



Operator's Manual



ALL TERRAIN VEHICLE

Craftsman 300 Electric Start Engine

2 Wheel or 4-Wheel Drive

Automatic Transmission

Model Number: 108.27807



WARNING

Before operating this vehicle, the owner and each operator must:

- Understand that this vehicle was not designed or manufactured to meet specifications for use on public roads, streets, highways, and thoroughfares.
- Read and have an understanding of all the instructions for proper assembly and safe operation as well as the instructions concerning the engine and all other portions of the vehicle.
- View "Operations and Safety" video.
- Be at least 16 years of age.

For answers to your questions about this product, call:

1-800-643-7332 8 a.m.– 5 p.m. ET, Mon – Fri

Sears, Roebuck and Co., Hoffman Estates, IL 60179 U.S.A.



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1. Introduction

Congratulations on the purchase of your All Terrain Vehicle (ATV). We take pride in offering you this product engineered and manufactured to the highest performance and quality standards. We are sure that you will enjoy superior levels of performance, reliability, riding comfort, and safety. Should you experience any problem you cannot easily remedy, contact 1-800-643-7332 for an authorized service center.

This manual is provided to help the owner and operators of this ATV become familiar with the operating characteristics, and the many features offered on this ATV. Please read and observe the safety warnings detailed in this manual. Failure to follow these warnings increases the possibility of accidents leading to **DEATH** or **SERIOUS INJURY!**

Follow a regular schedule for maintaining and caring for your ATV, including storage, as outlined in this manual.

Important Safety Notice

Never make any modifications to the engine, drive system, mechanical or electrical systems of your ATV. Never install after market parts or accessories intended to increase the speed or power of your ATV.

Additionally, failure to follow these requirements will void the Warranty on your ATV.

NOTE: The addition and use of certain accessories including, (but not limited to) mowers, blades, sprayers, winches and windshields will change the handling characteristics of your ATV.

Please be certain that any accessory added has been approved by Manco (the manufacturer of this Craftsman ATV). Contact Manco Customer Service at 1-800-643-7332 or 1-260-432-1596.

Practice Responsible ATV Riding

Make sure that you understand and follow all local, state/province, and federal riding laws and requirements. Many parks, recreation areas and trails that allow ATV riding have their own safety rules as well. Be smart, check before you ride.

Remember, respect your vehicle, respect the environment, and respect the property of others. You are responsible for your safety and the safety of others around you when you ride.



2. Understanding Warnings

ATTENTION: Read and understand warnings and owner’s manual before operation. This is an adult vehicle only— it is not a toy.

WARNINGS identify special instructions or procedures, which, if not correctly followed, could result in personal injury, or loss of life. Read all WARNINGS in this manual carefully. Follow their instructions to remain safe.

The following precautionary signals and words are used throughout this manual to convey the following messages:



This is the **Safety Alert Symbol**. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury. Your safety is involved!



WARNING

Indicates a potential hazard, which could result in severe injury or death.



CAUTION

Indicates a potential hazard which may result in minor personal injury or damage to the ATV.

CAUTION

Caution when used without the alert symbol indicates a situation that can result in damage to the machine.

NOTE

The word “NOTE” in this manual will alert you to key information or instructions.



3. Safety Warnings

AN ATV CAN BE HAZARDOUS TO OPERATE

An ATV handles differently from other vehicles; including motorcycles and cars. A collision or rollover can occur quickly, even during routine maneuvers such as turning and driving on hills or over obstacles, if you fail to take proper precautions.



Know your vehicle before you begin riding!

Read this manual thoroughly prior to operating your vehicle. Operating this vehicle carries with it responsibilities for your personal safety, the safety of others, and the protection of our environment.



WARNING

Serious injury or death can result if you do not follow these instructions.

- Read this manual and all labels carefully and follow the operating procedures described.
- Never operate an ATV without proper instruction. Take a training course. Beginners should receive training from a certified instructor. Contact an authorized ATV dealer to find out about the training courses nearest you.
- Never allow anyone who is not an adult to operate this ATV.
- Never permit a guest to operate this ATV unless the guest has read this manual and all product labels, and has completed a certified training course.
- Always avoid operating an ATV on any paved surfaces, including sidewalks, driveways, parking lots and streets.
- Never operate an ATV without wearing an approved helmet that fits properly. You should also wear eye protection (goggles or face shield), gloves, boots, long-sleeved shirt or jacket, and long pants as outlined in Section 11 “Riding Gear”.
- Never consume alcohol or drugs before or while operating this ATV.
- Never operate at excessive speeds. Always travel at a speed which is proper for the terrain, visibility, operating conditions, and your experience.
- Never attempt wheelies, jumps or other stunts.
- Always inspect your ATV each time you use it to make sure it is in safe operating condition as outlined in Section 5 “Daily Pre-Ride Inspection”.
- Always follow the maintenance procedures and schedules described in this manual as outlined in Section 17 “Maintenance”.
- Always keep both hands on the handlebars and both feet on the footrests of the ATV during operation.
- Always go slowly and be extra careful when operating on unfamiliar terrain.



Always be alert to changing terrain conditions when operating the ATV.

- Never operate on excessively rough, slippery or loose terrain.
- Always follow proper procedures for turning as described Section 12 “Riding – Making Turns”. Practice turning at low speeds before attempting to turn at faster speeds. Do not turn at excessive speed.
- Always have the ATV checked by an authorized dealer if it has been involved in an accident.
- Never operate ATV on hills too steep for the ATV or for your abilities. Practice on smaller hills before attempting larger hills.
- Always follow proper procedures for climbing hills as described in Section 12 “Riding – Traveling Uphill”. Check the terrain carefully before you start up any hill. Never climb hills with excessively slippery or loose surfaces. Shift your weight forward. Never open throttle suddenly or make sudden gear changes. Never go over the top of any hill at high speed.
- Always follow proper procedures for going down hills and for braking on hills as described in Section 12 “Riding – Traveling Downhill”. Check the terrain carefully before you start down any hill. Shift your weight backward. Never go down a hill at high speed. Avoid going down a hill at an angle which would cause the vehicle to lean sharply to one side. Go straight down the hill where possible.
- Always follow proper procedures for crossing the side of a hill as described in Section 12 “Riding – Side Hilling”. Avoid hills with excessively slippery or loose surfaces. Shift your weight to the up side of the ATV. Never attempt to turn the ATV around on any hill until you have mastered level-ground turning technique described in Section 12 “Riding – Making Turns”. Avoid crossing the side of a steep hill if possible.
- Always use proper procedures if you stall or roll backwards when climbing a hill. To avoid stalling, maintain a steady speed when climbing a hill. If you stall, follow the special procedure described in Section 12 “Riding – Turning around on a Hill”.
- Always check for obstacles before operating in a new area. Never attempt to operate over large obstacles, such as large rocks or fallen trees. Always follow proper procedures when operating over obstacles as described in Section 12 “Riding – Trail Obstacles”
- Always be careful of skidding or sliding. On slippery surfaces, such as ice, go slowly and be very cautious in order to reduce the chance of skidding or sliding out of control (See Section 12 “Riding – Riding on Slippery Surfaces”).
- Avoid operating the ATV through deep or fast flowing water. Avoid water which exceeds the recommended maximum depth of 8 inches, as detailed in Section 12 “Riding – Crossing Streams”. Go slowly, balance your weight carefully, avoiding sudden movements, maintain a slow and steady forward motion, do not make sudden turns or stops, and do not make sudden throttle changes.



- Wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary apply them lightly several times to let friction dry out the pads.
- Always be sure there are no obstacles or people behind you when you operate in reverse. When it is safe to proceed in reverse, go slowly. Avoid turning at sharp angles in reverse as described in Section 12 “Riding – Operating in Reverse”.
- Always use the size and type tires specified in this manual, as detailed in Section 21 – “System Specifications”. Always maintain proper tire pressure as described in this manual.
- Never modify an ATV through improper installation or use of accessories.
- Never exceed the stated load capacity for an ATV as stated in Section 21 – “System Specifications”. Cargo should be properly distributed and securely attached. Reduce speed and follow instructions in this manual for carrying cargo or pulling a trailer. Allow greater distance for braking.



SAFETY TRAINING

We strongly recommend that all new ATV riders attend a professional training class. To obtain more information on ATV training courses in your area call 1-800-887-2887. Once you have completed this training, you will be reimbursed for the cost of the class for all first time riders in your immediate family. Fill out and return the Rider Training Coupon that you received with your new ATV to receive the reimbursement plus a certificate for up to \$100 in free merchandise.



4. Warning Decals

Warning decals have been placed on the vehicle for your protection. Read and follow the instructions on each decal carefully. In the event that any decal becomes illegible or comes off, contact 1-800-643-7332.

NOTE: Illustrations used in this manual are for general representation only. Your model may differ.



Warning

Do not remove the radiator cap when the engine and radiator are hot. Scalding hot fluid and steam may be blown out under pressure, which could cause serious injury. ⚠

When the engine has cooled, open the radiator cap as follows: ⚠

Place a thick rag or a towel over the radiator cap. Slowly rotate the cap counterclockwise toward the detent. This allows any residual pressure to escape. When any hissing sound has stopped, press down on the cap while turning counterclockwise and remove it.

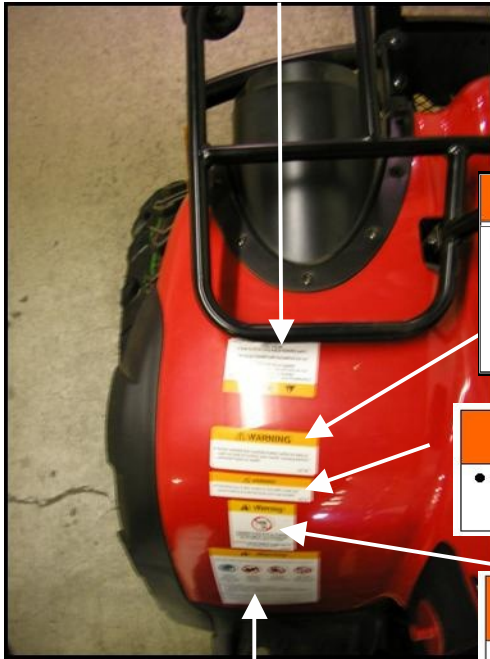
PN 62396 ⚠

Warning

Overloading of the carrying rack can cause loss of stability or control of the ATV.
 Do not tow from the rack or bumper. Loss of stability or tip over may result.

Do not exceed the load capacity of the rack.
 Load Capacity of this front carrying rack is **40 lbs /18kg**.

PN 82003+



Warning

Only press the override button **BEFORE** backing up. Pressing the button while the throttle is open can result in loss of control, causing severe personal injury or death

No. 28

WARNING

- Operating any brake control in the 4WD mode will cause braking at both the front and rear wheels.

No. 27

Warning

UNDER 16

Operation of this ATV by Children under the age of **16** increases the risk of severe injury or death.

NEVER permit children under age **16** to operate this ATV.

PN82001+

Warning

Improper **ATV** use can result in **SEVERE INJURY** or **DEATH**.

ALWAYS USE AN APPROVED HELMET AND PROTECTIVE GEAR.	NEVER USE ON PUBLIC ROADS.	NEVER CARRY PASSENGERS.	NEVER USE WITH DRUGS OR ALCOHOL.

NEVER operate:

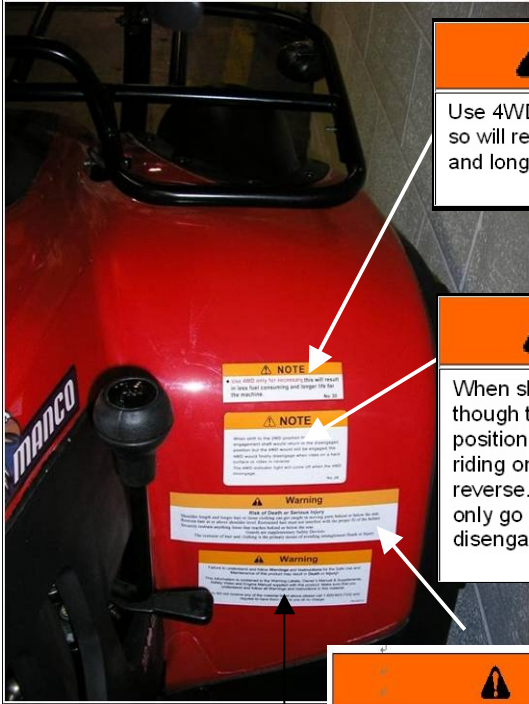
- Without proper training or instruction.
- At speeds too fast for your skills or the conditions.
- On public roads – a collision can occur with another vehicle.
- With a passenger – passengers affect balance and steering and increase risk of losing control.

ALWAYS:

- Use proper riding techniques to avoid vehicle overruns on hills and rough terrain and in turns.
- Avoid paved surfaces – pavement may seriously affect handling and control.

LOCATE AND READ OWNER'S MANUAL.
 FOLLOW ALL INSTRUCTIONS AND WARNINGS.

PN 82004+



Warning

Use 4WD only when necessary. Doing so will result in less fuel consumption and longer machine life.

No. 30

Warning

When shifting to 2WD from 4WD, even though the drive selector is in the 2WD position, 4WD will still be engaged until riding on a hard surface or riding in reverse. The 4WD indicator light will only go off when 4WD actually disengages.

No. 26

Warning

Risk of Death or Serious Injury.

- Shoulder length and longer hair or loose clothing can get caught in moving parts behind or below the seat.^{4/}
- Restrain hair at or above shoulder level. Restrained hair must not interfere with the proper fit of the helmet.^{4/}
- Securely restrain anything loose that reaches behind or below the seat.^{4/}

Guards are supplementary Safety Devices.^{4/}

The restraint of hair and clothing is the primary means of avoiding entanglement Death or Injury.^{4/}

PN82010

Warning

Failure to understand and follow **Warnings** and **Instructions** for the Safe Use and Maintenance of this product may result in **Death or Injury!**

This information is contained in the Warning Labels, Owner's Manual & Supplements, Safety Video and Engine Manual supplied with this product. Make sure that you understand and follow all Warnings and Instructions in this material.

If you did not receive any of the material listed above please call 1-800-643-7332 and request to have them sent to you at no charge.

PN 82012



Warning

Never attempt to shift the transmission, or to shift into or out of four wheel drive while the ATV is in motion or the engine speed is higher than idle. Doing so can cause loss of control of the ATV or severe damage to the transmission and drive system.

No. 29

Warning

Do not switch on 4WD if the rear wheels are spinning. This may cause severe machine damage. When switch on 4WD, the button will stay in 4WD position but 4wd mechanics maybe still disengaged. Always apply throttle gently and let the wheels move slightly to allow the 4WD mechanics finally engage. The 4WD indicator on the speedometer will come on when 4WD engaged.

No. 38



Warning



NEVER ride as a passenger.

