



# OPERATOR'S MANUAL



*Actual vehicle appearance may vary*

**⚠ WARNING**

The removal or modification of evaporative emission-related parts on this OHRV is illegal. Violators may be subject to civil and/or criminal penalties as provided under California and federal law.

p/n: 2263-875

1024, Rev. A

## Wildcat XX

# This vehicle can be hazardous to operate.

A collision or rollover can occur quickly, even during what you think are routine maneuvers such as driving or turning on flat terrain, driving on hills, or crossing obstacles, if you fail to take proper precautions. For your safety, understand and follow all the warnings contained in this Operator's Manual and on the labels on this vehicle.

Keep this Operator's Manual with this vehicle at all times. If you lose your manual, contact your authorized dealer for a free replacement. The labels should be considered permanent parts of the vehicle. If a label comes off or becomes hard to read, contact your authorized dealer for a free replacement. Contact the manufacturer for proper registration information.

**FAILURE TO FOLLOW THE WARNINGS CONTAINED IN THIS MANUAL CAN RESULT IN SERIOUS INJURY OR DEATH.**

Particularly important information is distinguished in this manual by the following notations:

<b>!</b>	The Safety Alert Symbol means <b>ATTENTION! BE ALERT! YOUR SAFETY IS INVOLVED.</b>
<b>! WARNING</b>	<b>WARNING</b> indicates a hazardous situation which, if not avoided, could result in death or serious injury.
<b>CAUTION</b>	<b>CAUTION</b> , without the safety alert symbol, is used to address practices not related to personal injury.
<b>■ NOTE:</b>	A <b>NOTE</b> provides key information to make procedures easier or more clear.

## FREE ROV TRAINING

Free training is available for Recreational Off-Highway Vehicle (ROV) operators and passengers from the Recreational Off-Highway Vehicle Association (ROHVA). The manufacturer recommends that you complete this course before you first use your new ROV.

This online course takes approximately two hours to complete and presents you with a certificate of accomplishment as soon as you complete the course. The course does not have to be completed all at one time. It will remember where you left off and bring you back to that point when you return.

**ALWAYS USE COMMON SENSE WHEN OPERATING THIS VEHICLE.**

Visit [www.ROHVA.org](http://www.ROHVA.org) to start your training.

## California Proposition 65

<b>! WARNING</b>
<b>The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.</b>

# Foreword

Congratulations and thank you for purchasing an Arctic Cat vehicle. Built with American engineering and manufacturing know-how, it is designed to provide superior ride, comfort, utility, and dependable service.

This Operator's Manual is furnished to ensure that the operator is aware of safe operating procedures. It also includes information about the general care and maintenance of this vehicle.

Carefully read the following pages. If you have any questions regarding this vehicle, contact an authorized dealer for assistance. Remember, only authorized dealers have the knowledge and facilities to provide the best service possible.

## Protect Your Sport

- Become familiar with all local and state/provincial laws governing ROV operation,
- Respect your vehicle,
- Respect the environment, and
- Respect private property and do not trespass.

The manufacturer advises you to strictly follow the recommended maintenance program as outlined. This preventive maintenance program is designed to ensure that all critical components on this vehicle are thoroughly inspected at various intervals.

All information in this manual is based on the latest product data and specifications available at the time of printing. The manufacturer reserves the right to make product changes and improvements which may affect illustrations or explanations without notice.

You have chosen a quality vehicle designed and manufactured to give dependable service. Be sure, as the owner/operator of this vehicle, to become thoroughly familiar with its basic operation, maintenance, and storage procedures.

Read and understand the entire Operator's Manual before operating this vehicle to ensure safe and proper use. Always operate the vehicle within your level of skill and current terrain conditions.

Division II of this manual covers operator-related maintenance, operating instructions, and storage instructions. If major repair or service is ever required, contact an authorized dealer for professional service.

At the time of publication, all information and illustrations in this manual were technically correct. Some illustrations used in this manual are used for clarity purposes only and are not designed to depict actual conditions. Because the manufacturer constantly refines and improves its products, no retroactive obligation is incurred.

## Parts and Accessories

When in need of replacement parts, oil, or accessories for this vehicle, be sure to use only **GENUINE PARTS, OIL, AND ACCESSORIES. Only genuine parts, oil, and accessories are engineered to meet the standards and requirements of this vehicle. For a complete list of accessories, refer to the current ROV Accessory Catalog.**

To aid in service and maintenance procedures on this vehicle, a Service Manual and an Illustrated Parts Manual are available through an authorized dealer.

Operation of this vehicle is restricted to people 16 years of age and older who possess a valid driver's license. Passengers must be able to place both feet flat on the floor while keeping their back against the seat and holding on to an available handhold.

# treadlightly!<sup>®</sup>.org

Arctic Cat is an Official Partner of Tread Lightly!, a U.S.-based nonprofit dedicated to promoting responsible outdoor recreation. Arctic Cat supports Tread Lightly!'s mission to protect motorized trail access and public lands through stewardship projects and responsible recreation education.

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# Division I – Safety

This vehicle is not a toy and can be hazardous to operate.

- Always go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when operating this vehicle.
- Never operate on excessively rough, slippery, or loose terrain.
- Always follow proper procedures for turning as described in this manual. Practice turning at slow speeds before attempting to turn at faster speeds. Do not turn at excessive speed.
- Always have the vehicle checked by an authorized dealer if it has been involved in an accident.
- Never operate on hills too steep for your abilities. Practice on smaller hills before attempting larger hills.
- Always follow proper procedures for climbing hills as described in this manual. Check the terrain carefully before you start up any hill. Never climb hills with slippery or loose surfaces. Never depress the accelerator suddenly or make gear changes while moving. 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 this manual. Check the terrain carefully before you start down any hill. 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 be careful when you decide to climb or descend a hill and never turn on a hill. Drive straight up or down inclines and not across them. If you must cross the side of a hill, drive slowly and stop or turn downhill if you feel the vehicle may tip.
- Always use proper procedures if you stall or roll backward when climbing a hill. To avoid stalling, maintain a steady speed when climbing a hill. If you stall or roll backwards, follow the special procedure for braking described in this manual.
- 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 this manual.
- 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.
- Never operate this vehicle in fast-flowing water or in water deeper than the floorboard. Remember that wet brakes may have reduced stopping capability. 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.
- Always use the size and type of tires specified in this manual. Always maintain proper tire pressure as described in this manual.
- Never improperly install or improperly use accessories on this vehicle.
- Never exceed the stated load capacity for this vehicle. Cargo should be properly distributed and securely attached. Reduce speed and follow instructions in this manual for carrying cargo or pulling a trailer and allow greater distance for braking.
- Operation of this vehicle is restricted to people 16 years of age and older who possess a valid driver's license. Passengers must be able to place both feet flat on the floor while keeping their back against the back of the seat and holding on to an available handhold.

# Safety Alert

You should be aware that THIS VEHICLE IS NOT A TOY AND CAN BE HAZARDOUS TO OPERATE. This vehicle handles differently from other vehicles, including motorcycles and cars. A collision or rollover can occur quickly, even during what you think are routine maneuvers such as turning, driving on hills, and going over obstacles, if you fail to take proper precautions.

## TO AVOID SERIOUS INJURY OR DEATH:

- \* Always read the Operator's Manual carefully and follow the operating procedures described. Pay special attention to the warnings contained in the manual and on all labels.
- \* Always wear the seat belt when operating or riding in this vehicle.
- \* Always follow these age recommendations:
  - Operation of this vehicle is restricted to people 16 years of age and older who possess a valid driver's license. Passengers must be able to place both feet flat on the floor while keeping their back against the back of the seat and holding on to the handhold.
- \* Never carry a passenger in the cargo box of this vehicle.
- \* Never operate this vehicle on a public road, even a dirt or gravel one, because you may not be able to avoid colliding with other vehicles.
- \* Never operate this vehicle without an approved motorcycle helmet, goggles, boots, gloves, long pants and a long-sleeved shirt or jacket.
- \* Never consume alcohol or drugs before or while operating this vehicle.
- \* Never operate this vehicle at excessive speeds. Go at a speed which is proper for the terrain, visibility conditions, and your experience.
- \* Never attempt to do wheelies, jumps, or other stunts.
- \* Always be careful when operating this vehicle, especially when approaching hills, turns, and obstacles and when operating on unfamiliar or rough terrain.
- \* Never operate this vehicle with the cargo box removed.
- \* Never operate this vehicle in fast-flowing water or in water deeper than the floorboard.
- \* Never operate this vehicle with the ROPS removed. The ROPS provides a structure helping to limit intrusions by branches or other objects and may reduce your risk of injury in accidents.
- \* Never put your hands or feet outside the vehicle for any reason while the vehicle is in motion. Do not hold onto the ROPS or side restraint bar. If you think or feel the vehicle may tip, do not put your hands or feet outside the vehicle as they will not be able to prevent the vehicle from tipping. Any part of your body (arms, legs, or head) outside the vehicle can be crushed by passing objects, the vehicle, or ROPS.
- \* Always make sure the doors are properly latched prior to moving the vehicle.

## Hangtags

This vehicle comes with hangtags containing important safety information. Anyone who operates the ROV should read and understand this information before riding.

**THIS HANGTAG IS NOT TO  
BE REMOVED BEFORE SALE**

**This vehicle is  
equipped with a  
speed limitation  
device to limit  
the speed to**

**15 mph**

**if the driver's  
seatbelt is not  
fully engaged.**

2261-986



## **WARNING**

Operating, servicing and maintaining a passenger vehicle or off-road vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle.

For more information, go to:

[www.P65Warnings.ca.gov/passenger-vehicle](http://www.P65Warnings.ca.gov/passenger-vehicle)

**READ BOTH SIDES**



## **WARNING**

### **Electric-powered, Other Equipment**

Operating, servicing and maintaining a passenger vehicle or off-road vehicle can expose you to chemicals including phthalates and lead which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, wear gloves or wash your hands frequently when servicing your vehicle.

For more information, go to:

[www.P65Warnings.ca.gov/passenger-vehicle](http://www.P65Warnings.ca.gov/passenger-vehicle)

**READ BOTH SIDES**

# Important Safety Information

Anyone who operates the ROV should read and understand this information before operating this vehicle.

## **WARNING**

**IMPROPER USE OF OFF-HIGHWAY VEHICLES CAN CAUSE SEVERE INJURY OR DEATH.**

### **DRIVE RESPONSIBLY**

#### **AVOID LOSS OF CONTROL AND ROLLOVERS:**

- AVOID ABRUPT MANEUVERS, SIDEWAYS SLIDING, SKIDDING, OR FISHTAILING, AND NEVER DO DONUTS.
- SLOW DOWN BEFORE ENTERING A TURN.
- AVOID HARD ACCELERATION WHEN TURNING, EVEN FROM A STOP.
- PLAN FOR HILLS, ROUGH TERRAIN, RUTS, AND OTHER CHANGES IN TRACTION AND TERRAIN.
- AVOID PAVED SURFACES.
- AVOID SIDE HILLING. (RIDING ACROSS SLOPES)

## **WARNING**

**IMPROPER USE OF OFF-HIGHWAY VEHICLES CAN CAUSE SEVERE INJURY OR DEATH.**

### **ALWAYS:**

- FASTEN SEAT BELTS.
- WEAR AN APPROVED HELMET AND PROTECTIVE GEAR.
- MAKE SURE ALL SIDE RESTRAINTS ARE FULLY LATCHED.
- MAKE SURE OPERATORS ARE 16 OR OLDER WITH A VALID DRIVER'S LICENSE.



### **REQUIRE PROPER USE OF YOUR VEHICLE.**

**DO YOUR PART TO PREVENT INJURIES:**

#### **NEVER:**

- ALLOW CARELESS OR RECKLESS DRIVING.
- LET PEOPLE DRIVE OR RIDE AFTER USING ALCOHOL OR DRUGS.
- ALLOW OPERATION ON PUBLIC ROADWAYS. SUCH USE MAY BE HAZARDOUS AND A VIOLATION OF STATE OR LOCAL LAW. VEHICLE IS FOR OFF-HIGHWAY USE ONLY.
- EXCEED SEATING CAPACITY.
- MAKE SURE OCCUPANTS ONLY RIDE IN DESIGNATED SEATING POSITIONS, WITH ONE PERSON IN EACH SEATING POSITION.



EACH RIDER MUST BE ABLE TO SIT WITH BACK AGAINST SEAT, FEET FLAT ON FLOOR, AND HANDS ON STEERING WHEEL OR HANDHOLD(S). STAY COMPLETELY INSIDE VEHICLE.

**BE SURE RIDERS PAY ATTENTION AND PLAN AHEAD.** IF YOU THINK OR FEEL THE VEHICLE MAY TIP OR ROLL, REDUCE YOUR RISK TO INJURY.

- KEEP A FIRM GRIP ON THE STEERING WHEEL OR HANDHOLDS AND BRACE YOURSELF.
- DO NOT PUT ANY PART OF YOUR BODY OUTSIDE OF THE VEHICLE FOR ANY REASON.



**ROLLOVERS HAVE CAUSED SEVERE INJURIES AND DEATH. EVEN ON FLAT, OPEN AREAS.**

**AVOID STEEP HILLS AND NEVER CLIMB HILLS WITH SLIPPERY OR LOOSE SURFACES.**

**NEVER OPERATE AT SPEEDS TOO FAST FOR YOUR SKILLS OR THE CONDITIONS.**

**LOCATE AND READ OPERATORS MANUAL BEFORE USE. CONTACT MANUFACTURER FOR FREE REPLACEMENT. FOLLOW ALL INSTRUCTIONS AND WARNINGS.**

# Warning Labels



XX462B

B



9611-690



XX464B

C



3411-970

A



3411-251

D



6411-893

# Warning Labels



XX138D

E



6411-481

F



6411-482

! WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

9

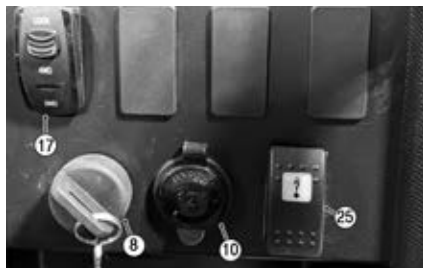
# Location of Parts and Controls



XX463D1



XX462C1



XX487



XX138E1



XX135

1. Battery
2. Headlights
3. Passenger Grab Handle
4. Seat Lock Lever
5. Glove Box
6. Brake Pedal
7. Fuses
8. Ignition/Start Switch
9. Shift Lever
10. DC Power Outlet
11. Accelerator Pedal
12. Taillight/Brake Light
13. Operator's Manual Location (Glove Box)
14. Headlight Switch
15. Driver Seat Belt
16. Passenger Seat Belt
17. Drive Select Switch
18. Tilt Steering Wheel Lever
19. Tool Kit
20. Driver Door (shown)
21. Passenger (other side of vehicle) Door
22. Door Latch
23. Digital Gauge
24. Winch (if equipped)
25. Winch Switch (if equipped)
26. Garmin GPS Connection (if equipped)
27. Antenna (if equipped)

# Warnings

## ! WARNING

### POTENTIAL HAZARD

Operating this vehicle without proper instruction.

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

All operators of this vehicle must read and understand this Operator's Manual and all warning and instruction labels prior to operating this vehicle.

## ! WARNING

### POTENTIAL HAZARD

Allowing anyone under age 16 or without a valid driver's license to operate this vehicle.

### WHAT CAN HAPPEN

Use of this vehicle by children can lead to serious injury or death of the child.

