



POLARIS[®]
The Way Out.

Sportsman 450
Sportsman 500
Sportsman 700

**2006 Owner's Manual
for Maintenance and Safety**

**Read this manual carefully.
It contains important safety information.
This is an adult vehicle only.
Operation is prohibited for those under 16 years of age.**

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SAFETY


Safety Decals and Locations

⚠ 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.

NO STEP 7172563

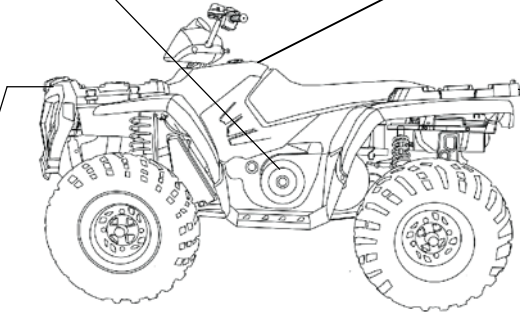
⚠ WARNING



Operating this ATV if you are under the age of 16 increases your chance of severe injury or death.

NEVER operate this ATV if you are under age 16.

7172559



⚠ WARNING

- **DO NOT TOW FROM RACK OR BUMPER.** Vehicle damage or tipover may result causing severe injury or death. Tow only from tow hooks or hitch.
- Max Rack Loads: Front 90 lbs. (41 kg) Rear 180 lbs. (82 kg) 7172572

Sportsman 450/500

⚠ WARNING

- **DO NOT TOW FROM RACK OR BUMPER.** Vehicle damage or tipover may result causing severe injury or death. Tow only from tow hooks or hitch.
- Max Rack Loads: Front 100 lbs. (45 kg) Rear 200 lbs. (91 kg) 7172749

Sportsman 700

SAFETY

Operator Safety

⚠ WARNING

POTENTIAL HAZARD

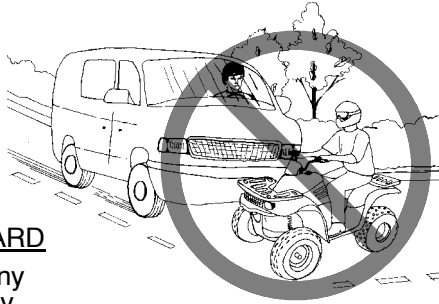
Operating this ATV on public streets, roads or highways.

WHAT CAN HAPPEN

The ATV could collide with another vehicle.

HOW TO AVOID THE HAZARD

Never operate the ATV on any public street, road or highway, including dirt and gravel roads. In many states it's illegal to operate ATVs on public streets, roads and highways.



⚠ WARNING

POTENTIAL HAZARD

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

WHAT CAN HAPPEN

Operating an ATV without an approved helmet increases the risk of a severe head injury or death in the event of an accident.

Operating without eye protection could result in an accident and could increase the chance of a severe injury in the event of an accident.

HOW TO AVOID THE HAZARD

Always wear an approved helmet that fits properly.

Always wear eye protection (goggles or face shield), gloves, boots, long-sleeved shirt or jacket, and long pants.



SAFETY

Operator Safety

WARNING

POTENTIAL HAZARD

Operating the ATV through deep or fast-flowing water.

WHAT CAN HAPPEN

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

HOW TO AVOID THE HAZARD

Avoid operating the ATV through deep or fast-flowing water. If it's unavoidable to enter water that exceeds the recommended maximum depth (see page 59), travel slowly, balance your weight carefully, avoid sudden movements, and maintain a slow and steady forward motion. Do not make sudden turns or stops, and do not make sudden throttle changes.

Wet brakes may have reduced stopping ability. Always test the brakes after leaving water. If necessary, apply them several times to let friction dry out the pads.

WARNING

POTENTIAL HAZARD

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

WHAT CAN HAPPEN

Use of improper tires, or operation of the ATV with improper or uneven tire pressure, could cause loss of control or accident.

HOW TO AVOID THE HAZARD

Always use the size and type of tires specified for the ATV.

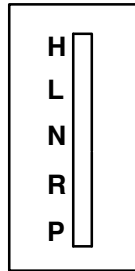
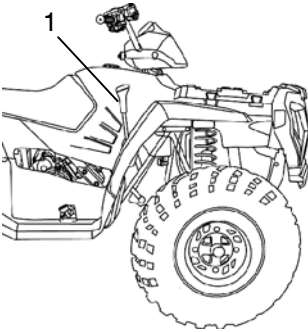
Always maintain proper tire pressure as specified.

