



POLARIS® M1400

Owner's Manual
for Maintenance and Safety

⚠ 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

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



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

WELCOME

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
- RZR® sport vehicles
- VICTORY® motorcycles
- GEM® electric vehicles

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

The POLARIS M1400 is manufactured by POLARIS, but is marketed and serviced through our GEM dealerships. Your GEM dealer knows your vehicle best and is interested in your total satisfaction. Be sure to return to your dealership for all of your service needs during, and after, the warranty period.



POLARIS®

POLARIS® and GEM® are trademarks of POLARIS Industries Inc.

Copyright 2014 POLARIS Industries Inc. All information contained within this publication is based on the latest product information at the time of publication. Due to constant improvements in the design and quality of production components, some minor discrepancies may result between the actual vehicle and the information presented in this publication. Depictions and/or procedures in this publication are intended for reference use only. No liability can be accepted for omissions or inaccuracies. Any reprinting or reuse of the depictions and/or procedures contained within, whether whole or in part, is expressly prohibited.

The original instructions for this vehicle are in English. Other languages are provided as translations of the original instructions.

Printed in U.S.A.

2015 POLARIS M1400 Owner's Manual

P/N 9925612

TABLE OF CONTENTS

Introduction	4
Safety	8
Features and Controls	18
Operation	29
Winch Guide	41
Emission Control Systems	50
Maintenance	51
Specifications	82
POLARIS Products	84
Troubleshooting	85
Warranty	88
Maintenance Log	93
Index	95

INTRODUCTION

The POLARIS M1400 is a utility vehicle. Never operate on public roads. This vehicle does not meet National Highway Traffic Safety Administration (NHTSA) regulations for operation on public streets, roads and highways. 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.



The safety alert symbol indicates a potential personal injury hazard.

DANGER

A DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING

A WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION

A CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE

A NOTICE indicates a situation that could result in property damage.



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 follow the warnings contained in this manual can result in severe injury or death.

Your POLARIS M1400 is not a toy and can be hazardous to operate. This vehicle handles differently than other vehicles, such as 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.

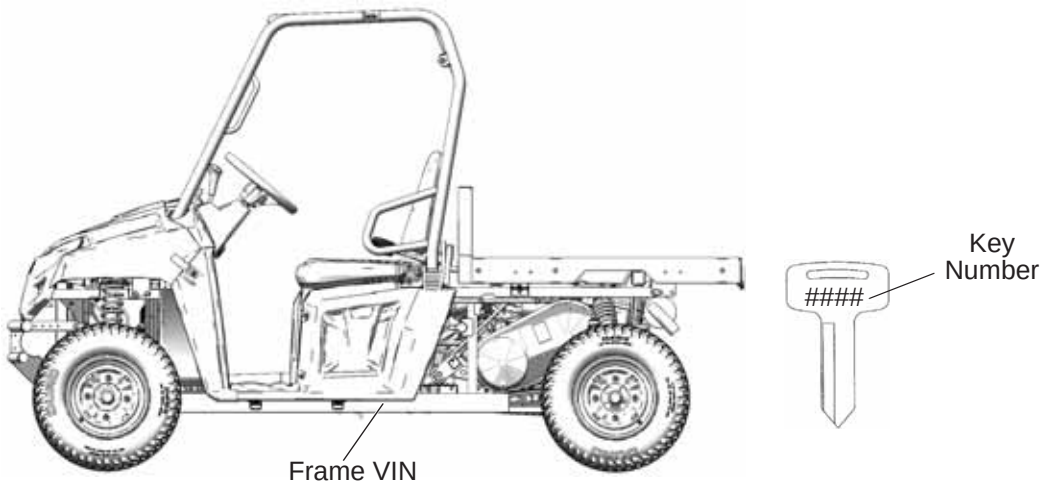
- Read this owner's manual and review the safety DVD that came with your vehicle. A free extra copy of the DVD can be obtained by contacting your local GEM dealer. Understand all safety warnings, precautions and operating procedures before operating the vehicle. Keep this manual with the vehicle.
- Review the safety DVD and take the free online Recreational Off-Highway Vehicle Association (ROHVA) training course at www.rohva.org.
- 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.
- No person under the age of 12 may ride as a passenger in 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.
- Never permit a guest to operate this vehicle unless the guest has read this manual and all product labels.
- Always keep hands, feet and all other body parts inside the vehicle at all times.
- Always wear the proper clothing when operating or riding in this vehicle. All riders should wear substantial footwear, long pants and a close-fitting shirt. A hard hat or helmet and approved eye protection are recommended when appropriate for working or riding conditions.
- Never use this vehicle with drugs or alcohol, as these conditions impair judgment and reduce operator reaction time.

INTRODUCTION

Vehicle Identification Numbers

Record your vehicle's identification numbers and key number in the spaces provided below. The Vehicle Identification Number (VIN) indicates the model year, model type and serial number of your vehicle. The VIN is stamped on the left rear frame. The VIN is also on the manufacturer's label, which is located under the passenger seat. Gross Vehicle Weight information for your vehicle is on the Passenger/Tire Pressure Warning Label in the rear cargo box. See page 10.

To order an extra or replacement key for your vehicle, please contact GEM customer service. Be prepared to provide your key number and VIN. Remove the spare key and store it in a safe place. A key can be duplicated only by ordering a key blank (using your key number) and mating it with one of your existing keys. The key switch must be replaced if all keys are lost.



Vehicle Model Number: _____

Frame VIN: _____

Motor Serial Number (on side of motor): _____

Key Number: _____

European Vibration and Noise

The driver-perceived noise and hand/arm and whole body vibration levels of this machinery is measured per prEN 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:

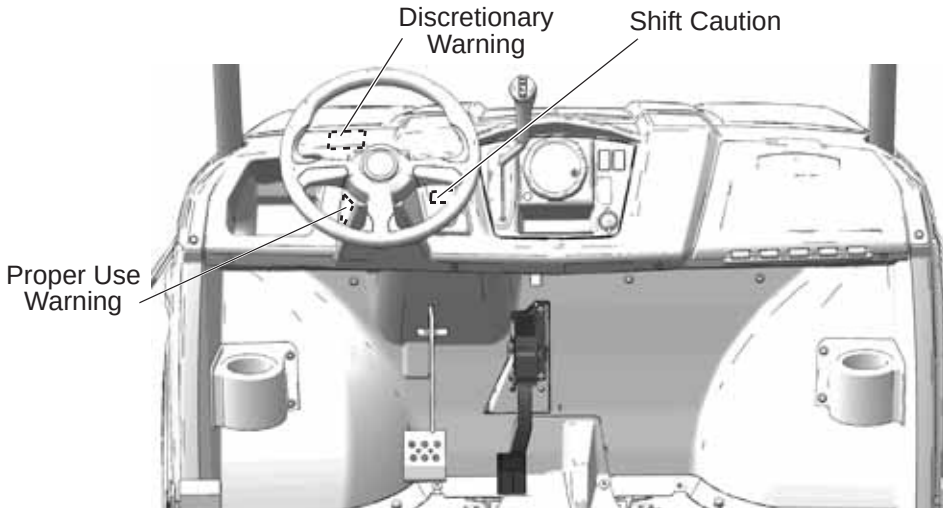
- Instrument and calibration uncertainty
- Variations in the machine such as wear of components
- Variation of machine operators such as experience or physique
- Ability of the worker to reproduce typical work during measurements
- Environmental factors such as ambient noise or temperature

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 any label becomes illegible or comes off, contact your GEM dealer to purchase a replacement. Replacement *safety* labels are provided at no charge. The part number is printed on the label.



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 or ride 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: 2 occupants.

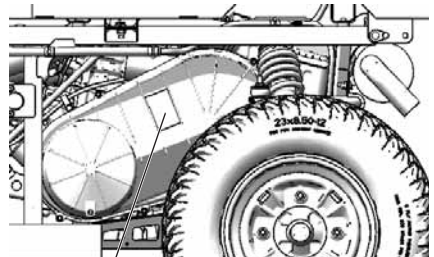
Clutch Cover Warning

WARNING

- 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.

7175488

7179978



Clutch Cover Warning

Safety Labels and Locations

Discretionary Warning

WARNING

Improper vehicle use can result in Severe Injury or Death.

NEVER Operate:

- At speeds too fast for your skills or the conditions.
- After or while using Alcohol or Drugs.
- On extreme off-road terrain or extreme slopes.
- On public roads, a collision can occur with another vehicle.
- With more than one passenger, or a passenger under age twelve or who cannot comfortably reach the floor and hand holds.
- With non-POLARIS approved accessories - they may seriously affect stability.

ALWAYS:

- Wear your seat belt, if equipped. Vehicle rollover could cause severe injury or death.
- Wear a helmet and eye protection and keep hands and feet in vehicle at all times.
- Reduce speed and use extra caution when carrying a passenger.
- Avoid sharp turns or turns while applying heavy throttle.
- Operate slowly in reverse - avoid sharp turns or sudden braking.
- Make sure passenger reads and understands all safety labels.
- Watch for branches or other hazards that could enter vehicle.

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

7180694

Shift Caution

CAUTION

To avoid transmission damage, shift only when vehicle is stationary and at idle.

APPLY BRAKE TO START. When this vehicle is not in operation or unattended, place shift in the park position.

7181060

SAFETY

Safety Labels and Locations

Passenger/Tire Pressure Warning

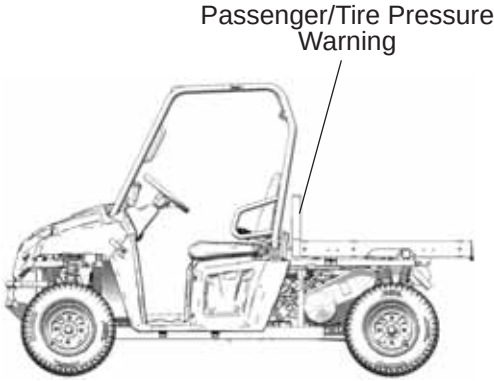
WARNING

- Passengers can be thrown off. This can cause serious injury or death.
- Never carry passengers in cargo box.

WARNING

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.
- Be careful if load extends over the side of the box.



M1400	BASE	BASE WITH SIDES	BASE WITH VAN ENCLOSURE
TIRE PRESSURE IN PSI (KPa)	FRONT 32 (220) REAR 32 (220)	FRONT 32 (220) REAR 32 (220)	FRONT 32 (220) REAR 32 (220)
VEHICLE OPERATING WEIGHT	1060 lbs. (481 kg)	1115 lbs. (506 kg)	1185 lbs. (538 kg)
MAXIMUM CARGO PAYLOAD	1100 lbs. (499 kg)	1045 lbs. (474 kg)	975 lbs. (442 kg)
GVW = VEHICLE + OCCUPANTS + PAYLOAD + ACCESSORIES	2510 lbs. (1139 kg)	2510 lbs. (1139 kg)	2510 lbs. (1139 kg)
Read Operation and Maintenance Manual for more detailed loading information.			

7181551

Personal Protective Equipment

Always wear the proper clothing when operating or riding in this vehicle. All riders should wear substantial footwear, long pants and a close-fitting shirt. A hard hat or helmet and approved eye protection are recommended when appropriate for working or riding conditions. POLARIS recommends wearing approved eye protection bearing markings such as VESC 8, V-8, Z87.1 or CE. Never operate or ride in this vehicle while barefoot or while wearing sandals or tennis shoes.

Workplace safety regulations may require the use of safety glasses, safety shoes and a hard hat or helmet. Familiarize yourself with local requirements, be prepared for operating conditions and wear the appropriate safety gear.

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.
- No person under the age of 12 may ride as a passenger in 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.
- All riders should wear substantial footwear, long pants and a close-fitting shirt. A hard hat or helmet and approved eye protection are recommended when appropriate for working or riding conditions. Seat belt must be worn at all times.
- 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.