Children under the age of 16 may not have the skills, abilities, or judgment needed to operate this vehicle safely and may be involved in a serious accident.

### HOW TO AVOID THE HAZARD

Only people 16 years of age or older with a valid driver's license should operate this vehicle.

## ! WARNING

### POTENTIAL HAZARD

Operating or riding in the vehicle without wearing a properly secured seat belt.

### WHAT CAN HAPPEN

Serious injury or death. Occupants can strike objects in the passenger compartment, fall out of the vehicle during maneuvers, or be crushed or otherwise injured in the event of an accident.

### HOW TO AVOID THE HAZARD

**ALWAYS WEAR YOUR SEAT BELT** and require others to wear their seat belts. See the Operation/Maintenance section of this manual for more information on using your seat belt and both rider and passenger wearing an approved helmet.

## ! WARNING

### POTENTIAL HAZARD

Operating this vehicle on public streets, roads, or highways.

### WHAT CAN HAPPEN

You can collide with another vehicle.

### HOW TO AVOID THE HAZARD

Never operate this vehicle on any public street, road, or highway.

In many states it is illegal to operate a vehicle of this type on public streets, roads, or highways. Always check state and local laws and regulations.

## ! WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury. **11**

## ! WARNING

### POTENTIAL HAZARD

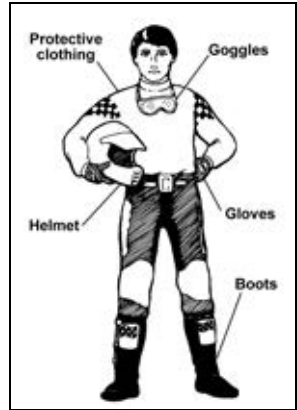
Operating or riding this vehicle without wearing an approved helmet, goggles, and protective clothing.

### WHAT CAN HAPPEN

Operating or riding without an approved helmet increases your chances of a serious head injury or death in the event of an accident.

Operating or riding without goggles can result in an accident and increases your chances of a serious injury in the event of an accident.

Operating or riding without protective clothing increases your chances of serious injury in the event of an accident.



### HOW TO AVOID THE HAZARD

Always wear an approved helmet that fits properly.

You should also wear:

- Goggles or face shield
- Gloves
- Boots
- Long sleeved shirt or jacket
- Long pants

## ! WARNING

### POTENTIAL HAZARD

Operating this vehicle after or while 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 driving this vehicle.

## ! WARNING

### POTENTIAL HAZARD

Allowing passengers to ride in the cargo box.

### WHAT CAN HAPPEN

Serious injury or death. This vehicle is not designed to carry passengers in the cargo box. Passengers in the cargo box can be thrown around or from the vehicle during operation or in an accident.

### HOW TO AVOID THE HAZARD

Do not permit passengers to ride in the cargo box. Do not install any seating in the cargo box.

## ! WARNING

### POTENTIAL HAZARD

Operating or riding in the vehicle without doors properly latched.

### WHAT CAN HAPPEN

Serious injury or death. Occupants or their body parts can strike objects outside the vehicle, be crushed by the vehicle, or fall out of the vehicle during maneuvers or in the event of an accident.

### HOW TO AVOID THE HAZARD

Do not remove the doors or operate the vehicle with doors open. Make sure both driver and passenger doors are secure before operating or riding in the vehicle. Stay seated with your seat belt and helmet on and keep your body completely inside the vehicle during operation. See the Operation/Maintenance section of this manual for more information.

## ! WARNING

### POTENTIAL HAZARD

Failing to keep all parts of your body inside the passenger compartment during operation.

### WHAT CAN HAPPEN

Serious injury or death. Body parts could strike objects outside of vehicle or be crushed in the event of a rollover or accident.

### HOW TO AVOID THE HAZARD

Do not place your head, arms, hands, legs, or feet outside of the passenger compartment during operation. Stay seated with your seat belt and helmet on and doors properly latched. Keep your feet and legs inboard of the foot restraints at all times. Do not attempt to stop movement or tipping of the vehicle with your hands or feet. If you feel the vehicle tipping, brace your feet flat on the floor, keep hands firmly gripping the steering wheel and handholds, and keep all body parts inside the passenger compartment.

## ! WARNING

### POTENTIAL HAZARD

Operating this vehicle at excessive speeds.

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

Always ride at a speed that is proper for the terrain, visibility, load, and operating conditions.

## ! WARNING

### POTENTIAL HAZARD

Attempting abrupt maneuvers, sideways sliding, skidding, fishtailing, or donuts.

### WHAT CAN HAPPEN

Increases the chance of an accident including a rollover.

### HOW TO AVOID THE HAZARD

Never attempt abrupt maneuvers, sideways sliding, skidding, fishtailing, or donuts. Don't try to show off.

## ! WARNING

### POTENTIAL HAZARD

Failure to inspect this vehicle before operating.

Failure to properly maintain this vehicle.

### WHAT CAN HAPPEN

Increases the possibility of an accident or equipment damage.

### HOW TO AVOID THE HAZARD

Always inspect this vehicle each time you use it to make sure it is in safe operating condition.

Always follow the inspection and maintenance procedures and schedules described in this Operator's Manual.

## ! WARNING

### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

You can come upon hidden rocks, bumps, or holes without enough time to react.

Could result in the vehicle 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 this vehicle.

## ! WARNING

### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

Do not operate on rough, slippery, or loose terrain until you have learned and practiced the skills necessary to control this vehicle on such terrain.

Always be especially cautious on these kinds of terrain.

## ! WARNING

### POTENTIAL HAZARD

Failing to use care in turns; turning too sharply or aggressively.

### WHAT CAN HAPPEN

The vehicle could go out of control causing a collision, tip over, or rollover.

### HOW TO AVOID THE HAZARD

Always follow proper procedures for turning as described in this Operator's Manual. Practice turning at slow speeds before attempting to turn at faster speeds. Do not turn at excessive speed or too sharply for the conditions and for your experience level. See the Operation/Maintenance section of this manual for more information on turning on flat ground, hills, sand, ice, mud, or water.

## ! WARNING

### POTENTIAL HAZARD

Operating on steep hills.

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

Never operate the vehicle on hills too steep for the vehicle or for your abilities. Practice on smaller hills before attempting larger hills.

## ! WARNING

### POTENTIAL HAZARD

Operating with the ROPS removed.

### WHAT CAN HAPPEN

Could lead to serious injury or death.

### HOW TO AVOID THE HAZARD

Never operate this vehicle with the ROPS removed.



## ! WARNING

### POTENTIAL HAZARD

Going down a hill improperly.

### WHAT CAN HAPPEN

Could cause loss of control or cause the vehicle to overturn.

### HOW TO AVOID THE HAZARD

Always follow proper procedures for going down hills as described in this Operator's Manual.

Always check the terrain carefully before you start down any hill.

Never go down a hill at high speed.

Avoid going down a hill at an angle that would cause the vehicle to lean sharply to one side. Go straight down the hill where possible.

## ! WARNING

### POTENTIAL HAZARD

Climbing hills improperly.

### WHAT CAN HAPPEN

Could cause loss of control or cause the vehicle to overturn.

### HOW TO AVOID THE HAZARD

Always follow proper procedures for climbing hills as described in this Operator's Manual.

Always check the terrain carefully before you start up any hill.

Never climb hills with slippery or loose surfaces.

Never open the throttle suddenly or make sudden gear changes. The vehicle could flip over backward.

Never go over the top of any hill at high speed. An obstacle, a sharp drop, or another vehicle or person could be on the other side of the hill.

## ! WARNING

### POTENTIAL HAZARD

Crossing hills or turning on hills.

### WHAT CAN HAPPEN

Could cause loss of control or cause the vehicle to overturn.

### HOW TO AVOID THE HAZARD

Avoid crossing the side of a hill or turning on a hill whenever possible. Never attempt to turn the vehicle around on any hill. If you must cross the side of a hill, drive slowly and stop or turn downhill if you feel the vehicle may tip.

## ! WARNING

### POTENTIAL HAZARD

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

### WHAT CAN HAPPEN

Could result in the vehicle overturning.

### HOW TO AVOID THE HAZARD

Use proper gear and maintain steady speed when climbing a hill.

If you lose all forward speed:

Apply the brakes. Place the transmission in park after you are stopped.

If you begin rolling backward:

Gradually apply the brakes while rolling backward.

When fully stopped, place the transmission in park.

## **! WARNING**

### POTENTIAL HAZARD

Improperly operating over obstacles.

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

Before operating in a new area, check for obstacles.

Never attempt to ride over large obstacles, such as large rocks or fallen trees.

When you go over obstacles, always follow proper procedures as described in this Operator's Manual.

## **! WARNING**

### POTENTIAL HAZARD

Improperly operating in reverse.

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

Before you engage reverse gear, make sure there are no obstacles or people behind you. When it is safe to proceed, go slowly.

## **! WARNING**

### POTENTIAL HAZARD

Skidding or sliding.

### WHAT CAN HAPPEN

You could lose control of the vehicle.

You could also regain traction unexpectedly, which may cause the vehicle to overturn.

### HOW TO AVOID THE HAZARD

Learn to safely control skidding or sliding by practicing at slow speeds and on level, smooth terrain.

On extremely slippery surfaces, such as ice, go slowly and be very cautious in order to reduce the chance of skidding or sliding out of control.

## ! WARNING

### POTENTIAL HAZARD

Overloading the vehicle or carrying or towing improperly.

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

Never exceed the stated load capacity for this vehicle.

Cargo should be properly distributed and securely attached.

Reduce speed when carrying cargo or pulling a trailer. Allow greater distance for braking.

Always follow the instructions in this Operator's Manual for carrying cargo or pulling a trailer.

## ! WARNING

### POTENTIAL HAZARD

Operating this vehicle 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 this vehicle in fast-flowing water or in water deeper than the floorboard.

Remember that wet brakes may have reduced stopping capability.

Test the brakes after leaving water. If necessary, apply them several times to dry out the pads.

## ! WARNING

### POTENTIAL HAZARD

Operating the vehicle with improper tires or with improper or uneven tire pressure.

### WHAT CAN HAPPEN

Use of improper tires on the vehicle, or operating the vehicle with improper or uneven tire pressure, could cause loss of control increasing your risk of accident.

### HOW TO AVOID THE HAZARD

Always use the size and type tires specified in this Operator's Manual for this vehicle.

Always maintain proper tire pressure as described in this Operator's Manual.

## ! WARNING

### POTENTIAL HAZARD

Operating this vehicle with improper modifications.

### WHAT CAN HAPPEN

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

### HOW TO AVOID THE HAZARD

Never modify this vehicle through improper installation or improper use of accessories. All parts and accessories added to this vehicle should be genuine components designed for use on this vehicle and should be installed and used according to instructions. If you have questions, consult an authorized dealer.

## ! WARNING

### POTENTIAL HAZARD

Operating this vehicle on paved surfaces.

### WHAT CAN HAPPEN

The vehicle's tires are designed for off-road use only, not for use on pavement. Paved surfaces may seriously affect handling and control of the vehicle and may cause the vehicle to go out of control.

### HOW TO AVOID THE HAZARD

Whenever possible, avoid operating the vehicle on any paved surfaces including sidewalks, driveways, parking lots, and streets. If operating on paved surfaces is unavoidable, travel slowly (less than 10 mph [16 km/h]) and avoid sudden turns and stops.

## ! WARNING

### POTENTIAL HAZARD

Operating through or over thick or sharp brush, timber, debris, or rocks.

### WHAT CAN HAPPEN

Serious injury or death. Brush, branches, debris, and rocks can enter or penetrate the passenger compartment and strike occupants. Running over sharp branches, rocks, or other large objects can also cause loss of control.

### HOW TO AVOID THE HAZARD

Be alert. Slow down. Wear all recommended protective gear specified in this Operator's Manual. Avoid operating through or over thick brush, timber, debris, or large rocks whenever possible. Watch for and avoid sharp branches, rocks, or other large objects that could impede or impact the vehicle or enter the passenger compartment.

## ! WARNING

### POTENTIAL HAZARD

Securing a person improperly in the vehicle due to physical size.

### WHAT CAN HAPPEN

Serious injury or death. Occupant could strike objects in the passenger compartment, fall out of the vehicle during maneuvers, or be ejected and crushed in the event of an accident.

### HOW TO AVOID THE HAZARD

Always make sure a passenger can sit with both feet flat on the floor and their back against the seat while being able to reach any provided handholds.

California Proposition 65

## ! WARNING

**The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.**

# Division II – Operation/Maintenance Specifications

<b>ENGINE</b>	
Type	4-cycle, 3-cylinder, liquid cooled, DOHC
Bore x Stroke	80 mm x 66.2 mm (3.14 x 2.60 in)
Displacement	998 cc (60.9 cu in)
Spark Plug Type	NGK CR9EB
Spark Plug Gap	0.7-0.8 mm (0.028-0.031 in)
Alternator	65 Amps
Stator	34 Amps
<b>CHASSIS</b>	
Length (Overall)	Base, LTD, SE: 345.4 cm (136 in) Black Hills Edition: 354.3 cm (139.5 in)
Height (Overall)	Base, LTD, SE: 172.7 cm (68 in) Black Hills Edition: 182.9 cm (72 in)
Width (Overall)	162.6 cm (64 in)
Suspension Travel (Front/Rear)	45.7 cm (18.0 in)/45.7 cm (18.0 in)
Tire Size (Front/Rear)	Base, LTD, SE: 30 x 10-15/30 x 10-15 Black Hills Edition: 32 x 10-15/32 x 10-15
Tire Inflation Pressure (Front/Rear)	14 psi (96.5 kPa)/22 psi (151.7 kPa)
Brake Type	Four Wheel Hydraulic Disc
<b>MISCELLANEOUS</b>	
Dry Weight (Approx.)	821 kg (1812 lb)
ROPS Tested Curb Weight	1179.4 kg (2600 lb)
Engine Oil (Recommended)	ACX All Weather (Synthetic)
Engine Oil Change with Oil Filter (Approx. capacity at oil change)	2.55 L (2.70 U.S. qt)
Gasoline (Recommended)	Regular gas 86 PON, 91 RON or higher, ethanol content not to exceed 10%
Gas Tank Capacity	37.85 L (10 U.S. gal)
Coolant Capacity (60% Antifreeze/40% Water Mixture)	9.5 L (2.5 U.S. gal)
Front Differential Oil (Base)	SAE-Approved 80W-90 Hypoid GL-5
Front Differential Capacity (Base)	400 mL (13.5 fl oz)
Front Differential Oil (LTD, SE, Black Hills Edition)	Synthetic Transaxle Fluid with EP
Front Differential Capacity (LTD, SE, Black Hills Edition)	250 mL (8.5 fl oz)
Rear Transaxle Oil	Synthetic Transaxle Fluid with EP
Rear Transaxle Capacity	1.2 L (40.5 fl oz)
Brake Fluid	DOT 4
Belt Width	38.4 mm
Headlight	Halogen H13 with LED
Taillight/Brake Light	LED

Specifications subject to change without notice.

