



POLARIS®

TIMBERSLED®

2019
OWNER'S MANUAL
TIMBERSLED® ST 120 RAW

IMPORTANT NOTICE TO OWNERS

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

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

WARNING

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

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

WARNING

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



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



2019 Timbersled Owner's Manual

ST 120 RAW

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

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2019 Timbersled Owner's Manual

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

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

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

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 can be performed by a factory certified Master Service Dealer® (MSD) technician.

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

WELCOME

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

 **WARNING**

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

 **CAUTION**

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

CAUTION

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

NOTICE

NOTICE provides key information by clarifying instructions.

IMPORTANT

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

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INTRODUCTION

IMPORTANT NOTES FOR OWNERS AND DRIVERS

After reading this manual, store it with the snow bike for convenient reference. It should remain with the vehicle when it is sold.

Some of 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 snow bike are inspected at specific mileage intervals. This service can be performed by your authorized Timbersled dealer.

You and your dealer must complete the registration form included with your vehicle and forward it to us. This form should be completed at the dealership upon purchase, and is necessary to ensure warranty coverage.

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

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

PRESERVATION OF THE ENVIRONMENT

Timbersled 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.

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

INSTALLATION

See your local Timbersled dealer for installation instructions and accessory attachments.

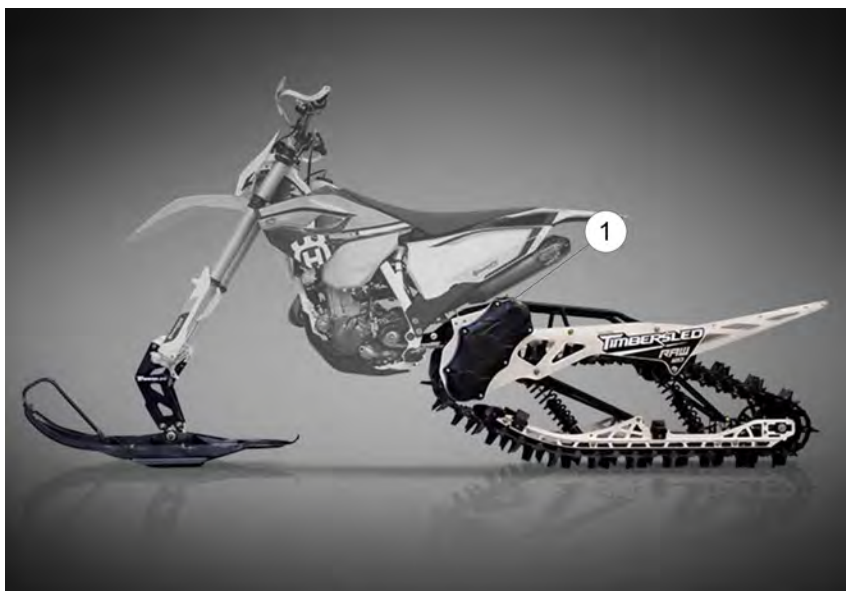
INTRODUCTION

VEHICLE IDENTIFICATION NUMBERS

Record your Timbersled's serial number in the spaces provided.

NOTICE

If installing an aftermarket tunnel wrap, do not cover the tunnel serial number with the wrap. If the tunnel wrap doesn't provide an opening for the label, remove the section of wrap where the label is located.



① Serial Number

SERIAL NUMBER:	
----------------	--

SAFETY

OPERATOR SAFETY

Follow the recommended maintenance program on page 39 to ensure that all critical components on the snow bike are thoroughly inspected at specific intervals outlined in the Periodic Maintenance Chart. Your dealer can perform this service.

WARNING

Driving a snow bike requires your full attention. **DO NOT** drink alcohol or use drugs or medications before or while driving or riding as a passenger. They will reduce your alertness and slow your reaction time.

Snow bikes are capable of traveling at high speeds. Use extra caution to ensure operator safety. Make sure your snow bike is in excellent operating condition at all times. Always check major and vital safety components before every ride.

All Timbersled snow bikes 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 snow bike 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.