SAFETY

Operator Safety

- 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 GEM 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. See page 34. 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. See page 34. 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. See page 33.
- 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. See page 36. 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.
- Always use the proper size and type of tires specified in this manual. Always maintain proper tire pressure as specified on safety labels.
- 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.

Operator Safety

- Always stop the engine before refueling. Remove flammable material containers from the box before filling them with fuel. Make sure the refueling area is well ventilated and free of any source of flame or sparks. Gasoline is extremely flammable. See page 15 for fuel safety warnings.
- 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.

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

Gross Vehicle Weight Rating (GVWR)

WARNING! Exceeding the gross vehicle weight rating of your vehicle can reduce stability and handling and could cause loss of control. NEVER exceed the GVWR of your vehicle.

The maximum *payload capacity* of your vehicle is the maximum weight you may add to your vehicle *without exceeding the GVWR*. This capacity is determined by calculating the difference between your vehicle's GVWR and wet weight.

Refer to the specification section of this manual or the Manufacturer's Label on the vehicle for model-specific information.

When determining the weight you will be adding to your vehicle, and to ensure you do not exceed the maximum payload capacity, include the following:

- operator body weight
- passenger body weight
- weight of all occupants' apparel and items in or on apparel
- weight of any options or accessories *and their contents*
- weight of any additional cargo on the vehicle

Equipment Modifications

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 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.

SAFETY

Operator Safety

⚠ 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. See the OPERATION section of the owner's manual for proper operating procedures.

Age Restrictions

This vehicle is an **ADULT VEHICLE ONLY**. NEVER operate this vehicle if you are under age 16 and NEVER operate without a valid driver's license.

Never operate with a passenger under the age of 12. 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.



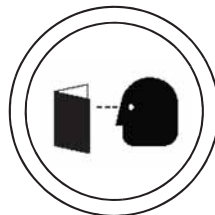
Protective Apparel

Always wear the proper clothing when operating or riding in this vehicle. All riders should wear substantial footwear, long pants and a close-fitting shirt. A hard hat or helmet and approved eye protection are recommended when appropriate for working or riding conditions. POLARIS recommends wearing approved eye protection bearing markings such as VESC 8, V-8, Z87.1 or CE. Never operate or ride in this vehicle while barefoot or while wearing sandals or tennis shoes.

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.

All operators must read and understand the Owner's Manual and all warning and instruction labels before operating the vehicle.



Using Alcohol or Drugs

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

Never drink alcohol or use drugs or medications before or while operating this vehicle.



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.

All riders *must* wear seat belts at all times.

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 traffic, the visibility and operating conditions, your skills and your passenger's skills.

Operator Safety

Handling Gasoline

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.
- Always use an approved gasoline container to store fuel and remove the container from the vehicle before filling to avoid fuel ignition due to electrical static discharge.
- 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.

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. See page 30.

Always follow all inspection and maintenance procedures and schedules described in this owner's manual. See page 51.

Operating With a Load on the Vehicle

The weight of both cargo and passengers impacts vehicle operation. 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 more passenger weight is added, cargo weight may need to be reduced accordingly.
- 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:
Passenger 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	

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.

SAFETY

Operator Safety

Operating on Public Roads

This vehicle does not meet National Highway Traffic Safety Administration (NHTSA) regulations for operation on public streets, roads and highways. 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.

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. Never turn abruptly or at sharp angles. Never turn at high speeds. Practice turning at slow speeds before attempting to turn at faster speeds.

Jumps and Stunts

Exhibition driving increases the risk of an accident or rollover. Never attempt wheelies, jumps, doughnuts or other stunts. Avoid exhibition driving.

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.

Unauthorized Use of the Vehicle

Leaving the keys in the vehicle 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 key when the vehicle is not in use.

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.

The engine exhaust from this product contains chemicals known to cause cancer, birth defects or other reproductive harm. Operate this vehicle only outdoors or in well-ventilated areas.

Vehicle Rollover

Vehicle rollover could cause serious injury or death. Always make sure the seat belts are secured for operator and passenger before operating. Avoid situations that could result in a rollover. Avoid sharp turns and abrupt steering maneuvers.

Improper Hill Climbing

Climbing hills improperly can cause loss of control or vehicle rollover. Always follow proper procedures for climbing hills as described in this owner's manual. See page 34.

Operator Safety

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. See page 34.

Stalling While Climbing a Hill

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

If all forward speed is lost:

- Apply the brakes.
- 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.

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 Slippery Terrain

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. See page 32.

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 passengers, and your cargo, together with any other vehicles in your party.

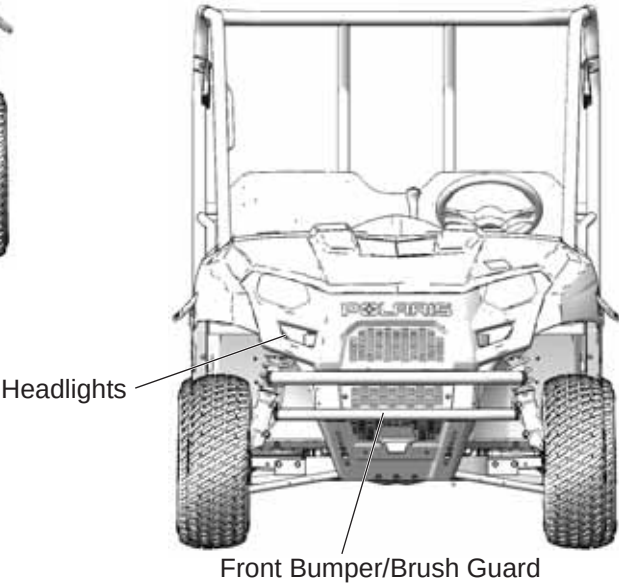
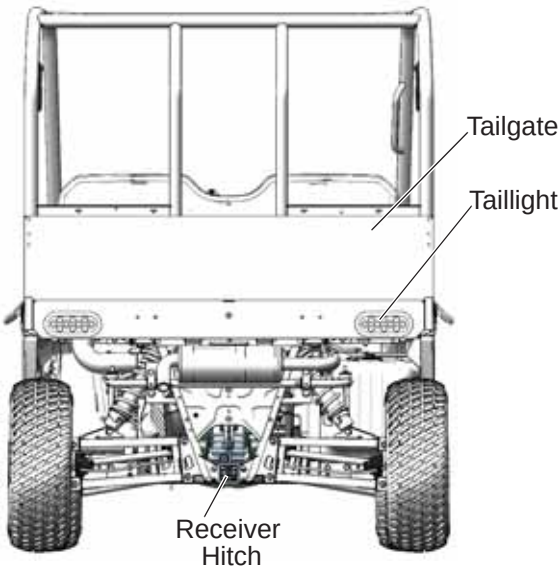
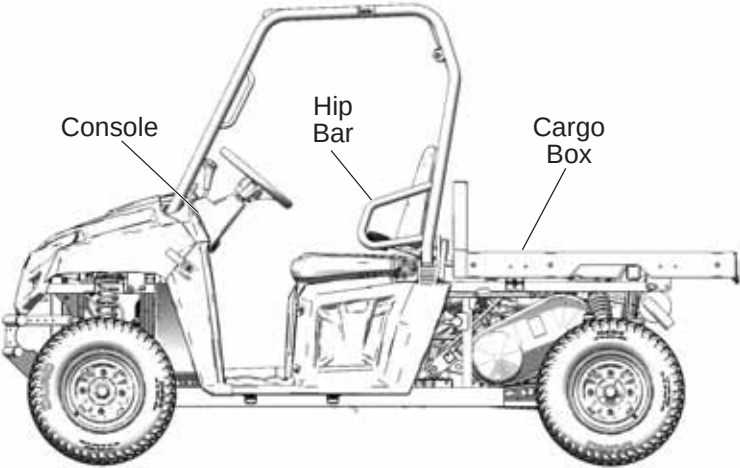
Always check with local authorities and residents to confirm ice conditions and thickness over your entire route. Vehicle operators assume all risk associated with ice conditions on frozen bodies of water.

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.

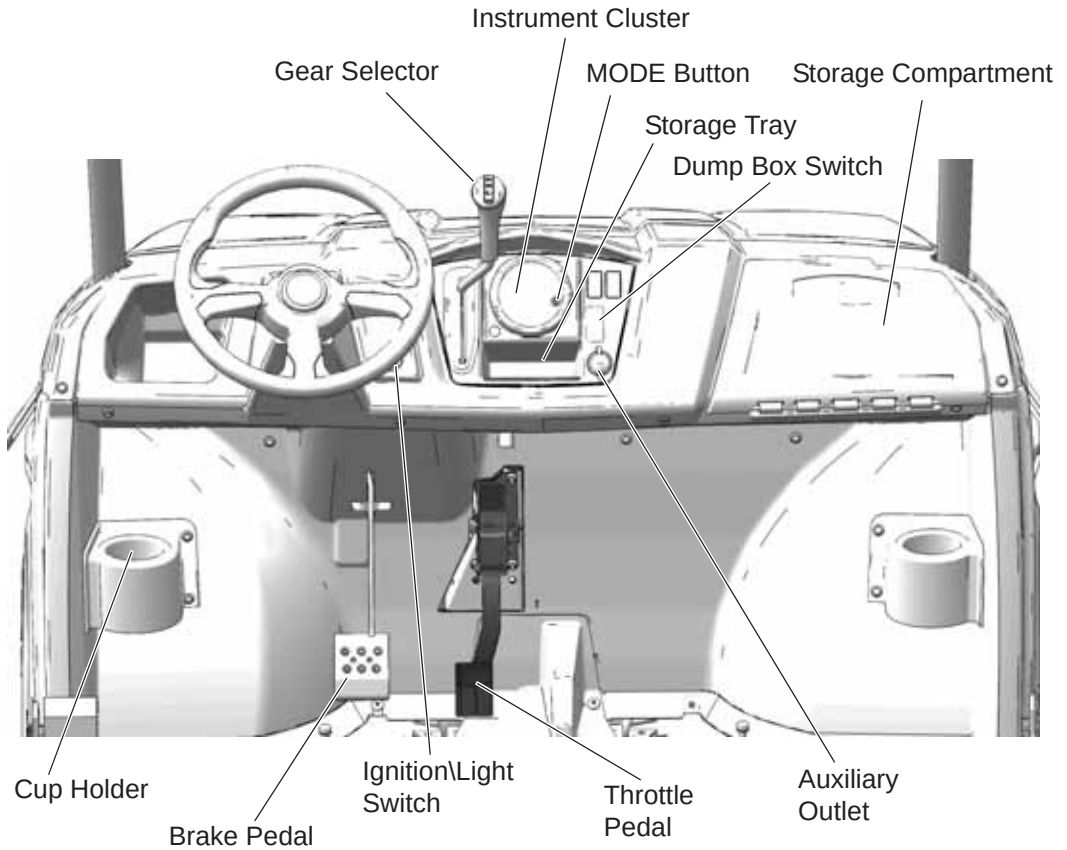
FEATURES AND CONTROLS

Component Locations



FEATURES AND CONTROLS

Console



FEATURES AND CONTROLS

Console

Auxiliary 12-Volt Terminal Board

The 12-volt terminal board is located under the hood. It contains constant 12-volt, switched 12-volt and ground terminals that can be used to power auxiliary lights and accessories. The terminals are limited to 10 amps.

Auxiliary Outlets

The 12-volt receptacle can be used to power accessories, but is limited to 10 amps (the terminal board and 12-volt outlet are fused together at 10 amps).

Mode Button

The yellow button located near the instrument cluster is used to toggle through mode options available. See pages 24-28.

