2005
Edge Snowmobiles
with 121" track

Owner's Manual
for Maintenance and Safety



POLARIS®
The Way Out.

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The first Polaris snowmobile (1955)










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 (763) 417-8650 Fax (763) 542-0599
Part No. 9919073 Rev 01
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.

PROPOSITION 65 WARNING

Snowmobile engines discharge fuel and exhaust, which contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm, onto the snow on which they operate. Keep this engine properly tuned and avoid unnecessary idling and spillage during fueling.

⚠WARNING

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

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50 YEARS
1954 USA 2004

POLARIS

For 50 years we've been helping Polaris customers find The Way Out.

It's been a fun ride. But then, after all these years, That's what we're all about.

Find out more about our exciting once-in-a-lifetime 50th Anniversary celebration: Go to www.polarisindustries.com and look for the 50th Anniversary link.

This is a ride you don't want to miss!

POLARIS®
The Way Out.

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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.

Polaris Recreational Vehicles

- Snowmobiles
- All-terrain vehicles (ATVs)
- Personal Watercraft
- Sport Boats
- *RANGER* utility vehicles
- Victory motorcycles

Polaris Professional Series Workmobiles™

- Utility Task Vehicles™ (UTVs)
- Personal Task Vehicles™ (PTVs)
- All-Surface Loaders (ASLs)

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 Parts Apparel and Accessories (PAA) products, available through our online store at www.purepolaris.com. Have your accessories and clothing delivered right to your door!

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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 sold.
- The illustrations and photos used in this manual are general representations. Your model may differ.
- 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.

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INTRODUCTION
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.

Respect your snowmobile;
respect the environment;
and you will earn
the respect of everyone.

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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Vehicle Identification Numbers

The tunnel vehicle identification number (VIN) and engine serial number are important for model identification when registering your snowmobile, when obtaining insurance, and when ordering replacement parts. In the event your snowmobile is stolen, these numbers are essential to its recovery and identification.

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. If both keys are lost, the ignition switch must be replaced. See your Polaris dealer.

NOTE: Record your snowmobile's ID numbers and key number in the spaces provided.

Tunnel VIN (lower right side of the tunnel) :
Vehicle Model Number:
Engine Serial Number (right front side of engine crankcase):
Key Number:

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SAFETY
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*, on your vehicle or in this manual, alerts you to the potential for personal injury.

WARNING

The *safety alert warning* indicates a potential hazard that may result in serious injury or death.

CAUTION

The *safety alert caution* indicates a potential hazard that may result in minor personal injury or damage to the vehicle.

CAUTION

A *caution* indicates a situation that may result in damage to the vehicle.

NOTE:

A *note* will alert you to important information or instructions.

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Operator Safety

Your Polaris snowmobile is a well-engineered and well-constructed recreational vehicle. Follow the recommended maintenance program outlined beginning on page 81 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.

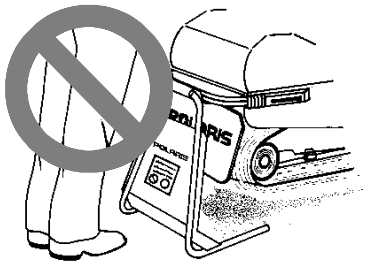
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SAFETY
Operator Safety
Stay Away From Moving Parts

⚠ WARNING

Never hold the snowmobile up or stand behind it while warming up the track. A loose track or flying debris could cause serious personal injury or death.

We recommend having your dealer perform track service and alignment procedures.



Be alert when riding, and remain properly seated to stay clear of the track. Your snowmobile is propelled by a revolving track that must be partially exposed for proper operation. Serious injuries may result if hands, feet, or clothing become entangled in the track.

⚠ WARNING

If fingers or clothing contact the moving parts of an engine, serious injury can result. Always stop the engine before attempting adjustments.

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.

Riding Position

⚠ WARNING

Improper riding position may seriously reduce your ability to control the machine and may result in serious injury or death. Always be properly seated and in position to control your vehicle.

Operating a snowmobile requires skill and balance for proper control. Rider positions may vary from person to person as each becomes more skilled; but under most conditions, the proper position is to be seated with feet on the running boards, and comfortably positioned for proper throttle, brake, and steering control.

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

Riding Apparel

Be aware of the weather forecast and especially the wind chill. A wind chill table is provided on page 20 for your reference. To better enjoy your ride, be prepared, be warm and be comfortable.



⚠ WARNING

Loose clothing or long scarves may easily become entangled in moving parts and cause serious personal injury.

Always wear an approved helmet and eye protection.

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SAFETY
Operator Safety
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

Your Polaris snowmobile is designed for a single rider only. A decal on the *console* indicates single rider operation. See page 22 for decal location.

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.

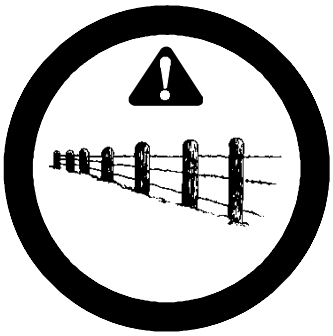
Always be alert and pay attention to the trail ahead. Multiplying speed (MPH) by 1.5 will equal the approximate number of feet per second your machine travels. If your speed is 40 MPH, your machine is traveling about 60 feet per second. If you look back for only two seconds, your machine will travel 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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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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SAFETY
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 avalance 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 either the American Avalanche Association online at www.americanavalanceassociation.org or the U.S. Forest Service National Avalanche Center at www.avalanche.org.

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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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SAFETY
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.

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.

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Operator Safety

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.

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 limit. See Starting a Cold Engine on page 64.

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
Powder Snow Operation

Moveable hood closures are included on some Polaris snowmobiles. They are normally left open and are located on the front upper and lower hood openings. If operating in deep snow or in extreme cold conditions (below -20°F), Polaris recommends closing the upper hood closure.

⚠ WARNING

Do not drive for prolonged periods on blacktop, gravel, or ice. Doing so could cause irreversible track damage and lead to serious personal 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. You may then mount the machine and continue riding.

⚠ CAUTION

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 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. Jumping may injure your back because of spinal compression. 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. Your snowmobile is equipped with a high output headlamp system that may cause discomfort to operators of oncoming vehicles when on high beam.
- When traveling in a group of snowmobiles, don't tailgate (follow too closely). Allow ample stopping distances, and keep track of those following you. Drive defensively to avoid accidents.
- Remove the key from the ignition.

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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)

Estimated Wind Speed in MPH	Actual Thermometer Reading (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Temperature (°F)											
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-36	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-124
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
Wind Speeds Greater Than 40 MPH Have Little Added Effect	Little Danger (For Properly Clothed Person)				Increasing Danger			Great Danger				
					Danger From Freezing of Exposed Flesh							

WIND CHILL CHART (°C)

Estimated Wind Speed in KPH	Actual Thermometer Reading (°C)									
	5	0	-5	-10	-15	-20	-25	-30	-35	-40
	Equivalent Temperature (°C)									
0	5	0	-5	-10	-15	-20	-25	-30	-35	-40
10	1	-4	-11	-16	-22	-27	-33	-38	-45	-50
20	-4	-9	-17	-23	-29	-36	-42	-48	-54	-61
30	-7	-13	-21	-28	-35	-42	-48	-55	-63	-69
40	-9	-16	-24	-32	-39	-47	-53	-61	-69	-76
50	-11	-18	-26	-34	-41	-49	-57	-64	-73	-80
60	-12	-19	-27	-35	-43	-51	-59	-66	-75	-82
70	-13	-20	-28	-36	-44	-52	-60	-68	-76	-84
Wind Speeds Greater Than 70 KPH Have Little Added Effect	Little Danger (For Properly Clothed Person)			Increasing Danger			Great Danger			
				Danger From Freezing of Exposed Flesh						

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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:

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.

Airbox Warning

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

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

Pressure Cap Warning

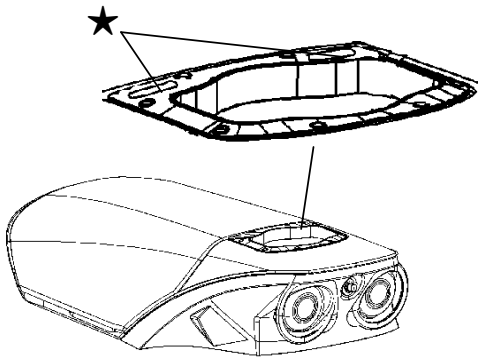
This warning decal is found under the hood on the pressure cap of applicable liquid cooled models:

Do not open hot. Test or replace when changing coolant. Press down and turn to release cap. 13 PSI

Seat Bucket Warning

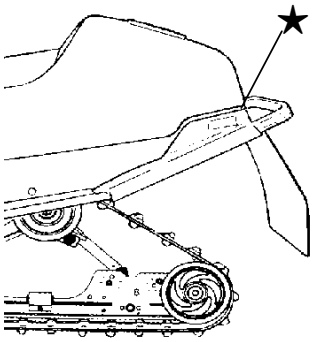
The seat bucket warning is molded into the seat bucket mounting flange. It's visible when the bucket is removed:

DO NOT OPERATE WITH SEAT BUCKET REMOVED.



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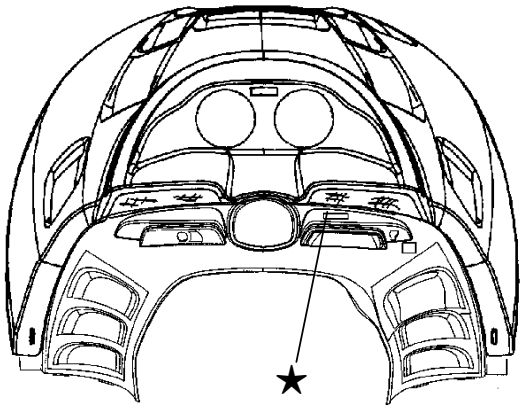
SAFETY
Safety Decals and Locations
Track Warning



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

> **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.**

Passenger Warning



Some snowmobiles are designed for the operator only, while others are designed for the operator and one passenger. A warning decal on the console indicates whether it's designed for the operator only (1-Up) or the operator and a passenger (2-Up).

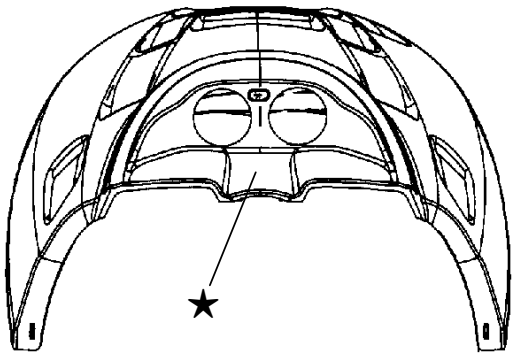
Decal text found on 1-Up Models:

> **This vehicle is designed for operator only. "NO PASSENGER"**

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Safety Decals and Locations

Some Polaris snowmobiles are equipped with reverse. These models will have a reverse warning decal on the lower dash.



Reverse Warning

Polaris snowmobiles equipped with electronic reverse have this electronic reverse decal:

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

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

For more information, see your Owner's Manual.

If electric reverse:

- **Machine stopped and engine at idle, push yellow button on LH control to reverse. Flashing light on dash indicates reverse operation.**
- **Push button again to return to forward.**
- **Elevation setting (above 6000 feet): push and hold for longer than 5 seconds to set. Let go of button at desired setting-fast flash for high elevation, slower flash for low. Setting will remain until changed.**

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SAFETY
Safety Decals and Locations
Operation Warning

Operation warning decals are present on the console of all Polaris snowmobiles, in both French and English.

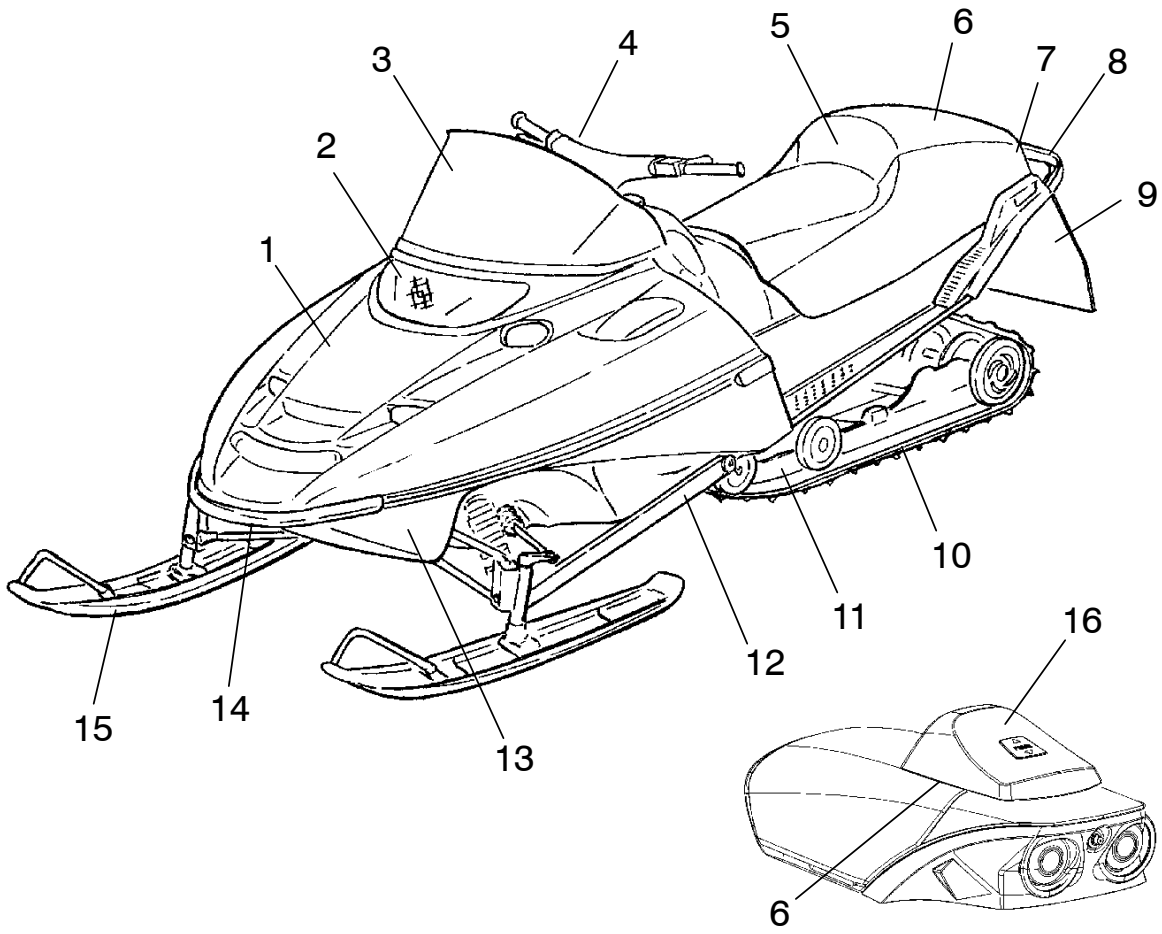
Operation Warning Decal Text:

- To avoid serious injury or death, read and understand all warnings and the Owner's Manual before operation. If the 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

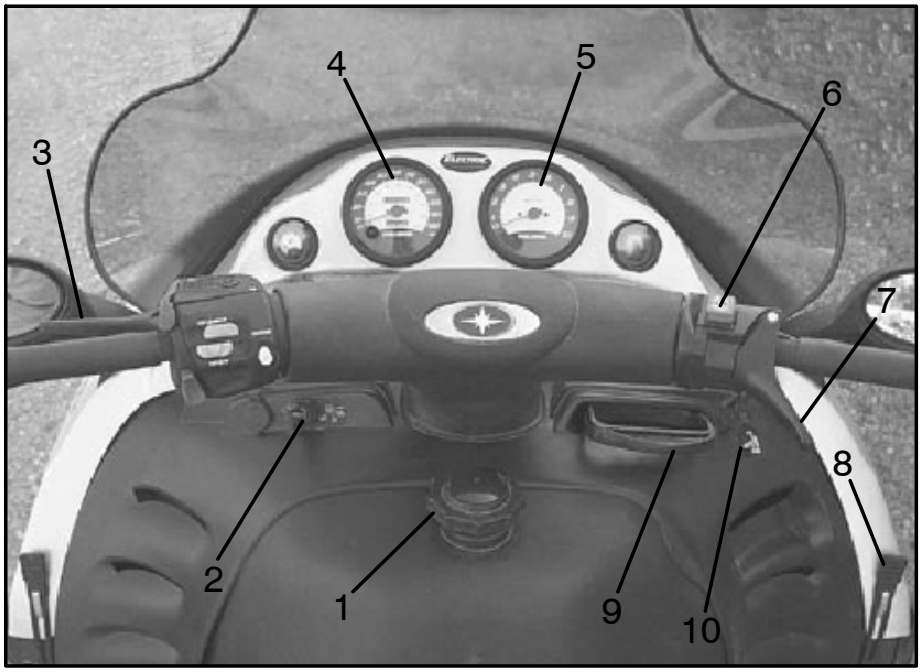


1. Hood
2. Headlight
3. Windshield
4. Handlebar
5. Seat
6. Storage Compartment/Trunk
7. Taillights
8. Rear Bumper
9. Snow Flap
10. Track
11. Suspension
12. Trailing Arm
13. Nosepan
14. Front Bumper
15. Skis
16. Adjustable Seat Bucket (select models)

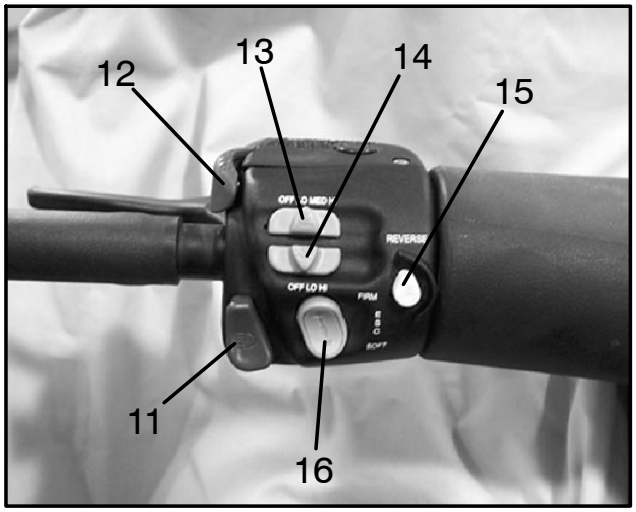
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FEATURES

Some Polaris snowmobiles are equipped with special features such as a reverse indicator light, electronic fuel gauge, temperature light and electric shock control gauge. *Not all models come with these features.* Refer to your Owner's Manual Supplement for the features on your machine.



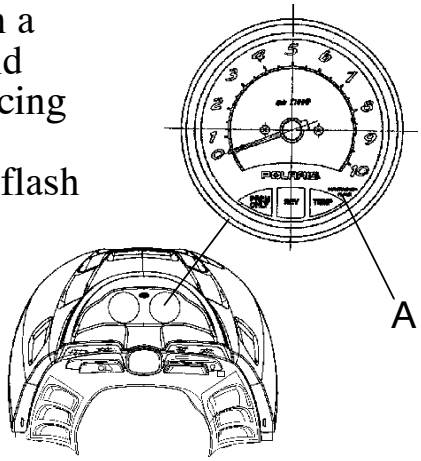
1. Fuel Filler Cap (with gauge on some models)
2. Ignition Switch
3. Brake Lever
4. Speedometer
5. Tachometer
6. Engine Stop Switch
7. Throttle Control
8. Hood Hold Down Straps
9. Recoil Starter Handle
10. Choke
11. Headlight Dimmer Switch
12. Park Brake
13. Handlebar Grip Warmer Switch
14. Thumbwarmer Switch
15. Electronic Reverse Button
16. Electronic Shock Control Button



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Detonation Elimination Technology (D.E.T.)

Some Polaris snowmobiles are equipped with a detonation sensor that monitors the engine and responds to detonation by automatically reducing the engine timing. When activated, the "DETONATION FLASH" indicator (A) will flash in the lower right-hand area of the tachometer. The activated sensor reduces engine detonation by retarding the ignition timing. This results in decreased engine RPM and performance.