# Vehicle Operation

Pre-Start/Pre-Operation Checklist	
Item	Remarks
Brake System	Pedal firm — near top of travel. Fluid at proper level. Check for fluid leaks.
Controls	Steering free — no binding — no excessive free-play. Shift lever in park. Accelerator free — no binding — returns to idle position.
Fluids	Check coolant level. Check brake fluid level. Check engine oil level. Gas tank full of recommended gasoline. Front differential at proper level. Rear transaxle at proper level. Check for fluid leaks.
Suspension	Spherical joints/ball joints/tie rod ends free — secure. Shocks not leaking — mountings secure. Shock spring preload equal on left and right. Components free of all debris.
Lights/Switches	Check headlight high/low beam — light switch to OFF. Check taillight/brake light — light switch to OFF. Check drive select switch — set to 2WD.
Air Filter	Drains clear of all debris. Ducting secure — no holes or tears.
Tires/Wheels	Properly inflated — tread adequate. Check tires for cuts or tears. Wheels secure to hubs — hubs secure to axles. Check wheels for cracked or bent rims. Verify wheel lug nut tightening torque.
Seat Belts/Restraints	Check condition — proper operation — proper adjustment.
Nuts/Bolts/Fasteners	Check for loose nuts and bolts; tighten as necessary. Check fasteners — latches — ROPS. Secure hood and seats.

## Starting the Vehicle

Always start with the vehicle on a flat, level surface. Carbon monoxide poisoning can kill you, so keep the vehicle outside while it's running. Follow these steps to start it up:

1. Step into the vehicle and sit down; then fasten the operator seat belt and the passenger(s) seat belt (if applicable). Strap on your approved helmet and require your passenger(s) to do the same (if applicable). Check that the doors are secured and latched.

<b>! WARNING</b>
<b>Falling from a moving vehicle could result in serious injury or death. Always fasten your seat belt securely and ensure the passenger(s) seat belt is properly and securely fastened prior to operating or riding in this vehicle.</b>

2. Shift into park.
3. Depress the brake pedal.
4. Turn the ignition switch clockwise to the START position; then when the engine starts, release to the RUN position. Do not increase engine RPM above idle.

## CAUTION

**Do not run the starter motor for more than 8 seconds per starting attempt. The starter motor may overheat causing severe starter motor damage. Allow 15 seconds between starting attempts to allow the starter motor to cool.**

5. Let the engine warm up.

## Shifting the Transmission

This vehicle is equipped with a continuously variable transmission (CVT) coupled to a dual-range transmission with reverse and park. To shift the transmission, follow these steps:

## CAUTION

**Always come to a complete stop before attempting to shift from one range to the other or into reverse or park. Always shift on level ground or apply the brakes.**

■ **NOTE: The CVT is fully automatic and shifts as a function of engine RPM.**

1. To select high range from park, move the shift lever rearward through reverse and neutral until the letter “H” is displayed on the digital gauge.
2. To select low range from high range, move the shift lever rearward one position until the letter “L” is displayed on the digital gauge.

■ **NOTE: The high range is for normal driving with light loads. The low range is for carrying heavy loads. Compared to HIGH range, the LOW range position provides slower speed and greater torque to the wheels.**

## CAUTION

**Always shift into low range when operating on wet or uneven terrain or when towing or pushing heavy loads. Failure to follow this caution may result in premature drive belt failure or in damage to related drive system components.**

3. To select reverse gear from park, move the shift lever rearward one position until the letter “R” is displayed on the digital gauge.
4. To select neutral from park, move the gear shift rearward two positions until the letter “N” is displayed on the digital gauge.
5. To select park, move the shift lever completely forward until the letter “P” illuminates on the digital gauge.

## Driving the Vehicle

Once the engine is warm, the vehicle is ready to be driven.

1. With the engine idling, press the foot brake pedal to apply the brake; then select the appropriate operating range and/or direction with the shift lever.
2. Release the foot brake pedal and press the accelerator to slowly add power to start moving.
3. To slow down or stop, release the accelerator and press the foot brake pedal as necessary to slow or stop the vehicle.

■ **NOTE: See the chart below for operating guidelines for vehicles equipped with the “Rapid Response” clutch system.**

## “Rapid Response” Clutch System

Situation	Operator Guideline
Engine/belt insufficiently warmed up (including low temperatures)	Before operating, place the transmission in Neutral (keep brake applied) and vary engine RPM several times. Allow the engine to warm up for a minimum of two minutes. Operate under 30 mph (48 km/h) for the first 2 miles (3 km) or the first 5 miles (8 km) when the temperature is below 32° F (0° C).
New drive belt	Follow the drive belt break-in procedure on page 38.
Initial clutch engagement for operating the vehicle	Carefully employ quick, deliberate throttle application to engage the clutch. <b>WARNING: Excessive throttle may cause loss of vehicle control.</b>
Operating at low speed	Use low range whenever operating at low speed.
Operating on an incline	Use low range whenever operating in an incline position.
Loading onto a pickup or trailer	Use low range and 4WD whenever loading vehicle.
Hauling heavy cargo/towing or pushing	Use low range whenever hauling/towing/pushing.
Operating in mud, snow, sand, or other loose or soft terrain	Mud: Use low range to maintain vehicle speed and to prevent damaging the belt. Snow, sand, or other loose or soft terrain: Use high range to maintain wheel speed.
Stuck while operating	Use low range. Carefully employ quick, deliberate throttle application to engage the clutch. <b>WARNING: Excessive throttle may cause loss of vehicle control.</b>
Operating in rough terrain or over obstacles	Use low range whenever operating in rough terrain or over obstacles.
Water in CVT housing	Drain CVT housing. Before operating, place the transmission in neutral (keep brake applied) and vary engine RPM several times.
Drive belt failure	Remove drive belt and clean any debris from the CVT housing. Install new recommended drive belt.
Vehicle vibrates at initial throttle application when in gear	Slowly apply throttle from 0-5 mph (0-8 km/h) on a flat surface. If vehicle vibrates, check drive belt and replace if necessary.
Incorrect drive belt	Use only recommended drive belt.
Clutch malfunction	Check with authorized dealer.

## Braking/Stopping

Always allow plenty of room and time to stop smoothly. Sometimes quick stops are inevitable, so always be prepared. Whether you're stopping slowly or stopping quickly, do this:

1. Release the accelerator; then press the foot brake pedal to apply the brake.
2. If the wheels lock, release them for a second; then apply them again. On surfaces such as ice, mud, or loose gravel, pump the brake pedal rapidly.

3. Never “ride” the brake. Even maintaining minimal pressure on the brake pedal will cause the brake pads to drag on the disc and may overheat the brake fluid.

### ! WARNING

**Excessive repetitive use of the hydraulic brake for high speed stops will cause overheating of the brake fluid and premature brake pad wear which will result in an unexpected loss of brakes.**

## ! WARNING

**Use only approved brake fluid. Never substitute or mix different types or grades of brake fluid. Brake loss can result. Check brake fluid level and pad wear before each use. Brake loss can result in serious injury or death.**

## Parking

Parking involves following the previous rules for braking; then:

1. After the vehicle stops, shift into park.
2. Turn off the ignition.

## ! WARNING

**Parking on any incline can allow the vehicle to move, causing injury or damage.**

## CAUTION

**Parking on any incline puts excessive loads on shifting mechanisms and can cause hard shifting and/or stress on parts.**

If parking on a hill or any incline is the only alternative, use caution and follow these procedures after the vehicle stops:

1. Press and hold the brake pedal.
2. Shift into park.
3. Turn off the ignition.
4. Slowly release brake pedal and verify vehicle is in park before getting out.



XX486

5. Block rear wheels on the downhill side.

## Basic Turns

Steering effort is at its lowest in two-wheel drive (2WD). Greater effort is needed when in four-wheel drive (4WD). The greatest effort is needed when in four-wheel drive and the differential is locked.

Slow down before entering a turn. The basic turning technique is to drive at low speed and gradually adjust the amount of steering to suit the driving surface. Do not make sudden sharp turns on any surface. Refer to the sub-sections Driving Uphill, Driving Downhill, Crossing Obstacles, Driving in Reverse, Skidding or Sliding, Crossing Water, or Crossing Roads for more information.

If your vehicle ever skids sideways during a turn, steer in the direction of the skid. Also, avoid hard braking or accelerating until you have regained directional control.

## ! WARNING

**Use care in turns — turning the steering wheel too far or too fast can result in loss of control or a rollover. Excessive speed, driving aggressively, or making abrupt maneuvers, even on flat, open areas, can cause loss of control, tipping, or rollover. Uneven terrain, rough terrain, soft surfaces, slippery surfaces, and paved surfaces can also cause a loss of control or rollover in a turn. On loose or soft surfaces, allow yourself more time and distance to turn and slow down.**

## Driving Uphill

Always drive straight up the hill and always avoid hills that are very steep.

1. Keep both hands on the wheel.
2. Prior to starting the climb, shift into low range, select four-wheel drive for traction, and gradually press the accelerator; then maintain a constant speed.

## ! WARNING

**Do not attempt to turn around on a hill.**

## ! WARNING

**Driving up hills improperly can cause loss of control of the vehicle resulting in serious injury or death. Use extreme care when driving in hilly terrain.**

3. If the vehicle stalls on a hill, press the foot brake pedal to apply the brake, shift into reverse, and slowly back down the hill. Do not attempt to turn around on a hill.

## Driving Downhill

Always drive straight down the hill and always avoid hills that are very steep.

1. Keep both hands on the wheel.
2. Prior to descending the hill, shift into low range to allow maximum engine braking. Do not use four-wheel drive when descending a hill. Engine braking can cause the front wheels to slide reducing steering control.

■ **NOTE:** Use minimum braking (as necessary) to maintain a slow speed.

### ! WARNING

Do not attempt to turn around on a hill.

### ! WARNING

Driving down hills improperly can cause loss of control of the vehicle resulting in serious injury or death. Never drive downhill at a high rate of speed. Use extreme care when driving in hilly terrain.

## Crossing Obstacles

Crossing obstacles can be hazardous. There is always the possibility of the vehicle tipping. If you cannot go around an obstacle, follow these guidelines:

1. Stop the vehicle and move the shifter to park. Go out to inspect the obstacle thoroughly from both your approach side and the exit side. If you believe you can cross the obstacle safely, select four-wheel drive (4WD) and shift into low range.

■ **NOTE:** Selecting the LOCK position on the differential lock control may be beneficial; however, steering effort will be increased.

2. Approach the obstacle as close as possible to 90° to minimize vehicle tipping.

3. Keep speed slow enough to maintain control but fast enough to maintain momentum.
4. Use only enough power to cross the obstacle but still give yourself plenty of time to react to changes in conditions. Crawl over the obstacle.

### ! WARNING

Striking hidden obstacles can cause serious injury or death. Reduce speed and proceed with care in unfamiliar terrain.

■ **NOTE:** If there is any question about your ability to cross the obstacle safely, you should turn around if the ground is flat and you have room, or back up until you find a less difficult path.

## Driving in Reverse

When operating in reverse, avoid sharp turns and backing down a hill. When using reverse, follow these guidelines:

1. Back up slowly. It's hard to see behind you.

■ **NOTE:** Avoid sudden braking while backing up.

2. If possible, it is advisable to have someone "spotting" for you while backing up.
3. If you are unsure of what is behind the vehicle, place the transmission in park and get out and inspect the area behind.

## Skidding or Sliding

If you lose control after hitting sand, ice, mud, or water, follow these guidelines:

1. Turn the steering wheel into the direction of the slide.
2. Keep your foot off the brake until you're out of the skid.
3. Stop and shift into four-wheel drive.

## Crossing Water

This vehicle can only operate in water up to its floorboard. Stay away from fast-moving rivers. This vehicle's tires can be buoyant. In deep water, the vehicle may lose traction due to floating.

1. Physically check the depth and current of the water, especially if you can't see the bottom. Also, check for boulders, logs, or any other hidden obstacles.
2. Keep speed slow while maintaining momentum.
3. Make sure you have a way out on the other side of the water.
4. Once you've cleared the water, briefly apply the brakes to make sure they work.
3. Crossing near a blind corner or intersection is dangerous; avoid it if at all possible.
4. Drive straight across to the opposite shoulder.
5. Take into account that this vehicle could stall while crossing; give yourself enough time to get off the road.
6. You have to assume that oncoming cars don't see you, and if they do, they won't be able to predict your actions.
7. It's illegal to cross public roads in some places. Know your local laws.

■ **NOTE: Light pedal pressure or pumping the brakes for a short distance will aid in drying the brakes.**

### **! WARNING**

**Do not operate this vehicle on a frozen body of water unless you have first verified the ice is sufficiently thick to support the vehicle, cargo, and participants. The vehicle could break through the ice causing serious injury or death.**

### Crossing Roads

It may be necessary to cross a road or highway. If so, note the following guidelines:

1. Stop completely on the shoulder of the road.
2. Check both directions for traffic.

### Shutting Down Properly

This vehicle is equipped with an electronic cooling fan to aid in cooling the engine. The fan operates when coolant temperatures exceed predetermined thresholds and shuts off when coolant returns to normal temperature.

Do not shut vehicle off if the cooling fan is operating. When the fan stops, shut down vehicle.

■ **NOTE: The vehicle should be allowed to idle until fan shuts off indicating the engine has returned to normal temperature.**

### **CAUTION**

**If coolant temperature continues to increase, the vehicle should be taken to an authorized dealer for inspection.**

# General Information

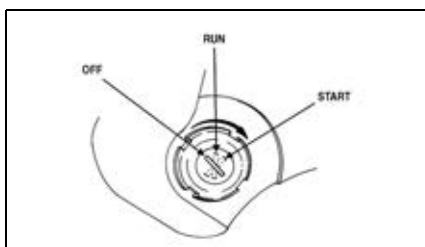
## Control Locations and Functions

### Ignition Switch Key

Two keys come with this vehicle. Keep the spare key in a safe place. An identifying number is stamped on each key. Use this number when ordering a replacement key.

### Ignition Switch

The ignition switch has three positions.



ATV-0056A

**OFF** position — All electrical circuits except accessory are off. The engine will not start. The key can be removed in this position.

■ **NOTE: The accessory plugs are powered by the battery at all times.**

**RUN** position — The ignition circuit is complete and the engine can run. The key cannot be removed in this position.

**START** position — The ignition circuit is complete and the starter is engaged. When the key is released, the switch will return to the RUN position. The key cannot be removed in this position.

■ **NOTE: This vehicle has safety interlock switches which prevent the starter motor from activating when the transmission is in gear. Depress and hold the brake pedal to engage starter when the transmission is not in park or neutral.**

### Shift Lever

This vehicle has a dual-range automatic transmission with reverse and park.



XX004

### Drive Select Switch



XX008A

This switch allows the operator to operate the vehicle in either two-wheel drive (rear wheels) or four-wheel drive (all wheels) as well as mechanically lock the differential to apply equal power to both front wheels. For normal riding on flat, dry, and hard surfaces, two-wheel drive should be sufficient. In situations when additional traction is necessary, four-wheel drive would be the desired choice.

To select 2WD, depress the bottom of the switch. To select 4WD, move the switch to the middle position. To engage the differential lock, slide the switch latch slightly downward while pressing the top of the switch forward.



XX008B

## CAUTION

Do not attempt to either engage or disengage the front differential lock while the vehicle is moving.

■ **NOTE:** When the differential lock is engaged, the **LOCK** icon will be illuminated on the digital gauge.

■ **NOTE:** The differential lock is intended for use where minimum traction is available. Steering effort will increase with the front differential lock engaged. Maneuverability and handling characteristics will differ with the differential lock engaged.

## Foot Brake

The foot brake is the only service brake, and it should be applied whenever braking is needed.

Apply the brake by pressing the brake pedal down.

## Steering Wheel Tilt Lever

Pull on the lever located on the steering column and move the steering wheel to the desired position; then release the lever and make sure the steering wheel locks securely.