Ignition Switch/Light Switch

The ignition switch is a four-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.
LIGHTS ON	Lights are on. Electrical circuits are on. Electrical equipment can be used.
LIGHTS OFF	Lights are off. Electrical circuits are on. Electrical equipment can be used.
START	Turn the key to the START position to engage the electric starter. Turn the key to the LIGHTS ON position after starting the engine.

Gear Selector

H: High Gear

L: Low Gear

N: Neutral

R: Reverse

P: Park

Low gear is the primary driving range for the M1400. 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.

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

Tip: Maintaining shift linkage adjustment is important to assure proper transmission function. See your dealer if you experience any shifting problems.

NOTICE: Shifting gears with the engine speed above idle or while the vehicle is moving could cause transmission damage. Always shift when the vehicle is stationary and the engine is at idle.

FEATURES AND CONTROLS

Console

Gear Selector

Using Low Range

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

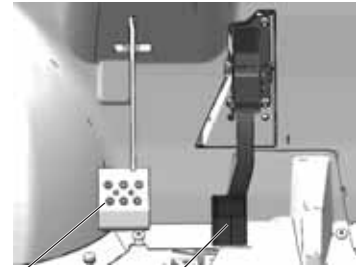
Brake Pedal

Push the brake pedal toward the floor to slow or stop the vehicle. Apply the brakes before turning the key on.

Throttle Pedal

Push the pedal 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.



Brake Pedal

Throttle Pedal

Trailer Hitch Bracket

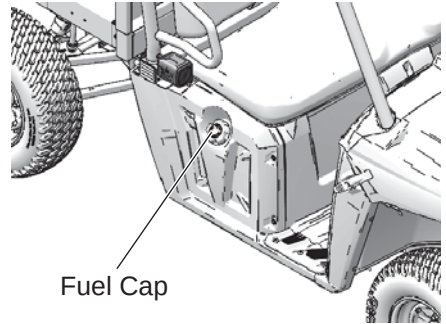
This vehicle is equipped with a receiver hitch bracket for a trailer hitch. Trailer towing equipment is not supplied with this vehicle.

To avoid injury and property damage, always heed the warnings and towing capacities outlined on pages 37-38.

FEATURES AND CONTROLS

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.*



Occupant Protective Structure (OPS)

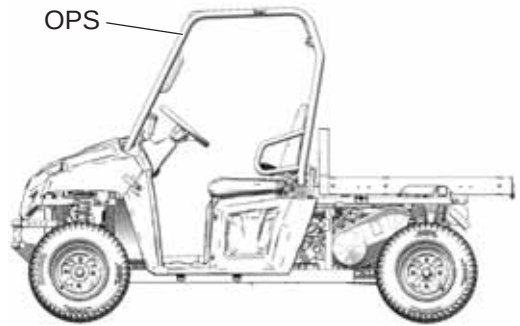
The Occupant Protective Structure (OPS) on this vehicle meets OSHA 1928.53 rollover performance requirements. Always have your authorized GEM dealer thoroughly inspect the OPS if it ever becomes damaged in any way.

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.

Extreme Use 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, please see your GEM dealer. Ask your dealer to provide any installation procedures that may differ for an extreme use battery.



Seat Belts

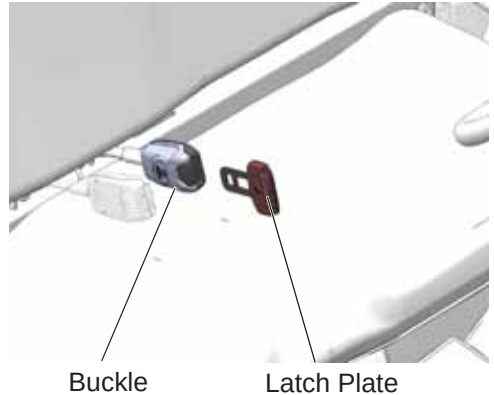
This POLARIS vehicle is equipped with three-point lap and diagonal seat belts for the operator and passenger. Always make sure the seat belts are secured for all riders before operating. The driver's seat belt is equipped with a seat belt interlock. Vehicle speed will be limited to 15 MPH (24 km/h) if 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 this vehicle.

To wear the seat belt properly, follow this procedure:

1. For 3-point belts, pull the seat belt latch 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 into the buckle until it clicks.
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 GEM 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 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.

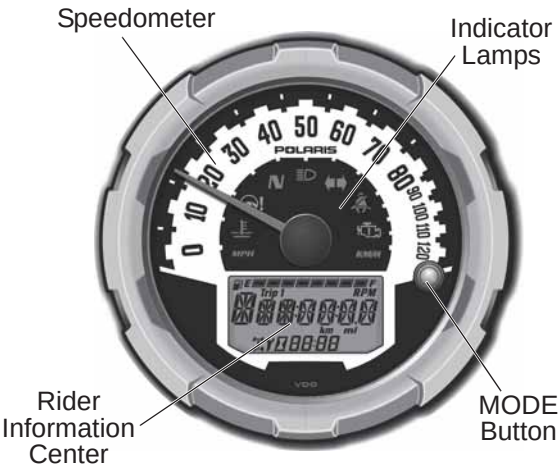
FEATURES AND CONTROLS

Instrument Cluster

High water pressure may damage components. Wash the vehicle by hand or with a garden hose using mild soap. Do not use alcohol to clean the instrument cluster. Do not allow insect sprays to contact the lens.

Speedometer

The speedometer displays vehicle speed in either miles per hour (MPH) or kilometers per hour (km/h). See page 26.



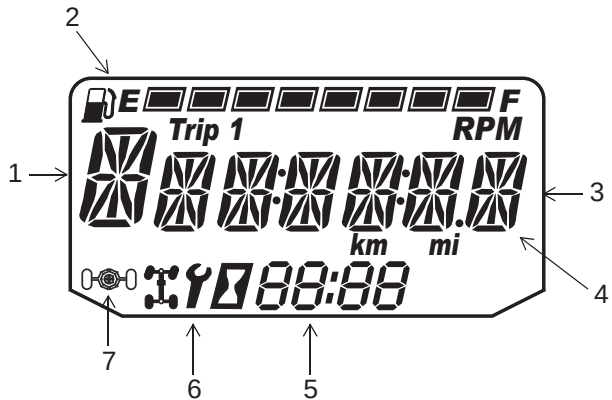
Indicator Lamps

Lamp	Indicates	Condition
	Vehicle Speed	When standard mode is selected, speed displays in miles per hour.
		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.
	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	The lamp is a reminder to the operator to ensure all riders are wearing personal protective equipment 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 EFI-related fault occurs. Do not operate the vehicle if this warning appears. Serious engine damage could result. See your dealer.

Instrument Cluster 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, take the vehicle to your GEM dealer for proper diagnosis.

The information center is set to display standard units of measurement and a 12-hour clock at the factory. To change to metric and/or a 24-hour clock, see page 26.



1. **Gear Indicator** - This indicator displays gear shifter position.
H = High Gear
L = Low Gear
N = Neutral
R = Reverse Gear
P = Park
-- = Gear Signal Error (or shifter between gears)
 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.
- Tip:** If the fuel icon fails to display, an open or short circuit has occurred in the fuel sensor circuit. See your dealer.
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. See page 26 for resetting instructions.
 6. **Service Indicator** - A flashing wrench symbol alerts the operator that the preset service interval has been reached. The vehicle should be brought to your dealer for scheduled maintenance. See page 26 for resetting instructions.
 7. **Turf Mode Indicator (if equipped)** - This indicator illuminates when the operator unlocks the differential.

FEATURES AND CONTROLS
Instrument Cluster
Rider Information Center

Use the MODE button to toggle through the information area options.

Display Units (Standard/Metric)

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.

	Standard Display	Metric Display
Distance	Miles	Kilometers
Fuel	U.S. Gallons	Liters, Imperial Gallons
Temperature	Fahrenheit	Celsius
Time	12-Hour Clock	24-Hour Clock

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.

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.

Instrument Cluster

Rider Information Center

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.

Hour 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. Use the following procedure to change the service interval.

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.

Diagnostic Display Mode

The EFI diagnostic display mode is for informational purposes only. Please see your GEM dealer 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.

FEATURES AND CONTROLS

Instrument Cluster

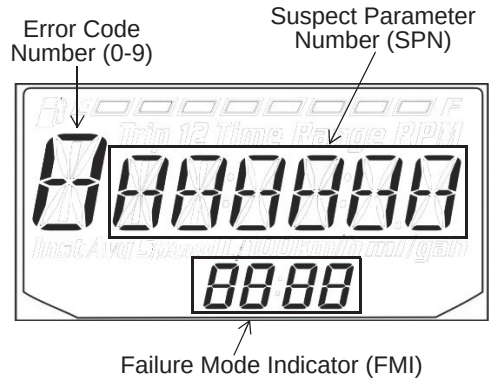
Rider Information Center

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. See an authorized GEM dealer for code details and diagnosis.



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.

Break-In Period

The break-in period for your new POLARIS M1400 is the first 25 hours of operation, or the time it takes to use the first two 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 three hours of operation will damage close-fitted engine parts. Do not operate at full throttle or high speeds for extended periods during the first three hours of use.

Engine and Drivetrain Break-in

1. Fill the fuel tank with gasoline. Heed the gasoline warnings on page 15.
2. Check the oil level. See page 55. Add the recommended oil as needed to maintain the oil level in the normal (safe) operating range.
3. Drive slowly at first. Select an open area that allows room to familiarize yourself with vehicle operation and handling.
4. Vary throttle positions. Do not operate at sustained idle.
5. Perform regular checks on fluid levels, controls and areas outlined on the daily pre-ride inspection checklist. See page 30.
6. Pull only light loads.
7. Check fluid levels of transmission and all gearcases after the first 25 hours of operation and every 100 hours thereafter.
8. During the break-in period, change both the oil and the filter at 25 hours.

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 clutch air duct and from the clutch and engine compartments when replacing the belt. See page 63.

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.

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	21, 68
Brake fluid	Ensure proper level	68
Park gear	Ensure vehicle does not roll when in PARK. Ensure PARK light illuminates.	-
Front suspension	Inspect, lubricate if necessary	54
Rear suspension	Inspect, lubricate if necessary	54
Steering	Ensure free operation	69
Tires	Inspect condition and pressure	10, 70
Wheels/fasteners	Inspect, ensure fastener tightness	70
Frame nuts, bolts, fasteners	Inspect, ensure tightness	-
Fuel and oil	Ensure proper levels	55
Coolant level	Ensure proper level	61
Coolant hoses	Inspect for leaks	-
Throttle	Ensure proper operation	21
Air filter, pre-filter	Inspect, clean	66
Headlamp	Check operation, apply POLARIS dielectric grease when lamp is replaced	72
Brake light/tail lamp	Check operation, apply POLARIS dielectric grease when lamp is replaced	73
Seat Belts	Check length of belt for damage, check latches for proper operation	23
Latches (hood/tailgate/seat)	Ensure all latches are secure	-

Driving Procedure

1. All riders should wear substantial footwear, long pants and a close-fitting shirt. A hard hat or helmet and approved eye protection are recommended when appropriate for working or riding conditions.
 2. Sit in the driver's seat.
 3. Start the engine and allow it to warm up.
 4. Apply the service brakes and shift the transmission into gear.
 5. Check your surroundings and determine your path of travel.
 6. Keeping both hands on the steering wheel, release the brake pedal and gradually push the throttle toward the floor to begin driving.
 7. Drive slowly. Practice maneuvering and using the throttle and brakes on level surfaces.
 8. Do not carry a passenger until you have at least two hours of driving experience with this vehicle. Never carry more than one passenger in this vehicle. Never allow a passenger to ride in the cargo box.
 9. To stop the vehicle, release the throttle pedal completely and brake to a complete stop.
- Tip:** Always come to a complete stop before reversing direction.
10. Place the transmission in PARK.
 11. Turn the key off.