D.E.T. Troubleshooting

Use this chart to determine causes and solutions for detonation. If none of these conditions exists and the sensor remains activated, see your Polaris dealer.

Possible Cause	Solution
Poor quality fuel	Replace with higher quality fuel
Improper jetting	Verify and adjust per jetting chart
Improper engine modifications	Do not modify the engine

D.E.T. Flash Signals

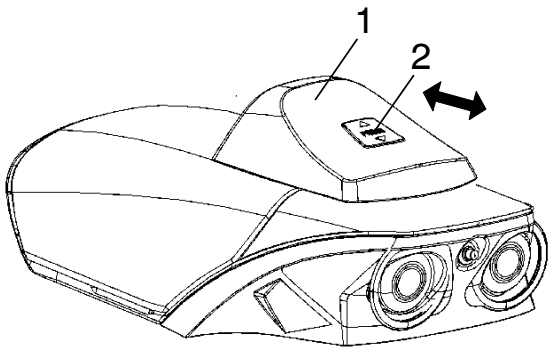
Use this chart to determine the meaning and course of action for each D.E.T. flash signal.

Type of Flash	Cause	Action
3 flashes of 1 second each	Detonation	See DET Troubleshooting Chart
Solid 3-second flash, off 1 second, repeats until engine is shut down	Faulty sensor	See your Polaris dealer
Solid non-blinking light	High water temperature	See your Polaris dealer. **NOTE:** If temporary operation is unavoidable, drive slowly and stop the engine frequently to allow the engine to cool.

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FEATURES

Adjustable Seat Bucket



On models equipped with an adjustable seat bucket (1), the bucket can be adjusted forward or rearward for rider comfort. The seat bucket is removeable for access to the under-seat storage compartment.

Do not sit on the seat bucket.

Do not operate the snowmobile with the seat bucket removed.

⚠ WARNING

Operating or riding the snowmobile with the seat bucket removed or while sitting on the seat bucket may cause loss of control or ejection from the snowmobile, which could result in serious injury or death. Never sit on the seat bucket, and always make sure the seat bucket is securely installed before operating the snowmobile.

Seat Bucket Adjustment

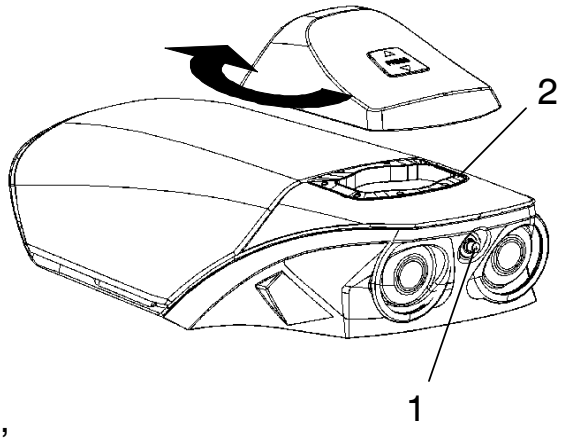
To adjust the seat bucket, press down on the release latch (2) and slide the bucket forward or rearward to the desired position. *Make sure the bucket locks firmly in position before operating the snowmobile.*

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Trunk Lock

Models equipped with the adjustable seat bucket are also equipped with a trunk lock, which is located between the taillights (1). Use the trunk lock keys to lock or unlock the under-seat storage compartment. If keys are lost or misplaced, see your Polaris dealer.

When the trunk is locked, the lock cannot be pressed in and the seat bucket cannot be removed.



NOTE: If the trunk is locked after the bucket has been removed, the bucket can still be reinstalled. The lock will remain engaged until it's unlocked with the key. When reinstalled, the bucket will be locked in place.

Trunk Access

The seat bucket must be removed to access the trunk.

1. Unlock the trunk using the trunk lock key.
2. Press the lock inward and hold while rotating the adjustable seat bucket 1/4 turn.
3. Release the lock and lift the seat bucket to remove it from the seat.
4. To reinstall, place the bucket sideways onto the bucket mounting flange (2). Rotate the bucket 1/4 turn to its original position. Make sure it latches securely.

⚠ WARNING

Operating the snowmobile with the seat bucket removed may cause loss of control or ejection from the snowmobile, which could result in serious injury or death. Always make sure the seat bucket is securely installed before operating the snowmobile.

CAUTION

Movement of heavy, loose tools or other objects in the storage compartment may result in damage to the taillights. Always secure any loose objects to prevent bouncing and shifting within the compartment.

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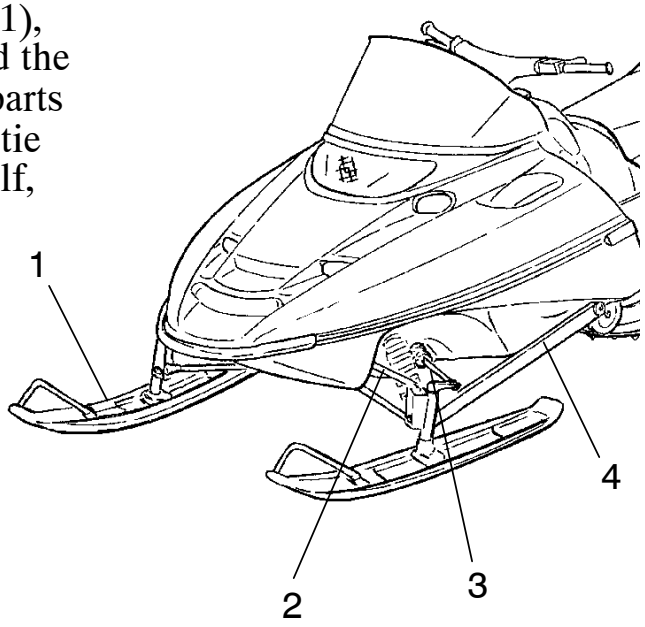
THE PERFECT FIT
Front Suspension Adjustments

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, one change at a time, under the same conditions (trail and snow conditions, vehicle speed, riding position, etc.) after each adjustment until the best ride is achieved.

Independent Front Suspension (IFS)

The IFS is made up of the skis (1), front shocks and springs (2), and the components that connect these parts to both the steering, such as the tie rods (3), and to the machine itself, such as the trailing arms (4). Front suspension adjustments include shocks, springs, toe, and camber.



NOTE: Although the front suspension on your machine may not look exactly like the illustration, it will have the same parts and functions as those illustrated.

IFS Adjustment Options

- Shock damping (if equipped with Indy Select or RydeFX SOLO shocks)
- Front shock spring preload
- Optional springs
- Optional shock valving (if equipped with RydeFX shocks)
- Toe (ski alignment) (see page 124)
- Camber (see your dealer)

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Front Suspension Adjustments

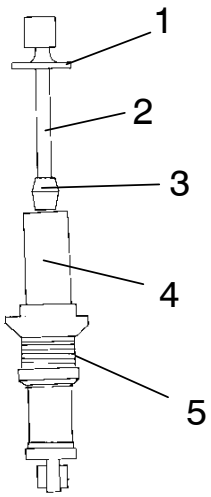
⚠ WARNING

Always verify ski alignment before making adjustments to the IFS. See page 124 to check alignment. If the skis are misaligned, see your dealer, as the camber adjustment may also be affected.

For the best ride, the suspension should be adjusted to use the full travel of the shocks with occasional *light* bottoming. To determine if your machine is using full travel, push the jounce bumper down on the shock rod until it contacts the body and test ride the machine. The bumper will move up on the rod in relation to the amount of travel that was used during the ride. If the travel is full, the bumper will be seated at the top of the rod.

Shock Absorber Components

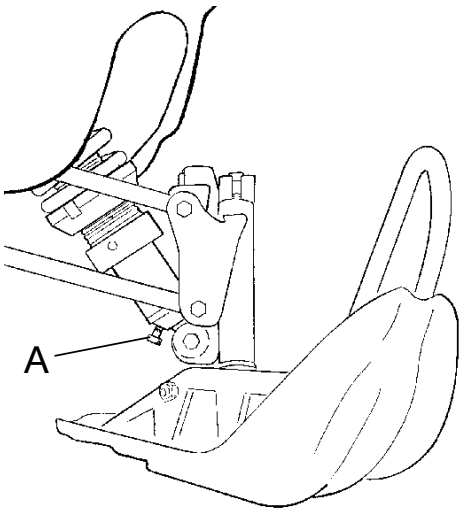
1. Retainer
2. Shock Rod
3. Jounce Bumper
4. Body
5. Threaded Spring Preload Adjuster Nut



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THE PERFECT FIT
Front Suspension Adjustments
Shock Damping

Adjustments to the compression stiffness of Indy Select or RydeFX SOLO shocks can be made by turning the adjustment screw (Select) or actuator (SOLO), located near the base of the shock (A). This adjustment is the easiest to perform and it should be considered first. A clockwise adjustment will increase stiffness in both styles of shock, but there are some differences.

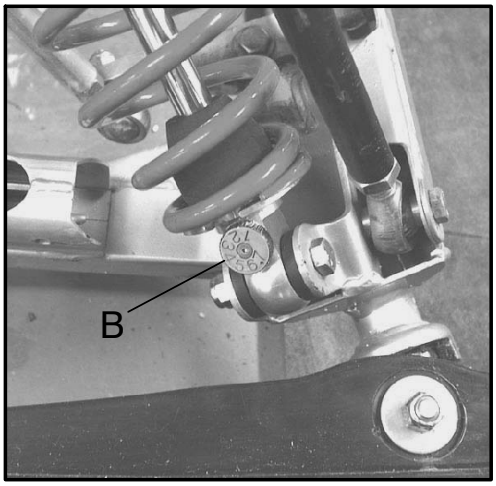


Indy Select Shock

The factory setting for this shock is the softest position, with the adjusting screw all the way out (counterclockwise). If bottoming occurs, the Indy Select feature should be used to achieve the desired ride. The shocks have a wide range of adjustment capability. By turning the screw clockwise, the compression of the shock increases, stiffening the ride. When adjusting these shocks, we recommend that you turn the screw only 1/4 turn at a time, then test ride. Always adjust both shocks equally.

RydeFX SOLO Shock

The factory setting for this shock is at medium stiffness, with the clicker knob (B) set at position 4. The clicker can be actuated with the thumb and forefinger. If bottoming occurs, rotate the clicker clockwise to the next higher number. If full shock travel isn't being used, rotate the clicker counterclockwise to the next lower number. When adjusting these shocks, we recommend that you turn the clicker only one click at a time, then test ride. Always adjust both shocks equally.



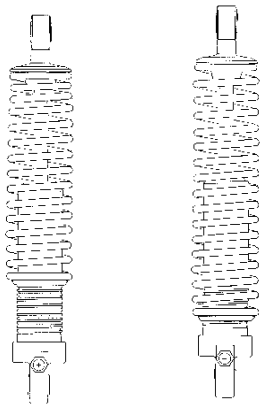
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Front Suspension Adjustments

Adjusting Front Shock Spring Preload

Increasing spring preload will increase ski-to-ground pressure. Decreasing spring preload will decrease ski-to-ground pressure. When adjusting, be sure the springs on both the left and right sides of the machine are at the same adjustment.

To increase front shock spring preload, grasp the spring and turn it to the right. Turn it to the left to decrease preload. Illustration B indicates high preload and illustration C indicates low preload.



B C

Increasing the spring preload too much may adversely affect the handling of the snowmobile and the performance of the suspension. Never exceed one inch of preload beyond the factory settings, and ensure that both sides are adjusted the same. When decreasing preload, make sure at least two turns of preload are holding the spring between the retainer on top of the shock and the threaded spring preload adjuster nut on the shock body.

NOTE: Not all models have shocks with thread adjustable spring preload. See your dealer for more information.

⚠ CAUTION

Always leave one thread showing above the adjuster nut. On models equipped with a plastic adjuster nut, if the nut is unscrewed from the threaded body, the nut will break.

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THE PERFECT FIT
Front Suspension Adjustments
Shock Valving

RydeFX or RydeFX SOLO shocks can be revalved if spring preload alone isn't sufficient and further adjustment is desired to control suspension stiffness.

⚠ WARNING

Changing shock valving on RydeFX and RydeFX SOLO shocks requires special tools and a sound knowledge of mechanical theory, tool use, and shop procedures to perform the work safely and correctly. Shocks contain high-pressure nitrogen gas. Use extreme caution when handling high-pressure service equipment. We recommend that this work be performed by a Polaris dealer.

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. 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.

A decal outlining rear suspension set-up options is located either under the hood or on the clutch cover. It provides a guideline for initial suspension set-up. Additional adjustments can be made from this point. 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 pre-load 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 Hi-fax will offer improved performance over worn Hi-fax. 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. Refer to Suspension Maintenance beginning on page 126.

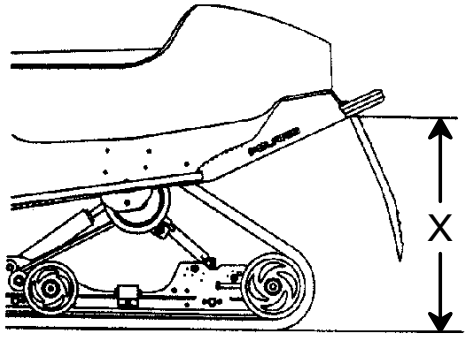
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THE PERFECT FIT

Edge Rear Suspension Adjustments

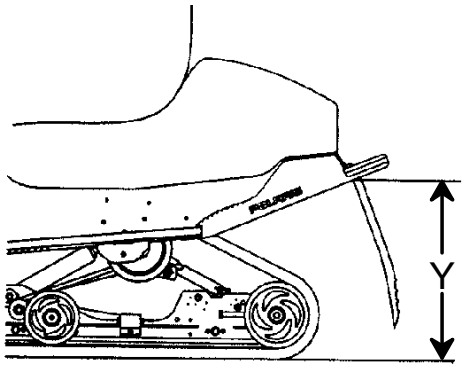
Initial Spring Preload Setting (Sag Method)

To set up the EDGE rear suspension torsion spring preload, measure the distance between the ground and rear bumper. This is measurement X.



Take the first measurement with no rider and with the rear suspension at full extension.

NOTE: The rear bumper may need to be lifted upward slightly to fully extend the rear suspension.



Next, have the rider drop down **hard** on the seat and bounce up and down several times, collapsing the rear suspension. With the rider seated, measure the distance between the ground and the rear bumper at the exact location used for measurement X. This is measurement Y.

To determine sag, commonly referred to as ride-in, subtract measurement Y from X (Sag=X-Y). Adjust sag by rotating the torsion spring preload cams located on the rear torque arm. Use the illustration or the decal found under the hood for reference. The ideal amount of Sag for the EDGE rear suspension is four inches (X-Y=4).

If the rear suspension rides in less than three inches or more than five inches with the torsion spring preload cams at their maximum range of adjustment, optional torsion springs (softer or stiffer, respectively) may be required. This is only an initial set-up, and final spring preload may vary based on rider preference and riding conditions.

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Edge Rear Suspension Adjustments

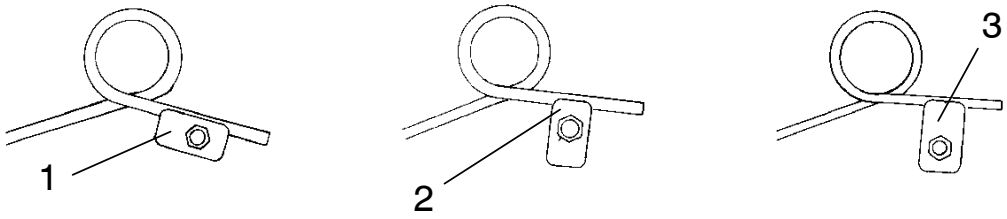
Torsion Spring Tension

To adjust rear torsion spring tension, rotate the three-position cam using the engine spark plug tool. Different rate torsion springs are available if a firmer ride is desired. Contact your dealer for more information.

1 - **Soft Tension** - long end of cam to front

2 - **Medium tension** - short end of cam up

3 - **Firm tension** - long end of cam up



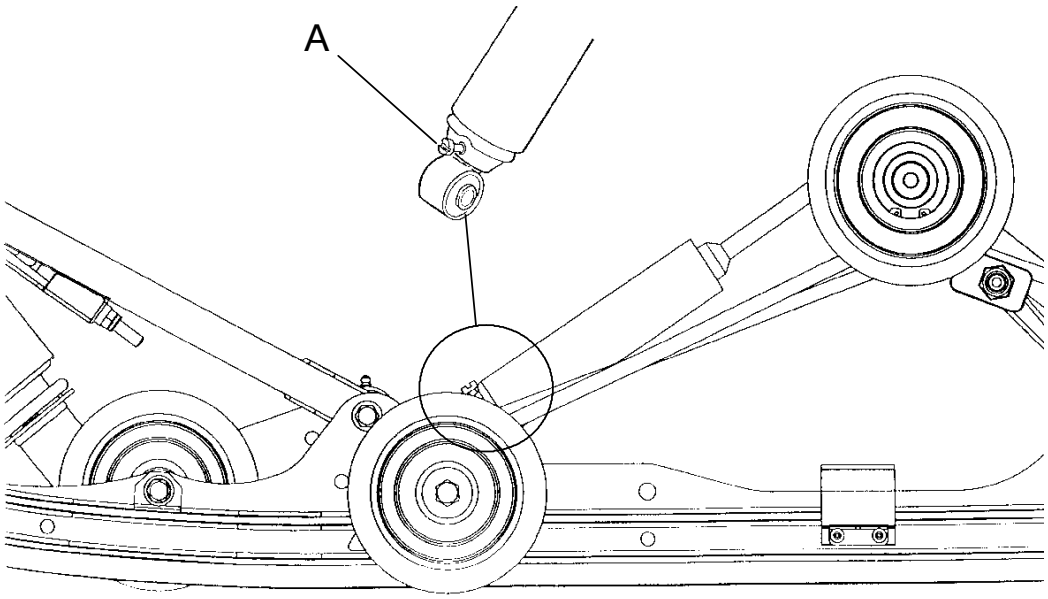
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THE PERFECT FIT
Edge Rear Suspension Adjustments
Rear Shocks
Indy Select Rear Shock

Some snowmobiles are equipped with the Indy Select rear shock, which allows for adjustments to the compression valving by turning the adjustment screw located near the base of the shock.

Locate the adjustment screw (A) near the base of the shock. In half-turn increments, turn the screw clockwise to increase compression valving and stiffen the ride, or counterclockwise to reduce compression and soften the ride. There are approximately three full turns of adjustment available.

If bottoming continues after the screw has been turned fully clockwise, the torsion spring should be adjusted (see page 37). Return the screw to its original starting position after the torsion spring has been tightened.



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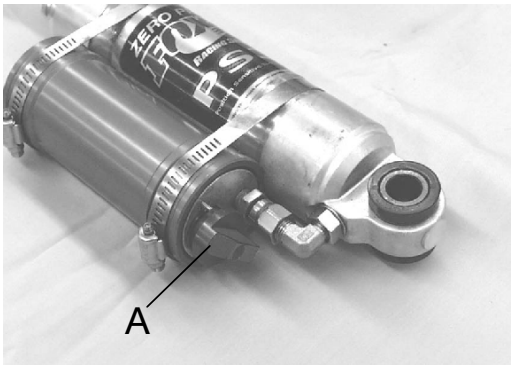
Edge Rear Suspension Adjustments

Rear Shocks

Polaris Position Sensitive Shock

There are no external adjustments on the Polaris position sensitive (PPS) shock. There is a performance PPS shock kit available for increasing damping, however. If you desire to have the internal valving changed, consult your dealer, or refer to the suspension troubleshooting decal located under the hood or on the clutch guard.

FOX Position Sensitive Clicker Shock



The FOX position sensitive clicker shock is available as an option on some models. Adjustments to the compression damping are made by turning the clicker knob (A) on the shock reservoir.

Eight positions are labeled on the knob. Position #1 is the softest, or least compression damping. Position #8 is the stiffest, or most compression damping. When adjusting, we recommend that you turn the clicker only one click at a time, then test ride.

