

MPX-90

90S-7A OWNER'S MANUAL

This manual should be considered a permanent part of the vehicle and should remain with the vehicle when resold or otherwise transferred to a new owner or operator. The manual contains important safety information and instructions which should be read carefully before operating the vehicle. Please care for this model 90S-7A as described in this owner's manual. On the basis of the model 90S-7, the model 90S-7A is equipped with front & rear rack, meter, ignition switch and transducer.

The user who purchases this model 90S-7 can refer to this manual to use.

FOREWORD

This manual is an essential part of your vehicle. Please read it carefully. It contains important information on safety, operation and maintenance. It is especially important that this manual remain with the vehicle at the time of resale. The next owner will need this information also.

Your 90S-7A is built for use by children, but this owner's manual is written for the adults who will be supervising the children. The manufacturer strongly recommends, therefore, that you review this entire manual with your child and carefully explain the instructions, requirements, and warnings it contains so that your child can understand them.

IMPORTANT

▲ WARNING / ▲ CAUTION / ▲ NOTE

Please read this manual and follow its instructions carefully. To emphasize special information.

The word **▲ WARNING**, **▲ CAUTION** and **▲ NOTE** have special meanings. Information following these signal words should be carefully reviewed.

▲ WARNING

The personal safety of the rider or bystanders may be involved. Disregarding this information could result in personal injury.

▲ CAUTION

These instructions point out special service procedures or precautions that must be followed to avoid damaging the machine.

▲ NOTE

This provides special information to make maintenance easier or important instructions clearer.

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IMPORTANT NOTICE TO PARENTS

▲ WARNING

- Even though the 90S-7A has four wheels, it can tip over in any direction. Improper turning on hills can lead to the vehicle tipping over. Learn riding techniques and avoid riding situations which can lead to rollover accidents.
- The 90S-7A and other all terrain vehicles(ATVs) have unique handling characteristics. ATVs handle differently than motorcycles. Although ATVs have four wheels, they handle differently than automobiles too. ATVs require special riding techniques suited to their handling characteristics, so be sure that all riders of the 90S-7A practice and master the riding techniques described in this owner's manual

▲ WARNING

Proper parental supervision and instruction are necessary for safe and proper operation of this 90S-7A by young riders.

It is important that both you and your child understand and observe the restrictions listed on the rear fender label of the 90S-7A. Read this owner's manual carefully and review it's contents fully with your child. It is your responsibility to make sure that your 90S-7A is properly and safely ridden and maintained.

▲ WARNING

You must take special precautions to reduce the chance of accidents and injuries resulting from operation of this vehicle. Some of the important safety precautions you should take are:

- Supervise operation of the 90S-7A at all times. Constant supervision is necessary so you can observe that the operator is riding safely.
- Never permit children under age 8 to operate the 90S-7A. These children, as well as some children age 8 and older, may not be able to operate this vehicle safely due to physical or mental limitations. Parents should carefully observe their child's first use of the vehicle. Further use should be permitted only if the parent can determine that the child has the physical and mental capabilities necessary to operate the vehicle safely.
- Before the first use of the 90S-7A, read this owner's manual carefully to become familiar the 90S-7A's features, and safety and maintenance requirements. Review all instructions, requirements and warnings with the riders. Keep the owner's manual in the owner's manual storage compartment located under the seat.

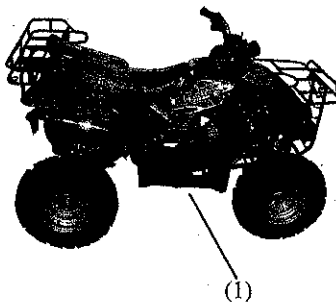
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- Before the rider's first use of the 90S-7A, make sure that he/she is familiar with the location and operation of all controls, and has been instructed in the proper operation of the vehicle.
- For first use of the 90S-7A, find a level, open area for the rider to become familiar with the operation of controls and the operation and handling characteristics of the 90S-7A.
- Before each use, perform daily inspections with the rider. Specific items to check are listed in the INSPECTION BEFORE RIDING section on page 16 of this owner's manual.
- Make sure the rider wears a helmet, eye protection and protective clothing (gloves, leather or heavy cloth pants, long sleeved shirt or jacket and boots).
- Beware of hazardous situations. Instruct the rider to do likewise.
- Do not permit the 90S-7A to be used on public roads AT ANY TIME. This vehicle is designed and manufactured for use only off public roads. It is not subject to Federal Motor Vehicle Safety Standards as it is not equipped or approved for operation on public streets, roads or highways at any time.
- Do not permit the 90S-7A to be operated on any paved surfaces. The vehicle can be more difficult to control when it is operated on pavement.
- Permit use only by a single rider. This vehicle is designed for use only by a single rider. Extra seat space is provided so the rider can change his/her body position to maneuver the vehicle. This space should never be used to carry a passenger.
- Do not permit anyone to operate the 90S-7A while under the influence of alcohol or other drugs.
- Make sure the combined weight of the rider, protective gear and any accessories or cargo does not exceed the 35kg weight limit. Exceeding this weight limit may result in injury or damage to the vehicle or altered handling characteristics.
- Observe periodic maintenance requirements. Your authorized ATV dealer is trained and equipped to perform this service.
- Never permit vehicle refueling by anyone other than an adult.
- Drain gasoline from the fuel tank and carburetor prior to transporting the 90S-7A.
- Caution the rider and others near the 90S-7A. Modifications may make the vehicle unsafe and illegal in your state.
- The manufacturer advises that the 90S-7A not be ridden at night. Though this vehicle is equipped with a headlight, unseen obstacles could cause an accident resulting in injury to the rider.

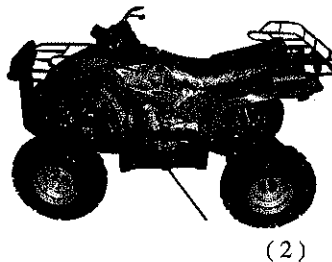
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SERIAL NUMBER LOCATION

The frame and/or engine serial numbers are used to title the vehicle. They are used to assist your dealer when ordering parts or referring to special service information.

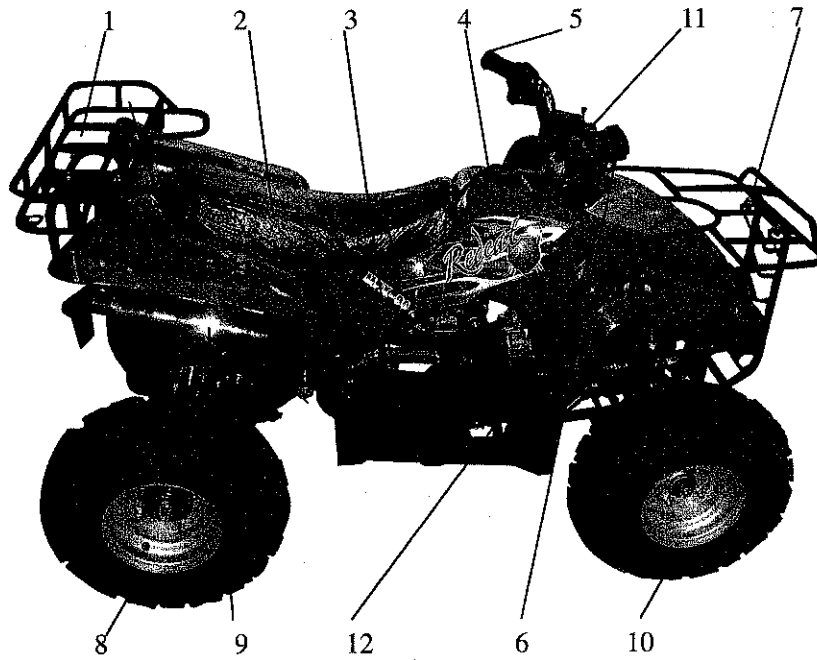


The frame number (1) is stamped on the front frame shown in the photograph.