WARNING! A rolling vehicle can cause serious injury. Remove the key when leaving the vehicle unattended.

OPERATION

Driving with a Passenger

1. Perform the pre-ride inspection. See page 30.
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. All riders should wear substantial footwear, long pants and a close-fitting shirt. A hard hat or helmet and approved eye protection are recommended when appropriate for working or riding conditions.
4. Make sure all passengers secure their seat belt.
5. Do not carry more than the recommended number of passengers for your vehicle. See page 8.
6. Allow a passenger to ride only in a passenger seat.
7. 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.
8. Vehicle handling may change with a passenger and/or cargo on board. Allow more time and distance for braking.
9. Always follow all operating guidelines as outlined on safety labels and in this manual.

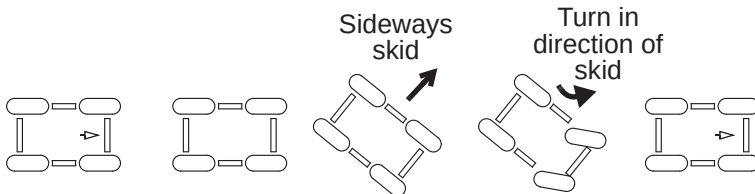
Driving On Slippery Surfaces

⚠ 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.

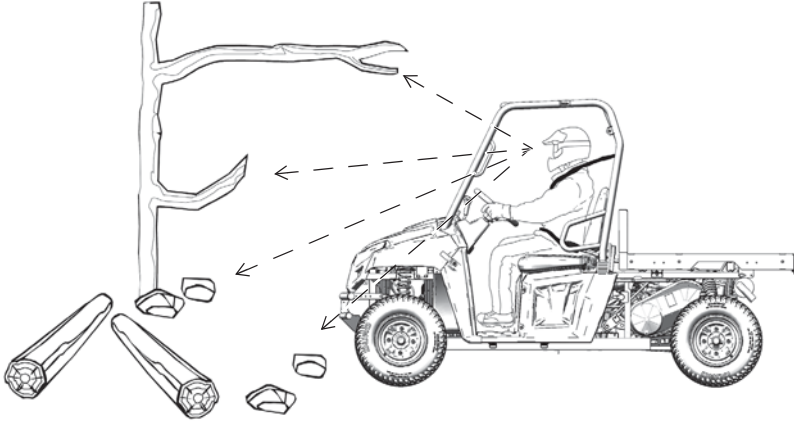
Whenever riding on slippery surfaces such as wet trails or loose gravel, or during freezing weather, follow these precautions:

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. 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:



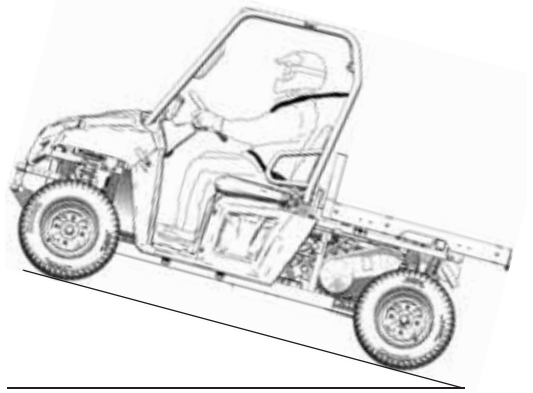
1. Always check for obstacles before operating in a new area.
2. Look ahead and learn to read the terrain. Be constantly alert for hazards such as logs, rocks and low hanging branches.
3. Travel slowly and use extra caution when operating on unfamiliar terrain. Not all obstacles are immediately visible.
4. Avoid operating over large obstacles such as large rocks and fallen trees. If unavoidable, use extreme caution and operate slowly.
5. Always have all passengers dismount and move away from the vehicle before operating over an obstacle that could cause a rollover.

OPERATION

Driving Uphill

Whenever traveling uphill, follow these precautions:

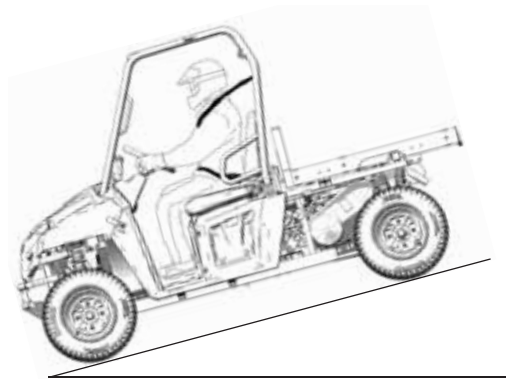
1. Always travel straight uphill.
2. Avoid excessively steep hills.
3. Keep both feet on the floor.
4. Always check the terrain carefully before ascending any hill. Never climb hills with excessively slippery or loose surfaces.
5. Proceed at a steady rate of speed and throttle opening. Never open the throttle suddenly.
6. 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. 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.
3. Slow down.
4. Apply the brakes *slightly* to aid in slowing.



Driving on a Sidehill (Sidehilling)

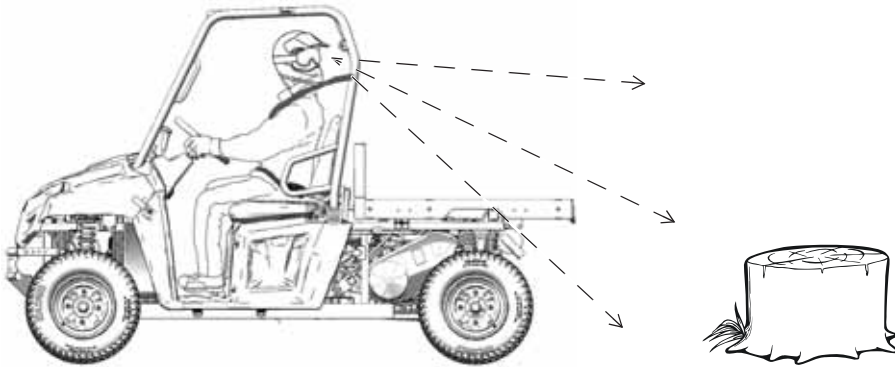
Driving on a sidehill is not recommended. Improper procedure could cause loss of control or rollover. Avoid crossing the side of any hill unless absolutely necessary.

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.

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

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. Remove the ignition switch key to prevent unauthorized use.

OPERATION

Driving Through Water

Your POLARIS M1400 can operate through water up to a maximum recommended depth equal to the floorboards.

NOTICE: Immersion can result in major damage if the vehicle isn't serviced correctly and promptly. After immersion, always take the vehicle to your dealer service. Do not start the engine! If it's impossible to bring the vehicle to your dealer before starting the engine, perform the service outlined on page 65, and take the vehicle to your dealer at the first opportunity.

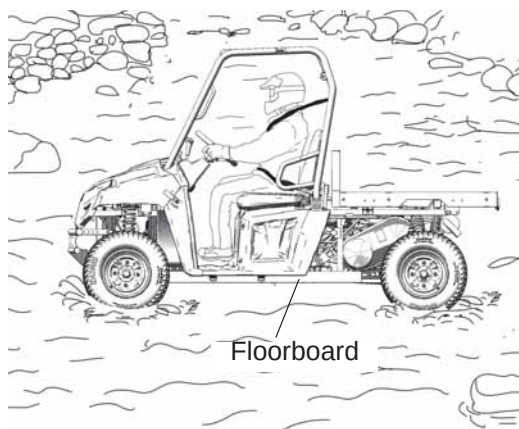
Follow these procedures when operating through water:

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 M1400 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 M1400.

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

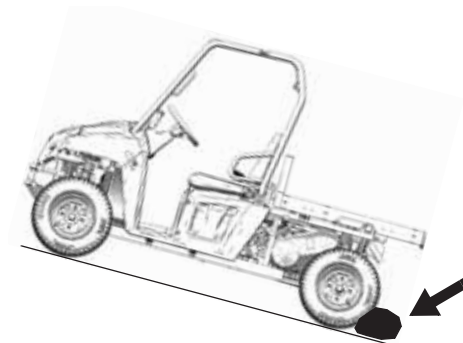
NOTICE: After running your vehicle in water, it's critical that you perform the services outlined in the Periodic Maintenance Chart beginning on page 51. Give special attention to engine oil, transmission oil, front and rear gearcases (if equipped), and all grease fittings.



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. Turn the engine off.
4. Block the rear wheels on the downhill side.



Hauling Cargo

⚠ WARNING

Hauling cargo improperly can alter vehicle handling and may cause loss of control or brake instability, which can result in serious injury or death. Always follow these precautions 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, passenger, 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.

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

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. Reduce speed and avoid abrupt turns when carrying loads that extend over the side of the box.

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 box sides. Stability and maneuverability may be adversely affected, causing a 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.

The POLARIS M1400 has been designed to carry or tow specific capacities. Always read and understand the load distribution warnings listed on the warning labels.

The total load (operator, passenger, accessories, cargo and weight on hitch) must not exceed the maximum weight capacity of the vehicle. Never exceed the following capacities.

Model	Maximum Capacities (Level Ground)	Cargo Box
POLARIS M1400	1450 lbs. (658 kg)	1100 lbs. (499 kg)

WARNING! Driving with passengers in the cargo box can result in severe injury or death. Never allow passengers to ride in the cargo box.



OPERATION

Towing Loads

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. Do not operate the vehicle faster than 10 MPH (16 km/h) when towing. See page 37. Towing a trailer increases braking distance.
3. Do not tow more than the recommended weight for the vehicle. See the towing capacity chart below and the specifications charts beginning on page 82.
4. Attach a trailer to the trailer hitch bracket only. Do not attach a trailer to any other location or you may lose control of the vehicle.
5. Never tow a trailer on a grade steeper than 15°.

Model	Total Towed Load Weight (Level Ground)	Total Towed Load Weight (15° grade)	Total Hitch Vertical Weight	Maximum Towing Speed
POLARIS M1400	1500 lbs. (680.4 kg)	850 lbs. (386 kg)	150 lbs. (68.1 kg)	10 MPH (16 kph)

Belt Life

To extend belt life, use the lowest gear possible when hauling or towing heavy loads.

Towing the Vehicle

Follow these procedures when towing the vehicle:

1. Place the gear selector in neutral.
2. Turn the key off.
3. Always follow these precautions when towing this vehicle:
 - Do not operate faster than 10 MPH (16 km/h).
 - Do not tow on public streets.
 - Do not allow passengers in the towed vehicle.
 - Avoid abrupt starts and stops.
 - Avoid sharp turns and abrupt steering maneuvers.
 - Avoid towing on a hill.

Dumping the Cargo Box

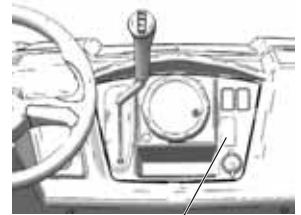
1. Select a level site to dump the cargo box. Do not attempt to dump or unload the vehicle while parked on an incline.
2. Apply the brakes.
3. Place the transmission in PARK.
4. Dismount the vehicle.
5. Ensure that the cargo is positioned evenly or toward the front of the cargo box.

WARNING! If the weight distribution on the box is located toward the rear of the box when using the release lever, the box may dump unexpectedly when the lever is pulled 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.

6. Release the tailgate latches and lower the tailgate.
7. *Using Electric Switch:* Press and hold the top of the dump box switch to dump the cargo. Release the switch after the cargo has dumped or when the box reaches the fully elevated position, indicated by a ratcheting sound. Press and hold the bottom of the dump box switch to lower the cargo box. Release the switch when the box is fully seated on the frame, indicated by a ratcheting sound.
Using Release Lever: Stand clear of the cargo box and pull the release lever. Lift the front of the cargo box to dump the cargo. Lower the cargo box and push down securely to latch. Make sure the box is fully seated on the frame before operating the vehicle.