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THE PERFECT FIT
Edge Rear Suspension Adjustments
Suspension Coupling

On all Polaris snowmobile rear suspensions, there are two torque arms that control the movement of the rail beam. Prior to the advent of suspension coupling, these torque arms could move independently of each other. Rear suspension coupling links the movement of the front and rear torque arms to each other. There are two types of rear suspension coupling.

Front To Rear Coupling and the Front Rear Scissor Stop (FRSS)

The front rear scissor stop (FRSS) couples the movement of the front torque arm with the rear torque arm and limits the amount of independence between the movement of the front torque arm and the rear torque arm.

When hitting a bump, the front torque arm starts to compress. The FRSS links that movement to the rear torque arm, causing it to compress and raise the rear suspension up as one, allowing the suspension to hit the bump only once and eliminating kickback. Your FRSS is preset at the factory.

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Edge Rear Suspension Adjustments

Rear To Front Coupling and the Rear Rear Scissor Stop (RRSS)

The rear rear scissor stop (RRSS) couples the movement of the rear torque arm with the front torque arm and limits the amount of independent movement between the rear torque and the front torque arm.

Adjusting the RRSS either allows more weight to transfer to the rear for more traction, or allows less weight to transfer to the rear, resulting in improved cornering performance. An adjustment dot is located on the RRSS. This dot is on the longest end of the scissor stop.

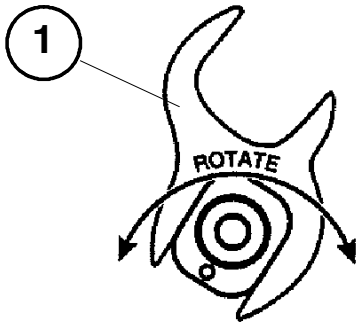
Rear Rear Scissor Stop (RRSS) - Attributes

Moving the RRSS to a higher position, or forward hole, will have the following effects on the suspension:

- Reduced weight transfer.
- Improved chatter bump ride.
- Improved cornering performance.

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THE PERFECT FIT
Edge Rear Suspension Adjustments
Weight Transfer During Acceleration



The preferred method for controlling weight transfer during acceleration of the EDGE rear suspension is by adjusting the rear rear scissor stop (RRSS). The RRSS is located in the best overall trail riding position when delivered from the factory.

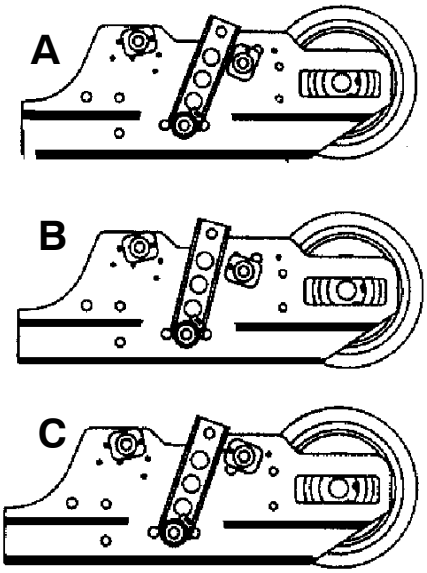
To decrease weight transfer under acceleration (for improved cornering), rotate the RRSS to a higher position with the scissor stop tool (1) located in your tool kit.

To increase weight transfer or ski lift during acceleration, move the RRSS to the rearward hole on high position. The RRSS may also be rotated to a lower position for even more weight transfer if desired.

A - Stock Position - This setting is most desirable for trail riding.

B - Medium or High Position (standard hole location) - This setting will decrease weight transfer.

C - Rearward Upper Position (optional hole location - This setting will increase weight transfer.



NOTE: Your dealer can help you with initial set-up and additional set-up instructions to help you achieve your optimum ride.

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FAST M-10 Rear Suspension Adjustments

The M-10 suspension has been designed to be very sensitive to rider weight. Changes in rider weight of 25 lbs. or more might require appropriate changes in settings. The following information has been compiled to assist you in tuning your M-10 suspension to its maximum potential and achieve the best possible ride. Please take the time to read and understand all the possible adjustments available with the M-10 suspension.

Static Sag and Ride Height Settings

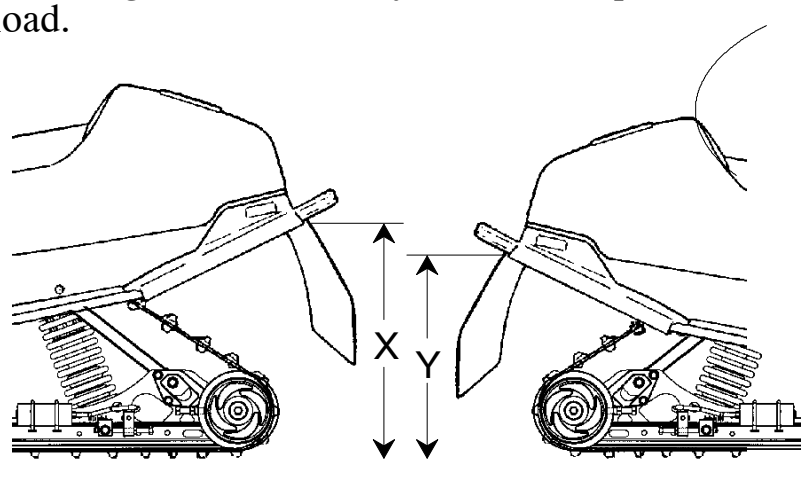
Static sag describes the difference in height of the rear bumper from the suspension's fully extended position to its loaded height, with the rider seated on the snowmobile.

A good initial starting point is four inches of sag, measured at the rear bumper. Too much sag will result in bottoming, and too little sag will result in reduced rider comfort.

Sag travel is used to control ride quality and rebound travel. On the M-10 suspension, sag is controlled by two settings, the full range adjuster (FRA) position and the rear spring preload.

5. To check sag, raise the rear bumper until the suspension is fully extended (the rear shock will not extend any further). Measure the distance from the ground to the bottom of the bumper (dimension X) as shown in the illustration. Record the measurement.
6. Have the rider sit on the snowmobile and bounce up and down on the seat a few times to set in the suspension. While the rider remains seated, measure the distance from the ground to the top of the bumper (dimension Y) and record it.
7. Subtract Y from X and you will have the SAG setting (X - Y = sag setting. Example: 21 - 17 = 4). The correct amount of SAG for the M-10 rear suspension is 3-5 inches.

If the measured sag is incorrect, adjust the FRA position and rear spring preload.



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THE PERFECT FIT
FAST M-10 Rear Suspension Adjustments
Static Sag and Ride Height Settings
FRA Position

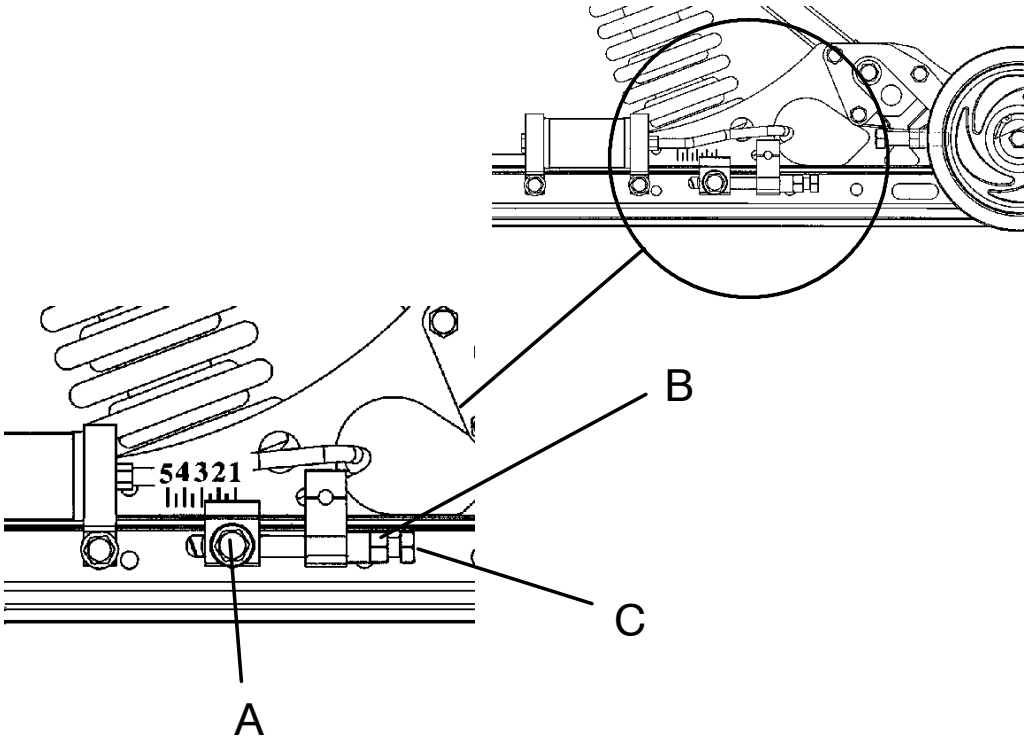
The FRA setting is the primary rear suspension adjustment. It will have the *MOST* effect on the rear suspension performance. To adjust the FRA:

1. Refer to the initial set-up reference chart (located under the hood of your snowmobile and on page 49) to determine the desired FRA position.
2. To adjust, loosen the hex bolts (A) attaching the rear lower shock cross shaft to the rail beam.
3. Using a 9/16” wrench, loosen the jam nuts (B) on the preload bolts.
4. Adjust the preload bolts (C) to the desired FRA position.
5. Tighten the jam nuts.

NOTE: Make sure the preload bolt contacts the slide block before tightening the jam nut.

6. Tighten the hex bolts and torque to 35 ft. lbs. (47 Nm).

NOTE: If the M-10 suspension is new, it will take from 25 to 200 miles to properly break in the springs and shocks, at which time the suspension will be softer and may require FRA readjustment.



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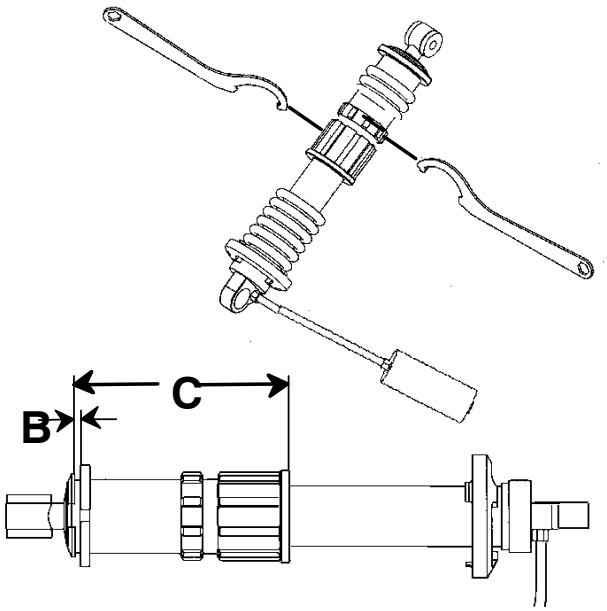
FAST M-10 Rear Suspension Adjustments

Static Sag and Ride Height Settings

Rear Spring Preload

The top section of the crossover tube (the tube at the top of the rear shock) has a threaded collar on it. The rear spring has a lock tab that fits into the collar to allow easy spring preload adjustment. Refer to the initial set-up chart on page 49.

1. To increase preload, use the tool kit spanner wrench to rotate the crossover toward the left side of the snowmobile (clockwise when viewed from below). Rotate toward the right side to decrease preload (counter-clockwise when viewed from below). Be sure the aluminum locknut and adjuster collar are locked against each other before starting the adjustment.
2. While adjusting, keep in mind that spring preload is a fine tuning adjustment. Coarse adjustments should be made using the FRA.



NOTE: Preload is set “softest” when the preload (dimension B in illustration and set-up chart) is equal to zero. Adjusting spring preload beyond this could cause damage to the threads.

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THE PERFECT FIT
FAST M-10 Rear Suspension Adjustments
More M-10 Suspension Ride and Performance Settings
Overload Spring

The overload spring is located inside the main rear spring. Contact is made with this spring only when the crossover tube comes in contact with it toward the end of the travel, which reduces bottoming of the rear suspension. The correct setting of the crossover tube length enables the M-10 suspension to deliver superior performance in "bottoming" situations. This adjustment has no effect on spring pre-load or general ride characteristics of the M-10 rear suspension, it affects only bottoming resistance. To adjust the crossover tube length (dimension C in illustration and set-up chart):

1. Use the spanner wrenches located in the tool kit to unlock the upper lock nut from the adjuster collar.
2. Turn the adjuster collar to the appropriate or desired dimension for the rider's weight (refer to the initial set-up reference chart located under the hood of your snowmobile and on page 49). Using the spanner wrenches, tighten the upper lock nut firmly against the adjuster collar.

Optional Springs

Optional springs have been designed to allow adaptation of the M-10 suspension to your specific needs. The 140 lbs./in. optional front arm spring would be used when very light load conditions exist, such as operation on very smooth trails, in deep powder or by very light riders. The 300 lbs./in. rear arm spring option would be used when high load conditions exist, such as operation by heavy riders on rough trails or very aggressive riding. The available springs for M-10 suspension are listed below.

Location	Spring Rate	Polaris PN
Front Arm Standard Front Arm Soft Front Arm Firm	160 lbs./in. 140 lbs./in. 180 lbs./in.	7041671-216 7041677-067 7041672-067
Rear Arm Standard Rear Arm Soft Rear Arm Firm	210/278 lbs./in. 135/240 lbs./in. 300 lbs./in.	7041935-216 7042010-216 7042011-067
Overload	1000 lbs./in.	7041936-067

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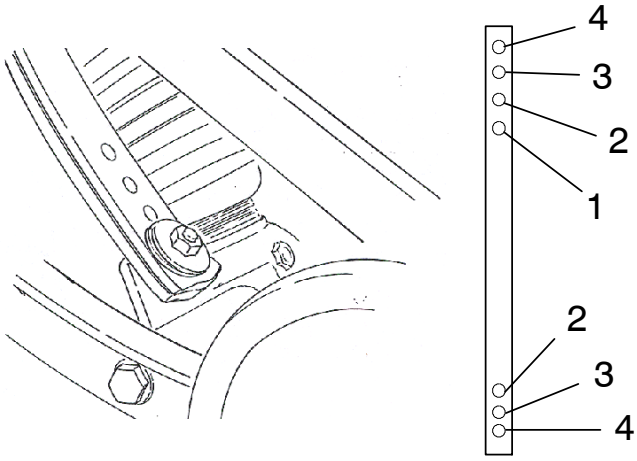
FAST M-10 Rear Suspension Adjustments

Other Ride and Performance Settings

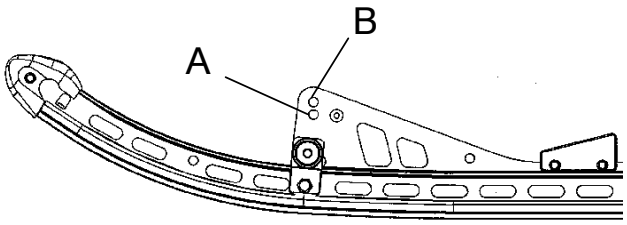
Ski Pressure

Your M-10 rear suspension ski pressure is set at the factory to deliver the optimum balance between ride and handling. If a rider prefers more ski pressure for improved steering performance, adjustments can be made to the front limiter strap and front arm mount.

1. To set the limiter, determine if the rider prefers comfort or control. Lean toward the #4 setting for comfort and toward the #3 setting for aggressive riding.



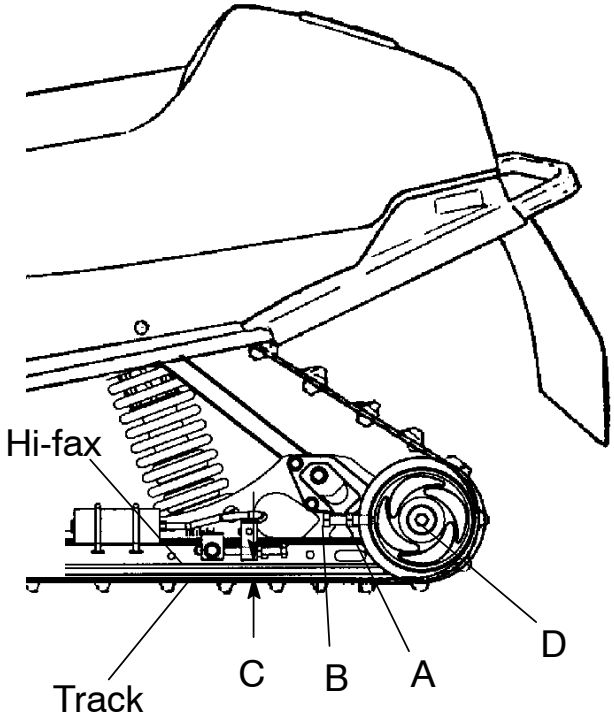
2. For full hole adjustments, remove the 5/16” nut and flat washers from the lower attachments of the limiter straps and relocate the straps to the desired position (i.e. move from position 4 to 3). Replace the nut and washer tighten securely.
3. For half-hole increments (such as 3/4), the limiter straps have slots at the upper pinch bolt. These slots allow the bolts to be loosened (rather than removed) for half-step adjustments. It is now easy to change to half-step hole positions (re-tighten the pinch bolts if loosened).
4. There are also two front arm mounting holes in the slide rail that can adjust ski pressure. The lower hole (A) increases ski pressure while the upper hole (B) decreases ski pressure.



NOTE: By design, the BIASED COUPLE design of the M-10 suspension displaces the rear arm as the front arm is compressed. This means that when you raise the front limiter strap, at some point you will collapse the rear suspension arm, which will affect SAG height and reduce rear suspension travel.

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THE PERFECT FIT
FAST M-10 Rear Suspension Adjustments
Other Ride and Performance Settings
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.

1. Turn the machine off.
2. Lift the rear of the machine and safely support it off the ground.
3. Place a 10 lb. weight on the track approximately 16” ahead of the rear axle to slightly preload the track.
4. Check for 7/8” - 1-1/8” gap between the wear surface of the metal track clip and the plastic hi-fax (C) . Measure at a point 16” ahead of the rear axle.

If the track needs adjustment:

5. Loosen the rear idler shaft bolts (D) and locknuts (A).
6. Tighten or loosen the track adjusting screws (B) as necessary to provide equal adjustment on both sides of the track.
7. Tighten the locknuts (A). Then tighten the idler shaft bolts (D) to 35 ft. lbs. (47 Nm).

NOTE: Always inspect track alignment after track tension adjustment. Track alignment affects track tension. Misalignment will cause excessive wear to the track and slide rail. Excessive Hi-Fax wear will appear on units with track tension set too tight. Refer to the Master Repair Manual for track alignment procedure.

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FAST M-10 Rear Suspension Adjustments

Initial M-10 Suspension Set-up Chart

NOTE: These positions are *only preliminary*. Experimentation should follow initial set-up to obtain optimum results. Refer to the suspension troubleshooting decal for additional set-up tips.

INITIAL SET-UP REFERENCE CHART

This chart is a guideline to be used for initial suspension set-ups. Your set-up may vary based on your desired riding style.

	FRA Position		Dimension B	Dimension C	
Rider Weight with full riding gear	SOFT	FIRM	Rear Spring Preload	Crossover Tube Length	Limiter/Ski Pressure Settings
			Settings		
			In / mm	In / mm	Light / Firm
100 lbs.	1	1 1/4	0 0	5 5/8 143	4/4 3/3
125 lbs.	1	1 1/2	0 0	5 13/16 148	4/4 3/3
150 lbs.	1	1 1/2	5/16 8	5 13/16 148	4/4 3/3
175 lbs.	1 1/2	2	5/16 8	5 13/16 148	4/4 3/3
200 lbs.	2	2 1/2	5/16 8	5 3/4 146	4/4 3/3
225 lbs.	2 1/2	3	5/16 8	5 5/8 143	4/4 3/3
250 lbs.	3	3 1/2	5/16 8	5 9/16 141	4/4 3/3
275 lbs.	3	3 1/2	1/2 13	5 7/16 138	4/4 3/3
300 lbs.	3	3 1/2	1/2 13	5 3/16 132	4/4 3/3
325 lbs.*	3	3 1/2	5/8 16	5 3/16 132	4/4 3/3
350 lbs.*	3 1/2	4	5/8 16	5 3/16 132	4/4 3/3
375 lbs.*	4	5	7/8 22	5 3/16 132	4/4 3/3

*Might prefer optional spring (rear track) Refer to the list on page 46.

