



POLARIS®

RANGER®



2018
OWNER'S MANUAL

RANGER XP® 900
RANGER CREW® XP 900
RANGER CREW® XP 1000



WARNING

Read, understand, and follow all of the instructions and safety precautions in this manual and on all product labels.

Failure to follow the safety precautions could result in serious injury or death.



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.



For videos and more information about a safe riding experience with your Polaris vehicle, scan this QR code with your smartphone.



2018 Owner's Manual

RANGER XP® 900
RANGER CREW® XP 900
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The original instructions for this vehicle are in English. Other languages are provided as translations of the original instructions.
Printed in U.S.A.

2018 *RANGER*® Owner's Manual
9928295

Thank you for purchasing a POLARIS vehicle, and welcome to our world-wide family of POLARIS enthusiasts. Be sure to visit us online at www.polaris.com for the latest news, new product introductions, upcoming events, career opportunities and more.

Here at POLARIS we proudly produce an exciting line of utility and recreational products.

- Snowmobiles
- All-terrain vehicles (ATVs)
- Low emission vehicles (LEVs)
- *RANGER*® utility vehicles
- BRUTUS® work vehicles
- SLINGSHOT® three wheel motorcycles
- RZR® sport vehicles
- GEM® vehicles
- INDIAN® motorcycles
- POLARIS POWER® generators
- POLARIS DEFENSE® combat vehicles
- Timbersled® Snow Bikes

We believe POLARIS sets a standard of excellence for all utility and recreational vehicles manufactured in the world today. Many years of experience have gone into the engineering, design, and development of your POLARIS vehicle, making it the finest machine we've ever produced.

For safe and enjoyable operation of your vehicle, be sure to follow the instructions and recommendations in this owner's manual. Review the safety DVD that came with your vehicle. POLARIS also recommends that all drivers take the ROHVA safety e-course and a ROHVA hands-on safety training course. Visit www.rohva.org or call 866-267-2751.

Your manual contains instructions for minor maintenance, but information about major repairs is outlined in the POLARIS Service Manual and can be performed by a factory certified Master Service Dealer® (MSD) Technician.

Your POLARIS dealer knows your vehicle best and is interested in your total satisfaction. Your POLARIS dealership can perform all of your service needs during, and after, the warranty period.

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INTRODUCTION

This POLARIS vehicle is an off-road vehicle. Familiarize yourself with all laws and regulations concerning the operation of this vehicle in your area.

The following signal words and symbols appear throughout this manual and on your vehicle. Your safety is involved when these words and symbols are used. Become familiar with their meanings before reading the manual.

WARNING

WARNING indicates a hazardous situation that, if not avoided, may result in death to the operator, bystanders or person(s) inspecting or servicing the vehicle.

CAUTION

CAUTION indicates special precautions that must be taken to avoid vehicle damage or property damage.

CAUTION

SAFETY ALERT CAUTION indicates a potential hazard that may result in minor personal injury or damage to the vehicle.

IMPORTANT

IMPORTANT provides key reminders during disassembly, assembly, and inspection of components.

NOTICE

NOTICE provides key information by clarifying instructions.



The Prohibition Safety Sign indicates an action **NOT** to take in order to avoid a hazard.



The Mandatory Action Sign indicates an action that **NEEDS** to be taken to avoid a hazard.

WARNING

Failure to heed the warnings and safety precautions contained in this manual can result in severe injury or death. Your POLARIS vehicle is not a toy and can be hazardous to operate. This vehicle handles differently than cars, trucks or other off-road vehicles. A collision or rollover can occur quickly, even during routine maneuvers like turning, or driving on hills or over obstacles, if you fail to take proper precautions.

- Read this owner's manual and review the safety DVD that came with your vehicle. A free extra copy of the DVD can be obtained by contacting your local POLARIS dealer. Understand all safety warnings, precautions and operating procedures before operating the vehicle. Keep this manual with the vehicle.
- Never operate this vehicle without proper instruction. Take an authorized training course. Visit www.rohva.org or call 866-267-2751.
- This vehicle is an ADULT VEHICLE ONLY. You MUST be at least age 16 and have a valid driver's license to operate this vehicle.
- Always use the cab nets (or doors) while riding in this vehicle. Always keep hands, feet and all other body parts inside the vehicle at all times.
- Always wear a helmet, eye protection, gloves, long-sleeve shirt, long pants and over-the-ankle boots.
- Never use this vehicle with drugs or alcohol, as these conditions impair judgment and reduce operator reaction time.
- Complete the New Operator Driving Procedures outlined in this manual. Never allow a guest to operate this vehicle until the guest has completed the New Operator Driving Procedures.
- Never permit a guest to operate this vehicle unless the guest has reviewed the owner's manual and all safety labels and has completed a safety training

EUROPEAN VIBRATION AND NOISE

The driver-perceived noise and hand/arm and whole body vibration levels of this machinery is measured per EN 15997.

The operating conditions of the machinery during testing:

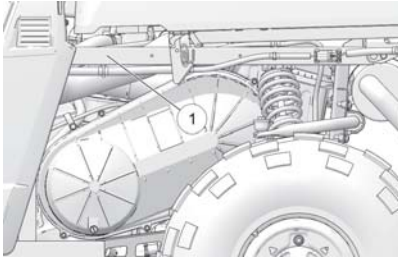
The vehicles were in like-new condition. The environment was controlled as indicated by the test procedure(s).

The uncertainty of vibration exposure measurement is dependent on many factors, including:

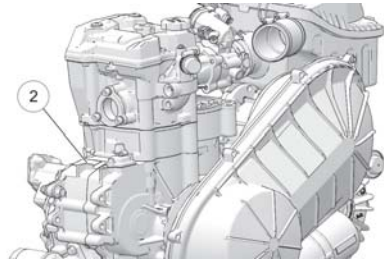
- Instrument and calibration uncertainty
- Variations in the machine such as wear of components
- Variation of machine operators such as experience or physique
- Ability of the worker to reproduce typical work during measurements
- Environmental factors such as ambient noise or temperature

VEHICLE IDENTIFICATION NUMBERS

Record your vehicle's identification numbers and key number in the spaces provided. Remove the spare key and store it in a safe place. An ignition key can be duplicated only by ordering a POLARIS key blank (using your key number) and mating it with one of your existing keys. The ignition switch must be replaced if all keys are lost.



① Vehicle Identification Number (VIN)



② Engine Serial Number

Vehicle Model Number:	
Vehicle Identification Number (VIN):	
Engine Serial Number:	
Key Number	

SAFETY

SAFETY TRAINING

Safety training is a top priority for POLARIS. POLARIS strongly encourages you and any family members who will be riding this vehicle to take a training course.

ROHVA (Recreational Off-Highway Vehicle Association) provides both an online safety e-course and a hands-on safety course. Visit www.rohva.org or call 866-267-2751.

Your POLARIS vehicle is considered an off-road vehicle. Familiarize yourself with all laws and regulations concerning the operation of this vehicle in your area.

We strongly advise you to strictly follow the recommended maintenance program outlined in your owner's manual. This preventive maintenance program is designed to ensure that all critical components on your vehicle are thoroughly inspected at specific intervals.

For more information about recreational off-road vehicle safety in the United States, visit www.rohva.org, call 866-267-2751 or call POLARIS at 800-342-3764.

SAFE RIDING GEAR

Always wear helmet, eye protection, gloves, long-sleeve shirt, long pants, over-the-ankle boots and seat belt (if equipped) at all times. Protective gear reduces the chance of injury.

RIDER COMFORT

Under certain operating conditions, heat generated by the engine and exhaust system can elevate temperatures in the rider cab area. The condition occurs most frequently when a vehicle is being operated in high ambient temperatures at low speeds and/or high load conditions for an extended period of time. The use of certain windshield, roof and/or cab systems may contribute to this condition by restricting airflow. Any discomfort due to heat buildup in this area can be minimized by wearing proper riding apparel and by varying speeds to increase airflow.



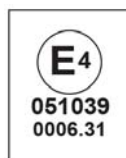
- | | |
|------------------|------------------------|
| ① Helmet | ④ Gloves |
| ② Eye Protection | ⑤ Long Pants |
| ③ Long Sleeves | ⑥ Over-the-Ankle Boots |

HELMET

Wearing a helmet can prevent a severe head injury. Whenever riding this POLARIS vehicle, always wear a helmet that meets or exceeds established safety standards.

Approved helmets in the USA and Canada bear a U.S. Department of Transportation (DOT) label.

Approved helmets in Europe, Asia and Oceania bear the ECE 22.05 label. The ECE mark consists of a circle surrounding the letter E, followed by the distinguishing number of the country which has granted approval. The approval number and serial number will also be displayed on the label.



EYE PROTECTION

Do not depend on eyeglasses or sunglasses for eye protection. Whenever riding this POLARIS vehicle, always wear shatterproof goggles or use a shatterproof helmet face shield. POLARIS recommends wearing approved Personal Protective Equipment (PPE) bearing markings such as VESC 8, V-8, Z87.1, or CE. Make sure protective eye wear is kept clean.

GLOVES

Wear gloves for comfort and for protection from sun, cold weather and other elements.

BOOTS

Wear sturdy over-the-ankle boots for support and protection. Never ride a POLARIS vehicle with bare feet or sandals.

CLOTHING

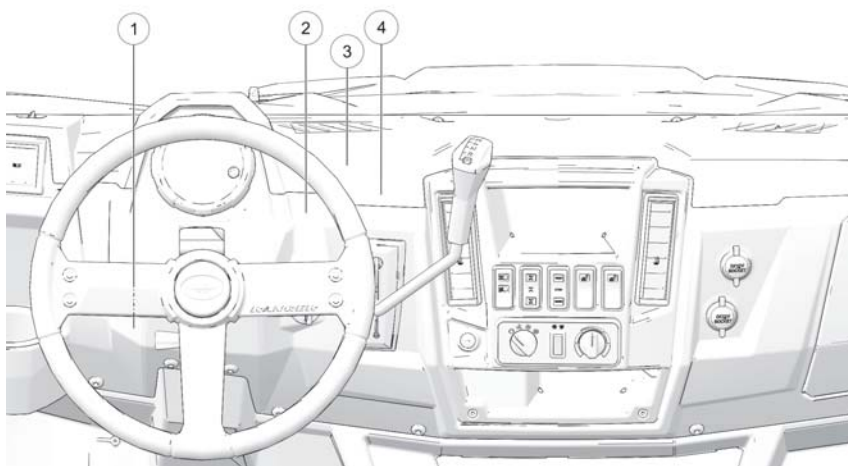
Wear long sleeves and long pants to protect arms and legs.

SAFETY

SAFETY LABELS AND LOCATIONS

Warning labels have been placed on the vehicle for your protection. Read and follow the instructions of the labels on the vehicle carefully. If any of the labels depicted in this manual differ from the labels on your vehicle, always read and follow the instructions of the labels on the *vehicle*.

If an informational or graphic label becomes illegible or comes off, contact your POLARIS dealer to purchase a replacement. Replacement *safety* labels are provided by POLARIS at no charge. The part number is printed on the label.



① Proper Use Warning

③ Seat Belt / Driver Warning

② Max Payload Warning

④ Shift Caution

PROPER USE WARNING

Require Proper Use of Your Vehicle

Do your part to prevent injuries:

- Do not allow careless or reckless driving.
- Make sure operators are 16 or older with a valid driver's license.
- Do not let people drive after using alcohol or drugs.
- Do not allow operation on public roads (unless designated for off-highway vehicle access) - collisions with cars and trucks can occur.
- Do not exceed seating capacity: 3 occupants.

Driving on public roads may be hazardous and could be a violation of the law.

PROPER USE WARNING (CREW)

WARNING

Require Proper Use of Your Vehicle

Do your part to prevent injuries:

- Do not allow careless or reckless driving.
- Make sure operators are 16 or older with a valid driver's license.
- Do not let people drive after using alcohol or drugs.
- Do not allow operation on public roads (unless designated for off-highway vehicle access) - collisions with cars and trucks can occur.
- Do not exceed seating capacity: 6 occupants.

Driving on public roads may be hazardous and could be a violation of the law.

SEAT BELT/DRIVE RESPONSIBLY WARNING

WARNING

Be Prepared

- Fasten seat belts.
- Wear an approved helmet and protective gear.
- ALWAYS use vehicle cab nets and/or doors if equipped.
- Each rider must be able to sit with back against seat, feet flat on the floor, and hands on steering wheel or handholds. Stay completely inside the vehicle.

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).

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.

SAFETY

LOAD/PASSENGER/TIRE PRESSURE WARNING

WARNING

- Never carry passengers in cargo box.
- Passengers can be thrown off. This can cause serious injury or death.
- If total payload is greater than 500 lbs., the vehicle must be operated in LOW range.

IMPROPER TIRE PRESSURE OR OVERLOADING CAN CAUSE LOSS OF CONTROL RESULTING IN SERIOUS INJURY OR DEATH.

- Reduce speed and allow greater distance for braking when carrying cargo.
- Overloading or carrying tall, off-center, or unsecured loads will increase your risk of losing control. Loads should be centered and carried as low as possible in box.
- For stability on rough or hilly terrain, reduce speed and cargo.

RANGER XP	4X4	4X4 CA	CREW	CA CREW
MAXIMUM CARGO BOX LOAD	1000 lbs. (454 kg)	600 lbs. (272 kg)	1000 lbs. (454 kg)	600 lbs. (272 kg)
TIRE PRESSURE IN PSI (KPa)	FRONT 10 (69) REAR 12 (83)	FRONT 10 (69) REAR 12 (83)	FRONT 14 (96) REAR 16 (110)	FRONT 14 (96) REAR 16 (110)
MAXIMUM WEIGHT CAPACITY INCLUDES WEIGHT OF OPERATOR, PASSENGER, CARGO AND NON- FACTORY INSTALLED ACCESSORIES	1500 lbs. (682 kg)	1100 lbs. (499 kg)	1750 lbs. (795 kg)	1350 lbs. (612 kg)

Read Operation and Maintenance Manual for more detailed loading information.

RANGER XP	4X4 HUNTER	CA 4X4 HUNTER
MAXIMUM CARGO BOX LOAD	1000 lbs. (454 kg)	600 lbs. (272 kg)
TIRE PRESSURE IN PSI (KPa)	FRONT 12 (83) REAR 12 (83)	FRONT 12 (83) REAR 12 (83)
MAXIMUM WEIGHT CAPACITY INCLUDES WEIGHT OF OPERATOR, PASSENGER, CARGO AND NON-FACTORY INSTALLED ACCESSORIES	1275 lbs. (578 kg)	875 lbs. (397 kg)
Read Operation and Maintenance Manual for more detailed loading information.		

PAYLOAD WARNING/SHIFT CAUTION

WARNING

RANGER	NEVER EXCEED	IF TOTAL PAYLOAD EXCEEDS
4x4	40 mph (64 kph) 25 mph (40 kph)	550 lbs. (250 kg) 1050 lbs (476 kg)
4x4 CA	40 mph (64 kph)	550 lbs. (250 kg)
CREW	35 mph (56 kph)	1280 lbs. (582 kg)
CREW CA	43 mph (70 kph)	1280 lbs. (582 kg)

CAUTION

To avoid transmission damage, shift only when vehicle is stationary and at idle. When vehicle is stopped, place shift in parked position.

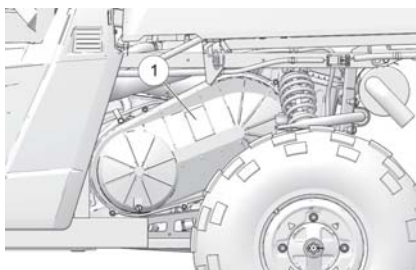
SAFETY

CLUTCH COVER WARNING

WARNING

The Clutch Cover Warning ① is located on the clutch cover.

- Moving parts hazard under belt-clutch guard. To prevent serious injury, do not operate vehicle with guard removed.
- Do not modify engine or clutch. Doing so can cause part failure, possible imbalance, and excessive engine RPM which can result in serious injury or death.

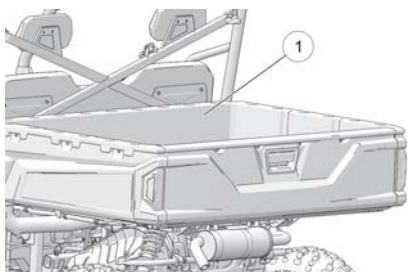


FUEL TRANSPORT WARNING

The Fuel Transport Warning ① is located in the cargo box.

WARNING

NEVER carry fuel or other flammable liquids on this vehicle. Failure to follow this instruction could lead to serious burn injuries or death.



OPERATOR SAFETY

WARNING

Serious injury or death can result if you do not follow these instructions and procedures, which are outlined in further detail within your owner's manual.

- Read this entire manual and all labels carefully. Follow the operating procedures described.
- Never allow anyone under the age of 16 to operate this vehicle and never allow anyone without a valid driver's license to operate this vehicle.
- Do not carry a passenger until you have at least two hours of driving experience with this vehicle.
- All riders must be able to sit with backs against the seat, both feet flat on the floor and both hands on the steering wheel (if driving) or on a passenger hand hold.
- The driver and all passengers must wear helmet, eye protection, gloves, long-sleeve shirt, long pants, over-the-ankle boots and seat belt at all times.
- Always use the cab nets (or doors) while riding in this vehicle.
- Always keep hands and feet inside the vehicle at all times.

- Always keep both hands on the steering wheel and both feet on the floorboards of the vehicle during operation.
- Never permit a guest to operate this vehicle unless the guest has read this manual and all product labels.
- To reduce rollover risk, be especially careful when encountering obstacles and slopes and when braking on hills or during turns.
- This vehicle is for off road use only. Never operate on public roads (unless marked for off-road use). Always avoid paved surfaces.
- Never consume alcohol or drugs before or while operating this vehicle.
- Never operate at excessive speeds. Always travel at a speed proper for the terrain, visibility and operating conditions, and your experience.
- Never attempt jumps or other stunts.
- Always inspect the vehicle before each use to make sure it's in safe operating condition.
- Always follow the inspection procedures described in this manual.
- Always travel slowly and use extra caution when operating on unfamiliar terrain. Be alert to changing terrain.
- Never operate on excessively rough, slippery or loose terrain.
- Always follow proper procedures for turning. Practice turning at slow speeds before attempting to turn at faster speeds. Never turn at excessive speeds.
- Always have this vehicle checked by an authorized POLARIS dealer if it has been involved in an accident.
- Never operate this vehicle on hills too steep for the vehicle or 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 attempting to climb a hill. Never climb hills with excessively slippery or loose surfaces. Never apply throttle suddenly. Never make sudden gear changes. Never go over the top of a hill at high speed.
- Always follow the proper procedures outlined in this manual for traveling downhill and for braking on hills. Check the terrain carefully before descending a hill. Never travel downhill at high speed. Avoid going downhill at an angle, which would cause the vehicle to lean sharply to one side. Travel straight down the hill where possible.
- 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 the proper procedures outlined in this manual when operating over obstacles.
- Always be careful of skidding or sliding. On slippery surfaces such as ice, travel slowly and exercise caution to reduce the chance of skidding or sliding out of control.
- Never operate your vehicle in fast-flowing water or in water deeper than that specified in this manual. Wet brakes may have reduced stopping ability. Test your brakes after leaving water. If necessary, apply them lightly several times to let friction dry out the pads.
- Always be sure there are no obstacles or people behind your vehicle when operating in reverse. When it's safe to proceed in reverse, move slowly. Avoid turning at sharp angles in reverse.

SAFETY

- Always use the proper size and type of tires specified in this manual. Always maintain proper tire pressure as specified on safety labels. Failure to adhere to either may impact vehicle stability, driveline durability, or general vehicle handling.
- Never modify this vehicle through improper installation or use of non-POLARIS approved accessories.
- Never exceed the stated load capacity for this vehicle. Cargo should be properly distributed and securely attached. Reduce speed and follow the instructions in this manual for hauling cargo or pulling a trailer. Allow a greater distance for braking.
- Always place the transmission in PARK before getting out of the vehicle. • Always engage the park brake (if equipped) when leaving the vehicle unattended.
- Always stop the engine before refueling. Make sure the refueling area is well ventilated and free of any source of flame or sparks.
- Always remove the ignition key when the vehicle is not in use to prevent unauthorized use by someone under the age of 16 or without a driver's license and proper training, or accidental starting.

SAFETY WARNINGS

WARNING

Failure to operate this vehicle properly can result in a collision, loss of control, accident or rollover, which may result in serious injury or death. Heed all safety warnings outlined in this section of the owner's manual and in the safety DVD provided with your vehicle. See the OPERATION section of the owner's manual for proper operating procedures.

OPERATING WITHOUT INSTRUCTION

Operating this vehicle without proper instruction increases the risk of an accident. The operator must understand how to operate the vehicle properly in different situations and on different types of terrain. Review the Operator Driving Procedures outlined in the manual.

All operators must read and understand the owner's manual and all warning and instruction labels before operating the vehicle. Never allow a guest to operate this vehicle until the guest has reviewed the New Operator Driving Procedures outlined in this manual.



AGE RESTRICTIONS

This vehicle is an ADULT VEHICLE ONLY. Operation is prohibited for anyone under 16 years of age or anyone without a valid driver's license. The operator must be tall enough to sit with back against the seat, both feet flat on the floor and both hands on the steering wheel (if equipped) or handlebars.



USING ALCOHOL OR DRUGS

Operating this vehicle after consuming alcohol or drugs could adversely affect operator judgment, reaction time, balance and perception.

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



FAILURE TO INSPECT BEFORE OPERATING

Failure to inspect and verify that the vehicle is in safe operating condition before operating increases the risk of an accident. Always perform the pre-ride inspection before each use of your vehicle to make sure it's in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in this owner's manual.

PROTECTIVE APPAREL

Riding in this vehicle without wearing an approved helmet and protective eyewear increases the risk of a serious injuries in the event of an accident.

Always wear a helmet, eye protection, gloves, long-sleeve shirt, long pants and over-the-ankle boots.

SEAT BELTS

Riding in this vehicle without wearing the seat belt increases the risk of serious injury in the event of rollover, loss of control, other accident or sudden stop. Seat belts may reduce the severity of injury in these circumstances.

The operator **MUST** wear the seat belt at all times.

SAFETY

CAB DOORS

Riding in this vehicle without closed and latched cab doors increases the risk of serious injury or death in the event of an accident or rollover. Always make sure all cab doors are closed and latched while riding in this vehicle. Cab doors are NOT intended to be used as arm rests. Always keep hands and feet inside the vehicle at all times.

CARRYING A PASSENGER

This POLARIS vehicle is a single-rider vehicle. Carrying a passenger greatly reduces the operator's ability to control the vehicle, which may result in an accident or rollover. Carrying a passenger in the cargo box could result in a fall from the vehicle or contact with moving components. Never carry a passenger on this vehicle.

OPERATING WITH A LOAD ON THE VEHICLE

The weight of both cargo and operator impacts vehicle operation and stability. For your safety and the safety of others, carefully consider how your vehicle is loaded and how to safely operate the vehicle. Follow the instructions in this manual for loading, tire pressure, gear selection and speed.