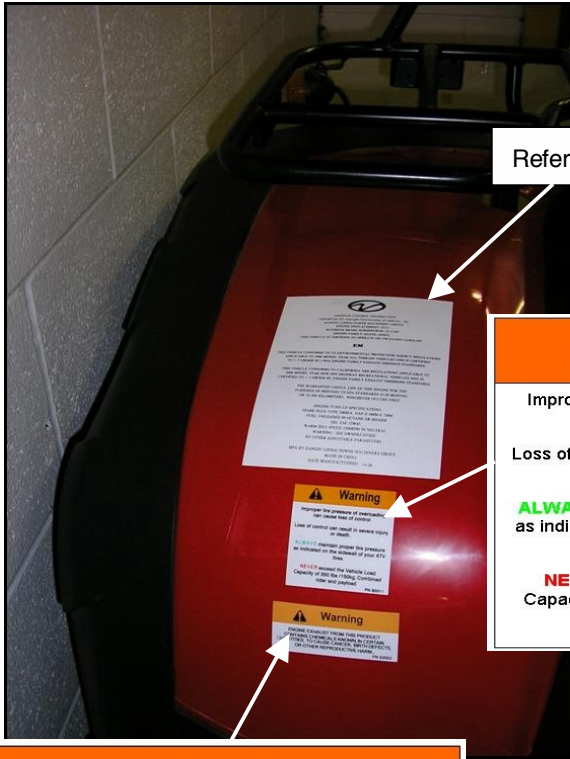
Passengers can cause a loss of control, resulting in **SEVERE INJURY OR DEATH.**

PN 82007-

Warning

Never operate this vehicle on hills with steeper than 15° incline. To prevent flip-over on hilly terrain, use the throttle and brake gradually. Operation of the ATV in reverse, even at low speeds, can be dangerous. Steering and control of the ATV can be dangerous. To prevent flip-over at all times, avoid sudden braking and sharp turns.

PN. 82013



Refer to Page 13

Warning

Improper tire pressure or overloading can cause loss of control.[ⓘ]

Loss of control can result in severe injury or death.[ⓘ]

ALWAYS maintain proper tire pressure as indicated on the sidewall of your ATV tires.[ⓘ]

NEVER exceed the Vehicle Load Capacity of 350 lbs /150kg. Combined rider and payload.[ⓘ]

PN 82011+

Warning

ENGINE EXHAUST FROM THIS PRODUCT CONTAINS CHEMICALS KNOWN, IN CERTAIN QUANTITIES, TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.

PN 82002+



Emission Control Information:



EMISSION CONTROL INFORMATION

IMPORTED BY Sunright International of America, Inc.

HANGSU LINHAI POWER MACHINERY GROUP

ENGINE DISPLACEMENT: 275cc

MAXIUM BRAKE HORSEPOWER:

ENGINE FAMILY:

THIS VEHICLE IS CERTIFIED TO OPERATE ON UNLEADED GASOLINE

EM

THIS VEHICLE CONFORMS TO US ENVIRONMENTAL PROTECTION AGENCY REGULATIONS APPLICABLE TO 2006 MODEL YEAR ALL-TERRAIN VEHICLES AND IS CERTIFIED TO 1.5 GM/KM HC+NO_x ENGINE FAMILY EXHAUST EMISSION STANDARDS.

THIS VEHICLE CONFORMS TO CALIFORNIA ARB REGULATIONS APPLICABLE TO 2006 MODEL YEAR NEW OFF-HIGHWAY RECREATIONAL VEHICLES AND IS CERTIFIED TO 1.2 GM/KM HC ENGINE FAMILY EXHAUST EMISSIONS STANDARDS.

THE WARRANTED USEFUL LIFE OF THIS ENGINE FOR THE PURPOSE OF MEETING US EPA STANDARDS IS 60 MONTHS OR 10,000 KILOMETERS, WHICHEVER OCCURS FIRST.

ENGINE TUNE-UP SPECIFICATIONS:

SPARK PLUG TYPE: DR7EA GAP:0.6MM-0.7MM

FUEL: UNLEADED 89 OCTANE OR HIGHER

OIL: SAE 15W40

WARM IDEL SPEED: 1500 RPM IN NEUTRAL

WARNING – SEE OWNERS GUIDE

NO OTHER ADJUSTABLE PARAMETERS

MADE IN CHINA

DATE MANUFACTURED.



Warning

THIS GUARD MUST BE IN PLACE DURING OPERATION OF THE ENGINE. KEEP HANDS, FEET, HAIR AND LOOSE GARMENTS AWAY FROM THE ENGINE, CHAIN AND DRIVE COMPONENTS. PN 82005-



Warning

Hot Surfaces.
Never touch engine or exhaust system after running engine, until they have cooled. PN 82006-



Warning

Overloading of the carrying rack can cause loss of stability or control of the ATV.
Towing from the rack can cause tip over of the ATV.

Do not exceed the load capacity of the rack.
Do not tow from this rack.

Load Capacity of this rear carrying rack is:
80 lbs / 36kg.

PN 82008-

Warning

Pulling excessive loads can cause loss of ATV stability and control. Do not exceed the load capacity for the ATV hitch.

Trailer Load Capacity of this ATV is 450 lbs./200kg. Maximum trailer tongue weight for the ATV hitch is 25 lbs./11 kg.

PN 82009



5. Daily Pre-Ride Inspection



WARNING

You must inspect your ATV each time before riding to ensure it is in proper working order. If proper inspection is not done, severe injury or death could result.

Use the following checklist to verify your machine is in proper working order each time you ride.

Item/Inspection Procedure

1. Tires: check condition and pressures.
2. Fuel tank: fill the fuel tank to its proper level.
3. All brakes: check operation, adjustment and fluid level (includes auxiliary brake).
4. Throttle: check for free operation and closing.
5. Headlight / Tail light / Brake light: check operation of all indicator lights and switches.
6. Engine stop switch: check for proper function.
7. Wheels: check for tightness of wheel nuts and axle nuts; check that axle nuts are secured by cotter pins.
8. Air cleaner element: check for dirt; clean or replace.
9. Steering: check for free operation noting any unusual looseness in any area.
10. Loose parts: visually inspect vehicle for any damaged components or loose nuts/bolts or fasteners.
11. Operator: wear proper riding gear; helmets, goggles and clothing.
12. Engine coolant: check for proper level at the recovery bottle.
13. 4WD Units Only: pull the handlebar to one side or ride the ATV at a low speed. Steering should remain balanced from left to right in 2WD and 4WD positions.



6. Operation Warnings



WARNING

POTENTIAL HAZARD

Operating this ATV without proper instruction.

WHAT CAN HAPPEN

The risk of an accident is greatly increased if operator does not know how to operate the ATV properly in different situations and on different types of terrain.

HOW TO AVOID THE HAZARD

Beginning and inexperienced operators should complete a certified training course. They should then regularly practice techniques described in this manual. For more information about the training course, contact 1-800-887-2887.



WARNING

POTENTIAL HAZARD

Operating this ATV without wearing an approved helmet, eye protection and protective clothing.

WHAT CAN HAPPEN

Operating without an approved helmet increases your chances of a severe head injury or death in the event of an accident. Operating without eye protection can result in an accident and increases your chances of a severe injury in the event of an accident.

HOW TO AVOID THE HAZARD

Always wear an approved helmet, which fits properly. You should also wear: eye protection (goggles or face shield); gloves; boots; long-sleeved shirt or jacket; and long pants.



WARNING

POTENTIAL HAZARD

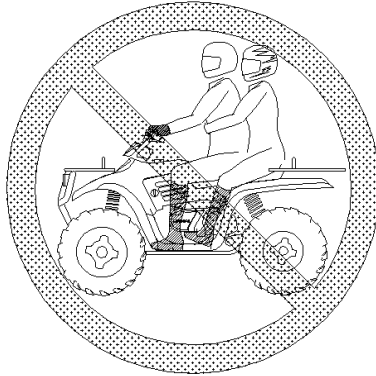
Carrying a passenger on this ATV.

WHAT CAN HAPPEN

Greatly reduces your ability to balance and control this ATV. Could cause an accident, resulting in harm to you and /or your passenger.

HOW TO AVOID THE HAZARD

Never carry a passenger.



WARNING

POTENTIAL HAZARD

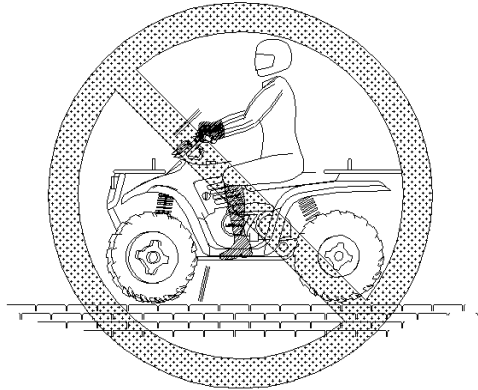
Operating this ATV on paved surfaces, including sidewalks, paths, parking lots, and driveways.

WHAT CAN HAPPEN

Paved surfaces may seriously affect handling and control of the ATV, and may cause the vehicle to go out of control.

HOW TO AVOID THE HAZARD

Avoid operating the ATV on pavement.





WARNING

POTENTIAL HAZARD

Operating this ATV after consuming alcohol or drugs.

WHAT CAN HAPPEN

Could seriously affect your judgment. Could cause you to react more slowly. Could affect your balance and perception. Could result in an accident.

HOW TO AVOID THE HAZARD

Never consume alcohol or drugs before or while operating this ATV.



WARNING

POTENTIAL HAZARD

Operating this ATV at excessive speeds.

WHAT CAN HAPPEN

Increases your chances of losing control of the ATV, which can result in an accident.

HOW TO AVOID THE HAZARD

Always travel at a speed that is proper for the terrain, visibility, operating conditions, and your experience.



WARNING

POTENTIAL HAZARD

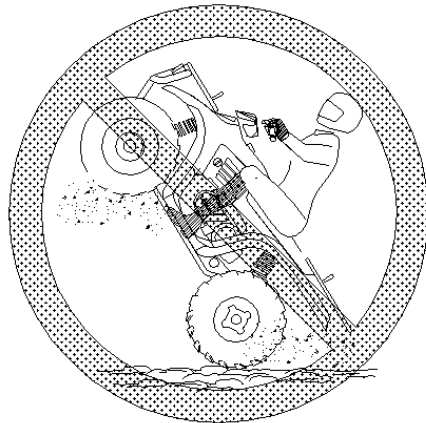
Attempting wheelies, jumps and other stunts.

WHAT CAN HAPPEN

Increases the chance of an accident, including an overturn.

HOW TO AVOID THE HAZARD

Never attempt stunts, such as wheelies or jumps.





WARNING

POTENTIAL HAZARD

Failure to inspect the ATV before operating. Failure to properly maintain ATV.

WHAT CAN HAPPEN

Increases the possibility of accident or equipment damage.

HOW TO AVOID THE HAZARD

Always inspect your ATV each time you use it to make sure the ATV is in safe operating condition. Always follow the inspection procedures outlined in Section 5 “Pre-Ride Inspection” and maintenance procedures described in Section 17 “Maintenance”.



WARNING

POTENTIAL HAZARD

Removing hand from handlebars or feet from footrests during operation.

WHAT CAN HAPPEN

Removing even one hand or foot can reduce your ability to control the ATV or could cause you to lose your balance and fall off the ATV. If you remove a foot from the footrest, your foot or leg may come into contact with the rear wheels, causing injury or an accident.

HOW TO AVOID THE HAZARD

Always keep both hands on the handlebars and both feet on the footrests of your ATV during operation.



WARNING

POTENTIAL HAZARD

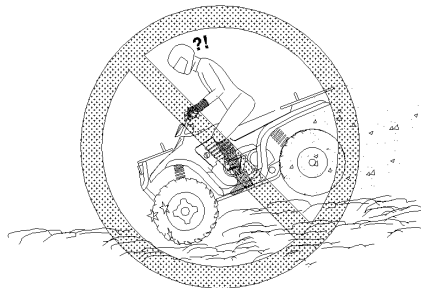
Failure to use extra care when operating this ATV on unfamiliar terrain.

WHAT CAN HAPPEN

You can come upon hidden rocks, bumps, or holes, without enough time to react. Could result in the ATV overturning or going out of control.

HOW TO AVOID THE HAZARD

Go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when operating the ATV.





WARNING

POTENTIAL HAZARD

Failure to use extra care when operating on excessively rough, slippery or loose terrain.

WHAT CAN HAPPEN

Could cause loss of traction or vehicle control, which could result in an accident, including overturn.

HOW TO AVOID THE HAZARD

Do not operate on excessively rough, slippery or loose terrain until you have learned and practiced the skills necessary to control the ATV on such terrain. Always be especially cautious on these kinds of terrain.



WARNING

POTENTIAL HAZARD

Climbing hills improperly.

WHAT CAN HAPPEN

Could cause loss of control or cause ATV to overturn.

HOW TO AVOID THE HAZARD

Always follow proper procedures for climbing hills as described in Section 12 “Riding – Traveling Uphill”. Always check the terrain carefully before you start up any hill. Never climb hills with excessively slippery or loose surfaces. Shift your weight forward. Never open the throttle suddenly. The ATV could flip over backwards. Never go over the top of any hill at high speed – an obstacle, sharp drop, or another vehicle or person could be on the other side of the hill.



WARNING

POTENTIAL HAZARD

Turning improperly.

WHAT CAN HAPPEN

ATV could go out of control, causing a collision or overturn.

HOW TO AVOID THE HAZARD

Always follow proper procedures for turning as described in Section 12 “Riding – Making Turns”.



WARNING

POTENTIAL HAZARD

Operating on excessively steep hills.

WHAT CAN HAPPEN

The vehicle can overturn more easily on extremely steep hills than on level surfaces or small hills.

HOW TO AVOID THE HAZARD

Never operate the ATV on hills too steep for the ATV or for your abilities. Practice on smaller hills before attempting large hills. Never operate ATV on hills with an incline steeper than 15 degrees.



WARNING

POTENTIAL HAZARD

Going down a hill improperly.

WHAT CAN HAPPEN

Could cause loss of control or cause ATV to overturn.

HOW TO AVOID THE HAZARD

Always follow proper procedures for going down hills as described in Section 12 “Riding – Traveling Downhill”.

NOTE: A special technique is required when braking as you go downhill. Always check the terrain carefully before you start down any hill. Shift your weight backward. Never go down a hill at high speed. Avoid going down a hill at an angle which would cause the vehicle to lean sharply to one side. Go straight down the hill where possible.



WARNING

POTENTIAL HAZARD

Improperly crossing hills or turning on hills.

WHAT CAN HAPPEN

Could cause loss of control or cause ATV to overturn.

HOW TO AVOID THE HAZARD

Never attempt to turn the ATV around on any hill until you have mastered the level ground turning technique as described in Section 12 “Riding – Making Turns”. Be very careful when turning on any hill. Avoid crossing the side of a steep hill if possible.

When crossing the side of a hill:

Always follow proper procedures as described in Section 11 “Riding – Side Hilling”. Avoid hills with excessively slippery or loose surfaces. Shift your weight to the uphill side of the ATV.



WARNING

POTENTIAL HAZARD

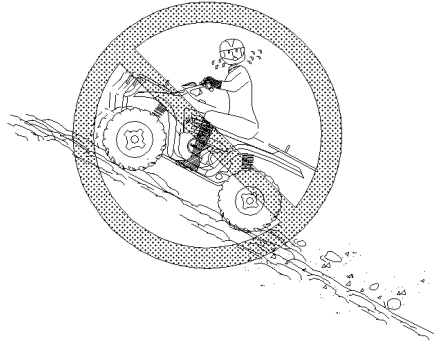
Stalling, rolling backwards, or improperly dismounting while climbing a hill.

WHAT CAN HAPPEN

Could result in ATV overturning.

HOW TO AVOID THE HAZARD

Maintain steady speed when climbing a hill. If you lose all forward speed, keep weight uphill and apply the brakes. Lock the parking brake after you are stopped. If you begin rolling backwards, keep weight uphill; never apply engine power. Never apply the rear brake while rolling backwards. Apply the single-lever brake gradually. When fully stopped, apply rear brake as well, and then lock parking brake. Dismount on uphill side, or to either side if pointed straight uphill. Turn the ATV around and remount following the procedure described in Section 12 “Riding – Turning around on a Hill”.



WARNING

POTENTIAL HAZARD

Improperly operating over obstacles.

WHAT CAN HAPPEN

Could cause loss of control or a collision. Could cause the ATV to overturn.