CONTROLS

Automatic Transmission Gear Selector

The transmission gear selector (1) is located on the right side of the vehicle. Shift patterns vary, depending on your model.

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



CAUTION

Shifting gears with the engine speed above idle or while the vehicle is moving could cause transmission damage.

To change gears, stop the vehicle, and with the engine idling, move the lever to the desired gear.

Whenever the ATV is left unattended, always place the transmission in PARK and lock the parking brake.

Belt Life

To extend belt life, use low forward gear in heavy pulling situations and when operating at less than seven miles per hour for extended periods of time.

OPERATION

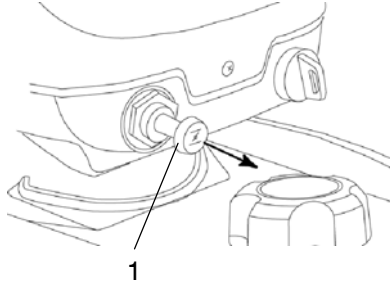
Starting the Engine

Starting a Cold Engine

⚠ WARNING

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

1. Place the transmission in **PARK** and lock the parking brake.
2. Turn the fuel tank valve on.
3. Sit on the vehicle and pull the choke knob (1) out until it stops.



NOTE: The variable choke is fully on when the knob is pulled completely out. The choke is off when the knob is pushed completely in. The choke can be adjusted gradually, depending on how much choke is needed for starting. Be sure the choke is off during operation, as excess fuel washing into the engine oil will increase wear on engine components.

4. Turn the engine stop switch to **RUN**.

NOTE: Do not press the throttle while starting the engine.

5. Turn the ignition key past the **ON** position to engage the starter. Activate the starter for a maximum of five seconds, releasing the key when the vehicle starts. If the engine does not start, release the starter and wait five seconds. Activate the starter for another five seconds if necessary. Repeat this procedure until the engine starts.
6. If the engine slows or stops, position the choke knob half way in to allow proper engine warm-up.
7. Vary the engine RPM slightly with the throttle to aid in warm-up. When the engine idles smoothly, push the choke completely in.

CAUTION

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

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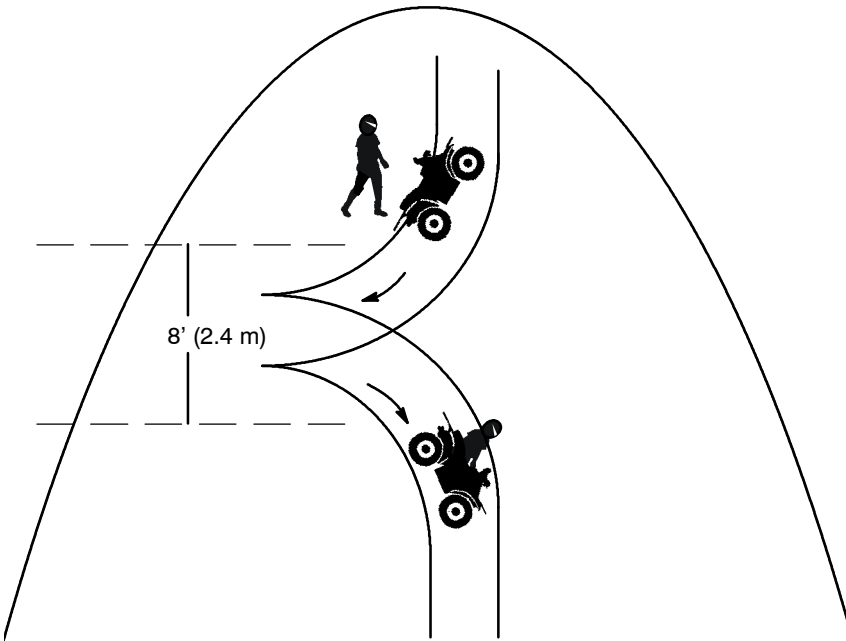
OPERATION

Driving Safely

Turning Around on a Hill

If the vehicle stalls while climbing a hill, never back it down the hill!