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THE PERFECT FIT
FAST M-10 ACE Suspension Adjustments

The FAST M-10 ACE (Adjustable Control Electronics) is a new feature available for some FAST M-10 rear suspensions. It enables a rider to easily adjust the suspension for weight and riding style.

The M-10 ACE is an electronically controlled module that replaces the standard M-10 FRA. The ACE changes the rear shock motion ratio by moving the lower shock pivot point a total of 1 1/4 inches, the same amount of adjustment as the standard FRA. A gauge on the console displays the current position of the shock, from soft to firm or somewhere in between.

M-10 ACE Settings

A switch labeled “ESC” on the left-hand control assembly is used to adjust the position of the ACE module. The following instructions describe all the features programmed into the ACE module.

1. By pressing the left hand control switch up (firm) or down (soft) one time, the lower pivot moves .14 inch, giving the operator a total of nine distinct positions. The console gauge will show the current ACE position.
2. If the soft or firm switch is pressed more than one time in succession, it will adjust as many increments as the switch is pressed. The electronics will “do the math” for the user to minimize travel time. For example, if the rider pushes “firm” twice, and then “soft” three times, the unit will move to one position softer than the current position.
3. If the soft or firm switch is held for five seconds or more, the ACE will adjust to the far end of the travel, corresponding to which button was pressed.
4. A fail-safe mode has been programmed into the controller to protect the electronics and to notify the operator of a system malfunction. If the module cannot adjust the suspension after one of the switches has been pressed (most likely due to an obstruction or heavy ice buildup), the controller will enter a failure mode, which is indicated by the gauge needle moving rapidly between soft and firm. This mode will continue indefinitely and is reset when the engine is turned off and restarted. If this mode is encountered, we recommend that the operator turn off the engine and inspect the unit for any obstruction or ice buildup on the shock or module.

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FAST M-10 ACE Suspension Adjustments

M-10 ACE Settings

IMPORTANT NOTES:

The time to move one position can take up to 12 seconds depending on the rear shock loads.

Due to alternator limitations, the ACE module will operate only at engine speeds above 3500 RPM.

Similar to the FRA on the standard M-10, the ACE module will have the *MOST* effect on rear suspension performance.

Other M-10 ACE Ride and Performance Settings

Rear Spring Preload

Further fine tuning can be accomplished by adjusting the preload/crossover collar on the rear spring. This single adjustment changes *BOTH* the spring preload and crossover transition point. Increasing this setting will fine tune the overall ride stiffness *AND* increase bottoming resistance so a small change to this setting has a large effect on ride quality. To adjust the rear spring:

1. Slide the fabric cover toward the top of the rear spring to reveal the middle spring collars.
2. Using the tool kit spanner wrenches, turn the preload collars to achieve the desired setting as illustrated.
3. Ensure the fabric cover is replaced correctly and is not interfering with shock and spring movement.

NOTE: Refer to the initial set-up chart (on page 52 and under the hood) for preliminary settings.

Ski Pressure

See the Ski Pressure section for the standard M-10 suspension on page 47.

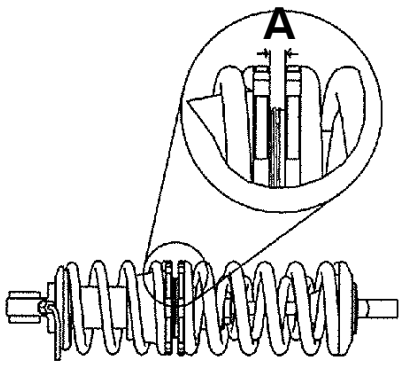
Track Tension

See the Track Tension section for the standard M-10 suspension on page 48.

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THE PERFECT FIT
FAST M-10 ACE Suspension Adjustments
Initial M-10 ACE Set-up Chart

NOTE: These positions are *only preliminary*. Experimentation should follow initial set-up to obtain optimum results. Refer to the suspension troubleshooting decal for additional set-up tips.



INITIAL SET-UP REFERENCE CHART

This chart is a guideline to be used for initial suspension set-up. Your set-up may vary based on your desired riding style.

Rider Weight with full riding gear	Dimension A Preload and Crossover		Limiter/Ski Pressure Settings	
	In.	mm	Light	Firm
100 lbs.	0	0	4/4	3/3
125 lbs.	0	0	4/4	3/3
150 lbs.	0.10	3	4/4	3/3
175 lbs.	0.20	5	4/4	3/3
200 lbs.	0.25	6	4/4	3/3
225 lbs.	0.25	6	4/4	3/3
250 lbs.	0.30	8	4/4	3/3
275 lbs.	0.35	9	4/4	3/3
300 lbs.	0.40	10	4/4	3/3
325 lbs.*	0.45	11	4/4	3/3
350 lbs.*	0.50	13	4/4	3/3
375 lbs.*	0.50	13	4/4	3/3

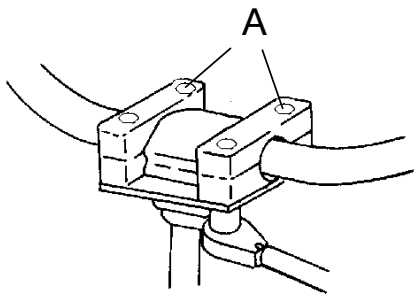
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Handlebar Adjustment

Standard Handlebars

Follow these steps to adjust the handlebars for a personal fit.

1. Remove the handlebar cover to expose the handlebar and the four adjuster block bolts (A).
2. Using a 7/16″ (11 mm) wrench, loosen the four nuts on the bottom of the adjuster block (turn handlebar to left or right for access to back nuts).



NOTE: It may be necessary to pry the adjuster blocks apart with a screw driver.

3. Adjust the handlebar to the desired height. Be sure handlebars, brake lever and throttle lever operate smoothly and do not hit the gas tank, windshield or any other part of the machine when turned fully to the left or right.
4. Torque the handlebar adjuster block bolts to 11-13 ft. lbs. (15-17.6 Nm).
5. Replace the handlebar cover.

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THE PERFECT FIT
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.

NOTE: The accessory tether switch is available for all models. Order PN 2870668.

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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Accessories

Traction Products

Another way to tailor your machine is to install traction products. See your dealer about installing studs and/or carbides. Many tracks with deep lug designs cannot be studded, but your dealer will be able to offer advice and assistance.

NOTE: Before equipping your machine with traction products, be aware of the laws in your area pertaining to the use of traction products.

Track studding will enhance braking control on hard-packed snow or ice, but extreme caution is still required on such surfaces. Steering ability may be reduced on hard-packed snow or ice.

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. The addition of carbide skags is recommended with studded tracks to help maintain proper vehicle steering and control. Similarly, if your machine is equipped with carbide skags or you're adding them, it may be necessary to add track studs to maintain proper vehicle control. Proper balance must be maintained between the number of studs and the length of carbide on skags. The more studs used, the longer the carbide on the skags should be. See your dealer's track studding chart for recommended studding and skags.

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

When studded tracks are used, increased wear to the brake pads will result from increased braking. Extended-wear brake pad kits are available. See your dealer for more information.

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THE PERFECT FIT
Accessories
Traction Products

CAUTION

Aggressive studding patterns may require grinding protruding stud bolts flush to prevent idler wheel damage. Maintain track tension on studded tracks on the tight side of the spec to prevent heat exchanger damage. Center of stud must be at least 1 1/8″ (2.86 cm) from outside edge of the track.

CAUTION

If traction products are added to the track, wear strips must be installed in the tunnel to avoid excessive wear.

Never add shims to the wear strip. Track damage will result because of lack of clearance between upper carrier wheels and track.

Use of studs longer than the recommended length on machines equipped with center coolers will result in center cooler damage or damage to the tunnel.

Use only Polaris traction products on your snowmobile. Track warranties are void if track damage or failure results from improper or excessive stud installation or the use of non-Polaris traction products.

⚠ 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

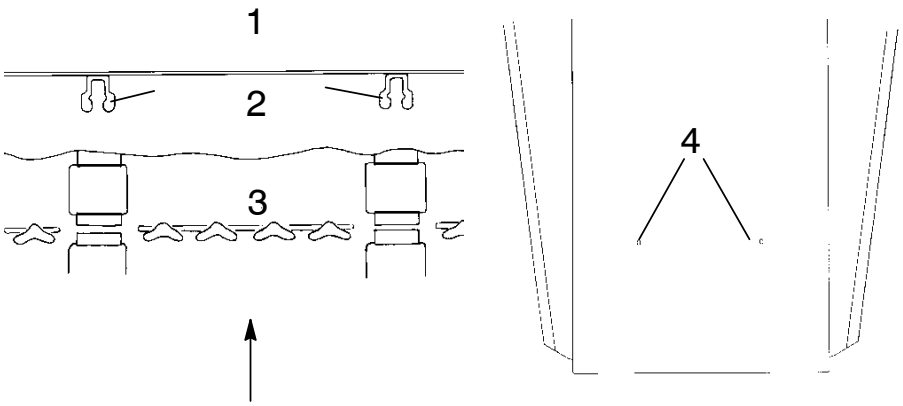
Wear Strips

To avoid excessive tunnel wear, tunnel wear strips *must* be installed whenever track studding is used. Several wear strips are available. See your dealer for more information.

Some models are manufactured with tunnel wear strips or wear strip coolers installed. Wear strips are designed for a specific stud length. See your dealer's studding chart for recommended traction accessories.

Components as viewed from the rear of the track:

1. Top of tunnel
2. Wear strip
3. Track
4. Wearstrip mounting holes



CAUTION

Whenever wear strips are relocated, be sure there's adequate stud clearance to the heat exchangers. Lack of clearance may result in damage to heat exchangers.

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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	113, 115
Steering System	62
Recoil Rope	62
Coolant Level	101
Park Brake Lock/Brake Lever/Brake System	60, 61, 105
Auxiliary Shut-Off Switch (Engine Stop Switch)	63
Ignition Switch	63
Taillight/Brakelight/Headlight	63
Suspension Mounting Bolts	127
Skags (Wear Bars)	55, 125
Ski Saddle and Spindle Bolts	127
Hood Straps/Latches	62
Seat Latches (if equipped)	N/A
Throttle Lever/Safety Switch	59, 74, 75
Rear Wheel Idler Bolts	121, 127
Tether Switch/Strap	63
Track Alignment/Condition	62, 122
Hi-Fax Condition	126
Chaincase Oil Level	92
Injection Oil Level	72

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Before Starting the Engine

⚠ WARNING

Worn, damaged, or malfunctioning components may cause serious injury or death. Before starting the engine, check all 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. We've attempted to provide as much information as possible to alert you to the safety requirements of snowmobiling.

✓ Check Throttle and Brake for Proper Operation

The throttle and brake are the primary controls of your snowmobile. If either should malfunction, loss of control could result.

Make sure the throttle lever compresses evenly and smoothly. 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.

The need for a properly functioning brake is critical. Your snowmobile is equipped with the highest quality brake system available. Check the brakes for correct operation before starting the engine. See page 105.

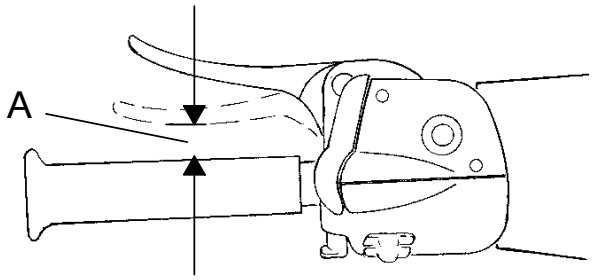
✓ Throttle Safety Switch

Test the throttle safety switch system before the machine is operated. See page 74 for procedure.

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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

When the brake lever is squeezed, it should move no closer to the handgrip than 1/2″ (1.3 cm) (A). A distance less than this indicates low brake fluid level or air in the hydraulic system. Refer to the brake bleeding information on page 108.

Lever Feel

A hydraulic system multiplies the force of your hand squeezing the brake lever. Proper operation depends on an adequate supply of air and moisture-free hydraulic brake fluid in the system. If the brake lever feels “spongy” when squeezed, check the level and condition of the fluid. Also check for the presence of air in the fluid system. Refer to page 108 for more information, or see your dealer for service.

Replace brake fluid at least every two years with Polaris DOT 3 high temperature brake fluid. All DOT 3 brake fluid is not alike. Use only Polaris brake fluid. See page 134 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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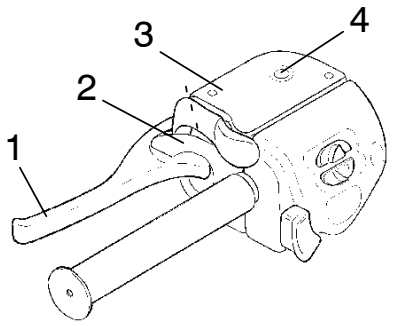
Before Starting the Engine

Park Brake Lever Lock

Your snowmobile may have a park 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. To apply the lock, squeeze the brake handle and push forward on the brake lever lock. Hold the lock forward and release the brake handle.

If the brake handle is squeezed tightly enough, the lock will move freely into place. Do not force the lock or it may break. To release the lock, squeeze the brake handle until the lever returns to the unlock position. The park brake light on the console will light up when the park brake lever lock is set and the engine is running. It will also be lit when the service brake is in use. If the park brake light does not come on when the park brake or service brake is in use, have it serviced by your dealer.

1. Brake Handle
2. Park Brake Lever Lock (not all models have a park brake)
3. Master Cylinder Reservoir / Cover
4. Fluid Level Indicator



⚠ WARNING

If the park brake lever lock is partially or entirely engaged while riding, overheating of the brakes could occur, resulting in brake damage. In extreme cases it could cause a fire, which could result in serious injury or death.

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PRE-RIDE INSPECTIONS
Before Starting the Engine

Check for Proper Operation of 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 Inspection

⚠ 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 in marginal lubrication could severely damage track rods, break track edges, and cause other track damage. Examples of marginal 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 poor lubrication conditions voids the track warranty.

Check 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.

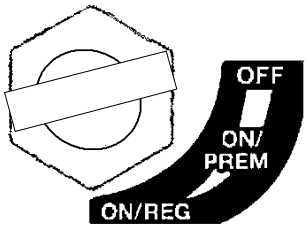
Check Recoil Rope

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.

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Start the Engine and Check

- **Transmission:** Make sure the reverse is not engaged before starting your machine.
- **Engine Stop Switch:** Check the auxiliary shut-off switch for proper operation. Push down to stop the engine. Pull up to release and start the engine.
- **Tether Switch:** If your machine has a tether switch, remove the tether from the switch to ensure the engine stops immediately. Make sure the tether strap is in good condition.
- **Lighting:** Check the headlight (high and low beam), taillight, and brake light for normal operation.
- **Mirror Adjustment:** If equipped, adjust your mirrors so they can be used to their full advantage.
- **Check Surroundings to Verify Clear Operating Area:** Make sure you have a clear area all around your snowmobile, including an area clear of bystanders. There's always the possibility of some sideways vehicle movement, of applying a little more throttle than intended, or of debris being thrown by the track. If the surrounding area is clear you before you start, you can devote your full attention to operating the snowmobile.
- **Ignition Switch:** Make sure the engine stops when the ignition switch is turned to *OFF*.



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OPERATION
Starting the Engine

⚠ WARNING

Before starting the engine, always refer to all safety warnings pertaining to snowmobile operation. Never start your snowmobile without checking all components to be sure of proper operation. See *Check Before Starting the Engine* beginning on page 59.

Starting a Cold Engine (Manual Start)

Do not depress the throttle until the engine starts.

1. Turn key to *ON*.
2. Pull kill switch (shut-off switch) up to *RUN*.
3. Flip choke toggle to *FULL ON*.
4. Grasp starter handle and pull slowly until recoil engages; then pull abruptly to start the engine.

⚠ CAUTION

Don't pull the starter rope to full extended position or allow it to snap back into the housing. Damage may result.

To avoid personal injury and/or engine damage, do not operate the electric starter or pull-rope starter while the engine is running.

5. 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 ON* position.

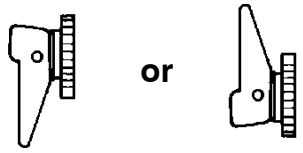
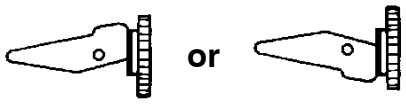
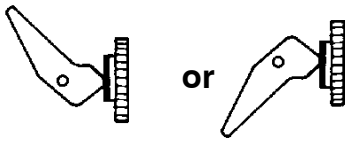
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Starting the Engine

Starting a Cold Engine (Electric Start)

Do not depress the throttle until the engine starts.

1. Flip choke toggle to *FULL ON*.
2. Pull kill switch (shut-off switch) up to *RUN*.
3. Turn key to *START* and crank engine.
4. After the engine starts, release the key to *ON* and flip the choke toggle to *OFF*. If the engine slows or wants to stop, use intermittent choking to *HALF ON*.

CHOKE TOGGLE POSITIONS	
Off	
Half On	
On	

Starting a Warm Engine

1. Turn key to *ON*.
2. Pull kill switch (shut-off switch) up to *RUN*.
3. Grasp starter handle and pull slowly until recoil engages; then pull to start.

If the engine does not start on the first pull, slightly depress the throttle with your left hand (no more than 1/4″ open), and pull the rope with your right hand. When the engine starts, immediately release the throttle.

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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.

CAUTION

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

CAUTION

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

Always fill the oil reservoir when refueling. Fuel-to-oil mix ratios are controlled by the oil pump and correspond to the engine's RPM and throttle valve opening.

Variable Exhaust System

All snowmobile engines equipped with variable exhaust valves should use VES II 2 Cycle Oil (see chart below).

Oil Recommendations

The only source of engine lubrication for your engine comes from lubrication added to the fuel and oil injection systems. We highly recommend the use of only Polaris products. We're continuously testing lubricants and provide the highest performance products available for your snowmobile's engine. Refer to the table below to determine the recommended oils for use in your Polaris snowmobile.

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.

Engine Style	Premium 2-Cycle	Premium Gold 2-Cycle	VES II 2-Cycle
Fan Cooled	Good	Better	N/A
Liquid Cooled	Good	Better	N/A
Liquid Cooled w/VES	Good	Better	Best

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OPERATION
Track Warm-Up

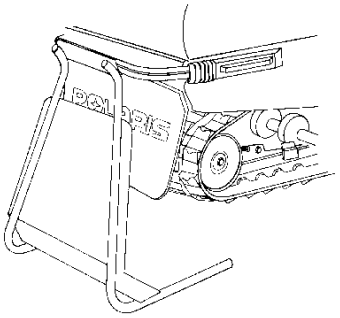
⚠ WARNING

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″ (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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Slide Rail and Track Cooling

CAUTION

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.

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.

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OPERATION
Fuel

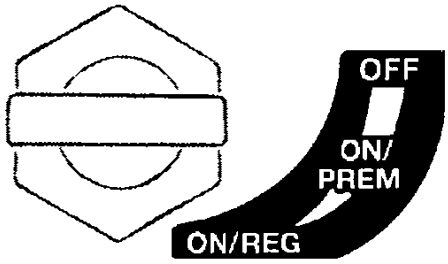
The fuel used in your Polaris engine is as important to engine life and performance as the lubricant used.

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 across the country, so we encourage the use of premium fuel when possible. Always use the premium fuel switch when using premium fuel.

NOTE: Some Polaris snowmobiles *require* premium gasoline.