XX005A

## ! WARNING

Make sure the steering wheel is locked securely in place before moving the vehicle, or steering wheel movement could occur causing loss of control.

## Headlight Switch



XX121

Use the headlight switch to select the LED light strip, low beam with LED or high beam with LED. When the switch is in the LED position only, the light strip will illuminate. When the switch is in the low beam position, the low beam will illuminate along with the LED light strip. When the switch is in the high beam position, the high beam will illuminate along with the LED light strip.

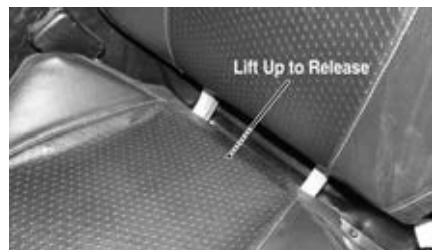
## Accelerator Pedal

Press down on the pedal to increase engine RPM and vehicle speed; release the pedal to decrease engine RPM and vehicle speed.

■ **NOTE:** This vehicle is equipped with an RPM limiter that retards ignition timing when maximum RPM is approached. When the RPM limiter is activated, it could be misinterpreted as a high-speed misfire.

## Seat Latches

1. To remove the seat, lift up on the latch release (located at the rear of the seat); then raise the rear of the seat and tilt it forward.



WC017A

- To lock the seat into position, place the front of the seat into the seat retainers and push down firmly on the rear of seat. The seat should automatically lock into position.

## ! WARNING

**Make sure the seats are secure before driving the vehicle. Serious injury or death could result if the seats are not properly secured.**

### Seat Belts

■ **NOTE:** This vehicle is equipped with a speed limitation device to limit the speed to 15 mph (24 km/h) if the driver's seat belt is not fully engaged. The seat belt indicator (A) will remain ON until the driver's seat belt is fully engaged.



XX470A

This vehicle is equipped with seat belts for the operator and the passenger(s). To fasten and release the seat belt properly, use the following procedure:

- Place the seat belt across your lap as low as possible without twisting the belt making sure the shoulder strap is below the neck and across the chest.

## ! WARNING

**Only appropriate-sized passengers may ride in this vehicle. Passengers must be able to place both feet flat on the floor while keeping their back against the back of the seat and holding on to the hand holds.**

- Push the latch-plate into the buckle slot until it “clicks” and latches securely. The belt will retract when the buckle is released.

## ! WARNING

**Falling outside a moving vehicle could result in serious injury or death. Always fasten your seat belt securely and ensure the passenger seat belt is properly and securely fastened prior to operating or riding in this vehicle.**

### Doors

In addition to the seat belts, there are left- and right-side doors. The doors should always be properly latched when the vehicle is moving.

To release the door from the inside of the vehicle, pivot the tip of the lever toward the rear of the vehicle.



XX122

To release the door from the outside of the vehicle, push downward on the door release.



XX123

To secure the door, swing the door in until the latch and mating tab engage and lock.

## Power Steering

This vehicle was produced with an Electronic Power Steering (EPS) system to reduce steering effort and driver fatigue over a broad range of operating conditions.

The EPS system engages when the ignition switch is turned to the ON position and disengages after approximately five minutes (to conserve battery power) if the engine is not running.

This system is entirely maintenance-free: no adjustment or servicing is required. There are no fluids to check or change, and the EPS system is entirely self-contained and sealed to protect it from the elements.

The EPS system is battery system powered; therefore, the battery must be in good condition and fully charged. Power delivery and overload protection is provided by an EPS relay and 30-amp fuse located above the battery in the Power Distribution Module (PDM).

The system is self-monitored and will display a malfunction code on the digital gauge should an EPS system control circuit problem occur. Do not operate the vehicle with an EPS malfunction code displayed.

Code	Fault Description
C1301	Over Current
C1302	Excessive Current Error
C1303	Torque Sensor Range Fault
C1304	Torque Sensor Linearity Fault
C1305	Rotor Position Encoder
C1306	System Voltage Low
C1307	System Voltage High
C1308	Temperature Above 110° C
C1309	Temperature Above 120° C
C1310	Vehicle Speed High
C1311	Vehicle Speed Low
C1312	Vehicle Speed Faulty
C1313	Engine RPM High
C1314	Engine RPM Low
C1315	Engine RPM Faulty
C1316	EEPROM Error
C1317	CAN Bus Error
C1318	Internal CRC Error
C1319	Boot Counter Exceeded
C1320	Incorrect Vehicle Speed-to-RPM Ratio

Code	Fault Description
C1321	Vehicle Speed Erratic
C1322	Engine RPM Lost
C1323	"EPS OFF" Gauge Display
C1324	Loss of CAN communication with EPS unit
C1325	Dual Loss
C1326	Rotor Position Encoder
C1327	Voltage Converter Error (Low)
C1328	Voltage Converter Error (High)
C1329	Internal Data Error

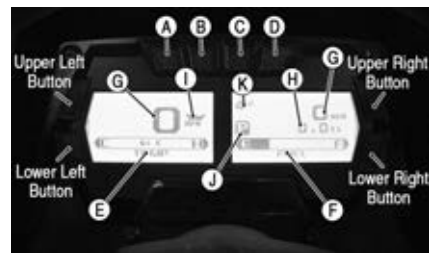
**NOTE: Turn the key switch to the OFF position then back to the ON position to reset the malfunction code. If the code continues to be displayed, take your vehicle to an authorized dealer for EPS system servicing before resuming operation.**

CAUTION

**Never operate this vehicle with an EPS code indicated on the digital gauge. This indicates a malfunction in the EPS system control circuit and could result in a loss of power steering assist.**

In the event of electrical power failure, the EPS system becomes disabled (similar to an automobile with the engine shut off). Steering effort increases but steering control can be maintained.

## Digital Gauge



XX470

## A. Seat Belt Indicator

The seat belt indicator will display each time the ignition switch is turned ON, and the indicator will illuminate until the operator's seat belt is secured to remind occupants to secure their seat belts.

### ! WARNING

**The seat belt indicator and RPM limiter are reminders and will turn off after the operator's seat belt is secured. These do not indicate that all seat belts are properly secured. It is the operator's responsibility to ensure all vehicle occupants are properly seated with seat belts secure and doors are properly latched. Serious injury or death could occur as a result of falling outside a moving vehicle.**

## B. High Beam Indicator

The indicator is on whenever the high beam mode is selected by the light switch.

## C. Coolant Temperature Indicator

The indicator relates to engine coolant temperature. The engine coolant temperature indicator will display momentarily each time the ignition switch is turned ON. The indicator will illuminate if the coolant temperature rises too far above proper operating temperature.

**■ NOTE: The engine RPM will be limited with the coolant temperature indicator illuminated.**

### CAUTION

**If the indicator is illuminated, stop the engine immediately and allow it to cool down. If unable to either determine or remedy the problem, take the vehicle to an authorized dealer for service. If not under warranty, this service is at the discretion and expense of the vehicle owner.**

## D. Malfunction Indicator Light

A diagnostic trouble code (DTC) (see list) will display on the digital gauge whenever an error is detected. The code and malfunction indicator icon will continue to be displayed on the digital gauge until the error is corrected.

## E. Coolant Temperature/Battery Voltage/Intake Air Temperature

This bar display shows coolant temperature, battery voltage, and intake air temperature. Press the Lower Left Button to change which parameter is being displayed. Press and hold the Lower Left Button to see the actual values associated with the mode selected.

## F. Fuel Level Display

This display shows the approximate amount of gas remaining in the gas tank.

## G. RPM/Speed/Clock

Press the Upper Left Button to cycle the left screen between RPM and speed.

**■ NOTE: When RPM is displayed on the left screen, the right screen will display speed or clock. When speed is displayed on the left screen, the right screen will display RPM or clock.**

Press the Upper Right Button to cycle the right screen between speed, RPM, and clock.

Press and hold the Upper Button on the side of the digital gauge displaying speed to shift the digital gauge between standard (mph/miles/Fahrenheit) and metric (km/h/kilometers/Celsius) modes.

Press and hold the Upper Button on the side of the digital gauge displaying RPM to view the maximum RPM achieved. This value is reset each time the ignition key is turned off.

With the clock mode selected by pressing the Upper Right Button, press and hold the Upper Right Button to set the clock. The option of selecting the 12-hour or 24-hour clock is available; press either Left Button to alternate between the two modes. Next, press the Lower Right Button to set the clock. Press either Left Button to select the hours; then press the Lower Right Button to set the minutes. Press either Left Button to select the minutes. When the proper time has been set, press the Lower Right Button to return to the main digital gauge display.

#### H. Engine Hour Meter/ Odometer/Trip Meter/ Clock

This display shows engine hours, odometer, trip meter, or clock. Press the Lower Right Button to change which parameter is being displayed. The Engine Hour Meter and Odometer cannot be reset. To reset the trip meter, select the Trip Meter; then press and hold the Lower Right Button until the trip meter display reads 0.

**■ NOTE: The clock can only be displayed in this position if it is not already being displayed in the main right screen. To set the clock when the clock is in this position, press and hold the Lower Right Button; then use the procedure found in G.**

#### I. Low Oil Pressure Indicator

The indicator relates to engine oil pressure, not the oil level; however, if the oil level is low, it may affect oil pressure. The low engine oil pressure indicator will display when there is low or no engine oil pressure. If oil pressure is lost, check the oil level. If the indicator does not go out or if the engine does not start, take the vehicle to an authorized dealer. If not under warranty, this service is at the discretion and expense of the vehicle owner.

CAUTION
<b>Running the engine with low engine oil pressure can cause severe engine damage.</b>

#### J. Gear Position Indicator

Indicates which gear is selected.

#### K. Drive Select Indicator

Indicates which drive mode is selected.

## Diagnostic Trouble Codes (DTC)

Diagnostic trouble codes are activated by the ECM and may be displayed on the digital gauge for a number of reasons.

If a code is displayed while the engine is running, the ECM is receiving input that is outside of its established parameters. If a code has been activated, take the vehicle to an authorized dealer for service. If not under warranty, this service is at the discretion and expense of the vehicle owner.

Display	Fault Description
C0063	Tilt Sensor Circuit High
C0064	Tilt Sensor Circuit Low/SG/Open
C1400	Fuel Level Sensor Circuit Open
P0030	Oxygen Heater Intermittent/Open
P0031	Oxygen Heater Low/SG
P0032	Oxygen Heater High/SP
P0068	Throttle Position Sensor MAP Plausibility
P0107	MAP Sensor Circuit Low/SG/Open
P0108	MAP Sensor Circuit High/SP
P0112	Intake Air Temp Sensor Circuit Low/SG
P0113	Intake Air Temp Sensor Circuit High/Open
P0114	Intake Air Temp Sensor Circuit Intermittent
P0116	Engine Coolant Temp Sensor Circuit Range/Performance
P0117	Engine Coolant Temp Sensor Circuit Low/SG
P0118	Engine Coolant Temp Sensor Circuit High/Open/SP
P0122	Throttle Position Sensor #1 Circuit Low/SG
P0123	Throttle Position Sensor #1 Circuit High/Open
P0130	Oxygen Sensor Intermittent/Open
P0131	Oxygen Sensor Low/SG or Air-Leak
P0132	Oxygen Sensor High/SP
P0171	Oxygen Feedback Below Minimum Correction
P0172	Oxygen Feedback Exceeds Maximum Correction
P0201	Cylinder #1 Fuel Injector Circuit Open
P0202	Cylinder #2 Fuel Injector Circuit Open
P0203	Cylinder #3 Fuel Injector Circuit Open
P0217	Engine Coolant Over Temperature Detected

Display	Fault Description
P0219	Engine Over-Speed Condition
P0222	Throttle Position Sensor #2 Circuit Low/SG/Open
P0223	Throttle Position Sensor #2 Circuit High
P0261	Cylinder #1 Fuel Injector Circuit Low/SG
P0262	Cylinder #1 Fuel Injector Circuit High
P0264	Cylinder #2 Fuel Injector Circuit Low/SG
P0265	Cylinder #2 Fuel Injector Circuit High
P0267	Cylinder #3 Fuel Injector Circuit Low/SG
P0268	Cylinder #3 Fuel Injector Circuit High
P0363	Misfire Detected — Fueling Disabled
P0370	Loss of Crankshaft Position Sensor Synchronization/Gap Position
P0371	Crankshaft Position Sensor Additional Teeth Detected
P0372	Crankshaft Position Sensor Missing Tooth
P0373	Crankshaft Position Sensor Spike Detected
P0374	Crankshaft Position Sensor Signal Not Detected
P0444	EVAP System Purge Control Valve Circuit Open
P0458	EVAP System Purge Control Valve Circuit Low/SG
P0459	EVAP System Purge Control Valve Circuit High/SP
P0480	Fan-Primary Relay Control Circuit Open
P0481	Fan-Secondary Relay Control Circuit Open
P0500	Vehicle Speed-Sensor
P0503	Vehicle Speed Sensor Circuit Intermittent/Erratic/High
P0504	Brake Switch Priority
P0562	System Voltage Low
P0563	System Voltage High
P0600	Serial Communication Link
P0606	Internal Monitoring Error
P060C	Internal Monitoring 3 Error
P0615	Starter Relay Circuit
P0616	Starter Relay Circuit Low
P0617	Starter Relay Circuit High
P061A	Internal Monitoring of Torque Error
P061F	Electronic Throttle Control Driver Temperature Warning
P0627	Fuel Pump Control Circuit Open
P0628	Fuel Pump Control Circuit Low/SG
P0629	Fuel Pump Control Circuit High/SP

Display	Fault Description
P0630	VIN Not Programmed or Incompatible
P0641	Sensor Reference Voltage #1 Circuit Low/Open
P0643	Sensor Reference Voltage #1 Circuit High
P0651	Sensor Reference Voltage #2 Circuit Low/Open
P0653	Sensor Reference Voltage #2 Circuit High
P0685	EFI/Main Relay Circuit Open
P0686	EFI/Main Relay Circuit Low/SG
P0687	EFI/Main Relay Circuit High/SP
P0691	Fan-Primary Relay Control Circuit Low/SG
P0692	Fan-Primary Relay Control Circuit High/SP
P0693	Fan-Secondary Relay Control Circuit Low/SG
P0694	Fan-Secondary Relay Control Circuit High/SP
P1120	Throttle Position Sensor Lower Position
P1121	Throttle Position Sensor Lower Adaption
P1122	Throttle Position Sensor Lower Return
P1123	Throttle Position Sensor Adaption Condition
P1124	Throttle Position Sensor Limp Home Adaption
P1125	Throttle Position Sensor Upper Position
P1126	Throttle Position Sensor Upper Return
P2100	Throttle Actuator Control Motor Circuit Open
P2102	Throttle Actuator #1 Control Motor Circuit Low/SG
P2103	Throttle Actuator #1 Control Motor Circuit High/SP
P2106	Electronic Throttle Control Output Is Out Of Range
P2107	Electronic Throttle Control Driver Over-Temperature
P210C	Throttle Actuator #2 Control Motor Circuit Low/SG
P210D	Throttle Actuator #2 Control Motor Circuit High/SP
P2118	Throttle Actuator Control Motor Range Error
P2119	Throttle Control Actuator Control Performance Error
P2122	Pedal Position Sensor #1 Circuit Low/Open/SG
P2123	Pedal Position Sensor #1 Circuit High/SP

Display	Fault Description
P2127	Pedal Position Sensor #2 Circuit Low/Open/SG
P2128	Pedal Position Sensor #2 Circuit High/SP
P2135	Throttle Position Sensor Plausibility Error
P2138	Pedal Position Sensor Plausibility Error
P2299	Brake Pedal Position/Accelerator Pedal Position Incompatible
P2300	Ignition Coil #1 Primary Circuit Low/SG/Open
P2301	Ignition Coil #1 Primary Circuit High
P2303	Ignition Coil #2 Primary Circuit Low/Open
P2304	Ignition Coil #2 Primary Circuit High
P2306	Ignition Coil #3 Primary Circuit Low/Open
P2307	Ignition Coil #3 Primary Circuit High
P2610	ECU Warm Reset
U0100	Lost Communication with ECM
U0155	LCD Gauge to ECM CAN Communication Lost
FUEL OFF	Tilt Sensor Activation Code

## Oil Level Stick

There is an oil level stick for checking the engine oil level. To check the oil level, use the following procedure:

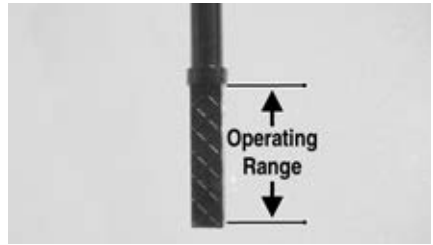
■ **NOTE: Engine oil level must be checked at normal operating temperature and on level ground.**

### ! WARNING

**Use caution when removing oil level stick. Exhaust components may be extremely hot.**

1. Start the engine and allow it to warm up for several minutes. Let idle until it achieves full operating temperature (at least one of the radiator fans cycles on and off) or take vehicle for a short drive to achieve full operating temperature.
2. Let the engine idle for at least 10 seconds before shutting off.