The engine serial number (2) is stamped on the left side of the crankcase assembly.

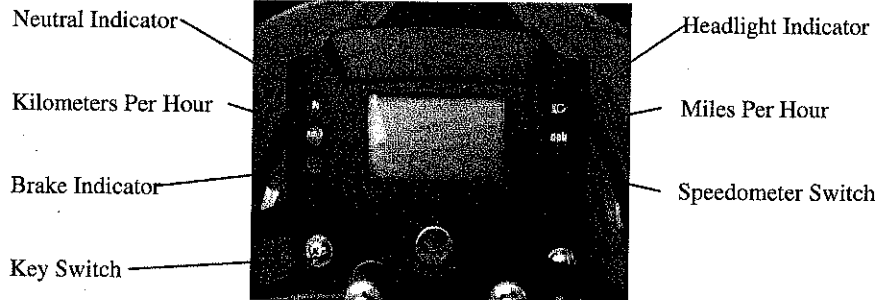
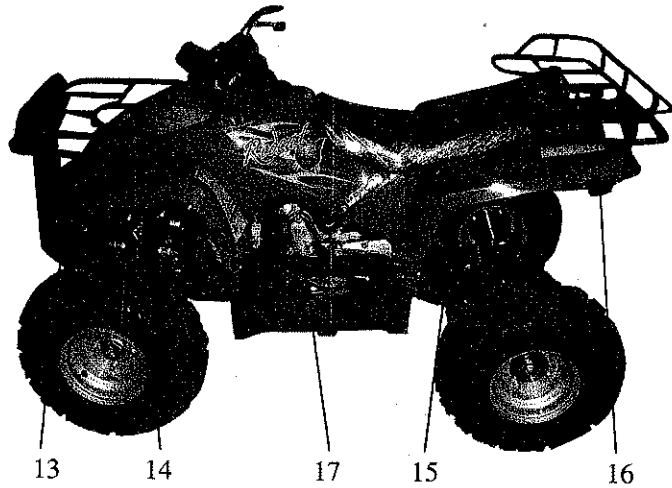
LOCATION OF PARTS



- | | | |
|--|--|---|
| <ul style="list-style-type: none"> 1. Rear Rack 4. Fuel Tank 7. Front Rack 10. Front Wheel | <ul style="list-style-type: none"> 2. Seat 5. Handle Bar Control, LH 8. Rear Wheel 11. Speedometer | <ul style="list-style-type: none"> 3. Footrest 6. Handle Bar Control, RH 9. Muffler 12. Brake Pedal |
|--|--|---|

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- 13. Headlight
- 14. Front Shock
- 15. Rear Shock
- 16. Taillight
- 17. Gear Shifter



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Neutral Indicator: Illuminates when ATV is in neutral.

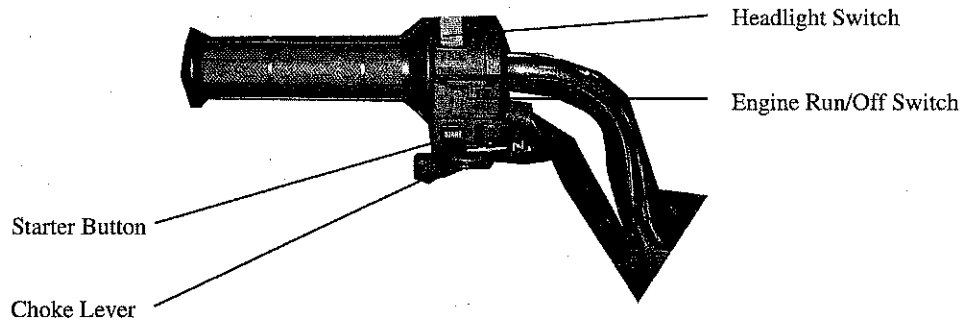
Headlight Indicator: Illuminates when headlights are on.

Brake Indicator: Illuminates when rear brakes are applied.

Kilometers Per Hour: When illuminated, speedometer is reading in kilometers per hour.

Miles Per Hour: When illuminated, speedometer is reading in miles per hour.

Speedometer Switch: This switch changes the speedometer from reading in kilometers per hour to miles per hour.



Starter Button: Press this button to start the engine.

Engine Run/Off Switch: Push to the left to enable the engine to run, push to the right to switch the engine off.

Headlight Switch: Push forward to turn headlights and taillight on.

Choke Lever: When the engine is cold, move this lever to the 'ON' position (to the left). When the engine warms up, move the lever to the 'OFF' position (to the right).

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FUEL VALVE

Valve Adjustment

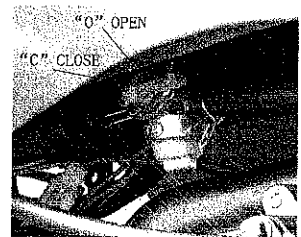
This vehicle is equipped with a manually operated fuel valve. There are two positions: 'C' and 'O'.

'C': Closed position.

The normal position for the fuel valve lever is the 'C' position. In this position, fuel will not flow to the carburetor.

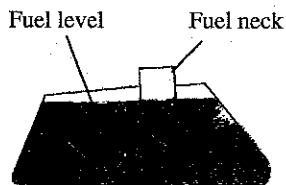
'O': Open position.

In this position, fuel will flow directly to the carburetor. Even when the engine is not running or being started.



FUEL TANK CAP

To open the fuel tank cap, remove the end of the vent tube from the hole in the vehicle body and turn the fuel tank cap counterclockwise. To close the fuel tank cap, turn it clockwise and tighten it securely. Be sure that the end of the vent tube is reinstalled in the hole in the vehicle body and routed properly.



▲ WARNING

Do not overfill the fuel tank. Stop adding fuel when the fuel level reaches the bottom of the filler neck as shown in the illustration. If you fill the tank beyond this level, fuel may overflow when it expands due to engine heat or heating by the sun.

▲ WARNING

The throttle limiter should always be set to the low power position (as described on page 10) when the engine stop lanyard is used. Only children with enough skill for safe operation of the ATV without parental use of the lanyard should be permitted to operate 90S-7A with the throttle limiter set to the maximum power position. In addition, an adult trying to follow a moving 90S-7A with the throttle limiter set to the maximum power

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position may run into the rider if the ATV stops, or may trip and fall down trying to keep up with the vehicle.

Instruction For Engine Stop Switch Lanyard Storage

The lanyard may be stored on the 90S-7A when in the judgment of the parents, the rider has developed sufficient skills to be able to safely operate the vehicle without parental use of the lanyard.

For storage of the lanyard, follow the instructions below:



1. Place the vinyl bag provided with the vehicle with the rubber cap visible at the bag opening.
2. Hook the bag on the frame as shown and fit the rubber cap snugly over the engine stop switch body.

NOTE: With the rubber cap off the switch, the engine cannot be started because the ignition circuit is not complete.

▲ WARNING

Avoid leaving any part of the lanyard visible outside the bag as it can be caught and damaged by moving parts.

▲ WARNING

To prevent unauthorized starting or unsupervised operation of the 90S-7A remove the stop switch cap and lanyard after each use and store them in a safe place, out of the reach of children.

BREAK-IN (RUNNING-IN)

The first 1 month is the most important in the life of your vehicle. Proper operation during this break-in period will help ensure maximum life and performance from your new vehicle. The following guidelines explain proper break-in procedures.