8. Close the tailgate and secure both tailgate latches.

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.



Dump Box Switch

OPERATION

Transporting the Vehicle

When transporting the POLARIS M1400 for a long distance or on public streets, always use a trailer with an approved load rating greater than the POLARIS M1400 curb vehicle weight of 1060 lbs. (481 kg) plus any installed accessories or cargo.

Follow these guidelines when transporting the POLARIS M1400.

1. Place the transmission in PARK.
2. Remove the key to prevent loss.
3. Secure the seat, hood and tailgate latches. Ensure that the seats are attached correctly and are 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.

4. Always tie the frame of the vehicle to the transporting unit securely with suitable straps.
5. If using an open trailer, remove the windshield (if equipped).
6. Never allow passengers on a trailer or in a trailered vehicle.
7. Reduce speed and drive with caution.

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 48.
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 46 to feed and rewind the cable evenly before continuing the winch operation.

WINCH GUIDE

Winch Safety Precautions

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. Take your winch to your dealer for service 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.

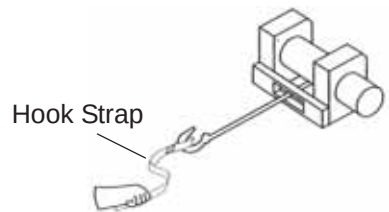
Tip: Consider practicing the operation and use of your winch before you actually need to use it in the field.

⚠ 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

Winch Operation

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

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

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

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 48.

- B. 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 GEM dealer.

- C. 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.
- D. 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).
- E. Before operating the winch, be sure that the safety latch on the winch cable hook is fully seated when the load is attached.
- F. Never operate your winch with a damaged hook or latch. Always replace damaged parts before using the winch.

5. Never remove the hook strap from the hook.

6. Release the winch clutch and pull out the winch cable.

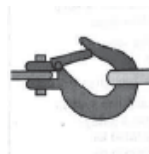
7. Pulling out as much cable as possible maximizes the winch's pulling capacity. Always be sure that at least five (5) full turns of winch cable are wrapped around the winch drum at all times. The friction provided by this wrapped cable allows the drum to pull on the winch cable and move the load.



NO



YES



YES



NO

Winch Operation

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 a 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 48. 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.

WINCH GUIDE

Winch Operation

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

- A. 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.
- B. 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.
- C. 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.
- D. 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.



WINCH GUIDE

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.

1. 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.

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 GEM 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 POLARIS 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 under the hood.



Emissions Label (under hood)

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.

Periodic Maintenance Chart

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, use genuine POLARIS parts available from your GEM dealer.

Record maintenance and service in the Maintenance Log beginning on page 93.

Tip: Service and adjustments are important for proper vehicle operation. If you're not familiar with safe service and adjustment procedures, have a qualified dealer 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
- Racing or race-style high RPM use
- Prolonged low speed, heavy load operation
- Extended idle
- Short trip cold weather operation

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 or see your dealer.

Maintenance Chart Key

► Perform these operations more often for vehicles subjected to severe use.

E Emission-related service (Failure to conduct this maintenance will not void the emissions warranty but may affect emissions.)

D Have an authorized GEM dealer 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 GEM dealer perform these services.

MAINTENANCE

Periodic Maintenance Chart

Perform all services at whichever maintenance interval is reached first. Check and lubricate all components at the intervals outlined in the Periodic Maintenance Chart, 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		Maintenance Interval (whichever comes first)			Remarks
		Hours	Calendar	Miles (Km)	
	Steering	-	Pre-Ride	-	Inspect and make adjustments as needed. See Pre-Ride Checklist on page 30.
	Front suspension	-		-	
	Rear suspension	-		-	
	Tires	-		-	
	Brake fluid level	-		-	
	Brake pedal travel	-		-	
	Brake system	-		-	
	Wheels/fasteners	-		-	
	Frame fasteners	-		-	
	Batteries	-		-	
	Engine oil level	-		-	
	Headlamp/tail lamp	-	Daily	-	Check operation; apply dielectric grease if replacing
► E	Air filter, pre-filter	-	Daily	-	Inspect; clean often; replace as needed
	Coolant	-	Daily	-	Check level
► E	Air filter	-	Weekly	-	Inspect; replace as needed
	Fuel System	25 H	Monthly	-	Inspect; cycle key to pressurize fuel pump; check lines and fittings for leaks and abrasion
►	Front Gearcase oil (if equipped)	25 H	1 M	-	Perform a break-in oil level check
►	Middle Gearcase oil (if equipped)	25 H	1 M	-	Perform a break-in oil level check
►	Rear gearcase oil (if equipped)	25 H	1 M	-	Perform a break-in oil level check
►	Transmission oil	25 H	1 M	-	Perform a break-in oil level check
►	Engine oil change (break-in)	25 H	1 M	-	Perform a break-in oil change at one month
► D	Brake pad wear	50 H	Monthly	-	Inspect periodically
►	General lubrication	50 H	3 M	-	Lubricate all fittings, pivots, cables, etc.
D	Steering	50 H	6 M	-	Lubricate
►	Front suspension	50 H	6 M	-	Lubricate
►	Rear suspension	50 H	6 M	-	Lubricate
D E	Throttle cable/Release switch	50 H	6 M	500 (800)	Inspect; adjust; lubricate; replace if necessary
E	Throttle body air 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

► Perform these procedures more often for vehicles subjected to severe use.

E Emission-Related Service.

D Have an authorized GEM dealer perform these services.

Periodic Maintenance Chart

Item		Maintenance Interval (whichever comes first)			Remarks
		Hours	Calendar	Miles (Km)	
	Cooling system (if applicable)	50 H	6 M	-	Inspect coolant strength seasonally; pressure test system yearly
►	Oil lines, fasteners	50 H	6 M	-	Inspect for leaks and loose fittings
►	Wiring	100 H	12 M	-	Inspect for wear, routing, security; apply dielectric grease to connectors subjected to water, mud, etc.
D	Front wheel bearings	100 H	12 M	-	Inspect; replace as needed
D E	Fuel system	100 H	12 M	1000 (1600)	Cycle key to pressurize fuel pump; check for leaks at fill cap, fuel lines/rail and fuel pump; replace lines every two years.
D	Toe adjustment	-			Inspect periodically; adjust when parts are replaced
D	Headlight aim	-			Adjust as needed
►	Engine oil and filter change	100 H	6 M	1000 (1600)	Change oil and filter; (perform a break-in oil change at one month)
►	Front Gearcase oil (if equipped)	100 H	6 M	-	Inspect level; change yearly
►	Middle Gearcase oil (if equipped)	100 H	6 M	-	Inspect level; change yearly
►	Rear gearcase oil (if equipped)	100 H	6 M	-	Inspect level; change yearly
►	Transmission oil	100 H	12 M	1000 (1600)	Change fluid
D E	Fuel system	100 H	12 M	1000 (1600)	Check for leaks at tank cap, lines, pump, throttle body; replace lines every 2 years
►	Radiator (if applicable)	100 H	12 M	-	Inspect; clean external surfaces
►	Cooling Hoses	100 H	12 M	-	Inspect for leaks
►	Engine mounts	100 H	12 M	-	Inspect
	Exhaust muffler/pipe	100 H	12 M	-	Inspect
► E	Spark plug	100 H	12 M	1000 (1600)	Inspect; replace as needed
D	Ignition timing	100 H	12 M	-	Inspect
►	Wiring	100 H	12 M	-	Inspect for wear, routing, security; apply dielectric grease to connectors subjected to water, mud, etc.
D ►	Clutches	100 H	12 M	1000 (1600)	Inspect; clean; replace worn parts
D	Front wheel bearings	100 H	12 M	-	Inspect; replace as needed
D	Brake fluid	200 H	24 M	-	Change every two years
	Spark arrester	300 H	36 M	-	Clean out
►	Coolant	-	60 M	-	Replace coolant
	Valve clearance	500 H	-	5000 (8000)	Inspect; adjust as needed
	Idle speed	-			Adjust as needed
D	Toe adjustment	-			Inspect periodically; adjust when parts are replaced
D ►	Auxiliary brake (if equipped)	-			Inspect daily; adjust as needed
	Headlight aim	-			Adjust as needed

► Perform these procedures more often for vehicles subjected to severe use.

E Emission-Related Service.

D Have an authorized GEM dealer perform these services.

MAINTENANCE

Lubrication Recommendations

Check and lubricate all components at the intervals outlined in the Periodic Maintenance Chart beginning on page 51, 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	See page 55.
Brake Fluid	DOT 4 Brake Fluid	See page 68.
Main Gearcase Oil (Transmission)	AGL Gearcase Lubricant & Transmission Fluid	See page 58.
Front Gearcase Oil (if equipped)	Demand Drive Fluid	See page 59.
Front Prop Shaft Yoke (if equipped)	U-Joint Grease	Locate fittings and grease (3 pumps maximum).

Engine Oil

Always check and change the oil at the intervals outlined in the Periodic Maintenance Chart beginning on page 51. Always use the recommended engine oil. See page 54.

NOTICE: Allowing dirt or debris to enter the engine can result in serious engine damage. Always clean away all dirt and debris from the dipstick area before removing the dipstick.

Oil Check

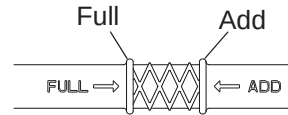
The oil dipstick is located on the lower engine, behind the seat. Access the dipstick through the right rear wheel well. Remove the dipstick to check the oil level and to add oil. An additional oil fill hole is located at the top of the engine. Add oil through either the dipstick hole or the upper fill hole. Access the upper fill hole cap through the cargo box access panel.

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 before removing the dipstick. Remove the dipstick. Wipe it dry with a clean cloth.
4. Reinstall and tighten the dipstick.
5. Remove the dipstick and check the oil level. Maintain the oil level in the safe range between the FULL and ADD marks. Do not overfill.
6. Add the recommended fluid as needed.
7. Reinstall and tighten the dipstick.

Upper Oil Fill



Oil Dipstick (Check/Fill)



MAINTENANCE

Engine Oil

Oil and Filter Change

Always check and change the oil at the intervals outlined in the Periodic Maintenance Chart beginning on page 51. Always change the oil filter whenever changing oil.

The engine drain plug is located on the bottom of the crankcase.

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! Hot oil can cause burns to skin. Do not allow hot oil to contact skin.

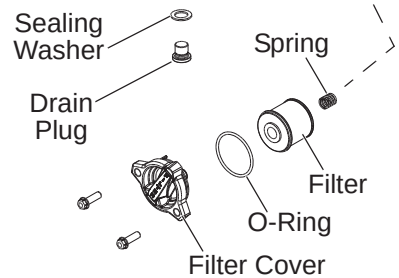
4. Place a drain pan beneath engine crankcase and remove the drain plug.

5. Allow the oil to drain completely.

6. Install a new 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.

7. Reinstall the drain plug. Torque to 11-13 ft. lbs. (14.5-17.5 Nm).
8. Using a clean dry cloth, clean the oil filter cover on the crankcase.
9. Place shop towels beneath the filter cover to catch oil drips. Remove the cover screws and remove the cover to access the oil filter.
10. Remove the oil filter and spring, retaining the spring for reinstallation.
11. Using a clean dry cloth, clean the surface of the crankcase.