HOST BIKE

The Timbersled Snow Bike system is designed to be attached to a variety of host bikes. Read and understand your host bike's operation manual and follow all safety and maintenance information. Failure to do so could result in serious injury or death.

STAY CLEAR OF TRACK

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

WARNING

Serious injuries may result if hands, feet, or clothing become entangled in the track. Be alert when riding, and remain properly seated to stay clear of the track. Never hold the snow bike up or stand behind it while warming up the track. A loose track or flying debris could cause serious injury or death. We recommend having your dealer perform all track service and alignment procedures.

SAFETY

RIDING POSITION

Operating a Timbersled requires skill and balance for proper control. Rider positions may vary with experience and the features available on some models, but under many conditions the proper position is to be seated with both hands on the handlebar grips for proper throttle, brake, and steering control. See your host bike's owners manual for proper riding position.

WARNING

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

RIDER CAPACITY

This Timbersled is designed for a single rider only. Never carry a passenger on this vehicle.

RIDING APPAREL

HELMET

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

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

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

EYE PROTECTION

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

CLOTHING

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

WARNING

Avoid wearing loose clothing or long scarves, which can become entangled in moving parts and cause serious injury. Always wear an approved helmet and eye protection.

SURVIVAL PREPARATION

For your safety, always ride in a group. 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.

Always carry the owner's manual on your snow bike. For added protection, purchase and carry the following items on your snow bike as well:

- Extra Set of Spark Plugs
- Spare Drive Chain
- Tow Rope
- Spare Chain Case Chain (if equipped)
- Extra Oil
- Trail Map
- Fuel Deicer
- First Aid Kit
- Winter Survival Kit
- Tool Kit

EXCESSIVE SPEED

WARNING

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

Always observe all state and local laws governing snow bike operation and speed limits. Always be alert and pay attention to the trail ahead. If your speed is 40 MPH (64 km/h), your snow bike is traveling about 60 feet (18 m) per second. If you look back for only two seconds, your snow bike will travel about 120 feet (36 m). If your speed is 60 MPH (96 km/h), your snow bike will travel about 180 feet (55 m) in two seconds.

Traveling at night requires extra caution. If your host bike is equipped with a headlight, check headlight and taillight to ensure proper operation, and don't over-drive your headlight beam. Always be able to bring your snow bike to a stop in the distance illuminated by the headlight.

SAFETY

DRIVER AWARENESS

Slow down when traveling near poles, posts, or other obstacles. Be especially alert if you're snow biking 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 snow bike 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. You may drown if you break through the ice. Never travel on frozen bodies of water unless you have first verified that the ice is sufficiently thick to support the weight and moving force of the snow bike, you and your cargo, together with any other vehicles in your party. Always check with local authorities and residents to confirm ice conditions and thickness over your entire route. Operators assume all risk associated with ice conditions on frozen bodies of water.

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

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.

MOUNTAINOUS TERRAIN RIDING

Mountainous terrain operation, even for experienced riders, can present conditions and situations that could result in serious injury or death. Please review all of the information about riding in mountainous terrain on the following pages of this manual.

WARNING

An avalanche can occur at any time, in any conditions and on any slope.

The avalanche information provided in this manual should be considered basic information and is not intended to replace your participation in an avalanche safety training course. After reviewing the avalanche information in this manual, be sure to participate in an avalanche safety training course before riding in mountainous terrain. The training course will provide more information as well as the opportunity to practice riding and using proper search and recovery techniques.

For more information, education, training courses, and links to international resources, visit www.avalanche.org or scan the QR code with your smartphone or other device.