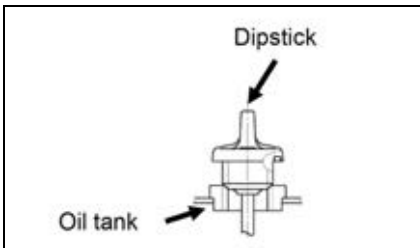
- Although it is possible to access the oil tank dipstick with the rear cargo tray in place, it is recommended to remove the rear cargo tray (see the Rear Cargo Tray Removal/Install section).
- Unscrew the oil tank stick and remove. Wipe off and reinsert into the oil tank (DO NOT screw the dipstick back into the oil tank).



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- Check oil level on stick.

■ **NOTE: The oil level stick should NOT be threaded into the oil tank for checking purposes.**

- The oil level must be maintained within the operating range at all times for maximum engine protection. If low, see the Recommended Engine Oil section.

## CAUTION

**Do not overfill the engine with oil. Always make sure the oil level is within the operating range.**

## Load Capacity Ratings Chart

This vehicle must always be loaded in accordance with the Load Capacity Ratings chart. Under no circumstances should the Vehicle Load Capacity or the Gross Vehicle Weight (GVW) rating ever be exceeded.

## ! WARNING

**Overloading this vehicle could result in loss of control resulting in serious injury or death.**

Item	Specifications	
	(lb)	(kg)
Vehicle Load Capacity	730	331
Rear Cargo Weight (max)	300	136

**Vehicle Load Capacity** — Total weight of operator, passenger, accessories, rear cargo, and storage compartments.

**Rear Cargo Weight** — Total weight in cargo box.

## Transporting

When transporting, the manufacturer recommends that the vehicle be in its normal operating position (on all four wheels) and the following procedure be used:

- Place the transmission in park.
- Secure the vehicle with load rated hold-down straps.



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■ **NOTE:** Suitable hold-down straps are available from your authorized dealer. Ordinary rope is not recommended because it can stretch under load.

### CAUTION

If using additional hold-down straps in any other areas, care must be taken not to damage the vehicle.

### Gasoline—Oil—Lubricant Filling Gas Tank

### ! WARNING

Always fill the gas tank in a well-ventilated area. Never add gasoline to the gas tank near any open flames or with the engine running or hot. **DO NOT SMOKE** while filling the gas tank.

Since gasoline expands as its temperature increases, the gas tank must be filled to its rated capacity only. Expansion room must be maintained in the tank particularly if the tank is filled with cold gasoline and then moved to a warm area.

Allow the engine to cool before filling the gas tank. Care must be taken not to overfill the tank. If overfilled, gas may leak onto the engine creating a fire hazard.

### ! WARNING

**Do not over-flow gasoline when filling the gas tank. A fire hazard could materialize. Always allow the engine to cool before filling the gas tank.**

Tighten the gas tank cap securely after filling the tank.

### ! WARNING

**Do not overfill the gas tank.**

### Recommended Gasoline

The recommended gasoline to use in this vehicle is regular unleaded gasoline with a pump octane number (PON) of 86 or higher, or research octane number (RON) of 91 or higher. If knocking or pinging occurs, use a different brand of gasoline or premium unleaded gasoline. Oxygenated gasolines containing up to 10% ethanol are acceptable gasolines. Gasolines containing any amount of methanol are not recommended.

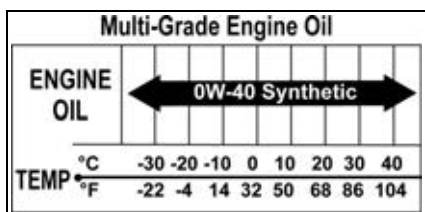
When using ethanol-blended gasoline, it is not necessary to add a gasoline antifreeze since ethanol will prevent the accumulation of moisture in the fuel system.

### CAUTION

**Do not use white gas. Only approved gasoline additives should be used.**

### Recommended Engine Oil

The recommended oil to use is ACX All Weather synthetic engine oil, which has been specifically formulated for use in this engine. Although ACX All Weather synthetic engine oil is the only oil recommended for use in this engine, use of any API-certified SM 0W-40 oil is acceptable.



OILCHARTJ

## Recommended Front Differential and Transaxle Lubricants

■ **NOTE: The manufacturer recommends the use of genuine lubricants.**

Base models: The recommended front differential lubricant is SAE-approved 80W-90 hypoid.

LTD, SE, and Black Hills Edition models: The recommended front differential lubricant is Synthetic Transaxle Fluid with EP.

### CAUTION

**Any lubricant used in place of the recommended lubricant could cause serious front differential damage.**

The recommended transaxle lubricant is Synthetic Transaxle Fluid with EP. This lubricant meets all of the lubrication requirements of the transaxle.

### CAUTION

**Any lubricant used in place of the recommended lubricant could cause serious transaxle damage.**

## Engine Break-In

After the completion of the break-in period, the engine oil and oil filter should be changed. Other maintenance after break-in should include checking of all prescribed adjustments and tightening of all fasteners. At the discretion and expense of the owner/operator, the vehicle may be taken to an authorized dealer for this initial service.

New vehicles and engines require a “break-in” period. The first month is most critical to the life of this vehicle. Proper operation during this break-in period will help ensure maximum life and performance from this vehicle.

During the first 10 hours of operation, always use less than 1/2 throttle. Varying the engine RPM during the break-in period allows the components to “load” (aiding the engine/transmission component mating process) and then “unload” (allowing components to cool). Although it is essential to place some stress on the engine components during break-in, care should be taken not to overload the engine too often. Do not pull a trailer during the break-in period.

When the engine starts, allow it to warm up properly. Idle the engine several minutes until the engine has reached normal operating temperature. Do not idle the engine for excessively long periods of time.

## Burnishing Brake Pads

Brake pads must be burnished to achieve full braking effectiveness. Braking distance will be extended until brake pads are properly burnished.

### ! WARNING

**Do not attempt sudden stops or put yourself into a situation where a sudden stop will be required until the brake pads are properly burnished.**

To properly burnish the brakes, use the following procedure:

1. Choose an area sufficiently large enough to safely accelerate to 30 mph (48 km/h) and to brake to a stop.
2. Accelerate to 30 mph (48 km/h); release the accelerator pedal, then press the brake pedal to decelerate to 0-5 mph (0-8 km/h).
3. Repeat the procedure 20 times.

## Drive Belt Break-In

New drive belts require a break-in period of approximately 25 miles (40 km/h). Drive the vehicle for 25 miles (40 km/h) at 3/4 throttle or less. Do not exceed 40 mph (64 km/h) during the break-in process. This will allow the drive belt to gain its optimum flexibility and will extend drive belt life.

## General Maintenance

■ **NOTE: Proper maintenance of the vehicle is important for optimum performance. Follow the Maintenance Schedule and all ensuing maintenance and care instructions/information.**

■ **NOTE: Proper maintenance procedures for each item can be found on the corresponding page indicated.**

If, at any time, abnormal noises, vibrations, or improper functioning of any component of this vehicle is detected, **DO NOT OPERATE THE VEHICLE**. Take the vehicle to an authorized dealer for inspection and adjustment or repair.

A repair shop or person of the owner's choosing may maintain, replace, or repair emission-control devices and systems. If the owner/operator does not feel qualified to perform any of these maintenance procedures or checks, take the vehicle to an authorized dealer for professional service.

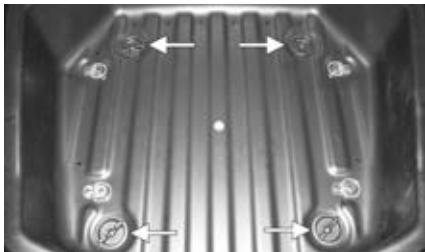
# Maintenance Schedule

Item	Interval	Maintenance Schedule Remarks	Page
Engine oil/filter	Initial	Replace oil and filter between the first 12 and 25 hours or 250 miles (400 km)	45, 21
Front differential	Initial	Replace oil between the first 12 and 25 hours or 250 miles (400 km)	46, 21
Transaxle	Initial	Replace oil between the first 12 and 25 hours or 250 miles (400 km)	47, 21
Steering	Daily	Check for smooth and free operation	—
Front suspension	Daily	Inspect and check for leaks and loose or missing hardware	—
Rear suspension	Daily	Inspect and check for leaks and loose or missing hardware	—
CV boots	Daily	Inspect and replace as needed	—
Tires	Daily	Check condition and pressure	55, 21
Brake fluid level	Daily	Check for correct level	48, 21
Wheel lug nuts	Daily	Check for loose or missing	55
Brake system function	Daily	Check for proper operation	48
Frame hardware	Daily	Check for loose or missing	—
Engine oil level	Daily	Check for correct level	35
Air filter	Daily	Inspect and clean or replace as needed	53
Coolant	Daily	Check level	41
Headlights/ taillights	Daily	Check operation and replace bulbs as needed	56-57
Fuel line	100 hrs / 6 months 1600 mi (2500 km)	Check fuel hose for cracks or damage Replace if necessary	48
Spark plug inspection	100 hrs / 6 months 1600 mi (2500 km)	Check condition Adjust gap and clean Replace if necessary	52, 21
Cooling system	100 hrs / 6 months 1600 mi (2500 km)	Inspect cooling system strength seasonally	41
Primary air filter	100 hrs / 6 months 1600 mi (2500 km)	Clean and replace as necessary	53
Engine oil/filter	100 hrs / 6 months 1600 mi (2500 km)	Change oil warm Change every 50 hours with severe use	45, 21
Alternator belt	100 hrs / 6 months 1600 mi (2500 km)	Check, inspect, adjust, and replace as necessary	—
CVT belt	100 hrs / 6 months 1600 mi (2500 km)	Check, inspect, and replace as necessary	—
Exhaust system	100 hrs / 6 months 1600 mi (2500 km)	Check for leakage Check for looseness and tighten all screws Replace gaskets if necessary	—
Transaxle oil	100 hrs / 12 months 1600 mi (2500 km)	Change lubricant	47, 21
Front differential oil	100 hrs / 12 months 1600 mi (2500 km)	Change lubricant	46, 21
Breather system	100 hrs / 12 months 3200 mi (5000 km)	Check breather hose for cracks or damage Replace if necessary	—
Spark arrester	200 hrs / 12 months 3200 mi (5000 km)	Clean	55
Brake system	200 hrs / 12 months 3200 mi (5000 km)	Check operation and fluid for leakage Correct if necessary	48, 21
Brake fluid and internals	200 hrs / 12 months 3200 mi (5000 km)	Check operation, brake pad wear, and for fluid leakage	48, 21
Brake hoses	200 hrs / 12 months 3200 mi (5000 km)	Inspect Replace if necessary	48
Spark plug replacement	Every 3200 mi (5000 km)	Replace and torque to specification	52, 21
Valves	Every 3200 mi (5000 km)	Check and adjust	—

## Rear Cargo Tray Removal/Install

■ **NOTE:** Removal of the rear cargo tray is required for some maintenance procedures.

1. Remove fasteners from cargo tray by turning counterclockwise.



XX064

2. Remove the rear cargo tray by lifting vertically.
3. Rear cargo tray is directional. Install the rear cargo tray.
4. Secure with fasteners by turning clockwise. Tighten fasteners securely.

## Hood Removal/Install

■ **NOTE:** Removal of the hood is required for some maintenance procedures.

1. Turn the two quarter-turn fasteners counterclockwise and remove hood.



XX062

2. Insert the tabs on the rear of hood into the rear portion of the front body panels. Lay the hood down flat. Turn both of the fasteners clockwise securing the hood.



XX127

## Liquid Cooling System

■ **NOTE:** Debris in the engine compartment or packed between the cooling fins of the radiator can reduce cooling capability. Using a garden hose, wash the radiator to remove any debris preventing air flow.

### CAUTION

Do not use a pressure washer to clean the radiator core. The pressure may bend or flatten the fins causing restricted air flow, and electrical components on the radiator could be damaged. Use only a garden hose with spray nozzle at normal tap pressure.

The cooling system capacity can be found in the specification chart. The cooling system should be inspected daily for leakage and damage. If leakage or damage is detected, take the vehicle to an authorized dealer for service. Also, the coolant level should be checked periodically.

### CAUTION

Continued operation of the vehicle with high engine temperature may result in engine damage or premature wear.

■ **NOTE:** High engine RPM, low vehicle speed, or heavy load can raise engine temperature. Decreasing engine RPM, reducing load, and selecting an appropriate transmission range can lower the temperature.

■ **NOTE:** Always verify the engine and radiator are at room temperature before attempting to check the coolant level.

When filling the cooling system, use a mixture of 60% antifreeze/40% water.

The coolant system pressure cap is located under the front hood, behind the radiator. Fill the cooling system to the FULL COLD line.



XX115

■ **NOTE:** Use a good quality, biodegradable glycol-based, automotive-type antifreeze.

### ! WARNING

Never check the coolant level when the engine is hot or the cooling system is under pressure.

### CAUTION

After operating the vehicle for the initial 5-10 minutes, stop the engine, allow the engine to cool down, and check the coolant level. Add coolant as necessary.

## Shock Absorbers

Each shock absorber should be visibly checked after every ride. Look for excessive fluid leakage (some seal leakage may be observed but it does not indicate the shock needs to be replaced), cracks or breaks in the lower case, or a bent shock rod. If any one of these conditions is detected, replacement is necessary.



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■ **NOTE:** When the vehicle is operated in extremely cold weather (-23° C/-10° F or colder), a small amount of leakage may be present. Unless the leakage is excessive, replacement is not necessary.

The shock absorbers on this vehicle have adjustable damping to accommodate many driving conditions and styles.

## Checking/Adjusting Ride Height

### ! WARNING

Always ensure the vehicle is adjusted to the specified ride height. Failure to do so can result in adverse changes to the vehicle's ride and handling, which could cause accidents or overturns.