HOW TO AVOID THE HAZARD

Before operating in a new area, check for obstacles. Use extreme caution when riding over large obstacles, such as large rocks or fallen trees. If you cannot avoid obstacles, always follow proper procedures as described in Section 12 “Riding – Trail Obstacles”.



WARNING

POTENTIAL HAZARD

Skidding or sliding.

WHAT CAN HAPPEN

You may lose control of the ATV. You may also regain traction unexpectedly, which may cause the ATV to overturn.

HOW TO AVOID THE HAZARD

On slippery surfaces, such as ice, go slowly and be very cautious in order to reduce the chance of skidding or sliding out of control. Always follow proper procedures as described in Section 12 “Riding – Riding on Slippery Surfaces”.



WARNING

POTENTIAL HAZARD

Operating this ATV through deep or fast flowing water.

WHAT CAN HAPPEN

Tires may float, causing loss of traction and loss of control, which could lead to an accident.

HOW TO AVOID THE HAZARD

Never operate the ATV through water which exceeds the recommended maximum depth in this manual (see Section 12 “Riding – Crossing Streams”). Avoid operating the ATV through deep or fast flowing water. Remember that wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary, apply them several times to let friction dry out the pads.



WARNING

POTENTIAL HAZARD

Improperly operating in reverse.

WHAT CAN HAPPEN

You could hit an obstacle or person behind you, resulting in severe injury.

HOW TO AVOID THE HAZARD

When you select reverse gear, make sure there are no obstacles or people behind you. When it is safe to proceed, go slowly. Always follow proper procedures as described in Section 12 “Riding – Operating in Reverse”.



WARNING

POTENTIAL HAZARD

Operating this ATV with improper tires, or with improper or uneven tire pressure.

WHAT CAN HAPPEN

Use of improper tires on this ATV, or operation of this ATV with improper or uneven tire pressure, may cause loss of control, and increases the risk of an accident.

HOW TO AVOID THE HAZARD

Always use the size and type tires specified in Section 21 “System Specifications” for this vehicle. Always maintain proper tire pressure specified as well.



WARNING

POTENTIAL HAZARD

Operating this ATV with improper modifications or accessories.

WHAT CAN HAPPEN

Improper installation of accessories or modification of this vehicle may cause changes in handling which in some situations could lead to an accident.

HOW TO AVOID THE HAZARD

Never modify this ATV through improper installation or use of accessories. All parts and accessories added to this vehicle should be genuine or equivalent components designed for use on this ATV, and should be installed and used according to instructions supplied with the part. If you have questions, contact 1-800-643-7332.



WARNING

POTENTIAL HAZARD

Overloading this ATV or carrying or towing cargo improperly.

WHAT CAN HAPPEN

Could cause changes in vehicle handling, which could lead to an accident.

HOW TO AVOID THE HAZARD

Never exceed the stated load capacity for this ATV specified in Section 21 “System Specifications”. Cargo should be properly distributed and securely attached. Reduce speed when carrying cargo or pulling a trailer and allow greater distance for braking. Always follow proper procedures as described in Section 13 “Carrying Loads”.



WARNING

POTENTIAL HAZARD

Riding on frozen lakes and rivers.



WHAT CAN HAPPEN

Severe injury or death can result if the ATV and /or the operator break through the ice.

HOW TO AVOID THE HAZARD

Never ride your ATV on a frozen body of water before you are sure the ice is thick enough and sound enough to support the machine and its operator, as well as the force that is created by a moving vehicle.



WARNING

- After a rollover or an accident, have a qualified service dealer check the complete machine including, but not limited to, brakes, throttle and steering for possible damage.
- Safe operation of this rider-interactive vehicle requires good judgment and physical skills. Persons with cognitive or physical disabilities who operate this vehicle have an increased risk of overturns and loss of control, which could result in severe injury or death.
- Keep combustible materials away from exhaust system. Fire may result.

7. Vehicle Identification



Record these numbers from your ATV in the spaces provided.

1. Frame VIN (found on the left side, below engine, by rear swing arm)
2. Engine Serial Number (left front side of engine crankcase)

The vehicle VIN and engine serial numbers are important for model identification when registering your vehicle, obtaining insurance, or whenever replacement parts are required. Also, these numbers are essential to the recovery and identification of your ATV if it is ever stolen.

Frame VIN

Engine Serial #

Remove the spare key and store in a safe place.

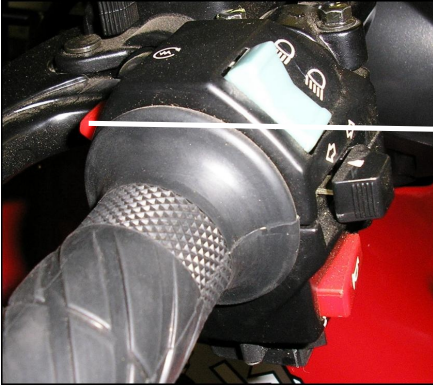
Your key can only be duplicated by obtaining a key blank and having it cut by mating it with your existing key. Record key number in space below.

Key Number

8. Basic System Functions

Electrical Switches





3



4

Pictures are for Reference Only

1. Main Switch – This key switch must be turned clockwise to the “on” position to start the engine.
2. Hazard Light Switch (when equipped) – When the switch is pushed to “ ”, the four signal lights are on and the buzzer is sounding.
3. Engine Start Button – To start the engine.
4. Engine Stop Switch – To stop the engine.
5. Override Button – press the override button BEFORE backing up to obtain additional power.
6. Bright Light Switch – Will change the light setting from dim to bright.
7. Blinker Switch – Will activate both left and right blinkers.
8. Horn Button – Will activate the horn.



WARNING

Never activate the override button while throttle is open as loss of control may result, causing severe personal injury or death.

Light Switches and Indicator Lights



WARNING

This ATV is NOT equipped with highway-approved lighting. This ATV is designed for off-road use only and must not be ridden on streets or highways. Use caution and drive at reduced speeds in conditions of reduced visibility such as fog, rain and darkness.

Switches

The light switch is located on the left hand handlebar. In addition to turning the lights on and off, it also switches the lights between High and Lo on models equipped with Hi – Lo beams.

Indicator Lights

The ATV has indicator lights. The configuration of these lights differs with individual models and not every model is equipped with all the lights. This information will help you identify the lights on your machine and their function.

With engine running, verify function of indicator lights each time ATV is used.

NOTE: The taillight is on whenever the main switch (key) is in the “on” position. Turn the key off to prevent battery drain.

1. High Beam Indicator – Blue
2. Transmission Reverse – Purple
3. Turn Signal Indicator – Green
4. 4WD Indicator - Yellow
5. Transmission Neutral – Green
6. High Temp – Red (Will light only if engine overheats, at the same time, a buzzer sounds)



Throttle



WARNING

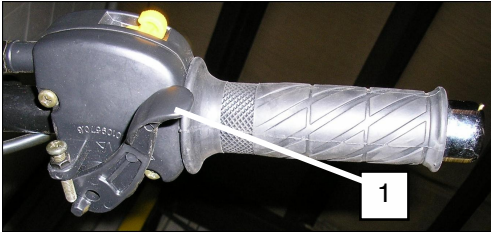
Do not start or operate an ATV with sticking or improperly operating throttle control. A stuck or improperly operating throttle could cause an accident resulting in injury or death. Always contact your dealer for service repairs whenever throttle problems arise. Failure to check or maintain proper operation of the throttle system can result in the throttle lever sticking during riding and cause an accident. Always check the lever for free movement and return before starting the engine and occasionally during riding.



WARNING

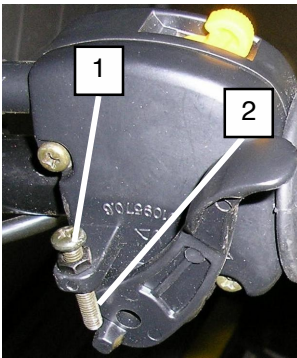
Washing or operating the ATV in freezing temperatures can result in water freezing in the throttle cable conduit and/or on the throttle mechanism. This may result in the throttle sticking which can cause the engine to continue to run and result in loss of control.

Throttle Lever



Pressing the throttle lever (1) with your thumb controls engine speed and vehicle movement. The throttle lever is spring-loaded and engine speed returns to idle when the lever is released.

Speed Adjustment



To limit throttle travel and top speed, the ATV is equipped with a throttle adjuster screw. The screw can be turned in to lower the top speed and out to increase the top speed. After adjustment, the locknut must be tightened down against the throttle housing.

1. Locknut
2. Throttle Adjuster Screw

Front and Rear Brake Control



WARNING

Never operate the ATV with a spongy feeling brake lever. Operating the ATV with a spongy brake lever can result in loss of braking. Loss of braking could cause an accident.

The front and rear brake control is located on the left handlebar and operated by the left hand. The front and rear brakes are hydraulically activated disc type brakes, which are activated by one control only. Always test brake lever travel and reservoir fluid level before riding. When squeezed, the lever should feel firm.

Any sponginess would indicate a possible fluid leak or low master cylinder fluid level which must be corrected before riding. Contact 1-800-643-7332 for proper diagnosis and repairs.

Front and Rear Brake Control Lever



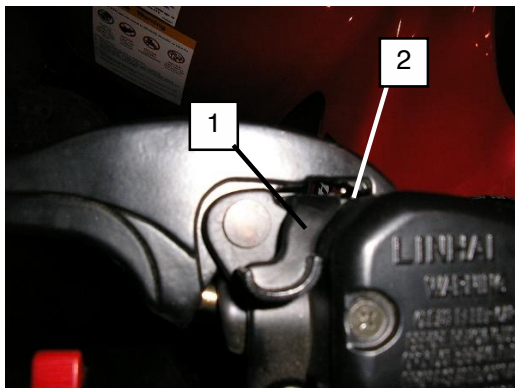
Setting the Parking Brake



WARNING

Always check to be sure that the parking brake has been disengaged before operating the ATV. An accident could result causing severe injury if the parking brake is left on while the ATV is operated.

1. Squeeze the left hand brake lever two or three times and hold it.
2. Push the park brake lock (1) into the notches (2) on the master cylinder body. Release the brake lever.
3. To release the parking brake lock, squeeze the brake lever. It will



return to its released position.

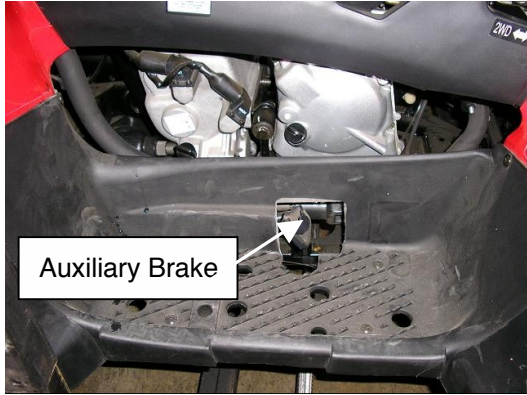
Important Safeguards

- The parking brake may relax when left on for a long period time. This could cause an accident.
- Do not leave the vehicle on a hill depending on the parking brake for more than five minutes.
- Always block the downhill side of the wheels if leaving the ATV on a hill or park the ATV in a side hill position.

Auxiliary Brake Operation

WARNING

Use caution when applying the auxiliary brake. Do not aggressively apply the auxiliary brake when going forward or the rear wheels may skid and slide sideways causing loss of control.



WARNING

Aggressively applying the auxiliary brake when backing down a hill may cause the ATV to become unstable and tip over.

Your ATV has an auxiliary brake, provided as a safety feature, which operates a rear brake on your unit. Step on the pedal located on the right footboard to operate the auxiliary brake. The auxiliary brake is intended as a backup to the main brake system in the event the main system becomes inoperative.

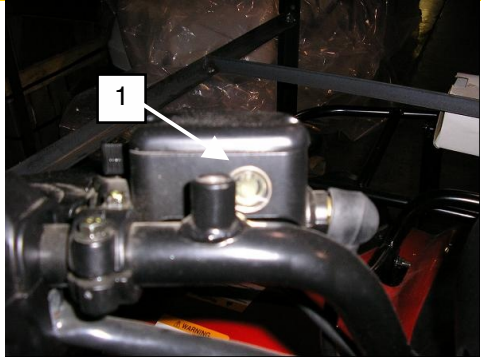
Brake Fluid Levels

WARNING

Once a bottle of brake fluid is opened, use what is necessary and discard the rest. Do not store or use a partial bottle of brake fluid. Brake fluid is hygroscopic, meaning that it rapidly absorbs moisture from the air. This causes the boiling temperature of the brake fluid to drop, which can lead to early brake fade and the possibility of severe injury.

Master Cylinder

The brake fluid in the master cylinder, which is located on the left handlebar, should be checked before each ride. There is an indicator window (1) on the top of the master cylinder. This window will appear dark when the fluid level is full. When fluid needs to be added, the window will be clear.



NOTE: When checking brake fluid, the ATV must be on level ground and the handlebars must be straight. If fluid level is low add DOT 3 only.

Auxiliary Brake

The brake fluid level for the auxiliary brake should be checked before each ride. The reservoir is located under the seat. The fluid should be kept between the maximum and minimum marks.

Automatic Transmission Gear Selector Operation



WARNING

Engaging a lower gear when the engine speed is too high could cause the wheels to stop rotating leading to loss of control which could lead to the possibility of death or serious injury.

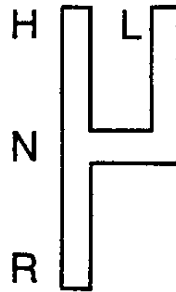


CAUTION

To change gears, stop the vehicle and with the engine idling, move the lever to the desired gear. Shifting gears with the engine speed above idle or while the vehicle is moving could cause transmission damage.

The transmission gear selector is located on the right side of the vehicle. The transmission selector lever has four positions: high forward; neutral; reverse; and low forward.

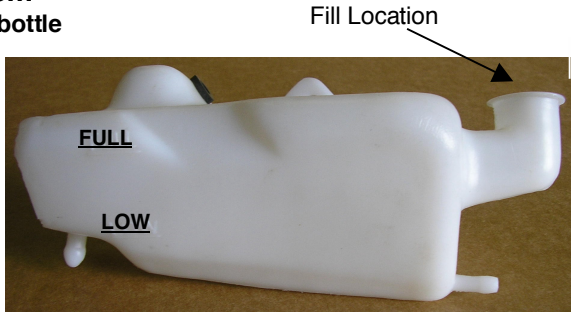
Always place the transmission in gear with the parking brake locked whenever the vehicle is left unattended. Shift linkage adjustment is important to assure proper transmission function. Should you experience any shifting problem, contact 1-800-643-7332.



NOTE: There is a torque converter belt used to drive the transmission. To extend belt life, use low forward gear in heavy pulling situations and in situations when you are operating below 7mph (11km/h) for extended periods of time.

Engine Cooling System
Coolant level – Recovery bottle

The recovery bottle, located under the seat, must be maintained between the minimum and maximum levels indicated on the recovery bottle. Remove the seat and the coolant reservoir cap to add coolant to appropriate level.



The engine coolant level is controlled or maintained by the recovery system. The recovery system components are the recovery bottle, radiator filler neck, radiator pressure cap and connecting hose. As coolant operating temperature increases, the expanding (heated) excess coolant is forced out of the radiator past the pressure cap and into the recovery bottle. As engine coolant temperature decreases, the contracting (cooled) coolant is drawn back up from the tank past the pressure cap and into the radiator.

