Pantone 280 CVC

POLARIS®

The Way Out.

Widetrak LX

Snowmobile Owner's Manual

for Maintenance and Safety

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Pantone 280 CVC

POLARIS
The Way Out.

For your nearest Polaris dealer,
call 1-800-POLARIS
or visit www.polarisindustries.com
Polaris Sales Inc.,
2100 Hwy. 55, Medina, MN 55340
Phone 1-888-704-5290
Part No. 9921649 Rev 02
Printed in USA

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⚠ 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.

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WELCOME

Thank you for purchasing a Polaris vehicle, and welcome to our world-wide family of Polaris owners. We proudly produce an exciting line of utility and recreational products.

- Snowmobiles
- All-terrain vehicles (ATVs)
- *RANGER* utility vehicles
- Victory motorcycles

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.

Your Polaris 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.

We also take great pride in our complete line of apparel, parts and accessories, available through our online store at www.purepolaris.com. Have your accessories and clothing delivered right to your door!

POLARIS®
The Way Out.

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Printed in U.S.A.

2009 Widetrak LX Owner's Manual

P/N 9921649

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INTRODUCTION
Important Notes for Owners and Drivers

After reading this manual, store it in the snowmobile for convenient reference. It should remain with the snowmobile when the snowmobile is sold.

When teaching inexperienced operators to ride, set up a predetermined course for practice. Make sure they know how to drive and control the snowmobile before allowing them to make longer trips. Teach them proper snowmobile courtesy, and enroll them in driver's training and safety courses sponsored by local or state organizations.

Follow the maintenance program outlined in this manual. Preventive maintenance ensures that critical components of the snowmobile are inspected by your dealer at specific mileage intervals.

You and your dealer must complete the registration form included with your snowmobile and forward it to us. This completed form is necessary to ensure warranty coverage.

Protect and preserve your right to ride by joining your local trail riding clubs.

Some of the illustrations and photos used in this manual are general representations. Your model may differ.

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Preservation of the Environment

Polaris is committed to supporting an environmental education campaign. We encourage state and provincial governments across the snowbelt to adopt rigorous safety training programs that encourage protection of our environment, including wildlife and vegetation.

Snowmobile clubs and other organizations are working together to protect our environment. Please support their efforts and operate your snowmobile with consideration for the protection and preservation of our environment.

Noise Level

One of the most publicized issues about snowmobiles is noise. The Society of Automotive Engineers (SAE), the standard-setting body for snowmobile development, recommends that snowmobiles conform to prescribed sound levels.

Polaris snowmobiles are engineered to conform to these SAE standards. Our muffler systems are designed to reduce noise levels and must not be altered or removed. The sound of your snowmobile may not be welcome to non-snowmobilers, so you have a responsibility to operate your snowmobile with concern for others. We do our part by manufacturing quieter machines; we ask your help to further reduce the impact of noise by operating your snowmobile safely and responsibly.

Air Pollution

Polaris engineers continuously investigate ways to reduce emission levels of two-stroke engines. We expect our efforts to lead to the reduction of potential air pollution.

In addition to our technological research, we encourage government agencies, manufacturers, distributors, dealers, ecologists, and other interested parties to work together to develop data on environmental topics.

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INTRODUCTION
Vehicle Identification Numbers

Record your snowmobile's identification numbers and key number in the spaces provided. Remove the spare key and store it in a safe place. Your key can be duplicated only by mating a Polaris key blank with one of your existing keys, so if both keys are lost, the ignition switch must be replaced.

Vehicle Model Number: _____

Tunnel VIN: _____
(lower right side of the tunnel)

Engine Serial Number: _____
(right front side of engine crankcase)

Key Number: _____

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Operator Safety

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.

⚠ WARNING

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

⚠ CAUTION

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

NOTICE

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

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SAFETY
Operator Safety

Your Polaris snowmobile is a well-engineered and well-constructed recreational vehicle. Follow the recommended maintenance program outlined beginning on page 61 of this manual to ensure that all critical components on the snowmobile are thoroughly inspected by your dealer at specific mileage intervals.

⚠ WARNING

Driving a snowmobile requires your full attention. DO NOT drink alcohol or use drugs or medications before or while driving. They will reduce your alertness and slow your reaction time. In most states and provinces, it's prohibited by law to drive while intoxicated or under the influence of drugs.

Polaris produces high performance snowmobiles capable of traveling at high speeds. Extra caution must be observed to ensure operator safety. Make sure your snowmobile is in excellent operating condition at all times. We strongly recommend that the operator check major and vital safety components before every ride.

All Polaris snowmobiles are designed and tested to provide safe operation when used as directed. Failure of critical machine components may result from operation with any modifications, especially those that increase speed or power. DO NOT MODIFY YOUR MACHINE. The snowmobile may become aerodynamically unstable at speeds higher than those for which it is designed. Loss of control may occur at higher speeds. Modifications may also create a safety hazard and lead to bodily injury.

The warranty on your entire machine is terminated if any equipment has been added, or any modifications have been made, to increase the speed or power of the snowmobile.

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Operator Safety

Stay Clear of Track

Your snowmobile is propelled by a revolving track that must be partially exposed for proper operation.

⚠ WARNING



Serious injuries may result if hands, feet, or clothing become entangled in the track. Be alert when riding, and remain properly seated to stay clear of the track.

Never hold the snowmobile up or stand behind it while warming up the track. A loose track or flying debris could cause serious injury or death. We recommend having your dealer perform all track service and alignment procedures.

Stay Clear of Engine

Never attempt adjustments with the engine running. Turn off the ignition, raise the hood, make the adjustment, secure shields and guards, secure the hood, and then restart the engine to check its operation.

⚠ WARNING

Serious injury can occur if fingers or clothing contact the moving parts of an engine. Always stop the engine before attempting adjustments.

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SAFETY
Operator Safety
Survival Preparation

For your safety, always ride in a group of other snowmobilers. Always tell someone where you're going and how long you expect to be gone. If it isn't possible to ride with others, and you must travel into remote areas, always carry survival equipment that's appropriate to the conditions you may encounter. Such equipment may include, but is not limited to: extra clothing, a sleeping bag, a flashlight, food and water, a signaling mirror, a means of building a fire, and a two-way radio or cellular telephone.

For added protection, carry the following items on your snowmobile at all times:

- Spare Drive Belt
- Extra Set of Spark Plugs
- Tow Rope
- Extra Oil
- Fuel Deicer
- Winter Survival Kit
- Trail Map
- Owner's Manual
- First Aid Kit
- Tool Kit

Riding Position

Operating a snowmobile requires skill and balance for proper control. Rider positions may vary with experience; but under many conditions, the proper position is to be seated with both feet on the running boards and both hands on the handlebar grips for proper throttle, brake and steering control.

⚠ WARNING
Improper riding position may reduce control and could result in serious injury or death. Always ride in a position that allows for control of your vehicle.

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Operator Safety

Riding Apparel

Be prepared, be warm and be comfortable when riding. Be aware of the weather forecast, especially the windchill, and dress accordingly. See the chart on page 22.



⚠ WARNING

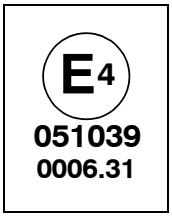
Avoid wearing loose clothing or long scarves, which can become entangled in moving parts and cause serious injury.

Helmet

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

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

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



Eye Protection

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

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SAFETY
Operator Safety
Cargo Overload

Too much weight on the rear of the machine may reduce your ability to steer. Do not exceed carrier and rack weight limits, and do not allow a passenger to sit on the seat back or the cargo carrier.

Disabled Operators

Safe operation of this rider-active vehicle requires good judgement and physical skills. Operators with cognitive or physical disabilities have an increased risk of loss of control, which could result in serious injury or death.

Rider Capacity

Driving 1-Up - Some Polaris snowmobiles are designed for a single rider only. A decal on the console of these models indicates single rider operation.

Driving 2-Up - Some Polaris snowmobiles are designed for up to two riders. A decal on the hood of these models indicates that the vehicle is designed for one operator and one passenger only. See page 23 for decal location.

Machines designed for two riders should never be operated with more than two people on board. When traveling with a passenger, it's the driver's responsibility to operate the machine safely.

Slow down! Control becomes more difficult with two people on board. More space is required to make turns, and longer distances are necessary for stopping.

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Excessive Speed

⚠ WARNING

High speed driving, especially at night, could result in serious personal injury or death. Always reduce speed when driving at night or in inclement weather.

Observe all state and local laws governing snowmobile operation. They've been established for your protection.

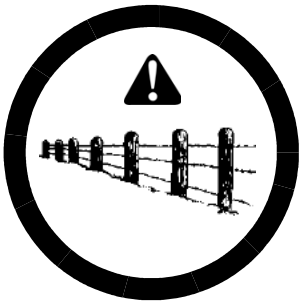
Always be alert and pay attention to the trail ahead. Multiplying speed (MPH) by 1.5 will equal the approximate number of feet per second your machine travels. If your speed is 40 MPH, your machine is traveling about 60 feet per second. If you look back for only two seconds, your machine will travel about 120 feet. If your speed is 60 MPH, your machine will travel about 180 feet in two seconds.

Traveling at night requires extra caution. Check headlight and taillight to ensure proper operation, and don't over-drive your headlight beam. Always be able to bring your machine to a stop in the distance illuminated by the headlight.

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SAFETY
Operator Safety
Driver Awareness

Slow down when traveling near poles, posts, or other obstacles. Be especially alert if you're snowmobiling after dark. Always be on the alert for wire fences. Single strands are especially dangerous, since there may be a great distance between posts. Guy wires on utility poles are also difficult to distinguish.



Make sure the way is clear before crossing railroads and other roads and highways. The noise of your machine will drown out the sound of approaching vehicles. Look ahead, behind, and to both sides before turning or crossing railroad tracks or highways. Steep embankments may also hide your view. Always leave yourself a way out.



Variances in snow depth and/or water currents may result in uneven ice thickness. Always check with local residents or authorities for general information on conditions when traveling on lakes and streams that are strange to you. Before riding your machine on a frozen body of water, be sure the ice is thick enough to support the machine and its operator, as well as the force created by a moving vehicle. You may drown if you and the snowmobile break through the ice.

When teaching inexperienced operators to ride, set up a predetermined course for practice. Make sure they know how to drive and control the snowmobile before allowing them to make longer trips. Teach them proper snowmobile courtesy, and enroll them in driver's training and safety courses sponsored by local or state organizations.

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Operator Safety

Avalanches

Snowmobilers should always be properly trained and equipped before traveling in mountainous terrain:



- Take an avalanche class
- Travel with experienced people
- Travel on designated trails
- Make sure each person is equipped with a shovel, probe and avalanche beacon.

You don't have to be snowmobiling on a slope for an avalanche to occur. Be aware that all of the snow is connected. You may be riding on a flat slope or snow covered road, but if the snowpack above is unstable enough you can trigger an avalanche on a steeper slope above you. Always be aware of snow conditions above you as you travel in mountainous terrain.

Before riding in mountainous terrain, call or log on to your local avalanche advisory to get current weather and snow stability information.

For more information about avalanche training and avalanche conditions, contact local law enforcement in your area, or visit the American and Canadian online avalanche centers at www.avalanche.org.

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SAFETY
Operator Safety
Ice and Snow Build-up

⚠ WARNING

Ice and snow build-up may interfere with the steering of your machine, resulting in serious injury or death. Keep the underhood area free of snow and ice.

Before driving, manually turn the skis to the left and right to be sure ice and snow are not interfering with full left and right steering. If difficulty is encountered, check for ice and snow build-up that may be obstructing the steering linkage. Snow screens and bib kits are available through your dealer to help reduce snow and ice build-up.

Driving on Slippery Surfaces

⚠ WARNING

Driving on ice or hard-packed snow reduces steering and braking control, which may result in serious injury or death. Slow down and use caution.

Excessive shifting of operator body weight when turning on hard-packed snow or ice may lead to loss of vehicle control and result in serious injury or death. Slow down to maintain control under these conditions.

It's dangerous to drive on ice or other slippery surfaces. If it's unavoidable, use extreme caution and operate at speeds no faster than a walk. Never attempt an abrupt change of direction. The chance of "spin-out" increases under these conditions.

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Operator Safety

Driving in Hilly Terrain

⚠ WARNING

Climbing a hill or crossing the face of a slope may result in loss of balance and machine roll-over, causing serious injury or death. Use caution and good judgement when driving in hilly terrain.

Operating in hilly terrain requires extreme caution to maintain balance and avoid roll-over. If climbing a hill is unavoidable, keep all your weight low and forward.

If you must cross the face of a slope, keep your weight on the uphill side of the machine to maintain proper balance and avoid possible roll-over.

Slow down when reaching the crest of a hill. Be prepared to react to obstacles, sharp drops, or other people or vehicles that may be on the other side of the hill.

If you're unable to continue up a hill, turn the machine downhill before it loses momentum. If this isn't possible, spin the track just enough to dig in to prevent it from rolling back down the hill. Stop the engine and set the parking brake (if equipped). Keeping away from the downhill side of the machine, pull the rear of the snowmobile around and point the front end and skis downhill. Remount the machine, restart the engine, release the parking brake, and descend the hill carefully.

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SAFETY
Operator Safety
Driving Downhill

When riding downhill, shift your weight to the rear of the machine and reduce your speed to a minimum. Apply just enough throttle to keep the clutch engaged, allowing the engine's compression to help slow the machine and keep it from rolling freely downhill.

⚠ WARNING

When driving on long downhill stretches, pump the brakes. Riding the brakes may cause the brake system to overheat, which may result in brake failure.

Excessive or repetitive use of the brakes for high speed stops will also cause an overheated brake system. This condition may lead to a sudden loss of brakes and/or fire and may result in serious injury or death.

Clutch Guard

Do not operate the engine with the clutch guard removed.

The clutch guard is designed to protect the operator from metal parts if the clutch should fail. Although the chance of failure is extremely remote, don't defeat the purpose of the guard by removing it. It's provided for your safety.

Drive Belt

Do not operate the engine with the drive belt removed.

Any servicing that requires operation without a belt must be performed by your dealer. Operation of the engine with the belt removed may result in personal injury or damage to the engine.

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Operator Safety

Intake Silencer

Do not operate the engine with the intake silencer or filter removed.

Damage to the engine may occur if the intake silencer or filter are removed.

Clutches

Do not attempt to service the clutches.

All clutch service must be performed by your dealer. The clutch is a complex mechanism that rotates at high speeds. Each clutch is dynamically balanced before installation. Any tampering may disrupt this precision balancing and create an unstable condition.

Cold Weather Drive-Away

Whenever your snowmobile has been parked for a length of time, especially overnight, always make sure the skis and track are loosened from ice and snow before attempting to drive. Apply the throttle with enough authority to put the machine into motion, but always operate within safety limits. See Starting the Engine on page 45.

Maneuverability

Control and maneuverability comes not only through the steering and skis, maximum control is achieved by shifting of body weight. Maneuverability will change for lighter operators or machines designed to carry a load.

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SAFETY
Operator Safety
Inadequate Snow Conditions

⚠ WARNING

Do not drive for prolonged periods on blacktop, gravel, or ice. Doing so could cause irreversible track damage and lead to serious injury.

Since snow provides the only lubrication for the power slide suspension and, on liquid cooled models, cooling for the engine, adequate snow cover is a requirement for operation of your machine. Driving in too little snow will result in excessive wear and damage to the slide rail, track and/or engine.

If the machine becomes stuck in snow, clear the running board area of snow, then step down the snow in front of the machine so that when the throttle is opened, the snowmobile will be able to climb up and over the snow.

NOTICE: When operating on icy surfaces or hard-packed snow, avoid overheating the slide rail and track. Lack of lubrication and cooling will cause overheating of the slide rail and track, resulting in premature wear and failure. If frequently operating in low cooling conditions, see your dealer for an optional wheel kit that will reduce the wear from overheating.

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Operator Safety

Driving Responsibly

Every snowmobile handles differently, and even the most docile conditions may become dangerous if operators drive improperly. If you're new to snowmobiling, acquaint yourself with the machine and with what it will and won't do under various conditions. Even seasoned drivers should spend some time getting the feel for a machine before attempting ambitious maneuvers.

- A snowmobile depends on the rider's body position for proper balance in executing turns, traversing hills, etc. Always start on a smooth, level area to begin building your operating experience.
- Before allowing someone else to use your snowmobile, know the extent of their operating skills. Check to see if they've taken a snowmobile safety course and have an operator's certificate. For their protection, as well as yours, make sure they take a snowmobile safety course. Everyone can benefit from the course.
- Don't "jump" your snowmobile over large drifts or similar terrain. Jumping may injure your back because of spinal compression that could occur when the snowmobile impacts the ground. The seat and suspension of your snowmobile have been designed to provide protection under normal riding conditions. Your snowmobile is not intended for this kind of use.
- Be courteous to oncoming traffic by dimming your headlights and reducing your speed.
- When traveling in a group of snowmobiles, don't tailgate (follow too closely). Leave enough distance between snowmobiles to provide ample stopping room and to provide protection from flying snow and debris. Allow even more distance when driving on slippery surfaces or when driving in darkness or other low visibility conditions. Be aware of any snowmobile traffic around your vehicle. Drive defensively to avoid accidents.
- Remove the key from the ignition when you leave the snowmobile unattended.

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SAFETY
Operator Safety
Windchill/Temperature Charts

The following information is provided to help you determine when temperatures become dangerous for riding.

WIND CHILL CHART (°F)

Wind Speed in MPH	Actual Thermometer Reading (°F)																	
	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
	Equivalent Temperature (°F)																	
Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98
Frostbite in >>							30 min.		10 min.		5 min.							

WIND CHILL CHART (°C)

Wind Speed in KPH	Actual Thermometer Reading (°C)																	
	5	2	-1	-4	-7	-10	-13	-16	-19	-22	-25	-28	-31	-34	-37	-40	-43	-46
	Equivalent Temperature (°C)																	
Calm	5	2	-1	-4	-7	-10	-13	-16	-19	-22	-25	-28	-31	-34	-37	-40	-43	-46
8	3	0	-4	-7	-11	-14	-18	-22	-25	-29	-32	-36	-39	-43	-46	-50	-53	-57
16	2	-2	-6	-10	-13	-17	-21	-24	-28	-32	-36	-39	-43	-47	-50	-54	-58	-62
24	1	-3	-7	-11	-15	-19	-22	-26	-30	-34	-38	-42	-45	-49	-53	-57	-61	-65
32	0	-4	-8	-12	-16	-20	-24	-28	-32	-36	-39	-43	-47	-51	-55	-59	-63	-67
40	-1	-5	-9	-13	-17	-21	-25	-29	-33	-37	-41	-45	-49	-53	-57	-61	-65	-69
48	-1	-5	-9	-13	-18	-22	-26	-30	-34	-38	-42	-46	-50	-54	-58	-62	-66	-70
56	-2	-6	-10	-14	-18	-22	-26	-31	-35	-39	-43	-47	-51	-55	-59	-64	-68	-72
64	-2	-6	-10	-15	-19	-23	-27	-31	-35	-40	-44	-48	-52	-56	-61	-65	-69	-73
72	-2	-7	-11	-15	-19	-23	-28	-32	-36	-40	-45	-49	-53	-57	-61	-66	-70	-74
80	-3	-7	-11	-15	-20	-24	-28	-33	-37	-41	-45	-50	-54	-58	-62	-67	-71	-75
88	-3	-7	-12	-16	-20	-24	-29	-33	-37	-42	-46	-50	-55	-59	-63	-67	-72	-76
96	-3	-8	-12	-16	-21	-25	-29	-34	-38	-42	-47	-51	-55	-60	-64	-68	-73	-77
Frostbite in >>							30 min.		10 min.		5 min.							