GET THE SAFETY GEAR

In addition to carrying a spare belt, spark plugs and tools on each snow bike, each person in your riding group should wear the recommended snow bike riding apparel and carry (on their person) the following survival items when riding in mountainous terrain:

- A digital avalanche beacon with new “fresh” alkaline batteries
- An avalanche probe
- A compact shovel and hand saw
- A backpack (preferably an avalanche air bag backpack)
- Emergency provisions, including the following items:
 - Small first aid kit
 - Extra pair of gloves
 - Extra dry socks
 - Tow rope, map, compass/GPS
 - Lighter or waterproof matches
 - Signal mirror and whistle
 - Bottled water
 - High calorie snack food
 - Compact emergency blanket
 - Cell phone
 - Radio

GET TO KNOW YOUR SAFETY GEAR

Following the safety gear and apparel recommendations will increase your chances of survival if you encounter an avalanche or become stranded in the backcountry, but even experienced and properly-equipped snow bikers, hikers and skiers perish in avalanches or succumb to hypothermia. Using a beacon or probe for the first time during an avalanche recovery operation, or not knowing how to deploy your avalanche air bag backpack during a slide, should be considered UNACCEPTABLE to you and all members of your riding group. It's critical that you *and all members of your riding group* know how to use the safety gear.

While you may know how to use your gear, you may have to rely on your riding group to find you in an avalanche. Make sure they know how to use their gear.

- Dress in layers. Multiple layers of clothing provide the best barrier to cold and wind. Layers can be removed, but if you start out without enough layers, they cannot be added later. Avoid cotton materials, which will freeze if they get wet.
- Wear highly visible gear.
- Try on all gear and equipment to make sure it fits and doesn't interfere with your riding capabilities. Place all survival aids in your backpack and wear the backpack at all times. Non-essential items can be stored on the snow bike in an accessory bag.
- Read and follow the manufacturer's user and maintenance instructions for all gear. If you have questions about how your gear works, contact the manufacturer for more information.
- Practice using your beacons, shovels and probes with your riding group in real-world conditions wearing all of your gear. Have someone hide an active "transmitting" beacon by throwing it (not walking it) into a snowbank and timing your group's search for it.
- Test deploying your gear. If you own an avalanche air bag backpack, check with the manufacturer's test deployment guidelines and bottle weight replacement specifications. Most air bag backpack manufacturers recommend testing the pack once a year so you know it works and feel comfortable with the bag and deployment time.
- Make sure your probe and shovel are in good condition and that you know how to assemble them.

GET THE PICTURE

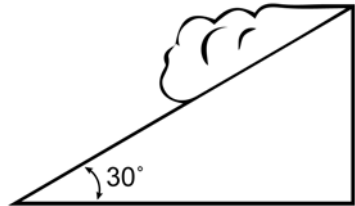
Slopes steeper than 30° are more prone to avalanches, but any slope should be considered avalanche terrain, even small slopes with trees. Low-angle slopes are also avalanche terrain if they have steeper slopes above them.

NOTE

The 30° slope graphic is for illustration purposes only. The risk of an avalanche is always present in mountainous terrain, regardless of slope angle.

Always look for the following warning signs of unstable snow. If you see or hear any of these signs, riding on or below any slope is dangerous and should be avoided:

- Recent avalanches
- A “whumpfing” sound under a snowpack
- Cracks across the top of a snowpack
- A recent heavy snowfall
- Blowing snow
- Rain
- Rapid warming



GET OUT OF HARM'S WAY

- Before riding, always tell a responsible person (i.e. at the lodge or gas station) where your group is going.
- Never ride alone. Always ride in a small, manageable group. Riding in a large group makes it more difficult to track riders or find missing members.
- Go “one at a time”. Only one snow bike at a time should cross, ascend or highmark a slope. Other riders should watch from a safe location until the previous rider exits the slope.
- Never park at the base of a slope or at the bottom of a gully or valley. When parking to take a break or watch other riders, park at the sides of the slope with the front of your snow bike pointed away from the slope.

SAFETY

GET TO KNOW YOUR MOUNTAIN SNOW BIKE

The following information pertains to a deep snow/mountain snow bike. This type of snow bike is longer and narrower and has a higher center of gravity when compared to a typical trail snow bike. These features make riding the backcountry a safer and more enjoyable experience.

The mountain snow bike is slower, has a larger turning radius and will overturn more easily than a trail snow bike. The skis are designed to float and provide more lift than trail skis. The track features paddles that pack and shovel snow rather than dig in and grip the snowpack.