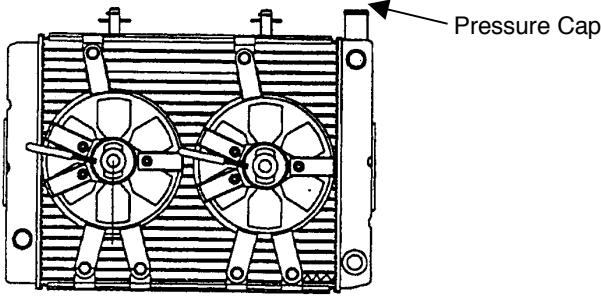
NOTE: Some coolant level drop on new machines is normal as the system is purging itself of trapped air. Observe coolant levels and maintain as recommended by adding coolant to the recovery bottle. We recommend the use of a 50/50 mixture of high quality aluminum compatible anti-freeze coolant and distilled water. (Always follow the anti-freeze manufacturer’s mixing recommendations for the freeze protection required in your area.)

Radiator Coolant Level

If the cooling system has been drained for maintenance and/or repair, slowly add coolant as necessary through the radiator filler neck. It is recommended that the system be completely drained every two years and a fresh mixture of antifreeze and water be added so that the coolant maintains its ability to protect the engine. Use of a non-standard pressure cap will not allow the recovery system to function properly. If the cap should need replacement contact 1-800-643-7332 for the correct replacement part.

 **WARNING**

Never remove the pressure cap (1) when the engine is warm or hot. Escaping steam can cause severe burns. The engine must be cool before removing the pressure cap.



Fuel System



WARNING

- Gasoline is highly flammable and explosive under certain conditions.
- The engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects or other reproductive harm.

CAUTION: Alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage for 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel next season. See storage instructions in Section 17 “Maintenance” for additional information.

CAUTION: Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

Additional Fuel System Safety Instructions

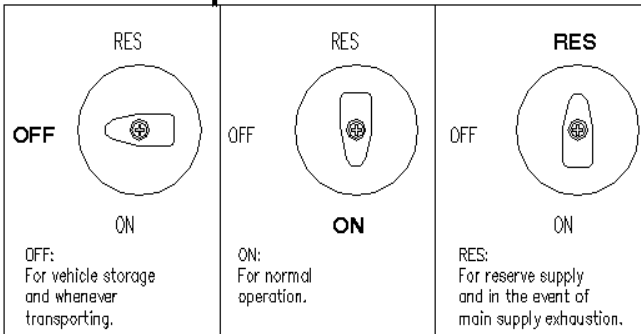
- Always exercise extreme caution whenever handling gasoline.
- Always refuel with the engine turned off and outdoors or in a well-ventilated area.
- Do not smoke or allow open flames or sparks in or near the area where refueling is performed or where gasoline is stored.
- Do not over fill the tank. Do not fill the tank neck.
- If you get gasoline on your skin or clothing, immediately wash it off with soap and water and change clothing.
- Never start the engine or let it run in an enclosed area. Gasoline powered engine exhaust fumes are poisonous and can cause loss of consciousness and death in a short time.
- Shut off the fuel valve whenever the ATV is stored or parked.

The fuel tank filler cap (1) is located directly behind the handlebar. Refer to Section 19 “Specifications” for tank capacity. Use regular unleaded gasoline. The fuel valve selector is located on the left side of the front fender and has three positions:

OFF: For vehicle storage and whenever transporting.

ON: For normal operation.

RES: For reserve supply in the event of main supply exhaustion.



NOTE: The reserve supply has about a 6 mile /10km range of gas. Always refill the gas tank as soon as possible after having used the reserve supply. Always return valve to ON position after refueling the machine.

Fuel Filter

The filter should be replaced every 100 hours of operation or annually. Do not attempt to clean the fuel filter.

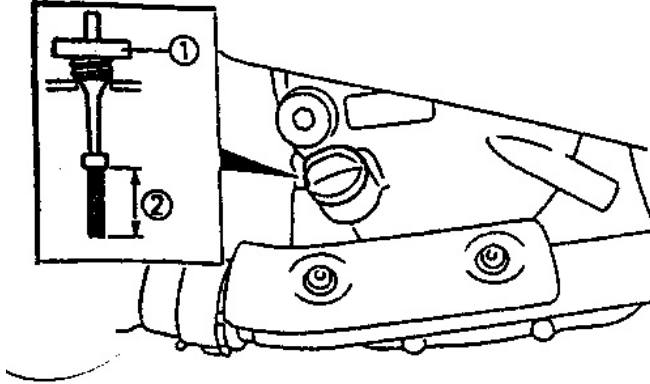
Oil System



CAUTION

Use only SAE 15W/40 OIL. Never substitute or mix oil brands. Serious engine damage and voiding of warranty can result.

The oil fill is located on the right side of the engine.



To check the oil:

1. Set machine on a level surface.
2. Start the engine and let it idle for 20-30 seconds.
3. Stop the engine, remove the dipstick (1) and wipe dry with a clean cloth.
4. Put dipstick into the oil fill hole, remove it, and read the oil level.
5. If the oil level is between the full and add marks (2). Add oil as indicated by the level on the dipstick. Do not overfill.

4-Wheel Drive System (4WD)



WARNING

Extremely heavy steering feel is a symptom of malfunction of the front gear case (differential). Loss of control could result, even in 2-Wheel Drive (2WD) position. If you experience any of these steering symptoms, contact 1-800-643-7332 for an authorized service dealer. Asymmetrical heavy steering is a symptom of malfunction of the inner or outer CV joints on one side of the unit. Loss of control could result, even in 2WD position. If you experience any of these steering symptoms, contact 1-800-643-7332 for an authorized service dealer.



CAUTION: To engage or disengage the 4WD drive system, stop the vehicle and with the engine idling, move the lever to desired position. Shifting while the vehicle is moving or the rear wheels are spinning could cause transmission and drive system damage.

4-Wheel Drive ATVs are equipped with an electronic shift. The shift selector is located on the right side handle bar. The selector lever has two positions: 2WD and 4WD. In 2WD (2-Wheel Drive), only rear drive is engaged. In 4WD, both rear and front drives are engaged.



The 4WD indicator will light when the front drive is engaged. After 4WD is engaged steering effort should increase but remain balanced from left to right.

NOTE: When shifting to the 2WD position from 4WD, the engagement shifter may appear to return to the engaged position, however, the 4WD will be disengaged. The 4WD shifter should finally disengage when the unit is ridden on a hard surface or in reverse. The 4WD indicator light will come off when the 4WD is disengaged. If the 4WD continues to remain engaged after following these instructions, contact 1-800-643-7332 for an authorized service dealer.

NOTE: Heavier steering effort and feel will be experienced when 4WD is engaged.

9. Starting the Engine



WARNING

Never run an engine in an enclosed area. Carbon monoxide exhaust gas is poisonous and can cause severe injury or death. Always start engines outdoors.

CAUTION: You must allow your vehicle adequate warm up time before operating or engine damage could result.

CAUTION: This ATV is only equipped with an electric start system. If the battery is under-charging, the ATV will not run.

Starting Procedure

The following procedure will assure all fuel lines are full and the engine will operate properly.

1. Make sure that the fuel tank is at least half full (approx. 2 gallons) with fresh, clean gasoline and the fuel valve selector is in the ON position.
2. Sit on the vehicle. Check that the engine stop switch is in the RUN position.
3. Turn the key switch to ON. Hold the brake lever and place transmission in



neutral. Press the engine start button. **NEVER** press the engine start button for more than 5 seconds at a time or you can flood the engine.

4. If the engine does not start, turn the key switch off, wait 15 seconds and repeat steps 3 and 4 two more times.
5. If after step 4 the engine still does not start, press and release the throttle lever $\frac{1}{4}$ of its full travel 3 times to prime the carburetor before attempting to start the engine again.

CAUTION: NEVER press the throttle more than $\frac{1}{4}$ of its full travel during the starting procedure. Doing so will flood the engine and cause fouling of the spark plug.

Cold Weather Starting (less than 40⁰ F)

Perform starting procedure steps 1 through 5.

NOTE: While pressing the engine start button it may be necessary to hold the throttle lever not more than $\frac{1}{4}$ of the full travel to accommodate the auto-choking system in a cold weather.

REMEMBER:

- Always double-check that the engine stop switch is in the RUN position.
- Turn the fuel valve selector to OFF when ATV is not in use or is being transported.
- Never press the engine start button for more than five seconds at a time or you can flood the engine.



10. Vehicle Break-in Period



CAUTION

Do not operate at full throttle or high speeds for extended periods during the break-in period. Excessive heat can build up and cause damage to close fitting engine parts.

CAUTION: Speed adjustment should be limited during the break-in period to a top speed of 25 MPH.

The break-in period for your new ATV is defined as the first 50 hours of operation. No single action on your part is as important as a proper break-in period. Careful treatment of a new engine will result in more efficient performance and longer life for the engine. Perform the following procedures carefully.

1. Fill fuel tank with fresh, clean fuel.
2. Check oil reservoir level indicated on dipstick. Add oil if necessary.
3. Drive slowly at first. Select an area which is open and will give you room to familiarize yourself with vehicle operation and handling.
4. Vary the throttle positions. Do not operate at a sustained idle.
5. Perform regular checks on fluid levels, controls, and all important areas on the vehicle as outlined earlier on the daily pre-ride inspection checklist found in Section 5 “Daily Pre-Ride Inspection”.
6. Don’t pull loads.
7. Change oil and filter after first 20 hours or 200 miles / 320 km.

11. Riding Gear

Safe Riding Gear

ATV riding requires special protective clothing, which will make your ride more comfortable and reduces the chance of injury.

1. **Helmet** – Your helmet is the most important piece of protective gear for safe riding. A helmet can prevent a severe head injury.
2. **Eye Protection** – A pair of goggles or helmet face shield offers the best protection for your eyes.
3. **Gloves** – Off-road style.
4. **Boots** – A pair of strong over the calf type boots with heels, such as moto-cross boots.
5. **Clothing** – To protect your body, long sleeves and pants should always be worn. Riding pants with kneepads, a jersey and shoulder pads provide the best protection.



12. Riding



WARNING

You must inspect your ATV each time before riding to ensure it is in proper working order. If proper inspection is not done, severe injury or death could result. See Section 5 “Daily Pre-Ride Inspection”

1. Sit upright with both feet on footrests and both hand on the handlebars.
 2. After starting the engine and allowing it to warm up, shift the transmission into gear.
 3. Check you surroundings and determine your path of travel.
 4. Release the parking brake.
 5. Slowly depress the throttle with your right thumb and begin driving. Vehicle speed is controlled by the amount of throttle opening.
 6. Drive slowly, practice maneuvering and using the throttle and brakes on level surfaces
-

Making Turns

Practice making turns at slow speeds. This ATV is equipped with a solid rear axle, which drives both rear wheels equally at all times. This means that the wheel on the outside of the turn must travel a greater distance than the inside wheels when turning and the inside tire must slip traction slightly. To turn, steer in the direction of the turn leaning your weight on the outer footrest. This technique alters the balance of traction between the rear wheels allowing the turn to be made smoothly. The same leaning technique should be used for turning in reverse.

Riding on Slippery Surfaces



WARNING

Failure to exercise care when operating the ATV on slippery surfaces can be dangerous. Loss of tire traction and vehicle control can result in an accident, including an overturn.

Whenever riding on slippery surfaces such as wet trails, loose gravel, or during cold freezing weather, special attention must be given to preventing vehicle turnover. Always observe the following:



Always:

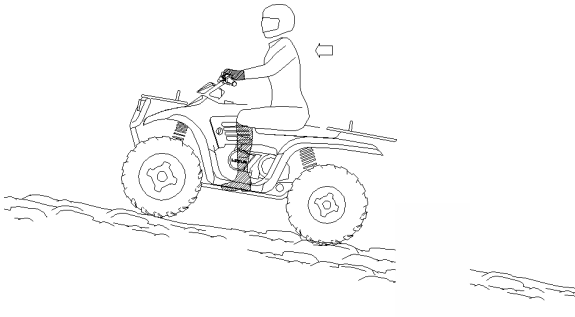
1. Slow down when entering slippery areas.
 2. Maintain a high level of alertness, reading the trail and avoiding quick, sharp turns which can cause skids.
 3. Correct a skid by turning the handlebars in the direction of the skid and shifting your body weight forward.
 4. Never apply brakes during a skid. Complete loss of ATV control can result.
 5. Do not operate on excessively slippery surfaces.
 6. Always reduce speed and use additional caution.
-

Traveling Uphill



WARNING

Exercise extreme caution when traveling in hilly terrain. Braking and handling are greatly affected. Loss of vehicle control or overturning of the ATV could occur causing severe injury or death.



Whenever traveling uphill always travel straight uphill and:

1. Avoid steep hills (15° incline maximum).
2. Keep both feet on the footrests.
3. Transfer your weight forward.
4. Proceed at a steady rate of speed and throttle opening.
5. Remain alert and be prepared to take emergency action. This may include quick dismounting of the ATV.

Side Hilling



WARNING

Improperly crossing hills or turning on hills can be dangerous. Loss of vehicle control or overturning of the ATV could occur causing severe injury or death.

Side hilling your ATV is one of the most dangerous types of riding and should be avoided. If you do enter into a situation where side hilling is necessary, always:

1. Slow down.
 2. Lean into the hill transferring your upper body weight toward the hill while keeping your feet on the footrests.
 3. Steer slightly into the hill to maintain vehicle direction.
 4. If vehicle begins to tip, quickly turn the front wheel downhill, if possible, or dismount on the uphill side immediately!
-

Traveling Downhill

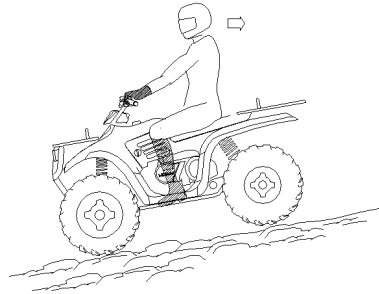


WARNING

When traveling downhill do not travel at excessive speeds. It is dangerous and can cause loss of vehicle control and tipping, resulting in severe injury or death.

Whenever descending a hill, always:

1. Drive directly downhill.
2. Transfer your weight to the rear of the vehicle.
3. Slow down.
4. Apply the brakes slightly to aid in slowing.



Familiarize yourself with the auxiliary rear brake pedal and its use in the event of losing the primary brakes.



Turning Around On A Hill

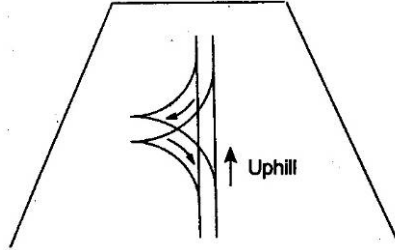


WARNING

Avoid climbing steep hills. Loss of vehicle control or overturning of the ATV could occur resulting in severe injury or death.

If the ATV stalls while climbing a hill, never back it down the hill! One maneuver, which can be used when it is necessary to turn around while climbing a hill, is the K-turn.

1. Stop and lock the parking brake while maintaining body weight uphill.
2. Leave transmission in forward and shut off engine.
3. Dismount on uphill side of ATV. If facing straight uphill dismount on left side of ATV.
4. Staying uphill of ATV, turn handlebars full left (while facing front of ATV).
5. While holding brake lever down, release parking brake lock and slowly allow ATV to roll around to your right until ATV is pointing across the hill or slightly downward.
6. Lock the parking brake and remount ATV from the uphill side, maintaining body weight uphill.
7. Restart engine with transmission still in forward, release the parking brake, and proceed slowly, controlling speed with the brake lever, until ATV is on reasonably level ground.



Crossing Streams



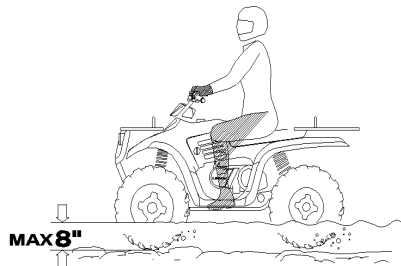
WARNING

Never operate the ATV through deep or fast flowing water.

Your ATV can operate through water up to maximum recommended depth of 8 inches.