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Safety Decals and Locations

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

If any decal becomes illegible or comes off, contact your Polaris dealer to purchase a replacement. Replacement *safety* decals are provided by Polaris at no charge. The part number is printed on the decal.

Clutch Cover Warning

This warning decal is found *under the hood* on the clutch cover:

WARNING

Do not operate engine with hood open.

Do not attempt adjustment with engine running.

Do not operate engine with this guard open.

Never run engine with drive belt removed.

Never service clutches yourself - see your dealer.

Air Box Warning

This warning decal is found *under the hood* on applicable models:

CAUTION

Do not operate above 40 mph with hood-to-air box foam removed or engine failure will result.

Passenger Warning

Your Polaris Widetrak snowmobile is designed for the operator and one passenger. For more information on operating with a passenger, see Page 12.

WARNING

This vehicle is designed for operator and ONE passenger



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SAFETY
Safety Decals and Locations

Track/Seat Warning

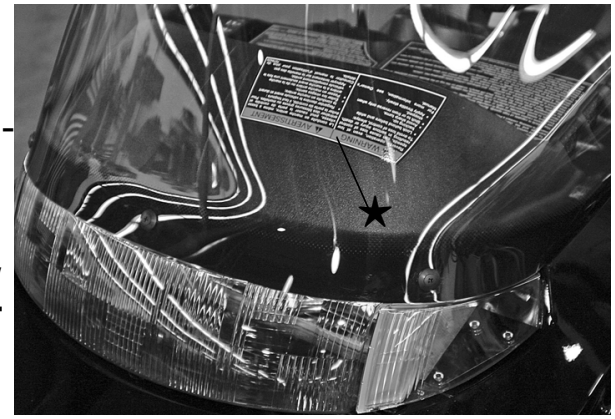


The track/seat warning decal is on the rear of the tunnel:

WARNING

Stay clear of track. Do not sit on seat back. Entanglement with the track or a fall from seat back may result in severe injury or death.

Reverse Warning



Polaris Widetrak snowmobile is equipped with standard reverse. The reverse warning decal is located above the instrument housing.

WARNING

Reverse operation, even at low speeds, can cause loss of control resulting in serious injury or death. To avoid loss of control, always:

- **Look behind before and while backing up.**
- **Avoid sharp turns.**
- **Shift to or from reverse only when stopped.**
- **Apply throttle slowly.**

NOTE: For more information, see Owner's Manual.

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Safety Decals and Locations

Operation Warning

An operation warning decal is present on the console of all Polaris snowmobiles:

WARNING

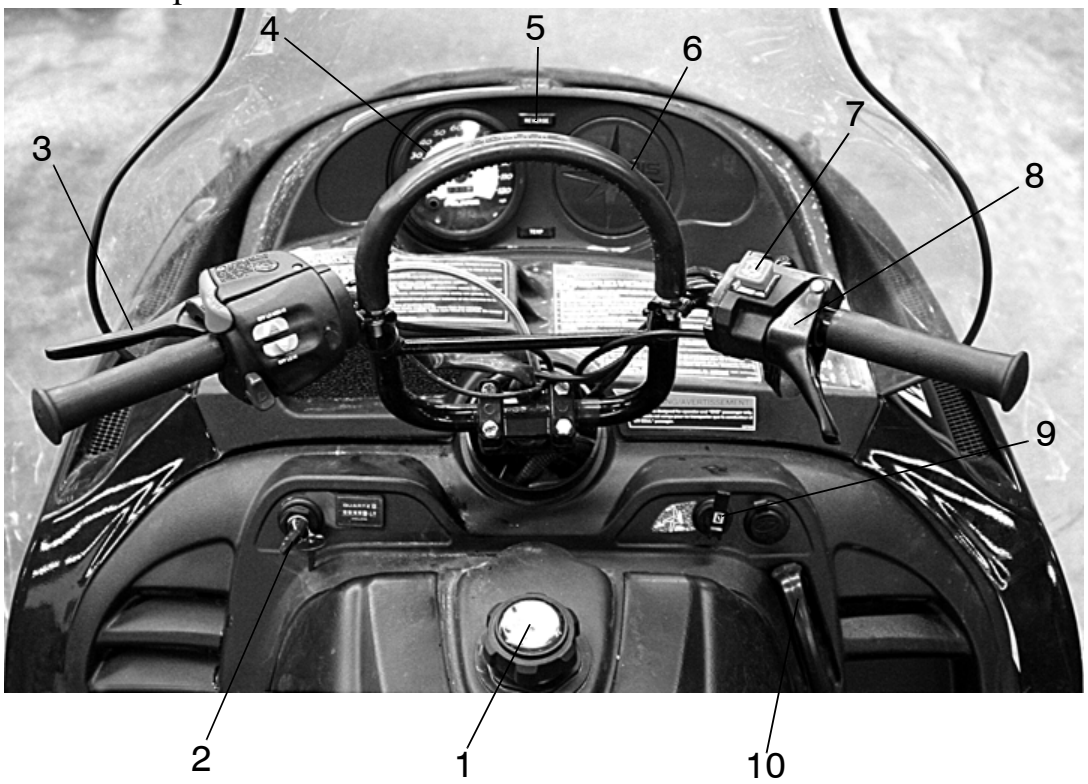
- **To avoid serious injury or death, read and understand all warnings and the Owner's Manual before operation. If manual is missing, contact a Polaris dealer for a replacement.**
- **This vehicle is capable of high speeds. Buried objects or uneven terrain can cause loss of control. Reduce speed and use extreme caution when operating in unfamiliar terrain.**
- **Excessive speed, especially at night or with limited visibility, can result in insufficient time for you to react to terrain changes, to avoid unexpected obstacles, or to stop safely.**
- **Never consume alcohol or drugs before or while operating this vehicle.**
- **In an emergency, push down the Auxiliary Shut-Off Switch, located on the top of the throttle control assembly, to stop the engine. Then pull the brake lever to stop.**
- **Always wear an approved helmet, eye protection, and adequate clothing while operating this vehicle.**
- **This vehicle is designed for adult use only. Check local laws for age requirements.**
- **When operating with a passenger (on approved models only), reduce speed and allow extra space for steering and stopping. A passenger reduces your ability to control the vehicle.**
- **When operating on hard-packed snow, ice, or when crossing roads, steering and braking ability are greatly reduced. Reduce speed and allow extra space to turn or stop.**
- **To maintain vehicle control on ice or hard-packed surfaces, you should have a proper balance of ski carbides to track studs. See Owner's Manual for proper use of traction products.**
- **Repeated stops from high speed may cause fading or sudden loss of braking ability.**
- **Parking brake may relax when used for long periods. Do not leave brake engaged for more than five minutes.**
- **Before starting the engine, check throttle, brake, and steering for proper operation. Make sure hood is latched. Be seated and in position to control the vehicle.**

Oil injection system: Use unmixed fuel only. Check oil level when refueling.

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FEATURES AND CONTROLS

General Representation



1. Fuel Filler Cap (may include a fuel gauge)
2. Ignition Switch
3. Brake Lever
4. Speedometer (may include indicator/warning lights)
5. Reverse Indicator
6. Mountain Bar
7. Engine Stop Switch (see page 54)
8. Throttle Control
9. Choke
10. Recoil Starter Handle

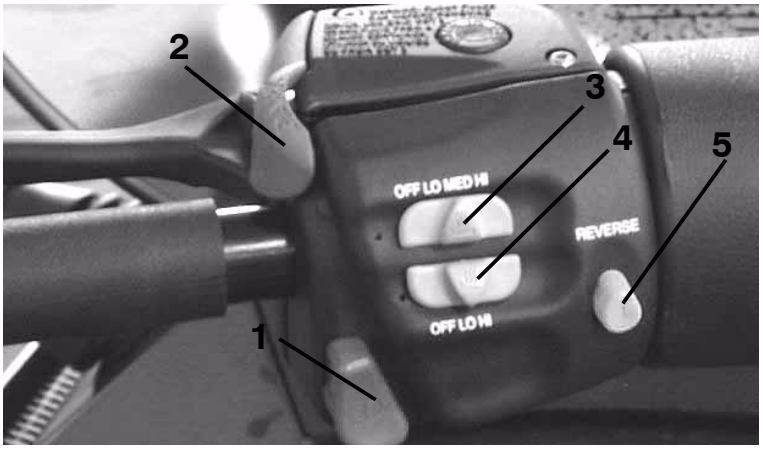
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FEATURES AND CONTROLS

Some Polaris snowmobiles are equipped with special features. Controls for these features are illustrated on this page. *Not all models come with these features.* Refer to your Owner's Manual Supplement.

NOTE: Accessories are available from your Polaris dealer.

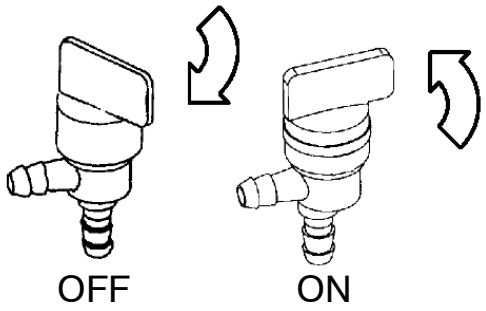
1. Headlight Dimmer Switch
2. Parking Brake Lock
3. Handlebar Grip Warmer Switch
4. Thumbwarmer Switch
5. Electronic Reverse Button



Fuel Valve

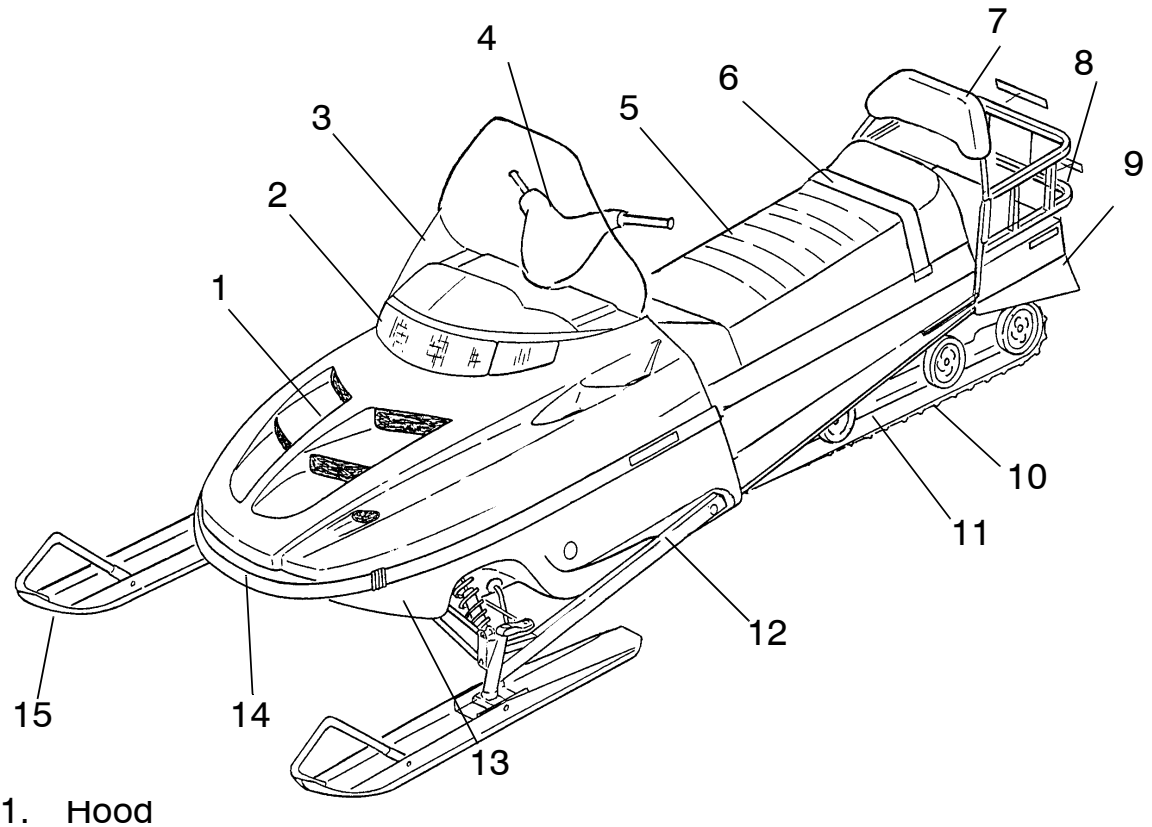
The fuel valve is located under the hood. Turn the fuel valve off whenever the snowmobile is stored or parked.

1. Turn the valve clockwise to turn off the fuel supply.
2. Turn the valve counter-clockwise to turn on the fuel supply.



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FEATURES AND CONTROLS



1. Hood
2. Headlight
3. Windshield
4. Handlebar
5. Operator Seat
6. Passenger Hand Hold Strap
7. Cargo Rack
8. Taillights
9. Snow Flap
10. Track
11. Suspension
12. Trailing Arm
13. Nosepan
14. Front Bumper (do not use for pulling or dragging the snowmobile)
15. Skis

Cargo Rack

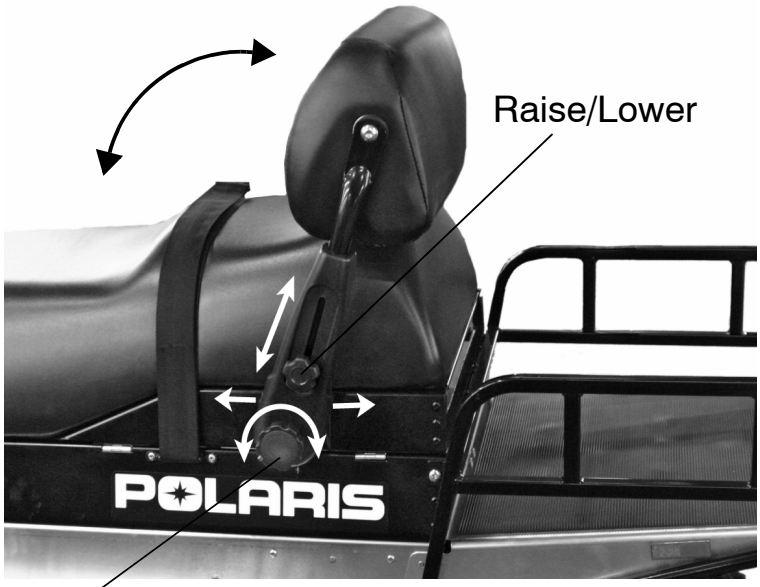
Always secure cargo before operating. Do not exceed the rack weight limit specified on the cargo rack decal. Do not allow a passenger to sit on the seat back or the cargo rack.

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Backrest

The backrest is adjustable for either operator or passenger use.

1. Loosen the upper adjustment knobs to raise or lower the backrest.
2. Loosen the lower adjustment knobs to move the backrest forward for operator use or rearward for passenger use.
3. Always tighten the knobs



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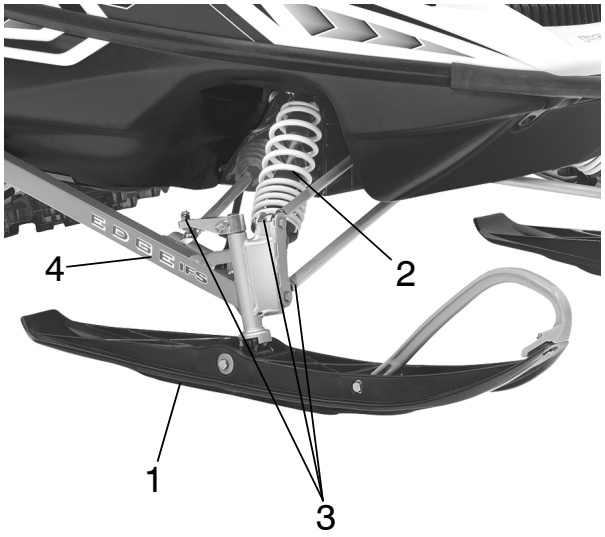
THE PERFECT FIT
Front Suspension Adjustments

Break in the suspension for approximately 150 miles (240 km) and re-grease all suspension parts before making any fine-tuning adjustments.

Settings will vary from rider to rider, depending on rider weight, vehicle speed, riding style, and trail conditions. We recommend starting with factory settings and then customizing each adjustment individually to suit rider preference. The machine should be methodically tested under the same conditions after each adjustment (trail and snow conditions, vehicle speed, riding position, etc.) until the best ride is achieved. Adjustments should be made to one area at a time in order to properly evaluate the change.

IFS Components

1. Skis
2. Front shocks and springs
3. Rod ends
4. Trailing arms



IFS Adjustment Options

- Front shock spring preload

NOTE: Optional springs

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Front Suspension Adjustments

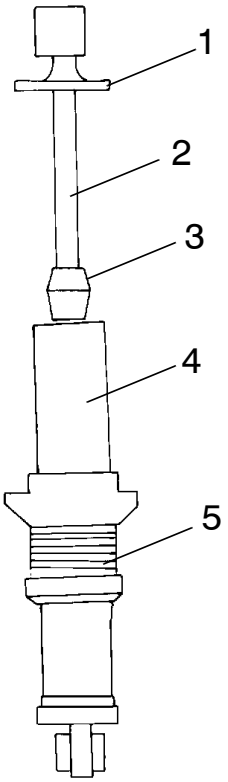
⚠ WARNING

Always verify ski alignment before making adjustments to the IFS. See page 94 to check alignment. If the skis are misaligned, see your dealer, as the camber adjustment may also be affected.

The tension at which the shock coil spring is set is called spring preload. For the best ride, the spring preload should be set as low as possible to use the full travel of the ski shock, with occasional light bottoming. To determine if your machine is using full travel of the ski shock, push the jounce bumper down as far as it will go on the shock rod and test ride the machine. The bumper will move up on the rod in direct relation to the amount of travel. If the shock travel is full, the bumper will be seated at the top of the shock.

Shock Components

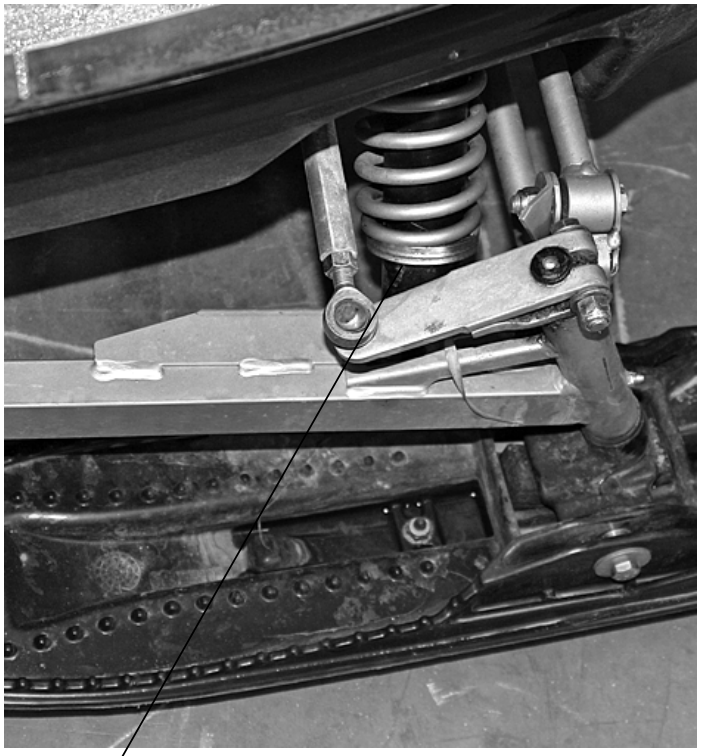
1. Retainer
2. Shock Rod
3. Jounce Bumper
4. Body
5. Threaded Spring Preload Adjuster Nut



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THE PERFECT FIT
Front Suspension Adjustments
Shock Spring Preload

Increasing spring preload will increase ski-to-ground pressure. Decreasing spring preload will decrease ski-to-ground pressure.