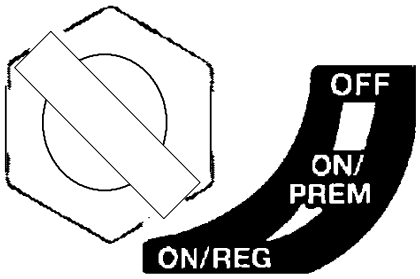
Premium Fuel Switch

If your Polaris snowmobile is equipped with a key function to adjust the timing on the machine as you change fuels, it's very important to the life of your engine that you use this feature.



Premium Fuel Setting

When using fuels with a pump-posted octane rating of 91 or higher, turn the key switch to *ON/PREM*. When the engine is started, a yellow *Premium Fuel* light illuminates on the instrument panel. When the key is in this position, the fuel *must* be a minimum of 91 octane. Return the key switch to the *ON/REG* position when not using premium fuel.



Regular Fuel Setting

If you're uncertain about the quality or octane rating of the fuel you use, turn your key switch to *ON/REG*. The *Premium Fuel* light will go out. This setting will adjust the timing of your engine to run on fuels with 87 octane or higher. Polaris does not recommend using fuel with lower than 87 octane. Running your machine on *ON/REG* will help protect your engine from damage caused by low octane fuels.

CAUTION

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

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 134 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.

CAUTION

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

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OPERATION
Oil
Low Oil Indicator Light

The low oil indicator light will indicate when to add oil. See page 67 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.

CAUTION

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.

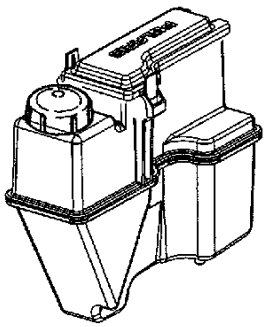
CAUTION

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

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.

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



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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.

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.

Carburetors on most Polaris models are calibrated for an altitude of 0-2000 ft (0-600 meters) and ambient temperatures between -10 to +10 F (-23 to -12 C). All carburetors must be re-calibrated if operated outside this production temperature and/or altitude range. The main jet installed in production is not correct for all altitudes and/or temperatures.

CAUTION

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 in your Owner's Manual Supplement.

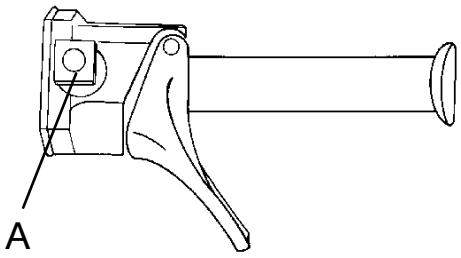
NOTE: It's the owner's responsibility to ensure that the correct jets are installed in the machine for a geographical area. Be very careful when jetting down in warm weather. As the weather turns colder it will be necessary to re-jet upward to prevent engine damage. When selecting the proper main jet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

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OPERATION

Engine Stop Switch

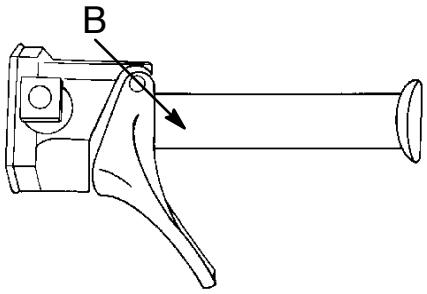
Push down on the engine stop switch (A) to stop the engine in an emergency. This will ground out the ignition and bring the engine to a quick stop. To restart the engine, the switch must be pulled up to the *ON* position.



Throttle Safety Switch

Test the throttle safety switch system daily before operation.

While seated in a normal riding position, and with the engine idling, hold the throttle lever pin stationary by exerting pressure on the pivot pin in the direction shown in the illustration (B). Apply a slight amount of throttle. A properly functioning switch *must* shut down the engine.



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.

⚠ 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.

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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 freeplay 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. See page 74 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
Tether Switch (Option)	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

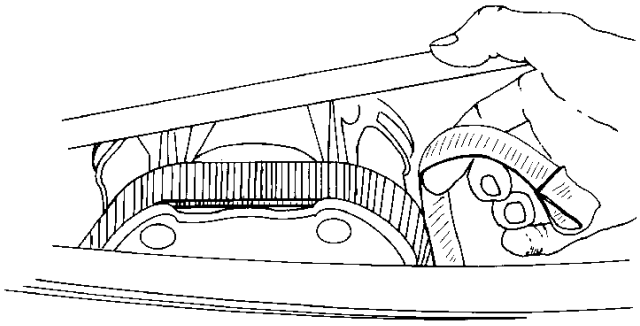
Your machine is equipped with a tool kit containing essential tools for emergency use. Machine's equipped with electric start have a recoil for emergency starting. On non-electric start models, if the recoil starter system fails, an emergency start strap is provided in the kit.

⚠ WARNING

Serious injury can result from wrapping the start strap around your hand while using the emergency starting procedure. DO NOT wrap the start strap around your hand. Keep all bystanders and loose clothing away from the snowmobile when using the emergency starting procedure.

To use the emergency start strap:

1. Open the clutch guard.
2. Push on the inner sheave of the clutch and rotate clockwise slightly to relieve belt tension.
3. Starting at one of the tower struts, wind the strap counterclockwise around the clutch as shown.



4. Pull the strap abruptly so the strap comes free of the clutch while starting the engine.

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OPERATION
Reverse Operation

⚠ WARNING

Improper reverse operation, even at low speeds, may cause loss of control, resulting in serious injury or death.

- Always look behind the vehicle before and while backing.
- Always avoid sharp turns.
- Shift to or from reverse only when stopped.
- Always 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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Reverse Operation

Electronic Reverse (PERC™)

Electronic reverse will activate only if the engine is below 4000 RPM. If your machine is running at an altitude of over 6000 feet, adjust the ignition setting as described below. Always make sure the vehicle is stopped and the engine is running at idle before shifting to reverse.

1. Make sure the area behind your vehicle is clear.
2. Push the yellow reverse button on the left-hand control for one second, then release. The engine will automatically reduce RPM and start a reverse rotation. A flashing reverse light on the instrument panel will indicate that the machine is in reverse.
3. Slowly apply the throttle until movement starts and you're sure the machine is in reverse.

NOTE: The maximum engine RPM will be 6000 when in reverse.

NOTE: If the engine stops running, the snowmobile will be in forward gear when it's restarted.

Disengaging Reverse

Push the yellow reverse button on the left-hand control for one second and release. The engine will slow and and begin to rotate forward. The light on the instrument panel will shut off. Make sure the area around your vehicle is clear and apply throttle slowly until you're sure the machine is in forward gear.

Altitude Setting

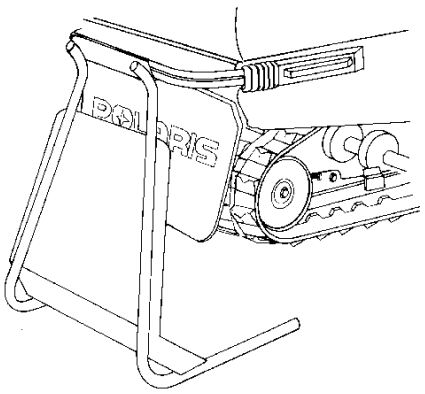
At higher altitudes (above 6000 feet), the engine will require a different ignition setting to improve the success of the reverse system. To set for a higher altitude, start the engine and hold the button down until the light on the instrument panel flashes rapidly, then release the button.

To set the reverse for lower elevations, continue holding the button down until the reverse indicator light blinks slowly. Once set, it's stored in memory until changed, whether the machine is running or not.

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OPERATION
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″ (20 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.

Towing

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.

CAUTION

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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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.

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.

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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)	112		I	I	I	
Drive Belt Condition	113		I	I	I	I
Clutches (disassemble)	112		C	C	C	
Belt Tension	-		I	I	I	I
Clutch Sheaves	112		I	I	I	I
Engine						
Engine Mounts	-		I	I	I	I
Recoil Rope	-		I	I	I	I
Engine Mounting Plate	-		I	I	I	
Engine Torque Stop	116		I	I	I	I
Cylinder Head Bolts	-		I	I	I	
Cylinder Base Nuts	-	I	I	I	I	
Ignition Timing BTDC	-		I	I	I	
VES System	-		C	C	C	I
Coolant Level	101		I	I	R	I
Water Pump Drive Belt	96		I	I	I	
Coolant Hose	-		I	I	I	I
Heat Exchangers	103	I	I	I	I	I
Coolant Circulation	-		I	I	I	
Coolant Leaks	-		I	I	I	I
Spark Plug Condition	94	I	I	I	I	I
Exhaust Pipe	100				I	I
Exhaust Retaining Springs	100		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	105		I	I	I	I
Brake Disc	-		I	I	I	I
Parking Brakes	61		I	I	I	I
Brake System	59, 105					I
Brake fluid	107				R	
Fuel Management						
Pilot Air Screws	-		I	I	I	
Carburetor (synchronize)	73		I	I	I	
Idle RPM	-		I	I	I	
Throttle Lever	59, 75	I	I	I	I	I
Oil Pump Lever (synchronize)	-		I	I	I	
Throttle Cable	91		L	L	L	
Choke Cable	91		L	L	L	
Vent Lines	-		I	I	I	I
Throttle Position Sensor	-		I	I	I	
Choke	91		I	I	I	
Fuel Filter	98			R	R	
Fuel Lines	98	I	I	I	I	I
Oil Filter	98			R	R	
Oil Lines	98			I	I	I
Oil Change	-			R	R	
Air Box	-	I	I	I	I	I
Drain and Water Traps	97		I	I	I	
Electrical						
Auxiliary Shut-Off Switch	63	I	I	I	I	I
Throttle Safety Switch	59, 74	I	I	I	I	I
Ignition Switch	-	I	I	I	I	I
Taillight	63	I	I	I	I	I
Brakelight	63	I	I	I	I	I
Headlight	63	I	I	I	I	I

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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
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	91		L	L	L	I
Jackshaft Bearings	91		L	L	L	I
Skags (Wear Bars)	55	I	I	I	I	I
Ski Saddle/Spindle Bolts	-	I	I	I	I	I
Ski Pivots	87	L	L	L	L	I
Ski Spindle	87	L	L	L	L	I
Steering Arm(s)	87	L	L	L	L	I
Upper / Lower Steering Post Support Bracket	87	L	L	L	L	I
Drive Chain Tension	104	I	I	I	I	I
Hood Straps	62	I	I	I	I	I
Battery Fluid Level	131	I	I	I	I	I
Rear Wheel Idler Bolts	121	I	I	I	I	I
Idler Bolt Jam Nut	121	I	I	I	I	I
Rear Suspension Pivot Shafts	88		L	L		L
Camber Alignment	-		I	I	I	
Radius Rod Bushings	-					I
Handlebar Centering	-					I
Tether Switch and Strap	63	I	I	I	I	I
Track Alignment	122	I	I	I	I	I
Track Tension	120	I	I	I	I	I
Front Limiter Strap	-	I	I	I	I	I
Hi-Fax Condition	126					I
Chaincase Oil	92	I	I	I	R	I
Gearcase Oil	N/A	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 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.

150 Mile (240 km) Initial Maintenance Inspection

Authorized Polaris Servicing Dealer_____

Servicing Technician_____

Date_____Mileage_____

500 Mile (800 km) Maintenance Inspection

Authorized Polaris Servicing Dealer_____

Servicing Technician_____

Date_____Mileage_____

1000 Mile (1600 km) Maintenance Inspection

Authorized Polaris Servicing Dealer_____

Servicing Technician_____

Date_____Mileage_____

2000 Mile (3200 km) Maintenance Inspection

Authorized Polaris Servicing Dealer_____

Servicing Technician_____

Date_____Mileage_____

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MAINTENANCE
Maintenance Log
Additional Services Performed

Authorized Polaris Servicing Dealer_____

Servicing Technician_____

Date_____Mileage_____

Type of Service_____

Additional Services Performed

Authorized Polaris Servicing Dealer_____

Servicing Technician_____

Date_____Mileage_____

Type of Service_____

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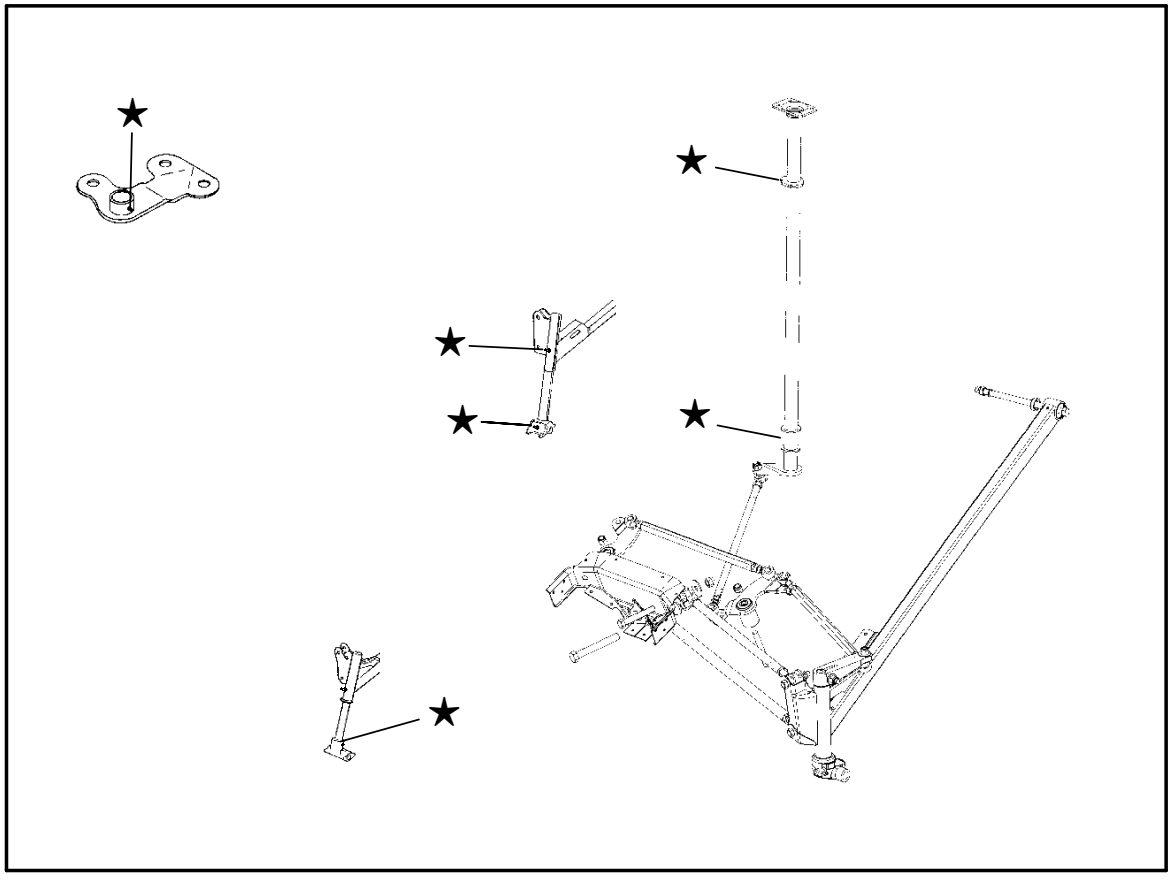
Lubrication

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. See page 134 for the part numbers of Polaris products.

The illustration shows the location of suspension and steering components. A ★ indicates a grease point or fitting.

- 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 center steering arms.
- Grease the steering post lower pivot.
- Grease the rear suspension pivot shafts (raise the rear of unit).

A grease gun kit, complete with grease and adaptors, is available to lubricate all fittings on Polaris snowmobiles. See page 134.

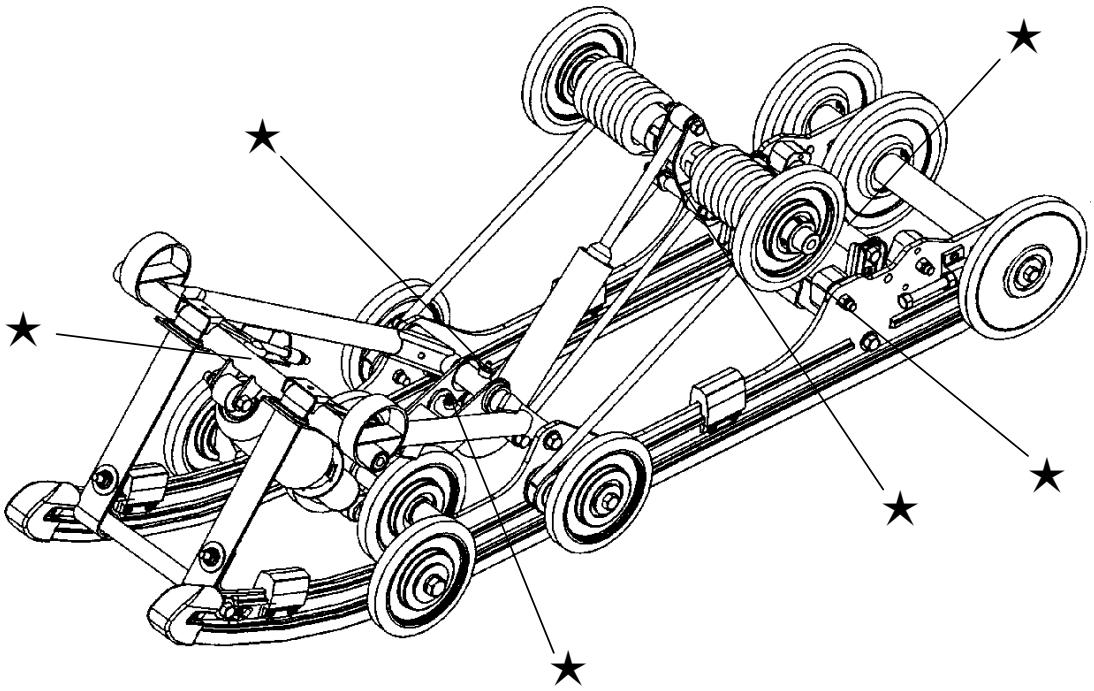


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MAINTENANCE
Lubrication

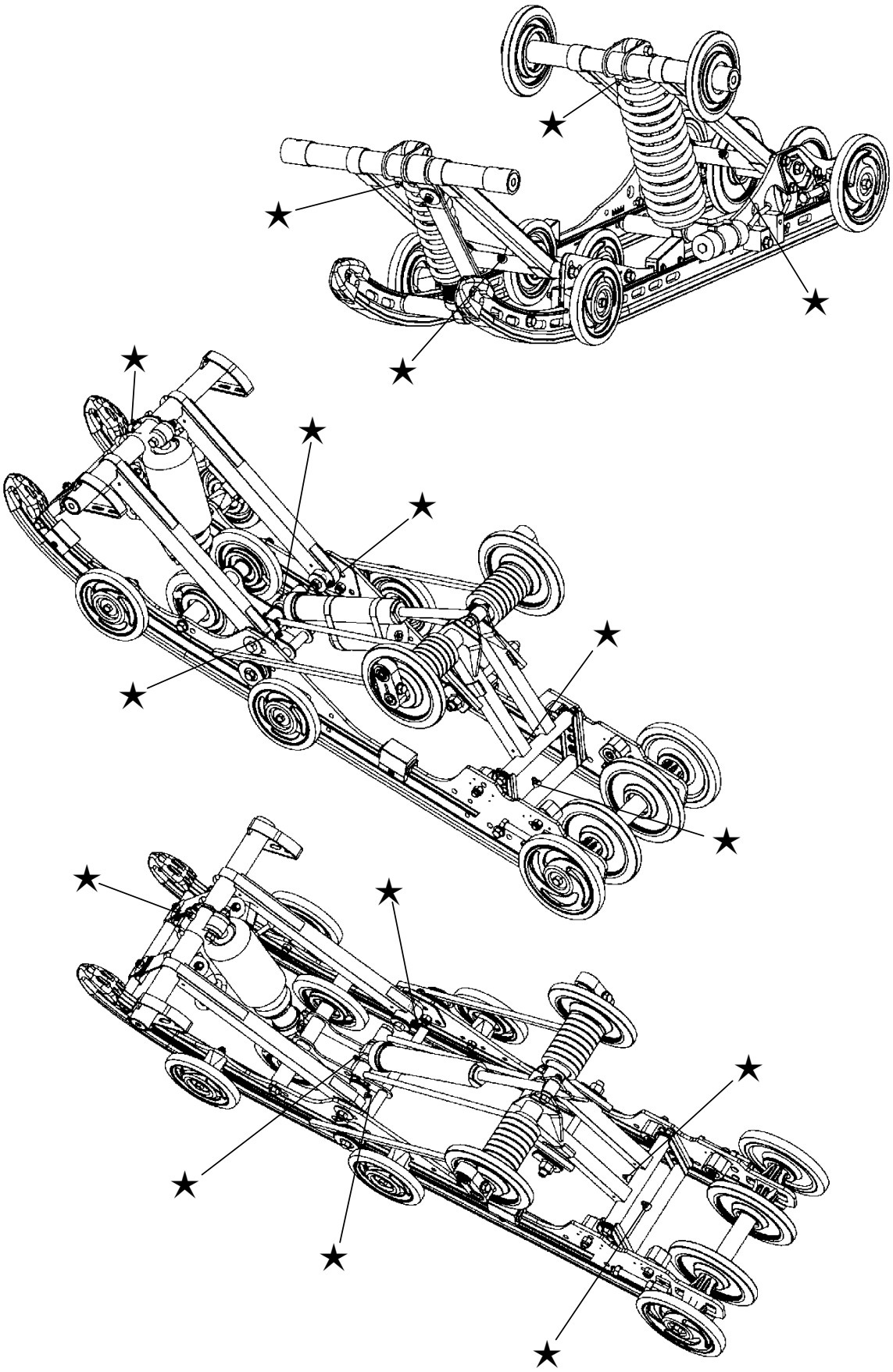
The suspension pivot shafts should be lubricated with Polaris Premium All Season Grease at 500 miles (800 km) initially, every 1000 miles (1600 km) after that, and before off-season storage each year. Lack of lubrication will adversely affect your ride and the life of the suspension. For detailed information about suspension lubrication and adjustments, see your Polaris dealer.