- **Do not exceed vehicle weight capacities.** The vehicle's maximum weight capacity is listed in the specifications section of this manual and on a label on the vehicle. When determining the weight you are adding to the vehicle, include the weight of the operator, accessories, loads in the rack or box and the load on the trailer tongue. The combined weight of these items must not exceed the maximum weight capacity.
- The recommended tire pressures are listed in the specifications section of this manual and on a label on the vehicle.

Always follow these guidelines:

UNDER ANY OF THESE CONDITIONS:	DO ALL OF THESE STEPS:
Operator and/or cargo exceeds half the maximum weight capacity	1. Slow down. 2. Verify tire pressure. 3. Use extra caution when operating.
Operating in rough terrain	
Operating over obstacles	
Climbing an incline	
Towing	

IMPROPER TIRE MAINTENANCE

Operating this vehicle with improper tires or with improper or uneven tire pressure could cause loss of control or accident. Always use the size and type of tires specified for your vehicle. Always maintain proper tire pressure as described in the owner's manual and on safety labels.

OPERATING ON PAVEMENT

This vehicle's tires are designed for off-road use only, not for use on pavement. Operating this vehicle on paved surfaces (including sidewalks, paths, parking lots and driveways) may adversely affect the handling of the vehicle and may increase the risk of loss of control and accident or rollover. Avoid operating the vehicle on pavement. If it's unavoidable, travel slowly, travel short distances and avoid sudden turns or stops.

OPERATING ON PUBLIC ROADS

Operating this vehicle on public streets, roads or highways could result in a collision with another vehicle. Never operate this vehicle on any public street, road or highway, including dirt and gravel roads (unless designated for off-highway use).

OPERATING AT EXCESSIVE SPEEDS

Operating this vehicle at excessive speeds increases the operator's risk of losing control. Always operate at a speed that's appropriate for the terrain, the visibility and operating conditions and your skills and experience.

JUMPS AND STUNTS

Exhibition driving increases the risk of an accident or rollover. **DO NOT** do power slides, "donuts", jumps or other driving stunts. Avoid exhibition driving.

TURNING IMPROPERLY

Turning improperly could cause loss of traction, loss of control, accident or rollover. Always follow proper procedures for turning as described in this owner's manual.

Avoid sharp turns. Never turn while applying heavy throttle. Never make abrupt steering maneuvers. Practice turning at slow speeds before attempting to turn at faster speeds.

SAFETY

IMPROPER HILL CLIMBING

Improper hill climbing could cause loss of control or rollover. Use extreme caution when operating on hills. Always follow proper procedures for hill climbing as described in this owner's manual.

DESCENDING HILLS IMPROPERLY

Improperly descending a hill could cause loss of control or rollover. Always follow proper procedures for traveling down hills as described in this owner's manual.

CROSSING HILLSIDES

Driving on a sidehill is not recommended. Improper procedure could cause loss of control or rollover. Avoid crossing the side of any hill unless absolutely necessary. If crossing a hillside is unavoidable, always follow proper procedures as described in this owner's manual.

STALLING WHILE CLIMBING A HILL

Stalling or rolling backwards while climbing a hill could cause a rollover. Maintain a steady speed when climbing a hill.

If you lose all forward speed:

Apply the brakes gradually until the vehicle is fully stopped. Place the transmission in reverse and slowly allow the vehicle to roll straight downhill while applying light brake pressure to control speed.

If you begin rolling downhill:

Never apply engine power. Apply the brakes gradually until the vehicle is fully stopped. Place the transmission in reverse and slowly allow the vehicle to roll straight downhill while applying light brake pressure to control speed.

OPERATING IN UNFAMILIAR TERRAIN

Failure to use extra caution when operating on unfamiliar terrain could result in an accident or rollover.

Unfamiliar terrain may contain hidden rocks, bumps, or holes that could cause loss of control or rollover.

Travel slowly and use extra caution when operating on unfamiliar terrain. Always be alert to changing terrain conditions.

OPERATING IMPROPERLY IN REVERSE

Improperly operating in reverse could result in a collision with an obstacle or person. Always follow proper operating procedures as outlined in this manual.

Before shifting into reverse gear, always check for obstacles or people behind the vehicle. When it's safe to proceed, back slowly.

SKIDDING OR SLIDING

Failure to use extra caution when operating on excessively rough, slippery or loose terrain could cause loss of traction, loss of control, accident or rollover. Do not operate on excessively slippery surfaces. Always slow down and use additional caution when operating on slippery surfaces.

Skidding or sliding due to loss of traction can cause loss of control or rollover (if tires regain traction unexpectedly). Always follow proper procedures for operating on slippery surfaces as described in this owner's manual.

OPERATING OVER OBSTACLES

Improperly operating over obstacles could cause loss of control or rollover. Before operating in a new area, check for obstacles. Avoid operating over large obstacles such as large rocks and fallen trees. Always follow the proper procedures outlined in this manual when operating over obstacles.

OPERATING THROUGH WATER

Operating through deep or fast-flowing water can cause loss of traction, loss of control, rollover or accident. Never operate in fast-flowing water or in water that exceeds the floor level of the vehicle.

Always follow proper procedures for operating in water as described in this owner's manual.

Wet brakes may have reduced stopping ability. After leaving water, test the brakes. Apply them lightly several times while driving slowly. The friction will help dry out the pads.

OPERATING ON FROZEN BODIES OF WATER

Severe injury or death can result if the vehicle and/or the operator fall through the ice. Never operate the vehicle on a frozen body of water unless you have first verified that the ice is sufficiently thick to support the weight and moving force of the vehicle, you and your cargo, together with any other vehicles in your party.

Always check with local authorities and residents to confirm ice conditions and thickness over your entire route. Vehicle operators assume all risk associated with ice conditions on frozen bodies of water.

OPERATING A DAMAGED VEHICLE

Operating a damaged vehicle can result in an accident. After any rollover or other accident, have a qualified service dealer inspect the entire machine for possible damage, including (but not limited to) seat belts, rollover protection devices, brakes, throttle and steering systems.

IMPROPER CARGO LOADING

Overloading the vehicle or carrying/towing cargo improperly may cause changes in stability and handling, which could cause loss of control or an accident.

- Always follow the instructions in this owner's manual for carrying cargo.
- Never exceed the stated load capacity for this vehicle.
- Cargo should be properly distributed and securely attached.

SAFETY

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

POOR VISIBILITY

Operating this vehicle in darkness or inclement weather could result in a collision or accident, especially if operating on a road or street. This vehicle is not equipped with highway-approved lights. Operate this vehicle off-road only. Use caution and drive at reduced speeds in conditions of reduced visibility such as fog, rain and darkness. Clean headlights frequently and replace burned out headlamps promptly.

HOT EXHAUST SYSTEMS

Exhaust system components are very hot during and after use of the vehicle. Hot components can cause burns and fire. Do not touch hot exhaust system components. Always keep combustible materials away from the exhaust system. Use caution when traveling through tall grass, especially dry grass, to avoid debris build-up around the exhaust system.

EXPOSURE TO EXHAUST

Engine exhaust fumes are poisonous and can cause loss of consciousness or death in a short time. Never start the engine or let it run in an enclosed area. Operate this vehicle only outdoors or in well-ventilated areas.

REFUELING

Gasoline is highly flammable and explosive under certain conditions.

- Always exercise extreme caution whenever handling gasoline.
- Always turn off the engine when refueling.
- Always refuel outdoors or in a well ventilated area free of any source of flame or sparks.
- Never carry fuel or other flammable liquids on this vehicle. Failure to follow this instruction could lead to serious burn injuries or death.
- Do not smoke or allow open flames or sparks in or near the area where refueling is performed or where gasoline is stored.
- Do not overfill the tank. Do not fill the tank neck.
- If gasoline spills on your skin or clothing, immediately wash it off with soap and water and change clothing.

UNAUTHORIZED USE OF THE VEHICLE

Leaving the keys in the ignition can lead to unauthorized use of the vehicle by someone under the age of 16, without a drivers license, or without proper training. This could result in an accident or rollover. Always remove the ignition key when the vehicle is not in use.

EQUIPMENT MODIFICATIONS

Your POLARIS vehicle is designed to provide safe operation when used as directed. Modifications to your vehicle may negatively impact vehicle stability. Failure of critical machine components may result from operation with any modifications, especially those that increase speed or power. This vehicle may become less stable at speeds higher than those for which it is designed. Loss of control may occur at higher speeds.

Do not install any non-POLARIS-approved accessory or modify the vehicle for the purpose of increasing speed or power. Any modifications or installation of non-POLARIS-approved accessories could create a substantial safety hazard and increase the risk of bodily injury.

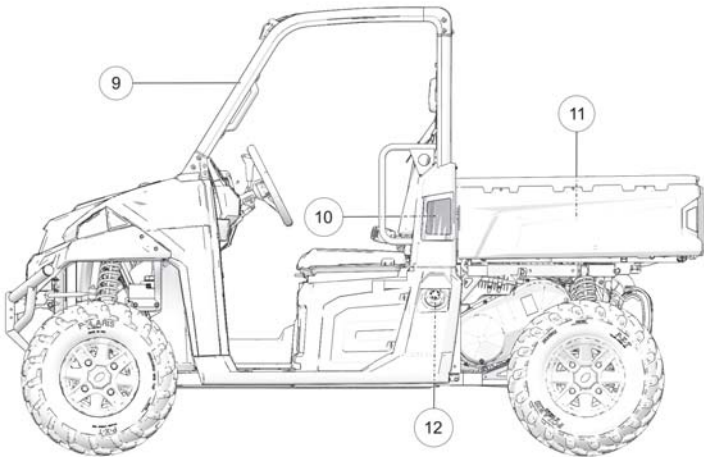
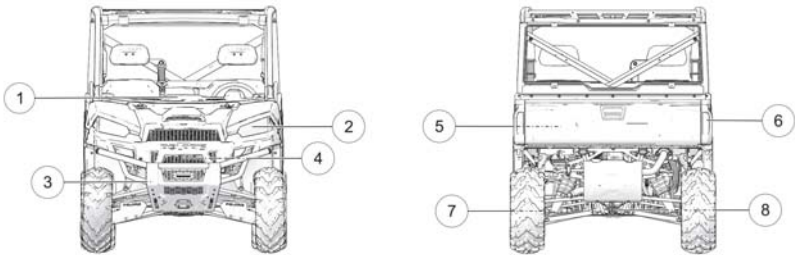
The POLARIS limited warranty on your POLARIS vehicle will be terminated if any non-POLARIS approved equipment and/or modifications have been added to the vehicle that increase speed or power.

The addition of certain accessories, including (but not limited to) mowers, blades, tires, sprayers, or large racks, may change the handling characteristics of the vehicle. Use only POLARIS-approved accessories, and familiarize yourself with their function and effect on the vehicle.

**FOR MORE INFORMATION ABOUT SAFETY
call POLARIS at 1-800-342-3764.**

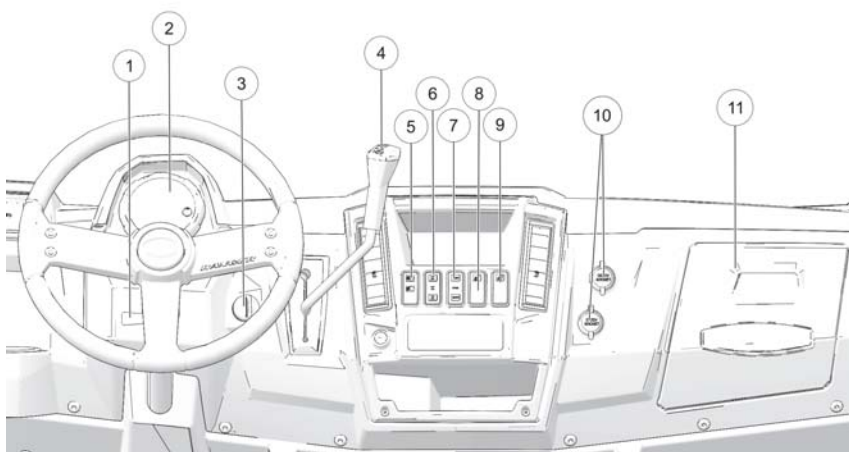
FEATURES AND CONTROLS

COMPONENT LOCATIONS



- | | |
|----------------------|------------------------|
| ① Console | ⑦ CV Boot/Rear Caliper |
| ② Headlights | ⑧ Receiver Hitch |
| ③ Bumper/Brush Guard | ⑨ ROPS Cab Frame |
| ④ Radiator | ⑩ Intake Screens |
| ⑤ Tailgate | ⑪ Cargo Box |
| ⑥ Taillights | ⑫ Fuel Cap |

CONSOLE



① Steering Wheel Adjustment Lever

② Instrument Cluster

③ Ignition/Light Switch

④ Gear Selector (Shifter)

⑤ Lights Switch

⑥ AWD Switch

⑦ 3-Mode Throttle Control Switch

⑧ Winch Switch

⑨ Auxiliary Switch

⑩ 12V Auxiliary Outlets

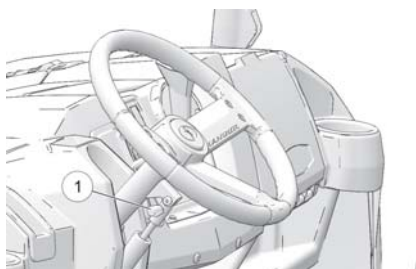
⑪ Storage Compartment

STEERING WHEEL

The steering wheel can be tilted upward or downward for rider preference.

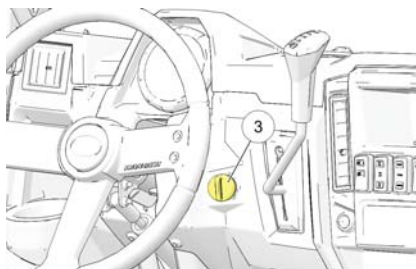
Lift and hold the steering wheel adjustment lever while moving the steering wheel upward or downward. Release the lever when the steering wheel is at the desired position.

Always make sure the steering wheel position does not impede proper operation of the brake pedal, throttle pedal and all other controls.



IGNITION SWITCH

The ignition switch is a three-position, key-operated switch. The key can be removed from the switch when it is in the OFF position.

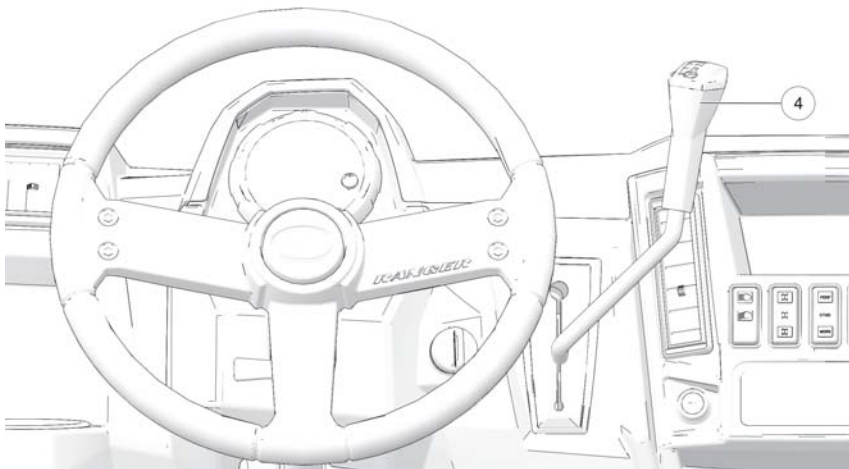


OFF	The engine is off. Electrical circuits are off, except Acc, 12V.
ON	Electrical circuits are on. Electrical equipment can be used.
START	Turn the key to the START position to engage the electric starter. The key returns to the ON position when released.

FEATURES AND CONTROLS

GEAR SELECTOR

To change gears, stop the vehicle, and with the engine idling, move the lever ④ to the desired gear. Do not attempt to shift gears with engine speed above idle or while the vehicle is moving.



H: High Gear
L: Low Gear
N: Neutral
R: Reverse
P: Park



Low gear is the primary driving range for the RANGER. High gear is intended for use on hard-packed surfaces with light loads. Whenever the vehicle is left unattended, always place the transmission in PARK.

TIP

Maintaining shift linkage adjustment is important to assure proper transmission function. Your POLARIS dealer can assist in resolving any shifting problems.

NOTICE

Do not attempt to shift the transmission while the vehicle is moving or damage to the transmission could result. Always shift when the vehicle is stationary and the engine is at idle.

USING LOW GEAR

Always shift into low gear for any of the following conditions.

- Operating in rough terrain or over obstacles
- Loading the vehicle onto a trailer
- Towing heavy loads

SWITCHES

Not all switches are present on every model.

LIGHT SWITCH

The ignition switch key must be in the ON/RUN position to operate the headlights. Press the top of the rocker switch toward the dash to place the headlights on high beam. Move the rocker switch to the center position to place the headlights on low beam. Press the bottom of the rocker switch to turn off the headlights.



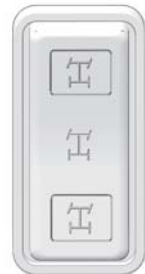
AWD SWITCH

The AWD switch has three positions: All Wheel Drive (AWD), Differential Lock/Two Wheel Drive (2WD) and Off (1WD/Turf Mode).

Press the top of the switch to engage All Wheel Drive (AWD).

Move the switch to the center position to lock the differential and operate in two wheel drive (2WD).

Press the bottom of the switch to unlock the differential and allow the rear drive wheels to operate independently (1WD). This mode of operation is well suited to turf driving or when active traction is not needed.



FEATURES AND CONTROLS

ADC SWITCH

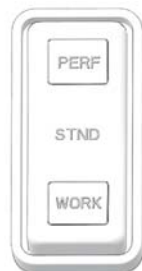
The ADC switch has two positions (ON/OFF). ADC will activate when all of the following conditions are met:

- AWD mode is engaged.
- No throttle applied.
- Vehicle speed is between 1-12.5 MPH.
- ADC switch is in ON position.

POLARIS 3-MODE THROTTLE CONTROL SWITCH

The Polaris 3-Mode Throttle Control Switch has three positions:

- Performance (PERF)
- Standard (STND)
- Work (WORK)



Always use low gear for any of the following conditions regardless of the selected throttle control setting.

- Operating in rough terrain or over obstacles.
- Loading the vehicle onto a trailer.
- Towing heavy loads.
- Driving frequently at low RPM or at ground speeds below 7 MPH (11 km/h).

WINCH SWITCH

Press the top of the rocker switch to spool line out from the winch. Press the bottom of the rocker switch to spool line in to the winch. Move the rocker switch to the center position to stop spooling.

REMOTE WINCH SWITCH

Pull the remote winch switch and cable out from the dash storage area. Press and hold the left side of the switch to spool line out from the winch. Press and hold the right side of the switch to spool line in to the winch. Release the switch and it returns to the center "OFF" position to stop spooling.

AUX SWITCH

The AUX switch activates power to the rear accessory plug. The rear accessory plug is not active/live until the AUX switch is in the ON position.

AUXILIARY OUTLET

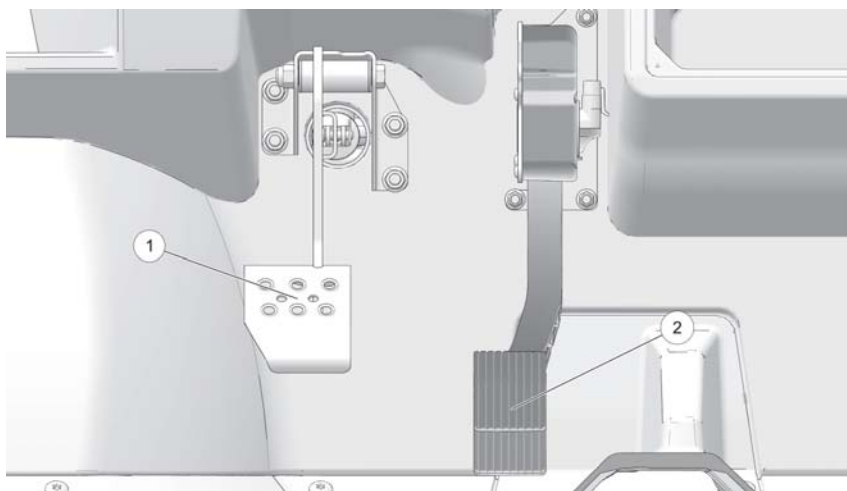
The vehicle is equipped with a 12-volt accessory outlet on the dash. Use the outlet to power an auxiliary light or other optional accessories or lights. For service, the dash outlet connection is under the dash.



ELECTRONIC POWER STEERING (EPS)

Electronic power steering (if equipped) engages when the ignition key is turned to the ON position. EPS remains engaged whether the vehicle is moving or idle. To conserve battery power, the EPS will shut down 5 minutes after the engine is stopped if the key remains in the ON position. The EPS warning indicator will illuminate to indicate the EPS has shut down. Turn the key off and on to reset the unit. If the light remains on after starting the engine, the EPS system is inoperative. Your POLARIS dealer can assist.

FOOT PEDALS



BRAKE PEDAL

Depress the brake pedal ① to slow or stop the vehicle. Apply the brakes while starting the engine.

When the brake pedal is depressed, the brake light comes on. Check the brake light before each ride.

1. Turn the ignition switch to the ON position.
2. Apply the brakes. The brake light should come on after about 10 mm (0.4 in.) of pedal travel.

THROTTLE PEDAL

Push the throttle pedal ② down to increase engine speed. Spring pressure returns the pedal to the rest position when released. Always check that the throttle pedal returns normally before starting the engine.

This vehicle is equipped with a throttle release switch, which is designed to reduce the risk of a frozen or stuck throttle. If the throttle cable should stick in an open position when the operator releases the throttle pedal, engine speed will be limited, and power to the rear wheels will be reduced.

SEAT

SEAT REMOVAL

Pull up on the front of the seat and slide it toward the front of the vehicle. Install the seat by sliding the tabs into the rear of the seat base. Push down firmly on the front of the seat until the pins are fully seated into the grommets.

SEAT BELTS



This vehicle is equipped with three-point lap and diagonal seat belts for the operator and passenger. Always make sure the seat belts are secured for all riders before operating. The driver's seat belt is equipped with a seat belt interlock. Vehicle speed will be limited to 15 MPH (24 km/h) if the seat belt is not secured.

The center of the seat is NOT equipped with a seat belt. Never allow a passenger to ride between the operator and passenger seats.

WARNING

Falling from a moving vehicle could result in serious injury or death. Always fasten your seat belt securely before operating or riding in the vehicle.

To wear the seat belt properly, follow this procedure:

1. For 3-point belts, pull the seat belt latch ① downward and across your chest toward the buckle at the inner edge of the seat. The belt should fit snugly across your hips and diagonally across your chest. Make sure the belt is not twisted.
2. Push the latch plate ① into the buckle ② until it clicks.

FEATURES AND CONTROLS

3. Release the strap, it will self tighten.
4. To release the seat belt, press the square red button in the buckle's center.

SEAT BELT INSPECTION

Inspect all seat belts for proper operation before each use of the vehicle.