Because Timbersled mountain snow bikes feature tall track paddles, the rear suspension rails and sliders will sit above the snowpack on a groomed trail. *Always deploy the scratchers and limit high speed operation when trail riding.*

Always practice riding your mountain snow bike in a safe, open, flat area before attempting your first ride in mountainous terrain. This is especially important for low-elevation riders who are not accustomed to riding a snow bike designed for deep snow.

Do not ride in mountainous terrain until you are comfortable riding and controlling your snow bike in deep snow.

- Practice turning, leaning and braking, both on the trail and off the trail. When you're comfortable with these maneuvers, practice more advanced maneuvers in deep flat snow.
- Learn techniques from more experienced riders.
- Practice placing your feet in different locations on the floorboards to learn where your balance point is while performing turns and other maneuvers.
- Practice traversing through deep snow, which is when you will often need to steer by leaning your body weight in the desired direction while turning the skis slightly in the opposite direction.
- Practice using proper throttle control to maintain vehicle momentum and adequate track speed in deep snow. Everyone gets stuck at some point in time. If you know your snow bike is becoming stuck, try to turn downhill as much as you can before the snow bike comes to a stop.

GET THE FORECAST

Make a riding plan based on the current avalanche and weather forecast. It is important to remember that overnight weather conditions may have created unsafe riding terrain that was considered safe the day before. Visit www.avalanche.org or scan the QR code. Follow the page links to locate current avalanche reports and conditions for your area of operation.



GET AVALANCHE SAFETY TRAINING

Timbersled recommends you and all members of your riding group participate in an avalanche safety course. Visit www.avalanche.org/education or scan the QR code for education and training resources.



AVALANCHE AWARENESS






Avalanches are a matter of timing. A steep slope can be safe one day, but unsafe the next day due to changing weather and wind conditions.

- Always review the user instructions provided with your safety equipment and follow the recommendations for maintenance, testing and use. Always test your safety equipment to ensure it works properly before riding in mountainous terrain.
- Always store your survival gear in your backpack and wear the backpack. Do not store your survival gear on the snowmobile.
- Always research current avalanche conditions in your area of operation before riding. Check with local law enforcement, resort or lodging personnel, gas station attendants and other riders to learn about current conditions and any advisories in the area.
- Read and understand the avalanche danger scale. Pay attention to any danger level warnings issued for your area of operation.
- Always remain alert while riding in mountainous terrain. Be aware of snowpack conditions above you as you ride. Avalanches can occur at any time regardless of current condition reports.

SAFETY

North American Public Avalanche Danger Scale

Avalanche danger is determined by the likelihood, size and distribution of avalanches.

DANGER LEVEL		TRAVEL ADVICE	LIKELIHOOD OF AVALANCHES	AVALANCHE SIZE AND DISTRIBUTION
5 Extreme		Avoid all avalanche terrain.	Natural and human-triggered avalanches certain.	Large to very large avalanches in many areas.
4 High		Very dangerous avalanche conditions. Travel in avalanche terrain <u>not</u> recommended.	Natural avalanches likely; human-triggered avalanches very likely.	Large avalanches in many areas; or very large avalanches in specific areas.
3 Considerable		Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Natural avalanches possible; human-triggered avalanches likely.	Small avalanches in many areas; or large avalanches in specific areas; or very large avalanches in isolated areas.
2 Moderate		Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern.	Natural avalanches unlikely; human-triggered avalanches possible.	Small avalanches in specific areas; or large avalanches in isolated areas.
1 Low		Generally safe avalanche conditions. Watch for unstable snow on isolated terrain features.	Natural and human-triggered avalanches unlikely.	Small avalanches in isolated areas or extreme terrain.
<p>Safe backcountry travel requires training and experience. You control your own risk by choosing where, when and how you travel.</p>				

ICE AND SNOW BUILD-UP

WARNING

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

Before driving, manually turn the ski to the left and right to be sure ice and snow are not interfering with full left and right steering. If difficulty is encountered, remove ice and snow build-up that may be obstructing the steering.