Before crossing streams always:

1. Determine water depths and current.
2. Choose a crossing where both banks have gradual inclines.
3. Proceed slowly, avoiding rocks and obstacles if possible.





4. After crossing, dry the brakes by applying light pressure to the lever until braking action is normal.

NOTE: After running the vehicle in water, it is critical your machine is serviced as outlined in the maintenance chart in Section 17 “Maintenance”. The following areas need special attention: engine oil, transmission oil, rear gear case, and all grease fittings.

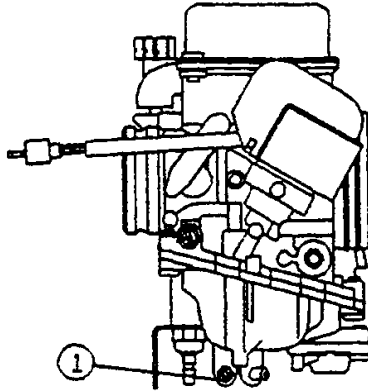


CAUTION

If your ATV becomes immersed or if water has been ingested into the CVT system, take it to your dealer before starting the engine. Major engine damage can result if the machine is not thoroughly inspected.

If it is impossible to take it to a dealer before starting, follow the steps below.

1. Move the ATV to dry land or at the very least, to water depth not more than 8 inch (200mm).
2. Turn the fuel valve selector to “OFF”.
3. Remove the spark plug.
4. Loosen the carburetor drain screw (1).
5. Turn the engine over several times with electric start.
6. Dry the spark plug and reinstall or replace with a new plug.
7. Tighten the carburetor drain screw (1).
8. Turn the fuel valve to “ON”.
9. Attempt to start the engine. If necessary repeat the “drying” procedure.
10. Take the machine to your dealer for service as soon as possible whether you succeed in starting it or not.

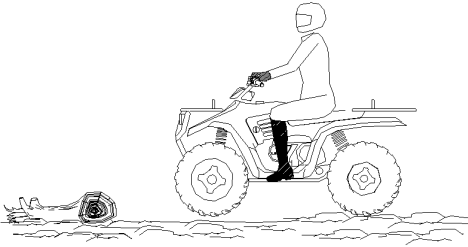


Trail Obstacles



WARNING

Not all obstacles are visible. Travel with caution on trails. Severe injury or death can occur if vehicle comes in contact with a hidden obstacle.



Keep Alert!

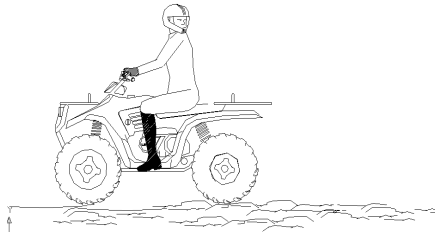
Look ahead and learn to read the trail as you ride. Stay on the right side of the trail if possible, and be constantly alert for hazards such as logs, rocks and low hanging branches.

Operating in Reverse



WARNING

Operating your ATV in reverse can be dangerous! You could hit an obstacle or person behind you; or the vehicle could tip over rearward on a steep incline causing severe injury or death.



WARNING

Avoid turning at sharp angles in reverse as tip over and severe injury may result. Opening the throttle more than required may cause excessive fuel to build in the



WARNING

exhaust, which may result in engine popping and/or engine damage.



Backing up

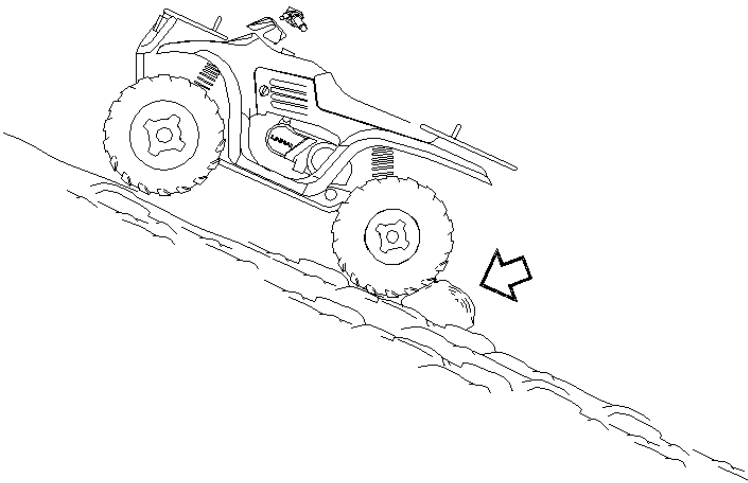
1. Avoid backing up on steep inclines.
2. Always back up slowly.
3. When in reverse, apply the brakes lightly for stopping.
4. Avoid turning at sharp angles in reverse.
5. Never open the throttle suddenly while operating in reverse.
6. Only press the override button BEFORE backing up. Pressing the button while throttle is open can result in loss of control, causing severe personal injury or death.

NOTE: This ATV is equipped with a reverse speed limiter. Do not operate at wide-open throttle. Only open the throttle enough to maintain a desired speed.

Parking on an Incline

Whenever the vehicle is parked on an incline:

1. Turn the engine off.
2. Place the transmission in gear.
3. Set the parking brake.
4. Shut off fuel supply.
5. Avoid parking on an incline. If it is necessary to park on an incline, always block the rear wheels on the downhill side as shown below.
6. Do not depend on the parking brake alone when leaving the ATV on a hill for more than five minutes.



13. Carrying Loads



WARNING

Correct loading of this vehicle is necessary to maintain proper stability and operating characteristics. Never exceed the load weights specified in Section 21 “Specifications” of this manual. Overloading or incorrect positioning of the load affects the vehicle’s turning, stopping distance and stability. Failure to follow loading requirements could cause severe injury or death.

Important Safeguards for Carrying Loads

To reduce risk of injury or machine damage when carrying loads, read and follow the warnings listed below:

- Reduce speed and allow greater distance for braking when carrying loads.

- Load weight distribution should be 1/3 on the front rack and 2/3 on the rear rack. When operating over rough or hilly terrain, reduce speed and cargo to maintain stable driving conditions. Carrying loads on one rack only increases the possibility of vehicle tip over.

1/3 of load on front 2/3 of load on rear



- Heavy loads can cause braking and control problems. Use extreme caution when applying brakes with a loaded vehicle. Avoid terrain or situations which may require backing downhill.
- All loads must be carried as low and horizontally on the racks as possible. Carrying loads high and vertically on the racks raises the center of gravity of the vehicle and creates a less stable operating condition. When loads are carried high on the racks, the weight of the loads must be reduced to maintain stable operating conditions.
- Operate only with stable and safely arranged loads. Avoid handling loads which cannot be centered.
- Avoid operating the vehicle with loads extending over the rack sides. Stability and maneuverability may be adversely affected, causing the vehicle to overturn – extreme caution must be used.
- Do not block the headlight, taillight, or the reflectors when carrying loads on the racks.



- Always attach a tow load to the hitch point designated for your ATV.
- The vehicle should never exceed 10 mph (16km/h) while towing a load on a level grass surface. Vehicle speed should never exceed 5 mph (8km/h) when towing loads in rough terrain, while cornering, or while ascending or descending a hill.
- Use of low forward gear is recommended in heavy pulling situations to extend belt life.

14. CVT System (Continuously Variable Transmission)



WARNING

The CVT (Continuously Variable Transmission) system rotates at high speeds, creating large amounts of force on clutch components. However, as the owner, you have the following responsibilities to make sure this system remains safe:

- Do not modify any component of the CVT system. Doing so may reduce its strength so that a failure may occur at high speeds. Any modification will cause the system to be out of balance, creating vibration and additional loads on components.
- If you experience any problems with the CVT, contact 1-800-643-7332 for the name of an authorized service center.
- The CVT housing must be securely in place during operation. See illustrated parts list.

Low Range Use May Reduce CVT Operating Temperatures

The basic operation of the CVT system is dependent on engine speed and vehicle torque requirements. As engine speed increases, the force exerted on the movable drive sheave by the fly-weights also increases. This, in turn, increases the amount of “pinch” applied to the drive belt. Similarly, if the engine speed decreases, the amount of centrifugal force decreases, reducing the amount of belt “pinch.”

On this ATV, the approximate gear ratio difference between high and low range is 1:2.05. This difference in gearing affects the operation of the CVT, especially at speeds less than 7 MPH, due to the system’s dependence on engine speed.

By switching to low range while operating at low ground speeds, the air temperature in the clutch will be reduced. Reducing the temperature inside the clutch cover extends the life of the CVT components (belt, cover, etc.).



When To Use Low or High Range

The following lists provide a guideline for when to use low range or high range during operation of your vehicle.

Low Range

- Basic operation at speeds less than 7 MPH (11km/h)
- Heavy pulling
- Riding through rough terrain (swamps, mountains, etc.) at low ground speeds

High Range

- Basic operation at speeds greater than 7 MPH (11km/h)
- High ground speeds

15. Battery



WARNING

Whenever removing the battery, disconnect the negative (black) cable first. When reinstalling the battery, connect the negative (black) cable last or explosive situation could result causing serious injury or death.



WARNING

Battery electrolyte is poisonous - KEEP OUT OF REACH OF CHILDREN. It contains sulfuric acid. Serious burns can result from contact with skin, eyes or clothing. If contact occurs:

External: Flush with water.

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

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

Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in an enclosed space. Always wear eye protection when working around batteries.



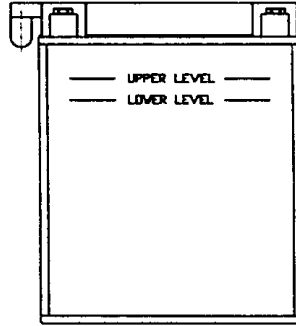
CAUTION

If electrolyte spills onto ATV, immediately wash it off with a solution of one-tablespoon baking soda and one cup water to prevent damage to the ATV.



Replenishing the Battery Fluid

A poorly maintained battery will deteriorate rapidly. Check the battery fluid level often. The fluid level should be kept between the upper and lower level marks. To refill use only distilled water. Tap water contains minerals which are harmful to a battery.



Battery Removal — see illustrated parts list

1. Disconnect hold down straps holding the electrical box and battery in position and remove battery cover.
2. Remove the battery vent tube from the battery.
3. Disconnect the black (negative) battery cable first.
4. Disconnect the red (positive) battery cable next.
5. Lift the battery out of the ATV, being careful not to tip it sideways and spill electrolyte.

Battery Installation and Connections



WARNING

To avoid the possibility of explosion, always connect battery cables in the order specified. Red (positive) cable first; black (negative) cable last. An exploding battery can cause serious injury or death.



CAUTION

Your ATV is equipped with a 14Amp Battery. This may not be sufficient to provide power for optional equipment. When installing optional equipment please upgrade your battery as necessary. Contact 1-800-643-7332 for the proper battery.

Battery terminals and connections should be kept free of corrosion.

If cleaning is necessary, remove the corrosion with a stiff wire brush. Wash with a solution of one-tablespoon baking soda and one cup water. Rinse well with tap water and dry off with clean rags. Coat the terminals with dielectric grease or petroleum jelly. Be careful not to allow cleaning solution or tap water into the battery.



Battery Installation

1. Set the battery in its holder.
2. Install the battery vent tube. It must be free from obstructions and securely installed. If not, battery gases could accumulate and cause an explosion. The tube should be routed away from the frame and body to prevent corrosion. Avoid skin contact with electrolyte; severe burns could result.
3. First connect and tighten the red (positive) cable.
4. Second connect and tighten the black (negative) cable.
5. Reinstall battery cover and attach the hold down strap.
6. Verify that cables are properly routed.

NOTE: When parking the ATV for any amount of time make sure that the main switch (key) is turned to the “OFF” position. Doing so will prevent battery drain.

NOTE: When your ATV is placed in storage for one month or more, the battery should be removed, charged to proper level, and stored in a cool dry place. Before reusing, take the battery for testing and recharging. Contact 1-800-643-7332 for an authorized service center. When installing a new battery, make certain it is fully charged prior to its initial use. Using a new battery that has not been fully charged can damage the battery resulting in a shorter life of the battery, it can also hinder vehicle performance.

16. Exhaust System

DO NOT TAMPER WITH NOISE CONTROL SYSTEM (MUFFLER)!



WARNING

Exhaust system components are very hot during and after use of ATV. Do not touch exhaust system components. Serious burns can result. Be especially careful when traveling through tall grass. The potential for fire exists.



WARNING

When cleaning the spark arrester, you must follow the safe guards listed below to avoid serious injury.

- Do not perform this operation immediately after the engine has been run because the exhaust system becomes very hot.
- Keep combustible materials away from exhaust system. Fire may result.

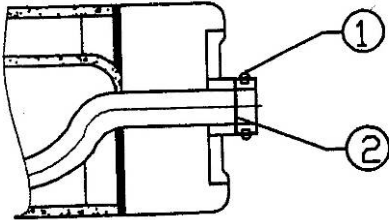
Spark Arrester

In the state of California the spark arrester is required by law (section 4442 of the California Public Resources Code). Other states may have similar laws. Federal

laws apply on federal lands. A spark arrester for the muffler is available by contacting Manco Customer Service at 1-800-643-7332 or 1-260-432-1596.

The exhaust pipe must be periodically purged of accumulated carbon as follows:

1. Remove the arrester screw (1) located on the bottom of the muffler, pull out the spark arrester (2) (the mesh).
2. Clean the arrester or replace it.



17. Maintenance



WARNING

Service and adjustment are critical. If you are not familiar with safe service and adjustment procedures, have a qualified dealer perform these operations.

Periodic Maintenance Schedule

Careful periodic maintenance will help keep your vehicle in the safest, most reliable condition. Inspection, adjustment, and lubrication intervals of important components are explained in the tables on the following pages.

Maintenance intervals are based upon average riding conditions and an average vehicle speed of approximately 10 miles per hour. Vehicles subjected to severe use, such as operation in wet or dusty areas, should be inspected and serviced more frequently. Inspect, clean, lubricate, adjust or replace parts as necessary.

NOTE: Inspection may reveal the need for replacement parts. Always use genuine parts available by contacting 1-800-643-7332.



Maintenance Table Codes

(See illustrated parts list for view of mentioned ATV parts.)

D – Due to the nature of these adjustments, items marked with this symbol are recommended for repair or replacement by an authorized service center. Call 1-800-643-7332 for service.

- – Check more often under severe use, such as dirty or wet conditions.

NI – Not Illustrated.

Grease – Light- weight lithium-soap grease.

Grease M - Molybdenum disulfide (MoS₂) grease (water resistant).

- * – When suspension action becomes stiff or after washing.

Hours are based on 10 mph (16Km/h) average.