Front Springs

For models without externally adjustable or revalvable shocks, the front springs can be changed if spring preload alone isn't sufficient and further adjustment is desired to control suspension stiffness. Special tools are required to adjust front springs. If you feel that your front suspension needs adjustment see your Polaris dealer for more information.

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Rear Suspension Adjustments

Rider weight, riding style, trail conditions, and vehicle speed all affect suspension action. Each rear suspension can be adjusted to suit rider preference and deliver excellent performance for a given set of conditions. However, all suspension designs and adjustments involve a compromise, or trade-off. For example, a suspension set up for snow-cross racing would provide a very stiff ride on the trail. A suspension set up for trail riding would bottom out harshly on a snow-cross course.

See your Polaris dealer for initial suspension setup information. Additional adjustments can be made after initial setup. Make adjustments to one area at a time so you can evaluate the change. For further assistance, see your dealer.

Suspension Performance Tips

- Rider weight usually determines the position at which the spring preload should be set. However, this may vary with riding style. With a little experimentation, each rider can find a preferred set-up. These adjustments are easy to make, involve very little time or effort, and greatly affect the ride.
- In deep snow, a new rail slide will offer improved performance over a worn rail slide. It can also improve top speed.
- When riding on ice or hard-packed snow, adding a set of bogie wheels to the rail may enhance the machine's performance. Bogie wheel kits are available from your dealer.
- Polaris offers track kits for improved flotation in deep snow. See your dealer for assistance.

NOTE: Keep the suspension pivot points lubricated. This will reduce moisture and rust build-up and ensure proper function of the suspension components. Grease rear suspension pivots before adjusting the rear suspension. See page 67.

Track Tension

Track adjustment is critical for proper handling. Always maintain correct tension and alignment. Refer to the track tension maintenance section beginning on page 90.

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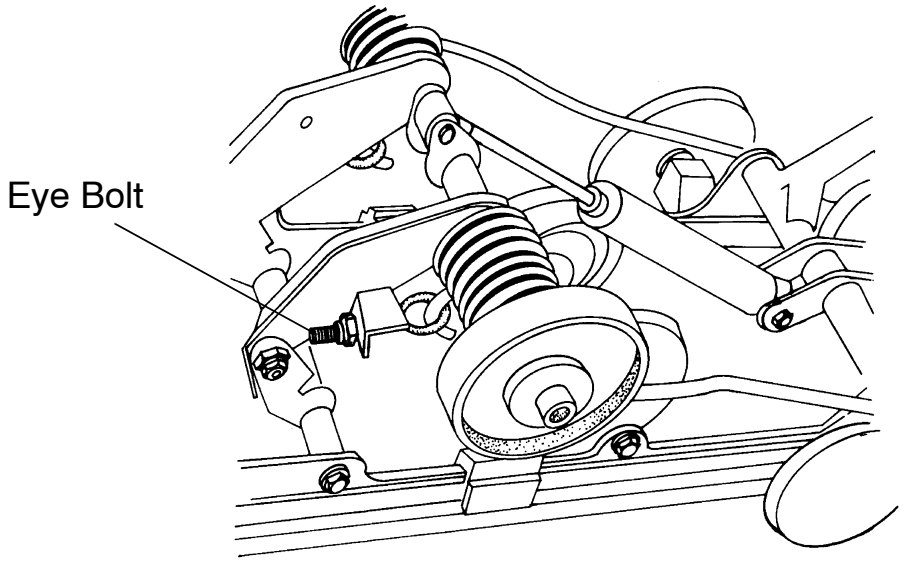
THE PERFECT FIT
WideTrak Rear Suspension Adjustments
Rear Spring Settings

Rear spring adjustment is primarily a control for riding comfort. To check for the recommended settings:

1. Lift the rear of the machine to relieve the rear springs.
2. Slowly lower the machine and measure the distance between the ground and the running board.
3. Without letting the suspension settle, the rider should carefully mount the snowmobile.
4. Measure the distance between the ground and the same spot on the running board.

The difference between the two measurements should be approximately 1 1/2" (3.8 cm). If the difference is greater than 1 1/2", the rear spring should be adjusted equally on both sides until the desired 1 1/2" drop is obtained.

Compensating adjustments for heavy or light drivers or cargo loads can be made by adjusting the rear spring eye bolt length. Adjust spring tension so there is equal tension on the long leg of each spring.



NOTE: Rear spring settings will affect ski-to-ground pressure. If ski pressure is too light it may be desirable to tighten the rear springs for an increase in ski-to-ground pressure.

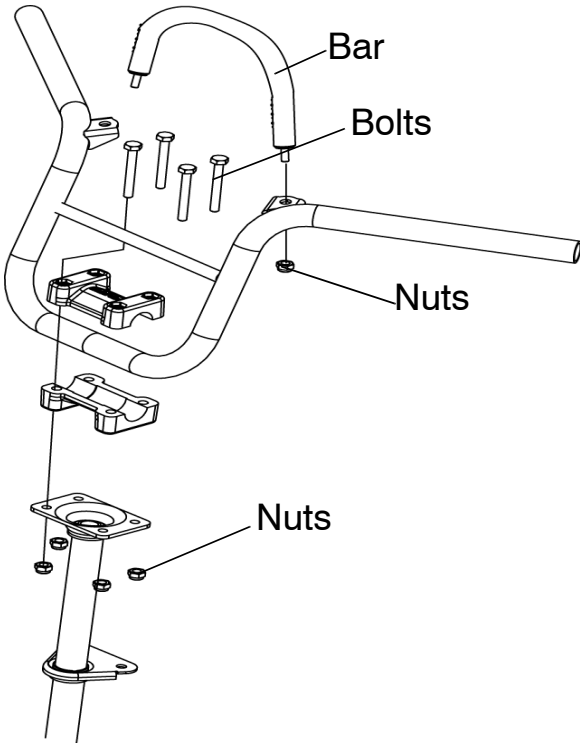
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Handlebar Adjustments

Standard Handlebar

Follow these steps to adjust handlebar angle at the handlebar block.

1. Remove the mountain bar by removing nuts.
2. Using a 7/16-inch wrench, loosen the four nuts on the bottom of the adjuster block (turn the handlebar either left or right for access to the rear nuts).



NOTE: If necessary, pry the blocks apart with a screwdriver.

3. Adjust the handlebar to the desired angle. Be sure the handlebar, brake lever and throttle lever operate smoothly and do not hit the gas tank, windshield or any other part of the machine when the handlebar is turned fully to the left or right.
4. Torque the front bolts first, then torque the rear bolts. Torque the bolts to 11-13 ft. lbs. (15-18 Nm).
5. Reinstall the mountain bar.

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THE PERFECT FIT
Traction Products
Carbide Skags

A skag is a replaceable bar attached to the underside of the ski to assist in turning the snowmobile and to prevent ski wear caused by contact with roads and other bare terrain.

Inspect skags frequently. Worn skags may reduce steering and braking control on hard-packed snow and ice. Replace worn skags to maintain proper balance and vehicle control.

⚠ WARNING

Loss of control can result in serious personal injury or death. Proper balance of traction products on the skis and track must be maintained to obtain proper vehicle control on hard-packed snow or ice. See your dealer for assistance.

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Accessories

Polaris offers a wide range of accessories for your snowmobile. From map light to electric start, Polaris has the accessories that will help make each ride more enjoyable. See your dealer for a list of accessories.

Use only Polaris parts and accessories on your Polaris snowmobile. Use of unapproved parts and accessories may result in:

- Non-compliance with government/industry requirements
- Voiding of warranty
- Personal injury to self or others

This applies to, but is not limited to the following areas: brakes, clutches, fuel systems, and exhaust systems.

NOTE: Exhaust systems are critical safety areas that *must* use approved Polaris parts. Please see your Polaris dealer for service.

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PRE-RIDE INSPECTIONS
Pre-Ride Checklist

Inspect all items on the checklist for proper operation or condition before each use of the snowmobile. Procedures are outlined on the referenced pages. Look for a checkmark (✓) on the referenced pages to locate the pre-ride inspection items

Item	See Page
Drive Belt Condition	83, 86
Steering System	42
Recoil Rope	43
Parking Brake Lock/Brake Lever/ Brake System	40, 41, 77
Auxiliary Shut-Off Switch (Engine Stop Switch)	54
Ignition Switch	44
Taillight/Brakelight/Headlight	44
Suspension Mounting Bolts	96
Skags (Wear Bars)	95
Ski Saddle and Spindle Bolts	96
Hood Straps/Latches	43
Throttle Lever/Safety Switch	39, 54, 55
Rear Wheel Idler Bolts	91, 96
Track Alignment/Condition	42, 92
Rail Slide Condition	96
Chaincase Oil Level	69
Injection Oil Level	51

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Before Starting the Engine

Before starting the engine, always refer to all safety warnings pertaining to snowmobile operation. Never start the engine without checking all vehicle components to be sure of proper operation.

⚠ WARNING

Operating the vehicle with worn, damaged, or malfunctioning components could result in serious injury or death. Never start the engine without checking all vehicle components to be sure of proper operation.

Read and Understand Your Owner's Manual

Read the Owner's Manual completely and refer to it often. The manual is your guide to safe and enjoyable snowmobiling experience.

Throttle Lever

The throttle and brake are the primary controls of your snowmobile. Always make sure both are functioning properly.

Squeeze the throttle lever to make sure it compresses evenly and smoothly. When released, the lever should immediately return to the idle position without binding or hesitation. If the throttle does not function smoothly, or if you discover excessive lever freeplay, DO NOT start the engine. Have the throttle serviced immediately. See page 55.

Throttle Safety Switch

Test the throttle safety switch system before the machine is operated. See page 54.

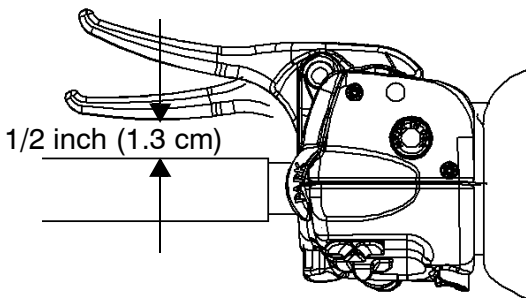
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PRE-RIDE INSPECTIONS
Before Starting the Engine
Hydraulic Brakes

Properly functioning brakes are critical to your safety. Always check the following items to assure proper operation before starting the engine.

Brake Lever Travel

Squeeze the brake lever. It should move no closer to the handgrip than 1/2 inch (1.3 cm). A smaller distance indicates low brake fluid level or air in the hydraulic system. See pages 78-79 or see your dealer for service.



Lever Feel

If the brake lever feels “spongy” when squeezed, check the brake fluid level and condition. Also check for the presence of air in the fluid system. See pages 78-79 or see your dealer for service.

Replace brake fluid at least every two years. We recommend the use of Polaris DOT 4 high temperature brake fluid. See page 105 for the part numbers of Polaris products.

⚠ WARNING

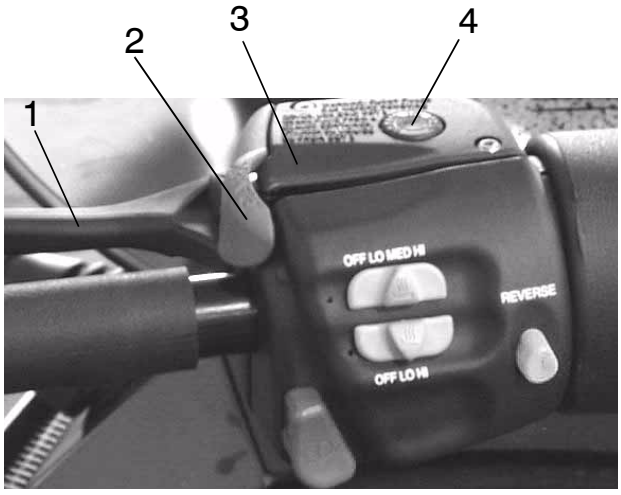
Continued use of “spongy” brakes may cause a complete loss of brakes, which could result in serious injury or death. Always have the brakes serviced at the first sign of sponginess.

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Before Starting the Engine

Parking Brake Lever Lock

Your snowmobile may have a parking brake lever lock located over the brake lever. Use the brake lever lock only when you want the machine to remain stationary; for example, when parked on an incline for a period of five minutes or less.



1. Brake Lever
2. Parking Brake Lever Lock
3. Master Cylinder Reservoir/ Cover
4. Fluid Level Indicator

Lock Engagement

To engage the lock, squeeze the brake lever tightly and push forward on the lock. Hold the lock forward while releasing the brake lever.

NOTE: If the brake lever is squeezed tightly enough, the lock will move freely into place. Do not force the lock or it may break.

The brake light will illuminate if the parking brake lever lock is set while the engine is running. It will also illuminate when the service brake is in use. If the parking brake light does not come on when the parking brake or service brake is in use, have it serviced by your dealer.

Lock Release

To release the lock, squeeze the brake lever tightly. The lock will return to the unlocked position.

⚠ WARNING

If the parking brake lever lock is partially or entirely engaged while riding, the brakes may overheat, resulting in brake damage. In extreme cases it could cause a fire, which could result in serious injury or death. Always ensure that the lever lock is completely disengaged before operating the snowmobile.

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PRE-RIDE INSPECTIONS
Before Starting the Engine

Steering System

Manually turn the skis completely to the right and to the left. If any difficulty is encountered, check for ice and snow build-up that may be obstructing the steering linkage. Make sure all greasable components are properly lubricated.

Track

⚠ WARNING

Always inspect the track for damage before using the vehicle. Operating the snowmobile with a damaged track increases the possibility of track failure, which could cause loss of control resulting in serious injury or death.

Use of traction products such as studs increases the possibility of track damage and/or failure. Driving at high speeds for extended periods of time with inadequate lubrication could severely damage track rods, break track edges, and cause other track damage. Examples of inadequate lubrication would include frozen bodies of water without snow cover, icy trails, and no-snow conditions.

NOTE: Track damage or failure caused by operation on ice or under poor lubrication conditions voids the track warranty.

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Before Starting the Engine

Hood Latches

The hood of the snowmobile protects the operator from moving parts as well as aiding in sound emission control and other functions. Under no circumstances should your snowmobile be operated with the hood open or removed. Always ensure that the hood straps are in good condition and that the latches are securely in place before operating the snowmobile.

Seat Latches

If your snowmobile is equipped with a removable seat, ensure that the seat latches are securely in place before every use of the snowmobile.

Recoil Rope

Inspect the recoil rope and handle for excessive wear, and make sure the knot securing the rope inside the handle is secure. If excessive wear is found, see your Polaris dealer for replacement.

Transmission

Make sure the transmission is *not* in reverse before starting the engine (if equipped with reverse).

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PRE-RIDE INSPECTIONS
Start the Engine and Check

Engine Stop Switch

Check the auxiliary shut-off switch for proper operation. Push the switch down to stop the engine. Pull it up to allow restarting.

Lighting

Check the headlight (high and low beam), taillight, and brake light. Replace burned out lamps before operating.

Mirrors (if equipped)

Adjust the mirrors so they can be used to their full advantage.

Operating Area

Before driving, check your surroundings. Be aware of obstacles and make sure bystanders are a safe distance from the machine.

Ignition Switch

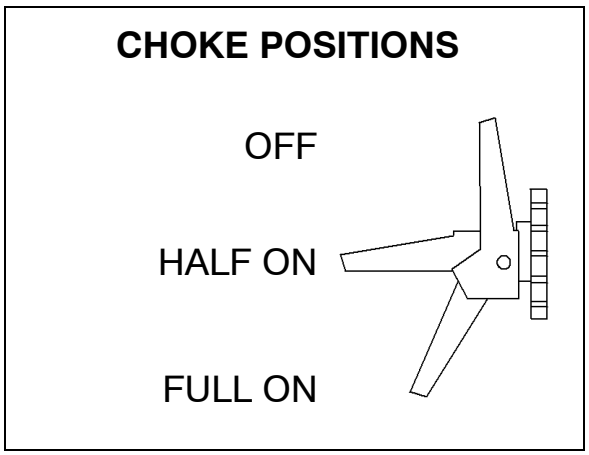
Make sure the engine stops when the ignition switch is turned to *OFF*.

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Starting the Engine

NOTICE: Engaging the starter when the engine is running WILL result in serious engine damage, especially if the transmission is in reverse. Never engage the starter when the engine is running.

1. Turn the fuel valve on. See page 27.
2. Turn the key to the *ON* position.
3. Pull the engine stop switch up to the *RUN* position.
4. If starting a cold engine, flip the choke toggle to *FULL CHOKE*. Do not use the choke if starting a warm engine.



NOTE: Do not depress the throttle until the engine starts.

5. If equipped with electric start, turn the key to *START* to crank the engine. Release the key to the *ON* position when the engine starts.

NOTICE: Don't pull the starter rope to the fully extended position and don't allow it to snap back into the housing. Damage may result. To avoid engine damage, do not operate the electric starter or pull-rope starter while the engine is running.

6. If not equipped with electric start, grasp starter handle and pull slowly until the recoil engages; then pull abruptly to crank the engine.
7. Repeat the cranking procedure as needed until the engine starts.
8. After the engine starts, flip the choke toggle to the *OFF* position. If the engine slows or wants to stop, use intermittent choking to the *HALF CHOKE* position.

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OPERATION
Engine Break-In

No single action on your part is as important to long, trouble-free machine life as proper break-in of a new or rebuilt engine. Premix the first tank of gasoline with one pint of Polaris injection oil for each five gallons of fuel. This, in addition to the lubrication supplied by the injection system, will assure proper engine break-in.

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. Vary the throttle openings and machine speeds to reduce friction on all close-fitting machined parts, allowing them to break in slowly without damage.

Use of any lubricants other than those recommended by Polaris may cause serious engine damage. We recommend the use of Polaris lubricants for your vehicle.

Drive with extra caution during the break-in period. Perform regular checks on fluid levels, lines, and all other important areas of the machine.

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Engine Break-In

Oil Injection System

Always check and fill the oil tank when refueling. See page 50.

NOTICE: Serious engine damage can occur without the proper lubrication. Check the oil tank level often during the first tank of fuel. If the oil level doesn't go down, contact your dealer immediately.

Oil Recommendations

This snowmobile is equipped with a variable exhaust system (VES). Engine lubrication comes from oil added to the fuel and oil injection systems. Polaris recommends the use of VES II 2 Cycle Oil for this engine. See page 105 for the part numbers of Polaris products.

Never mix brands of oil. Serious chemical reactions can cause injection system blockage, resulting in serious engine damage. Oils may also be incompatible and the result could be sludge formation, filter blockage, and reduced cold weather flow rates. All Polaris oils are compatible with each other.

Slide Rail and Track Cooling

NOTICE: Inadequate cooling and lubrication will lead to overheating of the slide rail and track, resulting in premature wear and failure. Reduce speeds and frequently drive into fresh snow to allow adequate cooling and polishing of the slide rail and track surfaces. Avoid operating on ice, hard-packed surfaces or roads.