Engine Oil

Oil and Filter Change

12. Lubricate the o-ring for the new filter with a film of fresh engine oil. Check to make sure the o-ring is in good condition. Install the o-ring to the filter cover.
13. Reinstall the oil filter spring, then install the new filter.
14. Reinstall the oil filter cover and o-ring. Torque the screws to 88 in. lbs. (10 Nm).
15. Fill the sump with 1.75 quarts (1.65 l) of the recommended oil.
16. Reinstall the upper fill cap (if removed) and tighten the dipstick.
17. Make sure the transmission is in PARK. Apply the brakes.
18. Start the engine. Allow it to idle for one to two minutes.
19. Stop the engine. Inspect for leaks.
20. Re-check the oil level on the dipstick and add oil as necessary to bring the level to the upper mark on the dipstick.
21. Dispose of used filter and oil properly.

MAINTENANCE

Gearcases

Gearcase Specification Chart

Gearcase	Lubricant	Capacity	Fill Plug(s) Torque	Drain Plug Torque
Main Gearcase (Transmission)	AGL Gearcase Lubricant & Transmission Fluid	44 oz. (1300 ml)	10-14 ft. lbs. (14-19 Nm)	10-14 ft. lbs. (14-19 Nm)
Front Gearcase (if equipped)	Demand Drive Fluid	9.3 oz. (275 ml)	8-10 ft. lbs. (11-13.6 Nm)	11 ft. lbs. (15 Nm)

Transmission (Main Gearcase)

Always check and change the transmission oil at the intervals outlined in the Periodic Maintenance Chart beginning on page 51. 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. See page 84 for the part numbers of POLARIS products.

Fluid Check

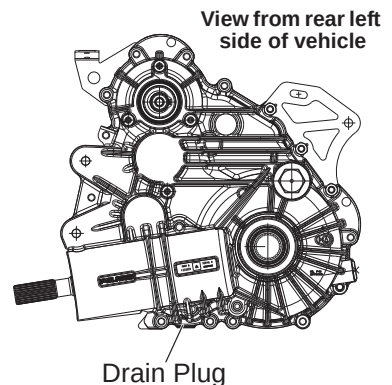
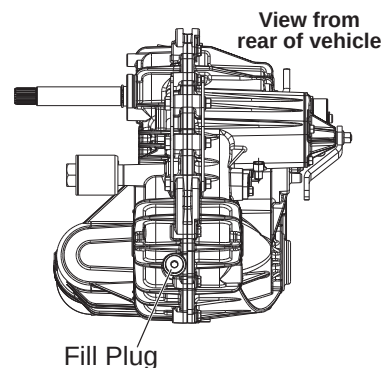
The fill plug is located on the rear of the gearcase. Maintain the fluid level at the bottom of the fill plug hole.

1. Position the vehicle on a level surface.
2. Remove the fill plug.
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.
2. Place a drain pan under the drain plug.
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.



Gearcases

Front Gearcase (if equipped)

Always check and change the front gearcase oil at the intervals outlined in the Periodic Maintenance Chart beginning on page 51. Maintain the oil level even with the bottom thread of the fill plug hole.

Refer to the Gearcase Specifications Chart on page 58 for recommended lubricants, capacities and torque specifications. See page 84 for the part numbers of POLARIS products.

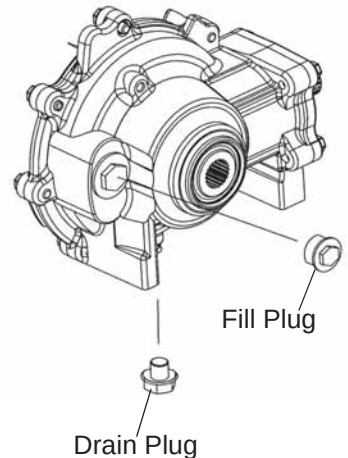
Oil Check

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

1. Position the vehicle on a level surface.
2. Remove the fill plug. 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 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.
10. Discard used oil properly.



MAINTENANCE

Spark Plugs

Spark Plug Recommendations

Refer to the specifications section beginning on page 82 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.

Spark Plug Gap/Torque

Model	Electrode Gap	New or Used Plug Torque
POLARIS M1400	.031" (.7-.9 mm)	9 ft. lbs. (12 Nm)

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.

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 or incorrect throttle body adjustments.

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. See page 84 for the part numbers of POLARIS products.

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 beginning on page 51. 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.

MAINTENANCE

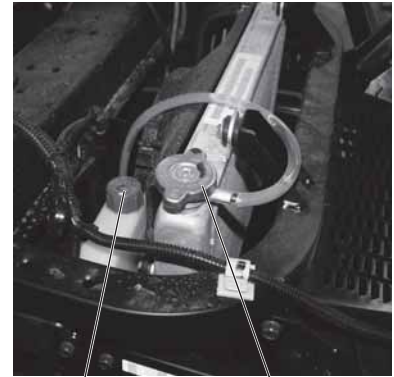
Cooling System

Overflow Bottle Coolant Level

Always check and change the coolant at the intervals outlined in the Periodic Maintenance Chart beginning on page 51. 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.
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. Have the cooling system inspected by your GEM dealer.



Overflow
Bottle Cap

Radiator
Cap

Radiator Coolant Level

Always check and clean the screen and radiator fins at the intervals outlined in the Periodic Maintenance Chart beginning on page 51. 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.
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. See your dealer for the correct replacement part.

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 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.

1. Position the vehicle on a level surface. Block the wheels to prevent vehicle movement. Place the transmission in neutral.
2. Lift the cargo box.
3. Remove the clutch cover screws using a 3/8" socket with ratcheting wrench and extension.
4. Pull the bottom of the cover outward and over the suspension to remove it.
5. Make sure the cover gasket does not fall out of the groove when removing the cover.
6. Squeeze the belt together so that it submerges further into the driven clutch, creating slack in the belt between the clutches.
7. Remove the belt by using the slack to pull part of the belt off the driven clutch.



Step 3



Step 5



Step 6

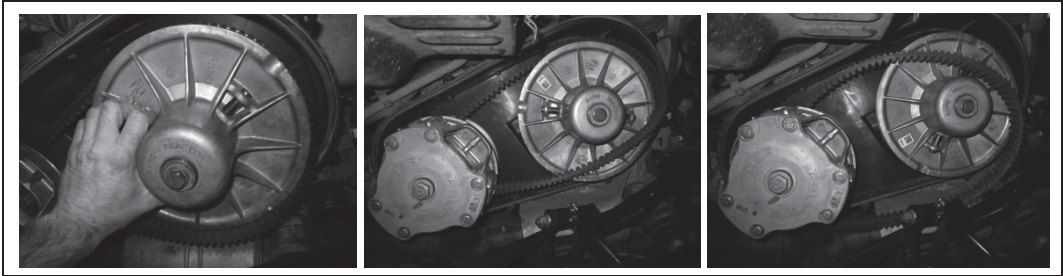


Step 7

MAINTENANCE

POLARIS Variable Transmission (PVT) System Belt Replacement/Debris Removal

8. Rotate the driven clutch by hand until the belt is completely off.



Step 8

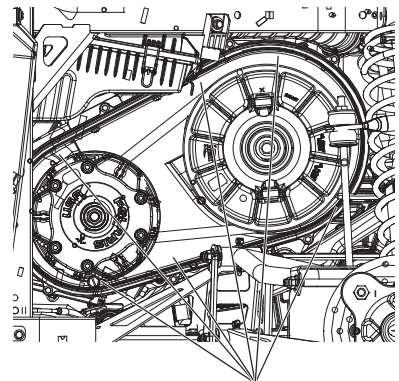
9. Slide the front of the belt out from between the drive clutch and inner clutch cover to completely remove it.
10. Remove all debris wrapped in and around the PVT system.
11. Remove all debris from the entire clutch air duct passage.
12. Check for signs of damage to seals on the transmission and engine. See your dealer promptly for service if any seals appear to be damaged.



Step 9

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.).

13. 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.
14. 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.
15. Install all clutch cover screws. Torque to 4-5 ft. lbs. (5.5-6.5 Nm).



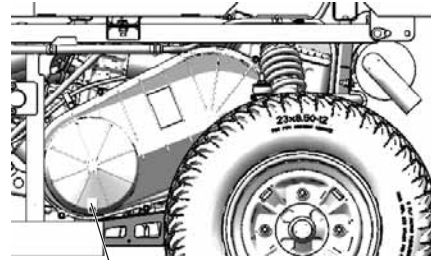
Remove ALL Debris

POLARIS Variable Transmission (PVT) System

PVT Drying

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. Take the vehicle to your dealer for service as soon as possible.



Drain plug

Vehicle Immersion

NOTICE: If your vehicle becomes immersed, major engine damage can result if the machine is not thoroughly inspected. Take the vehicle to your dealer before starting the engine.

If it's impossible to take your vehicle 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 to your dealer for service as soon as possible, whether you succeed in starting it or not.
7. If water has been ingested into the PVT follow the procedure on page 65 for drying.

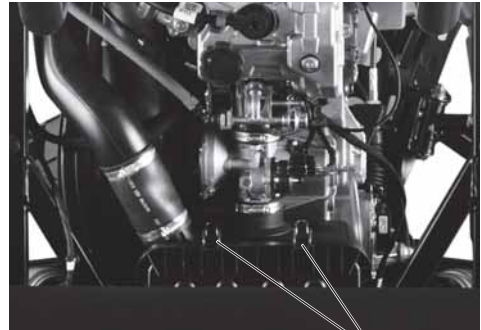
MAINTENANCE

Filter Systems

Air Filter

Always change the air filter at the intervals outlined in the Periodic Maintenance Chart beginning on page 51.

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.
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 84 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.



View of Under-Box Area

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.

MAINTENANCE

Brakes

The front and rear brakes are hydraulic disc type brakes. Press down on the brake pedal to engage the brakes. See page 21.

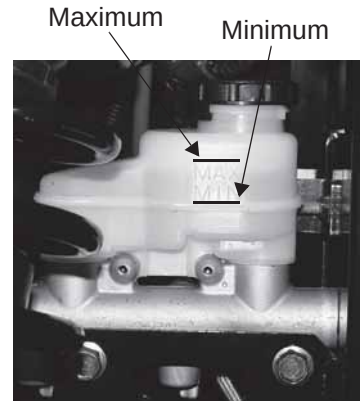
Brake Fluid

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. Use only DOT 4 brake fluid.

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, 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.

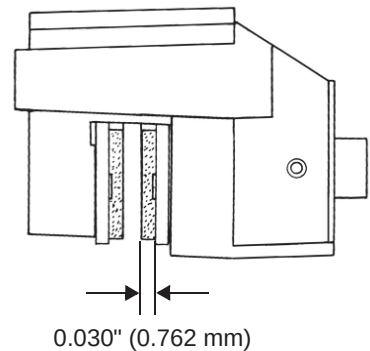


Brake Inspection

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.

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.

5. Inspect the brake disc spline and pad wear surface for excessive wear. Change pads when worn to 0.030" (0.762 mm).



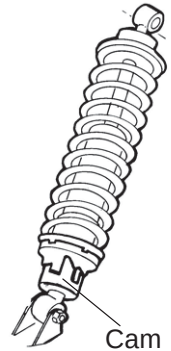
Steering Wheel Inspection

Check the steering wheel for specified freeplay and smooth operation at the intervals outlined in the Periodic Maintenance Chart beginning on page 51.

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

Spring Adjustment

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



MAINTENANCE

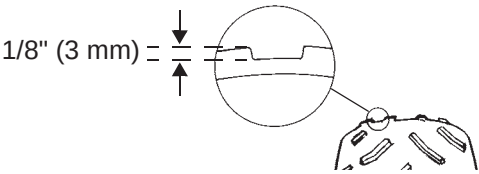
Tires

 WARNING

Operating your vehicle with worn tires, improperly inflated tires, non-standard tires or improperly installed tires will affect vehicle handling and could cause an accident resulting in serious injury or death. Always follow all tire maintenance procedures as outlined in this manual and on the labels on the vehicle. Always use POLARIS-approved size and type of tires for this vehicle when replacing tires.

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.