Maintenance Table

Code	Item	Hours	When	Remarks
	Brake System	Pre-ride	Pre-ride	Pre-ride inspection item
	Auxiliary Brake	Pre-ride	Pre-ride	Pre-ride inspection item
	Tires	Pre-ride	Pre-ride	Pre-ride inspection item
	Wheels	Pre-ride	Pre-ride	Pre-ride inspection item
	Frame nuts, bolts, fasteners	Pre-ride	Pre-ride	Pre-ride inspection item
•	Air Filter - Pre-Cleaner	Daily	Daily	Inspect - Clean
	Coolant/Level Inspection	Daily	Daily	Replace engine coolant annually.
•	Air Box Sediment Tube	Daily	Daily	Drain deposits whenever visible.
	Headlamp Inspection	Daily	Daily	Check operation daily; Apply dielectric grease to connector when replaced
	Tail lamp inspection	Daily	Daily	Check operation daily; Apply dielectric grease to socket when replaced
•	Air Filter - Main Element	Weekly	Weekly	Inspect; replace if necessary
•	Transmission Oil Level	20 hrs	Monthly	Inspect monthly; Change annually
	Battery	20 hrs	Monthly	Check/clean Terminals; Check fluid level



Code	Item	Hours	When	Remarks
D	Brake pad wear	10 hrs	Monthly	Visually Inspect periodically
•	Rear Gear case Oil	100 hrs	Monthly	Check monthly and change annually
•	Front Gear case Oil (Only for 4WD)	100 hrs	Monthly	Check monthly and change annually
	Engine Cylinder Head and Cylinder Base Fasteners	25 hrs	3 months	Inspect (re-torque required at first service only)
•	General Lubrication	50 hrs	3 months	*Lubricate all fittings, pivots, cables, etc.
•	Engine Oil-Level/Change	30 hrs	3 months	Check Level Daily; Break in Service at 1 month. Change oil more often in cold weather use.
•	Oil Filter	50 hrs	6 months	Inspect-clean
	Engine breather hose	100 hrs	6 months	Inspect
	Carburetor Float Bowl	50 hrs	6 months	Drain bowl periodically and prior to storage
D	Throttle Cable	50 hrs	6 months	Pre-ride inspection item. Inspect –adjust, lubricate, replace if necessary.
	Coolant strength	100 hrs	6 months	Inspect strength seasonally
	Shift linkage	50 hrs	6 months	Inspect, adjust
D	Drive belt	50 hrs	6 months	Inspect, replace if necessary
•	Steering	50 hrs	6 months	Inspect daily, lubricate
•	Rear Axle	50 hrs	6 months	Inspect bearings, lubricate
•	Front Suspension	50 hrs	6 months	Inspect-lubricate, tighten fasteners
•	Rear Suspension	50 hrs	6 months	Inspect, tighten fasteners
	Spark Plug	100 hrs	12 months	Inspect-replace if necessary
D	Ignition Timing	100 hrs	12 months	Inspect and adjust as needed
D	Fuel System	100 hrs	12 months	Check for leaks at tank cap, lines, fuel valve, filter, and carburetor. Replace lines annually.
D	Fuel Filter	100 hrs	12 months	Replace annually

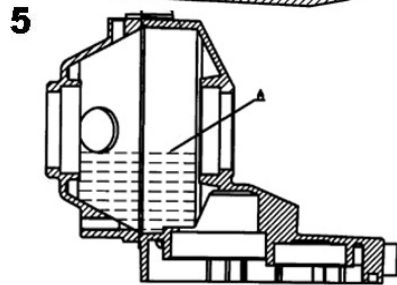
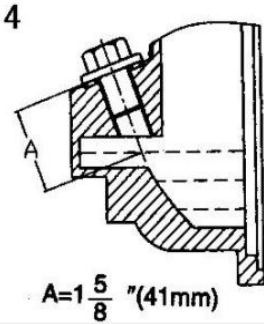
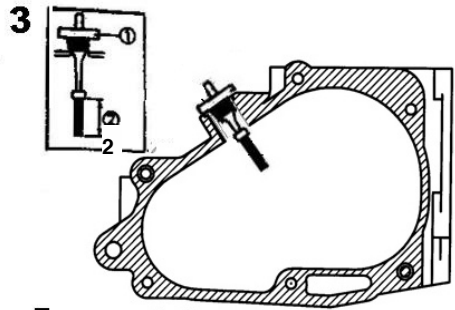
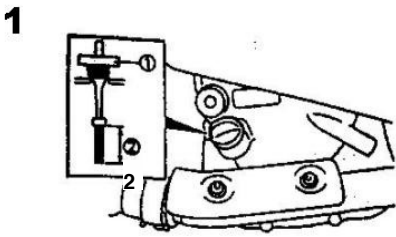


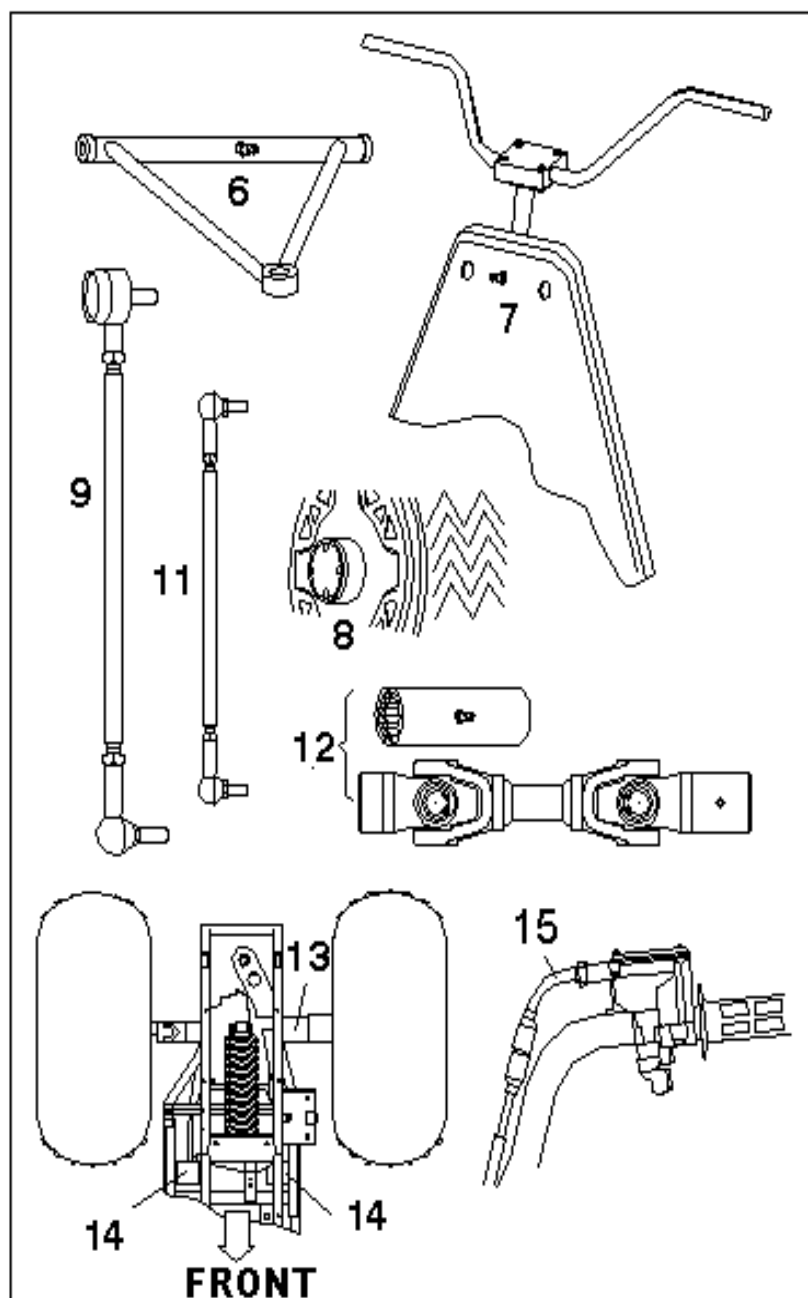
Code	Item	Hours	When	Remarks
	Radiator	100 hrs	12 months	Inspect/clean external surface
	Cooling System hoses	50 hrs	6 months	Inspect/replace if necessary
D	Spark arrester	10 hrs	Monthly	Clean out-replace if necessary
D	Clutches (Drive and Driven)	25 hrs	3 months	Inspect, clean
D	Engine mounts	25 hrs	3 months	Inspect to see if badly worn or missing
D	Valve clearance	100 hrs	12 months	Inspect/adjust
D	Shift selector box (H/L/R/N)	200 hrs	24 months	Change grease every two years
D	Brake fluid	200 hrs	24 months	Change every two years
	Idle Speed	As Required	As Required	Adjust
D	Toe adjustment	As Required	As Required	Periodic inspection, adjust when parts are replaced
	Headlight Aim	As Required	As Required	Adjust as necessary

Lubrication Recommendations

Code	Item	Lubricant / Fluid	Method	Frequency
	1. Engine Oil	SAE 15W/40	Proper fluid level is #2 in illustration 1	Check level daily
	2. Brake Fluid	DOT 3 Only	Maintain level between fill lines. See Section 8 "Basic System Functions – Brake Fluid Level"	Change every two years or 200 hours
	3. Transmission Oil	SEA 80W/90GL5	Proper fluid level is #2 in illustration 3	Change annually or at 100 hours
	4. Rear Gearcase Oil	SEA 80W/90GL5	See Section 17 "MAINTENANCE – Front/Rear Gearcase Lubrication"	Change annually or at 100 hours
	5. Front Gearcase Oil	SEA 80W/90GL5	See Section 17 "MAINTENANCE – Front/Rear Gearcase Lubrication"	Change annually or at 100 hours
•	6. Front A-arm Pivot Shaft	Grease	Locate fitting on pivot shaft and grease with grease gun	Every 3 months or 50 hours

Code	Item	Lubricant / Fluid	Method	Frequency
•	7. Steering Post Bushings	Grease	Locate fitting on pivot shaft and grease with grease gun	Every 3 months or 50 hours
• D	8. Front Wheel Bearings	Grease	Inspect and replace bearings if necessary	Semi-annually
	9. Tie rods	Grease	Locate fittings and grease	Semi-annually
	11. Shift Linkages	Grease	Locate fittings and grease	Semi-annually
• D	NI. Ball joints	Inspect	Inspect and replace it if necessary	Semi-annually
•	12. Prop Shaft & Shaft Yoke	Grease	Locate fitting and grease	Semi-annually
•	13. Rear Axle Bearing	Grease	Locate fittings and grease	Every 3 months or 50 hours
•	14. Swing Arm Bearing	Grease	Locate fittings and grease	Monthly or every 20 hours
• D	15. Throttle Cable	Grease M	Grease, inspect and replace it if necessary	Monthly or every 20 hours







Periodic Maintenance Record

Use the following table to record periodic maintenance work.

Maintenance Interval	Service Date	Service Dealer	Remarks
First 5 Hrs			
10 Hrs			
15 Hrs			
20 Hrs			
25 Hrs			
50 Hrs			
75 Hrs			
100 Hrs			



Handlebar Adjustment

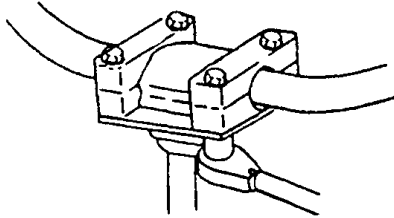


WARNING

Improper adjustment of the handlebars or incorrect torque of the adjuster block tightening bolts can cause limited steering or loosening of the handlebars, resulting in loss of control and possible serious personal injury or death.

Your ATV has handlebars which can be adjusted for your personal fit.

1. Remove the handlebar cover.
2. Loosen the four bolts.
3. Adjust handlebar to desired height. Be sure handlebars do not hit gas tank or any other part of machine when turned fully to the left or right.
4. Torque handlebar adjuster bolts to 10-12 ft.lbs (14-16 Nm).



NOTE: Tighten bolts so there is an equal gap at the front and rear of the handlebar block. Improper gap will result in improper fit of upper part.

Miscellaneous Adjustments

The following items should be checked occasionally for tightness, or if they have been loosened during maintenance service.

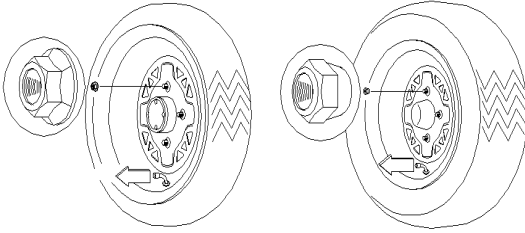
Wheel Nut Torque Specifications

Bolt Size	Specification	
Front M10 X 1.25	20 Ft.Lbs	27N.m
Rear M12 X 1.25	50 Ft.Lbs	69N.m

NOTE: An authorized service center must service all nuts that have a cotter pin installed. Call 1-800-643-7332 for service.

Front Wheel Hub Tightening

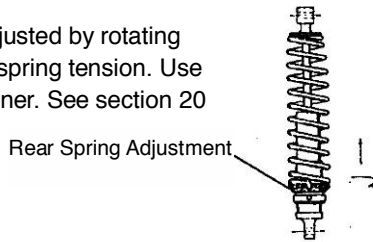
Front wheel bearing tightness and spindle nut retention are critical component operations. An authorized service center must perform service work. Call 1-800-643-7332 for service.



Front	Rear
Flange nuts: Install with flat side against wheel.	Tapered Nuts: Install with tapered side against wheel.

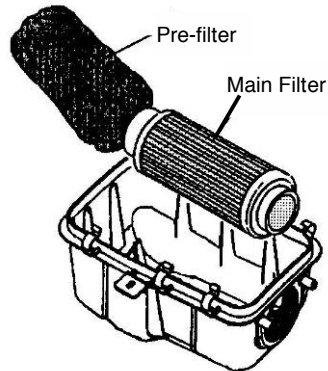
Rear Spring Adjustment

The rear shock absorber spring is adjusted by rotating the adjuster to increase or decrease spring tension. Use supplied rear spring adjustment spanner. See section 20 "Tools". Turn the adjustment to the right to assure proper tension.



Air Filter Service

1. Remove seat.
2. Release clips and remove cover.
3. Loosen clamp and remove filter.
4. Remove fabric type pre-filter from main filter. Wash pre-filter in soapy water and dry it.
5. Reinstall pre-filter over main filter. Replace main filter as required.
6. Reinstall filter into air box and tighten clamp. Do not over tighten clamp or filter damage may occur.



Steering Inspection

The steering assembly of the ATV should be checked periodically for loose nuts and bolts. If loose nuts and bolts are found, have your dealer tighten them before riding your vehicle.

Camber and Caster

The camber and caster are non-adjustable.

Toe Alignment Check

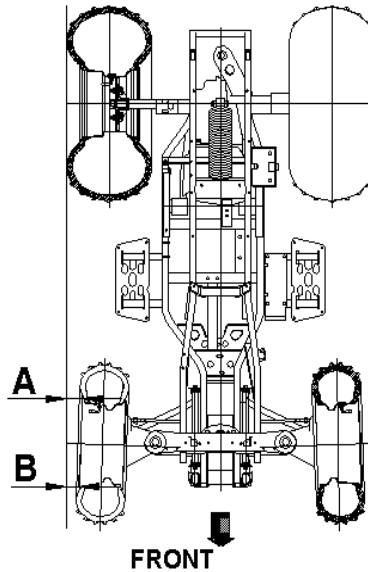
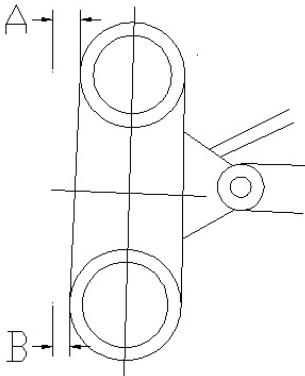


WARNING

Do not attempt to adjust the tie rod for toe alignment. Severe injury or death can result from improper adjustment. Contact 1-800-643-7332 to arrange for proper adjustment.

The recommended toe alignment is $1/8$ " to $1/4$ " (3 to 6mm) toe out.

1. Set the handlebars in a straight-ahead position and hold them in this position.
2. Measure A and B. A minus B
3. B should be $1/16$ " to $1/8$ " (1.5 to 3mm).
4. If this measurement needs to be adjusted, contact your dealer for service.





Front Brake



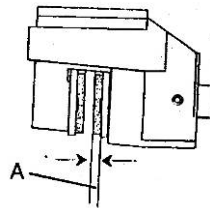
WARNING

Once a bottle of brake fluid is opened, use what is necessary and discard the rest. Do not store or use a partial bottle of fluid. Brake fluid is hygroscopic, meaning it rapidly absorbs moisture from the air. This causes the boiling temperature of the brake fluid to drop, which can lead to early brake fade and the possibility of serious injury.