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OPERATION
Track Warm-Up

⚠ WARNING

A loose track or flying debris could cause serious personal injury or death. Stand clear of the front of the machine and the moving track. Never hold the snowmobile up or stand behind it while warming up the track. Do not use excessive throttle during warm-up or when the track is free-hanging. Be sure the rear support is stable.

⚠ WARNING

Use of traction products such as studs, ice growsers, etc. will increase the possibility of track damage and/or failure. This could cause loss of control, resulting in serious injury or death. Always inspect for track damage before operating the snowmobile.

Follow these steps to ensure proper warm-up of the engine, drive train and track.

1. Use an appropriate stand to securely support the rear of the snowmobile at the rear bumper. The track should be approximately 4 inches (10 cm) off the ground.
2. Start the engine and allow it to warm up two to three minutes.
3. Depress the throttle abruptly and allow the track to rotate several revolutions.



NOTE: It will take longer to warm up the track sufficiently during colder outdoor temperatures.

4. Release the throttle, apply the brakes, shut off the engine and lower the machine to the ground.
5. Grasp the skis by their front loops and move them from side to side. This will loosen frozen snow from the ski bottoms, allowing the machine to move forward more easily.
6. The engine, drive system and track are now properly warmed up and the machine may be driven following normal safety practices.

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Fuel

⚠ WARNING

Gasoline is highly flammable and explosive under certain conditions.

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

⚠ WARNING

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.

Your Polaris engine is designed to run on 87 octane non-oxygenated or 89 octane oxygenated pump gasoline. There's a great deal of variability in the quality of the 87 octane gasoline available, so we encourage the use of premium fuel when possible. Do not use lower than 87 octane fuel. *Do not use fuel containing more than 10% ethanol (including E85).*

NOTICE: Using fuels with a lower than recommended octane or operating with obstructed fuel systems will result in serious and costly engine damage. Always use the recommended fuels for your machine.

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Fuel Reserve Capacity (Mechanical Gauge)

There are approximately two gallons of fuel left in the tank when the mechanical fuel gauge reads *RES*.

Fuel System Deicers

If you use non-oxygenated fuel, Polaris recommends the regular use of isopropyl-based fuel system deicer. Add one to two ounces per gallon (8-16 milliliters per liter) of gasoline to prevent engine damage resulting from fuel system icing and lean fuel mixtures. *Never use deicers or additives containing methanol.* See page 105 for the part numbers of Polaris products.

If you use oxygenated fuel containing ethanol, additional alcohol deicers or water absorbing additives are not required and should not be used.

NOTICE: Prolonged exposure to petroleum based products may damage paint. Always protect painted surfaces when handling fuel.

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Oil

Low Oil Indicator Light

The low oil indicator light will indicate when to add oil. See page 47 for oil recommendations.

When the low oil indicator light is on, oil should be added before further operation of the snowmobile. Visually check the oil level in the bottle. The engine may be operated as long as oil is visible in the oil tank. If oil is not visible, continued operation may cause serious engine damage.

Never mix brands of oil. Serious chemical reactions can cause injection system blockage, resulting in serious engine damage. They may also be incompatible and the result could be sludge formation, filter blockage, and reduced cold weather flow rates. All Polaris oils are compatible with each other.

Always maintain the oil level above the tank's low level line. This is especially important when the machine is operated in mountainous terrain. Maintaining the proper oil level will prevent system aeration and possible loss of pumping action, which could result in engine damage.

NOTICE: Mixing brands or using a non-recommended oil may cause serious engine damage. We recommend the use of Polaris 2-cycle oils for your snowmobile. Never mix brands.

Operating the snowmobile without proper engine lubrication can result in serious engine damage. Always check the oil level when refueling.

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OPERATION

Oil

Low Oil Level

Always do a visual check of the oil level when refueling. When the oil reaches the low level mark, add one U.S. quart of recommended oil to the tank. See page 47 for oil recommendations.

The Polaris oil cap on the oil tank may be vented to allow proper oil flow. See your Polaris dealer for recommended replacement parts.

Carburetion

Proper carburetor adjustment is critical. A lean mixture (too much air, too little fuel) may result in piston burning, bearing failure, or complete engine failure. A rich mixture (too much fuel, too little air) may foul plugs and cause generally poor engine performance.

A lean mixture may be caused by things like fuel line restrictions, foreign matter in the carburetor or clogged fuel filters. A rich mixture may be caused by snow build-up on the pre-filter in the air intake system. Either condition may be caused by improper carburetor adjustment.

⚠ WARNING

Improper carburetor adjustments may result in operator safety hazards as well as serious engine damage. Always have your Polaris dealer perform any carburetor adjustments.

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Carburetion

Jetting Guidelines

Changes in altitude and temperature affect air density, which is the amount of oxygen available for combustion. In low elevations and cold temperatures, the air has more oxygen. In higher elevations and higher temperatures, the air is less dense.

RMK carburetors are preset to operate at altitudes of 6000-8000 feet (1800-2400 m) above sea level (see page 74 for more information). Carburetors must be re-calibrated if the snowmobile is operated outside this production temperature and/or altitude range. The main jet installed in production is not correct for all altitudes and/or temperatures.

NOTICE: A main jet that's too small will cause a lean operating condition and may cause serious engine damage. Jet the carburetors carefully for elevation and temperature according to the jetting charts. Refer to your Owner's Manual Supplement.

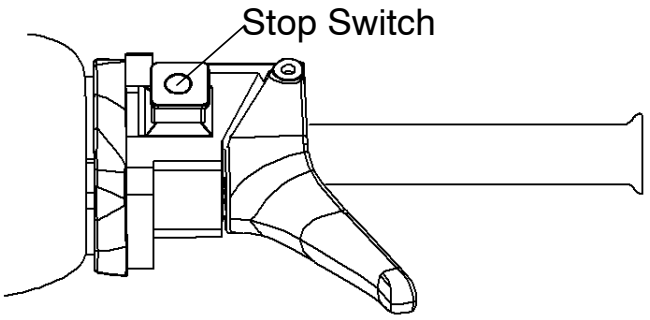
It's the owner's responsibility to ensure that the correct jets are installed in the machine for a geographical area. Be very careful when jetting down in warm weather. As the weather turns colder it will be necessary to re-jet upward to prevent engine damage. When selecting the proper main jet always use the lowest elevation and temperature that is likely to be encountered.

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OPERATION

Engine Stop Switch

Push down on the engine stop switch to stop the engine in an emergency. This will ground out the ignition and bring the engine to a quick stop. To restart the engine, the switch must be pulled up to the *ON* position.



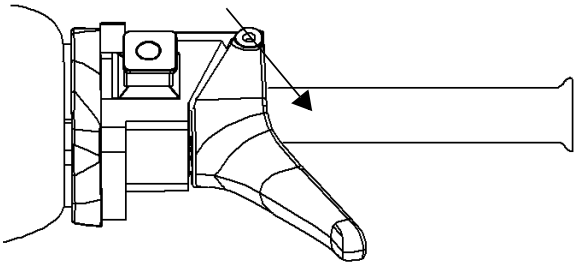
Throttle Safety Switch

The throttle safety switch is designed to stop the engine whenever all pressure is removed from the throttle lever and the throttle cable or valves do not return to the normal closed position. Test the throttle safety switch system daily before operation.

⚠ WARNING

Operating the snowmobile with a faulty throttle safety switch can result in serious injury or death in the event of an accident. If the throttle safety switch does not shut off the engine during a carburetor/throttle system malfunction, immediately push down the engine stop switch. Do not start the engine again until the malfunction has been corrected by your dealer.

Test the throttle safety switch system daily before operation.



1. Sit on the seat.
2. Start the engine and allow it to idle.
3. Hold the throttle lever pin stationary by exerting pressure on the pivot pin in the direction shown in the illustration.
4. Apply a slight amount of throttle. A properly functioning switch must shut down the engine.

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Throttle Lever

⚠ WARNING

An improperly functioning throttle lever may cause erratic machine behavior and loss of control, which could result in serious injury or death. If the throttle lever does not work properly, DO NOT start the engine.

If the engine stops abruptly when the throttle lever is released:

1. Turn the ignition switch to *OFF*.
2. Visually inspect the throttle cable and carburetor(s) to determine what caused the safety switch to activate.
3. Test the throttle lever by compressing and releasing it several times. The lever and cable must return to the idle position quickly and completely.
4. If the throttle lever operates properly, turn the ignition switch on and go through normal starting procedures.
5. If the engine doesn't start, take the snowmobile to an authorized Polaris dealer for service.

Excessive free play in the throttle cable may cause the safety switch to activate, preventing the engine from starting. If this occurs, return the machine to an authorized Polaris dealer for service.

If an emergency exists and it's necessary to start the engine, the throttle safety switch and engine stop switch may be disconnected from the wire harness. When these switches are disconnected, the ignition key switch must be used to shut off the engine. DO NOT continue to operate the machine with the throttle safety switch disconnected. Return the machine to an authorized Polaris dealer for service as soon as possible.

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OPERATION
Emergency Stopping

The following chart lists methods for stopping the snowmobile in the event of an emergency. Refer to page 54 for more information about the engine stop switch and throttle safety switch.

SYSTEM	WHAT IT DOES	THROTTLE CONDITION
Ignition Switch	Interrupts ignition circuit	All
Brake	Slows jackshaft	All
Choke	Floods engine	Half throttle or less
Engine Stop Switch	Interrupts ignition circuit	All
Throttle Safety Switch	Interrupts ignition circuit	All

⚠ WARNING

Excessive or repetitive use of brakes for high speed stops will cause an overheated brake system. This overheated condition could cause sudden loss of brakes and/or fire, resulting in serious injury or death.

When traveling on long downhill stretches, pump the brakes. Riding the brakes may cause the brake system to overheat and result in brake failure.

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Emergency Starting

Your machine is equipped with a tool kit containing essential tools for emergency use. Snowmobiles equipped with electric start have a recoil for emergency starting. If the recoil starter system fails, an emergency start strap is provided in the kit.

Reverse Operation

⚠ WARNING

Improper reverse operation, even at low speeds, may cause loss of control, resulting in serious injury or death. Damage will occur to the chaincase or transmission if shifting is attempted when the engine is operating above idle speed.

- Shift to or from reverse only when the snowmobile is stopped and when engine speed is at idle.
- Look behind the vehicle before and while backing.
- Avoid sharp turns.
- Apply throttle slowly.

Mechanical Reverse

Make sure the shift lever is shifted completely into forward or reverse position. Some models are equipped with a reverse indicator light that will help you make that determination.

Do not force the shift lever into reverse if resistance is felt. The gears may not always be aligned for shifting into reverse, and forcing the lever may cause damage. If resistance is felt, gently apply the throttle to move the gears to a different position and try to shift again.

The transmission may not always be in the gear indicated by the shift lever. Apply the throttle slowly until you're sure which gear is engaged.

Sometimes the drive belt will drag in the drive clutch, causing slight tension in the transmission and making it hard to shift. Shutting the engine off will remove this tension and ease shifting. This should only happen during the break-in of a new belt or when the drive/driven clutch center distance is too long. If this is the case, belt tension adjustments should be made by your dealer.

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OPERATION
Towing

Do not use the front bumper to pull or drag the snowmobile. The front bumper is not designed for this type of use and may detach from the vehicle if force is applied.

For your safety, do not attempt to using the tow hitch until you've read the following warnings and understand the proper hitch functions.

⚠ WARNING

Objects towed with a rope have no braking power and can easily collide with the rear of the snowmobile or other objects, resulting in serious injury or death. DO NOT tow toboggans, sleds, saucers, or any type of vehicle with a rope. Only a stiff metal pole connecting the towed object and the tow hitch on the snowmobile should be used. If passengers are to be towed on a toboggan or sled, make sure the pole is at least four feet (1.2 meters) long to prevent any possibility of contact between the snowmobile's track and a person riding in the towed object.

Braking distances increase when towing loads. Slow down to maintain control of the snowmobile.

If the snowmobile becomes inoperable and must be towed, and if it isn't possible to use a rigid tow bar, attach the tow rope to the ski spindles (not to the ski loops) to prevent damage to the steering components. Remove the drive belt before towing, and have a rider on the towed snowmobile to operate the brake and steering when necessary.

NOTICE: Towing a disabled snowmobile with the drive belt in place can result in serious damage to the engine and drive system. Always remove the drive belt from a disabled snowmobile before towing.

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Emission Control Information

Any qualified repair shop or qualified person may maintain, replace, or repair the emission control devices or systems on your snowmobile.

Emission Control Label

Your snowmobile is equipped at the time of sale with an emission control information (ECI) label and a factory-installed emissions information hangtag. These items are required by U.S. Environmental Protection Agency regulations. The ECI label is permanently affixed to either the right side of the tunnel or the engine recoil cover. The ECI label should not be removed, even after you purchase the snowmobile. You may remove the factory-installed emissions information hangtag, which is intended solely for your use in making a purchasing decision.

Emission Control Maintenance Requirements

Your snowmobile is certified to operate on gasoline with a minimum octane level of 87 (R+M)/2. If your snowmobile is equipped with a check engine light and it comes on, you must take your snowmobile to a qualified dealer for diagnostic service. Specifications and adjustments for engine tune-ups are located in the Service Manual, which is available to your qualified service technician. Reverse (if equipped) must not be engaged during engine tune-ups.

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MAINTENANCE
Emission Control Information
Owner's Responsibilities

Please read the Snowmobile Engine Emissions Limited Warranty, and read the maintenance section of your owner's manual. You are responsible for ensuring that the specified maintenance is performed. Polaris recommends that you contact an authorized Polaris dealer to perform any service that may be necessary.

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Polaris Recommended Maintenance Program

To ensure many trouble-free miles of snowmobiling enjoyment, follow recommended regular maintenance and perform service checks as outlined in this manual. Record maintenance and service in the Maintenance Log beginning on page 120.

The recommended maintenance schedule on your snowmobile calls for service and maintenance inspections at 150 miles (240 km), 500 miles (800 km) and 1000 miles (1600 km). These inspections should be performed by a qualified service technician. For continued optimum performance and component life, continue maintenance checks at 1000 mile (1600 km) intervals.

All necessary replacement parts and labor incurred, with the exception of authorized warranty repairs, become the responsibility of the registered owner. If, during the course of the warranty period, part failures occur as a result of owner neglect in performing recommended regular maintenance, the cost of repairs are the responsibility of the owner.

Personal safety is critical when attempting to service or make adjustments to your snowmobile. If you're not familiar with safe service or adjustment procedures and the use of tools, or if you don't feel comfortable performing these tasks yourself, contact an authorized Polaris dealer for service.

NOTICE: Hot components can cause damage to plastic. Always make sure the exhaust system and engine have cooled before tipping the snowmobile on its side for service or inspection.

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MAINTENANCE
Periodic Maintenance Interval Table

The following chart is a guide based on average riding conditions. You may need to increase frequency based on riding conditions. When inspection reveals the need for replacement parts, always use genuine Polaris parts, available from your Polaris dealer.

Item	See Page	Frequency				
		150 mi. (240 km)	500 mi. (800 km)	1000 mi. (1600 km)	2000 mi. (3200 km)	Pre-Season
CLUTCH						
Clutch Offset Alignment (without belt)	82		I	I	I	
Drive Belt Condition	83		I	I	I	I
Clutches (disassemble)	82		C	C	C	
Belt Tension	--		I	I	I	I
Clutch Sheaves	86		I	I	I	I
ENGINE						
Engine Mounts	--		I	I	I	I
Recoil Rope	43		I	I	I	I
Engine Mounting Plate	--		I	I	I	
Engine Torque Stop	87		I	I	I	I
Cylinder Head Bolts	--		I	I	I	
Cylinder Base Nuts	--	I	I	I	I	
Ignition Timing BTDC	--		I	I	I	
Spark Plug Condition	70	I	I	I	I	I
Exhaust Pipe	76				I	I
Exhaust Retaining Springs	76		I	I	I	I

I - Inspect (clean, adjust, tighten, lubricate, replace if necessary)
C - Clean **R** - Replace **L -** Lubricate

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Periodic Maintenance Interval Table

Item	See Page	Frequency				
		150 mi. (240 km)	500 mi. (800 km)	1000 mi. (1600 km)	2000 mi. (3200 km)	Pre-Season
BRAKES						
Hose Routing	--		I	I	I	I
Hose Condition	--		I	I	I	I
Fluid Leaks	--		I	I	I	I
Brake Pads	77		I	I	I	I
Brake Disc	--		I	I	I	I
Parking Brakes	41		I	I	I	I
Brake System	40,77					I
Brake fluid	78				R	
FUEL MANAGEMENT						
Pilot Air Screws	--		I	I	I	
Carburetor (synchronize)	52		I	I	I	
Idle RPM	--		I	I	I	
Throttle Lever	39,55	I	I	I	I	I
Oil Pump Lever (synchronize)	--		I	I	I	
Throttle Cable	68		L	L	L	
Choke Cable	68	I	L	L	L	
Vent Lines	--		I	I	I	I
Throttle Position Sensor	--		I	I	I	
Choke	68		I	I	I	
Fuel Filter	75			R	R	
Fuel Lines	75	I	I	I	I	I
Oil Filter	75			R	R	
Oil Lines	75			I	I	I
Oil Change	N/A			R	R	I
Air Box	--	I	I	I	I	I
Drain and Water Traps	73		I	I	I	

I - Inspect (clean, adjust, tighten, lubricate, replace if necessary)
C - Clean **R** - Replace **L -** Lubricate

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MAINTENANCE
Periodic Maintenance Interval Table

Item	See Page	Frequency				
		150 mi. (240 km)	500 mi. (800 km)	1000 mi. (1600 km)	2000 mi. (3200 km)	Pre-Season
ELECTRICAL						
Auxiliary Shut-Off Switch	44	I	I	I	I	I
Throttle Safety Switch	39,54	I	I	I	I	I
Ignition Switch	44	I	I	I	I	I
Taillight	44	I	I	I	I	I
Brakelight	44	I	I	I	I	I
Headlight	44	I	I	I	I	I
CHASSIS						
Ski Toe Alignment	--		I	I	I	
Suspension Mounting Bolts	--	I	I	I	I	I
Steering Fasteners	--	I	I	I	I	C
Rear Suspension Fasteners	--	I	I	I	I	I
Suspension Shock Oil	--		I	I	I	I
Cooling Fins and Shroud	--		I	I	I	I
Drive Shaft Bearings	68		L	L	L	I
Jackshaft Bearings	68		L	L	L	I
Skags (Wear Bars)	95	I	I	I	I	I
Ski Saddle/Spindle Bolts	--	I	I	I	I	I
Ski Pivots	66	L	L	L	L	I
Ski Spindle	66	L	L	L	L	I
Steering Arm(s)	66	L	L	L	L	I
Upper/ Lower Steering Post Support Bracket	66	L	L	L	L	I
Hood Straps	43	I	I	I	I	I
Battery Fluid Level	97	I	I	I	I	I
Rear Wheel Idler Bolts and Nuts	91	I	I	I	I	I

I - Inspect (clean, adjust, tighten, lubricate, replace if necessary)
C - Clean **R** - Replace **L -** Lubricate

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Periodic Maintenance Interval Table

Item	See Page	Frequency				
		150 mi. (240 km)	500 mi. (800 km)	1000 mi. (1600 km)	2000 mi. (3200 km)	Pre-Season
CHASSIS						
Rear Suspension Pivot Shafts	67		L	L		L
Camber Alignment	--		I	I	I	
Radius Rod Bushings	--					I
Handlebar Centering	--					I
Track Alignment	92	I	I	I	I	I
Track Tension	90	I	I	I	I	I
Front Limiter Strap	--	I	I	I	I	I
Rail Slide Condition	96					I
Chaincase Oil	N/A	I	I	I	R	I
Gearcase Oil	69	I	I	I	R	I