■ **NOTE:** The preload collars **MUST** maintain contact with the spring at all times. Do not remove so much preload that the collar loses contact with the spring and allows the spring to "float" between the upper and lower spring collars.

■ **NOTE:** Ensure the vehicle is on level ground, the tires are properly inflated to 14 psi (96.5 kPa) in the front tires and 22 psi (151.7 kPa) in the rear tires, and there is an average operating load in the vehicle.

■ **NOTE:** Before attempting to adjust suspension, clean dirt and debris from the sleeve and remove load from the suspension by using a jack to lift the frame and allow the shock to fully extend. Loosen each preload lock adjustment ring; then use an appropriate spanner wrench to adjust the preload adjustment ring to the desired position.

1. Measure from the ground to the bottom of the frame tube in the location shown behind the front lower A-arms. Measurement should be 14 inches (35.5 cm).

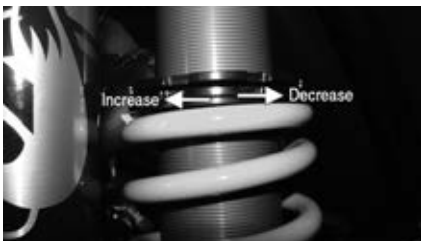


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2. If the measurement is not as specified, use a jack positioned under the front of the frame to lift and fully extend the front shocks. With a spanner wrench, loosen the preload lock adjustment ring located above the preload adjustment ring; then use an appropriate spanner wrench to rotate the preload adjustment ring in the desired directions shown. Adjust the left- and right-side springs equally as required. Tightening the springs will increase ground clearance, loosening the springs will decrease ground clearance. Secure the preload lock adjustment ring when the correct ride height is achieved.



XX130



XX130A

3. On the rear, measure from the ground to the bottom of the skid plate. Measurement should be 14 inches (35.5 cm).



XX019A

4. If the measurement is not as specified, use a jack positioned under the rear of the frame to lift and fully extend the rear shocks. With a spanner wrench, loosen the preload lock adjustment ring located above the preload adjustment ring; then use an appropriate spanner wrench to rotate the preload adjustment ring in the desired directions shown. Adjust the left- and right-side springs equally as required. Tightening the springs will increase ground clearance, loosening the springs will decrease ground clearance. Secure the preload lock adjustment ring when the correct ride height is achieved.

### CAUTION

The shocks are factory filled with high pressure gas. Do not remove the Schrader valves or gas leakage will occur, damaging the shock.

### Compression Damping Adjustment

To adjust damping, rotate the knob located at the top of each shock reservoir in the desired direction (firmer or softer). Ensure adjustments made are equal left to right on the front shocks and on the rear shocks.

■ **NOTE:** There are 3 positions of compression damping adjustment: Position 1 is softest, Position 2 is medium, Position 3 is firm.



XX131

■ **NOTE:** Suspension settings from the factory are optimally set for a wide variety of riding conditions. However, if additional adjustments are necessary always make your adjustments in small increments until the desired ride is achieved. Be sure to also record your adjustments for future reference.

### CAUTION

Continuous high speed operation of this vehicle with excessive spring preload (suspension maintained at full extension) may result in CV boot damage.

### Maintenance

A well-maintained shock absorber will last longer and perform better over time. The best way to protect your shock absorbers from the elements is to use shock absorber protectors. For cleaning, use a gentle detergent and pay particular attention to areas where debris can become lodged. Do not use any abrasive cleaning products.

Maintenance frequency may vary depending on the number of hours the vehicle is driven and the conditions under which it is ridden. Heat, violent impacts, dust, mud and adjustment settings are all factors that need to be taken into consideration in determining the frequency of basic maintenance and oil changes.

### Cleaning

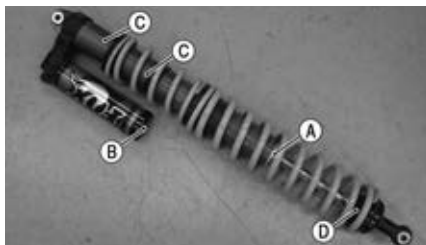
#### CAUTION

Do not use compressed air when cleaning the seal head (A) and reservoir cap (B) areas as this can damage the seals.

1. Clean the threads (C) around the shock body and under the preload ring with a soft brush.
2. Use compressed air to clean beneath the bottom-out bumper (D).

■ **NOTE:** Keep the areas around the compression and rebound adjusters clean using a soft brush.

■ **NOTE:** Inspect the shock absorbers before and after each use in order to detect any problems.



XX469

Task	After each use	End of each season	Annually
Clean under the bottom-out bumper	Yes	Yes	Yes
Clean shock absorber exterior	Yes	Yes	Yes
Check the assembly for leaks or loose components	Inspect	Inspect	Inspect
Check the shaft for damage or rust	Inspect	Inspect	Inspect
Check the seal head for leaks or loosening	Inspect	Inspect/Replace*	Inspect/Replace*
Check all mounting hardware for tightness	Inspect	Inspect	Inspect
Check eyelet bushings/bearings	Inspect	Inspect	Inspect
Check spring and spring seats	Inspect	Inspect	Inspect
Change oil, piston and wear band, clean interior parts, check nitrogen pressure*	Every 6 months or every year, depending upon usage		

\*Must be performed by Shock Manufacturer Service Department or an Authorized Shock Service Center

## General Lubrication

### Cables

None of the cables require lubrication; however, it is advisable to lubricate the ends of the cables periodically with a good cable lubricant.

### Engine Oil and Filter Change

Change the engine oil and oil filter at the scheduled intervals. The engine should always be warm when the oil is changed so the oil will drain easily and completely.

**NOTE: The rear cargo tray must be removed to access the oil tank and top of the engine.**

1. Park the vehicle on level ground.
2. Loosen the oil level stick. Be careful not to allow contaminants to enter the opening.



XX119

3. Loosen the fill plug on top of the valve cover. Be careful not to allow contaminants to enter the opening.



XX051

4. Remove the drain plug and crush washer from the bottom of the oil tank. Use a funnel to direct the oil into a drain pan.



XX118

- Remove the drain plug and washer from the bottom of the engine and drain the oil into a drain pan.

■ **NOTE:** There is a “triangle” symbol cast into the oil pan located next to the drain plug for identification purposes.



XX033A

- Using the oil filter wrench and a ratchet handle (or a socket or box-end wrench), remove the old oil filter and dispose of properly. Verify the oil filter seal has been removed along with the filter. Do not re-use oil filter.

■ **NOTE:** Clean up any excess oil after removing the filter.

- Apply new engine oil to the new oil filter seal; then install the new oil filter onto the engine. Tighten securely.
- Install the engine drain plug and new washer. Tighten to 7.2 ft-lb (9.8 N-m). Install the oil tank drain plug and new washer. then tighten to 12 ft-lb (16.3 N-m).
- Pour 2.70 US qt (2.55 L) of ACX All Weather synthetic engine oil into the oil tank. Install the dipstick. Install the fill plug on top of the valve cover.

- Start the engine (while the vehicle is outside on level ground) and allow it to idle until at least one of the radiator fans cycles on and off. Check for any leaking oil. If oil is leaking, immediately stop the engine and correct the cause of the leak before proceeding.

■ **NOTE:** The manufacturer recommends the use of genuine lubricants.

■ **NOTE:** The oil level stick should NOT be threaded into the oil tank for checking purposes.

- Turn the engine off and wait approximately one minute. Remove the oil level stick from the oil tank and recheck the oil level. Add more oil if the level is not visible on the stick. The oil level MUST be within the operating range.



XX011A

## Front Differential Lubricant Change

Inspect and change the lubricant according to the Maintenance Schedule. When changing the lubricant, use the appropriate lubricant and use the following procedure:

■ **NOTE:** The fill plug is located on the front right side of the differential.

- Place the vehicle on level ground; then remove the fill plug.



(Base model shown) XX116

2. Drain the oil into a drain pan by removing the drain plug. Clean away any debris that may have accumulated onto the magnetic end of the plug.



(Base model shown) XX117

3. After the oil has been drained, install the drain plug, then:

Tighten drain plug for Base model to 16 ft-lb (21.8 N-m).

Tighten drain plug for LTD, SE, and Black Hills Edition models to 3.7 ft-lb (5.0 N-m).

### CAUTION

**Inspect the oil for any signs of metal filings or water. If found, take the vehicle to an authorized dealer for servicing.**

4. Base model: Add SAE-approved 80W-90 hypoid gear lube into the fill plug hole. The lubricant level should be approximately level with the bottom of the plug threads.

LTD, SE, and Black Hills Edition models: Add Synthetic Transaxle Fluid with EP into fill plug hole. The lubricant level should be approximately level with the bottom of the plug threads.

5. Base model: Install the fill plug and tighten to 16 ft-lb (21.8 N-m).

LTD, SE and Black Hills Edition models: Install the washer and fill plug and tighten to 8.9 ft-lb (12 N-m).

## Transaxle Lubricant Change

Inspect and change the lubricant according to the Maintenance Schedule. When changing the lubricant, use the appropriate lubricant and use the following procedure:

■ **NOTE: The fill plug is located on the front right side of the transaxle.**

1. Place the vehicle on level ground; then remove the fill plug.



XX113

2. Drain the oil into a drain pan by removing the drain plug. Clean away any debris that may have accumulated onto the magnetic end of the plug.



XX114

3. After the oil has been drained, install the drain plug and tighten to 16 ft-lb (21.8 N-m).

### CAUTION

**Inspect the oil for any signs of metal filings or water. If found, take the vehicle to an authorized dealer for servicing.**

4. Add Synthetic Transaxle Fluid with EP into the fill plug hole. The lubricant level should be approximately level with the bottom of the plug threads.
5. Install the fill plug and tighten to 16 ft-lb (21.8 N-m).

■ **NOTE:** Take the vehicle to an authorized dealer for this service.

### CAUTION

**Be careful not to spill any fluid when filling the brake fluid reservoir. Wipe away spilled fluid immediately.**

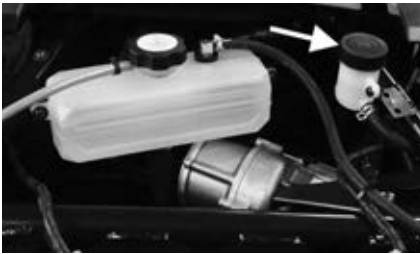
## Hydraulic Brake

### ! WARNING

**Be sure to inspect the brakes before each use. Always maintain brakes according to the Maintenance Schedule.**

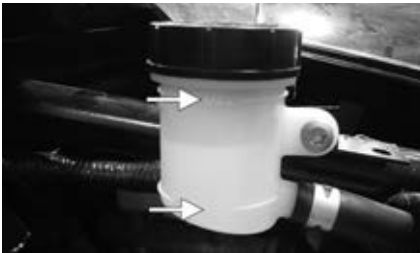
### Brake Fluid

■ **NOTE:** The brake fluid reservoir is located below the front hood.



XX115A

1. Check the brake fluid level in the brake fluid reservoir. The fluid level must be maintained between the MAX and MIN level marks. If the level in the reservoir is low, add DOT 4 brake fluid.



XX022

2. Press the brake pedal several times to check for firmness.
3. If the pedal is not firm, the system must be bled.

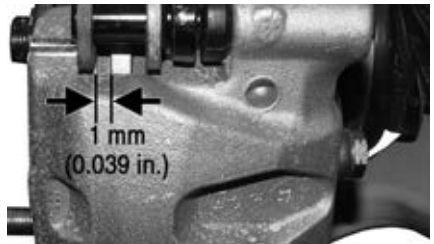
### Brake Hoses

Carefully inspect the hydraulic brake hoses for cracks or other damage. If found, take the vehicle to an authorized dealer to have the brake hoses replaced.

### Brake Pads

The clearance between the brake pads and brake discs is adjusted automatically as the brake pads wear. The only maintenance that is required is replacement of the brake pads when they show excessive wear. Check the thickness of each of the brake pads as follows:

1. Remove a front wheel.
2. Measure the thickness of each brake pad.
3. If the thickness of either brake pad friction material is less than 1 mm (0.039 in), take the vehicle to an authorized dealer to have brake pads replaced.



XX139

4. Install the wheel; then using a criss-cross pattern, tighten the wheel nuts incrementally to a final torque of 95 ft-lb (129.2 N-m).

### Fuel Hoses

Inspect the hoses. Damage from aging may not always be visible.

## Protective Rubber Boots

The protective boots should be inspected periodically according to the Maintenance Schedule.

### Spherical Ball Joints (Upper and Lower/Right and Left)



XX472

1. Secure the vehicle on a support stand to elevate the front wheels.
2. Remove both front wheels.
3. Check the spherical joints for free-play by grasping the steering knuckle and turning it from side to side and up and down.
4. If free-play seems excessive, contact an authorized dealer for service.
5. Lubricate the joints with a suitable lubricant, wipe away any excess.

### Tie Rod Ends (Inner and Outer/Right and Left)



XX471



XX475

1. Secure the vehicle on a support stand to elevate the front wheels.
2. Remove both front wheels.
3. Inspect the four tie rod boots for cracks, tears, or perforations.
4. Check the free-play of the four tie rod ends by grasping the tie rod near the end and attempting to move it up and down, back and forth.
5. If boot damage is present or tie rod end free-play seems excessive, contact an authorized dealer for service.

### Drive Axle Boots



XX463B



XX465A

1. Inspect all eight drive axle boots, front and rear, for cracks, tears, or perforations.
2. If boot damage is present, contact an authorized dealer for service.

## Battery

The battery is located in a compartment between the seats. To access the battery, remove the driver's seat; then turn the fastener counterclockwise and remove the battery access cover.



XX124



XX125

After being in service, batteries require regular cleaning and recharging in order to deliver peak performance and maximum service life. The following procedures are recommended for cleaning and maintaining batteries. Always read and follow instructions provided with battery chargers and battery products.

**NOTE: Refer to all warnings and cautions provided with the battery or battery maintainer/charger.**

Loss of battery charge may be caused by ambient temperature, ignition OFF current draw, corroded terminals, self discharge, frequent start/stops, and short engine run times. Frequent winch usage, snowplowing, extended low RPM operation, short trips, and high amperage accessory usage are also reasons for battery discharge.

## Charging/Maintenance Charging

**NOTE: Use of the CTEK Multi US 800 for charging or the CTEK Multi US 3300 for maintenance charging is recommended. Maintenance charging is required on all batteries not used for more than two weeks or as required by battery drain.**



800A

**NOTE: When charging a battery in the vehicle, be sure the ignition switch is in the OFF position.**

1. Clean the battery terminals with a solution of baking soda and water.

**NOTE: The sealing strip should NOT be removed and NO fluid should be added.**

2. Be sure the charger and battery are in a well-ventilated area. Be sure the charger is unplugged from the 110-volt electrical outlet.
3. Connect the red terminal lead from the charger to the positive terminal of the battery; then connect the black terminal lead of the charger to the negative terminal of the battery.

**NOTE: Optional battery charging adapters are available from your authorized dealer to connect directly to your vehicle from the recommended chargers to simplify the maintenance charging process. Check with your authorized dealer for proper installation of these charging adapter connectors.**

4. Plug the battery charger into a 110-volt electrical outlet.

5. If using the CTEK Multi US 800, there are no further buttons to push. If using the CTEK Multi US 3300, press the Mode button (A) at the left of the charger until the Maintenance Charge Icon (B) or Normal Charge Icon (E) at the bottom illuminates. the Normal Charge Indicator (C) should illuminate on the upper portion of the battery charger.