1. Push the latch plate into the buckle until it clicks. The latch plate must slide smoothly into the buckle. A click indicates that it's securely latched.
2. Push the red release latch in the middle of the buckle to make sure it releases freely.
3. Pull each seat belt completely out and inspect the full length for any damage, including cuts, wear, fraying or stiffness. If any damage is found, or if the seat belt does not operate properly, have the seat belt system checked and/or replaced by an authorized dealer.
4. To clean dirt or debris from the seat belts, sponge the straps with mild soap and water. Do not use bleach, dye or household detergents. Rinse the entire length of the belt webbing. Use a garden hose to flush out the retractor and latch housings regularly.

SEAT AND STORAGE COMPARTMENTS

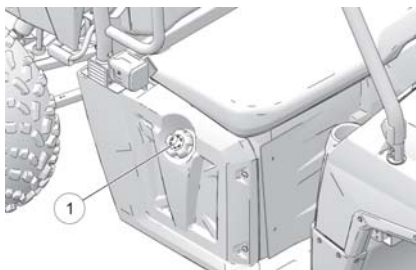
The electrical compartment is located under the center rear-most seat. Never use this area for storage. Storage compartments are located under all other seats. Remove the storage bin under the right rear-most passenger seat to access the battery.

If your model is equipped with a storage console and cup holders located between the front seats, lift the console lid to access the storage compartment. Pull the rear edge of a seat upward to release the latch pins from the grommets. Roll the seat forward to access the under-seat area. To completely remove a seat, roll the seat forward and lift the seat tabs from the seat base mounts.

Always make sure all seats are properly installed and securely latched before operating. Push down firmly on the rear of each seat until the latch pins are fully seated into the grommets.

FUEL CAP

The fuel tank filler cap is located on the right-hand side of the vehicle near the passenger seat. When refueling, always use either leaded or unleaded gasoline with a minimum pump octane number of 87 R+M/2 octane. Do not use fuel with ethanol content greater than 10 percent, such as E-85 fuel.



CAB NETS (IF EQUIPPED)

Riding in this vehicle without using the cab nets (or doors, if equipped) increases the risk of serious injury or death in the event of an accident or rollover. Cab nets (or doors) must be used by both operator and passengers at all times. Make sure all latches are secure before operating the vehicle.

Always inspect cab nets and latches for tightness, wear and damage before each use of the vehicle. Use the strap adjusters to tighten any loose straps. Promptly replace worn or damaged cab nets and latches with new cab nets and latches. Your POLARIS dealer can assist.

SECURING THE NET

1. After entering the vehicle, insert the lower net rod into the net mount on the floor. Make sure the ball at the end of the rod is properly secured in the slot at the base of the mount.
2. Connect the latch at the top edge of the net to the receiver latch mounted on the front frame.

OPENING THE NET

1. To exit the vehicle, release the top front latch.
2. Rotate the net rearward and slide the lower net rod out of the mount to remove it.
3. Allow the net to hang freely outside the vehicle while dismounting.

ROLLOVER PROTECTIVE STRUCTURE (ROPS)

The Rollover Protective Structure (ROPS) on this vehicle meets OSHA 1928.53 rollover performance requirements. Always have your authorized dealer thoroughly inspect the ROPS if it ever becomes damaged in any way.

No device can assure occupant protection in the event of a rollover. Always follow all safe operating practices outlined in this manual to avoid vehicle rollover.

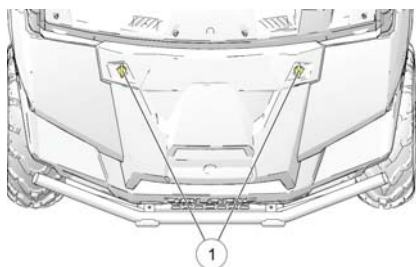
WARNING

Vehicle rollover could cause severe injury or death. Always avoid operating in a manner that could result in vehicle rollover.

FEATURES AND CONTROLS

HOOD LATCHES

To remove the hood, rotate the hood latches ① 1/4-turn and lift the hood away from the vehicle.



TRAILER HITCH BRACKET

This vehicle is equipped with a receiver hitch bracket for a trailer hitch. Trailer towing equipment is not supplied with this vehicle.

To avoid injury and property damage, always heed the warnings and towing capacities.

EXTREME USE 30 AH BATTERY (NON-EPS MODELS ONLY)

If your factory-installed battery cannot maintain a charge because of operation in extreme cold or with multiple electrical accessories, you may need to purchase a 30 AH battery and a battery strap bracket. Your POLARIS dealer can assist. Your dealer can provide any installation procedures that may differ for an extreme use battery. See page 92 for the part numbers of POLARIS products.

1. Fully charge the new battery before installing it.
2. To install the 30 AH battery, remove the existing battery.
3. Remove the plastic spacer at the bottom of the battery compartment. Save the spacer for future use.
4. Install the new battery.

INSTRUMENT CLUSTER



- ① Speedometer
- ② Rider Information Center
- ③ Indicator Lamps
- ④ Mode Button

SPEEDOMETER

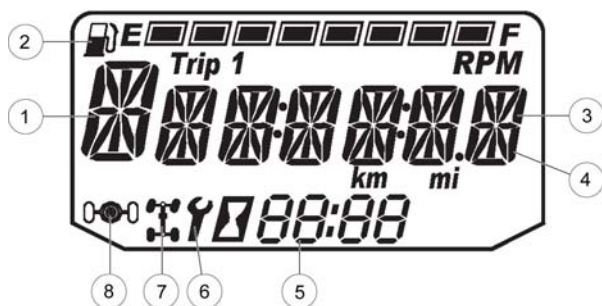
The speedometer displays vehicle speed in either miles per hour (MPH) or kilometers per hour (km/h).

RIDER INFORMATION CENTER

The rider information center is located in the instrument cluster. All segments will light up for one second at start-up. If the instrument cluster fails to illuminate, a battery over-voltage may have occurred and the instrument cluster may have shut off to protect the electronic speedometer. If this occurs, your dealer can provide proper diagnosis.






The information center is set to display standard units of measurement and a 12-hour clock at the factory.

FEATURES AND CONTROLS



①	Gear Indicator	This indicator displays gear shifter position.
②	Fuel Gauge	The segments of the fuel gauge show the level of fuel in the fuel tank. When the last segment clears, a low fuel warning is activated. All segments including the fuel icon will flash. Refuel immediately.
③	Information Display Area	This area displays odometer, trip meter, engine hour meter and programmable service hour interval.
④	Under/Over Voltage	This warning usually indicates that the vehicle is operating at an RPM too low to keep the battery charged. It may also occur when the engine is at idle and high electrical load (lights, cooling fan, accessories) is applied. Drive at a higher RPM or recharge the battery to clear the warning.
⑤	Clock	The clock displays time in a 12-hour or 24-hour format.
⑥	Service Indicator	A flashing wrench symbol alerts the operator that the preset service interval has been reached. Your dealer can provide scheduled maintenance.
⑦	4x4 Indicator	This indicator illuminates when the 4X4 system is engaged (switch is on 4X4, AWD or ADC 4X4).
⑧	Turf Mode Indicator (if equipped)	This indicator illuminates when the operator unlocks the differential.

INDICATOR LAMPS

LAMP	INDICATES	CONDITION
MPH	Vehicle Speed	When standard mode is selected, speed displays in miles per hour.
km/h		When metric mode is selected, speed displays in kilometers per hour.
	Over Temperature	This lamp illuminates to indicate an overheated engine. If the indicator flashes, the overheating condition remains, and the system will automatically reduce engine power.
	Electric Power Steering (EPS) Warning (if equipped)	This indicator illuminates briefly when the key is turned to the ON position. If the light remains on, the EPS system is inoperative. Your dealer can assist.
N	Neutral	This lamp illuminates when the transmission is in neutral and the ignition key is in the ON position.
	High Beam	This lamp illuminates when the headlamp switch is set to high beam.
	Helmet/Seat Belt	This lamp is a reminder to the operator to ensure all riders are wearing helmets and seat belts before operating. The driver's seat belt is equipped with a seat belt interlock. Vehicle speed will be limited to 15 MPH (24 km/h) if the seat belt is not secured.
	Check Engine	This indicator appears if an Electronic Fuel Injection (EFI) related fault occurs. Do not operate the vehicle if this warning appears. Serious engine damage could result. Your dealer can assist.

FEATURES AND CONTROLS

MODE BUTTON

The yellow button located near the instrument cluster is used to toggle through mode options available.

DISPLAY UNITS

The display can be changed to display either standard or metric units of measurement.

TIP

To exit the set-up mode at any time, wait 10 seconds. The display automatically exits and returns to the odometer display.

MEASUREMENT	STANDARD	METRIC
Distance	Miles	Kilometers
Fuel	U.S. Gallons	Liters, Imperial Gallons
Temperature	Fahrenheit	Celsius
Time	12–Hour Clock	24–Hour Clock

To change the display units, do the following:

1. Turn the key to the OFF position.
2. Press and *hold* the MODE button while turning the key to the ON position.
3. When the display flashes the distance setting, tap the MODE button to advance to the desired setting.
4. Press and *hold* the MODE button to save the setting and advance to the next display option.
5. Repeat the procedure to change remaining display settings.

CLOCK MODE

TIP

The clock must be reset any time the battery has been disconnected or discharged.

To set the clock time, do the following:

1. Turn the key to the ON position. Use the MODE button to toggle to the odometer display.
2. Press and *hold* the MODE button until the hour segment flashes. Release the button.
3. With the segment flashing, tap the MODE button to advance to the desired setting.

4. Press and *hold* the MODE button until the next segment flashes. Release the button.
5. Repeat steps 3-4 twice to set the 10-minute and 1-minute segments. After completing the 1-minute segment, step 4 will save the new settings and exit the clock mode.
6. Turn the key to the OFF position.

ODOMETER MODE

The odometer records and displays the distance traveled by the vehicle.

TRIP METER MODE

The trip meter records the distance traveled by the vehicle if reset before each trip. To reset, select the trip meter mode. Press and hold the MODE button until the meter resets to zero. In the Rider Information Center, the trip meter display contains a decimal point, but the odometer displays without a decimal point.

HOURLY METER MODE

This mode logs the total hours the engine has been in operation.

TACHOMETER MODE

The engine RPM is displayed digitally.

TIP

Small fluctuations in the RPM from day to day may be normal because of changes in humidity, temperature and elevation.

PROGRAMMABLE SERVICE INTERVAL

When the hours of engine operation equal the programmed service interval setting, the wrench icon will flash for 5 seconds each time the engine is started. When this feature is enabled, it provides a convenient reminder to perform routine maintenance. The service interval is programmed at 50 hours at the factory.

To change the service interval, do the following:

1. Press the MODE button until remaining service hours display.
2. Press and hold the MODE button.
3. When the service hours flash, press and release the MODE button to advance the hours to the desired setting (including OFF). Press and hold the MODE button to set the new service hour interval.

FEATURES AND CONTROLS

DIAGNOSTIC DISPLAY MODE

The EFI diagnostic display mode is for informational purposes only. Your POLARIS dealer can provide for all major repairs.

The diagnostic mode is accessible only when the check engine warning indicator activates after the key has been turned on. Leave the key on if you want to view the active code (failure code).

The diagnostic mode becomes inaccessible if the key is turned off and on and the warning indicator is no longer active. This allows the determination of persistent as well as intermittent faults.

Inactive codes are stored in the history of the unit.

ENGINE ERROR CODES

The error screen displays only when the CHECK ENGINE light is on or when it goes on and off during one ignition cycle. Error codes are not stored. When the key is turned OFF, the code and message is lost, but will reappear if the fault reoccurs after restarting the engine.

If the CHECK ENGINE light illuminates, retrieve the error codes from the display.

1. If the error codes are not displayed, use the MODE button to toggle until "Ck ENG" displays on the main line of the display.
2. Press and hold the MODE button to enter the diagnostics code menu.
3. Record the three numbers displayed in the gear position, clock and odometer displays.
4. Press the MODE button to advance to the next error code.
5. Press and hold the MODE button to exit the diagnostics code menu.
6. Your authorized POLARIS dealer can provide code details and diagnosis.

OPERATION

WARNING

Failure to operate the vehicle properly can result in a collision, loss of control, accident or rollover, which may result in serious injury or death. Read and understand all safety warnings outlined in the safety section of this owner's manual.

VEHICLE BREAK-IN PERIOD

The break-in period for your new vehicle is the first 20 hours of operation, or the time it takes to use the first 2 tanks full of gasoline. No single action on your part is as important as a proper break-in period. Careful treatment of a new engine will result in more efficient performance and longer life for the engine. Perform the following procedures carefully.

NOTICE

Excessive heat build-up during the first 3 hours of operation will damage close-fitted engine parts and drive components. Do not operate at full throttle or high speeds during the first 3 hours of use.

ENGINE AND DRIVETRAIN BREAK-IN

1. Fill the fuel tank with gasoline. Always exercise extreme caution whenever handling gasoline.
2. Check the oil level. Add the recommended oil as needed to maintain the oil level in the safe operating range.
3. Complete the New Operator Driving Procedures.
4. Avoid aggressive use of the brakes.
5. Vary throttle positions. Do not operate at sustained idle.
6. Pull only light loads.
7. Perform regular checks on fluid levels, controls and areas outlined on the daily pre-ride inspection checklist.
8. During the break-in period, change both the oil and the filter at 25 hours or one month.
9. Check fluid levels of transmission and all gearcases after the first 25 hours of operation and every 100 hours thereafter.

OPERATION

BRAKE SYSTEM BREAK-IN

Apply only moderate braking force for the first 50 stops. Aggressive or overly forceful braking when the brake system is new could damage brake pads and rotors.

PVT BREAK-IN (CLUTCHES/BELT)

A proper break-in of the clutches and drive belt will ensure a longer life and better performance. Break in the clutches and belt by operating at slower speeds during the break-in period as recommended. Pull only light loads. Avoid aggressive acceleration and high speed operation during the break-in period.

If a belt fails, always clean any debris from the PVT intake and outlet duct and from the clutch and engine compartments when replacing the belt.

PRE-RIDE INSPECTION

Failure to inspect and verify that the vehicle is in safe operating condition before operating increases the risk of an accident. Always inspect the vehicle before each use to make sure it's in safe operating condition.

ITEM	REMARKS	PAGE
Brake system/pedal travel	Ensure proper operation	page 36 page 99
Brake fluid	Ensure proper level	page 99
Front suspension	Inspect, lubricate if necessary	page 84
Rear suspension	Inspect, lubricate if necessary	page 84
Steering	Ensure free operation	-
Tires	Inspect condition and pressure	page 101
Wheels/fasteners	Inspect, ensure fastener tightness	page 101
Frame nuts, bolts, fasteners	Inspect, ensure tightness	-
Fuel and oil	Ensure proper levels	page 85
Coolant level	Ensure proper level	page 91
Coolant hoses	Inspect for leaks	-
Throttle	Ensure proper operation	page 36
Indicator lights/switches	Ensure proper operation	page 33 page 43
Intake pre-filters	Inspect, clean	-
Headlamps	Check operation, apply POLARIS dielectric grease when lamp is replaced	page 104

ITEM	REMARKS	PAGE
Brake light/tail lamps	Check operation	-
Seat Latch	Push down on the seat back to ensure the latch is secure	-
Seat Belt	Check length of belt for damage, check latches for proper operation	page 37
Cab Doors (If equipped)	Check doors and latches for wear or damage.	-

SAFE OPERATION PRACTICES

1. Visit the Recreational Off-Highway Vehicle Association web site and take the free on-line training course. Complete the recommended safety training before operating this vehicle. Visit www.rohva.org or call 866-267-2751.
2. Do not allow anyone under 16 years of age or without a valid driver's license to operate this vehicle.
3. Never carry a passenger on this vehicle.
4. Engine exhaust fumes are poisonous. Never start the engine or let it run in an enclosed area.
5. Never operate with accessories not approved by POLARIS for use on this vehicle.
6. Operate this vehicle off-road only. Never operate this vehicle on any public street, road or highway, including dirt and gravel roads (unless designated for off-highway use).
7. Use caution and drive at reduced speeds in conditions of reduced visibility such as fog, rain and darkness. Clean headlights frequently and replace burned out headlamps promptly.
8. Always operate at a speed that's appropriate for the terrain, the visibility and operating conditions and your skills and experience. Never operate at excessive speeds. Never attempt wheelies, jumps, or other stunts. Keep both hands on the steering wheel or handlebars during operation.
9. Never consume alcohol or drugs before or while operating this vehicle.
10. Always use the size and type of tires specified for your vehicle. Always maintain proper tire pressure.
11. Never operate a damaged vehicle. After any rollover or accident, have a qualified service dealer inspect the entire machine for possible damage.
12. Never operate the vehicle on a frozen body of water unless you have first verified that the ice is sufficiently thick to support the weight and moving force of the vehicle, you and your cargo, together with any other vehicles in your party.
13. Do not touch hot exhaust system components. Always keep combustible materials away from the exhaust system.

OPERATION

14. Always remove the ignition key when the vehicle is not in use to prevent unauthorized use.

KNOW YOUR RIDING AREA/TREAD LIGHTLY

Familiarize yourself with all laws and regulations concerning the operation of this vehicle in your area. Respect the environment in which you ride your vehicle. Find out where the designated riding areas are by contacting your POLARIS dealer, a local riding club, or local officials.

Help keep our trails open for recreational vehicle use. As an off-road enthusiast, you represent the sport and can set a good example (or a poor example) for others to follow. Tread lightly. Operate with respect for the terrain, avoid littering, and always stay on the designated trails.

TRAIL ETIQUETTE

Always practice good etiquette when riding. Allow a safe distance between your vehicle and other vehicles operating in the same area. Communicate to oncoming operators by signaling the number of vehicles in your group. When stopping, move your vehicle to the edge of the trail as far as possible to allow others to pass safely.

STARTING THE ENGINE

1. Position the vehicle on a level surface outdoors or in a well ventilated area.
2. Sit in the driver's seat and fasten the seat belt. Secure the cab nets.
3. Place the transmission in PARK.
4. Apply the brakes. Do not press the throttle pedal while starting the engine.
5. Turn the ignition key past the ON/RUN position to START. Engage the starter for a maximum of five seconds. Release the key when the engine starts.
6. If the engine does not start within five seconds, return the ignition switch to the OFF position and wait five seconds. Repeat steps 5 and 6 until the engine starts.
7. Vary the engine RPM slightly with the throttle to aid in warm up until the engine idles smoothly.

NOTICE

Operating the vehicle immediately after starting could cause engine damage. Allow the engine to warm up for several minutes before operating the vehicle.

COLD WEATHER OPERATION

If the vehicle is used year-round, check the oil level frequently. A rising oil level could indicate the accumulation of contaminants such as water or excess fuel in the bottom of the crankcase. Water in the bottom of the crankcase can lead to engine damage and must be drained. Water accumulation increases as outside temperature decreases.

STOPPING THE ENGINE

1. Release the throttle pedal completely and brake to a complete stop.
2. Place the transmission in PARK.
3. Turn the engine off.
4. Slowly release the brake pedal and make sure the transmission is in PARK before exiting the vehicle.

WARNING

A rolling vehicle can cause serious injury. Always place the transmission in PARK when stopping the engine.

BRAKING

1. Release the throttle pedal completely. (When the throttle pedal is released completely and engine speed slows to near idle, the vehicle has no engine braking.)
2. Press on the brake pedal evenly and firmly. Practice starting and stopping (using the brakes) until you're familiar with the controls.

PARKING THE VEHICLE

1. Stop the vehicle on a level surface. When parking inside a garage or other structure, be sure that the structure is well ventilated and that the vehicle is not close to any source of flame or sparks, including any appliance with pilot lights.
2. Place the transmission in PARK.
3. Turn the engine off.
4. Engage the parking brake (if equipped).
5. Slowly release the brake pedal and make sure the transmission is in PARK before exiting the vehicle.
6. Remove the ignition key to prevent unauthorized use.

DRIVING PROCEDURES

NEW OPERATOR DRIVING PROCEDURES

1. Read and understand the owner's manual and all warning and instruction labels before operating this vehicle.
2. Visit the Recreational Off-Highway Vehicle Association web site and take the free on-line training course. Visit www.rohva.org or call 866-267-2751. Hands-on training is also available through ROHVA.
3. Perform the pre-ride inspection.
4. Do not tow or carry cargo during this period.
5. Select an open area that allows room to familiarize yourself with vehicle operation and handling.
6. The driver must wear helmet, eye protection, gloves, long-sleeve shirt, long pants, over-the-ankle boots and seat belt at all times.
7. Sit in the driver's seat and fasten the seat belt.
8. Always make sure all cab doors are closed and latched when riding in this vehicle.
9. Place the transmission in PARK.
10. Start the engine.
11. Apply the brakes and shift into low gear.
12. Check your surroundings and determine your path of travel.
13. Keeping both hands on the steering wheel, slowly release the brakes and depress the throttle with your right foot to begin driving.
14. Drive slowly at first. On level surfaces, practice starting, stopping, turning, maneuvering, using the throttle and brakes and driving in reverse. Learn how the vehicle handles when making both left and right turns at a slow speed.

WARNING

Operating in TURF mode (if equipped) when on sloped, uneven, or loose terrain could cause loss of control and result in serious injury or death. One rear wheel may slip and lose traction or may lift up and grab when it touches the ground again.

15. Increase speed only after mastering all maneuvers at a slow speed.

16. After you become skilled at making turns and begin to operate at faster speeds, follow these precautions:
 - Avoid sharp turns.
 - Never turn while applying heavy throttle.
 - Never make abrupt steering maneuvers.
 - Operate at speeds appropriate for your skills, the conditions and the terrain.
 - DO NOT do power slides, “donuts”, jumps or other driving stunts.

DRIVING WITH A PASSENGER

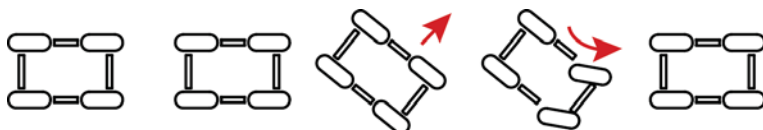
1. Perform the pre-ride inspection.
2. Make sure all passengers are at least 12 years of age and tall enough to comfortably and safely sit in a passenger seat with the seat belt secured, put both feet on the floor and grasp the hand hold.
3. Make sure all passengers are wearing helmet, eye protection, gloves, long-sleeve shirt, long pants and over-the-ankle boots.
4. Make sure all passengers secure their seat belt.
5. Make sure all cab nets (or doors) are properly secured.
6. Do not carry more than the recommended number of passengers for your vehicle.
7. Allow a passenger to ride only in a passenger seat.
8. Slow down. Always travel at a speed appropriate for your skills, your passengers’ skills, and operating conditions. Avoid unexpected or aggressive maneuvers that could cause discomfort or injury to a passenger.
9. Vehicle handling may change with a passenger and/or cargo on board. Allow more time and distance for braking.
10. Always follow all operating guidelines as outlined on safety labels and in this manual.

OPERATION

DRIVING ON SLIPPERY SURFACES

WARNING

Skidding or sliding can cause loss of control or rollover (if tires regain traction unexpectedly). When operating on slippery surfaces such as ice or loose gravel, reduce speed and use extra caution to reduce the chance of skidding or sliding out of control. Do not operate on excessively slippery surfaces.



