. Fix or replace 2. Tighten 3. Inflate tires
	Suspension system too "soft"	1. Shock absorber is weak 2. Shock absorber is leaking oil	1. Replace spring 2. Replace oil seal

Malfunctioning Parts	Symptoms of Malfunction	Causes	Troubleshooting
Ignition system	Weak spark or no spark	1. Carbon buildup or dirt on the spark plug 2. Incorrect spark plug clearance 3. Abrasion of the spark plug's insulating parts, or short circuit between electrodes 4. Ignition coil broken or short circuiting 5. Malfunction of controller of digital ignition (CDI) 6. Malfunction of discharge impulse oscillator 7. Lead of ignition system loose or not connected.	1. Clear away carbon buildup or dirt on the spark plug 2. Adjust spark plug clearance to 0.6-0.7mm 3. Replace spark plug 4. Replace spark wire 5. Replace CDI 6. Replace discharge impulse oscillator 7. Connect all leads
	Engine misfires	1. Wet spark plug, carburetor flooded, throttle valve is too open, and air filter is dirty. 2. Spark plug blocked by dirt.	1. Discharge carburetor, adjust the throttle valve, and properly clean the air filter 2. Clear away the dirt
Cylinder cover / valve	Low pressure, hard to start, or running bad at low speeds	1. Cylinder cover is leaking, or sealing gasket is broken, cylinder cover is bent or distorted 2. Incorrect valve clearance, valve burnt or distorted, incorrect valve timing, valve spring broken or damaged.	1. Replace gasket. Replace cylinder cover 2. Adjust the valve clearance / output: 0.14mm, replace valve, adjust valve timing chain, and replace valve spring.

Malfunctioning Parts	Symptoms of Malfunction	Causes	Troubleshooting
Cylinder cover / valve	High Pressure / overheating	Too much carbon deposited on the piston crown or cylinder cover	Clear away carbon build up.
	Loud Noise	1. Incorrect valve clearance 2. Valve burnt or valve spring is broken 3. Cam chain loose or worn 4. Tensioner worn or broken 5. Cam timing chain gear worn 6. Rocker / axis worn 7. Cylinder / piston worn	1. Adjust the valve clearance 2. Replace valve spring 3. Adjust tensioner or replace chain 4. Replace tensioner 5. Replace the cam timing chain 6. Replace rocker / axis 7. Repair cylinder / piston
Crankshaft / crankcase	Loud Noise	1. Piston pin hole and piston pin worn 2. Connecting rod ends worn 3. Connecting rod bent 4. Bearing of crankshaft worn 5. Lacking oil in running parts of the engine 6. Camshaft / axle box worn	1. Replace piston and pin 2. Replace bearing 3. Replace crank connecting rod assembly 4. Replace bearing 5. Add oil 6. Replace camshaft / bearing
	Temporarily underpowered	1. Bad spark plug 2. Engine overheating	1. Replace spark plug 2. Cool the engine; don't run the engine for a long time at high speeds.
	Frequently underpowered	1. Fuel system is bloked 2. Improper fuel-air ratio 3. Carbon deposit on cylinder and exhaust pipe 4. Piston (ring) / cylinder worn	1. Unblock the fuel pipe 2. Adjust the ratio 3. Clear away the carbon deposit 4. Replace cylinder, and replace piston (ring)