Nut Type	Location	Nut Torque
Wheel Nut	Front and Rear	65 ft. lbs. (88 Nm)
Spindle Nut	Front	75 ft. lbs. (102 Nm)
Hub Retaining Nuts	Rear	110 ft. lbs. (150 Nm)

Wheel Removal

1. Apply the brakes. Place the transmission in PARK. Turn the key off.
2. Loosen the wheel nuts slightly.
3. Elevate the side of the vehicle by placing a suitable stand under the frame.
4. Remove the wheel nuts and washers. Remove the wheel.

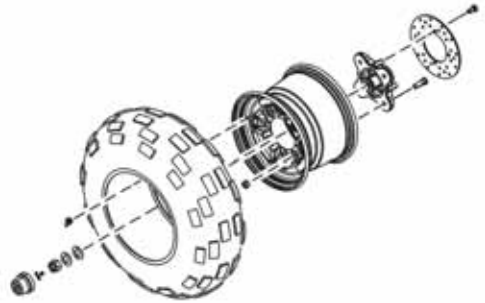
Tires

Wheel Installation

1. Place the transmission in PARK. Place the wheel in the correct position on the wheel hub. Be sure the valve stem is toward the outside and rotation arrows on the tire point toward 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. See your GEM dealer.

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



Fuses

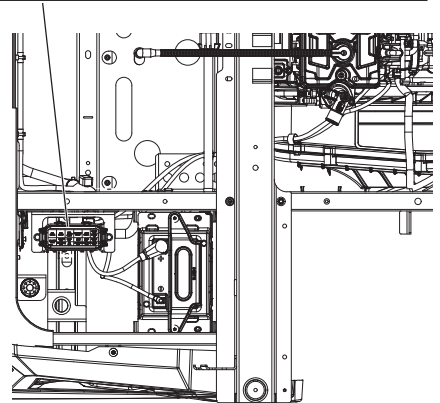
If the engine stops or will not start, or if you experience other electrical failures, a fuse may need replacement. Locate and correct any short circuits that may have caused the blown fuse, then replace the fuse.

The fuse box is located in the electrical compartment under the left rearmost seat. Spare fuses are provided in the fuse box.

If you suspect that a fuse or relay may not be working properly, please see your GEM dealer.

HEADLIGHT RELAY	FAN RELAY	EFI RELAY	FUEL PUMP RELAY	CHASSIS RELAY	SPARE 5A
EPS RELAY (OPT)	FAN 20A CB	EFI 20A	FUEL PUMP 10A	BRAKE LT 5A	SPARE 10A
	EPS (OPT) 20A	LIGHTS 20A	DRIVE 10A	ACCESSORY 20A	

Fuse Size	Feature Supported
5A	Brake Light
10A	Drive System, Fuel Pump
20A	EFI, Power Steering (if equipped), Lights, Accessories
20A Circuit Breaker	Fan



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

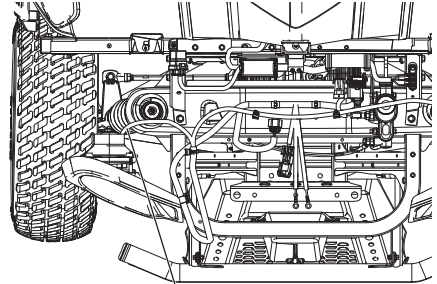
1. Open the hood.

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

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.

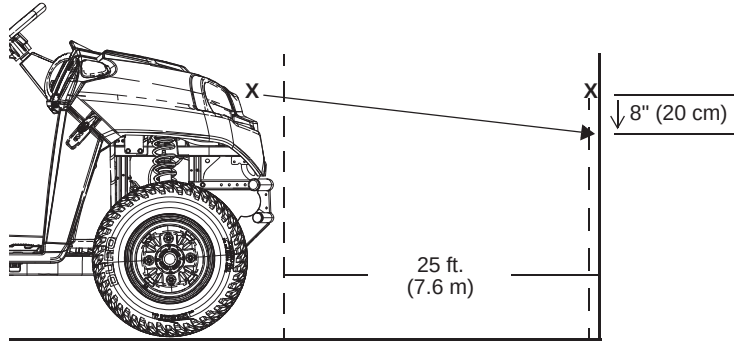


Wiring Harness

Lights

Headlight Beam Adjustment

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. Turn the key on. Turn the headlights on.
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, access the adjustment screw under the hood or through the wheel well.
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.

1. Turn the key to the ON position.
2. Apply the brakes. If the light doesn't come on, check the wiring, the brake switch or the taillight assembly.

MAINTENANCE

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.

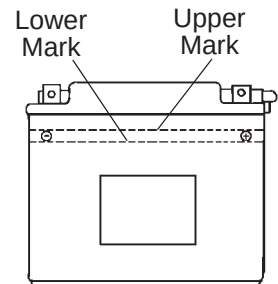
Your vehicle may have either a sealed battery, which requires little maintenance, or a conventional battery. A sealed battery can be identified by its flat covers on the top of the battery. A conventional battery has six filler caps on the top of the battery.

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 the battery.

Battery Fluid (Conventional Battery)

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

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



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.

1. Remove the seat to access the battery compartment.
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.

MAINTENANCE

Battery

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 77 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, please see your GEM dealer. Ask your dealer to provide any installation procedures that may differ for an extreme use battery.

1. Ensure that the battery is fully charged.
2. Place the fully charged battery in the battery holder.
3. With 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 (+) cable first. Connect and tighten the black (-) cable last.
6. Verify that cables are properly routed. Cables should be safely tucked away at the front and rear of the battery.
7. Install the battery hold-down strap.

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 77.

POLARIS recommends maintaining battery charge 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 pre-determined point. See page 84 for the part numbers of POLARIS products.

Battery

Battery Charging (Conventional Battery)

1. Remove the battery from the vehicle to prevent damage from leaking or spilled electrolyte during charging. See page 75.
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. See page 76. Make sure the positive terminal is toward the driver's side 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. 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.
2. 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

MAINTENANCE

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.

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

NOTICE: 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.
- Avoid directing water toward electrical components, including batteries, wiring and switches.

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
- Transmission seals
- Brakes
- Radiator
- Cab and body panels
- Labels and decals
- Switches and controls
- Electrical components and wiring

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

Grease all zerk fittings immediately after washing.

Cleaning and Storage

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.

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. See page 78.

Stabilize the Fuel

1. Fill the fuel tank.
2. Add POLARIS Carbon Clean Fuel Treatment or POLARIS Fuel Stabilizer. 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 page 55.

Air Filter / Air Box

1. Inspect and clean or replace the pre-cleaner and air filter. See page 66.
2. Clean the air box.

Inspect and Lubricate

Inspect all cables and lubricate all areas of the vehicle as recommended in the Periodic Maintenance Chart beginning on page 51.

MAINTENANCE

Cleaning and Storage

Storage Tips

Fluid Levels

Inspect the fluid levels. Add or change fluids as recommended in the Periodic Maintenance Chart beginning on page 51.

- Front and 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)

Fog the Engine

1. Treat the fuel system with POLARIS Carbon Clean. 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. See page 60.
4. Apply dielectric grease to the inside of each spark plug cap and reinstall the caps onto the plugs.
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. If POLARIS fuel system additive is not used, fuel tank, fuel lines, and injectors should be completely drained of gasoline.

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.

Storing the Vehicle

Any time the vehicle will be parked for more than a few hours, follow the recommended storage procedures:

1. Make any necessary repairs and clean the vehicle. See page 78.
2. Inspect all cables and lubricate all areas of the vehicle as recommended in the Periodic Maintenance Chart beginning on page 51.
3. Perform battery maintenance. Clean the batteries. See pages 74-77.
4. Inspect the fluid levels. Add or change fluids as recommended in the Periodic Maintenance Chart beginning on page 51.
5. Store the vehicle out of the sun in a cool, dry place.
6. Be sure the storage area is well ventilated.

Tip: Do not use plastic or coated materials to cover the vehicle. They do not allow enough ventilation to prevent condensation, and may promote corrosion and oxidation.

7. Turn the key off.
8. Verify that tire pressure is at specification.
9. Block the wheels to prevent rolling.
10. Fully charge the batteries. Leave the charger connected to maintain a full charge during the storage period, or check battery voltage each month during storage and recharge as needed to maintain a full charge. If the charger remains connected, check it monthly to verify proper operation.

WARNING! Do not cover the vehicle while the charger is connected. Dangerous levels of hydrogen gas could accumulate.

Removal from Storage

1. Inspect all battery connections.
2. Verify that batteries are fully charged.
3. Make sure the spark plug is tight.
4. Fill the fuel tank with fuel.
5. Verify that tire pressure is at specification.
6. Perform the pre-ride inspection. See page 30.
7. Inspect and verify the tightness of the bolts, nuts and other fasteners.
8. Lubricate at the intervals outlined in the Periodic Maintenance Chart beginning on page 51.

SPECIFICATIONS

POLARIS M1400	
Dimensions	
Maximum Weight Capacity (includes weight of operator, passenger, cargo, accessories)	1450 lbs. (658 kg)
Dry Weight	1060 lbs. (481 kg)
Ground Clearance	8.5 in. (21.6 cm)
Length	114.5 in. (291 cm)
Width	56.5 in. (143.5 cm)
Height	73 in. (185.4 cm)
Cargo Box (Inside)	51.5 x 41.75 in. (130.8 x 106 cm)
Wheelbase	79 in. (200.7 cm)
Turning Radius (GVW)	Left: 175 in. (444.5 cm) Right: 159 in. (403.9 cm)
Turning Radius (LVW)	Left: 176.2 in. (447.5 cm) Right: 158.6 in. (402.8 cm)
Fuel Capacity	8.8 gal. (33.3 l)
Engine Oil Capacity	1.75 qts. (1.6 l)
Coolant Capacity	120 oz. (3.5 l)
Load Capacity	
Cargo Box Capacity	1100 lbs. (499 kg)
Payload Capacity	1450 lbs. (658 kg)
Hitch Towing Capacity	1500 lbs. (680.4 kg)
Hitch Tongue Capacity	150 lbs. (68 kg)
Cargo System	Lock & Ride®
Seating	2

SPECIFICATIONS

POLARIS M1400	
Brake System	
Brakes	4-Wheel hydraulic disc w/dual bore front calipers
Engine and Suspension	
Engine	Dual overhead cam, 4 valve 4 stroke single cylinder
Displacement	325 cc
Bore x Stroke (mm)	78mm x 68mm
Alternator Output	460 W @ 3000 RPM
Compression Ratio	11.5:1
Starting System	Electric
Fuel System	Electronic Fuel Injection
Ignition Timing	ECU Controlled 32° +/- 2° @ 5000 RPM
Spark Plug	NGK MR7F / .031" (0.7-0.9 mm)
Lubrication System	Wet Sump
Cooling	Liquid
Front suspension	Independent Macpherson struts w/5 in. (12.5 cm) travel
Rear suspension	Dual A-Arm w/6 in. (15 cm) travel
Tire size	23x8.5-12
Tire pressure	32 psi (220 kPa)
Throttle Body Size	36 mm
Ignition System	Digital CDI
Driving System Type	PVT
Shift Type	Single Lever (console)
Gear Reduction - Low	28.84:1
Gear Reduction - Reverse	25.83:1
Gear Reduction - High	9.65:1
Drive Ratio - Front	3.818:1
Features	
Cup holders	Dual cup holders
Auxiliary power	12-volt accessory outlet
Headlights/taillights	Dual 50-watt
Brake lights	LED 1.8 watts at 12 volts
Storage	Glove box