When driving on slippery surfaces such as wet trails, loose gravel, or ice, be alert for the possibility of skidding and sliding. Follow these precautions when encountering slippery conditions:

1. Do not operate on excessively rough, slippery or loose terrain.
2. Slow down before entering slippery areas.
3. Maintain a high level of alertness, reading the trail and avoiding quick, sharp turns, which can cause skids.
4. Engage all-wheel drive before wheels begin to lose traction.

NOTICE

Severe damage to the drive train may occur if the AWD is engaged while the wheels are spinning. Always allow the wheels to stop spinning before engaging AWD.

5. Correct a skid by turning the steering wheel in the direction of the skid. *Never apply the brakes during a skid.*

DRIVING OVER OBSTACLES

Follow these precautions when operating over obstacles:

1. Always check for obstacles before operating in a new area.
2. Look ahead and learn to read the terrain. Be constantly alert for hazards such as logs, rocks and low hanging branches.
3. Travel slowly and use extra caution when operating on unfamiliar terrain. Not all obstacles are immediately visible.
4. Move the drive mode switch to low mode if needed.
5. Avoid operating over large obstacles such as large rocks and fallen trees. If unavoidable, use extreme caution and operate slowly.

6. Always have all passengers dismount and move away from the vehicle before operating over an obstacle that could cause a rollover.

DRIVING UPHILL

Whenever traveling uphill, follow these precautions:

1. Avoid excessively steep hills.
2. ADC Models: Always operate in low gear and engage ADC 4X4 before ascending or descending a hill.
3. Always travel straight uphill.
4. Keep both feet on the floor.
5. Always check the terrain carefully before ascending any hill. Never climb hills with excessively slippery or loose surfaces.
6. Proceed at a steady rate of speed and throttle opening. Never open the throttle suddenly.
7. Never go over the crest of a hill at high speed. An obstacle, a sharp drop, or another vehicle or person could be on the other side of the hill.

DRIVING DOWNHILL

When driving downhill, follow these precautions:

1. Avoid excessively steep hills.
2. ADC Models: Always operate in low gear and engage ADC 4X4 before ascending or descending a hill.
3. Drive straight downhill. Avoid descending a hill at an angle, which would cause the vehicle to lean sharply to one side. Travel straight downhill when possible.
4. Slow down.
5. Apply the brakes slightly to aid in slowing.

DRIVING ON A SIDEHILL (SIDEHILLING)

Driving on a sidehill is not recommended. Improper procedure could cause loss of control or rollover. Avoid crossing the side of any hill unless absolutely necessary.

If crossing a sidehill is unavoidable, follow these precautions:

1. Slow down.
2. Exercise extreme caution.
3. Avoid crossing the side of a steep hill.
4. ADC Models: Always operate in low gear and engage ADC 4X4 before ascending or descending a hill.

OPERATION

DRIVING THROUGH WATER

Your vehicle can operate through water up to a maximum recommended depth equal to the floorboards.

NOTE

If your vehicle becomes immersed or is operated in water that exceeds the floor level, service is required before starting the engine. Your dealer can provide this service. If it's impossible to bring the vehicle in before starting the engine, perform the service outlined on page 98, and take the vehicle in for service at the first opportunity.

Follow these procedures when operating through water:

1. Determine water depths and current before entering water.
2. Choose a crossing where both banks have gradual inclines.
3. Proceed slowly, avoiding rocks and obstacles.
4. Avoid operating through deep or fast-flowing water.

WARNING

The large tires on your vehicle may cause the vehicle to float in deep or fast-flowing water, which could result in loss of control and lead to serious injury or death. Never cross deep or fast-flowing water with your vehicle

5. After leaving water, always dry the brakes by applying light pressure to the pedal repeatedly until braking action is normal.

NOTE

After running your vehicle in water, it's critical that you perform the services outlined in the Periodic Maintenance Chart. Give special attention to engine oil, transmission oil, front and rear gearcases (if equipped), and all grease fittings.

DRIVING IN REVERSE

Follow these precautions when operating in reverse:

1. Always check for obstacles or people behind the vehicle. Always inspect left and right fields of vision before backing.
2. Always avoid backing downhill.
3. Back slowly.
4. Apply the brakes lightly for stopping.
5. Avoid turning at sharp angles.
6. Never open the throttle suddenly.

PARKING THE VEHICLE

To park the vehicle, do the following:

1. Apply the brakes. Stop the vehicle on a level surface.
2. When parking inside a garage or other structure, be sure that the structure is well ventilated and that the vehicle is not close to any source of flame or sparks, including any appliance with pilot lights.
3. Place the transmission in PARK.
4. Turn the engine off.
5. Slowly release the brake pedal and make sure the transmission is in PARK before exiting the vehicle.
6. Engage the park brake (if equipped).
7. Remove the ignition switch key to prevent unauthorized use.

PARKING ON AN INCLINE

Avoid parking on an incline if possible. If it's unavoidable, follow these precautions:

1. Apply the brakes.
2. Place the transmission in PARK.
3. Engage the parking brake (if equipped).
4. Turn the engine off.
5. Slowly release the brake pedal and make sure the transmission is in PARK before exiting the vehicle.
6. Engage the park brake (if equipped).
7. Block the rear wheels on the downhill side.

HAULING CARGO

WARNING

Overloading the vehicle or carrying or towing cargo improperly can alter vehicle handling and may cause loss of control or brake instability. Always follow these precautions when hauling cargo:

Never exceed the stated load capacity for this vehicle.

REDUCE SPEED AND ALLOW GREATER DISTANCES FOR BRAKING WHEN HAULING CARGO.

NEVER EXCEED THE MAXIMUM WEIGHT CAPACITY of the vehicle. When determining the weight you are adding to the vehicle, include the weight of the operator, accessories, loads in the rack or box and the load on the trailer tongue. The combined weight of these items must not exceed the maximum weight capacity.

Always load the cargo box with the load as far forward and as low as possible. When operating over rough or hilly terrain, reduce speed and cargo to maintain stable driving conditions.

Always operate the vehicle with extreme care when hauling or towing loads. Slow down and drive in the lowest gear available.

SECURE ALL LOADS BEFORE OPERATING. Unsecured loads can create unstable operating conditions, which could result in loss of control of the vehicle.

OPERATE ONLY WITH STABLE AND SAFELY ARRANGED LOADS. When handling off-centered loads that cannot be centered, securely fasten the load and operate with extra caution. Always attach the tow load to the hitch point designated for your vehicle.

HEAVY LOADS CAN CAUSE BRAKING AND CONTROL PROBLEMS. Use extreme caution when applying brakes with a loaded vehicle. Avoid terrain or situations that may require backing downhill.

USE EXTREME CAUTION when operating with loads that extend over the rack sides. Stability and maneuverability may be adversely affected, causing vehicle rollover.

DO NOT TRAVEL FASTER THAN THE RECOMMENDED SPEEDS. Vehicle should never exceed 10 MPH (16 km/h) while towing a load on a level grass surface. Vehicle speed should never exceed 5 MPH (8 km/h) when towing loads in rough terrain, while cornering, or while ascending or descending a hill.

Never exceed 43 MPH (70 km/h) if total payload exceeds 335 lbs. (152 kg). Carrying a passenger in the cargo box could result in a fall from the vehicle or contact with moving components. Never allow a passenger to ride in the cargo box.

Your vehicle has been designed to carry or tow specific capacities. Reduce speed and allow a greater distance for braking when carrying cargo.

Loads should be centered and carried as low as possible in the box. For stability on rough or hilly terrain, reduce both speed and cargo. Exercise caution if the cargo load extends over the side of the box.

Always read and understand the load distribution warnings listed on warning labels and in this manual. Never exceed the maximum capacities specified for your vehicle.

BELT LIFE

To extend belt life, use low gear when hauling or towing heavy cargo.

TOWING LOADS

WARNING

Towing improperly can alter vehicle handling and may cause loss of control or brake instability.

Always follow these precautions when towing:

1. Never load more than 150 lbs. (68.1 kg) tongue weight on the towing bracket.
2. When towing a disabled vehicle, place the disabled vehicle's transmission in neutral. Do not operate the vehicle faster than 10 MPH (16 km/h) when towing.
3. Towing a trailer increases braking distance. Do not operate the vehicle faster than 10 MPH (16 km/h) when towing.
4. Do not tow more than the recommended weight for the vehicle.
5. Attach a trailer to the trailer hitch bracket only. Do not attach a trailer to any other location, which could result in loss of control of the vehicle.
6. The total load (operator, accessories, cargo and weight on hitch) must not exceed the maximum weight capacity of the vehicle.

MODEL	TOTAL TOWED LOAD WEIGHT (LEVEL GROUND)	TOTAL TOWED LOAD WEIGHT (15° GRADE)	TOTAL HITCH VERTICAL WEIGHT	MAXIMUM TOWING SPEED
RANGER® XP 900/XP 1000	2000 lbs. (907 kg)	850 lbs. (386 kg)	150 lbs (68.1 kg)	10 MPH (16 km/h)
RANGER® CREW XP 900/XP 1000	2000 lbs. (907 kg)	850 lbs. (386 kg)	150 lbs (68.1 kg)	10 MPH (16 km/h)

DUMPING THE CARGO BOX

To dump the cargo box, do the following:

1. Select a level site to dump the cargo box. Do not attempt to dump or unload the vehicle while parked on an incline.
2. Apply the brakes.
3. Set the park brake (if equipped).
4. Turn the key to the off position.
5. Dismount vehicle.
6. Ensure that the cargo is positioned evenly or toward the front of the cargo box.
7. Release the tailgate latches.

WARNING

If the weight distribution on the box is located toward the rear of the box when the release lever is pulled forward, the box may dump unexpectedly and cause serious injury to the operator or bystanders. Never operate the dump lever without ensuring that the load is positioned evenly or at the front of the box.

8. Stand clear and pull up on the cargo box release lever.
9. Lift the front of the cargo box to dump the cargo.
10. Lower the cargo box and push down securely to latch.
11. Close the tailgate.

WARNING

Operating the vehicle while the cargo box is raised could result in severe injury. The box could close unexpectedly and cause injury to the driver or passenger. The rear tires will also catch the rear of a raised box, damaging the vehicle and creating hazardous driving conditions. Never operate this vehicle with the cargo box in the raised position.

ALL WHEEL DRIVE/REAR DIFFERENTIAL SYSTEM

If your model is equipped with a lockable differential, you can choose to operate with an open differential or a closed differential.

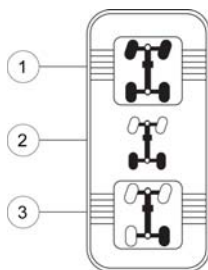
ENGAGING AWD

Press the top of the switch to engage All Wheel Drive (AWD). The 4X4 indicator illuminates in the rider information center to indicate that the vehicle is in AWD.

When the AWD switch is on, the front gearcase will automatically engage any time the rear wheels lose traction. When the rear wheels regain traction, the front gearcase will automatically disengage. There is no limit to the length of time the vehicle may remain in AWD.

Initially, the vehicle's electronic system will not enable the AWD until the engine RPM is below 3100. Once enabled, the AWD remains enabled until the AWD switch is turned off. If the switch is turned off while the front gearcase is moving, it will not disengage until the rear wheels regain traction.

Engage the AWD before getting into conditions where front wheel drive may be needed. If the rear wheels are spinning, release the throttle before switching to AWD.



- ① All-Wheel Drive (AWD)
- ② Differential Lock
- ③ Differential Unlock

NOTICE

Switching to AWD while the rear wheels are spinning may cause severe drive shaft and clutch damage. Always switch to AWD while the rear wheels have traction or are at rest.

DISENGAGING AWD

Move the AWD switch to the center or bottom position to disengage AWD. If the switch is turned off while the front hubs are driving, they will not release until the rear wheels regain traction.

In some situations, the front gearcase may remain locked after turning the AWD switch off. If this occurs, you may notice increased steering effort and some vehicle speed restriction. Perform the following procedure to unlock the front gearcase.

To disengage AWD, do the following:

1. Stop the vehicle.
2. Operate in reverse for at least 10 feet (3 m).

OPERATION

3. Stop completely.
4. Shift into low gear and drive forward.
5. If the front gearcase remains locked after following these instructions, see your dealer or other qualified service person for service.

LOCKING THE DIFFERENTIAL

Move the rocker switch to the center position to lock the differential and operate in two wheel drive (2WD). Locking the differential in slippery or low traction conditions helps improve traction. When the rear differential is locked, both rear wheels rotate at the same speed.

UNLOCKING THE DIFFERENTIAL (TURF MODE)

When operating in TURF mode, the inside rear wheel will rotate independently from the outside wheel during turns. Operate in TURF mode only as needed to protect smooth, level surfaces from tire damage. DO NOT operate in TURF mode when climbing or descending hills, when sidehilling, or when operating on uneven, loose, or slippery terrain such as sand, gravel, ice, snow, obstacles, and water crossings. Always operate in AWD on these types of terrain.

WARNING

Operating in TURF mode (if equipped) when on sloped, uneven, or loose terrain could cause loss of control and result in serious injury or death. One rear wheel may slip and lose traction or may lift up and grab when it touches the ground again.

Press the bottom of the switch to unlock the differential and allow the rear drive wheels to operate independently (1WD). When the rear differential is unlocked, the rear wheels can rotate at different speeds. Unlock the differential to make maneuvering easier and minimize damage to turf.

NOTICE

Damage to the differential can occur if it is engaged while the vehicle is traveling at high speeds or while the rear wheels are spinning. Slow the vehicle to nearly stopped before engaging the differential.

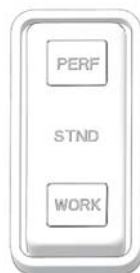
WARNING

Never operate in TURF mode (if equipped) while operating on a hill or other irregular terrain. Always move the AWD switch to AWD before ascending or descending a hill.

POLARIS 3-MODE THROTTLE CONTROL SWITCH (IF EQUIPPED)

The Polaris 3-Mode Throttle Control Switch has three positions:

- Performance (PERF)
- Standard (STND)
- Work (WORK)



PERFORMANCE

The performance (PERF) setting maximizes throttle response for quick acceleration along with full horsepower and torque.

STANDARD

The standard (STND) setting provides a balance of throttle, full horsepower, and torque for everyday activities.

WORK

The work (WORK) setting optimizes slow drivability for performing precise tasks by limiting throttle response and maximum throttle opening.

NOTE

Always use low gear for any of the following conditions regardless of the selected throttle control setting. Refer to page 22 for more information on gear selection.

- Operating in rough terrain or over obstacles
- Loading the vehicle onto a trailer
- Towing heavy loads
- Driving frequently at low RPM or at ground speeds below 7 MPH (11 km/h)

WINCH GUIDE

These safety warnings and instructions apply if your vehicle came equipped with a winch or if you choose to add an accessory winch to your vehicle.

WARNING

Improper winch use can result in SEVERE INJURY or DEATH. Always follow all winch instructions and warnings in this manual.

Your winch may have a cable made of either wire rope or specially designed synthetic rope. The term “winch cable” will be used for either unless noted otherwise.

WINCH SAFETY PRECAUTIONS

1. Read all sections of this manual.
2. Never use alcohol or drugs before or while operating the winch.
3. Never allow children under 16 years of age to operate the winch.
4. Always wear eye protection and heavy gloves when operating the winch.
5. Always keep body, hair, clothing and jewelry clear of the winch cable, fairlead and hook when operating winch.
6. Never attempt to “jerk” a load attached to the winch with a moving vehicle. See the *Shock Loading* section on page 73.
7. Always keep the area around the vehicle, winch, winch cable, and load clear of people (especially children) and distractions while operating the winch.
8. Always turn the vehicle ignition power OFF when it and the winch are not being used.
9. Always be sure that at least five (5) full turns of winch cable are wrapped around the winch drum at all times. The friction provided by this wrapped cable allows the drum to pull on the winch cable and move the load.
10. Always apply your vehicle’s park brake and/or park mechanism to hold the vehicle in place during winching. Use wheel chocks if needed.
11. Always align the vehicle and winch with the load directly in front of the vehicle as much as possible. Avoid winching with the winch cable at an angle to the winching vehicle’s centerline whenever possible.
12. If winching at an angle is unavoidable, follow these precautions:
 - a. Look at the winch drum occasionally. Never let the winch cable “stack” or accumulate at one end of the winch drum. Too much winch cable at one end of the winch drum can damage the winch and the winch cable.
 - b. If stacking occurs, stop winching. Follow step 15 on page 67 to feed and rewind the cable evenly before continuing the winch operation.

WINCH GUIDE

13. Never winch up or down at sharp angles. This can destabilize the winching vehicle and possibly cause it to move without warning.
14. Never attempt to winch loads that weigh more than the winch's rated capacity.
15. The winch motor may become hot during winch use. If you winch for more than 45 seconds, or if the winch stalls during operation, stop winching and permit the winch to cool down for 10 minutes before using it again.
16. Never touch, push, pull or straddle the winch cable while winching a load.
17. Never let the winch cable run through your hands, even if wearing heavy gloves.



18. Never release the clutch on the winch when the winch cable is under load.
19. Never use the winch for lifting or transporting people.
20. Never use the winch to hoist or suspend a vertical load.
21. Never immerse or submerge your winch in water. Your dealer can provide service on your winch if this occurs.
22. Always inspect your winch and winch cable before each use.
23. Never winch the hook fully into the winch. This can cause damage to winch components.
24. Unplug the remote control from the vehicle when the winch is not in use to prevent inadvertent activation and use by unauthorized persons.
25. Never grease or oil the winch cable. This will cause the winch cable to collect debris that will shorten the life of the cable.

WINCH OPERATION

Read the Winch Safety Precautions in the preceding pages before using your winch.

TIP

Consider practicing the operation and use of your winch before you actually need to use it in the field.

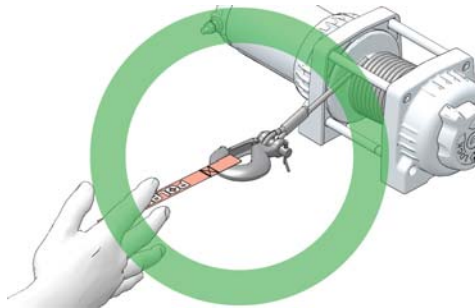
⚠ WARNING

Improper winch use can result in SEVERE INJURY or DEATH. Always follow all winch instructions and warnings in this manual.

Each winching situation is unique.

- Take your time to think through the winching you are about to do.
- Proceed slowly and deliberately.
- Never hurry or rush during winching.
- Always pay attention to your surroundings.
- You may need to change your winching strategy if it is not working.
- Always remember that your winch is very powerful.
- There are simply some situations that you and your winch will not be able to deal with. Do not be afraid to ask others to help when this happens.

1. Always inspect the vehicle, winch, winch cable and winch controls for any signs of damage or parts in need of repair or replacement before each use. *Pay particular attention to the first 3 feet (1 meter) of winch cable if the winch is being used (or has been used) for lifting an accessory plow assembly.* Promptly replace any worn or damaged cable.
2. Never operate a winch or a vehicle in need of repair or service.
3. Always apply your vehicle's park brake and/ or park mechanism to hold the vehicle in place during winching. Use wheel chocks if needed.



WINCH GUIDE

4. Always use the hook strap when handling the hook.

WARNING

Never put your fingers into the hook. This could lead to SEVERE INJURY.

- Attach the hook itself onto the load or use a tow strap or chain to secure the load to the winch cable.



No



Yes

TIP

A “tow strap” is NOT intended to stretch. A “recovery strap” is designed to stretch.

WARNING

Never use a recovery strap when winching due to the excessive energy that can be released if the winch cable breaks. This can result in SEVERE INJURY or DEATH. See the *Shock Loading* section on page 73.

- Never hook the winch cable back onto itself. This will damage the winch cable and may result in winch cable failure.

⚠ WARNING

Replace the winch cable at the first sign of damage to prevent SEVERE INJURY or DEATH in the event of failure. For your safety, always replace POLARIS winch parts (including the cable) with genuine POLARIS replacement parts available at your authorized POLARIS dealer.

- If possible, keep the winch cable aligned with the centerline of the winching vehicle. This will help the spooling of the winch cable and reduce the load on the fairlead.
- If freeing a stuck vehicle by attaching to a tree, use an item such as a tow strap to avoid damaging the tree during winch operation. Sharp cables and chains can damage and even kill trees. Please remember to TreadLightly® (treadlightly.org).
- Before operating the winch, be sure that the safety latch on the winch cable hook is fully seated when the load is attached.
- Never operate your winch with a damaged hook or latch. Always replace damaged parts before using the winch.

**Yes****No**

5. Never remove the hook strap from the hook.
6. Release the winch clutch and pull out the winch cable.
7. Pulling out as much cable as possible maximizes the winch's pulling capacity. Always be sure that at least five (5) full turns of winch cable are wrapped around the winch drum at all times. The friction provided by this wrapped cable allows the drum to pull on the winch cable and move the load.

WINCH GUIDE

8. Read and adhere to the following information for winch damping to ensure safe winch use.
 - a. In order to absorb energy that could be released by a winch cable failure, always place a “damper” on the winch cable. A damper can be heavy jacket, tarp, or other soft, dense object. A damper can absorb much of the energy released if a winch cable breaks when winching. Even a tree limb can help as a damper if no other items are available to you.
 - b. Lay the damper on top of the mid-point of the winch cable length that is spooled out.
 - c. On a long pull, it may be necessary to stop winching so that the damper can be repositioned to the new mid-point of the winch cable. Always release the tension on the winch cable before repositioning the damper.
 - d. Avoid being directly in line with the winch cable whenever possible. Also, never permit others to stand near or in line with the winch cable during winch operation.
9. Never hook the winch cable back onto itself. This will damage the winch cable and may result in winch cable failure.
10. Never use straps, chains or other rigging items that are damaged or worn.

11. The ONLY time a winch-equipped vehicle should be moving when using the winch is when that vehicle itself is stuck. The winch equipped vehicle should NEVER be in motion to “shock” load the winch cable in an attempt to move a second stuck vehicle. See the Shock Loading section on page 73. For your safety, always follow these guidelines when winching a vehicle free:
 - a. Release the winch clutch and spool out the necessary length of winch cable.
 - b. Align the winch cable as close as possible to the winching vehicle's centerline.
 - c. Attach the winch cable hook to the anchor point or the stuck vehicle's frame following instructions in this manual.
 - d. Re-engage the clutch on the winch.
 - e. Slowly winch in the slack in the winch cable.
 - f. Select the proper vehicle gear to propel the stuck vehicle in the direction of winching.
 - g. Shift to the lowest gear available on the stuck vehicle.
 - h. Slowly and carefully apply vehicle throttle and winch together to free the vehicle.
 - i. Stop winching as soon as the stuck vehicle is able to propel itself without the help of the winch.
 - j. Detach the winch cable hook.
 - k. Rewind the winch cable evenly back onto the winch drum following the instructions in this manual.
12. Never attempt to winch another stuck vehicle by attaching the winch cable to a suspension component, brush guard, bumper or cargo rack. Vehicle damage may result. Instead, attach the winch to a strong portion of the vehicle frame or hitch.
13. Extensive winching will run down the battery on the winching vehicle. Let the winching vehicle's engine run while operating the winch to prevent the battery from running low if winching for long periods.
14. The winch motor may become hot during winch use. If you winch for more than 45 seconds, or if the winch stalls during operation, stop winching and permit the winch to cool down for 10 minutes before using it again.