Use the K-turn to turn around.



1. Stop and lock the parking brake while keeping body weight uphill.
2. Leave the transmission in forward and shut off the engine.
3. Dismount on the uphill side of the vehicle, or on the left if the vehicle is pointing straight uphill.
4. Staying uphill of the vehicle, turn the handlebars full left.
5. While holding the service brake, release the parking brake lock and slowly allow the vehicle to roll around to your right until it's pointing across the hill or slightly downward.
6. Lock the parking brake and remount the vehicle from the uphill side, keeping body weight uphill.
7. Restart the engine with the transmission still in forward.
8. Release the parking brake and proceed *slowly*, controlling speed with the service brake, until the vehicle is on more level ground.

MAINTENANCE AND LUBRICATION

Periodic Maintenance Chart

Item		Maintenance Interval (whichever comes first)			Remarks
		Hours	Calendar	Miles (Km)	
■ E	Spark plug	100 H	12 M	1000 (1600)	Inspect; replace as needed
■ E	Ignition Timing	100 H	12 M	1000 (1600)	Inspect
▶	Wiring	100 H	12 M	1000 (1600)	Inspect for wear, routing, security; apply dielectric grease to connectors subjected to water, mud, etc.
■	Clutches (drive and driven)	100 H	12 M	1000 (1600)	Inspect; clean; replace worn parts
■	Front wheel bearings	100 H	12 M	1000 (1600)	Inspect; replace as needed
■	Brake fluid	200 H	24 M	2000 (3200)	Change every two years
	Spark arrestor	300 H	36 M	3000 (4800)	Clean out
	Idle speed	-			Adjust as needed
■	Toe adjustment	-			Inspect periodically; adjust when parts are replaced
	Headlight aim	-			Adjust as needed

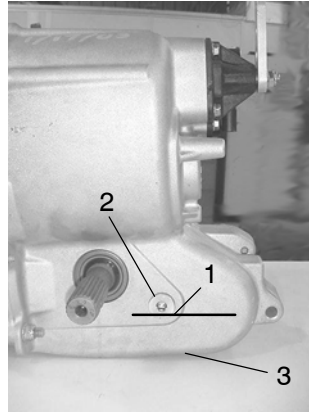
- ▶ Perform these procedures more often for vehicles subjected to severe use.
- E Emission-Related Service)
- Have an authorized Polaris dealer perform these services.

MAINTENANCE AND LUBRICATION

Transmission Oil (700)

Always check and change the transmission oil at the intervals outlined in the Periodic Maintenance Chart beginning on page 64. Maintain the transmission oil level at the bottom of the fill plug hole (1). We recommend the use of Polaris Premium AGL Synthetic Gearcase Lubricant. See page 111 for the part numbers of Polaris products.

The transmission oil fill plug (2) is located on the right side of the ATV behind the footwell. The transmission drain plug (3), is located on the bottom left-hand side of the gearcase.



Oil Check

1. Remove the footwell (see page 85).
2. Remove the fill plug and check the oil level.
3. Reinstall the fill plug. Torque to 14 ft. lbs. (19 Nm).
4. Reinstall the footwell.

Oil Change

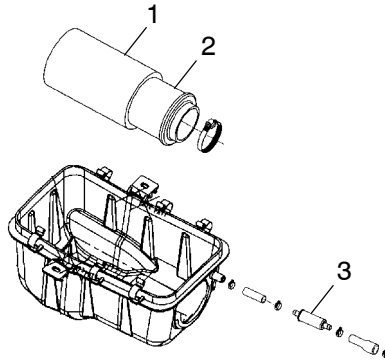
1. Remove the footwell (see page 85).
2. Remove the drain plug and drain the oil into a drain pan. Dispose of properly.
3. Clean and reinstall the drain plug. Torque to 14 ft. lbs. (19 Nm).
4. Remove the fill plug and add 15 oz. (450 ml) of the recommended transmission oil.
5. Reinstall the fill plug. Torque to 14 ft. lbs. (19 Nm).
6. Check for leaks.
7. Reinstall the footwell.