NOTE: The following illustrations are general representations. Your model may differ. Lubrication points are indicated by a ★, and forward is to the left.



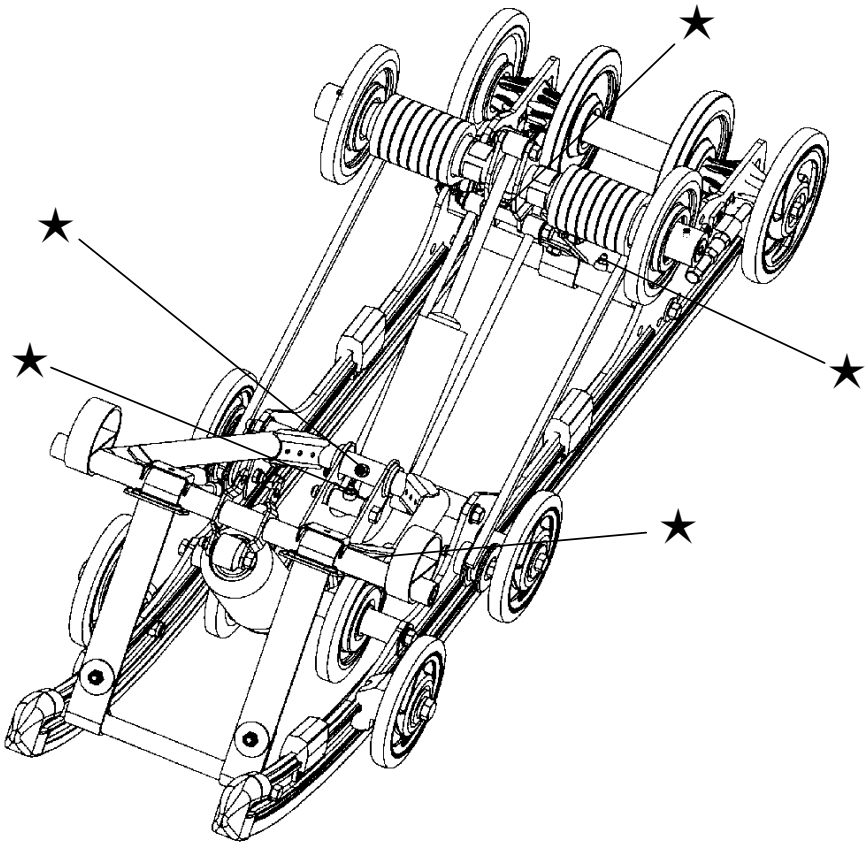
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Lubrication

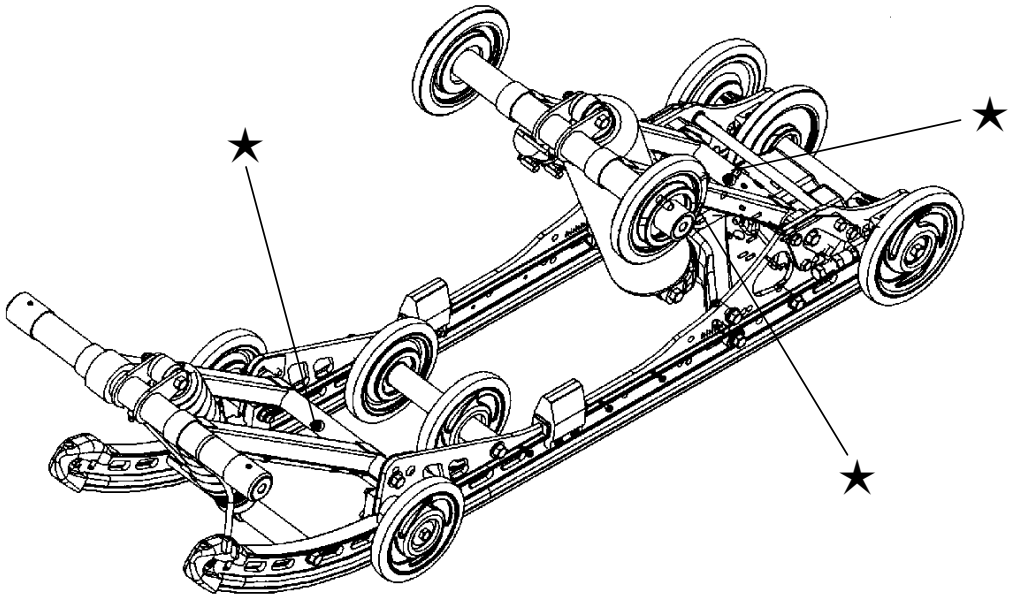


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MAINTENANCE
Lubrication
Suspension Lubrication - EDGE



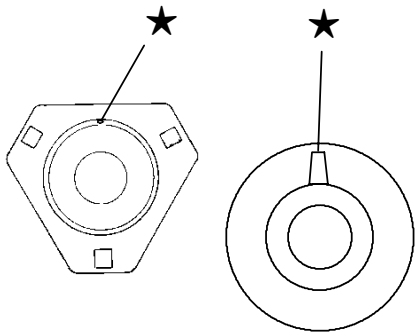
Suspension Lubrication - M-10 ACE



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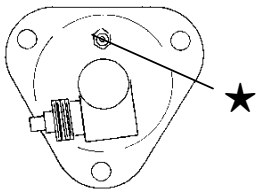
Lubrication

Jackshaft Bearing Greasing



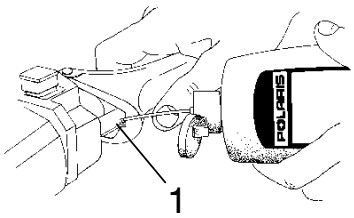
Loosen the driven clutch retaining bolt and pull the clutch outward to expose the bearing and grease fitting. Inject grease into the grease fitting in the flangette until grease purges from inside or outside the bearing seal (may take only two pumps). Push the clutch back onto the shaft and replace the clutch retaining bolt. Torque to 18 ft. lbs. (24.4 Nm).

Driveshaft Bearing Greasing



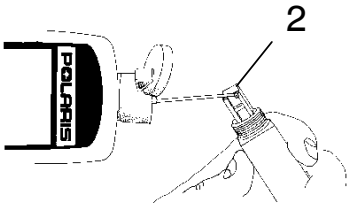
Inject grease into the fitting on the speedometer drive adaptor until grease purges from inside or outside the bearing seal (approximately two pumps).

Throttle Cable



Lubricate the throttle cable (1) 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 (2) 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.

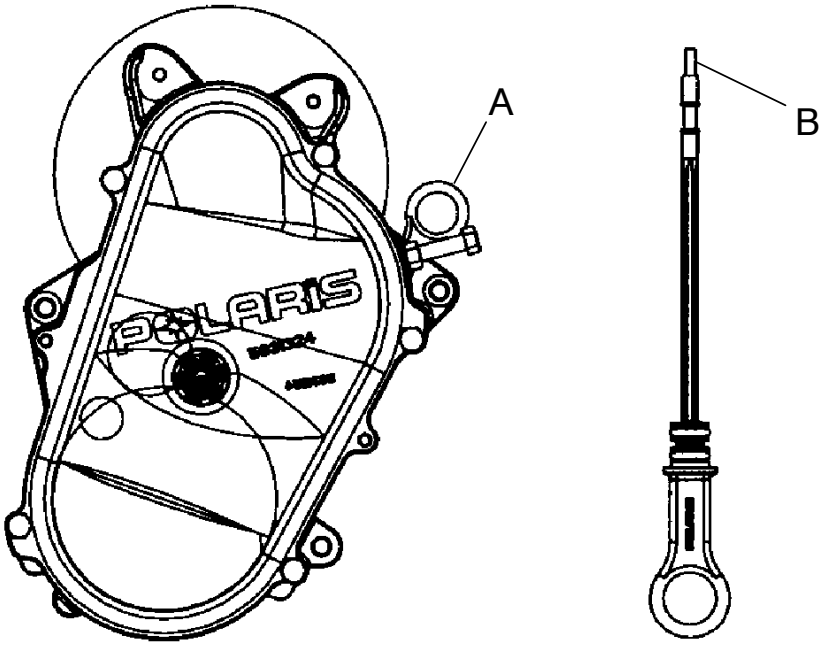
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MAINTENANCE
Lubrication
Chaincase Oil Level

It's the operator's responsibility to check and maintain the proper chaincase oil level.

To check the oil level, place the machine on a level surface. The oil level should be between the "safe" marks on the dipstick (A). Add Polaris synthetic chaincase oil through the dipstick opening. *Do not overfill.* See page 134 for the part numbers of Polaris products.

Flush the chaincase after the first 500 miles (800 km), then every 1000 miles (1600 km) or seasonally. Clean the magnetic plug (B) whenever checking or changing lubricant.



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General 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. Refer to your Owner's Manual Supplement for the specific spark plug to be used in your machine.

CAUTION

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. See 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 for specific information.
- Spark plug torque is 18-22 ft. lbs. (24-30 Nm).
- Always carry spare spark plugs in case of an emergency.

CAUTION

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

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MAINTENANCE
General Maintenance
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.

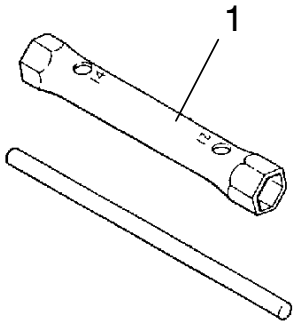
NOTE: Incorrect fuel mixture can often cause a spark plug to appear too dark or too light in color. Before changing spark plug heat ranges, be sure the correct main jet is installed in the carburetor(s). Refer to the Owner's Manual Supplement or see your dealer.

1. Normal
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.

2. Wet Fouled
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.
3. Reverse the procedure for spark plug installation.
4. Torque to 18-22 ft. lbs. (24-30 Nm).
5. Install spark plug cap.

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General Maintenance

Intake Filter

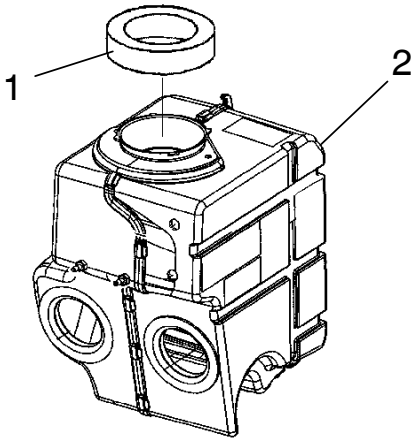
The intake foam filter limits snow ingestion into the intake system. When operating in loose powder snow, check the top of the foam filter periodically to remove any accumulation of snow.

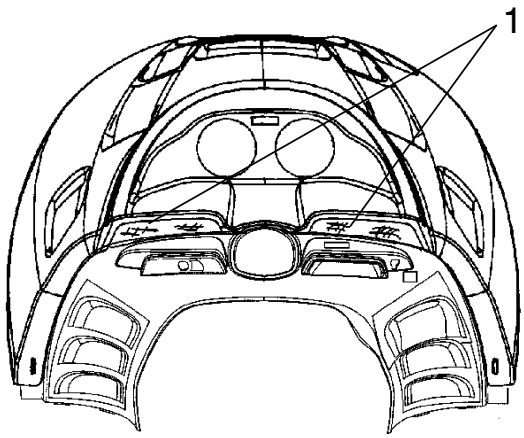
CAUTION

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.

1. Intake Foam Filter
2. Air Intake box

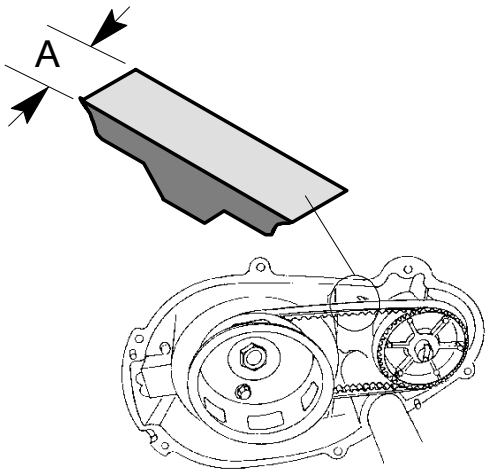




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MAINTENANCE
General Maintenance
Water Pump Belt Inspection

Some liquid cooled models require inspection of the water pump belt at 1500 miles (2400 km). Inspect belt width (A) and condition, and replace if cracked or worn past the width service limit (.250″ / 6.35mm). New belt width is approximately .345″ (8.75 mm). See your Polaris dealer if the belt needs to be replaced.



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General Maintenance

Water/Sediment Trap Service

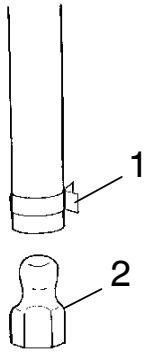
Most Polaris snowmobiles contain patented carburetor bowl water/sediment traps located at the bottom of each carburetor. The trap, consisting of a hose with a plug, should be drained at least every 2000 miles (3200 km) and inspected for contamination.

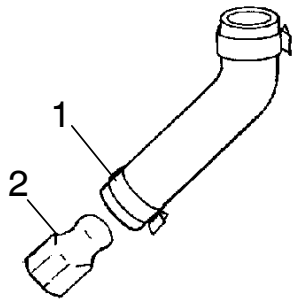
⚠ WARNING

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 69.

Plug Cleaning Procedure

1. Turn the fuel tank supply valve off.
2. Position a container or shop towels to catch the contaminated gasoline.
3. Slide the clamp (1) away from the drain plug (2) 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.

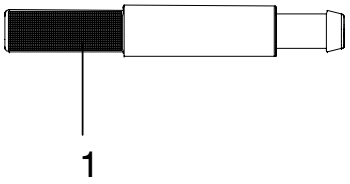




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MAINTENANCE
General Maintenance
Fuel Filter/Fuel Lines

See your Polaris dealer for replacement of the in-tank fuel filter (1) every 1000 miles (or annually).



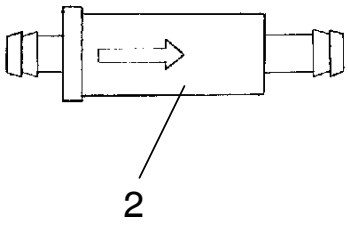
Inspect the fuel lines regularly for signs of deterioration or damage. Always check fuel line condition after periods of storage. Normal deterioration from weather and fuel compounds may occur. Replace worn or damaged fuel lines promptly.

CAUTION

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 should be changed annually or every 1000 miles (1600 km). Inspect oil line condition at 1000 miles (1600 km). Polaris oil filters are specially designed for use on Polaris products. We strongly recommend the use of only Polaris replacement parts.



See page 67 for oil recommendations.

Edge models use an oil filter that's built into the oil sending unit located in the bottom of the oil tank. After changing the oil filter, bleed the oil injection system of all trapped air. See your dealer for instructions, or have your dealer perform the filter change and bleeding operation for you.

NOTE: The direction of the arrows indicates the direction of flow through the filters.

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General Maintenance

General Carburetor Information

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.

CAUTION

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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MAINTENANCE
General Maintenance
Exhaust System

Check the exhaust system for wear or damage at approximately 2000 miles (3200 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.

Engine Cooling - Liquid Cooled Models

The cooling system on liquid cooled models consists of the following major components:

- Coolant bottle
- Water pump
- Cylinders
- Heads
- Inlet and outlet manifolds
- Pressure cap
- Heat exchangers

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General Maintenance

Coolant Mixture

The coolant supplied in the system is a 50/50 mixture of ethylene-glycol and distilled water. This mixture provides protection against freezing at temperatures to -34° F (-37° C). If greater protection is required, the percentage of antifreeze to water may be increased. Use Premium 60/40 anti-freeze coolant, which is already premixed and ready to use. Do not dilute with water. Never exceed a 60% antifreeze/40% water mixture. Contact your dealer if greater protection is required. See page 134 for Polaris products.

NOTE: Never add tap water to the cooling system. Minerals cause deposits and may react adversely with the metals in the engine and cooling system.

Coolant High Temperature Indicator Light

The high temperature indicator light is controlled by a switch in the engine cooling system on liquid cooled models. If the engine coolant reaches a certain temperature, the switch completes a circuit that turns the light on. If you must drive your machine after the high temperature indicator light has come on, drive slowly and stop frequently to allow the engine to cool down. See your dealer.

Coolant Level

Always maintain the coolant level between the minimum and maximum marks on the coolant bottle (when engine is cold) to prevent overheating and serious engine damage.

CAUTION

Operating the snowmobile with insufficient coolant will result in overheating and serious engine damage. Always maintain the coolant level as recommended.

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MAINTENANCE
General Maintenance
Coolant Level

The engine coolant level is controlled by the recovery system. The recovery system components are:

- Coolant bottle or overflow tank
- Engine filler neck
- Pressure cap (on some models)
- Connecting hoses

Flushing the Cooling System

To ensure that the coolant maintains its ability to protect the engine, the system should be completely drained every two years and a fresh mixture of antifreeze and distilled water should be added. This service must be done when the engine is cold. Ask your Polaris dealer to check the coolant when he performs the fall tune-up on your snowmobile.

Bleeding the Cooling System

Use of a non-standard pressure cap will not allow the recovery system to function properly. If the pressure cap needs replacement, contact your dealer for the correct part.

⚠ WARNING

Steam and hot liquids will cause serious burns to your skin. Never bleed the cooling system or remove the pressure cap when the engine is warm or hot.

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General Maintenance

Bleeding the Cooling System

CAUTION

If coolant flow becomes restricted or plugged, coolant loss, air lock or engine damage may result. Most cooling systems are equipped with a filter that should be periodically inspected or replaced.