WINCH GUIDE

15. After winching is complete, especially if winching at an angle, it may be necessary to re-distribute the winch cable across the winch drum. You will need an assistant to perform this task.
 - a. Release the clutch on the winch.
 - b. Feed out the winch cable that is unevenly bunched up in one area.
 - c. Re-engage the winch clutch.
 - d. Have an assistant pull the winch cable tightly with about 100 lbs. (45 kg) of tension using the hook strap.
 - e. Slowly winch the cable in while your assistant moves the end of the winch cable back and forth horizontally to evenly distribute the winch cable on the drum.
 - f. Doing this reduces the chances of the winch cable “wedging” itself between lower layers of winch cable.

WINCH CABLE CARE

For your safety, always replace POLARIS winch parts (including the cable) with genuine POLARIS replacement parts available at your authorized POLARIS dealer.

WARNING

Use of worn or damaged cable could lead to sudden failure and SEVERE INJURY.

1. Always inspect your winch before each use. Inspect for worn or loose parts including mounting hardware. Never use the winch if any part needs repair or replacement.

- Always inspect your winch cable before each use. Inspect for worn or kinked winch cable.

A kinked winch cable made of wire rope is shown at right. Even after being “straightened out,” this cable has already been permanently and severely damaged. Promptly discontinue use of a winch cable in this condition.



A kinked winch cable made of wire rope that has been “straightened out” is shown at right. Even though it may look usable, the cable has been permanently and severely damaged. It can no longer transmit the load that it could prior to kinking. Promptly discontinue use of a winch cable in this condition.



A winch cable made of synthetic rope should be inspected for signs of fraying. Replace the cable if fraying is observed (shown at right). Promptly discontinue use of a winch cable in this condition.



Also replace the winch cable if there are fused or melted fibers. Such an area of the synthetic rope will be stiff and appear smooth or glazed. Promptly discontinue use of a winch cable in this condition.

SHOCK LOADING

WARNING

Your winch cable is very strong but it is NOT designed for dynamic, or “shock” loading. Shock loading may tension a winch cable beyond its strength and cause the cable to break. The end of a broken winch cable under such high loading can cause SEVERE INJURY or DEATH to you and other bystanders.

Winch cables are designed to NOT absorb energy. This is true of both wire-rope and synthetic-rope winch cables.

- Never attempt to “jerk” a load with the winch. For example, never take up slack in the winch cable by moving the winching vehicle in an attempt to move an object. This is a dangerous practice. It generates high winch cable loads that may exceed the strength of the cable. Even a slowly moving vehicle can create large shock loads in a winch cable.

WARNING

SEVERE INJURY or DEATH can result from a broken winch cable.

WINCH GUIDE

2. Never quickly turn the winch ON and OFF repeatedly (“jogging”). This puts extra load on the winch, winch cable, and generates excessive heat from the motor. This is a form of shock loading.
3. Never tow a vehicle or other object with your winch. Towing an object with a winch produces shock loading of the cable even when towing at slow speeds. Towing from a winch also positions the towing force high on the vehicle. This can cause instability of the vehicle and possibly lead to an accident.
4. Never use recovery straps with your winch. Recovery straps are designed to stretch and can store energy. This stored energy in the recovery strap is released if a winch cable fails making the event even more hazardous. Similarly, never use elastic “bungee” cords for winching.
5. Never use the winch to tie down a vehicle to a trailer or other transportation vehicle. This type of use also causes shock loading that can cause damage to the winch, winch cable, or vehicles used.

Your winch cable is designed and tested to withstand the loads produced by the winch motor when operated from a stationary vehicle. Always remember that the winch and winch cable are NOT designed for shock loading.

WINCH MAINTENANCE AND SERVICE SAFETY

WARNING

Improper or lack of winch maintenance and service could lead to **SEVERE INJURY** or **DEATH**. Always follow all winch instructions and warnings in this manual.

1. Always inspect your winch before each use. Inspect for worn or kinked winch cable. Also inspect for worn or loose parts including mounting hardware.
2. Permit your winch motor to cool down prior to servicing your winch.
3. Never work on your winch without first disconnecting the battery connections to prevent accidental activation of the winch.
4. For your safety, always replace POLARIS winch parts (including the cable) with genuine POLARIS replacement parts available at your authorized POLARIS dealer.
5. Some winch models use wire rope as the winch cable. Other winches use a specially designed synthetic rope as the winch cable.
6. Never replace a synthetic-rope winch cable with a consumer-grade polymer rope such as can be purchased in a hardware store. Although they may look similar, they are **NOT** alike. A polymer rope not designed for winch use will stretch and store excessive energy when winching.

WARNING

Failure of a stretched rope under winching conditions will release all of the stored energy. This will increase the chances of **SEVERE INJURY** or **DEATH**.

EMISSION CONTROL SYSTEMS

NOISE EMISSION CONTROL SYSTEM

Do not modify the engine, intake or exhaust components, as doing so may affect compliance with U.S.A. EPA noise control requirements (40 CFR 205) and local noise level requirements.

OPERATION ON PUBLIC LANDS IN THE U.S.A.

Your vehicle has a spark arrester that was tested and qualified to be in accordance with the USFS standard 5100-1C. Federal law requires that this spark arrester be installed and functional when the vehicle is operated on public lands.

Operation of off-road vehicles on public lands in the U.S.A. is regulated by 43 CFR 420. Violations are subject to monetary penalties. Federal regulations can be viewed online at www.gpoaccess.gov/ecfr/.

CRANKCASE EMISSION CONTROL SYSTEM

This engine is equipped with a closed crankcase system. Blow-by gases are forced back to the combustion chamber by the intake system. All exhaust gases exit through the exhaust system.

EXHAUST EMISSION CONTROL SYSTEM

Exhaust emissions are controlled by engine design. An electronic fuel injection (EFI) system controls fuel delivery. The engine and EFI components are set at the factory for optimal performance and are not adjustable.

The emissions label is located on the inside of the lower left frame tube (below driver's foot area).

ELECTROMAGNETIC INTERFERENCE

This spark ignition system complies with Canadian ICES-002.

This vehicle complies with the EMC requirements of European directives 97/24/EC and 2004/108/EC.

Non-ionizing Radiation: This vehicle emits some electromagnetic energy. People with active or non-active implantable medical devices (such as heart monitoring or controlling devices) should review the limitations of their device and the applicable electromagnetic standards and directives that apply to this vehicle.

MAINTENANCE

PERIODIC MAINTENANCE CHART

Any qualified repair shop or person may maintain, replace or repair the emission control devices or systems on your vehicle. An authorized POLARIS dealer can perform any service that may be necessary for your vehicle. POLARIS also recommends POLARIS parts for emissions-related service, however equivalent parts can be used.

It is a potential violation of the Clean Air Act if a part supplied by an aftermarket parts manufacturer reduces the effectiveness of the vehicle's emission controls. Tampering with emission controls is prohibited by federal law.

Owners are responsible for performing the scheduled maintenance identified in this owner's manual.

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

Inspect, clean, lubricate, adjust and replace parts as necessary. When inspection reveals the need for replacement parts, genuine POLARIS parts are available from your POLARIS dealer. Equivalent parts may be used for emissions-related service.

Service and adjustments are important for proper vehicle operation. If you're not familiar with safe service and adjustment procedures, a qualified dealer can perform these operations.

Vehicles subjected to heavy or severe use patterns must be inspected and serviced more frequently.

SEVERE USE DEFINITION

- Frequent immersion in mud, water or sand
- Frequent or prolonged operation in dusty environments
- Short trip cold weather operation
- Racing or race-style high RPM use
- Prolonged low speed, heavy load operation
- Extended idle

Pay special attention to the oil level. A rise in oil level during cold weather can indicate contaminants collecting in the oil sump or crankcase. Change oil immediately if the oil level begins to rise. Monitor the oil level, and if it continues to rise, discontinue use and determine the cause. Your dealer can assist.

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- Frequent or prolonged operation in dusty environments
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MAINTENANCE

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MAINTENANCE CHART KEY

SYMBOL	DESCRIPTION
XU	Perform these procedures more often for vehicles subjected to severe use.
D	Have an authorized dealer or other qualified person perform these services.

WARNING

Improperly performing the procedures marked with a **D** could result in component failure and lead to serious injury or death. Have an authorized dealer or other qualified person perform these services.

Perform all services at whichever maintenance interval is reached first. Record maintenance and service in the Maintenance Log.

ITEM		MAINTENANCE INTERVAL (WHICHEVER COMES FIRST)			REMARKS
		HOURS	CALENDAR	MILES (KM)	
XU	Air Filter	-	Weekly	-	Inspect; replace as needed
XU D	Brake Pad Wear	10 H	Monthly	100 (160)	Inspect periodically
	Battery	25 H	Monthly	200 (320)	Check terminals; clean; test
	Fuel System	25 H	Monthly	200 (320)	Inspect; cycle key to pressurize fuel pump; check lines and fittings for leaks and abrasion
XU	Front Gearcase Fluid (Demand Drive - Extreme Use)	25 H	1 M	-	Change fluid every 25 hours if subjected to extreme use
XU	Front Gearcase Fluid (Demand Drive)	25 H	1 M	-	Initial fluid level inspection; add lubricant if needed
XU	Transmission Fluid (AGL)	25 H	1 M	-	Initial fluid level inspection; add lubricant if needed
XU	Engine Oil / Filter Change (Break-In)	25 H	-	500 (800)	Perform break-in oil / filter change

MAINTENANCE

ITEM		MAINTENANCE INTERVAL (WHICHEVER COMES FIRST)			REMARKS
		HOURS	CALENDAR	MILES (KM)	
XU	General Lubrication	50 H	3 M	500 (800)	Lubricate all fittings, pivots, cables, etc.
	Shift Linkage	50 H	6 M	500 (800)	Inspect, lubricate, adjust
D	Steering	50 H	6 M	500 (800)	Lubricate
XU	Front / Rear Stabilizer Bars	50 H	6 M	500 (800)	Lubricate and inspect bushings
D	Throttle Pedal	50 H	6 M	500 (800)	Inspect for free movement; replace pedal as needed
	Throttle Body Intake Ducts/Flange	50 H	6 M	500 (800)	Inspect duct for proper sealing/air leaks
	Drive Belt	50 H	6 M	500 (800)	Inspect; adjust; replace as needed
	Cooling System	50 H	6 M	500 (800)	Inspect coolant strength seasonally; pressure test system yearly
XU	Radiator	50 H	6 M	500 (800)	Inspect; clean external surfaces
XU	Engine Oil/Filter Change	100 H	6 M	1000 (1600)	Perform oil / filter change
XU	Front Gearcase Fluid (Demand Drive)	100 H	12 M	1000 (1600)	Change fluid
XU	Transmission Fluid (AGL)	100 H	12 M	1000 (1600)	Change fluid
D	Fuel System	100 H	12 M	1000 (1600)	Cycle key to pressurize fuel pump; check for leaks at fill cap, fuel line / rail, and fuel pump; replace lines every two years
XU	Cooling Hoses	100 H	12 M	1000 (1600)	Inspect for leaks
XU	Engine Mounts	100 H	12 M	1000 (1600)	Inspect
	Exhaust Muffler / Pipe	100 H	12 M	1000 (1600)	Inspect

MAINTENANCE

ITEM		MAINTENANCE INTERVAL (WHICHEVER COMES FIRST)			REMARKS
		HOURS	CALENDAR	MILES (KM)	
	Drive Shafts	100 H	12 M	1000 (1600)	Remove and grease
D E	Spark Plug	100 H	12 M	1000 (1600)	Inspect; replace as needed
XU	Wiring	100 H	12 M	1000 (1600)	Inspect for wear, routing, security; inspect connectors subjected to water, mud, etc.
D XU	Clutches (Drive and Driven)	100 H	12 M	1000 (1600)	Inspect; clean; replace worn parts
D	Wheel Bearings	100 H	12 M	1000 (1600)	Inspect; replace as needed
XU	Shock Seals	100 H	-	-	Visually inspect shock seals
D XU	Shocks (FOX)	-	12 M	1500 (2400)	See dealer for oil change/seal inspection.
	Ratcheting Cam Chain Tensioner	200 H	-	2000 (3200)	Check; replace as needed
D	Brake Fluid	200 H	24 M	2000 (3200)	Change every two years
	Suspension Bushings	250 H	24 M	2000 (3200)	Inspect; replace if necessary
	Spark Arrestor	300 H	36 M	3000 (4800)	Clean out
D	Valve Clearance	-	-	5000 (8000)	Inspect; adjust as needed
XU	Coolant	-	60 M	-	Replace coolant
D	Toe Adjustment	-			Inspect periodically; adjust when parts are replaced
	Headlight Aim	-			Adjust as needed
XU	Engine Oil Lines/ Fasteners	50 H	6 M	1000 (1600)	Inspect for leaks and loose fittings
XU	Engine Oil/Filter Change	100 H	6 M	1000 (1600)	Perform oil / filter change
XU	Front Gearcase Fluid (Demand Drive)	100 H	12 M	1000 (1600)	Change fluid

MAINTENANCE

ITEM		MAINTENANCE INTERVAL (WHICHEVER COMES FIRST)			REMARKS
		HOURS	CALENDAR	MILES (KM)	
XU	Transmission Fluid (AGL)	100 H	12 M	1000 (1600)	Change fluid
D	Fuel System	100 H	12 M	1000 (1600)	Cycle key to pressurize fuel pump; check for leaks at fill cap, fuel line / rail, and fuel pump; replace lines every two years
XU	Cooling Hoses	100 H	12 M	1000 (1600)	Inspect for leaks
XU	Engine Mounts	100 H	12 M	1000 (1600)	Inspect
	Exhaust Muffler / Pipe	100 H	12 M	1000 (1600)	Inspect
	Drive Shafts	100 H	12 M	1000 (1600)	Remove and grease
D	Spark Plug	100 H	12 M	1000 (1600)	Inspect; replace as needed
XU	Wiring	100 H	12 M	1000 (1600)	Inspect for wear, routing, security; inspect connectors subjected to water, mud, etc.
XU D	Clutches (Drive and Driven)	100 H	12 M	1000 (1600)	Inspect; clean; replace worn parts
D	Wheel Bearings	100 H	12 M	1000 (1600)	Inspect; replace as needed
XU	Shock Seals	100 H	-	-	Visually inspect shock seals
XU D	Shocks (FOX)	-	12 M	1500 (2400)	See dealer for oil change/seal inspection.
	Ratcheting Cam Chain Tensioner	200 H	-	2000 (3200)	Check; replace as needed
D	Brake Fluid	200 H	24 M	2000 (3200)	Change every two years
	Suspension Bushings	250 H	24 M	2000 (3200)	Inspect; replace if necessary
	Spark Arrestor	300 H	36 M	3000 (4800)	Clean out
D	Valve Clearance	-	-	5000 (8000)	Inspect; adjust as needed

MAINTENANCE

ITEM		MAINTENANCE INTERVAL (WHICHEVER COMES FIRST)			REMARKS
		HOURS	CALENDAR	MILES (KM)	
XU	Coolant	-	60 M	-	Replace coolant
D	Toe Adjustment	-			Inspect periodically; adjust when parts are replaced
	Headlight Aim	-			Adjust as needed
<p>XU = Perform these procedures more often for vehicles subjected to severe use. D = Have an authorized dealer perform these services.</p> <p>*Service Note: Under extreme use, change demand drive fluid every 25 hours. "Extreme Use" is defined as constant ADC operation on hilly or mountainous terrain, or if ADC is the primary mode of AWD operation.</p>					

LUBRICATION RECOMMENDATIONS

Check and lubricate all components at the intervals outlined in the Periodic Maintenance Chart beginning on page 80, or more often under severe use, such as wet or dusty conditions. Items not listed in the chart should be lubricated at the general lubrication interval.

ITEM	LUBE	METHOD
Engine Oil	PS-4 5W-50 4-Cycle Oil	Add to proper level on dipstick. See page 85.
Brake Fluid	DOT 4 Brake Fluid	Maintain level between fill lines. See page 99.
Transmission Oil (Main Gearcase)	AGL Gearcase Lubricant & Transmission Fluid	See page 88.
Demand Drive Fluid (Front Gearcase)	Demand Drive Fluid	See page 89.
Prop Shaft	U-Joint Grease	Locate fittings and grease.

ENGINE OIL

Always check and change the oil at the intervals outlined in the Periodic Maintenance Chart. Always use the recommended engine oil. Always change the oil filter whenever changing oil.

⚠ WARNING

Vehicle operation with insufficient, deteriorated, or contaminated engine oil will cause accelerated wear and may result in engine seizure, accident and injury. Always perform the maintenance procedures as outlined in the Periodic Maintenance Chart.

OIL RECOMMENDATIONS

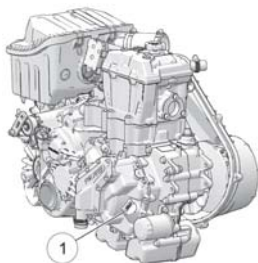
POLARIS recommends the use of POLARIS PS-4 5W-50 4-Cycle Oil or a similar oil. Refer to the Specifications section for capacities.

Oil may need to be changed more frequently if POLARIS PS-4 engine oil is not used. Follow the manufacturer's recommendations for ambient temperature operation. See the Polaris Products section for part numbers.

NOTICE

Mixing brands or using a non-recommended oil may cause serious engine damage. Always use the recommended oil. Never substitute or mix oil brands.

OIL CHECK



The oil dipstick and fill tube is located on the engine. Access the dipstick through the right rear wheel well.

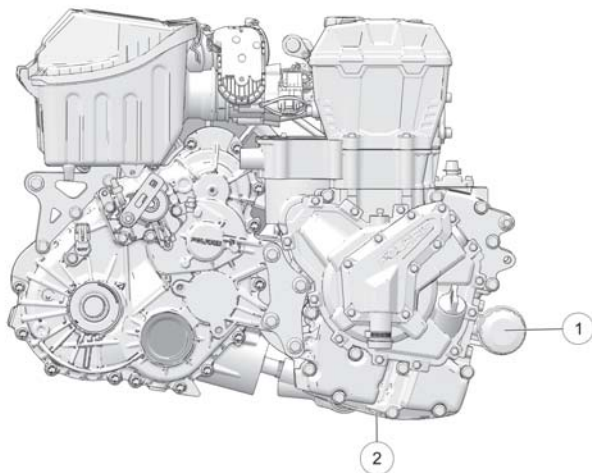
To check the oil, do the following:

1. Position the vehicle on a level surface.
2. Place the transmission in PARK.
3. Always clean away all dirt and debris from the dipstick area ① before removing the dipstick. Remove the dipstick. Wipe it dry with a clean cloth.

MAINTENANCE

4. Reinstall and tighten the dipstick.
5. Remove the dipstick and check the oil level.
6. Add the recommended fluid as needed. Maintain the oil level in the safe range between the FULL ② and ADD ③ marks. Do not overfill.
7. Reinstall and tighten the dipstick.

OIL AND FILTER CHANGE



Always check and change the oil at the intervals outlined in the Periodic Maintenance Chart.

The engine drain plug is located on the bottom of the crankcase. To change the oil and filter, do the following:

1. Position the vehicle on a level surface. Place the transmission in PARK. Apply the brakes.
2. Start the engine. Allow it to idle for two to three minutes. Stop the engine.
3. Clean the area around the drain plug.

CAUTION

The sealing surfaces on drain plug and crankcase should be clean and free of burrs, nicks or scratches.

4. Place a drain pan beneath engine crankcase and remove the drain plug.
5. Allow the oil to drain completely.

- Reinstall the sealing washer on the drain plug.

TIP

The sealing surfaces on drain plug and crankcase should be clean and free of burrs, nicks or scratches.

- Reinstall the drain plug. Torque to 12 ft. lbs. (16 Nm).
- Using a cap-style oil filter wrench, turn the filter counter-clockwise to remove it.
- Using a clean dry cloth, clean the filter sealing surface on the crankcase. Make sure the old filter o-ring is completely removed.
- Lubricate the o-ring on the new filter with a film of fresh engine oil. Check to make sure the oring is in good condition.
- Install the new filter and rotate it clockwise by hand until the filter gasket contacts the sealing surface, then turn it an additional 3/4 turn.
- Always clean away all dirt and debris from the dipstick area before removing the dipstick. Remove the dipstick (or the oil fill cap on the top of the engine) and fill the sump with two quarts (1.9 l) of recommended oil.
- Reinstall and tighten the dipstick.
- Make sure the transmission is in PARK. Apply the brakes.
- Start the engine. Allow it to idle for one to two minutes.
- Stop the engine. Inspect for leaks.
- Re-check the oil level on the dipstick and add oil as necessary to bring the level to the upper mark on the dipstick.
- Dispose of used filter and oil properly.

GEARCASES

GEARCASE SPECIFICATION CHART

GEARCASE	LUBRICANT	CAPACITY	FILL PLUG TORQUE	DRAIN PLUG/ LEVEL CHECK PLUG TORQUE
Transmission (Main Gearcase)	AGL Gearcase Lubricant & Transmission Fluid	41 oz. (1200 ml)	10-14 ft. lbs. (14-19 Nm)	10-14 ft. lbs. (14-19 Nm)
Demand Drive Unit (Front Gearcase)	Demand Drive Fluid	9.3 oz. (275 ml)	8-10 ft. lbs. (11-13.6 Nm)	11 ft. lbs. (15 Nm)

MAINTENANCE

TRANSMISSION (MAIN GEARCASE)

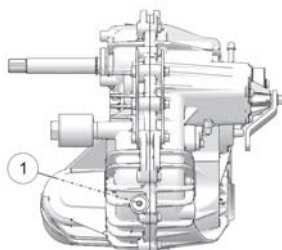
Always check and change the transmission oil at the intervals outlined in the Periodic Maintenance Chart. Maintain the oil level even with the bottom thread of the fill plug hole.

OIL CHECK

The fill plug is located on the rear of the gearcase. Maintain the fluid level at the bottom of the fill plug hole.

To check the transmission fluid, do the following:

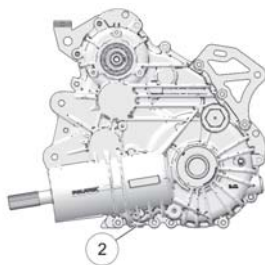
1. Position the vehicle on a level surface.
2. Remove the fill plug ①.
3. Check the fluid level.
4. Add the recommended fluid to the bottom of the fill plug hole. Do not overfill.
5. Reinstall the fill plug. Torque to specification.



FLUID CHANGE

The drain plug is located on the bottom of the gearcase. Access the drain plug through the hole in the skid plate.

1. Remove the fill plug ①.
2. Place a drain pan under the drain plug ②.
3. Remove the drain plug. Allow the fluid to drain completely.
4. Clean and reinstall the drain plug. Torque to specification.
5. Add the recommended fluid to the bottom of the fill plug hole. Do not overfill.
6. Reinstall the fill plug. Torque to specification.
7. Check for leaks. Discard used fluid properly.