I - Inspect (clean, adjust, tighten, lubricate, replace if necessary)
C - Clean **R** - Replace **L -** Lubricate

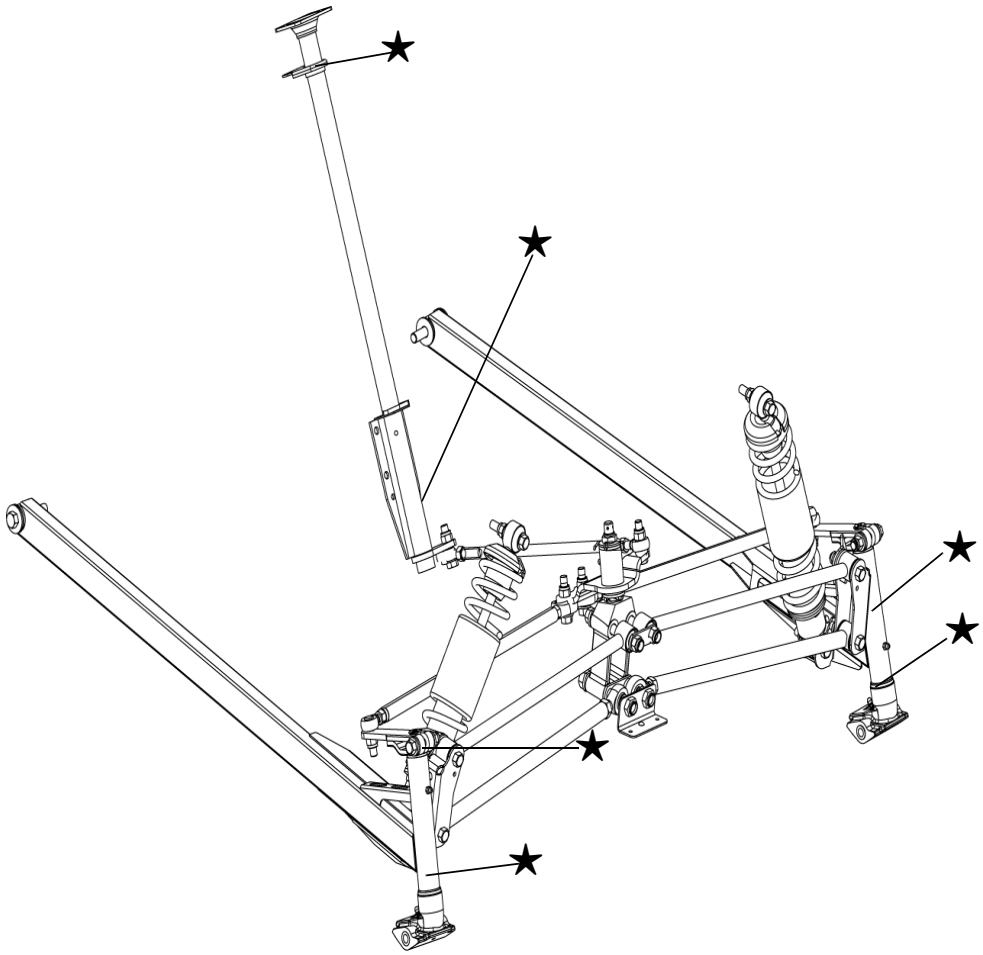
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MAINTENANCE
Lubrication
Suspension and Steering

Lubricate the suspension and steering components with Polaris Premium All-Season Grease at 500 miles (800 km) and annually or every 1000 miles (1600 km) thereafter. A grease gun kit, complete with grease and adaptors, is available to lubricate all fittings on Polaris snowmobiles. See page 105 for the part numbers of Polaris products.

The illustration shows the lubrication points of suspension and steering components. Grease the left and right spindles. Raise the front end of the machine to permit better grease entry into the spindle area.

- Lubricate both of the front ski pivots at the fittings as shown.
- Grease the jackshaft and driveshaft clutch side bearings.
- Use an aerosol lubricant on the steering post support bracket.
- Grease the steering post lower pivot.
- Grease the rear suspension pivot shafts (raise the rear of unit).

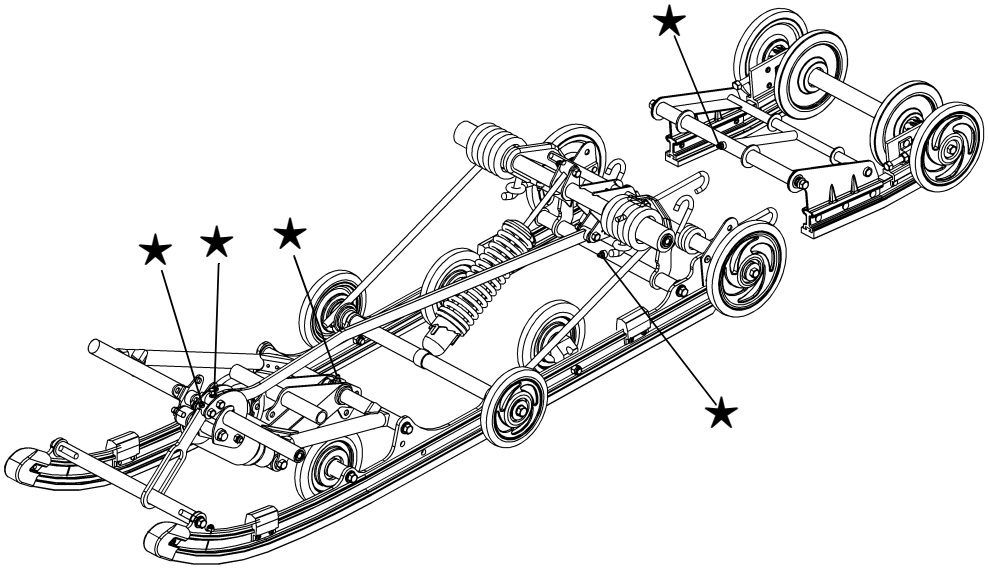


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Lubrication

Rear Suspension

WideTrak Rear Suspension



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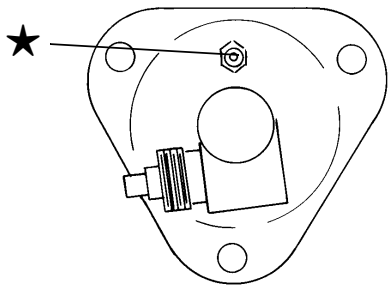
MAINTENANCE
Lubrication

Jackshaft Bearing

The jackshaft bearing on your model may be equipped with a grease fitting, but this component is greased for life at the factory. Additional lubrication is not required.

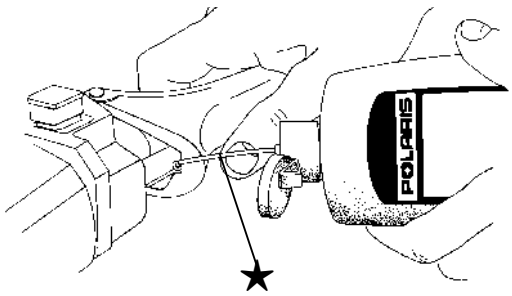
Driveshaft Bearing

Inject grease into the fitting on the speedometer drive adaptor until grease purges from inside or outside the bearing seal (approximately two pumps).



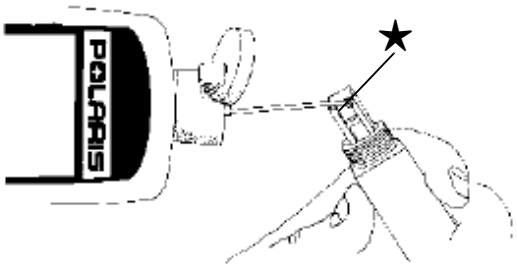
Throttle Cable

Lubricate the throttle cable lightly with grease or oil. With the engine off, turn the handlebars to the left and lubricate liberally as shown.



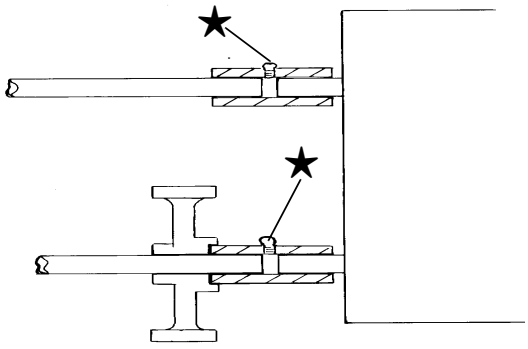
Choke and Cable

Lubricate the choke slide and cables lightly with oil or grease. Before turning the engine off, operate the choke intermittently to draw moisture out of the choke plunger area and reduce the possibility of the choke becoming frozen.



Coupler Greasing (WideTrak)

Grease the couplers on the driveshaft and jackshaft.

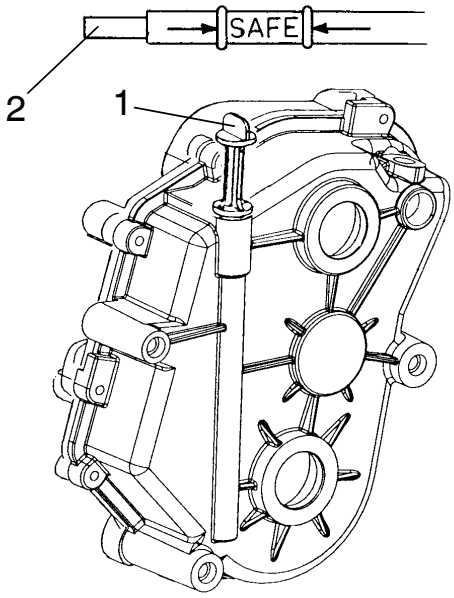


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Lubrication

Gearcase Oil Level (WideTrak)

Check the gearcase oil level at the intervals outlined in the maintenance charts beginning on page 65. Change the gearcase oil after the first 500 miles (800 km), then every 1000 miles (1600 km) or seasonally.



To check the oil level, place the machine on a level surface. The oil level should be between the "safe" marks on the dipstick (1). See your Polaris dealer for the recommended oil for your machine. *Do not overfill*.

Clean the magnetic plug (2) every 500 miles (800 km) and whenever checking or changing lubricant.

NOTICE: Mixing brands or using non-recommended lubricants could result in excessive wear to chain, sprockets and bearings. Always use Polaris-recommended products for your vehicle.

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MAINTENANCE
Spark Plugs

It's very important to use the correct spark plug for your machine. A spark plug with a heat range too high will cause engine damage. A spark plug with a heat range too low will cause excessive fouling and engine malfunctioning.

In selecting a spark plug heat range for production, a manufacturer assumes that the engine will be operated under extreme heavy duty conditions and selects a spark plug that will protect the engine from internal damage if the purchaser actually does operate the engine in this manner. This selection could cause the customer who normally operates the engine under medium or light duty to have spark plug failure.

NOTICE: A spark plug with a heat range too high will *always* cause engine damage if the engine is operated in conditions more severe than intended for that plug. Always use the spark plugs recommended for your snowmobile. Refer to your Owner's Manual Supplement.

A new engine can cause temporary spark plug fouling due to the preservative added during the assembly process. Avoid prolonged idle speeds, which cause plug fouling and carbonization.

- Use recommended spark plugs with the proper gap. Refer to your Owner's Manual Supplement.
- Spark plug torque is 18-22 ft. lbs. (24.4-29.8 Nm).
- Always carry spare spark plugs in case of an emergency.

NOTICE: Using non-recommended spark plugs can result in serious engine damage. Always use Polaris-recommended spark plugs.

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Spark Plugs

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

⚠ WARNING

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

NOTE: Incorrect fuel mixture can often cause a spark plug to appear too dark or too light in color. Before changing spark plug heat ranges, be sure the correct main jet is installed in the carburetor(s). Refer to your Owner's Manual Supplement.

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.

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

Wet Fouled Plug

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

Spark Plug Removal and Replacement

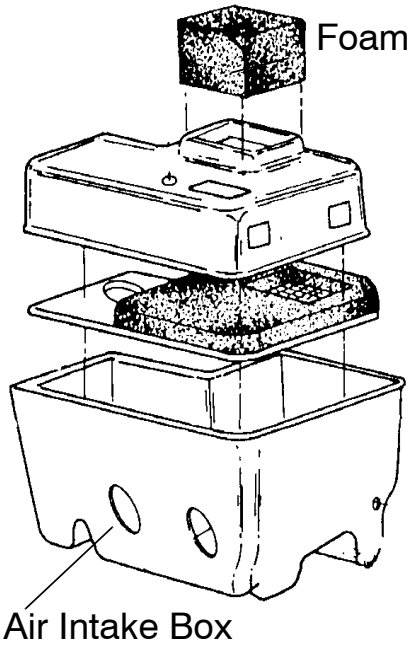
1. Remove the spark plug cap.
2. Using the special wrench provided in the tool pouch, rotate the spark plug counterclockwise to remove it.
3. Reverse the procedure for spark plug installation. Torque to 18-22 ft. lbs. (24.4-29.8 Nm).
4. Reinstall the spark plug cap.

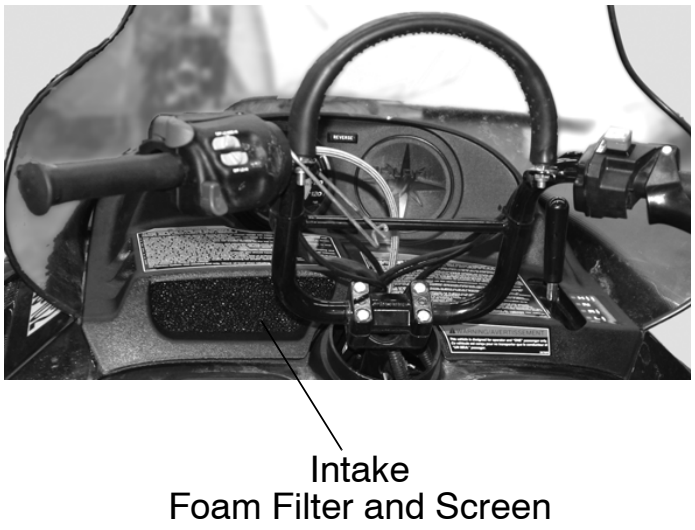
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MAINTENANCE
Intake Filter

The intake foam filter and screen limits snow ingestion into the intake system. When operating in loose powder snow, check the top of the foam filter and screen periodically to remove any accumulation of snow.

NOTICE: Operating the snowmobile with the intake filters removed may cause carburetor icing. The result will be poor fuel economy or carburetor malfunction. Always reinstall the intake filters before operating the snowmobile.





NOTE: These illustrations are general representations. Your model may differ.

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Carburetor

Water/Sediment Trap Service

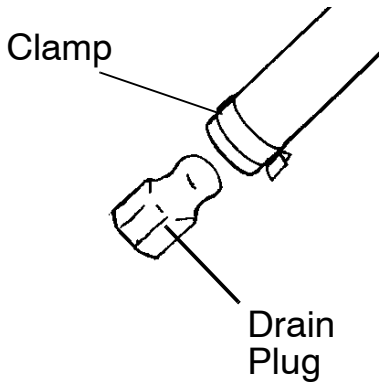
Most Polaris snowmobiles contain patented carburetor bowl water/sediment traps located at the bottom of each carburetor. The trap, consisting of a hose with a plug, should be drained about every 1000 miles (1600 km) and inspected for contamination.

⚠ WARNING

When draining the traps, fuel spillage will occur. Always work in a well ventilated area away from anything that may cause the fuel to ignite, such as open flames, sparks, heaters, trouble lights, cigarettes, etc. Review the gasoline warnings found on page 49.

Plug Cleaning Procedure

1. Turn the fuel valve off.
2. Position a container or shop towels to catch the contaminated gasoline.
3. Slide the clamp away from the drain plug and remove the drain plug from the sediment tube.
4. Wipe residue from the plug and reinstall it. Reposition and tighten the clamps. Continue until all the traps have been emptied.



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MAINTENANCE
Carburetor

The number stamped in the end of the main jet indicates the jet size. The jet installed at the time of manufacture is not necessarily correct for your elevation. It's your dealer's responsibility to make sure the correct main jet is installed.

NOTICE: Operating the snowmobile with incorrect jetting can result in serious engine damage. Have your Polaris dealer perform all carburetor adjustments to ensure all adjustments are done correctly.

Carburetor Adjustments

The frequency at which the carburetors are synchronized or balanced is important. Properly adjusted carburetors can greatly improve engine performance, fuel economy, engine life, and reliability.

If you notice any of the following conditions, the carburetor may need adjustment:

- Hard starting
- Poor idle
- Overheated pistons and cylinder walls
- Plug fouling
- Poor engine response to various throttle valve openings

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Fuel Filter/Fuel Lines

The fuel filter is located inside the fuel tank. This component requires no maintenance.

Inspect the fuel lines regularly for signs of deterioration or damage. Always check fuel line condition after periods of storage. Normal deterioration from weather and fuel compounds may occur. Replace worn or damaged fuel lines promptly.

NOTICE: Kinking the fuel lines or using a pliers or similar tools to remove fuel lines may cause damage to the lines. If a fuel line has been damaged or kinked, replace it promptly.

Oil Filter

The oil filter on your model is assembled into the oil sending unit located in the bottom of the oil tank. This component requires no maintenance.

If service is performed to the oil injection system, trapped air must be bled from the system. See your dealer for instructions, or have your dealer perform this service.

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MAINTENANCE
Exhaust System

Check the exhaust system for wear or damage at approximately 1000 miles (1600 km). To inspect, allow the engine and exhaust system to cool completely. Open the hood and inspect the muffler and pipes for cracks or damage. Check for weak or missing retaining springs or damper/support grommets.

⚠ WARNING

Hot exhaust system parts can cause serious burns. Allow adequate time for the exhaust system to cool. Never perform this procedure with the engine running.

Drive Chain Tension

Your WideTrak is equipped with an automatic chain tensioner. No maintenance or inspection should be necessary.

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Brakes

Hydraulic Brake Inspection

Inspect the brake lever reserve before each use of the snowmobile. See page 40.

Brake pads must be replaced when the brake pad material becomes thinner than the backing plate (approximately 1/16 inch/1.5 mm). A kit is available for replacing brake pads. See your dealer.

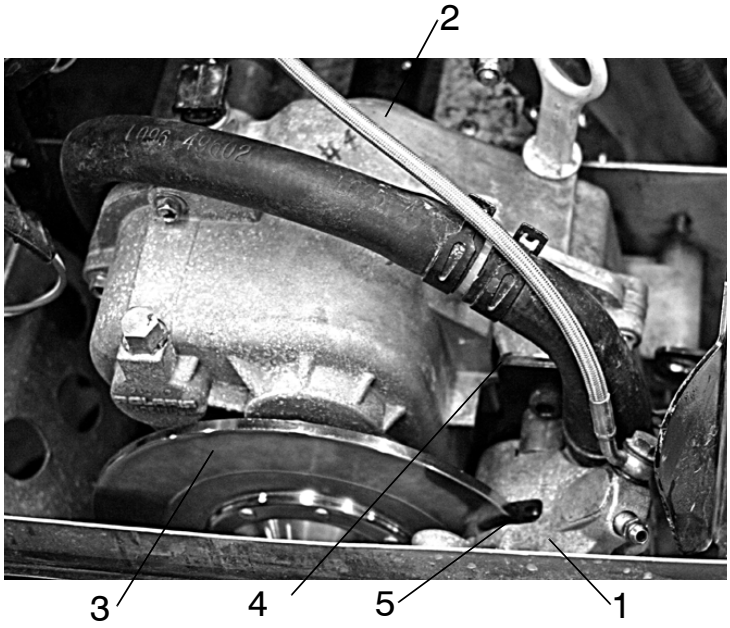
⚠ WARNING

Brake failure during operation can result in serious injury or death. Properly functioning brakes are vital to your safety. Be sure the brake pads do not drag on the disc and that brake lever travel is not excessive.