Malfunctioning Parts	Symptoms of Malfunction	Causes	Troubleshooting
Fuel supplying system	Engine won't start	1. Fuel cant reach the carburetor * fuel tank vent is blocked * fuel valve is blocked * fuel filter is blocked * fuel pipe is blocked * vacuum tube is blocked 2. Fuel is dirty or deteriorated 3. Rich fuel in engine *air filter is blocked *carburetor flooded with fuel *air intake is leaking	1. Clean the blocked or jammed parts 2. Change fuel 3. Increase the air; clean the filter element, discharge the fuel and airproof the air input pipe
	Bad idle speed, hard to start, blowing during the speedup after starting	1. Carburetor is blocked 2. Incorrect fuel to air ratio 3. Throttle abrasion 4. Fuel is dirty or deteriorated	1. Clean the carburetor 2. Adjust fuel-air ratio bolt 3. Replace throttle 4. Clean fuel tank and refill fuel
Piston / cylinder	Low pressure or unstable pressure	Cylinder or piston ware	Replace cylinder or piston
	Cylinder cover or body overheating	Carbon deposit buildup on piston or combustion chamber	Clean off the carbon build up
	Muffler is smoking	1. Cylinder, piston or piston ring is worn 2. Incorrect piston ring setting 3. Piston or cylinder wall is scraped or worn 4. Valve stem or valve pipe is worn	1. Replace cylinder, piston or piston ring 2. Reset the piston 3. Replace piston or cylinder 4. Replace valve stem or valve pipe

Malfunctioning Parts	Symptoms of Malfunction	Causes	Troubleshooting
Rear wheel / suspension / brake system	Suspension system too "hard"	Damping rod bent or broken	Replace damping rod
	Suspension noise	1. malfunction of shock absorber 2. retainer is loose	1. Check and fix 2. Tighten
	Bad brakes	1. Improper adjustment of brake shoes 2. Brake shoes worn or dirty 3. Brake drum worn or dirty 4. Brake cam worn 5. Incorrect setting of brake shoes 6. Brake rod is getting stuck 7. The contact area of brake shoe and cam is worn 8. Brake arm and brake cam are rubbing	1. Adjust 2. Replace / clean 3. Replace / clean 4. Replace 5. Reset 6. Lubricate 7. Replace 8. Adjust or replace
Exhaust system	Loud exhaust noise	1. Muffler is broken 2. Muffler is perforated 3. Gasket is burnt, worn, or missing	1. Replace 2. Check and fix 3. Replace Gasket
	Exhaust malfunctioning	1. Muffler is perforated 2. Muffler is blocked	1. Check and fix 2. Clean or replace
Lights / instruments	Vehicle is running but the lights are still off	1. Bulb is burnt 2. Lead is disconnected 3. Lead is connected incorrectly	Check and repair
	Accelerator grip is malfunctioning	1. Accelerator wire is broken or frayed	1. Replace

Lubrication Timetable

Parts	At the beginning and every 3500Ml or every 6 months	Every 7500Ml or every 12 months
Throttle wire	Oil	-
Throttle control handlebar	-	Grease
Brake wire	Oil	-
Speedometer cable	-	Grease
Speedometer wheel gear	-	Grease
Brake caliper	Oil or Grease	-
Brake camshaft	-	Grease
Steering bearing	Every 1200ML or 2 years	