FRONT GEARCASE (DEMAND DRIVE)

Always check and change the demand drive fluid at the intervals outlined in the Periodic Maintenance Chart. Maintain the oil level even with the bottom thread of the fill plug hole. Refer to the Gearcase Specifications Chart for recommended lubricants, capacities and torque specifications.

ADC Models: Change the front gearcase fluid every 25 hours if the ADC unit is exposed to extreme use. Extreme use includes any of the following:

- Operation in ADC mode for prolonged periods.
- Constant ADC operation on hilly or mountainous terrain.
- ADC is the primary mode of all-wheel-drive operation.

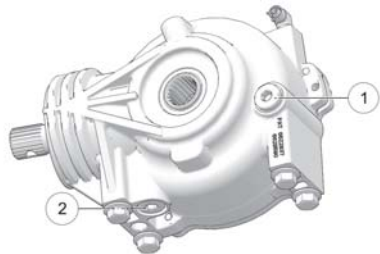
TIP

If the front gearcase makes excessive noise during ADC operation, change the demand drive fluid. If the noise continues, please see your dealer or other qualified service person for service.

OIL CHECK

The front gearcase fill plug ① is located on the right side of the front gearcase.

1. Position the vehicle on a level surface.
2. Remove the fill plug ①. Check the oil level.
3. Add the recommended oil as needed.
4. Reinstall the fill plug. Torque to specification.



OIL CHANGE

1. Support the vehicle securely with a jackstand.
2. Remove the front tire on the driver's side.
3. Remove the fill plug.
4. Place a drain pan under the drain plug ② on the bottom right-hand side.
5. Remove the drain plug. Drain the oil.
6. Clean and reinstall the drain plug. Torque to specification.
7. Add the recommended fluid to the bottom of the fill plug hole. Do not overfill.
8. Reinstall the fill plug. Torque to specification.
9. Check for leaks.

MAINTENANCE

10. Discard used oil properly.

SPARK PLUGS

SPARK PLUG RECOMMENDATIONS

Refer to the Specifications section for the recommended spark plug type for your vehicle. Always torque spark plugs to specification.

NOTICE

Using non-recommended spark plugs can result in serious engine damage. Always use POLARIS-recommended spark plugs or their equivalent.

SPARK PLUG GAP/TORQUE

ELECTRODE GAP	NEW OR USED PLUG TORQUE
0.7 – 0.9 mm	10 ft. lbs. (13.5 mm)

SPARK PLUG INSPECTION

Spark plug condition is indicative of engine operation. The spark plug firing end condition should be read after the engine is warmed up and the vehicle is driven at higher speeds. Immediately check the spark plug for correct color.

CAUTION

A hot exhaust system and engine can cause burns. Wear protective gloves when removing a spark plug for inspection.

To inspect the spark plugs, do the following:

1. Lift the cargo box to access the spark plugs.
2. Remove the spark plug cap. Using the spark plug wrench provided in the tool kit, remove the plug by rotating it counter-clockwise.
3. Reverse the procedure for spark plug installation.
4. Torque to specification.

NORMAL PLUG

The normal insulator tip is gray, tan or light brown. There will be few combustion deposits. The electrodes are not burned or eroded. This indicates the proper type and heat range for the engine and the service.

The tip should not be white. A white insulator tip indicates overheating, caused by use of an improper spark plug or incorrect throttle body adjustments.

WET FOULED PLUG

The wet fouled insulator tip is black. A damp oil film covers the firing end. There may be a carbon layer over the entire nose. Generally, the electrodes are not worn. General causes of fouling are excessive oil, use of non-recommended oil or poor fuel quality.

COOLING SYSTEM

The engine coolant level is controlled or maintained by the recovery system. The recovery system components are the overflow bottle, radiator filler neck, radiator pressure cap and connecting hose.

As coolant operating temperature increases, the expanding (heated) excess coolant is forced out of the radiator, past the pressure cap, and into the overflow bottle. As engine coolant temperature decreases, the contracting (cooled) coolant is drawn back up from the tank, past the pressure cap, and into the radiator.

Some coolant level drop on new vehicles is normal as the system is purging itself of trapped air. Observe coolant levels and maintain as recommended by adding coolant to the overflow bottle.

ADDING OR CHANGING COOLANT

POLARIS recommends the use of POLARIS Antifreeze 50/50 Premix. This antifreeze is already premixed and ready to use. Do not dilute with water.

To ensure that the coolant maintains its ability to protect the engine, we recommend that the system be completely drained every five (5) years and fresh Antifreeze 50/50 Premix added.

Any time the cooling system has been drained for maintenance or repair, replace the coolant with fresh Antifreeze 50/50 Premix. If the recovery bottle has run dry, the level in the radiator should be inspected. Add coolant as needed.

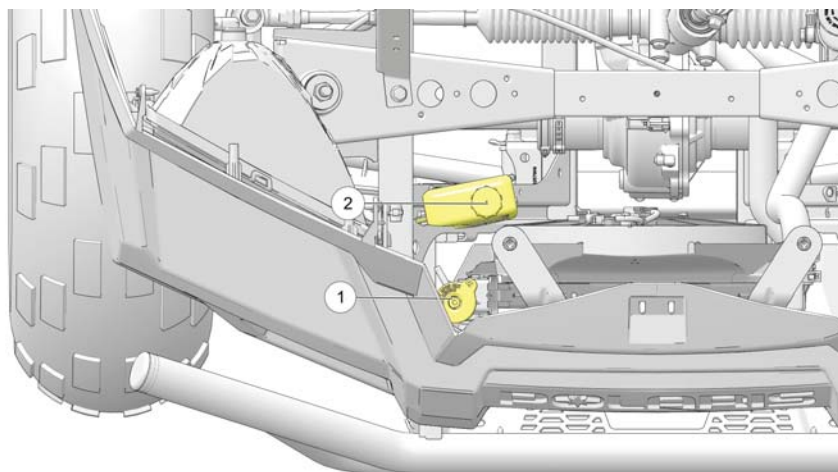
RADIATOR AND COOLING FAN

Always check and clean the screen and radiator fins at the intervals outlined in the Periodic Maintenance Chart. Do not obstruct or deflect air flow through the radiator by installing unauthorized accessories in front of the radiator or behind the cooling fan. Interference with the radiator air flow can lead to overheating and consequent engine damage.

NOTICE

Washing the vehicle with a high-pressure hose could damage the radiator fins and impair the radiator's effectiveness. Using a high-pressure system is not recommended.

RADIATOR COOLANT LEVEL



Always check and clean the screen and radiator fins at the intervals outlined in the Periodic Maintenance Chart. Do not obstruct or deflect air flow through the radiator by installing unauthorized accessories in front of the radiator or behind the cooling fan. Interference with the radiator air flow can lead to overheating and consequentially, engine damage.

1. Lift the hood.

CAUTION

Escaping steam can cause burns. Never remove the pressure cap while the engine is warm or hot. Always allow the engine to cool before removing the pressure cap.

2. Slowly remove the radiator cap ①.
3. View the coolant level through the opening.
4. Use a funnel and slowly add coolant as needed.

TIP

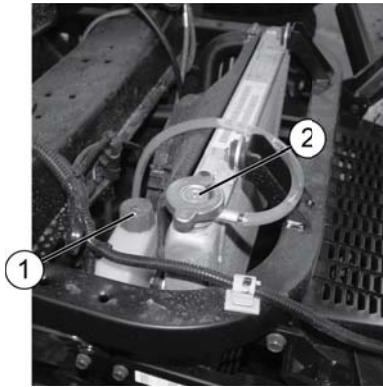
This procedure is required only if the cooling system has been drained for maintenance and/or repair. But if the overflow bottle has run dry, the level in the radiator should also be inspected.

5. Reinstall the pressure cap. Use of a non-standard pressure cap will not allow the recovery system to function properly. Your POLARIS dealer can provide the correct replacement part.

OVERFLOW BOTTLE COOLANT LEVEL

Always check and change the coolant at the intervals outlined in the Periodic Maintenance Chart. Maintain the coolant level between the minimum and maximum marks on the bottle (when the fluid is cool).

1. Position the vehicle on a level surface.
2. Lift the hood. View the coolant level in the overflow bottle ②.



3. If the coolant level is below the safe operating range, lift the hood and locate the overflow bottle lid. Remove the cap and use a funnel to add coolant through the filler opening. Reinstall the cap.

TIP

If coolant must be added often, or if the overflow bottle runs completely dry, there may be a leak in the system. Your dealer can inspect the cooling system.

POLARIS VARIABLE TRANSMISSION (PVT) SYSTEM

WARNING

Failure to comply with the instructions in this warning can result in severe injury or death. Do not modify any component of the PVT system. Doing so may reduce its strength so that a failure may occur at a high speed. The PVT system has been precision balanced. Any modification will cause the system to be out of balance, creating vibration and additional loads on components.

The PVT system rotates at high speeds, creating large amounts of force on clutch components. As the owner, you have the following responsibilities for your own safety and the safety of others:

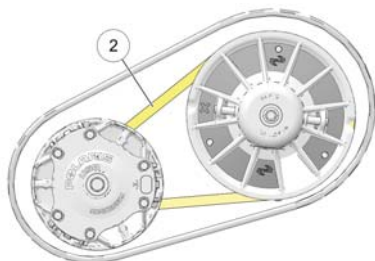
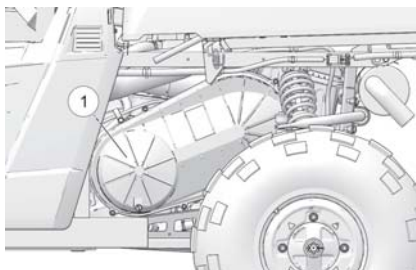
- Always follow all recommended maintenance procedures. Always look for and remove debris inside and around the clutch and vent system when replacing the belt.
- See your dealer or other qualified service person as outlined in the owner's manual.
- This PVT system is intended for use on POLARIS products only. Do not install it in any other product.
- Always make sure the PVT housing is securely in place during operation.

BELT REPLACEMENT/DEBRIS REMOVAL

If a belt fails, always clean any debris from the clutch air duct and from the clutch and engine compartments when replacing the belt.

WARNING

Failure to remove ALL debris when replacing the belt could result in vehicle damage, loss of control and severe injury or death.



To replace the belt, do the following:

1. Position the vehicle on a level surface. Block the wheels to prevent vehicle movement. Place the transmission in neutral.

- Lift the cargo box.
- Remove the clutch cover ① using a 3/8" socket with ratcheting wrench and extension.
- Pull the bottom of the cover outward and over the suspension to remove it.
- Make sure the cover gasket does not fall out of the groove when removing the cover.
- Squeeze the belt ② together so that it submerges further into the driven clutch, creating slack in the belt between the clutches.
- Remove the belt by using the slack to pull part of the belt off the driven clutch.
- Rotate the driven clutch by hand until the belt is completely off.
- Slide the front of the belt out from between the drive clutch and inner clutch cover to completely remove it.
- Remove all debris wrapped in and around the PVT system.
- Remove all debris from the entire clutch air duct passage.
- Check for signs of damage to seals on the transmission and engine. If any seals appear to be damaged, your vehicle requires prompt service. Your POLARIS dealer can assist.

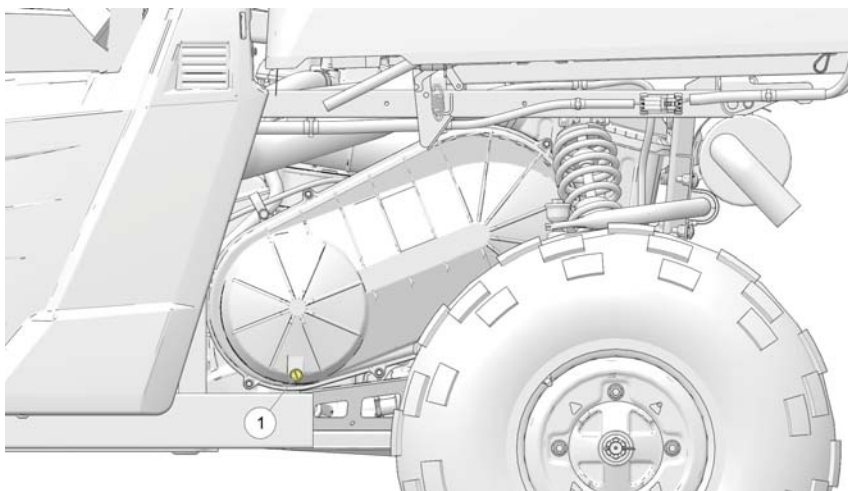
TIP

Belt slip is responsible for creating excessive heat that destroys belts, wears clutch components and causes outer clutch covers to fail. Switch to low range while operating at slower speeds to extend the life of the PVT components (belt, cover, etc.).

- To install a belt, place one end of the belt over the driving clutch. Route the belt over the top of the driven clutch and down into the groove of the clutch to allow slack in the belt. Rotate the driven clutch by hand until the belt falls into place.
- Reinstall the clutch cover in the reverse order of removal, fitting the top of the cover into place, then working the bottom of the cover over the suspension.
- Install all clutch cover screws. Torque to 4-5 ft. lbs. (5.5-6.5 Nm).

POLARIS VARIABLE TRANSMISSION (PVT) SYSTEM PVT DRYING

MAINTENANCE



There may be some instances when water is ingested into the PVT system. Use the following instructions to dry it out before operating:

1. Position the vehicle on a level surface.
2. Remove the red drain plug on the outer clutch cover. Allow the water to drain completely. Reinstall the drain plug.
3. Place the transmission in PARK.
4. Start the engine.
5. Apply varying throttle for 10-15 seconds to expel the moisture and air-dry the belt and clutches. Do not hold the throttle wide open for more than five (5) seconds.
6. Allow the engine RPM to settle to idle speed. Apply the brakes. Shift the transmission to the lowest available range.
7. Test for belt slippage. If the belt slips, repeat the process.
8. Your vehicle requires service as soon as possible. Your POLARIS dealer can assist.

VEHICLE IMMERSION

WARNING

If your vehicle becomes immersed, major engine damage can result if the machine is not thoroughly inspected. Take the vehicle in for service before starting the engine. Your POLARIS dealer can provide this service.

If it's impossible to take your RANGER to a dealer before starting it, follow the steps outlined below:

1. Move the vehicle to dry land or at the very least, to water below the footrests.
2. Dry any water present in the air box. Filter replacement is required if water is present.
3. Remove the spark plugs. Turn the engine over several times using the electric start.
4. Dry the spark plugs and reinstall, or replace with new plugs.
5. Attempt to start the engine. If necessary, repeat the drying procedure.
6. Take the vehicle in for service as soon as possible, whether you succeed in starting it or not. Your POLARIS dealer can provide the required service.
7. If water has been ingested into the PVT follow the procedure for drying.

FILTER SYSTEMS

AIR FILTER

Always change the air filter at the intervals outlined in the Periodic Maintenance Chart.

1. Lift the cargo box.
2. Clean all dirt and debris from the air box area.
3. Unlatch the two (2) cover clips and carefully remove the air box cover. Inspect the seal between the cover and air box to ensure the seal is not torn and has been maintaining a proper seal.
4. Inspect the air filter and air box for dirt, debris, oil or water. If the filter needs to be replaced, remove the worm gear clamp from the filter neck with a flat-blade screwdriver or 6mm socket. Slide the filter rearward to remove it from the boot, then lift it straight upward and out of the air box.
5. With the filter removed, clean the intake boot and air box thoroughly and wipe well with a clean, dry cloth.

NOTICE

Dirt or debris in the intake boot could result in severe engine damage. Always clean all dirt and debris from the intake boot before installing the filter.

MAINTENANCE

6. Reinstall the air filter (if clean) or install a new air filter (if soiled). Do not attempt to clean the air filter.

NOTICE

Use of a non-POLARIS-approved air filter may cause engine damage. Always use a POLARIS-approved replacement filter. See page 92 for the part numbers of POLARIS products.

7. Make sure the filter is fully seated on the intake boot and that there is no gap between the filter and boot after installation. Tighten the worm gear clamp to 24 in. lbs. (2.7 Nm).
8. Reinstall the air box cover. Make sure both hinges are fully inserted. Secure the cover clips.

SPARK ARRESTER

WARNING

Failure to heed the following warnings while servicing the spark arrester could result in serious injury or death.

- Do not perform service on the spark arrester while the system is hot. Exhaust system temperatures can reach 1000° F. Allow components to cool sufficiently before proceeding.
- Remove any combustible materials from the area.
- Wear eye protection and gloves.
- Do not stand behind or in front of the vehicle while purging.
- Never run the engine in an enclosed area. Exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness or death in a very short time.
- Never operate without the spark arrester.
- Never go under the vehicle while it's inclined.

Use the following procedure to periodically purge accumulated carbon from the exhaust pipe.

1. Remove the arrester clean-out plug located on the bottom of the muffler.
2. Place the transmission in PARK.
3. Start the engine.
4. Purge accumulated carbon from the system by momentarily revving the engine several times.
5. If carbon is expelled, cover or plug the exhaust outlet and rap on the pipe around the clean-out plug while revving the engine several more times.
6. If particles are still suspected to be in the muffler, elevate the rear of the vehicle one foot higher than the front. Block the wheels.

7. Repeat steps 4 and 5 until no more particles are expelled when the engine is revved.
8. Stop the engine. Allow the arrester to cool.
9. Reinstall the arrester plug and remove the outlet cover or plug.

BRAKES

The front and rear brakes are hydraulic disc type brakes. Press down on the brake pedal to engage the brakes.

BRAKE FLUID

Inspect the brake system routinely. Inspect the level of the brake fluid before each operation.

WARNING

After opening a bottle of brake fluid, always discard any unused portion. Never store or use a partial bottle. Brake fluid is hygroscopic, meaning it rapidly absorbs moisture from the air. The moisture causes the boiling temperature of the brake fluid to drop, which can lead to early brake fade and the possibility of accident or severe injury.

Change the brake fluid every two years and any time the fluid becomes contaminated, the fluid level is below the minimum, or if the type and brand of the fluid in the reservoir are unknown.


1. Position the vehicle on a level surface.
2. View the brake fluid level at the reservoir in the driver's side wheel well. The level should be between the upper (MAX) and lower (MIN) level lines.
3. If the fluid level is lower than the upper level line, open the hood and add brake fluid to the upper (MAX) line.
4. Apply the brake forcefully for a few seconds and check for fluid leakage around the fittings.

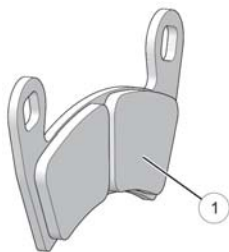
MAINTENANCE

BRAKE INSPECTION

WARNING

Do not apply WD-40 or any petroleum product to brake discs. These types of products are flammable and may also reduce the friction between the brake pad and caliper.

1. Check the brake system for fluid leaks.
2. Check the brake pedal for excessive travel or a spongy feel.
3. Check the friction pads for wear, damage and looseness.
4. Check brake discs for signs of cracks, excessive corrosion, warping or other damage. Clean any grease using an approved brake cleaner or alcohol.
5. Inspect the brake disc spline and pad wear surface  for excessive wear. Change pads when worn to 0.030" (0.762 mm).



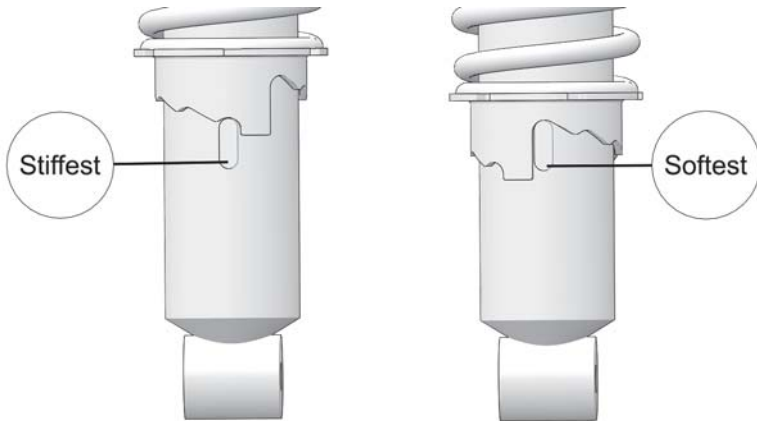
STEERING WHEEL INSPECTION

Check the steering wheel for specified freeplay and smooth operation at the intervals outlined in the Periodic Maintenance Chart section.

1. Position the vehicle on level ground.
2. Lightly turn the steering wheel left and right.
3. There should be 0.8"-1.0" (20-25 mm) of freeplay.
4. If there is excessive freeplay or strange noises, or the steering feels rough or "catchy," have the steering system inspected by an authorized dealer.

SUSPENSION ADJUSTMENT

Adjust the front and rear shock absorber springs by rotating the adjustment cam either clockwise or counter-clockwise to increase or decrease spring tension.



Always heed the following rules if you make adjustments to this suspension.

- Always return the suspension to the lowest (softest) setting after the load is removed from the vehicle. The increased suspension height will negatively impact vehicle stability when operating without a load.
- Always apply the same adjustment setting to both rear wheels.
- Never operate the vehicle on the highest (stiffest) or second highest preload settings without a total combined payload in the vehicle of 450 lbs. (204 kg) or more. Payload includes the driver, approved accessories and cargo. Never exceed the stated load capacity for this vehicle.

TIRES

⚠ WARNING

Operating your vehicle with worn tires will increase the possibility of skidding, loss of control and an accident, which could result in serious injury or death.

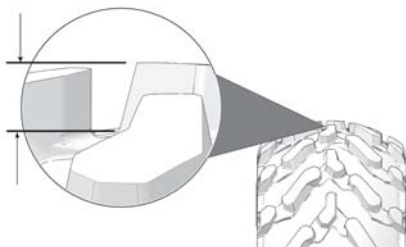
Always replace tires when the tread depth measures 1/8" (3 mm) or less.

Improper tire inflation or the use of non-standard size or type of tires may adversely affect vehicle handling, which could result in vehicle damage or personal injury. Always maintain proper tire pressure. Always use POLARIS approved size and type of tires for this vehicle when replacing tires.

MAINTENANCE



TIRE TREAD DEPTH

Always replace tires when tread depth is worn to 1/8" (3 mm) or less.



AXLE AND WHEEL NUT TORQUE SPECIFICATIONS

Inspect the following items occasionally for tightness, and if they've been loosened for maintenance service. Do not lubricate the stud or the lug nut.

Lug Nut (Aluminum Wheels)		Front and Rear	120 ft-lbs (163 Nm)
2-Piece Flange Nut (Steel Wheels)		Front and Rear	60 ft-lbs (81 Nm)
Spindle Nut		Front	75 ft. lbs. (102 Nm)
Hub Retaining Nut		Rear	110 ft. lbs. (149 Nm)

WHEEL REMOVAL

1. Position the vehicle on a level surface.
2. Place the transmission in PARK. Stop the engine.
3. Loosen the wheel nuts slightly.
4. Elevate the side of the vehicle by placing a suitable stand under the frame.
5. Remove the wheel nuts and washers. Remove the wheel.

WHEEL INSTALLATION

1. Place the transmission in PARK.

2. Place the wheel on the hub with the valve stem toward the outside and rotation arrows on the tire pointing toward forward rotation.