3300C

■ **NOTE:** For optimal charge and performance, leave the charger connected to the battery for a minimum 1 hour after the Maintenance Charge Indicator (D) illuminates. The maintainer/charger will charge the battery to 95% capacity at which time the Maintenance Charge Indicator (D) will illuminate and the maintainer/charger will change to pulse/float maintenance. If the battery falls below 12.9 DC volts, the charger will automatically start again at the first step of the charge sequence. If the battery becomes hot to the touch, stop charging. Resume after it has cooled.

■ **NOTE:** Not using a battery charger with the proper float maintenance will damage the battery if connected over extended periods.

6. Once the battery has reached full charge, unplug the charger from the 110-volt electrical outlet.

■ **NOTE:** If, after charging, the battery does not perform to operator expectations, bring the battery to an authorized dealer for further troubleshooting.

## Jump-Starting

■ **NOTE:** Jump-starting a vehicle with a dead battery is not recommended. Instead, remove the battery, service it, and correctly charge it; however, in an emergency, it may be necessary to jump-start a vehicle. If so, use the following procedure to carefully and safely complete this procedure:

### ! WARNING

Improper handling or connecting of a battery may result in serious injury including acid burns, electrical burns, or blindness as a result of an explosion. Always remove rings and watches.

1. On the vehicle being jump-started, remove the battery cover and any terminal boots.

### ! WARNING

Any time service is performed on a battery, the following must be observed: keep sparks, open flame, cigarettes, or any other flame away. Always wear safety glasses. Protect skin and clothing when handling a battery. When servicing battery in enclosed space, keep the area well-ventilated. Make sure battery venting is not obstructed.

2. Inspect the battery for any signs of electrolyte leaks, loose terminals, or bulging sides. Leaking or bulging battery cases may indicate a frozen or shorted battery.

### ! WARNING

If any of these conditions exist, DO NOT attempt a jump-start, boost, or charge the battery. An explosion could occur causing serious injury or death.

3. Inspect the vehicle to be used for jump-starting to determine if voltage and ground polarity are compatible. The vehicle must have a 12-volt DC, negative ground electrical system.

### CAUTION

**Always make sure the electrical systems are of the same voltage and ground polarity prior to connecting jumper cables. If not, severe electrical damage could occur.**

4. Move the vehicle to be used for the jump-start close enough to ensure the jumper cables easily reach; then shift into neutral, set and lock the brakes, shut off all electrical accessories, and turn the ignition switch OFF.

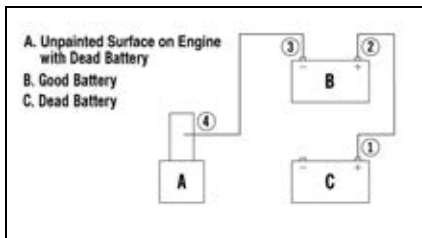
**NOTE: Make sure all switches on the vehicle to be jump-started are turned OFF.**

5. Disconnect all external accessories such as cell phones, GPS units, and radios on both vehicles.

### CAUTION

**Failure to disconnect electronic accessories during jump-starting may cause system damage due to power spikes.**

6. Attach one clamp of the positive (red) jumper cable to the positive (+) terminal (1) of the dead battery (C) being careful not to touch any metal with the other clamp; then attach the other clamp of the positive (red) jumper cable to the positive (+) terminal (2) of the good battery (B).



0744-527

**NOTE: Some jumper cables may be the same color but the clamps or ends will be color-coded red and black.**

7. Attach one clamp of the negative (black) jumper cable to the negative (-) terminal (3) of the good battery (B); then attach the other clamp of the negative (black) jumper cable (4) to an unpainted metal surface (A) on the engine or frame well away from the dead battery and fuel system components.

### ! WARNING

**Never make the final connection to a battery as a spark could ignite hydrogen gases causing an explosion of the battery resulting in acid burns or blindness.**

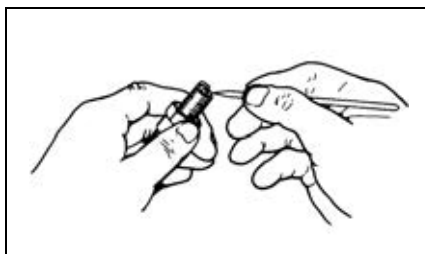
8. Stand well away from the dead battery and start the vehicle with the good battery. Allow the vehicle to run for several minutes applying some charge to the dead battery.
9. Start the vehicle with the dead battery and allow it to run for several minutes before disconnecting the jumper cables.
10. Remove the jumper cables in opposite order of hook-up (4, 3, 2, 1). Be careful not to short cables against bare metal.

**NOTE: Have the battery and electrical system checked prior to operating the vehicle again.**

## Spark Plugs

This vehicle comes equipped with specified spark plugs. See the specifications chart for the correct spark plugs. A light brown insulator indicates that the plug is correct. A white or dark insulator indicates that the engine may need to be serviced. Consult an authorized dealer if the plug insulator is not a light brown color. To help prevent cold weather fouling, make sure to thoroughly warm up the engine before operating.

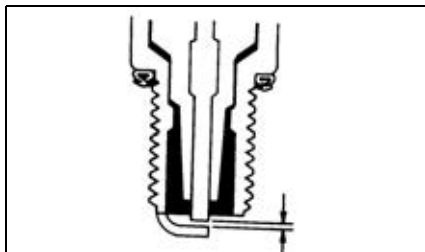
To maintain a hot, strong spark, keep the plug free of carbon.



ATV-0051

Before removing the spark plug, be sure to clean the area around the spark plug. If you do not, dirt could enter engine when removing or installing the spark plug.

Adjust the gap (see specifications chart) for proper ignition. Use a feeler gauge to check the gap.



ATV-0052

A new spark plug should be tightened 1/2 turn once the washer contacts the cylinder head. A used spark plug should be tightened 1/8-1/4 turn once the washer contacts the cylinder head.

## Air Filter/Housing Drain

The air filter inside the air filter housing must be kept clean and changed periodically to provide good engine power, gas mileage and to protect the engine from accelerated wear. If the vehicle is used under normal conditions, clean or replace the filter at the intervals specified. If operated in dusty, wet, or muddy conditions, inspect and replace the filter more frequently. Use the following procedure to remove the filter and inspect and/or replace it:

### CAUTION

Failure to inspect the air filter frequently if the vehicle is used in dusty, wet, or muddy conditions can damage the engine.

■ **NOTE:** The air filter is located above the engine and can be accessed by removing the rear cargo tray.

1. Remove dirt and debris from around the filter housing.
2. Pull the release tab out away from the filter housing.



XX052



XX053A

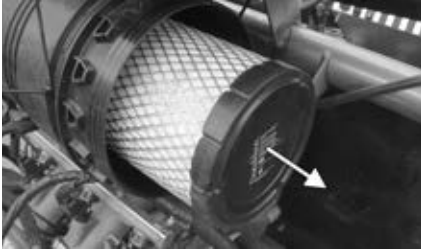
3. Rotate the end of the housing approximately 1/16 of a turn counterclockwise to release the cover from the main housing.



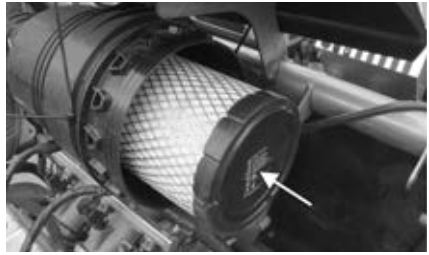
XX054

4. Pull the paper element out of the filter body.

■ **NOTE:** Once the filter has been removed, lightly tap the filter to remove any dust particles or contaminants from the filter. If the filter is excessively covered in dust particles and contaminants, it must be replaced.



XX055A



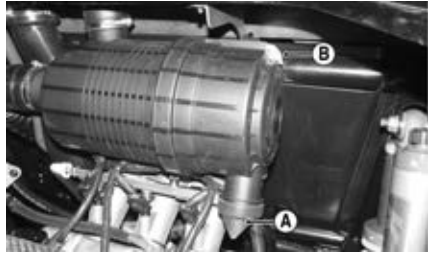
XX055B

7. Reinstall the air filter cover, then turn it approximately 1/16 of a turn clockwise to seat it to the housing. Verify the duckbill drain (A) is located at the bottom of the assembly. Then lock the cover to the housing by pressing the retainer tab (B) inward toward the assembly.

### CAUTION

Do not use compressed air to clean the paper element. This may cause tears in the element and allow particles to enter the combustion chamber leading to accelerated engine wear.

5. Plug the intake tube with a clean shop towel. Then clean the inside of the air filter housing.



XX057A

### CAUTION

A torn air filter can cause damage to the engine. Dirt and dust may get inside the engine if the element is torn. Carefully examine the element for tears before and after cleaning it. Replace the element with a new one if it is torn.



XX056

■ **NOTE:** Verify the shop towel has been removed from the intake tube before continuing.

6. Remove the shop towel from the intake tube. Then place a new air filter element into the filter housing. Push the element into the housing until it is fully seated.

### Draining V-Belt Cover

■ **NOTE:** If the vehicle has been driven through water, the V-belt cover must be drained of any water.

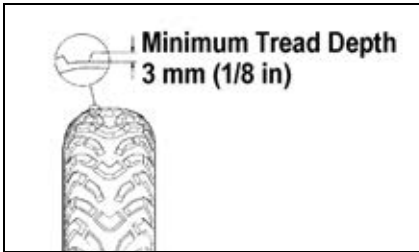
1. Place the vehicle on a level surface.
2. Remove the drain bolt from the bottom of the outer cover and allow the water to drain out.
3. Shift the transmission to the neutral position; then start the engine.
4. Increase and decrease engine RPM several times to "blow out" any water; then stop the engine.
5. Install the drain bolt and tighten securely.

## Tires

### ! WARNING

**Always use the size and type of tires as specified. Refer to the specifications chart for proper tire inflation pressure, and always maintain proper tire inflation pressure.**

### Tire Tread Condition



0732-649

The use of worn-out tires on this vehicle is very dangerous. A tire is considered to be worn out when the depth of the tread is less than 3 mm (1/8 in). Be sure to replace the tires before reaching this minimum specification.

### ! WARNING

**The use of worn-out tires is dangerous and can increase the risk of an accident.**

### Tire Replacement

The ROV has low-pressure tubeless tires. Have this maintenance performed by a qualified tire repair station.

### ! WARNING

**Replacement tires must be the same size as originally equipped. Refer to the Specifications table on page 21 for the original tire size. Failure to follow this warning can result in the vehicle being unstable and can cause errors in the vehicle's speedometer and odometer readings.**

## Tubeless Tire Repair

Should a leak or flat tire occur due to a puncture, the tire may be repaired using a plug-type repair. If the damage is from a cut or if the puncture cannot be repaired using a plug, the tire must be replaced. When operating the vehicle in areas where transportation or service facilities are not readily available, it is strongly recommended to carry a plug-type repair kit and a tire pump along.

## Wheels

1. Park the vehicle on level ground, shift into park, and engage the differential lock.
2. Loosen the lug nuts on the wheel to be removed.
3. Elevate the vehicle.
4. Remove the lug nuts.
5. Remove the wheel.
6. Install the wheel; then using a criss-cross pattern, tighten the wheel nuts incrementally to a final torque of 95 ft-lb (129.2 N-m).

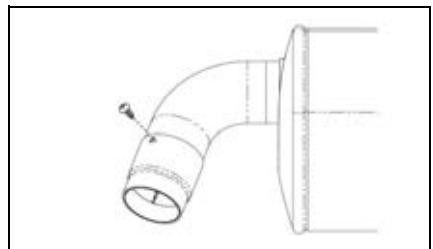
## Muffler/Spark Arrester

The muffler has a spark arrester which must be periodically cleaned. At the intervals shown in the Maintenance Schedule, clean the spark arrester using the following procedure:

### ! WARNING

**Wait until the muffler cools to avoid burns.**

1. Remove the screw securing the spark arrester to the muffler.



XX028

- Using a suitable brush, clean the carbon deposits from the screen taking care not to damage the screen.



WC929

■ **NOTE:** If the screen is damaged in any way, it must be replaced.

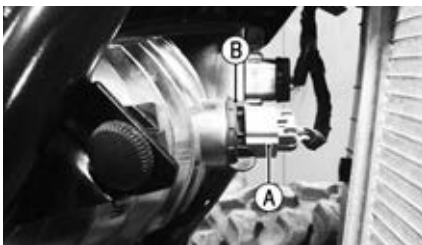
- Install the spark arrester assembly and secure with the cap screw. Tighten to 96 in-lb (10.8 N-m).

### Headlight Bulb Replacement

■ **NOTE:** The LED strips in the headlight assembly are not individually replaceable. The entire assembly must be replaced as a component.

To replace the headlight bulb, use the following procedure:

- Remove hood.
- Remove the wiring harness connector (A) from the back of the headlight bulb (B).
- Rotate the headlight bulb (B) counter-clockwise to remove from the assembly.



XX069

- Rotate the new headlight bulb (B) clockwise into headlight assembly. Reinstall wiring harness connector (A).

- Adjust the headlight using the Checking/Adjusting Headlight Aim instructions in this section.

### Headlight Assembly Replacement

■ **NOTE:** The LED strips in the headlight assembly are not individually replaceable. The entire assembly must be replaced as a component.

To replace the headlight assembly, use the following procedure:

- Remove hood.
- Remove the headlight retaining knob.



XX069A

- Remove the wiring harness connectors. Remove the retainers on both sides of the headlight assembly that secure the headlight assembly.

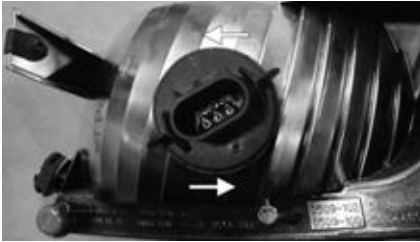


XX070



XX071

- Headlight assembly mounts in a “C” shaped channel. Slide headlight assembly toward the rear of vehicle to release from the channel.
- Remove headlight from rear housing of headlight assembly by turning counterclockwise.



XX072A

- Install headlight bulb from rear of headlight assembly by turning clockwise.

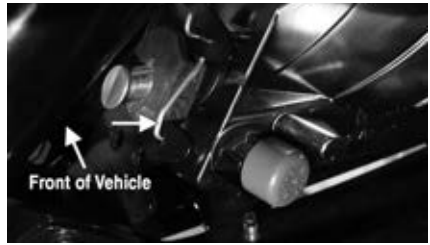


XX072

- Headlight assembly mounts in a “C” shaped channel. Slide headlight assembly toward the front of vehicle to mount into “C” shaped channel. Install the retainers on both sides of the headlight assembly that secure the headlight assembly.



XX070A



XX071

- Install the wiring harness connectors



XX070B

- Install the headlight retaining knob.



XX069A

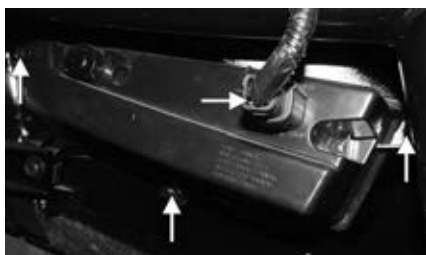
- Adjust the headlight using the Checking/Adjusting Headlight Aim instructions in this section.