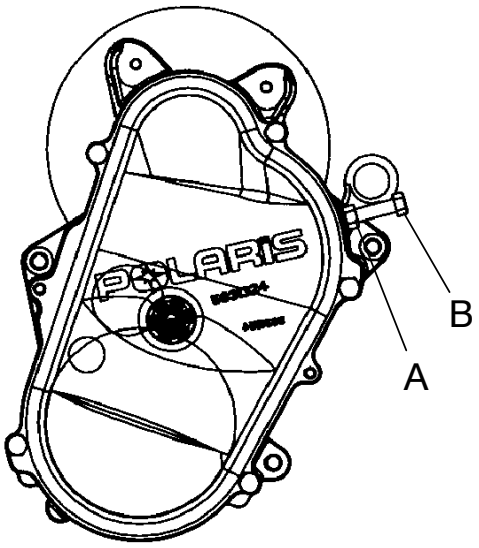
1. Remove the pressure cap and fill the coolant bottle with properly mixed coolant to the maximum mark.
2. Elevate the front end of the machine slightly to aid in bleeding of the heat exchangers.
3. Remove the bleed screw from the water outlet manifold and/or the thermostat housing. Allow the coolant to bleed through the system until it runs out the bleed holes. Reinstall the bleed screw into the manifold.
4. Add coolant to the coolant bottle to the maximum mark.
5. Start the engine and run at a fast idle for two to three minutes. Loosen the bleed screw occasionally to purge any trapped air.
6. Stop the engine and check the coolant bottle level. Fill as required.
7. Feel the heat exchangers under the running boards. If the system is bled properly, they'll be warm to the touch. If they're not, repeat step 5. Lift the front of the machine slightly to assist in the bleeding.
8. Replace the pressure cap and carefully lower the front end of the machine.

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MAINTENANCE
General Maintenance
Drive Chain Tension

Check drive chain tension weekly and before each long trip. To obtain correct chain tension:

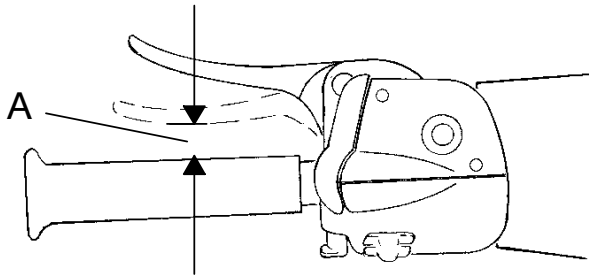
1. Rotate the driven clutch counterclockwise to move all chain slack to the tensioner side. Lock the brake lever lock, or have an assistant hold the brake lever firmly.
2. Loosen the adjuster bolt jam nut (A).
3. Finger tighten the adjuster bolt (B) until it can no longer be adjusted by hand, then back off 1/4 turn.
4. Tighten the jam nut while holding the adjuster bolt.
5. The chain is now tensioned. Release the brake lever lock.



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General Maintenance

Hydraulic Brake Inspection



Inspect the brake lever reserve before each use of the snowmobile.

Firmly depress the brake lever and measure the clearance between the lever and handlebar grip. This distance, called brake lever reserve (A), should be no less than 1/2″ (1.3 cm).

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

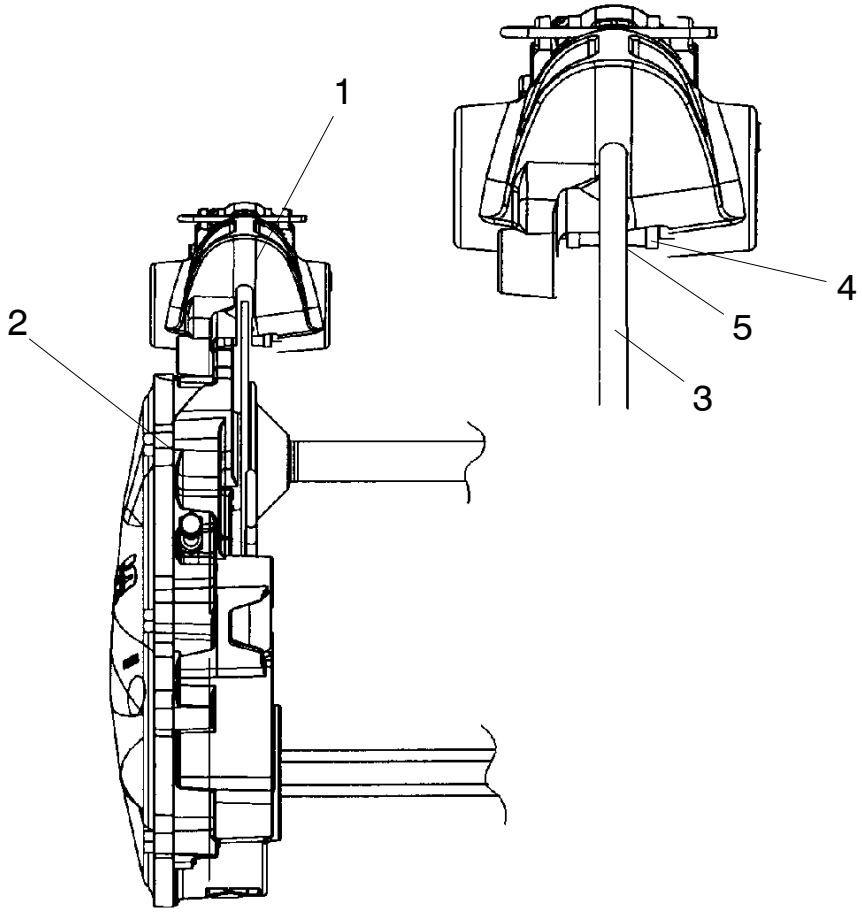
⚠ WARNING

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″).

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MAINTENANCE
General Maintenance
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″).

Excessive Lever Travel

Hydraulic brakes are self-adjusting, but if excessive brake pad clearance develops, as described on page 105, the machine should be returned to an authorized Polaris dealer for inspection and adjustment.

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General Maintenance

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.

CAUTION

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

Use only Polaris DOT 3 high temperature brake fluid. See page 134 for the part numbers of Polaris products.

On some models, 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.

On all other models, frequently check the reservoir to be sure it contains the correct amount of fluid. To add fluid, remove the master cylinder reservoir cover. Add Polaris brake fluid to bring the level up to the top of the fluid level mark on the inside of the reservoir.

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MAINTENANCE
General Maintenance
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″ (.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. See page 107.
8. Reinstall the gasket and cover.

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General Maintenance

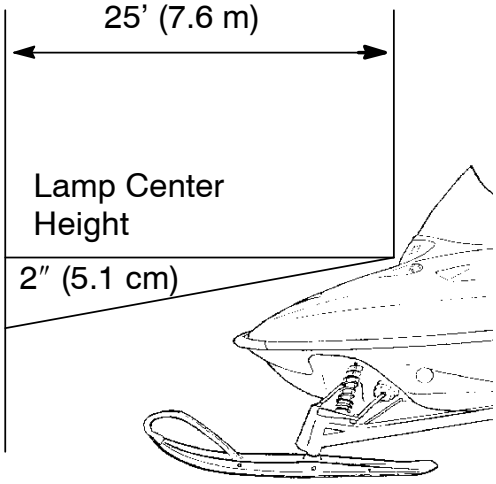
Headlight Adjustment

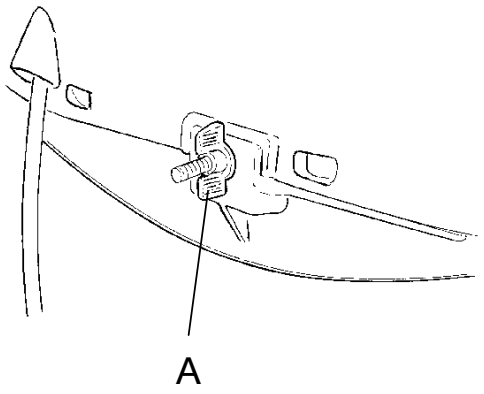
The headlight may be adjusted for vertical aim using the following procedure:

1. Place the snowmobile on a level surface with the headlight approximately 25 feet (7.6m) 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 2″ (5.1 cm) below the mark placed on the wall in step 2.

NOTE: Rider weight must be included on the seat.

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



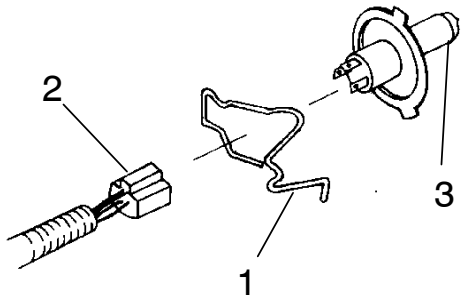


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MAINTENANCE
General Maintenance

NOTE: Do not touch a halogen bulb with bare fingers. Oil from skin leaves a residue, causing a hot spot that will shorten the life of the lamp.

Removing Halogen Bulbs



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.

Installing Halogen Bulbs

1. Hold the bulb by its metal base and install it into the wire harness.
2. Insert the bulb into the housing.
3. Carefully flip the spring back into the housing, placing it around the wire harness.
4. Squeeze the spring together until it's over the spring retainer and release.
5. Verify headlight aim.

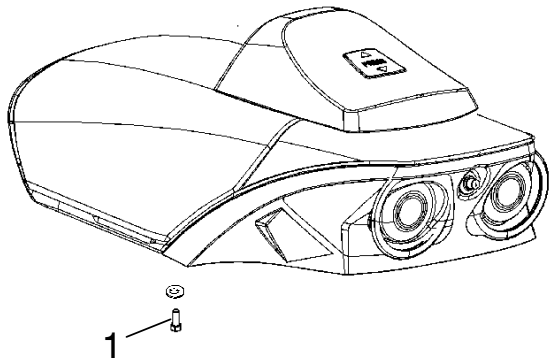
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General Maintenance

Taillight/Brakelight Replacement

To replace a bulb on most Edge models, remove the taillight lens screws and remove the lens to access the bulbs.

On models with the adjustable seat bucket:



1. Remove the two sets of fasteners (1) at the rear corners of the seat base.
2. Tilt the rear of the seat upward to access the bulbs from under the seat.
3. Twist the bulb socket slightly and pull it from the assembly.
4. Replace the bulb and reinstall the socket into the assembly.
5. Lower the seat and reinstall the fasteners.
6. Test the taillight and brakelights for proper operation.

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MAINTENANCE
General Maintenance
Clutch System

⚠ 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.

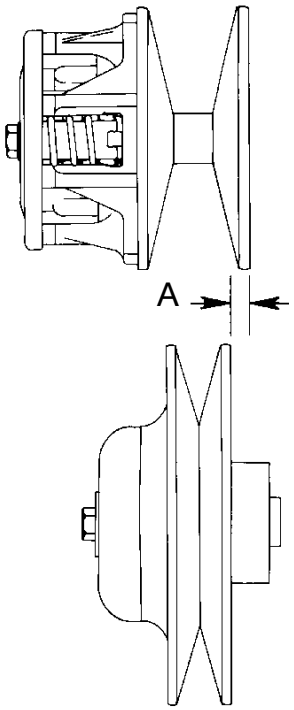
CAUTION

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.

Periodically inspect clutch sheaves for damage, wear or belt residue. To maintain optimum performance, clean with non-oil based cleaners such as isopropyl alcohol. See page 134 for part numbers of Polaris products.

Clutch Alignment and Offset

Clutch center distance and alignment (A) are crucial to maintaining optimum performance. See your Owner's Manual Supplement for the recommended offset between the drive and driven clutches with the belt removed.



The drive belt is a very important part of the drive system. 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 your dealer for service and adjustments.

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

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General Maintenance

Drive Belt Condition

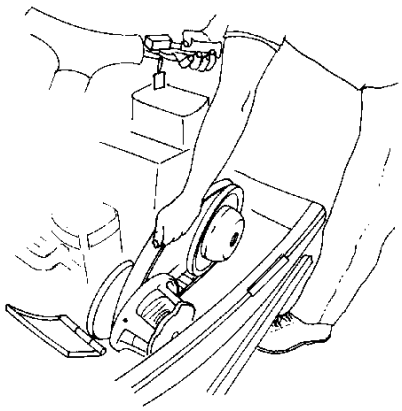
Periodically check the condition and tension of the drive belt, and always carry a spare. Inspect the belt for signs of excessive wear: frayed edges, missing cogs, cracks and excessive looseness. Replace the belt if any of these conditions exist.

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

The following procedures apply to standard, electronic reverse and TEAM driven clutches.

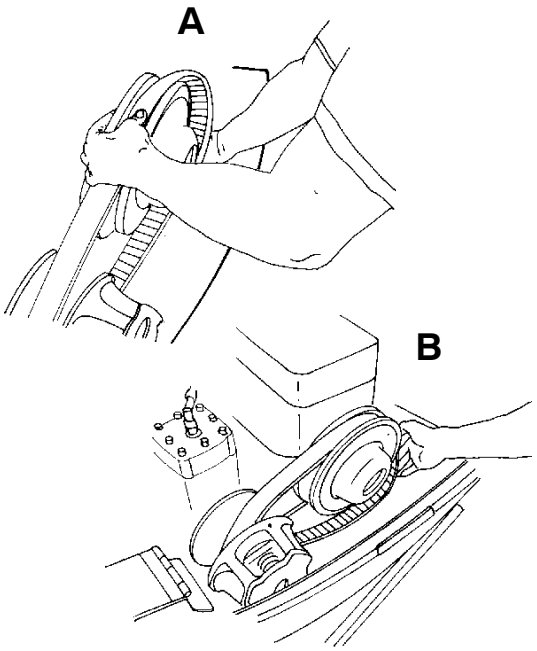
Drive Belt Removal

1. Be sure the key switch is off and the engine has come to a complete stop. Apply the brake (or lock the parking brake if equipped).
2. Open the hood, remove the clutch guard retaining pin and open the clutch guard.
3. **Standard Clutch:** Skip to step 4.
   TEAM Clutch: Locate the L-wrench in the tool kit and install it into the open threaded hole in the outer sheave of the clutch. Rotate the wrench until the sheaves open far enough to remove the belt.
4. Firmly grasp the belt midway between the clutches and pull upward and rearward to remove. See illustration.



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MAINTENANCE
General Maintenance
Drive Belt Installation



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

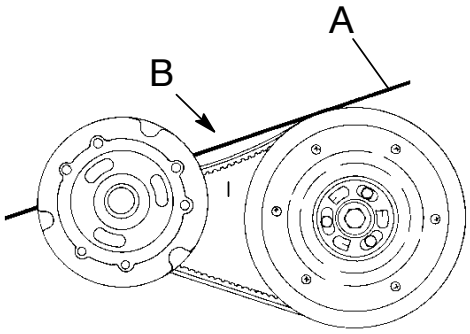
NOTE: To ensure satisfactory belt life, install belts so they operate in the same direction of rotation by positioning the identification numbers so that you can read them. If required, separate the sheaves as outlined in the belt removal procedures.

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 (B). Work the belt to the outer edge of the sheave.
4. **Standard Clutch:** Skip to step 5.
   TEAM Clutch: Rotate the L-wrench to tighten the sheaves. Remove the wrench and store in the tool kit.
5. Close the clutch guard and reinstall the retaining pin.
6. Close and secure the hood and release the parking brake.

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General Maintenance

Drive Belt Deflection



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

Place a straight edge on the belt (A) and apply downward pressure while measuring at point B. This measurement should be 1 1/4”.

Drive Belt Adjustment

Standard Clutch

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

1. Pull the belt into the driven clutch to slightly open the sheaves.
2. Loosen the three bolts on the adjustment cam and turn the cam counterclockwise to reduce the distance between the sheaves. *Do not rotate past the #1 position.*
3. Torque the bolts to 4-6 ft. lbs. (5.4-8 Nm).

TEAM Clutch

1. Loosen the 7/16” jam nut on the belt width adjuster.
2. Using a 1/8” 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.

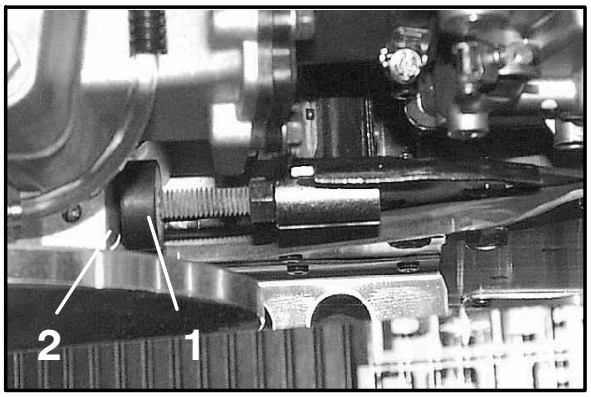
Clutch Center Distance

See your Owner’s Manual Supplement for recommended center distance for your machine. If adjustment is necessary, see your dealer. Due to tolerances in belt length, it may be necessary for your dealer to make minor adjustments in the driven clutch to achieve correct belt tension.

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MAINTENANCE
General Maintenance
Torque Stop

If your snowmobile is equipped with an engine torque stop (1), periodically check torque stop clearance. With clutches in proper alignment, the torque stop clearance should be a minimum of .010″ to a maximum of .030″ from the engine case (2). Adjust if necessary, and lock the jam nut.



Reverse Kit Maintenance

If your snowmobile is equipped with reverse, or if you have a reverse kit installed, it's especially important to maintain track tension as specified on page 120.

⚠ 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.

Allow the engine to reach idle speed before attempting to shift into or out of reverse.

CAUTION

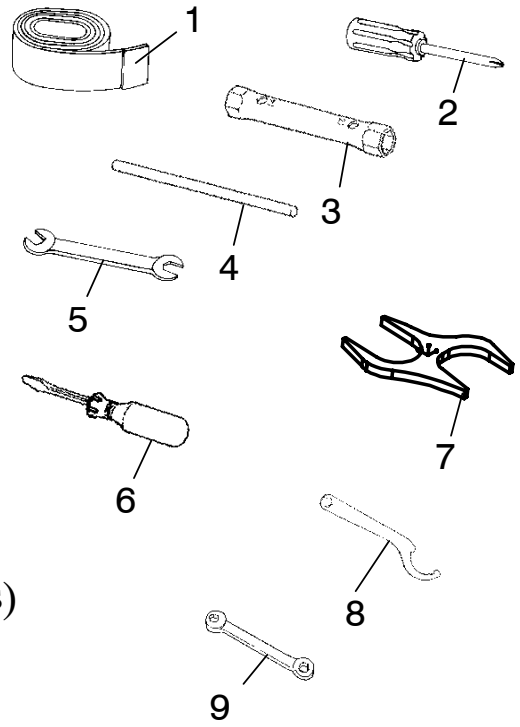
Damage will occur to chaincase or transmission if shifting is attempted before the machine has come to a complete stop. Make sure the snowmobile has completely stopped and the engine has returned to idle speed before shifting gears.

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General Maintenance

Tool Kit

A tool kit is included with each machine for emergency and routine maintenance. Your tool kit will contain only the tools applicable to your model.



1. Emergency Start Strap (manual start models)
2. Phillips Screwdriver
3. Tubular Socket
4. Tubular Socket Handle
5. Wrench
6. Flat Screwdriver
7. Scissor Stop Wrench (Edge Models)
8. Adjuster Wrench (M-10 Models)
9. Box End Wrench

Always keep the tool kit with the snowmobile.

If necessary, a replacement tool kit may be purchased from your Polaris dealer.

Chain Tension

Maintain the proper chain tension as outlined on page 104.

Oil Level

Maintain the oil level between the safe marks as indicated on the oil bottle (see page 72).

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MAINTENANCE
General Maintenance
Fall Tune-Up

For maximum performance, arrange for a fall service tune-up with your Polaris dealer. His experienced and trained service technician will keep your machine in peak operating condition.

Maintenance Items

The tools and maintenance items mentioned in this book, as well as a long line of other Polaris accessories, are available at your Polaris dealer.

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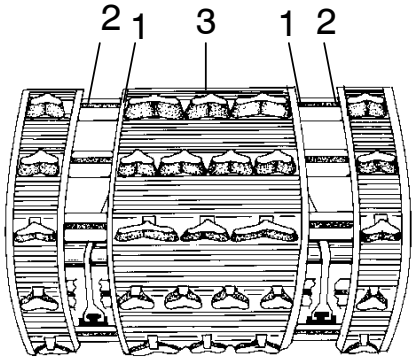
Track Maintenance

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.

Using a hoist, safely lift and support the rear of the snowmobile off the ground. Rotate the track by hand to check for possible damage.