Always replace brake pads when the brake pad material becomes thinner than the backing plate (approximately 1/16 inch/1.5 mm).

Brake Components

1. Brake Caliper
2. Chaincase
3. Brake Disc
4. Backing Plate
5. Brake Pad Material (Replace when thickness is less than 1/16 inch/1.5 mm)



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MAINTENANCE
Brakes
Brake Fluid

⚠ 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.

⚠ WARNING

Keep the master cylinder cover free of dirt and debris. The vent slits allow for diaphragm movement, and if they become plugged, movement of brake fluid below the diaphragm may be restricted, altering brake function.

NOTICE: Brake fluid will damage decals, paint and some plastics. Always wipe up spills immediately.

The brake fluid level can be seen through a plastic sight glass in the brake reservoir. If the fluid is sufficient, the sight glass will be black. If the sight glass is any color other than black, add brake fluid.

We recommend the use of Polaris DOT 4 high temperature brake fluid. See page 105 for the part numbers of Polaris products.

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Brakes

Bleeding the Hydraulic Brake System

Air in the hydraulic brake system will cause spongy brake lever action. Bleed the system before operating the snowmobile.

⚠ WARNING

Operating the vehicle with a spongy brake lever can result in loss of brakes, which could cause an accident and lead to serious injury or death. Never operate the vehicle with a spongy-feeling brake lever.

During the bleeding procedure, keep the brake handle as level as possible. The reservoir must be in this position to minimize the possibility of air entering the system through the reservoir vent.

1. Remove brake master cylinder reservoir cover and gasket.
2. Fill the master cylinder reservoir to between the MIN and MAX marks or 1/4-5/16 inch (.6-.8 cm) below the lip of the reservoir opening. Reinstall the gasket and cover.
3. Slip a rubber tube over the ball of the bleeder valve and direct the flow of fluid into an approved container.
4. Squeeze the brake lever a full stroke. Then unscrew the bleeder valve 3/4 of a turn to release air.
5. Close the bleeder valve and release the brake lever.
6. Repeat steps 4 and 5 until fluid flows from the bleeder valve in a solid stream free of air bubbles.

⚠ WARNING

Overfilling the master cylinder leaves no room for fluid expansion and may cause the brakes to lock, resulting in serious injury or death. Always add brake fluid to the fill line as recommended.

7. After bleeding is complete, refill the reservoir to the proper level.
8. Reinstall the gasket and cover.

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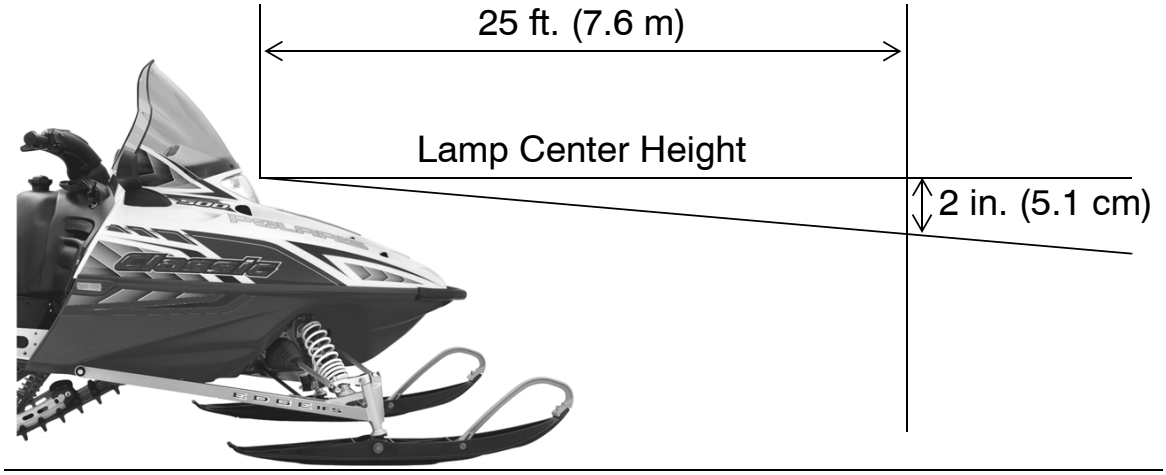
MAINTENANCE
Lights
Headlight Adjustment

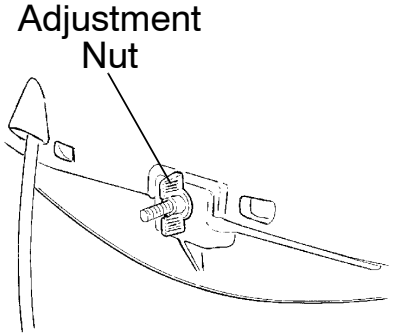
The headlight may be adjusted for vertical aim using the following procedure:

1. Place the snowmobile on a level surface with the headlight approximately 25 feet (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.
3. Start the engine and turn the headlight switch to high beam.
4. Observe the headlight aim. The most intense part of the headlight beam should be aimed two (2) inches (5.1 cm) below the mark placed on the wall in step 4.

NOTE: Rider weight must be included on the seat.

5. Turn the adjustment nut, located inside the hood, just below the headlamp opening. Turn the knob in or out as needed for proper aim.



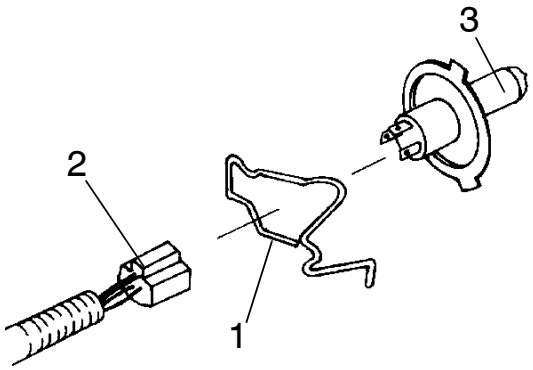


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Lights

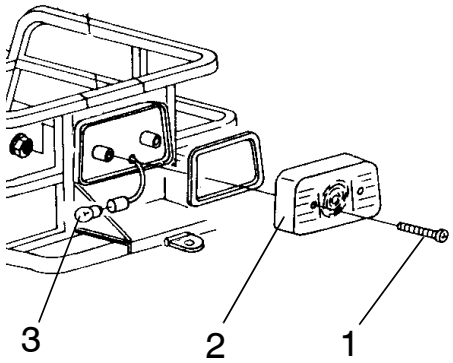
NOTE: Avoid touching a halogen bulb with bare fingers. Oil from skin leaves a residue, causing a hot spot that will shorten the life of the lamp. If fingers do touch the bulb, clean it with an alcohol-moistened towel.

Headlight Bulb Replacement



1. Pinch the ends of the spring (1) together and lift until it releases from the spring retainer.
2. Lift the spring carefully around the wire harness (2) and flip it to the outside of the housing.
3. With the wire harness attached to the bulb (3), withdraw the bulb from the housing.
4. Grasp the bulb by its metal base and carefully separate the bulb from the harness.
5. Hold the new bulb by its metal base and install it into the wire harness.
6. Insert the bulb into the housing. Carefully flip the spring back into the housing, placing it around the wire harness.
7. Squeeze the spring together until it's over the spring retainer and release.
8. Verify headlight aim. See page 80.

Taillight/Brakelight Replacement



1. Remove the screws (1) securing the taillight housing (2).
2. Remove and replace the bulb (3).
3. Reassemble all components.

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MAINTENANCE
Clutch System

Periodically inspect the clutch sheaves for damage, wear, or belt residue. To maintain optimum performance, clean with non-oil based cleaners such as isopropyl alcohol.

⚠ WARNING

If you become aware of higher than normal clutch engagement or an unusual vibration or shift pattern, see your dealer immediately. Do not operate the machine until repairs have been made.

All clutch maintenance and repairs must be performed by an authorized Polaris dealer. Any unauthorized modifications to clutches, such as adding or removing weights, will void the warranty.

NOTICE: The bushings in the weights and rollers of Polaris clutches are made of a material that may be damaged if lubricated. Do not lubricate clutch bushings.

Clutch Alignment Offset

Clutch alignment offset is important for maintaining optimum performance. Please see your Polaris dealer if you experience a decrease in performance.

Clutch Center Distance

Refer to your Owner's Manual Supplement for recommended center distance for your machine. If adjustment is necessary, see your dealer.

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Clutch System

Drive Belt Condition

Belt width and length must match the center distance of the clutches and sheave width of the drive clutch. For this reason, Polaris recommends that only O.E.M. belts be used. Other belts may match the dimensions, but can drastically change the shift pattern, resulting in poor performance. See Belt Troubleshooting on page 107.

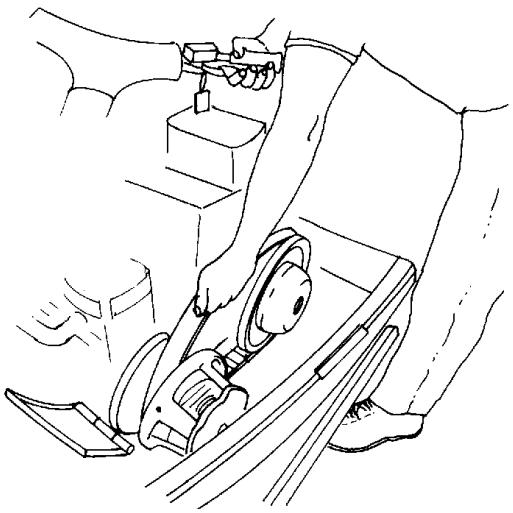
Periodically check the condition and tension of the drive belt, and always carry a spare. Inspect the belt for signs of excessive wear: frayed edges, missing cogs, cracks and excessive looseness. Replace the belt if any of these conditions exist.

NOTE: A worn belt will continue to function, but will not deliver maximum performance. Always carry a spare belt in case of an emergency.

For improved drive-away during extremely cold temperatures, remove the belt and warm it to room temperature. Reinstall it before starting the snowmobile.

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MAINTENANCE
Clutch System
Drive Belt Removal



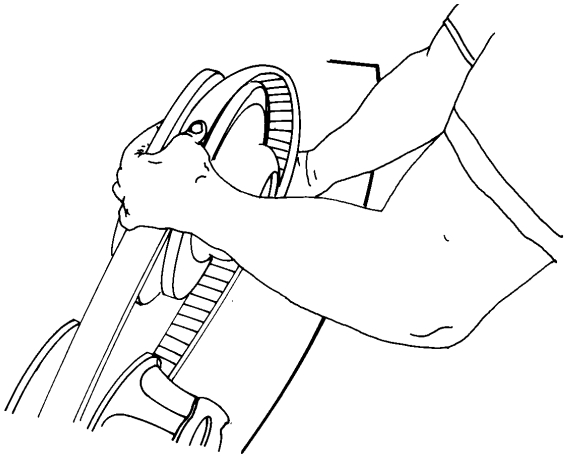
1. Stop the engine after operating in a forward motion.
2. Turn the ignition key off. Wait for the engine to stop completely.
3. Lock the parking brake (if equipped).
4. Open the hood.
5. Remove the clutch guard retaining pin and open the clutch guard.
6. Firmly grasp the belt midway between the clutches and pull upward and rearward to remove. See illustration.

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Clutch System

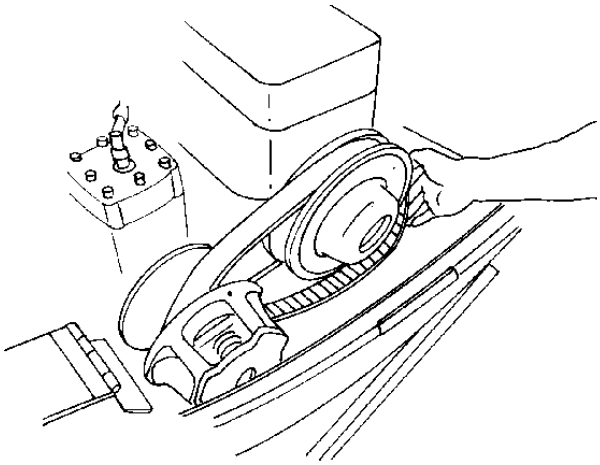
Drive Belt Installation

1. Drop the drive belt over the drive clutch and pull back the slack.



NOTE: To ensure satisfactory belt life, install belts so they operate in the same direction of rotation by positioning the identification numbers so that you can read them. If required, separate the sheaves as outlined in the belt removal procedures.

2. Turn the driven clutch moveable sheave clockwise while pushing inward and forcing the belt down between the sheaves.
3. Hold the belt down between the sheaves and roll the bottom portion over the outer clutch sheave. Work the belt to the outer edge of the sheave.



4. Close the clutch guard and reinstall the retaining pin.
5. Close and secure the hood and release the parking brake.

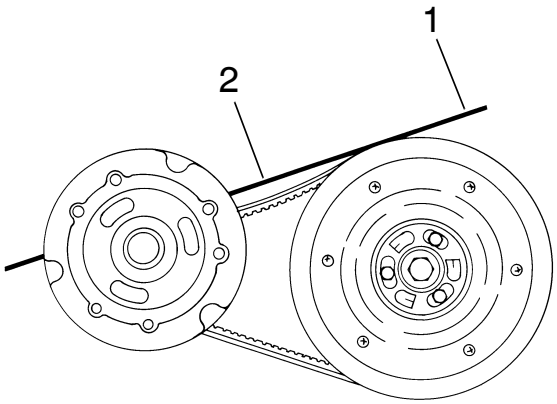
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MAINTENANCE
Clutch System

Drive Belt Deflection

Measure belt deflection with both clutches at rest and in their full neutral position.

Place a straight edge on the belt (1) and apply downward pressure while measuring at point 2. This measurement should be 1 1/4 inches (32 mm).



Drive Belt Adjustment

Belt deflection should be adjusted without removing the clutch from the jackshaft.

1. Loosen the 7/16-inch jam nut on the belt width adjuster.
2. Using a 1/8-inch Allen wrench, adjust the threaded set screw as needed.

NOTE: Turn the set screw in (clockwise) to increase the distance between the sheaves and out (counterclockwise) to decrease the distance.

3. Tighten the jam nut.

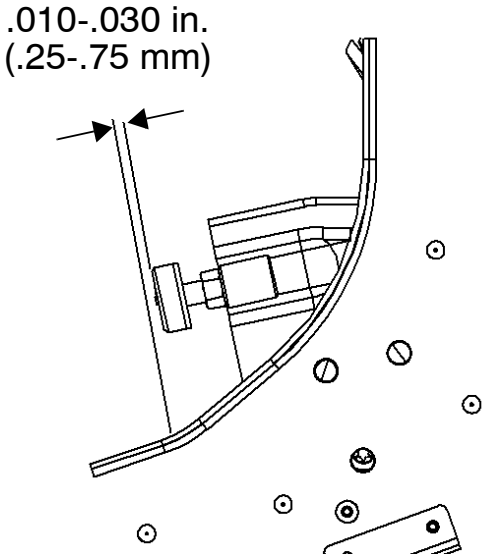
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Clutch System

Torque Stop

Periodically check torque stop clearance. With clutches in proper alignment, the torque stop clearance should be .010-.030 inch (.25-.75 mm) from the engine case.

Adjust if necessary, and lock the jam nut.



Tool Kit

A tool kit is included with each machine for emergency and routine maintenance. *Always keep the tool kit with the snowmobile.*

Chain Tension

Maintain the proper chain tension as outlined on page 76.

Fall Tune-Up

For maximum performance, arrange for a fall service tune-up with your Polaris dealer.

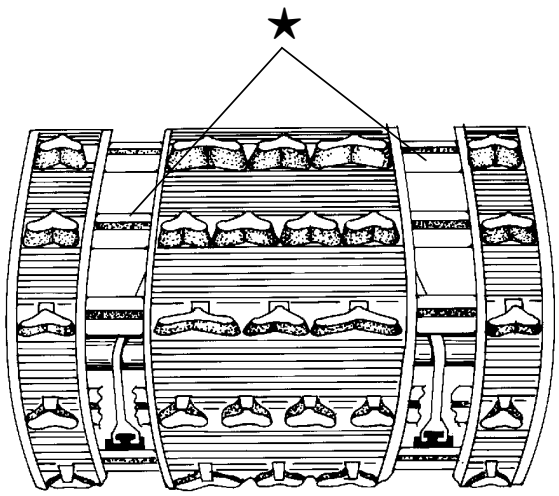
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MAINTENANCE
Track
Track Inspection

⚠ WARNING

Broken track rods are a serious safety hazard. They can cause a rotating track to come off the machine, which could cause serious injury or death. Never operate with a damaged track. Never rotate a damaged track under power.

1. Using a hoist, safely lift and support the rear of the snowmobile off the ground.
2. Rotate the track by hand to check for possible damage.
3. Carefully examine the track along the entire length of each rod (★). Bend the track to check for breakage.
4. Replace the track if any rod damage is found.



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Track

Track Lubrication

⚠ WARNING

Operating with insufficient lubrication between the rail slide and track guide clips can cause track failure, loss of vehicle control and loss of braking ability, which can result in serious injury or death.

Avoid operating for extended periods on ice and other surfaces that have little or no snow for lubrication.

The slide rail requires adequate snow cover for sufficient lubrication. Excessive wear indicates insufficient lubrication. A new rail slide can cause faster heat build-up in limited lubrication, resulting in excessive wear.

NOTE: If excessive rail slide wear occurs due to poor snow conditions, additional wheel kits are available. See your dealer for more information.

NOTE: Track damage or failure caused by operation on ice or under other poor lubrication conditions will void the track warranty.

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MAINTENANCE
Track

⚠ WARNING

Moving parts can cut and crush body parts. When performing the checks and adjustments recommended on the following pages, stay clear of all moving parts. Never perform track measurement or adjustments with the engine running.

Track Tension

Track adjustment is critical for proper handling. Always maintain correct tension and alignment. Tension adjustments should be made only after the track is warmed up and limber.

⚠ WARNING

Improper track tension can cause serious damage to the snowmobile, which can result in loss of vehicle control and serious injury or death. Always maintain the track tension as specified.

1. Turn the engine off.
2. Lift the rear of the machine and safely support it off the ground.
3. Place the recommended weight or downward pressure on the track at the distance specified (see chart) ahead of the center of the rear idler wheel.

NOTE: Measure at the point where the weight is hanging.