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MAXIMUM THROTTLE OPENING RECOMMENDATION

During the first 10 hours of vehicle operation, the maximum throttle opening you should use is 1/2 throttle.

VARY THE ENGING SPEED

The engine speed should be varied during the break in period. This allows the parts to be "loaded" (aiding the mating process) and then "unloaded" (allowing the parts to cool). Although it is essential that some stress be placed on the engine components during break in. You must be careful not to excessively load the engine.

AVOID CONSTANT LOW SPEED

Operating the engine at constant low speed (light load) can cause parts to glaze and not seat properly. Allow the engine to accelerate freely through the gears. Without exceeding the maximum recommended throttle opening.

OBSERVE YOUR INITIAL AND MOST CRITICAL SERVICE

The initial service (break-in maintenance) is the most important service your vehicle will receive. During break in operation, all of the engine components will have mated together and seated. Maintenance required as part of the initial service includes: correction of all adjustments, tightening of all fasteners and replacing the oil. Timely performance of this service will ensure optimum service life and performance from the engine.

▲ WARNING

The initial service (after 1 month of vehicle operation) should be performed as outlined in the INSPECTION AND MAINTENANCE section of this Owner's Manual. Pay particular attention to the information contained in the CAUTION and WARNING section when performing this maintenance.

INSPECTION BEFORE RIDING

▲ WARNING

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Failure to perform an inspection before riding may result in an accident or serious damage to the vehicle. Check these items before each ride. Be sure your 90S-7A is in good condition for the personal safety of the rider and protection of the vehicle.

▲ WARNING

All of the items below should be checked with the engine off, except the functional check of the engine stop switch. Make sure your child doesn't get too close when you check the fuel level and drive chain, or he/she might be injured.

WHAT TO CHECK	CHECK FOR:
Steering	• No rattle or looseness
Brakes	• Proper lever play • No "sponginess" • Parking brake effectiveness
Tires	• Proper pressure • Enough tread depth • No cracks, rips, or other damage
Fuel	• Enough fuel for the intended run • Fuel hose connected securely • No damage to fuel tank or cap • Tank cap closed securely
Engine stop switch	• Proper operation
Engine oil	• Proper level

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owners manual.

STARTING THE ENGINE

Before attempting to start the engine, make sure:

1. The parking brake is engaged.
2. The engine stop switch is in the "RUN" position.
3. Verify that the remote engine stop switch cap is in place.
4. The fuel valve is in the "O" position.

Please press the starting button and start the engine. While the engine is warming up, please move the choke lever to the closed position. If the engine can not be started normally, please release the starting button after 5 seconds. After several seconds, please try it again. Do not press the starting button beyond 5 seconds or the starter will be damaged.

▲ WARNING

Make sure that the choke lever can return smoothly

▲ WARNING

Release the throttle immediately after the engine has started.

▲ WARNING

Do not run the engine indoors or where there is little or no ventilation. Exhaust gasses contain carbon monoxide, a potentially lethal gas.

Never leave the vehicle running while unattended, even for a short time.

Transmission oil	• Proper level
Throttle	• Proper cable level • Smooth response • Quick return to idle position
Drivetrain condition	• Adequate lubrication
General condition	• Bolts and nuts are tight • No rattle from any part of the machine with the engine running • No visible evidence of damage
Rear engine stop switch (if used)	• Proper operation • No damage to rubber cap • Secure attachment of lanyard to cap

RIDING TIPS

DO NOT START THE 90S-7A OR ALLOW YOUR CHILD TO RIDE YET.

Finish reading this "Riding Tips" section and then the "Instructing The Young Rider" section before starting the 90S-7A or beginning riding instructions. This "Riding Tips" section contains important operating information you will need to know before you go to the "Instructing The Young Rider" section. The "Instructing The Young Rider" section will guide you in teaching young riders how to operate and ride the (90S-7A) using the information you learn in this

STARTING OFF

After the engine has warmed up. Disengage the parking brake. To release the parking brake, simply squeeze the brake lever until the lock pin disengages.

▲ WARNING

Before releasing the parking brake, make sure:

• The choke lever has been returned to the fully OFF position.

• The throttle is fully closed.

• The rider is completely ready to ride.

If you do not observe these precautions, the vehicle can move forward unexpectedly when the parking brake is released. This condition may result in an accident and injury.

Open the throttle gradually to move forward.

▲ WARNING

While operating the 90S-7A the rider should keep both feet on the footrests at all times, or injuries resulting from accidents such as the rear wheels running over the rider's feet could occur. There is no need for the rider to move his/her feet from the footrests during operation or maneuvering of the vehicle. Moving the rider's feet from the footrests reduces the rider's ability to control the vehicle, and could lead to an accident.

▲ WARNING

Keep both hands on the handgrips at all times when riding. Removing your hands from the handgrips reduces your ability to control the vehicle,

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and could result in an accident.

▲ WARNING

Always open the throttle gradually to prevent the front wheels from lifting. Failure to observe this precaution may result in loss of control and an accident.

To stop the 90S-7A release the throttle lever and apply the brake.

▲ WARNING

Avoid braking during turns. Use of the brake when turning could cause the 90S-7A to slide or roll over. Use the brake to slow down before entering turns. Apply the brake lightly and with great care on slippery surfaces to avoid skidding.

▲ WARNING

Never operate the parking brake lock when the 90S-7A is moving. The rear wheels will lock, and an accident could result.

TURING

To turn the 90S-7A the rider must learn a special technique. Because this vehicle has a solid rear axle, both rear wheels always turn at the same speed. This means that if the rear wheels are getting equal traction, the vehicle will move straight ahead, because the rear wheels will travel the same distance. For the vehicle to turn, the outside rear wheel must travel a greater distance than the inside rear wheel. Even though both wheels are still turning at the same speed.

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wheel traction by reducing the throttle opening and leaning you body weight slightly forward.

Rear Wheel:

If rear wheel skidding occurs, steer in the direction of the skid (if space permits), shift body weight away from the skid slightly, and avoid using the throttle or brakes until you regain directional control of the vehicle.

▲ WARNING

Skidding or sliding can result in accidents caused by loss of rider control. To avoid inadvertent skidding or sliding, the rider should slow down and be very cautious when riding on slippery or loose surfaces.

OPERATION ON HILLS

Riders who have become experienced at operating the 90S-7A on level surfaces may wish to try riding on a wider variety of terrains. The 90S-7A may be operated on small hills with even surfaces, but extreme care should be taken.

▲ WARNING

When the 90S-7A is operated on hills, it can roll over more easily than when it is operated on level ground, under certain conditions. Only children who are capable of the 90S-7A on level ground should be permitted to operate the vehicle on hills.

CLIMBING A HILL

To climb a small hill with the 90S-7A the rider

To turn the 90S-7A the rider should use the following technique:

- Turn the handlebars in the direction of the turn.
- Shift body weight slightly forward and support your weight on the outer footrest. This will reduce the load on the inside rear wheel, reducing its traction.
- Lean upper body into the turn.

AT HIGHER SPEEDS:

Use the same technique that you use for turning at low speeds, but lean farther into the turn. Since natural turning forces (which tend to push the vehicle to the outside of the turn) increase as speed increases, you must lean you upper body farther into the turn as you go faster. Remember, though, to keep you weight supported on the outer footrest.

▲ WARNING

If the rider does not use the proper technique to turn the 90S-7A, it may plow straight ahead even though the front wheels are turned. Keep the rider in a wide open area until he/she has mastered it.

SKIDDING OR SLIDING

If the rider experiences inadvertent skidding or sliding when not braking, he/she may be able to overcome it by using the appropriate technique listed below.