Regular Inspection Timetable

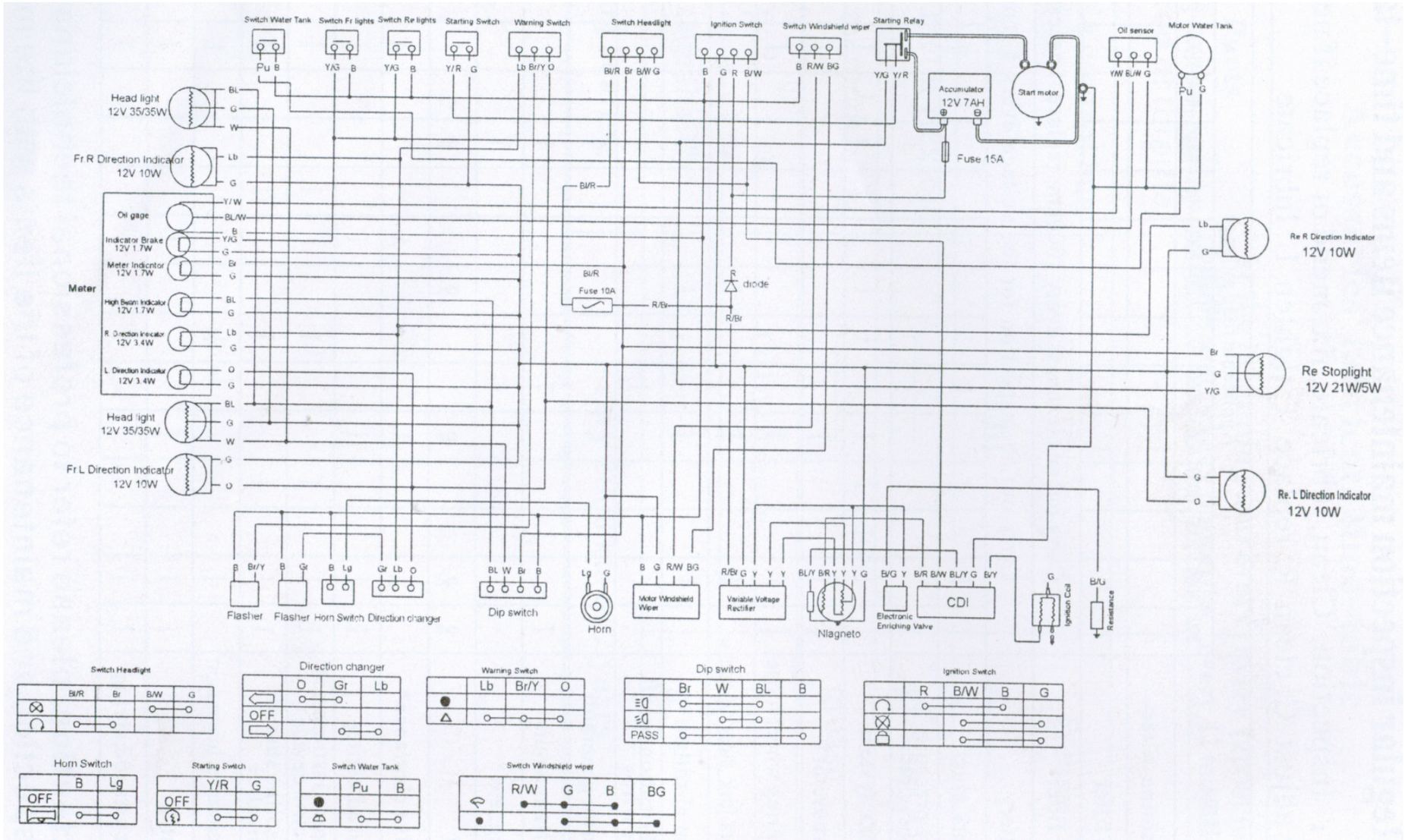
Clean lubricate, fix, mend or replace if necessary

I = inspect, A = adjust, C = clean, R = replace, T = tighten, L = lubricate

	Applicable Road Mileage													
	300	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000	9,000	10,000	11,000	12,000	daily drive check
Gasoline filter	I					C					R			
Oil filter	C	C				C								
Spark plug	I	R		I		R			I				R	
Tire pressure & ware						I					I			
Braking system		I	I	I	I	I	I	I	I	I	I	I	I	I
Carburetor*	A	I			I				I				I	I
Steering wheel loose	I	I			I				I				I	
Front fork, steering device		I			I			I			I			
Rear shock absorber		I			I			I			I			
Lubrication of wires						I					I			
Starter											I			
Nuts and bolts	T					T					T			
Magneto						I					I			
Oil	R	R			R			R			R			I
Valve clearance	A		A				A			A			A	
Idle adjusting	I	I			I				I				I	
Lights / instruments / electric devices	I	I		I			I			I			I	I
Gasoline shut off & pipe	I	I		I			I			I			I	
Accessory lubrication		I					L						L	
Clutch	I	I			I				I				I	
CVT Belt	I			I		R		I		R				
Air Filter	Remove and clean every 600MI; replace if necessary													
Battery	Remove and inspect the battery every 6 months													

Wiring Diagram

(Click Here to Enlarge)



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