Weight	Measurement Location	Measurement
10 lbs. (4.54 kg)	16 inches (40 cm) ahead of rear idler shaft	3/4-1 inch (2-2.5 cm)

4. Check for specified slack between the wear surface of the track clip and the plastic rail slide.

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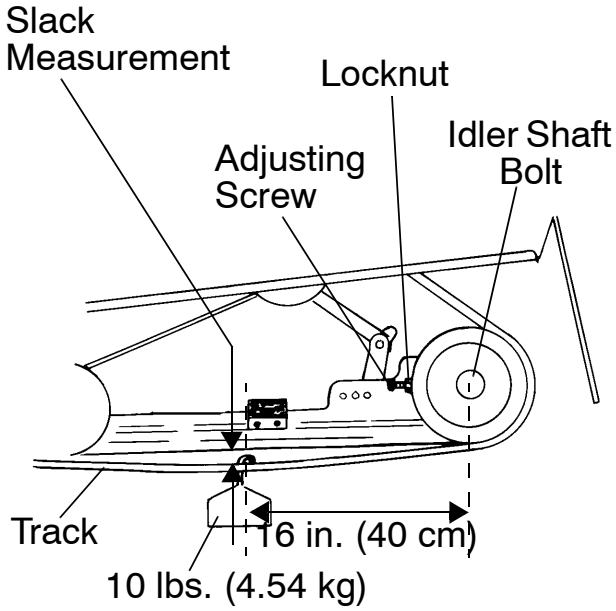
Track

Track Tension

If the track needs adjustment:

5. Loosen the rear idler shaft bolt.
6. Loosen the locknuts.
7. Tighten or loosen the track adjusting screws as necessary to provide equal adjustment on both sides of the track.
8. Repeat the measurement on the other side of the track.

NOTE: Check more frequently when machine is new.

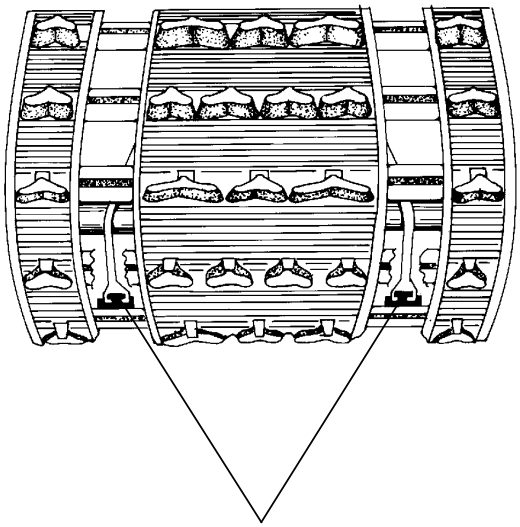


9. Start the engine and slowly rotate the track at least five revolutions. Let the track come to a stop (do not apply brakes).
10. Check track alignment (see page 92) and adjust as necessary.
11. Tighten the locknuts.
12. Tighten the idler shaft bolts. Torque to 35 ft. lbs. (47.5 Nm).

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MAINTENANCE
Track
Track Alignment

Periodically check that the track is centered and running evenly on the slide rails. Misalignment will cause excessive wear to the track and slide rail.



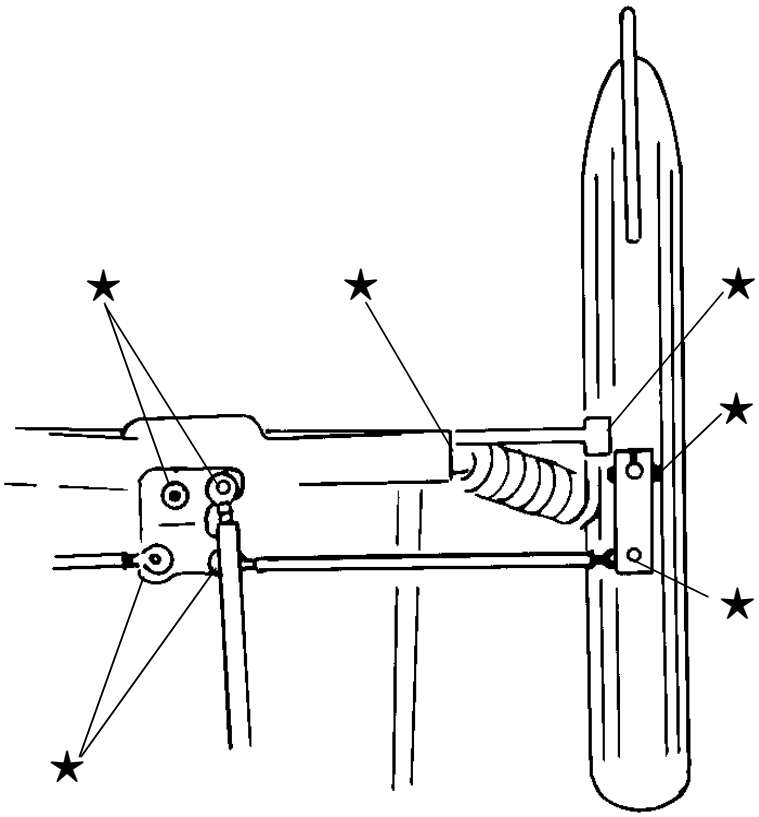
1. Safely support the rear of the machine with the track off the ground.
2. Start the engine and apply a small amount of throttle until the track turns *slowly* at least five complete revolutions. Stop the engine and let the track come to a stop (do not apply brakes).
3. Inspect track alignment by looking through the track window to make sure the rails are evenly spaced on each side. If the track runs to the left, loosen the left locknut and tighten the left adjusting bolt. If the track runs to the right, loosen the right locknut and tighten the right adjusting bolt.
4. After adjustments are complete, tighten locknuts and torque idler shaft bolts to 35 ft. lbs. (47.5 Nm).
5. Repeat steps 2 and 3 to verify proper alignment.

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Steering System

Steering Inspection

Each week, or before a long ride, check fasteners and tighten if necessary. Specific fasteners that should be checked are marked with a ★ in the illustration.



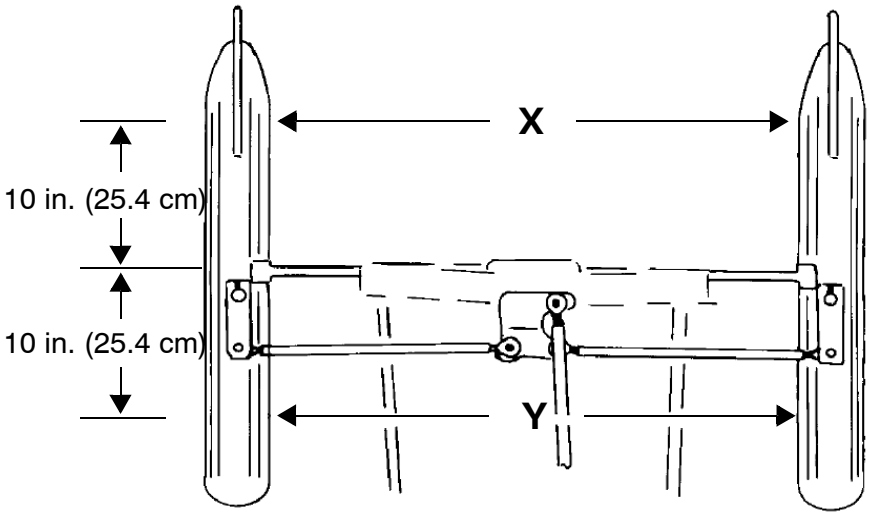
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MAINTENANCE
Steering System
Ski Alignment

⚠ WARNING
Improper ski alignment or adjustment may cause loss of steering control, resulting in serious injury or death. Do not attempt to change the ski alignment or camber adjustment. See your Polaris dealer.

With the handlebars in a straight-ahead position, and with vehicle weight compressing the suspension, measure from the straight edge of the skis at the center of the ski mounting bolt. The measurement between the skis at point X should be 1/8-1/4 inch (3-6 mm) greater than at point Y.

NOTE: If the skis are misaligned, we recommend that your dealer correct the alignment, since camber adjustment may also be affected.



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Steering System

Ski Skags

⚠ WARNING

Worn skis and/or skags will adversely affect handling. Loss of vehicle control may result, causing serious injury or death.

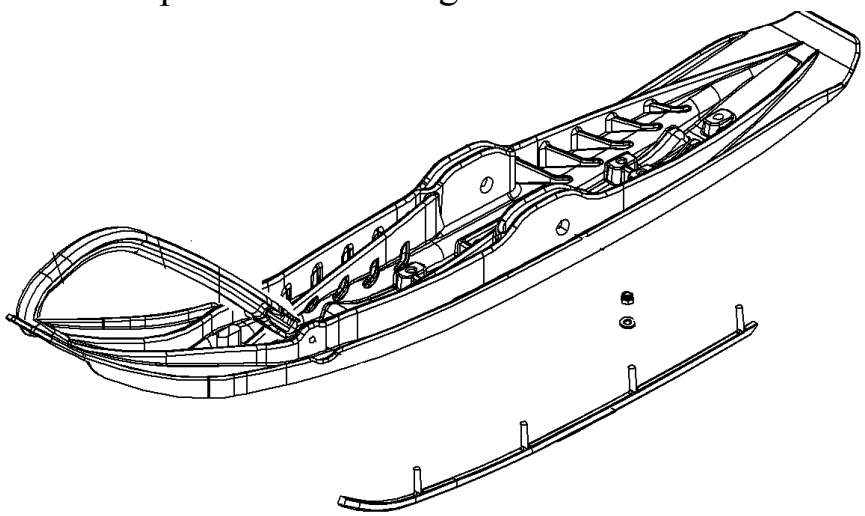
See your dealer's studding chart for recommended skags. If you install longer or more aggressive carbide skags than the original equipment, it may also be necessary to add track studs to maintain proper vehicle control while turning on hard-packed snow or ice.

Check skags weekly to maintain positive steering characteristics. Skags must be replaced when worn to half their original diameter.

NOTE: Carbide skags must be replaced if *any* abnormal wear or chipping is found.

Skag Replacement

1. Raise and support the front of the machine so the skis are approximately 6″ (15.2 cm) from the ground.
2. Remove the attaching hardware and pry the skag downward.
3. Remove the rear end of the skag.
4. Remove the front end of the skag.
5. Reverse the steps to install a skag.

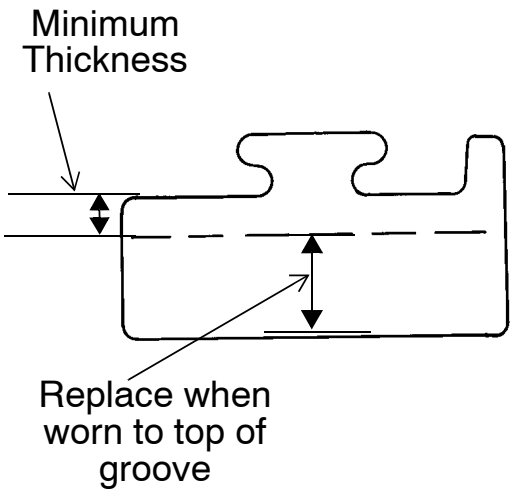


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MAINTENANCE
Suspension Maintenance

Rail Slide Wear

For ease of inspection, all Polaris rail slides have a wear limit indicator groove to indicate the minimum permissible slide thickness. Replace the rail slides if they are worn to the top of the groove at any point along their length. Failure to do so may result in permanent damage to the track or rails.



Suspension Inspections

Loose nuts and bolts can reduce your snowmobile's reliability and cause needless repairs and down time. Before beginning any snowmobile trip, a visual inspection will uncover potential problems. Check the following items on a weekly basis or before any long trip:

- Check suspension mounting bolts for tightness.
- Check rear idler wheel bolts for tightness. See page 91.
- Check rear idler adjusting bolt locknuts for tightness.
- Check front torque arm limiter strap condition.
- Check rail slide condition.
- Check track tension. See page 90.
- Lubricate/grease all suspension components. See page 66.
- Check ski runner/skag condition. See page 95.
- Check ski spindle bolts for tightness.
- Check tie rod end nuts for tightness.

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Battery

⚠ WARNING

Battery electrolyte is poisonous. It contains acid! Serious burns can result from contact with the skin, eyes, or clothing. If contact occurs, seek immediate medical attention.

KEEP OUT OF REACH OF CHILDREN.

EXTERNAL: Flush with water.

INTERNAL: Drink large quantities of water or milk. Call physician immediately.

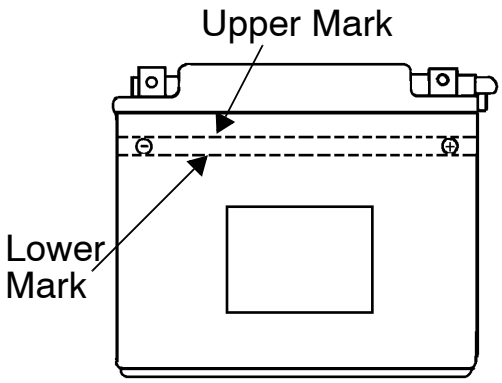
EYES: Flush with water for 15 minutes and get prompt medical attention.

Batteries produce explosive gases. Keep sparks, open flames, cigarettes, etc. away. Ventilate when charging or using in closed space. Always shield eyes when working near batteries.

Battery Fluid

A poorly maintained battery will deteriorate rapidly. Check the battery fluid level often. The fluid level should be kept between the upper and lower level marks.

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



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MAINTENANCE
Battery
Battery Connections

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

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. Disconnect the battery hold-down straps.
2. Remove the battery vent tube from battery.
3. Disconnect the black (negative) battery cable first.
4. Disconnect the red (positive) battery cable last.
5. Carefully lift the battery out of the snowmobile. Do not tip it sideways or 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.

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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.

1. Ensure that the battery is fully charged.
2. Place the battery in the battery holder. Attach the hold down strap.
3. Install the battery vent tube.

NOTE: The vent tube must be free of obstructions and securely installed. Route the vent tube properly to prevent kinks and to allow for proper drainage.

⚠ WARNING

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

4. Coat the terminals with dielectric grease or petroleum jelly.
5. Connect and tighten the red (positive) cable first.
6. Connect and tighten the black (negative) cable last.
7. Verify that cables and vent tube are properly routed.

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MAINTENANCE
Battery
Battery Storage

When your snowmobile is placed in storage for one month or more (in summer or in winter):

- Remove the battery.
- Charge it to the proper level.
- Store it in a cool dry place.
- Check and/or charge monthly.
- Have the battery tested and recharged before reinstalling it in the vehicle.

If a battery with a low charge freezes, the cells could be damaged. Always maintain a full charge on a stored battery. See the table below.

Charge condition	Will freeze at:
100%	-75° F(-59° C)
75%	-24° F(-31° C)
50%	0° F(-18° C)
25%	+13° F(-11° C)
0%	+18° F(-8° C)

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Daily Storage



At the end of each ride, park the snowmobile on a level surface and support it at the rear with an appropriate track stand. The track should be suspended approximately 4 inches (10 cm) off the ground.

Remove the key and cover the machine.

NOTE: Polaris has accessory covers and track stands available to fit all models. See your dealer for more information.

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MAINTENANCE
Extended Storage

Off-season or extended storage of your snowmobile requires preventive measures to aid against deterioration and to prolong the useful life of many components.

Cleaning and Preservation

Proper storage starts with cleaning, washing, and waxing the hood, chassis, and plastic parts. Wipe down remaining surfaces with a damp cloth. Clean and touch up with paint any rusted or previously painted surfaces. Be sure that corrosive salt and acids are removed from surfaces before beginning preservation with waxes and rust inhibitors (grease, oil or paint).

The machine should be stored in a dry garage or shed, out of direct sunlight, and covered with a fabric snowmobile cover. Plastic tarp may cause condensation to form and damage snowmobile components.

Engine and Carburetor Protection

Proper preparation of the engine and fuel system is vital to the prevention of rust and corrosion on precision engine parts during storage. Whenever the machine is stored for a period of more than 60 days, the engine must be fogged with fogging oil. Follow the engine fogging instructions provided on the can. See page 103.

Always add Premium Carbon Clean or a fuel conditioner/stabilizer to the fuel tank. Follow the instructions on the can, running the engine for five minutes to get additives through the entire fuel system. Top off with fresh fuel.

HINT: For easier starting after extended storage, add lubricant to the fuel in the tank at a 40:1 ratio and run the engine for three to five minutes before storage. This will lubricate the fuel pump diaphragm to keep it flexible and help prevent loss of prime.

If stabilizer is not used, drain the carburetors by removing the water trap drain plugs (see page 73). Catch fuel in a container or shop cloth. Reinstall plugs securely. Observe all fire safety rules when draining carburetors. See gasoline warnings on page 49.

Jet restriction caused by improper storage can cause lean conditions and very poor slow speed driving quality.

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Extended Storage

Engine and Carburetor Protection

Using a fuel stabilizer and topping off the fuel tank eliminates the need to drain the fuel system. If you prefer to drain the fuel tank, use the following procedure:

1. Transfer unused fuel from the fuel tank to an approved fuel container using a siphon pump. Do not re-use fuel after storage.
2. Securely support the front of the snowmobile with a jack stand so the machine is elevated and the engine is tilted rearward.
3. Remove the spark plug(s).
4. Rotate the engine slowly, watching the piston until it's at bottom dead center (BDC), the lowest position in the cylinder. On twin cylinder models, the opposite piston will be up.
5. Pour approximately two ounces of Polaris injector oil into the spark plug hole.
6. Wait one to two minutes and perform steps 3 to 5 on remaining cylinders.
7. Replace the spark plugs and lower the machine to the floor.

Controls and Linkage

All bushings, spindle shafts, tie rod ends, and cables should receive a light coat of oil or grease.

Bearings

Grease the drive shaft clutch side bearing with Polaris Premium All-Season Grease or a similar high quality grease to prevent corrosion. See page 105 for part numbers.

Clutch and Drive System

Remove the drive belt and store in a cool dry location. Lubricate the sheave faces of the drive and driven clutches with a light coat of oil or Polaris Cable Lubricant. See page 105 for the part numbers of Polaris products. Do not lubricate clutch components, except the driven clutch shaft bushing as outlined in the Master Repair Manual. See your dealer.

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MAINTENANCE
Extended Storage
Electrical Connections

Separate electrical connector blocks and clean corrosive build-up from connectors. Lubricate or pack connector blocks with dielectric grease and re-connect. See page 105 for the part numbers of Polaris products.

Replace worn or frayed electrical wire and connectors. Be sure wiring harness is properly secured away from sharp edges, steering linkage, moving parts, and hot exhaust parts.

Battery

Always prepare and maintain the battery as outlined on page 97.

Track and Suspension

Moderate track tension should be maintained during summer storage. The machine should be supported off the ground to allow the track to hang freely.

Transporting the Snowmobile

Whenever the snowmobile is transported:

1. Turn the fuel valve off.
2. Be sure the fuel cap and oil cap are installed correctly.
3. Always tie the snowmobile to the transporting unit securely using suitable straps.
4. Remove the ignition key to prevent loss.