Front wheel:

If front wheel skidding occurs, try to gain front

should:

Speed up and maintain a steady speed before reaching the bottom of the hill.

- Shift body weight forward by sliding forward on the seat. Lean slightly forward.
- Maintain a steady speed while climbing the hill.
- Slow down when reaching the top of the hill.

▲ WARNING

Only permit you child to climb small hills. Do not let him/her attempt to climb a hill unless you are sure that he/she can easily ride to the top of the hill without stopping. It can be dangerous to stop the 90S-7A while climbing a hill, because the vehicle may begin to roll backwards.

▲ WARNING

The rider should never go over the top of the hill at high speed. Once over the top of the hill, he/she could lose control and crash or could collide with an unseen object. If your child is climbing a hill and loses forward momentum, he/she should:

- Lean father forward, uphill.
- Apply the rear brake and stop the vehicle before it starts to roll backwards.
- Set the parking brake and dismount to the right while still leaning uphill.
- Use one of the following procedures to turn the vehicle around:

1. Ask the adult who is supervising to help drag the rear end of the 90S-7A around until the vehicle is

angled downhill. Stay on the uphill side of the vehicle while dragging it around.

2. Turn the handlebars fully to the right. While standing on the uphill side of the vehicle, release the parking brake and pump the hand brake to let the 90S-7A roll slowly backwards. This will turn the vehicle sideways to the hill. Reset the parking brake. Turn the handlebars to the left. Staying on the uphill side, release the parking brake and pump the hand brake to let the ATV roll until it is angled downhill. Reset the parking brake.

- Remount the vehicle, release the parking brake and ride down the hill as instructed in the descending a hill section.

DESCENDING A HILL

To ride down a small hill with the 90S-7A the rider should:

Point the 90S-7A straight downhill.

Transfer body weight to the rear by sliding back on the seat.

Ride down the hill with the throttle closed.

Apply the brake to control downhill speed.

▲ WARNING

Traversing a slope is very tricky and should be avoided when possible. Using improper riding techniques while traversing a slope could cause the 90S-7A to tip over. Do not permit your child to traverse a slope unless you are sure he/she can perform this maneuver safely.

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precaution can result in excessive brake wear.

STOPPING THE ENGINE

Release the throttle. Turn the engine stop switch to the "OFF" position.

PARKING THE VEHICLE

Set the park brake securely as explained in the "STARTING THE ENGINE" section.

▲ WARNING

It takes some time for the engine and muffler to cool off after a long ride. Do not touch these parts until they have had time to cool off, or you may burn yourself.

INSTRUCTING THE YOUNG RIDER

IMPORTANT ADVICE TO THE PARENT:

Your child's safety depends on your commitment to take the time necessary to fully educate him/her on the proper operation of the 90S-7A. Remember that proper instruction before your child begins to ride is just as important as proper instruction and supervision during riding.

Please go through this manual with your child, page by page and fully explain all of the instructions requirements and warnings it contains. Be sure to put as much emphasis on safety precautions as on proper operational techniques. Question your child as you go through the manual to make sure he/she understands

To traverse a slope, the rider should:

- Lean his/her body uphill.

- Steer slightly uphill, if necessary, to maintain a straight course.

RIDING THROUGH WATER

The 90S-7A may be ridden through water provided that it is not more than 15cm(6 in) deep and is not moving fast. When crossing a stream choose a spot where the banks are gently sloped on both sides and the bottom of the stream is hard. Inspect the stream first to find a suitable spot for crossing. Operate the vehicle at a slow steady speed.

▲ WARNING

•Do not attempt to cross a stream with deep or fast flowing water. The tires may lose their traction and you may be unable to control the vehicle. This could result in personal injury.

•After riding through water test the brakes to see if they have remained dry by repeatedly applying the front and rear brake while riding slowly until the brakes have regained their normal effectiveness.

▲ WARNING

After extended operation of the 90S-7A in water bring it to your authorized ATV dealer to have the brakes inspected and cleaned if necessary. Failure to take this

what you are saying.

Following is a step-by-step guide to help make your child's first use of the 90S-7A a safe and enjoyable experience. Before you begin to use this guide however be sure you have reviewed the vehicle features and riding techniques described in earlier parts of this owner's manual. Th manufacturer strongly urges that you use this guide to teach each child that you let ride the 90S-7A.

Be sure to take breaks as the child being instructed gets tired or his/her attention begins to wander. Full attention at all time is needed to safely operate any motorized vehicle, including the 90S-7A.

STEP 1-PROPER CLOTHING AND PROTECTIVE GEAR

The first step to safe riding is proper protection of the rider. Your child should always wear a helmet, eye protection, gloves, long pants, a long sleeved shirt or jacket and boots. Make sure that your child is not wearing any loose fitting clothes. Loose belts, scarves, etc can get caught in moving parts and cause personal injury. Even in hot weather, make sure your child wears long pants and a long sleeved shirt. These not only protect against abrasive injuries but also help to reduce fatigue, which comes from loss of body heat due to the wind.

▲ WARNING

Failure to wear proper clothing and protective

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gear as described above may result in severe personal injury.

STEP 2-FAMILIARIZATION WITH THE VEHICLE

Your child should become completely familiar with the names and functions of all controls. Let the young rider sit the 90S-7A with the engine off and ask him/her to operate specific controls.

Demonstrate operation of the controls if necessary. Ask the child to do such things as, "apply the brakes, turn off the engine, lock the parking brake", etc. Practice this exercise until the child can operate all of the controls without hesitation and without looking at the controls.

Go over the INSPECTION BEFORE RIDING with your child until he/she knows all of the items that should be checked and how they should be checked. Give specific examples of things to look for.

STEP 3-STARTING OFF AND STOPPING

▲ WARNING

For practice choose a large level area away from other riders and free of obstructions. Inspect the area before riding and remove any rocks sticks or other potential hazards. Stay away from ditches and bumps.

To help your child develop confidence, he/she should practice first with the engine off as follows:

1. Have your child sit on the 90S-7A and tell

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and forth between you and another supervisor. Watch closely to make sure the rider:

1. Opens the throttle gently when starting off
2. Releases the throttle and applies the brake in sequence when stopping.
3. Becomes aware of the distance it takes the vehicle to stop when the engine stop switch is turned off while the vehicle is moving. As you approach the end of the practice area, you should again tell the rider to stop the vehicle, apply the parking brake and get off so you can turn it around for him/her. Practice this exercise until your child can start off, accelerate, cruise and stop correctly and with confidence.

STEP 4-TURNING

After your child has learned to ride the 90S-7A in a straight line and can stop it when he/she wants to, you should teach the child how to turn the vehicle. Explain the proper body moments for turning and let your child PRACTICE FIRST WITH THE ENGINE OFF, as you push the vehicle from behind. When turning, watch to make sure your child:

1. Shifts his/her weight slightly forward and supports his/her weight on the outer footrest.
2. Leans his/her upper body into the turn and turns the handlebars in the direction of the turn.

When the rider is able to properly turn the 90S-7A in both directions with the engine off he/she should practice with the vehicle under power. Again make sure that the throttle limiter is adjusted to provide a low

him/her to release the parking brake.

2. Instruct your child to keep his/her eyes straight ahead and slowly push the vehicle from behind if you are physically able to do so. This will allow your child to get feel of riding a moving vehicle.

3. As you push the 90S-7A instruct your child to steer straight ahead and perform operations such as stopping the vehicle, and turning off the engine stop switch while moving. Watch your child closely to make sure he/she is operating the controls correctly and without looking at the controls.