The front and rear brakes are hydraulic disc brakes and are activated by the hand lever. The foot pedal on the right floorboard activates an auxiliary rear brake. These brakes are self-adjusting and require no adjustment.

The following checks are recommended to keep the brake system in good operating condition. How often they need checking depends upon the type of driving that has been done.

- Keep fluid level in the master cylinder reservoirs as described in section 7 “Control and Part Functions”. Normal functioning of the cylinder diaphragm is to extend into the reservoir as fluid level drops. If the fluid level is low and the diaphragm is not extended, a leak is indicated and the diaphragm should be replaced. Always fill the reservoir as indicated whenever the cover is loosened or removed to insure proper diaphragm operation. Use DOT 3 brake fluid.
 - Check brake system for fluid leaks.
 - Check brake for excessive travel or spongy feel.
 - Check friction pads for wear, damage and looseness.
 - Check security and surface condition of the discs.
 - Pads should be changed when friction material (A) is worn to $\frac{3}{64}$ (1mm).
-



Rear Brake

The left rear brake is a hydraulic disc type brake, which is activated by the same handlebar lever that activates the front brake system. It is self adjusting and requires no maintenance other than periodic checks of the pads for wear.

- Pads should be changed when the friction material is worn to $\frac{3}{64}$ (1mm).
- Inspect the brake disc and pad surface for excessive wear.

Auxiliary Brake System

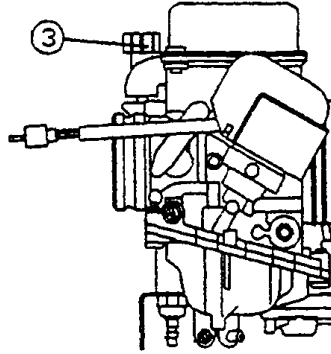
Your ATV's auxiliary brake system is intended for use as a backup for the main brake system. Should the main system fail, the right rear brake can be activated by depressing the foot pedal located on the right side footwell. The hydraulic brake system will not require adjustment.

NOTE: Since this is a rear brake only, it will not be as effective as the hand brake, which brakes all 4 wheels simultaneously.

Carburetor/ Engine Idle RPM Adjustment

If the engine idle speed is not satisfactory, and all other conditions are favorable, the carburetor can be adjusted as follows:

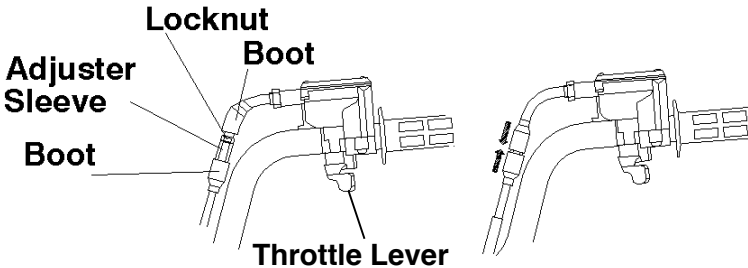
1. Warm up the engine by running the vehicle approximately five minutes.
2. Place the transmission in gear with the parking brake applied.
3. Adjust the carburetor idle screw (3) in or out until the desired idle RPM is reached. Turning the screw in (clockwise) will raise RPM. Turning the screw out (counterclockwise) will lower RPM. **Note:** The standard idle RPM is $1500 \pm 10\%$



Throttle Cable Free-Play Adjustment

Throttle cable free play is adjusted at the handlebar.

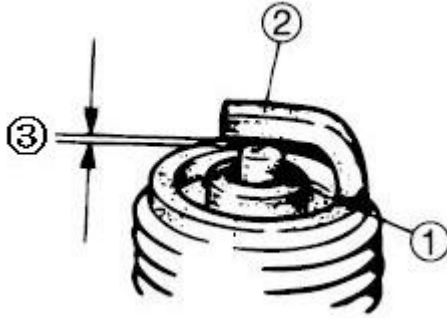
1. Slide the boots off inline cable adjuster; loosen adjuster locknut.
2. Turn adjuster until $1/16$ to $1/8$ (2 to 3mm) free-play is achieved at thumb throttle lever. **Note:** While adjusting free-play, it is important you flip the throttle lever back and forth.
3. Tighten locknut and slide boots over cable adjuster.



Spark Plugs

Inspect the following:

1. Insulator (1) for abnormal color. Normal color is a medium to light tan. Replace if necessary.
2. Electrode (2) for wear/damage. Replace or clean spark plug with spark plug cleaner or a wire brush.
3. Spark plug gap (3): 0.60 to 0.70mm. Adjust gap as necessary when out of specification.



Standard spark plug:
NGK DR7EA

Spark Plug Removal and Replacement



WARNING

Never attempt to remove a spark plug while the engine is warm. The exhaust system or engine could burn you causing severe injury.

Remove the spark plug by rotating counterclockwise. Reverse the procedure for spark plug installation. Torque to 17ft.lbs (23N.m).

Oil and Oil Screen Change



WARNING

Oil may be hot. Do not allow hot oil to come into contact with skin as severe burns may result

The recommended oil change interval is 30 hours, or every 3 months, whichever comes first. Suggested oil change during the break-in period is at 20 hours, or one month, whichever comes first. Only use high quality detergent oil rated with API service classification SG-SL. The recommended oil for this ATV is 15W/40. Be sure to change the oil screen (see illustrated parts list) whenever changing oil. Severe use operation requires more frequent service. Severe use includes continuous use in dusty or wet conditions, and cold weather riding.

NOTE: Cold weather riding is defined as all riding in temperatures below 10°F (-12C), and riding in temperatures between 10°F (-12C) and 30°F (0C) at slow speeds of less than 5 mph (8km/h).

To change oil:



1. Place vehicle on a level surface.
2. Run engine for two or three minutes until warm; stop engine.
3. Clean area around drain plug.
4. Place a drain pan beneath engine crankcase and remove drain plug.
5. Allow oil to drain completely.
6. Replace sealing washer O-ring of drain plug.
7. Reinstall drain plug and torque to 14 ft.lbs (19N.m).

Radiator Coolant Level Inspection



WARNING

Never remove the pressure cap when the engine is warm or hot. Escaping steam can cause severe burns. The engine must be cool before removing the pressure cap.

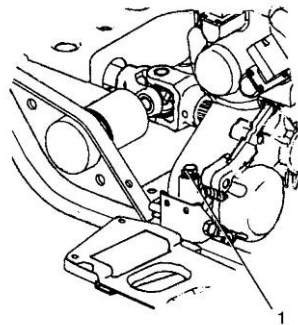
To ensure that the coolant maintains its ability to protect the engine, it is recommended that the system be completely drained every two years and a fresh 50/50 mixture of antifreeze and water be added. It is also necessary to inspect the level of coolant in the radiator if the recovery bottle has run dry.

To add coolant, make sure the engine is cool, remove radiator pressure cap, and using a funnel, slowly add coolant mixture as necessary through the radiator filler neck.

NOTE: Use of a non-standard pressure cap will not allow the recovery system to function properly. If the cap should need replacement contact 1-800-643-7332 for the correct replacement part.

Transmission Oil Check

The transmission fill plug (1) is located on the right side of the machine. The transmission lubricant level should be checked monthly or 20 hours, whichever comes first. Transmission oil should be changed annually. With the ATV on a level surface, remove fill plug and check the lubricant level. The correct transmission lubricant to use is SEA 80W/90 GL5 Lubricant. For the correct fluid level see section 17 "Maintenance – Lubrication Recommendations".



Transmission Oil Changing Procedure

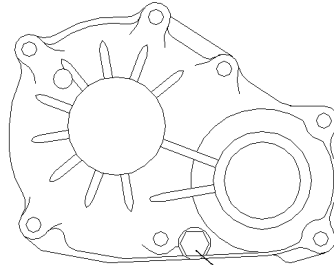
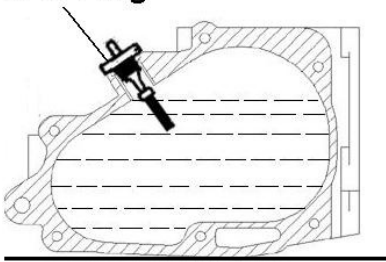
1. Remove the four screws on the foot well and gently pull outward for access to



transmission oil reservoir.

2. Remove fill plug.
3. Remove the transmission drain plug located on the bottom left hand side and drain the oil. Catch and discard used oil properly.
4. Clean and reinstall the drain plug torque to 14 ft.lbs. (20Nm)
5. Add the correct amount of SAE 80W/90GL5 Lubricant until oil reaches the bottom of the filler hole
6. Check for leaks.
7. Reinstall foot well and screws removed in step 1. Reinstall fill plug.

Fill Plug



Drain plug

Front/Rear Gear Case Lubrication

Checking the Level

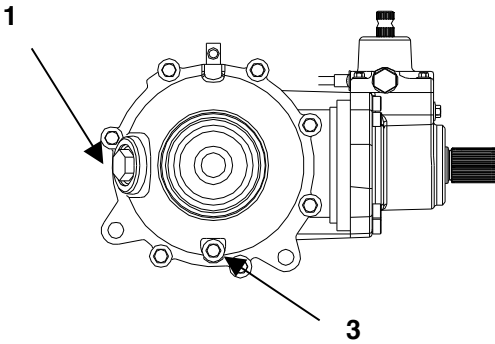
1. ATV should be on level surface.
2. Remove fill plug (1) and visually inspect lubricant level. Lubricant should be 1-5/8" (41mm) below the top of the fill hole on the rear gear case and even with the fill hole on the front gear case.
3. Reinstall fill plug. Tighten securely (14 ft.lbs/20N.m).

Changing the Oil

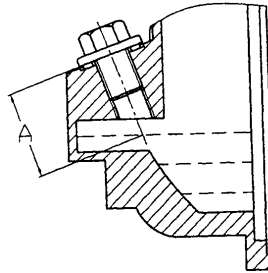
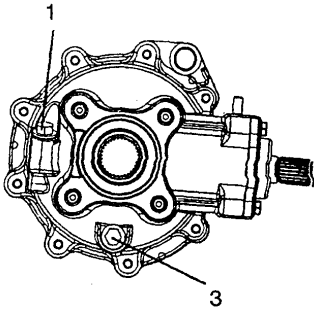
1. ATV should be on level surface.
2. Remove drain plug (3). Catch and discard used lubricant properly.
3. Clean and reinstall the drain plug with a new sealing washer (Reference parts manual) and tighten securely (14 ft. lbs/20N.m).
4. Remove fill plug (1) and add 10 ounces (300ml) of gear lubricant to the rear gear case, fill until full on the front gear case.
5. Reinstall the fill plug. Tighten securely (14 ft. lbs/20N.m).
6. Check for leaks.

NOTE: The correct gear case lubricant to use is SEA 80W/90 GL5 weight gear lube.

Front Gear Case



Rear Gear Case



$A=1\frac{5}{8}"(41mm)$

Wheel Safeguards



WARNING

Operating your ATV with worn tires, improperly inflated tires, non-standard tires, or improperly installed tires will affect vehicle handling which could cause an accident resulting in serious injury or death. Follow the safeguards listed below to prevent this type of situation.

Maintain proper tire pressure according to chart below. Improper tire inflation may affect ATV maneuverability. Do not use improper tires. The use of non-standard size or type tires may affect ATV handling.

Make certain the wheels are installed properly. If wheels are improperly installed it could affect vehicle handling and tire wear.

Tire Pressure	
Front	Rear
27.6kPa / 4PSI	27.6kPa / 4PSI

Wheel Removal Procedure

1. Stop the engine, place the transmission in gear and lock the parking brake.
2. Loosen the wheel nuts slightly.
3. Elevate the side of the vehicle by placing a suitable stand under the footrest frame. The stand must be sturdy enough to safely support the weight of the ATV.
4. Remove the wheel nuts and remove the wheel.

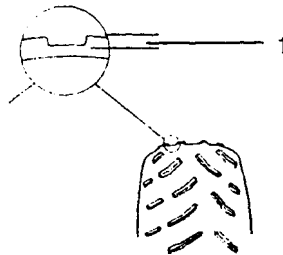
Wheel Installation

1. With the transmission in gear and the parking brake locked, place the wheel in the correct position on the wheel hub. Be sure the valve stem is toward the outside and rotation arrows on the tire point toward correct rotation.
2. Attach the wheel nuts and finger tighten them.
3. Lower the vehicle to the ground.
4. Securely tighten the wheel nuts according to the specifications in the chart below.

Bolt Size	Specification	
Front M10 X 1.25	20Ft.Lbs	27N.m
Rear M12 X 1.25	50Ft.Lbs	69N.m

Tire Inspection & Replacement

Always replace tires when tread depth (1) is worn to 1/8"(3mm) or less. When replacing tires always use original equipment size and type. See Section 21 "Specifications – Drive System" for tire sizes.





Headlight / Tail Light / Brake Light Lamp Replacement



WARNING

Keep your headlights and taillights clean. Poor light while riding can result in an accident causing severe injury or death.



CAUTION

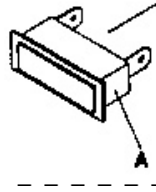
Do not service while headlight is hot. Serious burns may result. Do not touch a halogen lamp with bare fingers. Oil from your skin leaves a residue, causing a hot spot, which will shorten the life of the lamp.

If the light does not work the lamp may need to be replaced.

1. Remove the lens.
2. Remove lamp and replace it with recommended bulb. See illustrated parts list.
3. Test light to see that it is working.
4. Reinstall the lens.

Indicator Lamp Replacement

1. Remove mounting panel.
2. Unplug light from harness, depress locking tabs (A) and remove.
3. Install new light and reassemble panel.



Headlight Beam Adjustment

The headlight beam can be adjusted up and down.

1. Place the vehicle on a level surface with the headlight approximately 25 ft. (7.6m) from a wall.
 2. Measure the distance from the floor to the center of the headlight and make a mark on the wall at the same height.
 3. Sit in the seat. Start engine and turn headlight switch to high beam.
 4. Observe headlight aim. The most intense part of the headlight beam should be aimed 2 ft. (51mm) below the mark placed on the wall in step 2. **Note:** Rider weight must be included on the seat.
 5. Loosen headlight pivot bolt (see illustrated parts list) and adjust the beam to desired position.
 6. Tighten nut and bolt.
-

Cleaning Your ATV

Keeping your ATV clean will extend the life of various components.



Washing



WARNING

Never use a high-pressure type car wash system, it can cause damage to the wheel bearings, transmission seals, body panels, brakes, warning labels, and water might enter the engine or exhaust system.

The best and safest way to clean your ATV is with a garden hose and a pail of mild soap and water. Use a professional-type washing mitten, cleaning the upper body first and lower parts last. Rinse with water frequently and dry with a chamois to prevent water spots. **NOTE:** If warning labels are damaged, contact 1-800-643-7332 for replacement.

Waxing



CAUTION

Certain products, including insect repellants and chemicals, will damage plastic surfaces. Care must be taken when using these products near plastic surfaces.

Your ATV can be waxed with any non-abrasive automotive paste wax. Avoid the use of harsh cleaners since they can scratch the body finish.

Transporting

Whenever the ATV is to be transported the following measures should be taken.

1. Turn off the engine and remove the key.
2. Turn the fuel valve to "OFF".
3. Be certain the fuel cap, oil cap, and seat are installed correctly.
4. Always tie the frame of the ATV to the transporting unit securely using suitable straps or rope.

Always place the transmission in gear and lock the parking brake.

18. Storage

ATV

- Clean the ATV thoroughly prior to storage.
- Inspect drive belt. If necessary to replace it, call 1-800-643-7332 for authorized service center.
- Inspect all cables and lubricate if necessary.
- Inspect and clean, or replace the pre-filter and main filter. Clean the air box and drain the sediment tube (see illustrated parts list).
- Inspect all fluid levels and replenish or change as necessary.