 **WARNING**

Improperly installed wheels can adversely affect tire wear and vehicle handling, which can result in serious injury or death. Always ensure that all nuts are torqued to specification. Do not service axle nuts that have a cotter pin installed. Your dealer can assist.

3. Attach the wheel nuts and washers and finger-tighten.
4. Carefully lower the vehicle to the ground.
5. Torque the wheel nuts to specification.

MAINTENANCE

LIGHTS

Poor lighting can result in reduced visibility when driving. Headlight and taillight lenses become dirty during normal operation. Clean lights frequently and replace burned out lamps promptly. Do not operate this vehicle at night or in low light conditions until the headlight is replaced. Always make sure lights are adjusted properly for best visibility.

When servicing a halogen lamp, don't touch the lamp with bare fingers. Oil from your skin leaves a residue, causing a hot spot that will shorten the life of the lamp.

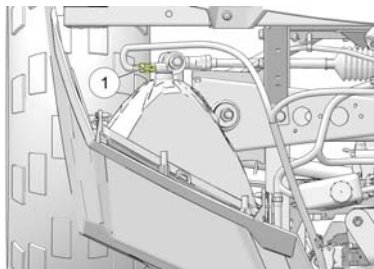
HEADLIGHT LAMP REPLACEMENT

CAUTION

Hot components can cause burns to skin. Allow lamps to cool before servicing.

To replace the headlight lamp, do the following:

1. Access the headlamp wiring harnesses through the front wheel wells.
2. Unplug the headlamp from the wiring harness. Be sure to pull on the connector, not on the wiring.
3. Turn the lamp counter-clockwise to remove it.
4. Install the new lamp.

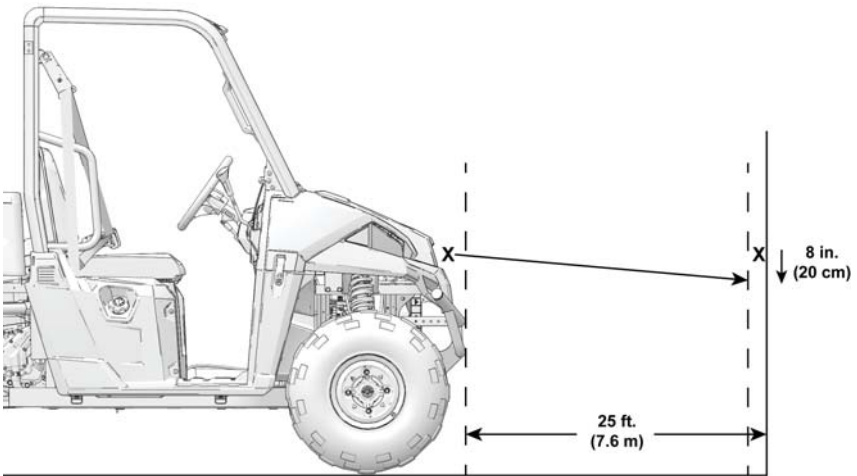


TIP

Make sure the tab on the lamp locates properly in the housing.

5. Reinstall the harness assembly into the headlight assembly.

HEADLIGHT BEAM ADJUSTMENT



To adjust the headlight beam, do the following:

1. Place the vehicle on a level surface with the headlight approximately 25 ft. (7.6 m) from a wall.
2. Measure the distance from the floor to the center of the headlight and make a mark on the wall at the same height.
3. Apply the brakes. Start the engine. Turn on the headlights.
4. Observe the headlight aim. The most intense part of the headlight beam should be aimed 8" (20 cm) below the mark placed on the wall. Include the weight of a rider on the seat while performing this step.
5. If a headlight needs adjustment, locate the adjustment screw at the back of the headlight.
6. Loosen the screw, adjust the headlight, and tighten the screw.
7. Repeat steps 4-6 until the lamp is properly adjusted.

BRAKE LIGHTS

When the brake pedal is depressed, the brake light comes on. Check the brake light before each ride.

To check the brake lights, do the following:

1. Turn the key to the ON position.
2. Depress the brake pedal. The brake light should come on after about 10mm (0.4 in.) of pedal travel. If the light doesn't come on, check the bulb.

MAINTENANCE

FUSES

If the engine stops or will not start, or if you experience other electrical failures, a fuse may need replacement. Locate and correct any short circuits that may have caused the blown fuse, then replace the fuse. Raise the passenger seat to access the fuses. Spare fuses are provided in the fuse box. The power steering fuse (if equipped) is located on the power steering wiring harness near the fuse box.

If you suspect that a fuse or relay may not be working properly, your dealer can assist.

FUSE SIZE	FEATURE SUPPORTED
10A	Brake Light
10A	Fuel Pump
10A	Drive System
20A	Accessories, 12V Power Receptacle
20A	Engine Control Module
20A	Lights
30A	Power Steering (if equipped)

BATTERY

WARNING

Battery electrolyte is poisonous. It contains sulfuric acid. Serious burns can result from contact with skin, eyes or clothing.

Antidote:

External: Flush with water.

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

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

Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in an enclosed space. Always shield eyes when working near batteries. KEEP OUT OF REACH OF CHILDREN.

Your vehicle may have either a sealed battery, which requires little maintenance, or a conventional battery. A sealed battery can be identified by its flat covers on the top of the battery. A conventional battery has six filler caps on the top of the battery.

Always keep battery terminals and connections free of corrosion. If cleaning is necessary, remove the corrosion with a stiff wire brush. Wash with a solution of

one tablespoon baking soda and one cup water. Rinse well with tap water and dry off with clean shop towels. Coat the terminals with dielectric grease or petroleum jelly. Be careful not to allow cleaning solution or tap water into a conventional battery.

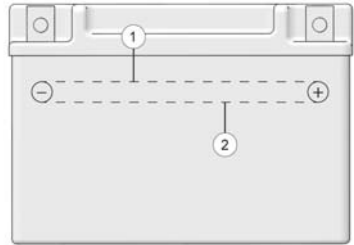
⚠ WARNING

Improperly connecting or disconnecting battery cables can result in an explosion and cause serious injury or death. When removing the battery, always disconnect the negative (black) cable first. When reinstalling the battery, always connect the negative (black) cable last.

BATTERY FLUID (CONVENTIONAL BATTERY)

A poorly maintained battery will deteriorate rapidly. Check the battery fluid level often. Maintain the fluid level between the upper ① and lower level ② marks.

Add only distilled water. Tap water contains minerals that are harmful to a battery.



BATTERY REMOVAL

⚠ WARNING

Improperly connecting or disconnecting battery cables can result in an explosion and cause serious injury or death. When removing the battery, always disconnect the negative (black) cable first. When reinstalling the battery, always connect the negative (black) cable last.

To remove the battery, do the following:

1. Remove the storage bin under the passenger seat to access the battery.
2. On conventional batteries, remove the battery vent tube.
3. Disconnect the black (-) battery cable first. Disconnect the red (+) battery cable last.
4. Remove the battery hold-down strap.
5. Lift the battery out of the vehicle. Be careful not to tip a conventional battery sideways, which could spill electrolyte.

NOTICE

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

BATTERY INSTALLATION

Using a new battery that has not been fully charged can damage the battery and result in a shorter life. It can also hinder vehicle performance. Follow the battery charging instructions on page 109 before installing the battery.

An optional extreme use battery may be available for your model. If the performance of the factory-installed battery is inadequate due to operation in extreme cold or due to extended use of multiple electrical accessories, your dealer can assist. Your dealer can provide any installation procedures that may differ for an extreme use battery.

1. Ensure that the battery is fully charged.
2. Place the battery in the battery holder.
3. On conventional batteries, install the battery vent tube (sealed batteries do not have a vent tube). The vent tube must be free of obstructions and securely installed. Route the tube away from the frame and vehicle body to prevent contact with electrolyte.

WARNING

Battery gases could accumulate in an improperly installed vent tube and cause an explosion, resulting in serious injury or death. Always ensure that the vent tube is free of obstructions and is securely installed as recommended.

4. Coat the terminals with dielectric grease or petroleum jelly.
5. Connect and tighten the red (positive) cable first.
6. Connect and tighten the black (negative) cable last.
7. Install the battery hold-down strap and tighten the screws.
8. Verify that cables are properly routed.
9. Reinstall the seat.

BATTERY STORAGE

Whenever the vehicle is not used for a period of three months or more, remove the battery from the vehicle, ensure that it's fully charged, and store it out of the sun in a cool, dry place. Check battery voltage each month during storage and recharge as needed to maintain a full charge. See page 109.

TIP

Battery charge can be maintained by using a POLARIS Battery Tender charger or by charging about once a month to make up for normal self discharge. Battery Tender can be left connected during the storage period, and will automatically charge the battery if the voltage drops below a predetermined point.

BATTERY CHARGING (CONVENTIONAL BATTERY)

1. Remove the battery from the vehicle to prevent damage from leaking or spilled electrolyte during charging.
2. Charge the battery with a charging output no larger than 1/10 of the battery's amp/hr rating. Charge as needed to raise the specific gravity to 1.270 or greater.
3. Reinstall the battery. Make sure the positive terminal is toward the front of the vehicle.

BATTERY CHARGING (SEALED BATTERY)

The following battery charging instructions apply only to the installation of a sealed battery. Read all instructions before proceeding with the installation of this battery.

The sealed battery is already filled with electrolyte and has been sealed and fully charged at the factory. Never pry the sealing strip off or add any other fluid to this battery.

The single most important thing about maintaining a sealed battery is to keep it fully charged. Since the battery is sealed and the sealing strip cannot be removed, you must use a voltmeter or multimeter to measure DC voltage.

WARNING

An overheated battery may explode, causing severe injury or death. Always watch charging times carefully. Stop charging if the battery becomes very warm to the touch. Allow it to cool before resuming charging.

For a refresh charge, follow all instructions carefully.

1. Check the battery voltage with a voltmeter or multimeter. A fully charged battery will register 12.8 V or higher.

MAINTENANCE

- If the voltage is less than 12.8 volts, recharge the battery at 1.2 amps or less until battery voltage is 12.8 or greater.

TIP

When using an automatic charger, refer to the charger manufacturer's instructions for recharging. When using a constant current charger, use the guidelines below for recharging.

Always verify battery condition before and 1-2 hours after the end of charging.

STATE OF CHARGE	VOLTAGE	ACTION	CHARGE TIME*
*(USING CONSTANT CURRENT CHARGER @ STANDARD AMPS SPECIFIED ON TOP OF BATTERY)			
100%	12.8-13.0 volts	None, check at 3 mos. from date of manufacture	None required
75%-100%	12.5-12.8 volts	May need slight charge, if no charge given, check in 3 months	3-6 hours
50%-75%	12.0-12.5 volts	Needs charge	5-11 hours
25%-50%	11.5-12.0 volts	Needs charge	At least 13 hours, verify state of charge
0%-25%	11.5 volts or less	Needs charge with desulfating charger	At least 20 hours

CLEANING AND STORAGE

WASHING THE VEHICLE

Keeping your POLARIS vehicle clean will not only improve its appearance but it can also extend the life of various components.

NOTE

High water pressure may damage components. POLARIS recommends washing the vehicle by hand or with a garden hose, using mild soap.

NOTE

Certain products, including insect repellents and chemicals, will damage plastic surfaces. Do not allow these types of products to contact the vehicle.

The best and safest way to clean your POLARIS vehicle is with a garden hose and a pail of mild soap and water.

1. Use a professional-type washing cloth, cleaning the upper body first and the lower parts last.
2. Rinse with clean water frequently.
3. Dry surfaces with a chamois to prevent water spots.

WASHING TIPS

- Avoid the use of harsh cleaners, which can scratch the finish.
- Do not use a power washer to clean the vehicle.
- Do not use medium to heavy duty compounds on the finish.
- Always use clean cloths and pads for cleaning and polishing. Old or reused cloths and pads may contain dirt particles that will scratch the finish.
- Grease all zerk fittings immediately after washing. Allow the engine to run for a while to evaporate any water that may have entered the engine or exhaust system.

If a high pressure water system is used for cleaning (not recommended), exercise extreme caution. The water may damage components and could remove paint and labels. Avoid directing the water stream at the following items:

- Wheel bearings
- Radiator
- Transmission seals
- Brakes
- Cab and body panels
- Labels and decals
- Electrical components and wiring
- Air intake components

If an informational or graphic label becomes illegible or comes off, contact your POLARIS dealer to purchase a replacement. Replacement safety labels are provided by POLARIS at no charge.

POLISHING THE VEHICLE

POLARIS recommends the use of common household aerosol furniture polish for polishing the finish on your POLARIS vehicle. Follow the instructions on the container.

POLISHING TIPS

- Avoid the use of automotive products, some of which can scratch the finish of your vehicle.
- Always use clean cloths and pads for cleaning and polishing. Old or reused cloths and pads may contain dirt particles that will scratch the finish.

MAINTENANCE

CHROME WHEEL CARE (IF EQUIPPED)

Proper maintenance will protect chrome wheels from corrosion, preserve wheel life and ensure a “like new” appearance for many years. Chrome wheels exposed to road salt (or salt in the air in coastal areas) are more susceptible to corrosion if not properly cleaned. Clean chrome wheels more often if they’re exposed to salt or other corrosive elements.

1. Wash chrome wheels frequently. Use a mild detergent. Never use abrasive cleaners on plated or painted surfaces.
2. Rinse well with clear water. Soap, detergents, salt, dirt, mud and other elements can cause corrosion.
3. Polish the clean chrome wheels periodically. Use an automotive grade chrome polish.
4. Routinely and liberally apply a weather resistant wax to each polished chrome wheel. Choose a product suitable for chrome finishes. Read and follow the product labels and instructions.

REMOVING CORROSION

If light rust is found on the chrome finish, use steel wool (#0000-OTT grade) to remove it. Gently rub the affected areas with the steel wool until the corrosion has been removed. Clean and polish the wheel as outlined above.

STORAGE TIPS

NOTICE

Starting the engine during the storage period will disturb the protective film created by fogging and damage could occur. Never start the engine during the storage period.

CLEAN THE EXTERIOR

Make any necessary repairs and clean the vehicle as recommended.

STABILIZE THE FUEL

1. Fill the fuel tank.
2. Add POLARIS Carbon Clean Fuel Treatment or POLARIS Fuel Stabilizer or equivalent fuel treatments or stabilizers. Follow the instructions on the container for the recommended amount. Carbon Clean removes water from fuel systems, stabilizes fuel and removes carbon deposits from pistons, rings, valves and exhaust systems.
3. Allow the engine to run for 15-20 minutes to allow the stabilizer to disperse through the entire fuel delivery system.

OIL AND FILTER

Change the oil and filter. See the Engine Oil section.

AIR FILTER / AIR BOX

Replace the air filter. See Maintenance Chapter. Clean the air box.

FLUID LEVELS

Inspect the fluid levels. Add or change fluids as recommended in the Periodic Maintenance Chart.

- Demand drive fluid (front gearcase)
- Rear gearcase fluid (if equipped)
- Transmission fluid
- Brake fluid (change every two years and any time the fluid looks dark or contaminated)
- Coolant (test strength/fill)

INSPECT AND LUBRICATE

Inspect all cables and lubricate all areas of the vehicle as recommended in the Periodic Maintenance Chart.

FOG THE ENGINE

1. Treat the fuel system with POLARIS Carbon Clean or other equivalent fuel treatment. Follow the instructions on the container. Start the engine. Allow it to idle for several minutes so the Carbon Clean reaches the injectors. Stop the engine.
2. Remove the spark plugs and add 2-3 tablespoons of engine oil. To access the plug holes, use a section of clear 1/4" hose and a small plastic squeeze bottle filled with the pre-measured amount of oil. *Do this carefully! If you miss the plug holes, oil will drain from the spark plug cavities into the hole at the front of the cylinder head, and appear to be an oil leak.*
3. Reinstall the spark plugs. Torque to specification.
4. Apply dielectric grease to the inside of each spark plug cap. *Do not reinstall the cap onto the plug at this step.*
5. Turn the engine over several times. Oil will be forced in and around the piston rings and ring lands, coating the cylinder with a protective film of fresh oil.
6. Reinstall the spark plug caps.
7. If POLARIS fuel system additive is not used, fuel tank, fuel lines, and injectors should be completely drained of gasoline.

MAINTENANCE

BATTERY MAINTENANCE

See and for storage and charging procedures.

STORAGE AREA / COVERS

Be sure the storage area is well ventilated. Cover the vehicle with a genuine POLARIS cover. Do not use plastic or coated materials. They do not allow enough ventilation to prevent condensation, and may promote corrosion and oxidation.

REMOVAL FROM STORAGE

1. Check the battery electrolyte level and charge the battery if necessary. Install it in the vehicle. Make sure the battery vent hose is routed properly and that it's not pinched or restricted in any way.
2. Make sure spark plugs are tight.
3. Fill the fuel tank with fuel.
4. Check all the points listed in the Daily Pre-Ride Inspection. *Tightness of the bolts, nuts and other fasteners should be checked by an authorized dealer or other qualified service facility.*
5. Lubricate at the intervals outlined in the Periodic Maintenance Chart.

WARNING

Engine exhaust contains poisonous carbon monoxide and can cause loss of consciousness or death. Never run an engine in an enclosed area.

TRANSPORTING THE VEHICLE

Follow these procedures when transporting the vehicle.

1. Apply the brakes.
2. Place the transmission in PARK. Stop the engine.
3. Slowly release the brake pedal and make sure the transmission is in PARK before exiting the vehicle. Engage the park brake.
4. Remove the key to prevent loss during transporting.
5. Secure the fuel cap (if equipped) and seat. Ensure that the seat is attached correctly and is not loose.

WARNING

Cargo and other loose vehicle parts may fly off while transporting this vehicle. Secure or remove all cargo, and inspect the unit for loose parts prior to transport.

6. Always tie the frame of the vehicle to the transporting unit securely with suitable straps or rope. Do not attach tie straps to the front control arm bolt pockets.

SPECIFICATIONS

RANGER XP® 900 SPECIFICATIONS

	RANGER XP 900
Maximum Weight Capacity (includes weight of operator, passenger, cargo, accessories)	1500 lbs. (681 kg) (4X4) 1100 lbs. (499 kg) (4X4 sold in California) 1275 lbs. (578 kg) (4X4 Hunter) 875 lbs. (397 kg) (4X4 Hunter)
Dry Weight	1360 lbs. (617 kg) 1640 lbs. (744 kg) (Hunter)
Test GVW - Rollover Protection System (ROPS)	3030 lbs. (1374 kg) per OSHA 29 CFR 1928.53
Fuel Capacity	10 gal. (37.8 l)
Engine Oil Capacity	2.5 qts. (2.4 l)
Coolant Capacity	5 qts. (4.75 l)
Overall Length	116 in. (295 cm) 120 in. (305 cm) (Hunter)
Overall Width	60 in. (152.4 cm) (at box) 58 in. (147.3 cm) (at tires) 63.5 in. (161.3 cm) (Hunter, at rock guards/nerf bars)
Overall Height	76 in. (193 cm) 77 in. (195.6 cm) (Hunter)
Wheelbase	81 in. (205.7 cm)
Cargo Box Dimensions (Inside)	36.5 x 54 x 11.5 in. (93 x 137 x 29 cm)
Ground Clearance	12 in. (30.5 cm)
Min. Turning Radius	161 in. (409 cm)
Towing Capacity	2000 lbs. (907 kg)
Hitch Tongue Capacity	150 lbs. (68 kg)
Max. Cargo Box Load	1000 lbs. (454 kg) 600 lbs. (272 kg) (Models sold in California)

SPECIFICATIONS

	RANGER XP 900
Engine	4-Stroke DOHC Twin Cylinder
Displacement	875 cc
Bore x Stroke (mm)	93 mm x 64.4 mm
Alternator Output	660 W @ 3000 RPM
Compression Ratio	10.5:1
Starting System	Electric
Fuel System	Electronic Fuel Injection
Ignition Timing	ECU Controlled 32° +/- 2° @ 5000 RPM
Spark Plug/ Gap	NGK MR7F / .031" (0.7-0.9 mm)
Lubrication System	Wet Sump
Cooling	Liquid
Front Suspension	Dual A-arm w/10 in. (25.4 cm) of travel
Rear Suspension	Independent w/10 in. (25.4 cm) of travel
Ignition System	Digital CDI
Driving System Type	PVT
Shift Type	Single Lever (H/L/N/R/P)
Gear Reduction - Low	Front 8.56:1 / Rear 25.59:1
Gear Reduction - Reverse	Front 7.67:1 / Rear 22.92:1
Gear Reduction - High	Front 3.48:1 / Rear 10.4:1
Drive Ratio - Front	3.818:1 (Non-EPS) 3.077:1 (EPS)
Tire Size - Front	25 x 10 - 12 (26 x 9 - 12 for select models)
Tire Size - Rear	25 x 11 - 12 (26 x 11 - 12 for select models)

SPECIFICATIONS

	RANGER XP 900
Tire Pressure - Front	10 psi (69 kPa) 12 psi (83 kPa) (Hunter)
Tire Pressure - Rear	12 psi (83 kPa)
Brakes, Front/Rear	Foot Activated, 4 wheel hydraulic disc
Hood Headlights	2 single beam, 50W, quartz/halogen
Taillights	10 L.E.D. (.28W)
Brake Light	10 L.E.D. (3.1W)

RANGER CREW® XP 900 SPECIFICATIONS

	RANGER XP 900
Maximum Weight Capacity (includes weight of operator, passenger, cargo, accessories)	1750 lbs. (795 kg) (including operator, passengers, cargo, accessories) 1350 lbs. (612 kg) (Models sold in California)
Dry Weight	1570 lbs. (712 kg)
Test GVW - Rollover Protection System (ROPS)	3600 lbs. (1633 kg) per OSHA 29 CFR 1928.53
Fuel Capacity	10 gal. (37.8 l)
Engine Oil Capacity	2.5 qts. (2.4 l)
Coolant Capacity	5 qts. (4.75 l)
Overall Length	148 in. (376 cm)
Overall Width	60 in. (152.4 cm)
Overall Height	76 in. (193 cm)
Wheelbase	113 in. (287 cm)
Cargo Box Dimensions (Inside)	36.5 x 54 x 11.5 in. (93 x 137 x 29 cm)
Ground Clearance	12 in. (30.5 cm)

SPECIFICATIONS

	RANGER XP 900
Min. Turning Radius	214 in. (543.5 cm)
Towing Capacity	2000 lbs. (907 kg)
Hitch Tongue Capacity	150 lbs. (68 kg)
Max. Cargo Box Load	1000 lbs. (454 kg) 600 lbs. (272 kg) (Models sold in California)
Engine	4-Stroke DOHC Twin Cylinder
Displacement	875 cc
Bore x Stroke (mm)	93 mm x 64.4 mm
Alternator Output	660 W @ 3000 RPM
Compression Ratio	10.5:1
Starting System	Electric
Fuel System	Electronic Fuel Injection
Ignition Timing	ECU Controlled 32° +/- 2° @ 5000 RPM
Spark Plug/ Gap	NGK MR7F / .031" (0.7-0.9 mm)
Lubrication System	Wet Sump
Cooling	Liquid
Front Suspension	Dual A-arm w/10 in. (25.4 cm) of travel
Rear Suspension	Independent w/10 in. (25.4 cm) of travel
Ignition System	Digital CDI
Driving System Type	PVT
Shift Type	Single Lever (H/L/N/R/P)
Gear Reduction - Low	Front 8.56:1 / Rear 25.59:1
Gear Reduction - Reverse	Front 7.67:1 / Rear 22.92:1