4. As you approach the end of the practice area tell the rider to stop the vehicle, apply the parking brake and get off. You should then drag the rear end of the 90S-7A around so you can push it straight ahead in the opposite direction. Practice with the engine off until your child gets the feel of using the brakes and can stop the vehicle and turn off the engine stop switch without looking at the controls and without looking at the controls, and without hesitation.

▲ WARNING

Before permitting your child to operate the 90S-7A under power, be sure to adjust the throttle limiter to provide a low maximum speed capability. Turning the limiter clockwise reduces the 90S-7A's maximum speed capability.

Next, start the 90S-7A's engine and have your child practice starting off, riding in a straight line, and stopping, with the vehicle under power. Walk along side the 90S-7A if you can, or have the child ride back

maximum speed capability. Watch closely to make sure the rider is using the proper turning technique. The rider should practice turning until he/she can do it correctly and with confidence.

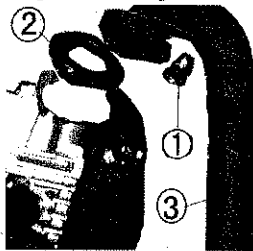
STEP 5-PUTTING IT ALL TOGETHER

When your child has mastered the basic riding maneuvers in the previous steps, he/she should practice putting them all together. Instruct the rider to perform various maneuvers such as turning right, turning left, stopping, parking, etc. Mix up the order of these maneuvers so the child will not know what he/she will be asked to do next. Practice this exercise until you are confident that the rider has mastered all the basic maneuvers.

The above steps will help the first time rider learn the most basic riding techniques. To become a skilled rider, your child will need a great of practice and instruction after these steps have been completed. Be patient with your child; take extra techniques at slow speeds. You can adjust the throttle limiter to provide higher speed capabilities according to the rider's skill and experience.

POWER REDUCTION SYSTEM

The power reduction system consists of a power reduction plate. This part restricts maximum power output of the engine and the top speed of the vehicle.



The power reduction plate, (2), is located inside the exhaust flange as shown in the above illustration. This plate restricts exhaust gas flow reducing the maximum

power output of the engine.

▲ WARNING

Relying only on the power reduction system to provide an appropriate maximum vehicle speed for the young rider is hazardous.

Maximum power output restricted only by the power reduction system may provide a higher vehicle speed than the rider's ability.

Be sure to set the adjustable throttle limiter to limit maximum vehicle speed according to the rider's skill and experience.

▲ WARNING

Removing the power reduction plate before the rider has developed sufficient skills to operate the 90S-7A safely is hazardous.

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and remove the power reduction plate the exhaust flange.

- Put the exhaust pipe back in position and reinstall the nuts, (1). Tighten the nuts and bolt to the torque specifications shown below.

▲ WARNING

Failure to tighten the nuts and bolt to the specified torque can be hazardous. Loose nuts and bolt can result in the exhaust pipe coming off. This could interfere with the rider's control. Be sure to tighten the nuts and bolt to the specified torque. If you are unsure whether you have properly tightened the nuts and bolt, you should have them checked by your authorized dealer.

Tightening Torque

Nut (1)	10N.m 1kg—m 7lb—ft
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▲ WARNING

Failure to adjust the throttle limiter after removing the power reduction plate can be hazardous.

Removing the power reduction system parts will provide maximum power. Riding at excessive speeds increases chances of losing control of the 90S-7A, which can result in an accident.

Reset the throttle limiter to limit maximum speed

Riding at excessive speeds increases chances of losing control of the ATV, which can result in an accident.

Do not remove the power reduction plate until the rider develops sufficient skills to operate 90S-7A safely at the maximum speed with the power reduction system in place.

POWER REDUCTION SYSTEM

REMOVAL INSTRUCTION

For the vehicle's engine to deliver full power, you must remove the power reduction plate as described below. Before removing these parts make sure the vehicle is on level ground and the parking brake is set.

▲ WARNING

A hot muffler can harm you. You can be burned if you touch the hot muffler. Wait until the muffler cools to avoid burns.

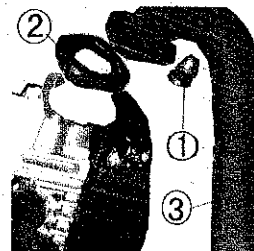
TO REMOVE

THE POWER

REDUCTION

PLATE:

- Remove the two nuts, (1).
- Pull back the exhaust pipe, (3),



according to the rider's skill and experience.

INSPECTION AND MAINTENANCE

MAINTENANCE SCHEDULE

It is very important to inspect and maintain your 90S-7A regularly. Follow the chart below, it indicates the intervals between periodic services in months. At the end of each interval, be sure to inspect, adjust, lubricate, replace, and service as indicated.

▲ WARNING

The manufacturer recommends that maintenance on those items in the chart below which are marked with a point (•) be performed by your authorized 90S-7A dealer or a qualified service mechanic. If you are qualified, you may perform maintenance on the unmarked items. If you are unsure whether you can successfully complete any of the unmarked maintenance jobs, ask your authorized dealer to do the maintenance for you.

▲ WARNING

Do not attempt to perform maintenance on this vehicle if you are not qualified. You could be injured or may damage the machine.

▲ WARNING

The safety of the rider depends on how well this machine is maintained. Follow all inspection and maintenance instructions carefully.

▲ WARNING

Don't let your children work on this machine. They may get hurt. Maintenance should only be performed by qualified adults. Make sure that the engine stop switch is in the "OFF" position unless the engine must be running to perform the required maintenance.

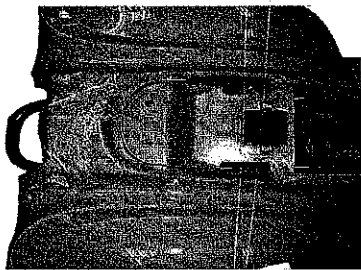
▲ WARNING

The maintenance intervals shown in the chart below are based on average riding conditions. If the vehicle is ridden in a dusty area, the air cleaner and drive chain should be serviced more frequently than shown in the chart. All items should be serviced more frequently if the vehicle is operated under extreme conditions. If you have any questions regarding appropriate maintenance intervals, consult your authorized dealer.

PERIODIC MAINTENANCE CHART

Interval Item	After 1 Month	Every 3 Months	Every 6 Months
Air Cleaner Elements	Clean at least every month.		
Spark Plugs	—	C	R
Cylinder Head And Exhaust Ports	Tighten cylinder head nuts.	—	Remove carbon.
Carburetor	Adjust	—	Adjust

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TOOLS

A tool kit is provided under the seat.

AIR CLEANER

If the air cleaner element is clogged with dust, there will be greater intake resistance, resulting in decreased power output and increased fuel consumption.

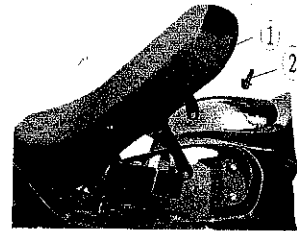
▲ CAUTION

DO NOT operate the engine without the air cleaner element in place or severe engine damage may result.

If you usually ride in dusty areas or regularly operate the vehicle under wet, muddy conditions, you must inspect the air cleaner element more frequently than shown in the periodic maintenance chart.

If at any time, the air cleaner element is submerged in water, immediately clean the element

	throttle valve stop screw and pilot air screw.		throttle valve stop screw and pilot air screw.
Fuel Line			
Engine Oil	R	—	R
Drive Chain	Inspect every month.		
Sprockets			
Tires	Inspect every month.		
Brakes			—
Steering			—
Chassis Nuts and Bolts			—
General Lubrication	—		—

SEAT REMOVAL

To remove the seat, loosen the two bolts, ①, and raise the rear end of the seat, ②, and slide it back.

and the inside of the air cleaner case following this procedure:

1. Fill a washing pan large enough to hold the element with a nonflammable cleaning solvent. Immerse the element in the solvent and wash it.