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Part No.	Description
	Engine Lubricants
2870791	Fogging Oil (12 oz. Aerosol)
2871098	Premium 2-Cycle Engine Oil (qt.)
2871097	Premium 2-Cycle Engine Oil (gal.)
2871240	Premium 2-Cycle Engine Oil (2.5 gal.)
2871721	Premium Gold Synthetic 2-Cycle Engine Oil (qt.)
2871722	Premium Gold Synthetic 2-Cycle Engine Oil (gal.)
2872347	Premium Gold Synthetic 2-Cycle Engine Oil (2.5 gal.)
2874438	VES II Synthetic 2-Cycle Engine Oil (qt.)
2874439	VES II Synthetic 2-Cycle Engine Oil (gal.)
2874443	VES II Synthetic 2-Cycle Engine Oil (2.5 gal.)
	Chaincase Lubricants
2873105	Synthetic Chaincase Lubricant (qt.)
2872951	Synthetic Chaincase Lubricant (12 oz.)
	Grease / Specialized Lubricants
2871312	Grease Gun Kit, Premium All Season (3 oz.)
2871322	Premium All Season Grease (3 oz. cartridge)
2871423	Premium All Season Grease (14 oz. cartridge)
2871329	Dielectric Grease (Nyogel™)
	Additives / Miscellaneous
2871326	Carbon Clean Plus (12 oz.)
2870652	Fuel Stabilizer (16 oz.)
2872189	DOT4 Brake Fluid (12 oz.)
2872893	Engine Degreaser (12 oz.)
2870505	Isopropyl
2872889	Brake and Clutch Cleaner
2872890	Carb and Throttle Body Cleaner

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SUSPENSION TROUBLESHOOTING

Problem	Solution (perform only one change at a time)
Rear suspension bottoms too easily	• Verify sag dimension (see page 91). Adjust torsion spring blocks or install optional torsion springs to achieve correct sag dimensions.
Rear suspension rides too stiff	• Check for binding suspension components and grease all pivot points. • Verify sag dimension (see page 91). Adjust torsion spring blocks or install optional torsion springs to achieve correct sag dimensions. • Decrease shock compression damping (see page 34).
Too much weight transfer when climbing	• Verify sag dimension (see page 91). Adjust torsion spring blocks or install optional torsion springs to achieve correct sag dimensions.
Too little weight transfer when climbing	• Verify sag dimension (see page 91). Adjust torsion spring blocks or install optional torsion springs to achieve correct sag dimensions.
Front end pushes	• Check for worn skags • Check for binding front suspension shafts and steering components, grease all pivot points (elevate front of machine). • Verify sag dimension (see page 91). Adjust torsion spring blocks or install optional torsion springs to achieve correct sag dimensions. • Increase IFS preload (see page 32).
Steering is heavy	• Check skags and skis for damage. • Check for binding front suspension shafts and steering components, grease all pivot points (elevate front of machine). • Verify sag dimension (see page 91). Adjust torsion spring blocks or install optional torsion springs to achieve correct sag dimensions. • Decrease IFS preload (see page 32).
Machine darts from side to side	• Ensure skis are properly aligned (see page 94). • Check for binding front suspension shafts and steering components, grease all pivot points (elevate front of machine). • Ensure skags are straight on skis.

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Belt Wear/Burn Troubleshooting

Belt Wear/Burn Diagnosis	
Causes	**Solutions**
Driving at low RPM	Drive at higher RPMs. Gear the machine down. Check belt deflection.
Insufficient warm-up	Warm the engine at least five minutes. Take the drive belt off the machine in extremely cold weather and warm it up. Break machine loose from the snow.
Towing at low RPM	Do not tow in deep snow. Use fast, aggressive throttle to engage clutch.
Riding with high RPM and slow speed (8000 RPM/10 MPH)	Lower the gear ratio. Remove windage plates from the clutch. Reduce RPM. Avoid riding in high ambient temperatures.
Ice and snow build-up between track and tunnel	Warm the engine at least five minutes. Take the drive belt off the machine in extremely cold weather and warm it up. Break machine loose from the snow.
Poor engine performance	Check for carb and choke synchronization, fouled plugs, debris in the carbs, and water, ice or dirt in the gas tank or fuel line.
Loading machines onto trailers	Skis may gouge into trailers and prevent the drive train from spinning properly. Use enough speed to drive the machine completely onto the trailer. Push and pull it to finish loading if necessary.
Clutch malfunction	Inspect clutch components. See your dealer.
Slow, easy clutch engagement	Use fast, aggressive throttle to engage clutch.

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TROUBLESHOOTING
Engine Troubleshooting

NOTE: Unless you have experience and training in two-cycle engine repair, see your dealer if technical problems arise.

Problem	Probable Cause	Solution
Erratic engine operating RPM during acceleration or load variations	Drive clutch binding	• Disassemble drive clutch to inspect shift weights for wear and free operation. SEE YOUR DEALER. • Clean and polish stationary shaft hub.
	Driven clutch malfunction	• Replace ramp buttons and rollers. SEE YOUR DEALER. • Inspect movable sheaves for excessive bushing clearance and replace if necessary. SEE YOUR DEALER.
Harsh drive clutch engagement	Drive belt worn or too narrow	• Replace drive belt.
	Excessive belt/sheave clearance	• SEE YOUR DEALER.
Drive belt turns over	Wrong belt for application	• Replace drive belt.
	Clutch alignment out of spec	• Adjust alignment offset.
	Engine mount broken or loose	• Inspect and adjust or replace. SEE YOUR DEALER.
Machine fails to move	Clutch jammed	• Belt twisted, spring broken, weights stuck, lubricated. SEE YOUR DEALER.
	Track jammed	• Foreign object caught or rail slide melted to track clips due to lack of lubrication. • Machine may be frozen to ground. Track may be iced up.
	Chaincase sprocket or chain jammed or broken	• Chain is loose or broken, chain tightener is loose. SEE YOUR DEALER.

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Engine Troubleshooting

Problem	Probable Cause	Solution
Noise in drive system	Broken drive clutch components	• SEE YOUR DEALER.
	Bearing failure/ chain-case, jackshaft, or front drive shaft	• SEE YOUR DEALER.
	Drive belt surface flat spots	• Inspect and replace if necessary.
	Drive chain loose or worn, sprocket teeth broken	• Inspect and adjust or replace.
Poor low RPM performance	Worn drive belt	• Inspect and replace if necessary.
	Excessive belt/sheave clearance	• SEE YOUR DEALER.
	Loose torque stop	• Inspect and adjust.
	Sticky clutch	• SEE YOUR DEALER.
Engine doesn't start (electric start models)	Wire connections	• SEE YOUR DEALER.
Engine doesn't turn	Seized engine	• SEE YOUR DEALER. Seizure is a result of poor lubrication, inadequate fuel supply, broken parts, or improper cooling.
	Hydrostatic lock	• Fuel may have entered crankcase while vehicle was standing or being transported. SEE YOUR DEALER to correct cause. Drain plug(s) are located on lower crankcase for emergency draining.

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TROUBLESHOOTING
Engine Troubleshooting

Problem	Probable Cause	Solution
Engine turns but fails to start	Faulty ignition	• Remove spark plug(s) and replace with new plug(s). If engine still fails to start, check for spark; if no spark SEE YOUR DEALER.
	No fuel to engine	• Make sure the fuel valve is ON. Check tank level and fill up with correct fuel. • Ice in fuel line, filter, or pump. On the standard Polaris carburetor, the choke will not function with the throttle depressed. See second item under "Probable Cause" of "Engine continually backfires".
	Flooded engine (normal situation caused by too much choking)	• Hold throttle open, crank engine several times (may be necessary to change plug(s), however, the plug(s) may operate satisfactorily when dried).
	Poor engine compression	• Running too lean a mixture (too small a main jet will cause seizure resulting in loss of power). SEE YOUR DEALER. This indicates a major engine problem that must be repaired before engine is run.
Engine lacks power	Fouled or defective spark plug	• Change and test operation.
	Fuel filter (loss of high RPM power)	• Check fuel filter flow. Disconnect hose and drain about 1/2 cup. Fuel flow should be steady and encompass the entire diameter of fuel line. If not, replace filter.
	Incorrect clutching	• SEE YOUR DEALER.
	Carburetor and fuel pump	• There's no adjustment to change power output. SEE YOUR DEALER.
Engine continually backfires	Faulty plug(s)	• Change plug(s)
	Carburetor	• Dirt or ice in fuel system. (Deicer should be added to non-ethanol fuel at all times for assurance against fuel line icing.)
Engine requires more than normal pulls to start	Poor gasoline or not enough fuel getting to engine	• Replace with fresh winter fuel.

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Service And Warranty Information

Obtaining Service and Warranty Assistance

Read and understand the service data and the Polaris warranty information contained in this manual. Contact your Polaris dealer for replacement parts, service or warranty. Your dealer receives frequent updates on changes, modifications and tips on snowmobile maintenance, which may supersede information contained in this manual. Your dealer is also familiar with Polaris policies and procedures and will be happy to assist you.

When contacting us about parts, service, or warranty, always provide the following information:

1. Serial number
2. Model number
3. Dealer name
4. Date of purchase
5. Details of trouble experienced
6. Length of time and conditions of operation
7. Previous correspondence

Use the page provided near the front of your Owner's Manual to record the identification numbers of your snowmobile and its engine.

Polaris Customer Service

United States: 1-888-704-5290

Canada: 1-204-925-7100

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WARRANTY
Service And Warranty Information
Polaris Anti-Theft System

The Polaris anti-theft system (PATS) monitoring program is designed to aid owners of registered snowmobiles in recovery of stolen machines.

Administration

1. Polaris snowmobile owner reports theft.

NOTE: A. In addition to notifying the proper law enforcement officials, the owner must call Polaris Customer Service.

NOTE: B. Owners must provide their name, address, telephone number and the model and serial number of stolen machines.

2. Polaris warranty will provide all dealerships with a monthly updated list of all stolen units to further monitor thefts.
3. Polaris warranty will aid in notifying the proper owner when a unit is recovered

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Limited Warranty

Polaris Sales Inc., 2100 Highway 55, Medina, MN 55340, provides a ONE YEAR LIMITED WARRANTY on all components of the Polaris snowmobile against defects in material or workmanship. This warranty covers the parts and labor charges for repair or replacement of defective parts that are covered by this warranty. The warranty begins on the date of purchase. This warranty is transferable to another consumer, during the warranty period, through a Polaris dealer.

Registration

At the time of sale, the Warranty Registration Form must be completed by your dealer and submitted to Polaris within ten days. 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 the warranty entitlement. 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 THE SNOWMOBILE IS REGISTERED WITH POLARIS.

Initial dealer preparation and set-up of your snowmobile is very important in ensuring trouble-free operation. Purchasing a snowmobile in the crate or without proper dealer set-up will void your warranty coverage.

Warranty Coverage and Exclusions

Limitations of warranties and remedies

This warranty excludes any failures not caused by a defect in material or workmanship. The warranty does not cover accidental damage, normal wear and tear, abuse or improper handling. The warranty also does not cover any snowmobile that has been structurally altered, neglected, improperly maintained, used for racing or used for purposes other than for which it was manufactured. The warranty does not cover any damages that occur during trailer transit or as a result of unauthorized service or parts. In addition, this warranty does not cover physical damage to paint or finish, stress cracks, tearing or puncturing of upholstery material, corrosion or defects in parts, components or the snowmobile due to fire, explosions or any other cause beyond Polaris' control.

This warranty does not cover the use of unauthorized lubricants, chemicals, or fuels that are not compatible with the snowmobile.

The exclusive remedy for breach of this warranty shall be, at Polaris' exclusive option, repair or replacement of any defective materials, or 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. Some states do not permit the exclusion or limitation of incidental or consequential damages or implied warranties, so the above limitations or exclusions may not apply to you if inconsistent with controlling state law.

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WARRANTY

Limitations of warranties and remedies

ALL IMPLIED WARRANTIES (INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE LIMITED IN DURATION TO THE ABOVE ONE YEAR WARRANTY PERIOD. POLARIS FURTHER 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 to you if inconsistent with controlling state law.

How to Obtain Warranty Service

If your snowmobile requires warranty service, you must take it to a Polaris dealer authorized to repair Polaris snowmobiles. 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 recommends that you use your original selling dealer; however, you may use any Polaris Servicing Dealer to perform warranty service.

Please work with your dealer to resolve any warranty issues. Your dealer will contact the appropriate personnel at Polaris if additional assistance is needed.

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

If any of the above terms are void because of state or federal law, all other warranty terms will remain in effect.

Engine Oil

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

2. Damage resulting from the use of non-recommended lubricants may not be covered by warranty.

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Conditions and Exclusions

In order to qualify for warranty, the product must have been properly set up and tested by a Polaris Dealer (if applicable). Failure of any dealer to perform the required vehicle Pre-Delivery Inspection, perform all applicable service bulletins and have the consumer sign the PDI form prior to delivery may void the warranty. Failure to provide proof of required periodic maintenance upon request may result in denial of warranty coverage. Use of the recommended Polaris products for lubrication and maintenance as directed by the Owner's manual is highly recommended. Should a failure occur during the warranty period resulting from the use of non-recommended products, warranty coverage may be denied.

Warranty does not apply to parts exposed to friction surfaces, stresses, environmental conditions and/or contamination. The following items are excluded from warranty consideration if the failure was due to wear or not the direct result of a defect:

Skis	Ski wear rods
Tracks	Slide rails
Suspension components	Finished and unfinished surfaces
Brake components	Carburetor/Throttle body components
Seat components	Engine components
Clutches and components	Drive belts
Steering components	Hydraulic components
Batteries	Circuit breakers/Fuses
Light bulbs/Sealed beam lamps	Electronic components
Idler wheels	

Warranty applies to the product only and does not allow for coverage of personal loss. Some items are considered "consumable," meaning they are considered part of normal maintenance or part of completing an effective repair. The following items are excluded from warranty coverage in the event of a warranty claim:

Spark Plugs	Lubricants such as oil, grease, etc.
Filters	Batteries (unless defective)
Fuel	Cosmetic damage/repair
Sealants	Coolants
Hotel fees	Meals
Towing charges	Shipping/ handling fees
Mileage	Product pick-up/delivery
Rentals/Loss of product use	Loss of vacation/personal time

This warranty also excludes 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; failure due to snow, water, dirt or other foreign substance ingestion/contamination; improper maintenance; modified components; use of aftermarket components resulting in failure; unauthorized repairs; repairs made after the warranty period expires or by an unauthorized repair center; use of the product in competition or for commercial purposes. Warranty will not apply to any product which has been damaged by abuse, accident, fire or any other casualty not determined a defect of materials or workmanship.

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WARRANTY

Polaris Second Year Engine Service Contract

Second Year Engine Service Contract is standard on all eligible new and unused snowmobiles that were Snow Checked through an authorized Polaris dealer during the March/April Snow Check promotion. The free Second Year Engine Service Contract is honored by all authorized Polaris snowmobile dealers in North America and is transferable 120 days after the original purchase date, free of charge, through any Polaris snowmobile dealer. Coverage on Snow Check units is automatic. Although you do not receive a warranty card, your dealership should have printed a copy of the warranty registration form. This form is your proof of warranty.

Consumer Exclusions

- Each repair visit after the first twelve months of standard warranty coverage is subject to a $50 deductible.
- The free Second Year Engine Service Contract applies to the first 5,000 miles or two (2) calendar years from date of purchase, whichever comes first. Tampering with the odometer shall void all warranties/service contracts. No extensions to coverage under this engine service contract can be given. Used snowmobiles are not eligible under this program.
- Snowmobiles used for commercial purposes or for racing are excluded from coverage.

Coverage

Coverage for second year engine failures due to defects in materials and workmanship will be determined by Polaris in its sole discretion. Coverage is automatic with no additional paperwork required. The free Second Year Engine Service Contract is subject to a $50 deductible per visit. Regular, documented service maintenance visits are required to validate this warranty.

A partial list of items excluded from coverage includes:

- Damage due to accident, fire, explosion, theft, or other causes beyond Polaris' control.
- Damage caused by the failure of other components of the snowmobile.
- Failures caused by improper fuel or oil.
- Piston seizures, unless caused by a defective engine component.
- Failures caused due to improper adjustments.
- Failure due to unauthorized service.
- Failures due to lack of service as required in the owner's manual or Polaris updates. This includes off-season storage as listed in the owner's manual.
- Failure due to use of unauthorized parts or modifications.
- Normal wear parts, including but not limited to spark plugs, hoses, batteries, controls, and recoil ropes are excluded from coverage. Gaskets are covered, as are intake and exhaust manifolds excluding paint coverage.
- Electrical coverage is limited to the ECU box, coils, stator plate, and sensors. Wiring and other electrical components are excluded from coverage.
- Cooling system coverage is limited to the water pump assembly and components, fan, fan bearings, temperature sensor, gasket and seals.
- Non wear related throttle body parts are covered. The fuel pump is covered.
- Clutches and related clutch parts, including but not limited to, the drive belt, are excluded from coverage.
- Electrical components are excluded from coverage.
- Gearcases and transmissions are excluded from coverage.

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Exported Vehicles

EXCEPT WHERE SPECIFICALLY REQUIRED BY LAW, THERE IS NO WARRANTY OR SERVICE BULLETIN COVERAGE ON THIS VEHICLE IF IT IS SOLD OUTSIDE THE COUNTRY OF THE SELLING DEALER'S AUTHORIZED LOCATION.

This policy does not apply to vehicles that have received authorization for export from Polaris Industries. Dealers may not give authorization for export. You should consult an authorized dealer to determine this vehicle's warranty or service bulletin coverage if you have any questions.

This policy does not apply to vehicles 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 Recalls.

How to Get Service

In the Country where your vehicle was purchased:

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

Outside the Country where your vehicle was purchased:

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

If You Move:

If you move to another country, be sure to contact Polaris Customer Assistance and the customs department of the destination country before you move. Vehicles importation rules vary considerably from country to country. You may be required to present documentation of your move to Polaris Industries in order to continue your warranty coverage. You may also be required to obtain documentation from Polaris Industries in order to register your vehicle in your new country.

I*f Purchased From A Private Party:*

If you purchase a Polaris product from a private citizen outside of the country in which the vehicle was originally purchased, all warranty coverage will be denied.

Notice

If your vehicle is registered outside of the country where it was purchased, and you have not followed the procedure set out above, your vehicle will no longer be eligible for warranty or service bulletin coverage of any kind. (Vehicles registered to Government officials or military personnel on assignment outside of the country where the vehicle was purchased will continue to be covered by the basic warranty.)

For questions call Polaris Customer Assistance (see page 111).

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WARRANTY

Snowmobile Engine Emissions Limited Warranty

This snowmobile engine emissions limited warranty is in addition to the Polaris standard limited warranty for snowmobiles.

Polaris Industries Inc. warrants that at the time it is first purchased, this emissions-certified snowmobile engine is designed, built and equipped so it conforms with U.S. Environmental Protection Agency regulations applicable to snowmobile emissions. Polaris warrants that the engine is free from defects in materials and workmanship that would cause it to fail to meet these regulations. The warranty period for this emissions certified snowmobile engine starts on the date when the engine is first purchased and continues for a period of 200 hours of engine operation, 4000 kilometers (2485 miles) of vehicle travel, or 30 calendar months from the date of purchase, whichever comes first.

This engine emissions limited warranty covers the parts and labor charges for repair or replacement of defective parts that are covered by this warranty. This includes all components whose failure increases the snowmobile engine's emissions. Replacing or repairing other components not covered by this warranty is the responsibility of the snowmobile owner.

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.

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 STATE 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.

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Snowmobile Engine Emissions Limited Warranty

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 snowmobile 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 can deny an emissions warranty claim if any specified critical emissions-related maintenance is not performed. Performance of other scheduled maintenance is strongly recommended, but is not necessary to keep the emissions-related warranty valid.

Any qualified repair shop or person may maintain, replace, or repair the emission control devices or systems on your snowmobile. Polaris recommends that you contact an authorized Polaris dealer to perform any service that may be necessary for your snowmobile. Polaris also recommends that you use only Pure 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.

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MAINTENANCE LOG

Present this section of your manual to your dealer each time your snowmobile is serviced. This will provide you and future owners with an accurate log of maintenance and services performed on the snowmobile.

DATE	MILES (KM)	TECHNICIAN	SERVICE PERFORMED / COMMENTS
	150 mi. (240 km)		
	500 mi. (800 km)		
	1000 mi. (1600 km)		
	2000 mi. (3200 km)		

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MAINTENANCE LOG

DATE	MILES (KM)	TECHNICIAN	SERVICE PERFORMED / COMMENTS

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