Carefully examine the track along the entire length of each rod, bending the track and inspecting for breakage. The three most common damage areas are shown in the illustration.

Replace the track if any rod damage is found.

Track Lubrication

⚠ WARNING

Operating with insufficient lubrication between the Hi-fax 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 Hi-fax can cause faster heat build-up in limited lubrication, resulting in excessive wear.

NOTE: If excessive Hi-fax 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 Maintenance

⚠ 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.

1. Turn the machine 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 specified distance (see chart on page 121) ahead of the center of the rear idler wheel.

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

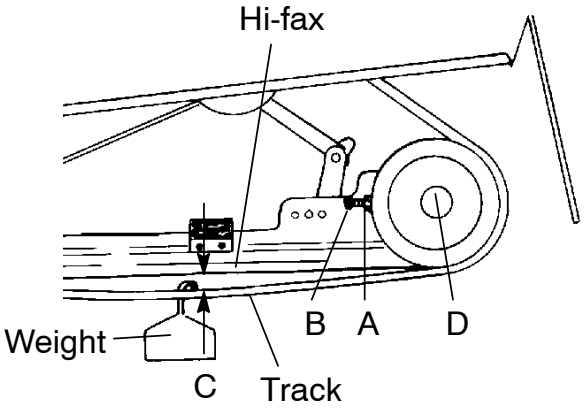
4. Check for specified slack between the wear surface of the track clip and the plastic Hi-fax (C).

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Track Maintenance

Track Tension

If the track needs adjustment:



5. Loosen the rear idler shaft bolt (D).
6. Loosen the locknuts (A).
7. Tighten or loosen the track adjusting screws (B) 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 the machine is new.

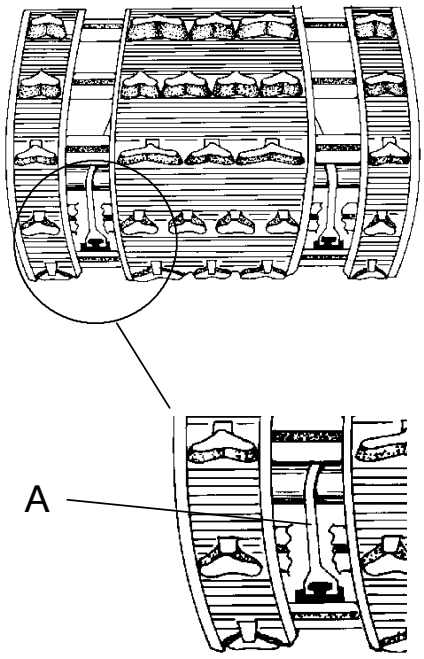
9. Start the machine and slowly rotate the track at least five revolutions. Let the track come to a stop (do not apply brakes).
10. Check track alignment (see page 122) and adjust as necessary.
11. Tighten the locknuts (A).
12. Tighten the idler shaft bolts (D) and torque to 35 ft. lbs. (47.5 Nm).

Track Tension Data

Suspension	Weight	Measurement Location	Measurement
Edge	10 lbs. (4.54 kg)	16″ ahead of rear idler shaft	3/8 - 1/2″ (1 - 1.3 cm)
M-10	10 lbs. (4.54 kg)	16″ ahead of rear idler shaft	7/8″ - 1 1/8″ (2.2 - 2.9 cm)
M-10 ACE	10 lbs. (4.54 kg)	16″ ahead of rear idler shaft	7/8″ - 1 1/8″ (2.2 - 2.9 cm)

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MAINTENANCE
Track Maintenance
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.

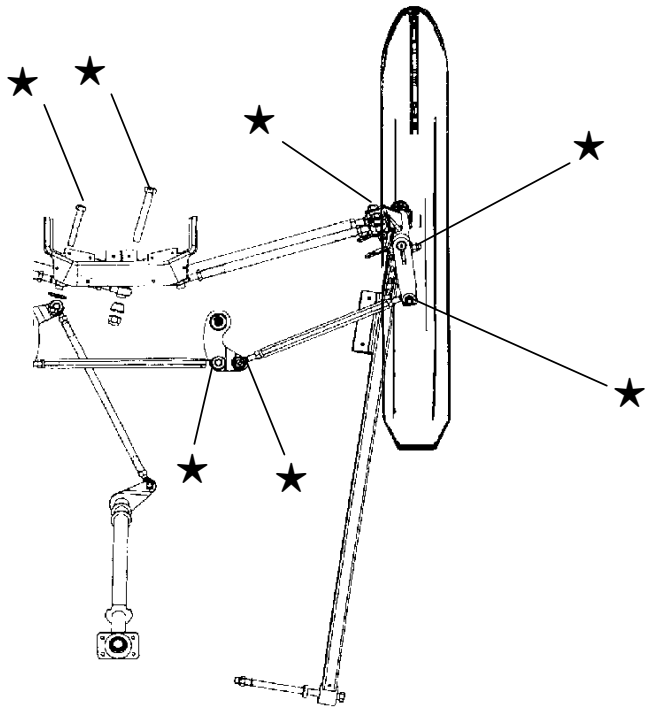
1. Safely support the rear of the machine with the track off the ground.
2. Start the engine and apply a small amount of throttle until the track turns *slowly* at least five complete revolutions. Stop the engine and let the track come to a stop (do not apply brakes).
3. Inspect track alignment by looking through the track window to make sure the rails (A) are evenly spaced on each side. If the track runs to the left, loosen left locknut and tighten the left adjusting bolt. If the track runs to the right, loosen 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 and Adjustment

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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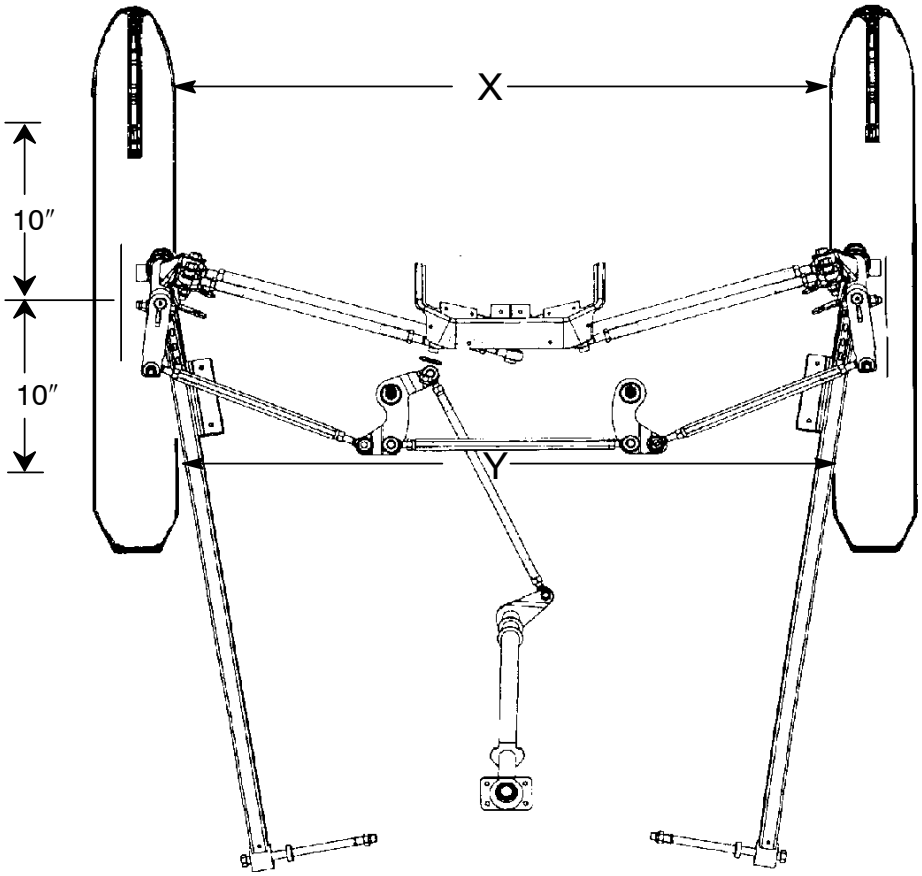
MAINTENANCE
Steering System
Ski Alignment

⚠ 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″ to 1/4″ greater than the measurement 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.

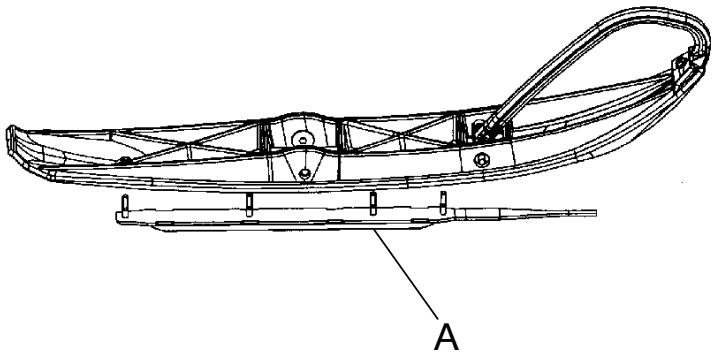
Check skags before each use of the snowmobile to ensure positive steering characteristics. Skags must be replaced when worn to half their original diameter.

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 nuts and pry the skag (A) downward.
3. Remove the forward portion of the skag.

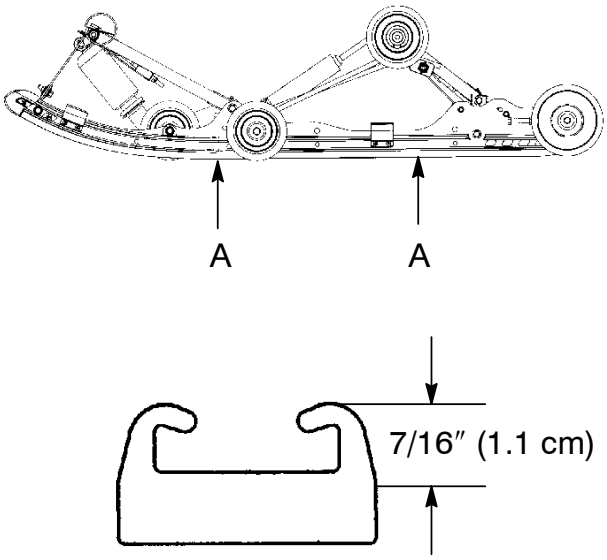
Reverse this procedure for new skag installation.



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MAINTENANCE
Suspension Maintenance
Hi-Fax Wear

Check Hi-fax wear by measuring the thickness at several points along the rail (A). Replace Hi-fax when a thickness of 7/16″ (1.1 cm) is reached. Take the machine to your dealer for Hi-fax replacement.



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Suspension Maintenance

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 121 for torque specs.
- Check rear idler adjusting bolt locknuts for tightness.
- Check front torque arm limiter strap condition.
- Check slide rail, Hi-fax condition greatly affects performance. Have your dealer replace when worn to minimum thickness.
- Check track tension (beginning on page 121).
- Lubricate/grease all suspension components (see page 87).
- Check ski runner/skag condition.
- Check ski spindle bolts for tightness.
- Check tie rod end nuts for tightness.

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.

Controls and Linkage

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

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MAINTENANCE
Extended Storage
Bearings

Grease the jackshaft and drive shaft clutch side bearings with Polaris Premium All-Season Grease or a similar high quality grease to prevent corrosion. See page 134 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 134 for part numbers. Do not lubricate clutch components, except the driven clutch shaft bushing as outlined in the Master Repair Manual. See your dealer.

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 134.

Always add Premium Carbon Clean or a fuel conditioner/stabilizer to the fuel tank. See page 134 for the part numbers of Polaris products. 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 97). Catch fuel in a container or shop cloth. Reinstall plugs securely. Observe all fire safety rules when draining carburetors. See gasoline warnings on page 69.

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 3-5 on remaining cylinders.
7. Replace the spark plugs and lower the machine to the floor.

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 134 for the part numbers of Polaris products.

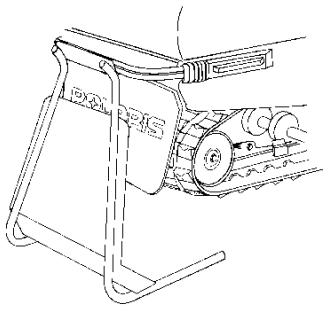
Replace worn or frayed electrical wire and connectors. Be sure wiring harness is properly secured away from sharp edges, steering linkage, moving parts, and hot exhaust parts.

Battery

Always prepare and maintain the battery as outlined on page 131.

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MAINTENANCE
Extended Storage
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. See illustration.

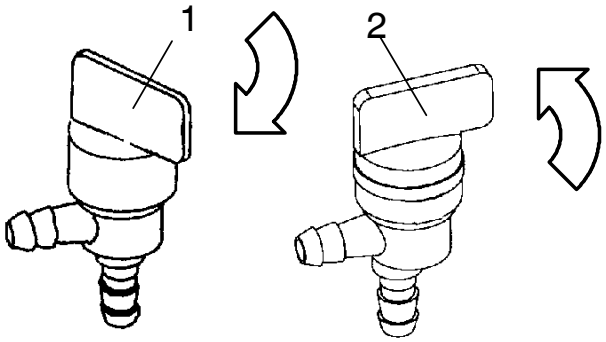
Transporting the Snowmobile

Whenever the snowmobile is transported:

1. Turn the fuel valve clockwise to *OFF* to shut off the fuel supply (1). Turn the valve counter-clockwise to *ON* to turn the fuel supply on (2).

NOTE: The fuel valve is located under the hood of your machine.

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.



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Battery

Battery Fluid

⚠ 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.

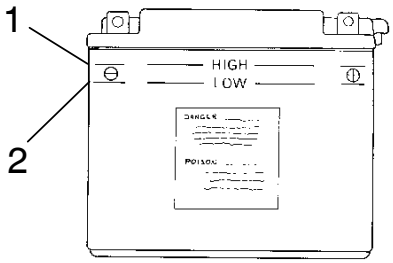
EXTERNAL: Flush with water.

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.

A poorly maintained battery will deteriorate rapidly. Check the battery fluid level often. The fluid level should be kept between the upper (1) and lower (2) level marks.



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MAINTENANCE

Battery

Battery Connections

Keep battery terminals and connections free of corrosion. When cleaning is necessary, remove the corrosion with a stiff wire brush. Wash terminals and connections with a solution of one tablespoon baking soda and one cup water. Rinse well with tap water and dry with clean shop towels. Coat the terminals with dielectric grease or petroleum jelly.

CAUTION

Tap water contains minerals that will damage a battery and shorten its life. Use only distilled water to refill your battery. Never allow cleaning solution or tap water to enter the 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 battery hold down straps.
2. Remove battery vent tube from battery.
3. Disconnect black (negative) battery cable first.
4. Disconnect red (positive) battery cable second.
5. Carefully lift the battery out of the snowmobile. Do not tip it sideways or spill electrolyte.

⚠ CAUTION

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

⚠ WARNING

Batteries contain gases that can explode. If the battery vent tube is pinched or kinked, battery gases could accumulate. Whenever removing or installing the battery, disconnect the negative (black) cable first and reinstall the negative cable last to avoid the possibility of explosion.

Battery electrolyte contains acid. Avoid skin contact with electrolyte as severe burns may result.

1. Place the battery in its holder. Attach the hold down strap.
2. Install the battery vent line. It must be free from obstructions and securely installed. Route the vent line properly to prevent kinks and to allow for proper drainage.
3. Connect and tighten the red (positive) cable first.
4. Connect and tighten the black (negative) cable last.
5. Verify that cables and vent hose are properly routed.

Battery Storage

When your snowmobile is placed in storage for one month or more:

- Remove the battery.
- Charge it to the proper level.
- Store it in a cool dry place.
- Check and/or charge monthly.

Before using the battery, take it to your dealer for testing and recharging.

Batteries may freeze if not fully charged, resulting in cell damage.

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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POLARIS PRODUCTS

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™)
	Coolant
2871323	Anitfreeze, 60/40 Premix (gal.)
2871534	Anitfreeze, 60/40 Premix (qt.)
	Additives / Miscellaneous
2871326	Carbon Clean Plus (12 oz.)
2870652	Fuel Stabilizer (16 oz.)
2870990	DOT3 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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Engine Troubleshooting

CAUTION: 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 Hi-fax 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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TROUBLESHOOTING
Engine Troubleshooting

Problem	Probable Cause	Solution
Noise in drive system	Broken drive clutch components	-SEE YOUR DEALER.
	Bearing failure/ chaincase, 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 crank-case for emergency draining.

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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 choke)	-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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TROUBLESHOOTING
Edge Suspension Troubleshooting

Problem	Solution (perform only one change at a time)
Rear suspension bottoms too easily	-Increase torsion spring preload -Increase rear shock compression damping by turning screw clockwise -Increase torsion spring wire diameter (see your dealer)
Rides too stiff in rear	-Check for binding suspension shafts and grease all pivot points -Decrease torsion spring preload adjustments -Decrease rear shock compression valving by turning screw counterclockwise (if equipped with optional Indy Select shock) -Change to lighter valving if (if equipped with Fox™ shocks) -Check for proper track tension
Machine darts from side to side	-Make sure skis are aligned properly -Make sure spindles and all steering components are free turning -Make sure skags are straight on skis -Check Hi-fax and replace if worn -Reduce ski pressure: •Reduce IFS spring preload •Reduce rear torsion spring preload
Front end pushes	-Check for worn skags -Check for binding suspension shafts and grease all pivot points -Increase IFS spring preload by adjusting cam or threaded adjuster -Decrease front limiter strap length
Steering is heavy	-Check ski alignment -Check skags and skis for damage -Reduce ski pressure: •Increase front track spring preload •Reduce IFS spring preload by adjusting cam •Reduce rear torsion spring preload
Setting up for deep snow operation	-Change worn Hi-fax -Move front track shock assembly to upper position

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M-10 Suspension Troubleshooting

Problem	Solution (perform only one change at a time)
Rear suspension bottoms too easily	- Increase FRA position (see setup decal under hood for initial position - Increase X-over tube length (see setup decal under hood) - Increase rear track shock coil spring preload - Increase front track shock coil spring preload - Change to optional stiff rear track shock compression spring (see your dealer) - Revalve rear track shock compression damping (see your dealer) - Check track tension
Rides too stiff in rear	- Decrease FRA position (see setup decal under hood) - Decrease rear track shock coil spring preload - Change to optional soft rear track shock compression spring (see your dealer) - Revalve rear track shock compression damping (see your dealer) - Check track tension
Machine darts from side to side	- Make sure skis are aligned properly - Make sure spindles and all steering components turn freely - Make sure skags are straight on skis - Increase IFS preload - Ensure use of Accu-Trak™ dual skags
Front end pushes	- Check for worn skags - Check for binding suspension shafts and grease all pivot points - Increase front IFS preload - Shorten front limiter strap
Steering is heavy	- Check ski alignment - Check skags and skis for damage - Decrease IFS preload - Make sure spindles and all steering components turn freely

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TROUBLESHOOTING
M-10 ACE Suspension Troubleshooting

Problem	Solution (perform only one change at a time)
Rear suspension bottoms too easily	- Increase M-10 ACE position (see setup decal under hood for initial position) - Increase rear track shock coil spring preload - Revalve rear track shock compression damping (see your dealer) - Check track tension
Rides too stiff in rear	- Decrease M-10 ACE position (see setup decal under hood) - Decrease rear track shock spring preload collar spacing - Revalve rear track shock compression damping (see your dealer) - Check track tension
Machine darts from side to side	- Make sure skis are aligned properly - Make sure spindles and all steering components turn freely - Make sure skags are straight on skis - Increase IFS preload - Ensure use of Accu-Trak™ dual skags
Front end pushes	- Check for worn skags - Check for binding suspension shafts and grease all pivot points - Increase front IFS preload - Shorten front limiter strap
Steering is heavy	- Check ski alignment - Check skags and skis for damage - Decrease IFS preload - Make sure spindles and all suspension components turn freely

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Belt 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 gas tank or fuel line.
Loading machines onto trailers	Skis may gouge into trailers and prevent the drivetrain 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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WARRANTY

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: 1-763-417-8650

Canada: 1-204-925-7100

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

If 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 142).

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