2. Squeeze the element by pressing it between the palms of both hands to remove excess solvent. Do not twist or wring the element or it will develop cracks.

3. Immerse the element in a separate pan filled with motor oil. Squeeze the element until it remains damp with oil (but not soaked).

4. Reinstall the cleaned element in reverse order of removal. Be sure that the element is securely in position and is sealed properly.

▲ WARNING

Before, during, and after the cleaning operation, carefully examine the element for any tears in the material. A torn element could permit dirt and dust to pass into the engine. If the air cleaner element is torn, it must be replaced with a new one.

▲ WARNING

Keep cleaning solvent and oil away from children and pets. Dispose of used solvent and oil properly.

▲ WARNING

Be sure to position the air cleaner element correctly. Make sure it fits properly so that no

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incoming air will bypass it. Remember rapid wear of piston rings and cylinder walls is often caused by an improperly positioned air cleaner element.

SPARK PLUG

Your 90S-7A comes equipped with an NGK BPR4H spark plug. You can determine if the standard spark plug is suitable for your type of vehicle usage by observing the color of the plug's porcelain center electrode insulator after vehicle operation. If the plug has the correct heat range, it should be very light brown in color. If the plug tends to run cold (usually evidenced by blackening of the insulator or a wet electrode), replace it with an alternate plug according to the following chart.

▲ CAUTION

An improper spark plug may have an incorrect fit or heat range for your engine. This may cause severe engine damage which may not be covered under warranty. Use one of the spark plugs listed below or equivalents. Consult your ATV dealer if you are not sure which spark plug is correct for your type of vehicle usage.

If the above named plugs are not available, consult your ATV dealer.

▲ WARNING

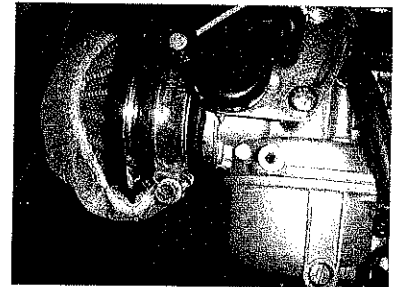
To install a spark plug, turn it in as far as possible with your fingers, and then tighten it with a wrench. Do not over tighten or cross thread the

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spark plug, or the aluminum thread of the cylinder head will be damaged. Do not allow contaminants to enter the engine through the spark plug hole when the plug is removed.

1. Start the engine and warm it up.

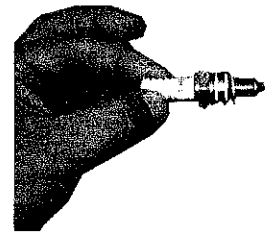
2. After engine warms up, turn the throttle screw in (3) or out so that the engine idles at its lowest steady speed.



To maintain a hot, strong spark, keep the plug free of carbon. Remove carbon from the plug with a wire or pin, and adjust the gap to 0.5-0.6mm (0.020-0.024in) for good spark. Use a thickness gauge to check the gap.

IDLE SPEED ADJUSTMENT

To adjust the idle speed properly, you need a tachometer. If you do not have one, ask your dealer to perform this adjustment.



FUEL HOSE

Replace the fuel hose every 4 years, even if it appears to be in good condition. Damage from aging may not always be visible.

ENGINE OIL

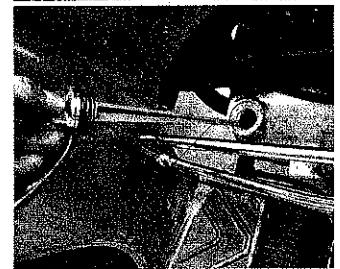
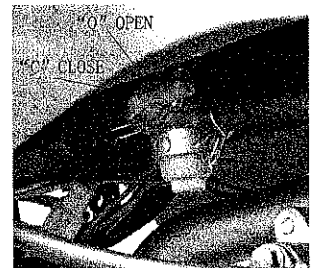
The engine oil should always be changed when the engine is hot so that the oil's viscosity will be low and the oil will drain completely from the engine.

To change the oil:

1. Place the vehicle on level ground.
2. Remove the oil filler cap.
3. Remove the oil drain plug from the bottom of the engine and drain the oil completely.
4. Reinstall the drain.
5. Pour fresh oil of the specified type through the filler hole until the oil reaches the top of the checkered portion of the oil filler cap.

NOTE: Approximately 500ml (0.5/0.4US/mp qt) of oil is required.

6. Refit the oil filler cap.



BRAKE

The 90S-7A has rear disc brake.

▲ WARNING

Failure to properly inspect and maintain your Vehicle's brake systems can be hazardous. Improper maintenance of the brakes increases your chances of having an accident.

Be sure to inspect the brakes before each use of the vehicle according to the INSPECTION BEFORE RIDING section. Always maintain your brakes according to the MAINTENANCE SCHEDULE.

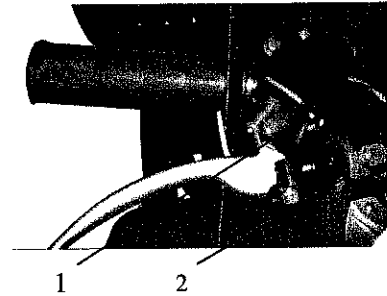
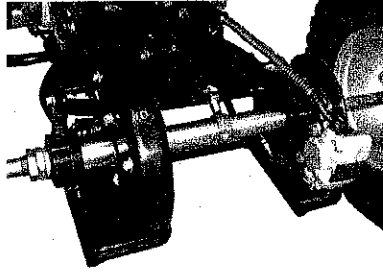
▲ WARNING

Operating the vehicle in harsh conditions can be hazardous if you do not inspect brake wear often.

Operating in mud, water, sand, or other extreme conditions can cause accelerated brake wear. This could lead to an accident.

If you operate your vehicle under these conditions, the brakes must be inspected more often than recommended in the MAINTENANCE SCHEDULE.

Brake Adjustment



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Set the parking brake by squeezing the brake lever and pressing the lock pin, ①.

1. Try to move the vehicle backward and forward to see if the rear wheels are securely locked. If the rear wheels can turn, adjust the brake by turning the adjuster in, ②. Repeat this procedure until the parking brake is properly adjusted.
2. Measure the amount of free play needed to lock the brake lever as shown in the above illustration. Adjust the brake, if necessary, so that amount of free play is about 5mm (0.2in).

After any adjustment of the brake, check again to make sure the rear wheels cannot turn when the parking brake lock pin is engaged.

▲ WARNING

Tire Tread Condition

Using tires of a different size or type than the tires originally equipped on your vehicle can change the vehicle's handling characteristics. Different handling characteristics can result from differences in tire construction, sidewall strength, tread pattern, etc.

▲ WARNING

For the rider's safety, check your vehicle's tires before each use of the vehicle, to make sure they have proper pressure, enough tread depth, and no damage.

▲ WARNING

Operating the vehicle with excessively worn tires can cause skidding due to decreased traction. It is recommended that the front and rear tires be replaced when the depth of the tire tread is 4mm (0.16in) or less.

Tire pressure

A low pressure gauge is provided in the tool kit under the seat, so you can measure the air pressure in your 90S-7A tires. Check the air pressure in all tires before each use of the vehicle. Improper air pressure can affect handling, maneuverability, traction, tire life and rider comfort. Be sure that the tires are inflated to the pressures shown below. Tire pressure should only be measured or adjusted when the tires are cold, or misleading measurements can result.