MAINTENANCE AND LUBRICATION

Filter Systems

Air Filter Service

1. Remove the seat, release the air box cover clips, and remove the air box cover.
2. Loosen the clamp and remove the filter.
3. Remove the fabric type pre-filter (1) from the main filter (2). Wash the pre-filter in soapy water, then rinse and let dry.
4. Reinstall the pre-filter over the main filter. (Replace the main filter if needed.)
5. Reinstall the filter into the air box and tighten the clamp. Do not over tighten the clamp, as filter damage could occur.
6. Reinstall the air box cover and the seat.



Breather Filter/Hose

1. To access the breather filter (3), remove the left side panel as outlined on page 85. The breather filter is on the hose that runs between the engine and air box.
 2. Remove the clamps and pull the filter out of the hoses.
- NOTE:** It's not necessary to remove the lower hose from the engine.
3. Inspect the filter for debris. Blow gently through the filter in the direction of the arrow to check for clogging. Replace if needed.
 4. Check the hoses for cracks, deterioration, abrasion, or leaks. Replace as needed.
 5. Reinstall the filter and secure the clamps.

NOTE: The filter is effective with the arrow pointing in either direction.

CAUTION

Operation of your vehicle without a breather filter can cause engine damage. Always reinstall the breather filter after removing for service.

MAINTENANCE AND LUBRICATION

Battery

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

WARNING

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.**

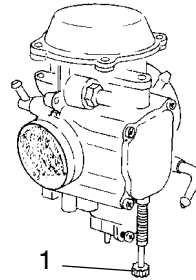
ADJUSTMENTS

Carburetor/Idle RPM

Your Polaris ATV is calibrated at the factory for optimal performance at altitudes ranging from zero to 6,000 feet (1800 m) and temperatures of +40 degrees F. (4 degrees C.) or higher. Above 6000 feet (1800 m) the engine air/fuel mixture becomes overly rich and the engine loses approximately 3% of its power for each 1000-foot (304.8 m) increase in elevation. Although this power cannot be regained, adjustments to the carburetor and drive system can be made to allow more efficient operation. Optional jets, available from your Polaris dealer, are required for operation above 6,000 feet and temperatures below +40 degrees F. (4 degrees C.)

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

1. Warm up the engine by running the vehicle for approximately five minutes.
2. Place the transmission in gear with the parking brake applied.
3. Adjust the carburetor idle screw (1) either in or out until the desired idle RPM is reached. Turning the screw in (clockwise) will raise RPM. Turning the screw out (counterclockwise) will lower RPM.



NOTE: Continuous operation of the engine without proper jetting when required can cause poor performance, overheating or engine damage. See your Polaris dealer for more information about jetting the ATV for conditions in your area.

SPECIFICATIONS

SPORTSMAN 500	
Gross Vehicle Weight	1200 lbs./544 kg
Hitch Towing Rating	1225 lbs./556 kg
Unbraked Trailer Towing Capacity*	1786 lbs. (810 kg)
Hitch Tongue Capacity	120 lbs./54 kg (Rear rack weight and tongue weight not to exceed 180 lbs./81.6 kg)
Front Rack/Storage Box Capacity	90 lbs./40.8 kg
Rear Rack/Storage Box Capacity	180 lbs./81.6 kg
Overall Length	83 in./211 cm
Overall Width	48 in./122 cm
Overall Height	48 in./122 cm
Wheelbase	50.5 in./128.3 cm
Ground Clearance	11.25 in./28.6 cm
Dry Weight	715 lbs./324 kg (HO) 722 lbs./327 kg (New Break-Up)
Minimum Turning Radius	65 in./165 cm
Fuel Capacity	4.25 gal./16 l
Engine Oil Capacity	2 qts./1.9 l
Coolant Capacity	2.25 qts./2.13 l
Engine	EH500PLE137
Displacement	499
Bore x Stroke	92 x 75
Pilot Jet	40
Main Jet	155
Needle Jet	X-6M
Jet Needle	6MGHI 194-3
Pilot Screw	2 Turn (Brass plug)
Alternator Output	260 w
Compression Ratio	10:2 Full Stroke
Carburetor	40mm CV Mikuni
Ignition System	CDI
Ignition Timing	30 BTDC @ 5000 RPM
Spark Plug / Gap	NGK BKR6E / .035 in. (0.9 mm)
Lubrication System	Dry Sump
Driving System Type	Automatic PVT (Polaris Variable Transmission)

* Based on EU Directive 76/432/EC

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