ENGINE OIL

- Run engine for two to three minutes until warm.



- Turn off the engine.
- Change oil and screen as described in Section 17 “Maintenance – Oil and Oil Screen Change”.

FUEL SYSTEM

CAUTION: It is important to prevent gum deposits from forming in essential fuel system parts such as the carburetor, fuel filter, fuel hose or tank during storage. Also, alcohol blended fuels (called gasohol or using ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage.

To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer.

- To empty the fuel tank, start the engine and let it run until the fuel lines and carburetor are empty. Turn the fuel valve to “OFF”.
- Never use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.
- Refill with fresh fuel next use.

CYLINDER (“fogging” the engine)

- When the engine is cool, remove the spark plug.
- Spray light oil (fog) into the engine cylinder through spark plug hole.
- Inspect the spark plug as detailed in Section 17 “Maintenance – Spark Plugs”. Replace or clean and re-install the spark plug.

CAUTION: Do not start the engine during the storage period. This will disturb the protective film created by fogging.

BATTERY

- Remove the battery and add distilled water as required to bring fluid to the proper level.
- After a period of time in storage, battery may require recharging.
- To help prevent corrosion and power leakage during long periods of storage, battery cables should be disconnected and battery cleaned thoroughly (See Section 15 “Battery – Installation and Connections”).
- After cleaning, leave cables disconnected and place cables where they cannot come in contact with battery terminals.
- If battery is removed from ATV for storage, do not store battery directly on concrete or damp surfaces.

STORAGE AREA

- Set tire pressure and safely support the ATV with the tires 1” – 2”(25-50mm) off the ground.
- Be sure the storage area is well ventilated.
- Cover the machine with an ATV cover (call 1-800-643-7332 to order cover). Do not use plastic or coated materials. They do not allow enough ventilation to



prevent condensation, and may promote corrosion and oxidation.

CAUTION: Never cover ATV with engine and exhaust areas still warm.

19. Troubleshooting

NOTE: The following table does not cover all the possible causes of trouble. It should be helpful, however, as a general guide to troubleshooting. Where applicable refer to the relative procedure in this manual for inspection, adjustment and replacement of parts. Otherwise, **contact 1-800-643-7332 for the name of an authorized service center to perform adjustment and replacement.**

PROBLEM	CAUSE	CORRECTION
Engine runs but ATV does not move	<ol style="list-style-type: none"> 1. Worn out clutch. 2. Worn/slipping belt. 	<ol style="list-style-type: none"> 1. Contact 1-800-643-7332. 2. Contact 1-800-643-7332.
Hard to start	<ol style="list-style-type: none"> 1. Dirty air filter. 2. Faulty spark plug. 3. Weak/dead battery. 4. Stale or dirty fuel. 5. Carburetor out of adjustment. 6. Loose or damaged wiring. 7. Engine valves out of adjustment. 	<ol style="list-style-type: none"> 1. Clean/replace air filter. 2. Clean/replace spark plug. 3. Recharge or replace battery. 4. Empty fuel tank and refill tank with fresh, clean fuel. 5. Contact 1-800-643-7332. 6. Check all wiring or contact 1-800-643-7332. 7. Contact 1-800-643-7332.
Will not start	<ol style="list-style-type: none"> 1. Out of fuel. 2. Fuel tank valve not turned to "ON". 3. Engine Stop switch not set to "Run". 4. Faulty Engine Stop switch. 5. Brake lever not depressed. 6. Weak/dead battery. 7. Engine flooded. 8. Faulty spark plug. 9. Spark plug wire loose. 10. Faulty starter relay. 	<ol style="list-style-type: none"> 1. Fill fuel tank. 2. Turn fuel tank valve to "ON" position. 3. Set the Engine Stop Switch to "Run". 4. Contact 1-800-643-7332. 5. Depress brake lever. 6. Recharge or replace battery. 7. Wait several minutes before attempting to start. 8. Clean/replace spark plug. 9. Connect spark plug wire. 10. Contact 1-800-643-7332.

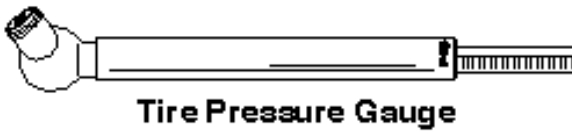
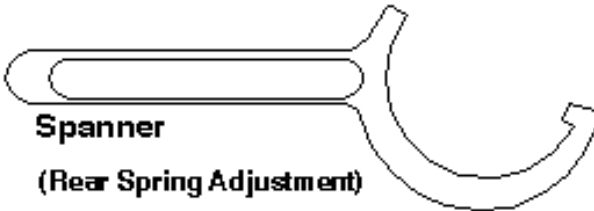
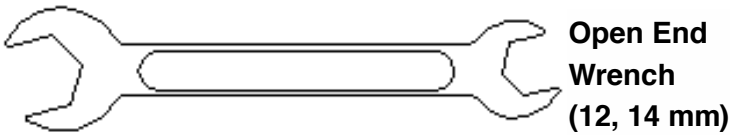
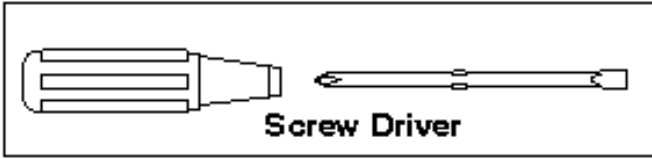


PROBLEM	CAUSE	CORRECTION
Will not start (continued)	11. Dirty air filter. 12. Dirty fuel filter. 13. Water in fuel. 14. Loose or damaged wiring. 15. Carburetor out of adjustment. 16. Engine valves out of adjustment.	11. Clean/replace air filter. 12. Contact 1-800-643-7332. 13. Empty fuel tank and carburetor, refill tank with fresh fuel and replace fuel filter. 14. Check all wiring or contact 1-800-643-7332. 15. Contact 1-800-643-7332. 16. Contact 1-800-643-7332.
Engine will not turn over	1. Weak or dead battery. 2. Blown fuse. 3. Corroded battery terminals. 4. Loose or damaged wiring. 5. Faulty ignition switch. 6. Faulty starter.	1. Recharge or replace battery. 2. Replace fuse. 3. Clean terminals. 4. Check all wiring or contact or contact 1-800-643-7332. 5. Contact 1-800-643-7332. 6. Contact 1-800-643-7332.
Poor idle speed performance	1. Carburetor idle screw out of adjustment. 2. Improperly adjusted throttle cable. 3. Dirty air filter. 4. Faulty spark plug. 5. Engine valves out of adjustment.	1. Adjust the idle screw as detailed in Section 16 "Maintenance". 2. Adjust throttle cable as detailed in Section 16 "Maintenance". 3. Clean/replace air filter. 4. Clean/replace spark plug. 5. Contact 1-800-643-7332.
Poor speed performance	1. Worn out clutch. 2. Worn/damaged gears. 3. Low engine oil level/ dirty oil. 4. Worn/slipping belt. 5. Faulty spark plug. 6. Dirty air filter. 7. Stale/dirty fuel. 8. Water in fuel.	1. Contact 1-800-643-7332. 2. Contact 1-800-643-7332. 3. Check oil level/ change oil. 4. Contact 1-800-643-7332. 5. Clean/replace spark plug. 6. Clean/replace air filter. 7. Empty fuel tank, replace with fresh clean fuel. 8. Empty fuel tank and carburetor, replace fuel



PROBLEM	CAUSE	CORRECTION
<p>Poor speed performance (Continued)</p>	<p>9. Loose or damaged wiring. 10. Carburetor out of adjustment. 11. Engine valves out of adjustment.</p>	<p>filter, refill with fresh fuel. 9. Contact 1-800-643-7332. 10. Contact 1-800-643-7332. 11. Contact 1-800-643-7332.</p>
<p>Over heating or over cooling</p>	<p>1. Incorrect coolant level. 2. Faulty thermo switch. 3. Faulty thermostat. 4. Inoperative fan motor. 5. Faulty radiator/ radiator cap. 6. Faulty water pump.</p>	<p>1. Check coolant level, fill as necessary. 2. Contact 1-800-643-7332. 3. Contact 1-800-643-7332. 4. Contact 1-800-643-7332. 5. Contact 1-800-643-7332. 6. Contact 1-800-643-7332.</p>
<p>Belt Burning</p>	<p>1. Use of high range when starting out on an incline. 2. Insufficient ATV warm-up. 3. Towing or carrying loads in high range. 4. Getting ATV stuck in mud or snow or climbing over large objects from a stopped position.</p>	<p>1. When starting out on incline put ATV in low range. 2. Warm up ATV for at least 5 minutes, then with transmission in neutral, advance throttle to approx. 1/8 throttle in short bursts, 5 to 7 times. 3. Use low range only when towing or carrying loads. 4. Shift transmission to low range carefully; use fast, aggressive throttle application to engage clutch. WARNING: Excessive throttle may cause loss of control and vehicle overturn.</p>

20. Tools included with ATV





21. System Specifications

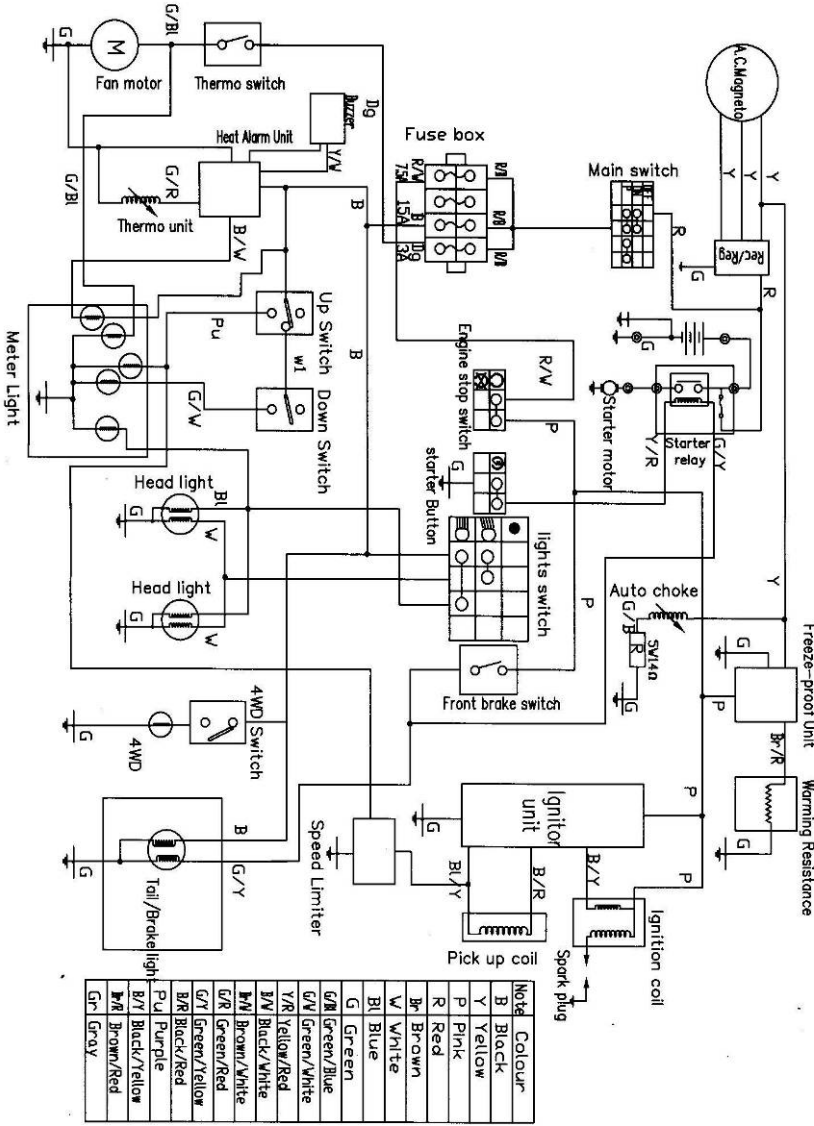
Capacities		
Fuel capacity	12.5L / 3.3gal	
Engine Oil Capacity	1.4L / 1.7qt	
Ground Clearance	183mm / 7.2in	
Height	1170mm / 46in	
Length	2096mm / 82.5in	
Width	1170mm / 46in	
Seat height	865mm / 34in	
Wheel Base	1265mm / 49.8in	
Turn Radius	3277mm / 129in	
Dry Weight	280kg / 617lb	
Front Rack	18kg / 39lb	
Rear Rack	36kg / 79lb	
Load Capacity (Combined Rider & Payload)	150kg / 330lb	
Tongue Weight	54kg / 120 lbs	
Tow Capacity	324kg / 715 lbs	
Drive System		
Drive System	CVT	
Front Tire	24X8-12	
Rear Tire	24X11-10	
Tire Pressure (Front)	27.6kPa	5PSI
Tire Pressure (Rear)	27.6kPa	5PSI
Brake System		
Service Brake	Front Brake	Hydraulic Disc
	Rear Brake	
Parking Brake	All Wheel	Hydraulic Lock
Auxiliary Brake	Rear Brake	Hydraulic Disc



Engine	
	ATV300
Engine Type	4Stroke, Single Cylinder, SOHC
Bore x Stroke	70mm X 66.8mm
Displacement	275cc
Starter System	Electric Start
Engine Cooling	Liquid-Cooled
Lubrication System	Wet Sump
Carburetor	CVK30
Ignitions	T.C.I
Spark Plug Type	DR7EA (NGK)
Electrical Equipment	
Battery	12V 14AH
Head light	35W / 35W
Brake/ Tail Light	21W / 5W
Rear Indicator	12V 1W
Fan Indicator Light	12V 1W
High Beam Light	12V 1W
Neutral Position Light	12V 1W
Heat Alarm Light	12V 1W
Flasher Light	12V 10W X 4
Turn Indicator Light	12V 1W
Mark Light	12V 5W

22. Wiring Diagram

ATV WIRING DIAGRAM FOR 260 2X4 4X4 USA MODEL





22. Warranty

LIMITED WARRANTY ON CRAFTSMAN ATV

When operated and maintained according to all supplied product instructions, if specific components of this Craftsman ATV fail due to defects in material or workmanship within the time periods listed below, call 1-800-643-7332 or visit the www.mancopowersports.com web site to locate the Service Center nearest you to arrange for repair.

- One year: Engine
- Six Months: Frame
- 90 Days: Battery (if our testing determines the battery will not hold a charge).
- 30 Days: All parts other than Engine, Frame and Battery

This warranty only applies if this product is within the United States.

This warranty does not cover:

- Expendable parts that can wear out from normal use before the applicable warranty period expires, including but not limited to tires, spark plugs, air cleaners, and belts.
- Standard Maintenance Servicing, oil changes, or tune-ups.
- Tire replacement or repair caused by punctures from outside objects, such as nails, thorns, stumps, or glass.
- Repairs necessary because of operator abuse, including but not limited to, damage caused by towing objects beyond the capability of the ATV, impacting objects that bend the frame or drive train, or over-speeding the engine.
- Repairs necessary because of operator negligence, including but not limited to electrical and mechanical damage caused by improper storage, failure to use the proper grade and amount of engine oil, failure to keep the unit clear of debris, or failure to maintain the equipment according to the instructions contained in the operator's manual.
- Engine (fuel system) cleaning or repairs caused by fuel determined to be contaminated or oxidized (stale). In general, fuel should be used within 30 days of its purchase date.
- Normal deterioration and wear of the exterior finishes, or product label replacement. Warning decals are covered.
- Riding equipment used for commercial or rental purposes.

This warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state.

Sears, Roebuck and Co., Hoffman Estates, IL 60179