COLD TIRE PRESSURE	
FRONT	25kPa 0.25kg/cm ² 3.6psi
REAR	25kPa 0.25kg/cm ² 3.6psi

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▲ CAUTION

Using a high pressure air pump to fill the tires can be hazardous. If too much air is put into a tire, the tire may burst, causing severe injury. Use a manual type air pump to fill the tires.

TIRE REPLACEMENT

▲ WARNING

The 90S-7A's tires are intended to rotate in a specific direction, as indicated by the arrows on the sidewall of each tire. Be sure to install tires so they rotate in the proper direction or you may experience handling difficulties.

It is very important to use the proper tools when repairing or replacing tires, to prevent damage to the tire bead or wheel rims. We highly recommend that you have such work done by your dealer or a qualified tire repair station.

DRIVE CHAIN

The condition and adjustment of the drive chain should be checked once-a month. Always follow the guidelines below for inspecting and servicing the following:

- Loose pins
- Damaged rollers
- Dry or rusted links
- Kinked or binding links
- Excessive wear

If you find anything wrong with the drive chain condition or adjustment, there is a strong possibility that the sprockets will have some damage to them also. Inspect the sprockets for the following:

- Excessively worn teeth
- Broken or damaged teeth
- Loose sprocket mounting nut(s)

NOTE: The two sprockets should be inspected for wear when a new chain is installed and replaced if necessary.

DRIVE CHAIN CLEANING AND OILING

Clean and oil the chain as follows:

1. Wash the chain with kerosene. Kerosene is a petroleum product and will provide some lubrication as well as cleaning action

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▲ WARNING

Keep kerosene away from children and pets. Dispose of used kerosene properly.

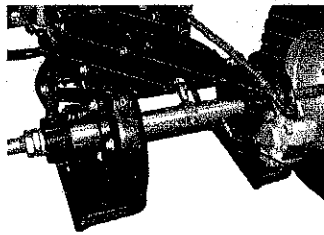
▲ CAUTION

Do not use gasoline, truculence or other commercial cleaning solvents to clean the drive chain. These fluids have a strong dissolving power that could damage the O-rings in the chain. Damage to the O-rings would allow the grease to run out of the chain and the chain would have to be replaced.

2. After thoroughly washing the chain and allowing it to dry, oil the links with a heavy weight motor oil (40 or 50 weight).

▲ CAUTION

Some lubricants which are sold as drive chain lubricant can damage O-rings of your vehicle's chain. Use the recommended motor oil or a lubricant that is specifically intended for use on O-ring chains.



REAR AXLE ADJUSTMENT

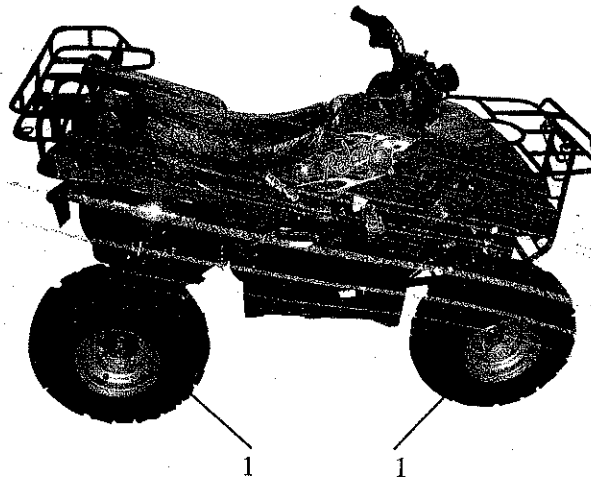
1. Loosen bolts and nuts.
2. Adjust the slack in the drive chain by turning the chain adjuster nuts equally to tighten or slacken the chain.
3. When proper slack is obtained, tighten the four bolts and nuts.
4. Tighten the adjusting nuts.
5. Check the brake lever travel. Adjust the brake if necessary.

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▲ WARNING

Inspect the drive chain slack before each use. Failure to inspect the drive chain slack before each use of the motorcycle could be hazardous. Too much chain slack could cause the chain to come off the sprockets, resulting in an accident or serious damage to the motorcycle.

FRONT AND REAR WHEEL REMOVAL



1. Place the vehicle on level ground and set the parking brake.
2. Loosen the three wheel nuts, ①, on the wheel to be removed.
3. Lift up the front or rear end of the vehicle by placing a jack or block under the axle or frame.
4. Remove the three wheel nuts.
5. Remove the wheel. To reinstall the wheel, reverse these steps.

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▲ WARNING

When replacing a wheel, it is very important that the wheel nuts be torqued to the proper specifications. If they are not, the wheel can come off unexpectedly. We strongly recommend that you have these nuts checked and retorqued, if necessary, by your authorized dealer.

Tightening Torque

Front and Rear

25N-m(2.5kg-m.11.51b-ft)

GENERAL LUBRICATION

Proper lubrication is important for safe, smooth operation and long life of each working part of your vehicle. Pay attention to the need for lubrication.

When you perform periodic maintenance on the vehicle, be sure to have your authorized dealer perform the maintenance on the chart on page 29. Your authorized dealer will lubricate such items as wheel bearings, rear axle housings, steering shaft holder, etc.

TROUBLESHOOTING

▲ CAUTION

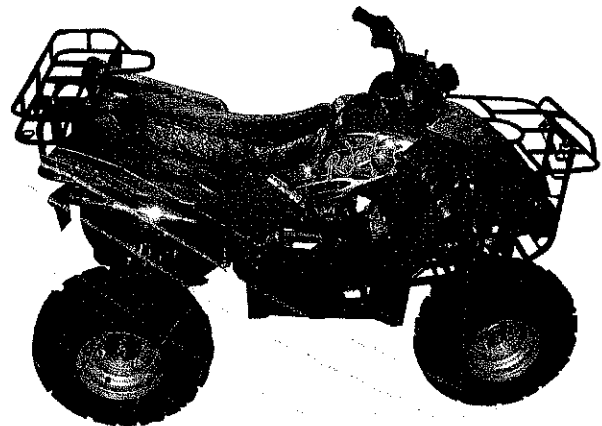
It is best to consult your dealer before attempting to troubleshoot any problem.

Damage may result from inappropriate repairs or adjustments. Such damage may not be covered under warranty.

This troubleshooting guide is provided to help you identify the cause of some common problems.

COMPLAINT: Engine is hard to start or does not start at all.

Something is probably wrong with the fuel system or ignition system.



Fuel System Check

1. Make sure there is adequate fuel in the fuel tank.
2. Check that the engine stop switch is in the "RUN" position.
3. Check that the engine pull-stop switch is installed on the rear engine stop switch.
4. Make sure there is enough fuel reaching the carburetor from the fuel tank.
 - a) Loosen the drain screw which is on the bottom of the carburetor and drain the fuel from the carburetor.
 - b) Tighten the drain screw.
 - c) Remove the spark plug and press the start button.
 - d) Loosen the drain screw and check that the carburetor is filled back up with fuel.
 - e) If it had been determined that fuel is reaching the carburetor, the ignition system should be checked next.

▲ WARNING

Do not allow the fuel to spill; catch the fuel in a container. Do not allow any fuel to come in contact with the hot engine or exhaust system. Extinguish any smoking materials before any open flames or heat sources.

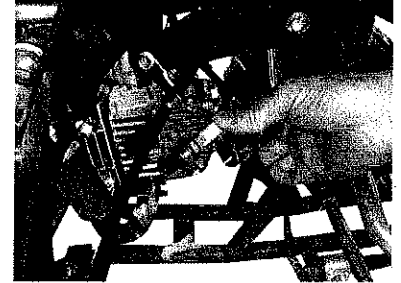
Ignition System Check

1. Remove the spark plug and reattach it to the spark plug wire.

2. While holding the spark plug firmly against the engine, push the starter button with the engine stop switch in the "RUN" position and the engine pull-stop switch cap is installed on the rear engine stop switch. If the ignition system is operating properly, a blue spark should jump across the spark plug gap. If there is no spark, take your machine to your authorized dealer.