SPECIFICATIONS

	RANGER XP 900
Gear Reduction - High	Front 4.03:1 / Rear 12.05:1
Drive Ratio - Front	3.818:1 (Non-EPS) 3.077:1 (EPS)
Tire Size - Front	26 x 9 - 12
Tire Size - Rear	26 x 11 - 12
Tire Pressure - Front	14 psi (96 kPa)
Tire Pressure - Rear	16 psi (110 kPa)
Brakes, Front/Rear	Foot Activated, 4 wheel hydraulic disc
Hood Headlights	2 single beam, 50W, quartz/halogen
Taillights	10 L.E.D. (.28W)
Brake Light	10 L.E.D. (3.1W)

RANGER CREW® XP 1000 SPECIFICATIONS

	RANGER XP 1000
Maximum Weight Capacity (includes weight of operator, passenger, cargo, accessories)	1750 lbs. (795 kg) (including operator, passengers, cargo, accessories) 1350 lbs. (612 kg) (Models sold in California)
Dry Weight	1570 lbs. (712 kg)
Test GVW - Rollover Protection System (ROPS)	3600 lbs. (1633 kg) per OSHA 29 CFR 1928.53
Fuel Capacity	10 gal. (37.8 l)
Engine Oil Capacity	2.5 qts. (2.4 l)
Coolant Capacity	5 qts. (4.75 l)
Overall Length	148 in. (376 cm)
Overall Width	60 in. (152.4 cm)

SPECIFICATIONS

	RANGER XP 1000
Overall Height	76 in. (193 cm)
Wheelbase	113 in. (287 cm)
Cargo Box Dimensions (Inside)	36.5 x 54 x 11.5 in. (93 x 137 x 29 cm)
Ground Clearance	12 in. (30.5 cm)
Min. Turning Radius	214 in. (543.5 cm)
Towing Capacity	2000 lbs. (907 kg)
Hitch Tongue Capacity	150 lbs. (68 kg)
Max. Cargo Box Load	1000 lbs. (454 kg) 600 lbs. (272 kg) (Models sold in California)
Engine	4-Stroke DOHC Twin Cylinder
Displacement	999 cc
Bore x Stroke (mm)	93 mm x 64.4 mm
Alternator Output	660 W @ 3000 RPM
Compression Ratio	10.8:1
Starting System	Electric
Fuel System	Electronic Fuel Injection
Ignition Timing	ECU Controlled 32° +/- 2° @ 5000 RPM
Spark Plug/ Gap	MR7F / 0.7-0.8 mm
Lubrication System	Wet Sump
Cooling	Liquid
Front Suspension	Dual A-arm w/10 in. (25.4 cm) of travel
Rear Suspension	Independent w/10 in. (25.4 cm) of travel
Ignition System	Digital CDI

SPECIFICATIONS

	<i>RANGER XP 1000</i>
Driving System Type	PVT
Shift Type	Single Lever (H/L/N/R/P)
Gear Reduction - Low	Front 8.56:1 / Rear 25.59:1
Gear Reduction - Reverse	Front 7.67:1 / Rear 22.92:1
Gear Reduction - High	Front 4.03:1 / Rear 12.05:1
Drive Ratio - Front	3.818:1 (Non-EPS) 3.077:1 (EPS)
Tire Size - Front	26 x 9 - 12
Tire Size - Rear	26 x 11 - 12
Tire Pressure - Front	14 psi (96 kPa)
Tire Pressure - Rear	16 psi (110 kPa)
Brakes, Front/Rear	Foot Activated, 4 wheel hydraulic disc
Hood Headlights	2 single beam, 50W, quartz/halogen
Taillights	10 L.E.D. (.28W)
Brake Light	10 L.E.D. (3.1W)

POLARIS PRODUCTS

LUBRICANTS / SERVICE PRODUCTS

PRODUCT	SIZE (QUANTITY)	PART NUMBER
Fogging Oil	12 oz aerosol (12)	2870791
	1 qt (12)	2871517
PS-4	1 qt (12)	2876244
	2 qt (8)	2877490
	1 gal (4)	2876245
PS-4 Extreme Duty	1 qt (12)	2878920
	2 qt (8)	2878922
	1 gal (4)	2878919
AGL	1 qt (12)	2878068
	1 gal (4)	2878069
Pump for Gallon Jug	3.8 l	2870465
Demand Drive	1 qt (12)	2877922
	2.5 gal (2)	2877923
Antifreeze / Coolant	1 qt (12)	2880514
	1 gal (6)	2880513
Grease Gun Kit, Premium All Season	—	2871312
All Season Grease	Four 3 oz packs (6)	2871322
	14 oz cartridge	2871423
Premium Starter Grease	—	2871460
U-Joint Grease	3 oz tube (24)	2871515
	14 oz cartridge	2871551
Dielectric Grease (Nyogel™)	—	2871329
Carbon Clean	12 oz bottle (12)	2871326
Fuel Stabilizer	16 oz (12)	2870652
	2.5 gal (2)	2872280
DOT 4 Brake Fluid	—	2872189
Loctite™ 565 Thread Sealant	—	2871956
POLARIS Battery Tender™ Charger	—	2859044

TROUBLESHOOTING

DRIVE BELT WEAR/BURN

POSSIBLE CAUSE	SOLUTION
Driving onto a pickup or tall trailer in high range	Use low range during loading.
Starting out going up a steep incline	Use low range.
Driving at low RPM or ground speed (3-7 MPH)	Drive at a higher speed or use low range more frequently.
Insufficient warm-up at low ambient temperatures	Warm the engine at least 5 minutes. With the transmission in neutral, advance the throttle to about 1/8 throttle in short bursts, 5 to 7 times. The belt will become more flexible and prevent belt burning.
Slow/easy clutch engagement	Use the throttle quickly and effectively.
Towing/pushing at low RPM/low ground speed	Use low range only.
Utility use/plowing	Use low range only.
Stuck in mud or snow	Shift the transmission to low range and carefully use fast, aggressive throttle application to engage clutch. WARNING: Excessive throttle may cause loss of control and vehicle rollover.
Climbing over large objects from a stopped position	Shift the transmission to low range and carefully use fast, brief, aggressive throttle application to engage clutch. WARNING: Excessive throttle may cause loss of control and vehicle rollover.
Belt slippage from water or snow ingestion into the PVT system	Dry out the PVT. Prevent water from entering the PVT intake duct. See Intake Pre-Filters for more information. Inspect clutch seals for damage if repeated leaking occurs.
Clutch malfunction	Your dealer can assist.
Poor engine performance	Check for fouled plug or foreign material in gas tank or fuel lines. Your POLARIS dealer can assist.
Slippage from failure to warm up belt	Always warm up the belt by operating below 30 mph for one mile (5 miles or more when temperature is below freezing).
Wrong or missing belt	Install the recommended belt.
Improper break-in	Always break in a new belt and/or clutch.

TROUBLESHOOTING

ENGINE DOESN'T TURN OVER

POSSIBLE CAUSE	SOLUTION
Low battery voltage	Recharge the battery to 12.8 VDC
Loose battery connections	Check all connections and tighten
Loose solenoid connections	Check all connections and tighten
Loose electronic control box connections	Inspect, clean, reinstall connectors

ENGINE TURNS OVER, FAILS TO START

POSSIBLE CAUSE	SOLUTION
Out of fuel	Refuel
Water is present in fuel	Drain the fuel system and refuel
Old or non-recommended fuel	Replace with fresh recommended fuel
Fouled or defective spark plug	Inspect plug and replace if necessary
No spark to spark plug	Inspect plug and replace if necessary
Water or fuel in crankcase	Your authorized dealer can assist
Low battery voltage	Recharge the battery to 12.8 VDC
Mechanical failure	Your authorized dealer can assist

ENGINE BACKFIRES

POSSIBLE CAUSE	SOLUTION
Weak spark from spark plug	Inspect, clean and/or replace spark plug
Incorrect spark plug gap or heat range	Set gap to specs or replace plug
Old or non-recommended fuel	Replace with fresh recommended fuel
Incorrectly installed spark plug wires	Your dealer can assist
Mechanical failure	Your dealer can assist
Loose ignition connections	Check all connections and tighten
Water present in fuel	Replace with fresh recommended fuel

ENGINE PINGS OR KNOCKS

POSSIBLE CAUSE	SOLUTION
Poor quality or low octane fuel	Replace with recommended fuel
Incorrect spark plug gap or heat range	Set gap to specs or replace plug

ENGINE RUNS IRREGULARLY, STALLS OR MISFIRES

POSSIBLE CAUSE	SOLUTION
Fouled or defective spark plug	Inspect, clean and/or replace spark plug
Worn or defective spark plug wires	Your dealer can assist
Incorrect spark plug gap or heat range	Set gap to specs or replace plug
Loose ignition connections	Check all connections and tighten
Water present in fuel	Replace with new fuel
Low battery voltage	Recharge battery to 12.8 VDC
Incorrect fuel	Replace with recommended fuel
Clogged air filter	Inspect and clean or replace
Clogged intake pre-filter	Inspect and clean (with soapy water) or replace
Other mechanical failure	Your dealer can assist

TROUBLESHOOTING

ENGINE STOPS OR LOSES POWER

POSSIBLE CAUSE	SOLUTION
Out of fuel	Refuel
Kinked or plugged fuel vent line	Inspect and replace
Water is present in fuel	Replace with new fuel
Fouled or defective spark plug	Inspect, clean and/or replace spark plug
Worn or defective spark plug wires	Your dealer can assist
Incorrect spark plug gap or heat range	Set gap to specs or replace plug
Loose ignition connections	Check all connections and tighten
Low battery voltage	Recharge the battery to 12.8 VDC
Incorrect fuel	Replace with fresh recommended fuel
Clogged air filter	Inspect and clean or replace
Clogged intake pre-filter	Inspect and clean (with soapy water) or replace
Other mechanical failure	Your dealer can assist
Overheated engine	Clean radiator screen and core, clean engine exterior. Your dealer can assist.

WARRANTY

LIMITED WARRANTY

POLARIS Industries Inc., 2100 Highway 55, Medina, MN 55340 (POLARIS) gives a ONE YEAR LIMITED WARRANTY on all components of your POLARIS vehicle against defects in material or workmanship. POLARIS further warrants that the spark arrester in this product will meet the efficiency requirements of USFS standard 5100-1C for at least 1000 hours when subjected to normal use and when maintenance and installation are in accordance with POLARIS recommendations.

This warranty covers parts and labor charges for repair or replacement of defective parts and begins on the date of purchase by the original retail purchaser. This warranty is transferable to another owner during the warranty period through a POLARIS dealer, but any such transfer will not extend the original term of the warranty. The duration of this warranty may vary by international region based upon local laws and regulations.

REGISTRATION

At the time of sale, the Warranty Registration Form must be completed by your dealer and submitted to POLARIS within ten days of purchase. Upon receipt of this registration, POLARIS will record the registration for warranty. No verification of registration will be sent to the purchaser as the copy of the Warranty Registration Form will be your proof of warranty coverage. If you have not signed the original registration and received the customer copy, please contact your dealer immediately. **NO WARRANTY COVERAGE WILL BE ALLOWED UNLESS YOUR VEHICLE IS REGISTERED WITH POLARIS.** Initial dealer preparation and set-up of your vehicle is very important in ensuring trouble-free operation. Purchasing a machine in the crate or without proper dealer set-up will void your warranty coverage.

WARRANTY

WARRANTY COVERAGE AND EXCLUSIONS

LIMITATIONS OF WARRANTIES AND REMEDIES

This POLARIS limited warranty excludes any failures that are not caused by a defect in material or workmanship. THIS WARRANTY DOES NOT COVER CLAIMS OF DEFECTIVE DESIGN. This warranty also does not cover acts of God, accidental damage, normal wear and tear, abuse or improper handling. This warranty also does not cover any vehicle, component, or part that has been altered structurally, modified, neglected, improperly maintained or used for racing, competition or purposes other than for which it was designed.

This warranty excludes damages or failures resulting from improper lubrication; improper engine timing; improper fuel; surface imperfections caused by external stress, heat, cold or contamination; operator error or abuse; improper component alignment, tension, adjustment or altitude compensation; snow, water, dirt or other foreign substance ingestion/contamination; improper maintenance; modified components; use of aftermarket or unapproved components, accessories, or attachments; unauthorized repairs; or repairs made after the warranty period expires or by an unauthorized repair center.

This warranty excludes damages or failures caused by abuse, accident, fire, or any other cause other than a defect in materials or workmanship and provides no coverage for consumable components, general wear items, or any parts exposed to friction surfaces, stresses, environmental conditions and/or contamination for which they were not designed or not intended, including but not limited to the following items:

- Wheels and tires
- Suspension components
- Brake components
- Seat components
- Clutches and components
- Steering components
- Batteries
- Light bulbs/Sealed beam lamps
- Filters
- Lubricants
- Bushings
- Finished and unfinished surfaces
- Carburetor/Throttle body components
- Engine components
- Drive belts
- Hydraulic components and fluids
- Circuit breakers/Fuses
- Electronic components
- Spark plugs
- Sealants
- Coolants
- Bearings

LUBRICANTS AND FLUIDS

1. Mixing oil brands or using non-recommended oil may cause engine damage. We recommend the use of POLARIS engine oil.

2. Damage or failure resulting from the use of non-recommended lubricants or fluids is not covered by this warranty.

This warranty provides no coverage for personal loss or expense, including mileage, transportation costs, hotels, meals, shipping or handling fees, product pick-up or delivery, replacement rentals, loss of product use, loss of profits, or loss of vacation or personal time.

THE EXCLUSIVE REMEDY FOR BREACH OF THIS WARRANTY SHALL BE, AT POLARIS' OPTION, REPAIR OR REPLACEMENT OF ANY DEFECTIVE MATERIALS, COMPONENTS, OR PRODUCTS. THE REMEDIES SET FORTH IN THIS WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON FOR BREACH OF THIS WARRANTY. POLARIS SHALL HAVE NO LIABILITY TO ANY PERSON FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY DESCRIPTION, WHETHER ARISING OUT OF EXPRESS OR IMPLIED WARRANTY OR ANY OTHER CONTRACT, NEGLIGENCE, OR OTHER TORT OR OTHERWISE. THIS EXCLUSION OF CONSEQUENTIAL, INCIDENTAL, AND SPECIAL DAMAGES IS INDEPENDENT FROM AND SHALL SURVIVE ANY FINDING THAT THE EXCLUSIVE REMEDY FAILED OF ITS ESSENTIAL PURPOSE.

THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXCLUDED FROM THIS LIMITED WARRANTY. ALL OTHER IMPLIED WARRANTIES (INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY) ARE LIMITED IN DURATION TO THE ABOVE ONE YEAR WARRANTY PERIOD. POLARIS DISCLAIMS ALL EXPRESS WARRANTIES NOT STATED IN THIS WARRANTY. SOME STATES DO NOT PERMIT THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU IF INCONSISTENT WITH CONTROLLING STATE LAW.

HOW TO OBTAIN WARRANTY SERVICE

If your vehicle requires warranty service, you must take it to a POLARIS Servicing Dealer. When requesting warranty service you must present your copy of the Warranty Registration Form to the dealer. (THE COST OF TRANSPORTATION TO AND FROM THE DEALER IS YOUR RESPONSIBILITY.) POLARIS suggests that you use your original selling dealer; however, you may use any POLARIS Servicing Dealer to perform warranty service.

IN THE COUNTRY WHERE YOUR PRODUCT WAS PURCHASED:

Warranty or Service Bulletin repairs must be done by an authorized POLARIS dealer. If you move or are traveling within the country where your product was purchased, Warranty and Service Bulletin repairs may be requested from any authorized POLARIS dealer that sells the same line as your product.

OUTSIDE THE COUNTRY WHERE YOUR PRODUCT WAS PURCHASED:

If you are traveling temporarily outside the country where your product was purchased, you should take your product to an authorized POLARIS dealer. You must show the dealer photo identification from the country of the selling dealer's authorized location as proof of residence. Upon residence verification, the servicing dealer will be authorized to perform the warranty repair.

IF YOU MOVE:

If you move to another country, be sure to contact POLARIS Customer Assistance and the customs department of the destination country before you move. Product importation rules vary considerably from country to country. You may be required to present documentation of your move to POLARIS in order to continue your warranty coverage. You may also be required to obtain documentation from POLARIS in order to register your product in your new country. You should warranty register your product at a local POLARIS dealer in your new country immediately after you move to continue your warranty coverage and to ensure that you receive information and notices regarding your vehicle.

IF YOU PURCHASE FROM A PRIVATE PARTY:

If you purchase a POLARIS product from a private party, to be kept and used outside of the country in which the product was originally purchased, all warranty coverage will be denied. You must nonetheless register your product under your name and address with a local POLARIS dealer in your country to ensure that you receive safety information and notices regarding your product.

WARRANTY

EXPORTED PRODUCTS

EXCEPT WHERE SPECIFICALLY REQUIRED BY LAW, THERE IS NO WARRANTY OR SERVICE BULLETIN COVERAGE ON THIS PRODUCT IF IT IS SOLD OUTSIDE THE COUNTRY OF THE SELLING DEALER'S AUTHORIZED LOCATION. This policy does not apply to products that have received authorization for export from POLARIS. Dealers may not give authorization for export. You should consult an authorized dealer to determine this product's warranty or service coverage if you have any questions. This policy does not apply to products registered to government officials or military personnel on assignment outside the country of the selling dealer's authorized location. This policy does not apply to Safety Bulletins.

NOTICE

If your product is registered outside of the country where it was purchased and you have not followed the procedure set above, your product will no longer be eligible for warranty or service bulletin coverage of any kind, other than safety bulletins. Products registered to government officials or military personnel on assignment outside of the country where the product was purchased will continue to be covered by the Limited Warranty.

Please work with your dealer to resolve any warranty issues. Should your dealer require any additional assistance, they will contact the appropriate person at POLARIS.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or in different countries. If any of the above terms are void because of federal, state, local law, all other warranty terms will remain in effect.

For questions call POLARIS Customer Assistance:

United States & Canada: 1-800-POLARIS (1-800-765-2747)

French: 1-800-268-6334

U.S.A. EPA EMISSIONS LIMITED WARRANTY

This emissions limited warranty is in addition to the POLARIS standard limited warranty for your vehicle. POLARIS Industries Inc. warrants that at the time it is first purchased, this emissions-certified vehicle is designed, built and equipped so it conforms with applicable U.S. Environmental Protection Agency emission regulations. POLARIS warrants that the vehicle is free from defects in materials and workmanship that would cause it to fail to meet these regulations.

The warranty period for off road vehicles 100cc or greater emissions-certified vehicles starts on the date of purchase by original retail purchaser and continues for a period of 500 hours of engine operation, 5000 kilometers (3100 miles) of vehicle travel, or 30 calendar months from the date of purchase, whichever comes first. The warranty period for ATVs less than 100cc emissions-certified vehicles starts on the date of purchase by original retail purchaser and continues for a period of 250 hours of engine operation, 2500 kilometers (1550 miles) of vehicle travel, or 30 calendar months from the date of purchase, whichever comes first. This EPA emissions warranty period is extended for at least as long as the standard factory warranty that Polaris provides on the vehicle as a whole. The EPA emissions warranty period does not further extend if you purchase additional warranty coverage in the form of a service contract or other paid warranty extension, but emission-related parts may be covered subject to the terms of any such paid service contract or paid warranty extension.

This emissions limited warranty covers components whose failure increases the vehicle's regulated emissions, and it covers components of systems whose only purpose is to control emissions. Repairing or replacing other components not covered by this warranty is the responsibility of the vehicle owner. This emissions limited warranty does not cover components whose failure does not increase the vehicle's regulated emissions.

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

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

- Aftertreatment devices
- Crankcase ventilation valves
- Sensors
- Electronic control units

WARRANTY

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.

Emission-related components also include any other part whose only purpose is to reduce emissions or whose failure will increase emissions without significantly degrading engine/equipment performance. The exclusive remedy for breach of this limited warranty shall be, at the exclusive option of POLARIS, repair or replacement of any defective materials, components or products. THE REMEDIES SET FORTH IN THIS LIMITED WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON FOR BREACH OF THIS WARRANTY. POLARIS SHALL HAVE NO LIABILITY TO ANY PERSON FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY DESCRIPTION, WHETHER ARISING OUT OF EXPRESS OR IMPLIED WARRANTY OR ANY OTHER CONTRACT, NEGLIGENCE OR OTHER TORT OR OTHERWISE. THIS EXCLUSION OF CONSEQUENTIAL, INCIDENTAL, AND SPECIAL DAMAGES IS INDEPENDENT FROM AND SHALL SURVIVE ANY FINDING THAT THE EXCLUSIVE REMEDY FAILED OF ITS ESSENTIAL PURPOSE.

ALL IMPLIED WARRANTIES (INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE LIMITED IN DURATION TO THE WARRANTY PERIOD DESCRIBED HEREIN. POLARIS DISCLAIMS ALL EXPRESS WARRANTIES NOT STATED IN THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply if it is inconsistent with the controlling state law.

This limited warranty excludes failures not caused by a defect in material or workmanship. This limited warranty does not cover damage due to accidents, abuse or improper handling, maintenance or use. This limited warranty also does not cover any engine that has been structurally altered, or when the vehicle has been used in racing competition. This limited warranty also does not cover physical damage, corrosion or defects caused by fire, explosions or other similar causes beyond the control of POLARIS.

Owners are responsible for performing the scheduled maintenance identified in the owner's manual. POLARIS may deny warranty claims for failures that have been caused by the owner's or operator's improper maintenance or use, by accidents for which POLARIS has no responsibility, or by acts of God.

Any qualified repair shop or person may maintain, replace, or repair the emission control devices or systems on your vehicle. An authorized POLARIS dealer can perform any service that may be necessary for your vehicle. POLARIS also recommends POLARIS parts, however equivalent parts may be used for such service. It is a potential violation of the Clean Air Act if a part supplied by an aftermarket parts manufacturer reduces the effectiveness of the vehicle's emission controls. Tampering with emission controls is prohibited by federal law.

CALIFORNIA RESIDENTS

Certain POLARIS Off-Road Vehicles are available in 49-state and 50-state versions. Only the 50-state models are certified for sale in California. The 50-state models available for sale in California are identified by the letter "B" in the ninth position of the model number (e.g., R16RTE87B). The POLARIS 50-state models are designed and built with features such as a reduced cargo box capacity. Any modifications to these features may be a violation of the applicable California regulations and may void this limited emissions warranty offered by the manufacturer.

If you have any questions regarding your warranty rights and responsibilities, please contact POLARIS Customer Assistance:

United States & Canada: 1-800-POLARIS (1-800-765-2747)

French: 1-800-268-6334

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*For your nearest Polaris dealer,
call 1-800-POLARIS (765-2747)
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