## Taillight/Brake Light

■ **NOTE: The LED taillights are not serviceable. The entire assembly must be replaced as a component.**

To replace the taillight/brake light assembly, use the following procedure:

- Remove the rear cargo tray.
- Disconnect the wiring harness connector. Remove the screw securing the taillight to the fascia.



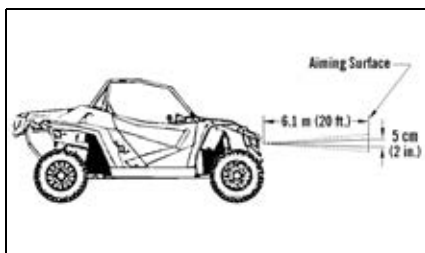
WC099A

3. Install the new taillight/brake light assembly and secure with the screws. Tighten securely; then connect the electrical connector.

## Checking/Adjusting Headlight Aim

The headlights can be adjusted vertically. The geometric center of the HIGH beam light zone is to be used for vertical aiming.

1. Position the vehicle on a level floor so the headlights are approximately 6.1 m (20 ft) from an aiming surface (wall or similar aiming surface).



XX029

■ **NOTE:** There should be an average operating load on the vehicle when adjusting the headlight aim.

2. Measure the distance from the floor to the midpoint of each headlight.
3. Using the measurements obtained in step 2, make a horizontal mark on the aiming surface directly in front of each headlight.
4. Switch on the lights. Make sure the HIGH beam is on. DO NOT USE LOW BEAM.

5. Observe each headlight beam aim. Proper aim is when the most intense beam is 5 cm (2 in) below the horizontal mark on the aiming surface.
6. Adjust each headlight until correct aim is obtained by loosening (counterclockwise) the retaining knob located underneath the hood in front of the radiator, then pivoting the assembly up or down. Once the correct level is achieved, tighten (clockwise) the knob.



XX120

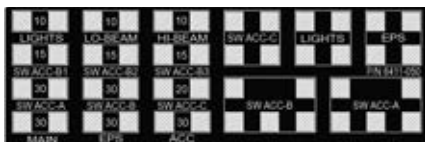
## Power Distribution Module (PDM)

The fuses, relays and a resistor are located in two separate power distribution modules under the battery access cover between the seats. If there is any type of electrical system failure, always check the fuses first.

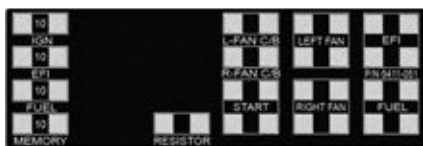


XX125

■ **NOTE:** To access the fuses, compress the locking tabs on either side of the fuse cover and lift the cover from the PDM.



6411-050



6411-051

### CAUTION

**Always replace a blown fuse with a fuse of the same type and rating. If the new fuse blows after a short period of use, consult an authorized dealer immediately.**

## Electrical Output Terminals

Two output terminals for electrical accessories are located on the front and rear wiring harnesses. One accessory plug is located on the center console.



WC123

## Glove Box/Tools

This vehicle has a glove box in the dashboard.

A basic tool kit (located under the hood) is provided with this vehicle. Maintain the tool kit with the vehicle at all times.

## Seat Belts

Inspect the seat belts for frayed or torn edges. Check that the belts extend and retract smoothly and fully without binding or catching. Check that the latch plate locks securely in place in the buckle and releases when the button is pressed. Wash off any dirt and make sure the retractors are free of debris. Do not grease or oil the retractors.

## Doors

Inspect the doors for broken or bent tubes, hinges, or latches. Make sure the latches engage and lock securely.

## ROPS

Inspect the Rollover Protection Structure (ROPS) for any deformation, twisting, cracking, missing or damaged fasteners, loose fasteners, modification to the production form, missing ROPS label, unauthorized repair or welding, and/or improper installation. If any of these circumstances are discovered, do not operate and immediately bring the vehicle to an authorized dealer for service.

## Preparation for Storage

The manufacturer recommends the following procedure to prepare the vehicle for storage:

### CAUTION

**Prior to storing this vehicle, it must be properly serviced to prevent rusting and component deterioration.**

1. Clean the vehicle thoroughly by washing dirt, oil, grass, and other foreign matter from the entire vehicle. Allow the vehicle to dry thoroughly. **DO NOT** get water into any part of the engine or air intake.
2. Either drain the gas tank or add a fuel stabilizer to the gas in the gas tank.
3. Change the engine oil.
4. Plug the hole in the exhaust system with steel wool.
5. Tighten all nuts, bolts, cap screws, and screws. Make sure rivets holding components together are tight. Replace all loose rivets. Care must be taken that all calibrated nuts, cap screws, and bolts are tightened to specifications.

6. Fill the cooling system to the MAX COLD line with properly mixed coolant.

7. Disconnect the battery cables (negative cable first); then remove the battery, clean the battery posts and cables, and store in a clean, dry area.

■ **NOTE: For storage, use a battery maintainer or make sure the battery is fully charged (see Battery section in this manual).**

8. Store the vehicle indoors in a level position with the frame held up by jack stands or blocks to keep the wheels off the ground.

### CAUTION

**Avoid storing outside in direct sunlight and avoid using a plastic cover as moisture will collect on the vehicle causing rusting.**

## Preparation after Storage

Taking this vehicle out of storage and correctly preparing it will ensure many miles and hours of trouble-free riding. The manufacturer recommends the following procedure:

1. Clean the vehicle thoroughly.
2. Remove steel wool from the exhaust system.
3. Check all control wires and cables for signs of wear or fraying. Replace if necessary.
4. Change the engine oil and filter.
5. Change front differential oil and transaxle oil.
6. Check the coolant level and add properly mixed coolant as necessary.
7. Charge the battery; then install. Connect the battery cables making sure to connect the positive cable first.
8. Check the entire brake systems (fluid level, pads, hoses, etc.), all controls, headlights, taillight, brake light, and headlight aim; adjust or replace if necessary.
9. Check the tire pressure and tire condition. Inflate to recommended pressure as necessary.
10. Tighten all nuts, bolts, cap screws, and screws making sure all calibrated nuts, cap screws, and bolts are tightened to specifications.
11. Make sure the steering moves freely and does not bind.
12. Check the spark plugs. Clean or replace as necessary.
13. Check the air filter and the air filter housing. Clean or replace as necessary.

### CAUTION

**Before installing the battery, make sure the ignition switch is in the OFF position.**

## Warranty Procedure/Owner Responsibility

At the time of sale, an ROV Rider Training Certificate and Owner Registration form must be completed by the selling dealer and consumer. The receipt of the form by Arctic Cat is a condition precedent to warranty coverage. It is the selling dealer's responsibility to retain and/or submit appropriate copies of the form to the appropriate place(s) to initiate warranty coverage.

The dealer will furnish to the consumer a signed copy of the form which must be presented a dealer when requesting warranty service. The registration form is the consumer's proof of ownership and warranty eligibility. The form is used by the dealer to validate the warranty claim. You, the owner, should retain your copy of the form and keep it in a safe place.

When the need for warranty repair is suspected, the ROV should be taken to the selling dealer, if possible, who has the primary responsibility to perform warranty repairs. Subject to the limitations set forth in the Limited Warranty, in the event the selling dealer has ceased to do business, you have moved, or you are in a location away from your selling dealer, warranty may be performed by any authorized dealer.

The authorized dealer will examine the ROV or part to determine if, in its opinion, a warrantable condition exists. If a warrantable condition appears to exist, the dealer will repair or replace, at our option, free of charge, including any related labor costs, all parts that are found to be warrantable and any other parts which the warrantable part caused to be damaged. You, the owner, will then be asked to sign a warranty form to ensure Arctic Cat that the warranty work was actually performed.

It is the owner's responsibility to maintain and service the vehicle in accordance with this Operator's Manual. To protect yourself and your ROV, follow all safety and service tips. We will NOT warrant non-emissions related repairs required as a result of not performing standard operator maintenance, storage procedures, and service as outlined in the Operator's Manual.

Should you have any questions concerning the warranty, contact an authorized dealer.

# U.S. EPA Emission Control Statement/ Warranty Coverage (U.S. Only)

## STATEMENT/WARRANTY

Arctic Cat warrants to the original retail purchaser, and each subsequent purchaser, that all U.S. EPA-certified Arctic Cat vehicles are designed, built, and equipped to conform to all U.S. EPA Emission Control Regulations. Please read the following information completely.

Your authorized dealer will repair or replace any defective emission-related component at no cost to you during the warranty period. You may have non-warranty service performed by any repair establishment that uses equivalent components. The regulations provide significant civil penalties for tampering that causes your vehicle to no longer meet U.S. EPA emission standards.

Arctic Cat further warrants that the engine and its emission-related components are free from defects in materials or workmanship that could cause the engine to fail to comply with applicable regulations during the warranty period.

If you have any questions about this information, or the emission warranty coverage statement, contact your authorized dealer.

## WARRANTY PERIOD

The emission warranty period for this vehicle begins on the same date as the standard warranty coverage and continues for 30 months, 5000 kilometers (3107 miles), or 500 hours, whichever comes first.

## COMPONENTS COVERED

The emissions warranty covers major emissions control components and emission-related components including, but not limited to, the following:

I. For exhaust emissions, emission-related components include any engine parts related to the following systems:

- |                       |                                    |
|-----------------------|------------------------------------|
| Air-induction system. | Fuel system.                       |
| Ignition system.      | Exhaust gas recirculation systems. |

II. The following parts are also considered emission-related components for exhaust emissions:

- |                          |                               |
|--------------------------|-------------------------------|
| After treatment devices. | Crankcase ventilation valves. |
| Sensors.                 | Electronic control units.     |

III. The following parts are considered emission-related components for evaporative emissions:

- |                             |                                  |
|-----------------------------|----------------------------------|
| Fuel Tank.                  | Fuel Cap.                        |
| Fuel Line.                  | Fuel Line Fittings.              |
| Clamps*.                    | Pressure Relief Valves*.         |
| Control Valves*.            | Control Solenoids*.              |
| Electronic Controls*.       | Vacuum Control Diaphragms*.      |
| Control Cables*.            | Control Linkages*.               |
| Purge Valves.               | Vapor Hoses.                     |
| Liquid/Vapor Separator.     | Carbon Canister.                 |
| Canister Mounting Brackets. | Carburetor Purge Port Connector. |

\*As related to the evaporative emission control system.

## OWNER'S RESPONSIBILITIES

The owner of any ROV warranted under this Emission Control Statement is responsible for the proper maintenance and use of the ROV as stated in the Operator's Manual. Proper maintenance generally includes replacement and service of, at the owner's choosing, such items as air filter, oil and oil filter, or any other part, item, or device related to emissions control as specified in the Operator's Manual. It is the owner's responsibility to ensure that the ROV is used in a manner for which it was designed.

**For U.S. EPA Emission Control Warranty coverage questions, contact Arctic Cat at 218-681-9851.**

# California Emission Control Statement/Warranty Coverage — OHRV (U.S. Only)

## STATEMENT/WARRANTY

The California Air Resources Board is pleased to explain the emission control system warranty on your OHRV. In California, new off-highway recreational vehicles must be designed, built and equipped to meet the State's stringent anti-smog standards. Arctic Cat must warrant the emission control system on your OHRV for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your OHRV.

Your emission control system may include parts such as the carburetor or fuel-injection system, fuel tank, fuel hoses, carbon canister, and engine computer. Also included may be hoses, belts, connectors and other emission-related assemblies. Where a warrantable condition exists, Arctic Cat will repair your OHRV at no cost to you including diagnosis, parts and labor.

## WARRANTY PERIOD

For 30 months, or 2500 miles, or 250 hours, whichever comes first, except for evaporative components over the OHRV high-priced warranty value, which are covered for 60 months, or 5000 miles, or 500 hours, whichever comes first.

If any emission-related part on your OHRV is defective, the part will be repaired or replaced by Arctic Cat.

## OWNER'S RESPONSIBILITIES

As the OHRV owner, you are responsible for the performance of the required maintenance listed in your owner's manual. Arctic Cat recommends that you retain all receipts covering maintenance on your OHRV, but Arctic Cat cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of a scheduled maintenance.

As an owner you are responsible for presenting your OHRV to an authorized dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

As an OHRV owner, you should also be aware that Arctic Cat may deny you warranty coverage if your OHRV or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

If you have any questions regarding your warranty rights and responsibilities, you should contact Arctic Cat at 218-681-9851 or the California Air Resources Board at 9528 Telstar Avenue, El Monte, CA 91731.

**■ NOTE: An add-on or modified part must be compliant with applicable ARB evaporative emission control standards. A violation of this requirement is punishable by civil and/or criminal punishment.**





## Change of Address, Ownership, or Warranty Transfer

Arctic Cat keeps on file the current name and address of the owner of this vehicle. This allows us to reach the current owner with any important safety information which may be necessary to protect customers from personal injury or property damage. Please make sure a copy of this form is completed and returned to us if you move or if the vehicle is sold to another party.

This form may also be used to transfer the unused portion of the original warranty to a second party. In order to transfer warranty, fill out this form completely; then return a copy of this form to us. We will then process the application and issue warranty for the balance of the time remaining of the original warranty. Warranty coverage is only available in the country in which the original retail purchase occurs to the original retail purchaser resident in that country or to a transferee resident in that country of the balance of the remaining warranty.

- Address Change
- Ownership Change
- Warranty Transfer

### CHANGE OF ADDRESS/OWNERSHIP/WARRANTY TRANSFER TO:

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State (Province) \_\_\_\_\_

Zip Code (Postal Code) \_\_\_\_\_

Phone (    ) \_\_\_\_\_

Email \_\_\_\_\_

Year and Model \_\_\_\_\_

Vehicle Identification Number (VIN) \_\_\_\_\_

Fold Back

CHANGE OF ADDRESS/OWNERSHIP

Place  
Stamp  
Here

ARCTIC CAT  
PRODUCT SERVICE AND WARRANTY DEPT.  
PO BOX 810  
THIEF RIVER FALLS MN 56701

# Identification Numbers Record

This vehicle has two identification numbers: Vehicle Identification Number (VIN) and Engine Serial Number (ESN). These numbers are required by the dealer to complete warranty claims properly. No warranty will be allowed if the VIN or ESN is removed or mutilated in any way.

Always provide the name, VIN, and ESN when contacting an authorized dealer for parts, service, accessories, or warranty. If a complete engine must be replaced, ask the dealer to notify the manufacturer for correct registration information.

Record the Vehicle Identification Number and Engine Serial Number in the spaces provided to assist you in ordering parts from your authorized dealer or for reference in case this vehicle is stolen.

## 1. KEY IDENTIFICATION NUMBER:

The key identification number is stamped on the key. Record this number in the space provided for reference if you ever need a new key.



ATV-0055B

## 2. VEHICLE IDENTIFICATION NUMBER:

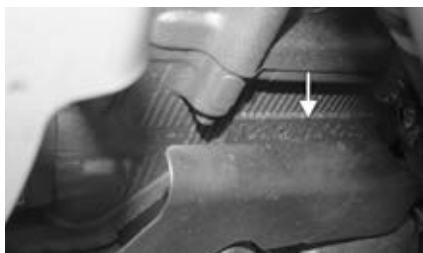
The VIN is located on the left rear frame tube next to the left rear shock absorber.



XX126

## 3. ENGINE SERIAL NUMBER:

The ESN is located on the passenger side of the vehicle above the belt cover on the side of the cylinder bank.



XX030A



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Thief River Falls, MN 56701

Phone 1-800-279-2281