POLARIS PRODUCTS

Part Number	Description
Engine Lubricant	
2870791	Fogging Oil (12 oz./355 ml Aerosol)
2876244	PS-4 Full Synthetic 5W-50 4-Cycle Oil (qt./.95 l)
2876245	PS-4 Full Synthetic 5W-50 4-Cycle Oil (gal./3.8 l)
2878920	PS-4 Extreme Duty Synthetic 10W-50 4-Cycle Oil (qt./.95 l)
2878919	PS-4 Extreme Duty Synthetic 10W-50 4-Cycle Oil (gal./3.8 l)
Gearcase / Transmission Lubricants	
2878068	AGL Full Synthetic Gearcase Lubricant & Transmission Fluid (qt./.95 l)
2878069	AGL Full Synthetic Gearcase Lubricant & Transmission Fluid (gal./3.8 l)
2877922	Demand Drive Fluid (qt./.95 l)
2877923	Demand Drive Fluid (gal./3.8 l)
2870465	Pump for Gallon (3.8 l) Jug
Coolant	
2880514	Antifreeze 50/50 Premix (qt./.95 l)
2880513	Antifreeze 50/50 Premix (gal./3.8 l)
Grease / Specialized Lubricants	
2871312	Grease Gun Kit, All Season Grease
2871322	All Season Grease (3 oz./89 ml cartridge)
2871423	All Season Grease (14 oz./414 ml cartridge)
2876160	ATV Angle Drive Fluid (qt./.95 l)
2872276	ATV Angle Drive Fluid (2.5 gal./9.5 l)
2871460	Premium Starter Grease
2871515	U-Joint Grease (3 oz./89 ml cartridge)
2871551	U-Joint Grease (14 oz./414 ml cartridge)
2871329	Dielectric Grease (Nyogel™)
Additives / Miscellaneous	
2871326	Carbon Clean
2870652	Fuel Stabilizer
2872189	DOT 4 Brake Fluid
2871956	Loctite™ 565 Thread Sealant
2859044	POLARIS Battery Tender™ Charger
2521372	POLARIS Air Filter

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. See warnings on page 34.
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 roll-over.
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 roll-over.
Belt slippage from water or snow ingestion into the PVT system	Dry out the PVT. See page 65. Inspect clutch seals for damage if repeated leaking occurs.
Clutch malfunction	See your GEM dealer.
Poor engine performance	Check for fouled plugs or foreign material in fuel tank or fuel lines. See your dealer.
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. See pages 29 and 63.

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
Clogged fuel filter	See your GEM dealer
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	Immediately see your GEM dealer
Low battery voltage	Recharge the battery to 12.8 VDC
Mechanical failure	See your GEM dealer

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	See your GEM dealer
Incorrect ignition timing	See your GEM dealer
Mechanical failure	See your GEM dealer
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 ignition timing	See your GEM dealer
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	See your GEM dealer
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
Kinked or plugged fuel tank vent line	Inspect and replace
Incorrect fuel	Replace with recommended fuel
Clogged air filter	Inspect and clean or replace
Low fuel pressure	See your GEM dealer
Other mechanical failure	See your GEM dealer
Possible Lean Fuel Cause	Solution
Low or contaminated fuel	Add or change fuel, clean the fuel system
Low octane fuel	Replace with recommended fuel
Clogged fuel filter	See your GEM dealer
Possible Rich Fuel Cause	Solution
Fuel is very high octane	Replace with lower octane fuel

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	See your GEM dealer
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
Other mechanical failure	See your GEM dealer
Overheated engine	Clean radiator screen and core, clean engine exterior, see your GEM dealer

WARRANTY

Limited Warranty

POLARIS Industries Inc., 2100 Highway 55, Medina, MN 55340 (POLARIS) gives a TWO 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 GEM 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 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.

Warranty Coverage And Exclusions: Limitations Of Warranties And Remedies

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 TWO 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.

WARRANTY

How To Obtain Warranty Service

If your vehicle requires warranty service, you must take it to a GEM 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 GEM 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 GEM 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 GEM 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 GEM 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 GEM 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 GEM 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 GEM dealer in your country to ensure that you receive safety information and notices regarding your product.

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 GEM Customer Assistance:

United States & Canada: 855-RIDEGEM (855-743-3436)

French: 204-925-7100

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
- Ignition system
- Fuel system
- Exhaust gas recirculation systems

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

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

WARRANTY

U.S.A. EPA Emissions Limited 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.

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. POLARIS recommends that you contact an authorized GEM dealer to perform any service that may be necessary for your vehicle. POLARIS also recommends that you use only POLARIS parts. 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 "C" in the model name (e.g., R13UH88A_C). 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 GEM Customer Assistance:

United States & Canada: 855-RIDE GEM (855-743-3436)

French: 204-925-7100

MAINTENANCE LOG

Use the following chart to record periodic maintenance.

DATE	MILES (KM) OR HOURS	TECHNICIAN	SERVICE PERFORMED / COMMENTS

MAINTENANCE LOG

DATE	MILES (KM) OR HOURS	TECHNICIAN	SERVICE PERFORMED / COMMENTS

A

Adjustment, Headlight Beam	73
Air Filter	66
Air Filter Cleaning	66
Auxiliary 12-Volt Terminal Board	20
Auxiliary Outlets	20
Axle Nut Torque	70

B

Battery	74-77
Charging (Conventional)	77
Charging (Sealed)	77
Extreme Use	22
Fluid (Conventional)	74
Installation	76
Removal	75
Storage	76
Warnings	74
Belt Burning	85
Belt Life	38
Belt Replacement	63-64
Belt Wear	85
Brake Lights	73
Brake Pedal	21
Brakes	68
Brake Fluid	68
Brake Inspection	68
Break-In Period	29

C

Cab Frame, OPS	22
Cargo	37
Chart, Periodic Maintenance	52-53
Check Engine Indicator	28
Cleaning and Storage	78-80
Cleaning the Air Filter	66
Cleaning the Exhaust System	67
Cleaning the Spark Arrester	67
Component Locations	18
Console	19-21
Coolant Level, Overflow Bottle	62
Coolant, Adding or Changing	61
Cooling Fan	61
Cooling System	61-62
Crankcase Emission Control System	50

D

Display Units, Standard/Metric	26
Drive Belt Wear	85
Drivetrain Break-In	29
Driving Downhill	34
Driving in Reverse	35
Driving on a Sidehill	35
Driving on Slippery Surfaces	32

D

Driving Over Obstacles	33
Driving Procedure	31
Driving Through Water	36
Driving Uphill	34
Driving with a Passenger	32
Driving, After Driving in Water	65
Drying the Transmission	65
Dumping the Cargo Box	39

E

Emissions Limited Warranty	91-92
Engine Break-In	29
Engine Fogging	80
Engine Oil	55-57
Equipment Modifications	13
Error Codes, Engine	28
Exhaust Cleaning	67
Exhaust Emission Control System	50
Exhaust System Warning	67
Extreme Use Battery	22
Eye Protection	10

F

Filter Cleaning, Air	66
Filter Systems	66
Filter, Air	66
Fluid Change	
Front Gearcase	59
Main Gearcase	58
Transmission	58
Fluid Check	
Coolant (Overflow Bottle)	62
Front Gearcase	59
Main Gearcase	58
Transmission	58
Fluid Levels During Storage	80
Fluid Recommendation, Gearcase	54, 58
Fluid, Brake	68
Fluid, Battery Fluid	74
Fogging the Engine	80
Fouled Plugs	60
Front Gearcase	59
Fuel Cap	22
Fuel Safety	15
Fuel Stabilizer	79
Fuel Tank Filler Cap	22
Fuse	71
Fuse Replacement	71

INDEX

G

Gap, Spark Plug	60
Gasoline Handling	15
Gear Selector	20-21
Gearcase Specification Chart	58
Gearcase, Front	59
Gearcase, Main	58
Gearcases	58-59
Gears, Shifting	20-21
Gross Vehicle Weight Rating	13
GVWR	13

H

Hard Hat/Helmet	10
Hauling Cargo	37
Headlight Beam Adjustment	73
Headlight Lamp Replacement	72
Hitch Bracket	21
Hitch Weight	38

I

Ignition Switch	20
Immersion of Vehicle	65
Indicator Lamps	24
Instrument Cluster	24-28

K

Key, Periodic Maintenance Chart	51
---------------------------------------	----

L

Light Switch	20
Lights	72-73
Brake Lights	73
Headlight Beam Adjustment	73
Headlight Lamp Replacement	72
Lubricants, Gearcase	58
Lubrication Recommendations	54

M

Main Gearcase	58
Maintenance, Periodic	51-53
Metric Display	26
Mode Button	20
Modifications to Vehicle	13

N

Noise Emission Control System	50
-------------------------------------	----

O

Obstacles	33
Occupant Protective Structure	22
Oil Change	
Engine Oil	56-57
Front Gearcase	59
Main Gearcase	58
Transmission	58
Oil Check	
Engine Oil	55
Front Gearcase	59
Main Gearcase	58
Transmission	58
Oil Recommendation, Gearcases	58
Oil, Engine	55-57
Operation on Public Lands	50
Operator Safety	11-17
OPS Cab Frame	22

P

Parking on an Incline	36
Parking the Vehicle	35
Periodic Maintenance Chart	51-53
Personal Protective Equipment	10
Plug Gap	60
Plug Torque	60
Plugs, Fouled	60
Polishing the Vehicle	79
Pre-Ride Inspection	30
Pressure, Tire	10
PVT Break-In	29
PVT Drying	65
PVT System	64-65
PVT System Operation	63
PVT Warning	63-65
PVT, Cleaning Debris	63-64

R

Radiator	61
Registration, Warranty	88
Removing the Vehicle from Storage	81
Reverse Operation	35
Rider Information Center	25-28

S

Safety Gear	10
Safety Glasses	10
Safety Labels	8-10
Safety Shoes	10
Safety Symbols	4
Safety, Winch Maintenance	49
Seat Belt Inspection	23
Seat Belts	23
Seat Removal	23
Severe Use Definition	51
Shifter	20-21
Shifting Gears	20-21
Shock Loading the Winch	48
Shock Spring Adjustment	69
Signal Words	4
Spark Arrester Warning	67
Spark Arrester, Cleaning	67
Spark Plug Gap	60
Spark Plug Inspection	60
Spark Plug Recommendations	60
Spark Plug Torque	60
Spark Plugs	60
Spark Plugs, Fouled	60
Specifications, Gearcase	58
Speed, Towing	38
Speedometer	24-28
Steering Wheel Inspection	69
Storage	78-80
Storage Area	80
Storage Tips	79-80
Storage, Battery	76
Storage, Covers	80
Storage, Removal	81
Storing the Vehicle	81
Switches	
Ignition Switch	20
Light Switch	20

T

Tachometer	27
Throttle Pedal	21
Tire Pressure	10
Tires	70-71
Nut Torque	70
Tread Depth	70
Wheel Installation	71
Wheel Removal	70
Torque, Spark Plug	60
Towing Loads	38
Towing Speed	38
Towing the Vehicle	38
Trailer Hitch Bracket	21
Transmission	58
Transmission Operation	63-65
Transmission System	64-65
Transmission Warning	63-65
Transmission, Drying	65
Transporting the Vehicle	40

V

Vehicle Identification Numbers	6
Vehicle Immersion	65

W

Warning Symbols	4
Warning, Transmission Modification	63-65
Washing the Vehicle	78
Weight Capacity	13
Weight, Hitch	38
Wheel Installation	71
Wheel Nut Torque	70
Wheel Removal	70
Winch Cable Care	47
Winch Maintenance and Service Safety	49
Winch Operation	43-46
Winch Safety Precautions	41-42
Winch Shock Loading	48



For your nearest GEM dealer,
call 855-RIDEGEM (855-743-3436)
or visit www.polaris.com
Polaris Industries Inc.
2100 Hwy. 55
Medina, MN 55340

Part No. 9925612 Rev 01
Printed in USA