▲ WARNING

Do not check for a spark unless you are certain that you know how to do it; you could get a high voltage electrical shock. When testing for a spark, do not point the spark plug near the spark plug hole. There may be some fuel inside the cylinder which could be ignited. Due to the possibility of shock, persons with pacemakers should avoid this check.



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COMPLAINT: Engine stalls.

1. Make sure there is enough fuel in the fuel tank.
2. Check to see that the spark plug is not fouled. Remove the plug and replace it if necessary.
3. Make sure the fuel valve is clear. Also check the air vent hose connected to the fuel tank cap is not clogged.

TRANSPORTING

The 90S-7A should be transported in the normal position, if possible. It may also be transported in the standing position, but the standing position is not as stable as the normal position.

Before transporting the 90S-7A drain the fuel from the carburetor as follows:

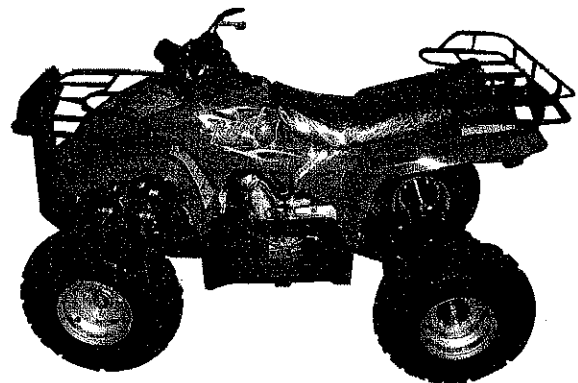
1. Turn the fuel valve lever to the 'O' position.
2. Drain fuel from the carburetor into a suitable container by loosening the carburetor drain bolt.
3. When the fuel has drained completely retighten the drain bolt.

▲ WARNING

When draining the carburetor, always shut off the engine. Do not smoke, and never drain or refuel in an area where are open flames or spark.

▲ WARNING

Be sure to use a suitable container to catch the fuel you drain from the carburetor. Do not allow the fuel to spill or you may create a fire hazard. Keep fuel out of the reach of children and pets or they may be injured, and dispose of



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unwanted fuel properly.

▲ WARNING

When transporting the 90S-7A, lock the parking brake and tie down the vehicle securely with rope or some other suitable means. Use extra tie downs when you transport the vehicle in the standing position. Failure to properly secure the vehicle may result in an accident or damage to the vehicle.

STARTING THE 90S-7A AFTER TRANSPORT

To feed fuel into the carburetor, turn the fuel valve to the 'O' position.

CLEANING PROCEDURE

A thorough cleaning of your 90S-7A is a necessary part of maintenance and will help keep your 90S-7A looking and performing its best. Proper cleaning can also extend the life of your 90S-7A.

It is important to clean and inspect your 90S-7A after every ride if it is used in mud, brush, grass, water, saltwater or very dusty conditions.

The buildup of mud brush grass etc. especially on the engine and exhaust system can reduce engine cooling and conceal damage. Remove all debris during cleaning.

PREPARATION FOR CLEANING

Wash the ATV before any mud dries on the 90S-7A.

Block or seal the end of the exhaust pipe (muffler) using a piece of plastic wrap, cloth rag or another method to prevent water from entering the engine.

High pressure washers can damage your 90S-7A.

▲ CAUTION

High pressure washers such as those found at coin operated car washes have enough pressure to damage the parts of your 90S-7A. It may cause rust corrosion and increase wear.

Do not use high pressure washers to clear your 90S-7A.

WASHING YOUR 90S-7A

With some care, your 90S-7A can be washed in a similar manner to washing an automobile.

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▲ NOTE: Avoid spraying or allowing water to flow over the following places:

- Spark plug
- Fuel tank cap
- Carburetor

Snorkel air intake for air filter and carburetor. The snorkel air intake opening is located the highest point on the 90S-7A usually in front of the seat.

Use a garden hose at low pressure to remove the majority of dirt or other debris. Hand wash your 90S-7A with a mild soap or detergent and water. Try to thoroughly remove all dirt and debris without excessive water pressure even at remote areas such as between engine cooling fins, linkages or mounting brackets. Cloth rags, washing mitts, or cleaning brushes can be used. Be careful with brushes as they may scratch plastic or painted surfaces. Rinse the 90S-7A thoroughly with clean water. Dry all areas using a chamois or soft absorbent cloth.

INSPECTION AFTER CLEANING

Remove the rags or wrapping from the exhaust pipe. Check the drain tubes in the bottom of the air filter box and drain any water that has collected in them. For extended life of your 90S-7A, lubricate according to the "GENERAL LUBRICATION" section.

▲ WARNING

Operating 90S-7A with wet brakes can be hazardous.

Wet brakes may not provide as much stopping power as dry brakes. This could lead to an accident.

Test your brakes after washing your 90S-7A, while riding at slow speed. If necessary apply brakes several times to let friction dry out the linings.

Follow the procedures in the "INSPECTION BEFORE RIDING" section to check your 90S-7A for any problems that may have arisen during your last ride.

STORAGE PROCEDURE

If your 90S-7A is being left unused for an extended period of time it needs special servicing requiring appropriate materials, equipment, and skill. For this reason the manufacturer recommends that you trust this maintenance work to your dealer. If you wish to service the machine for storage yourself, follow the general guidelines below.

VEHICLE

Place the vehicle on level ground and thoroughly clean the entire vehicle.

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FUEL

Drain the fuel from the fuel tank using a commercially available hand pump or siphon. Drain the fuel from the carburetor using the carburetor drain screw.

▲ WARNING

Do not allow the fuel to spill. Catch the fuel in a suitable container. Do not allow any fuel to come in contact with the hot engine or exhaust system. Extinguish smoking materials before draining any fuel and stay away from any other fire or heat source. Keep pets and children away from fuel and dispose of unwanted fuel properly.

ENGINE

Pour one tablespoon of motor oil into the spark plug hole. Reinstall the spark plug and crank the engine a few times.

TIRES

Inflates tires to the normal specifications.

EXTERNAL

Remove the battery.

Spray all vinyl and rubber parts with rubber preservative.

Spray unpainted surfaces with rust preventative.

Coat painted surfaces with car wax.

PROCEDURE FOR RETURNING TO SERVICE

Clean the entire vehicle.

Reinstall the battery.

▲ CAUTION

Make sure that the battery vent hose is routed properly.

Remove the spark plug. Turn the engine a few times by pushing the starter button. Reinstall the spark plug.

Make sure that the vehicle is properly lubricated.

Perform the "INSPECTION BEFORE RIDING" checklist as listed in this manual.

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SPECIFICATIONS

Model	90S-7A
Length×Width×Height	1350mm×680mm×860mm
Wheel Base	920mm
Dry Mass	80Kg
Fuel Tank	1.5L
Front Tire Size	16×8-7
Rear Tire Size	16×8-7
Brakes	Fr. Drum/Rr. Disc
Engine Type	Air-cooled, Four-stroke
Displacement	86ml
Bore×Stroke	47×49.5mm
Compression Ratio	8.5:1
Ignition Method	CDI
Rated Power Of Engine	3.8kw/(7500~8000)r/min
Maximum Torque	5.6N.m(5500~6500r/min)

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ELECTRICAL DIAGRAM