DRIVING ON SLIPPERY SURFACES

WARNING

Never attempt an abrupt change of direction when operating on slippery surfaces. Proceed slowly and use extra caution. Driving on ice or hard-packed snow reduces steering and braking control, which may result in loss of control and serious injury or death. Slow down and use extra caution when operating on slippery surfaces.

INADEQUATE SNOW CONDITIONS

NOTICE

Driving in too little snow will result in excessive wear and damage to the slide rail, track, ski, ski skags, and/or spindle.

WARNING

Inadequate cooling and lubrication will lead to overheating of the slide rail and track, causing premature wear, damage and failure, which can result in serious injury. Reduce speeds and frequently drive into fresh snow to allow adequate cooling and polishing of the slide rail and track surfaces. Avoid operating for prolonged periods on ice, hard-packed surfaces or roads.

SAFETY

OPERATING IN DEEP SNOW

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

DRIVING DOWNHILL

When riding downhill, shift your weight to the rear of the snow bike and reduce your speed to a minimum. Apply just enough throttle to keep the engine from stalling, allowing the engine's compression to help slow the snow bike 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.

DRIVING IN HILLY TERRAIN

WARNING

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

Use extra caution when operating in hilly terrain. If climbing a hill is unavoidable, keep your weight low and forward. If you must cross the face of a slope, keep your weight on the uphill side of the snow bike 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 snow bike 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 snow bike, pull the rear of the snow bike around and point the front end and skis downhill. Remount the snow bike, restart the engine, release the parking brake (if equipped), and descend the hill carefully.

COLD WEATHER DRIVE-AWAY

Whenever your snow bike has been parked for a length of time, especially overnight, always make sure the ski and track are loosened from ice and snow before attempting to drive. Apply the throttle with enough authority to put the snow bike into motion, but always operate within safety limits.

CAUTION

Reference host bike's owner's manual to insure bike is adequately prepared for cold temperature conditions.

MANEUVERABILITY

While much control and maneuverability is achieved through the steering system and ski, maximum control is achieved by the shifting of your body weight. Maneuverability will change for lighter operators.

DRIVING RESPONSIBLY

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

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

SAFETY

WINDCHILL/TEMPERATURE CHARTS

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

WINDCHILL CHART (°F)

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

WINDCHILL CHART (°C)

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

SAFETY LABELS AND LOCATIONS

Safety and warning labels have been placed on the vehicle for the operator's protection. Make sure the operator understands the information on all labels. If any label becomes illegible or comes off, contact your POLARIS dealer for a replacement. Replacement *safety* labels are provided by POLARIS at no charge. The part number is printed on the label.

The safety labels are located on the tunnel/cowling of your snow bike.

PROPER USE WARNING



WARNING

Prior to operation, read and understand Timbersled and OEM motorcycle owner's manuals and all warnings.

- ALWAYS wear a DOT approved helmet, eye protection, and protective clothing while operating this vehicle.
- Never carry a passenger.
- Before starting engine, check throttle and brake for proper operation.
- Reduce speed and use extreme caution when operating in unfamiliar terrain.
- Ensure that sprocket and track shrouds are in place and secure. Do not operate with shrouds removed.

Failure to follow these instructions could result in severe injury or death. If owners manual is missing contact Timbersled for a replacement.

TOWING WARNING

WARNING

NEVER pull or tow any person or object behind this Timbersled. Objects towed can easily collide with the rear of the track or other objects, resulting in severe injury or death.

NEVER sit on track tunnel. ALWAYS stay clear of track. Entanglement with track can cause severe injury or death.

ACCESSORY WARNING

WARNING

Suspension travel reduces distance between exhaust and tunnel.

ALWAYS position cargo and accessories to avoid contact with engine, exhaust, or moving components.

FAILURE TO COMPLY MAY RESULT IN SUSPENSION INTERFERENCE OR FIRE AND BURN HAZARD.



FEATURES

COMPONENT LOCATIONS



- ① Tunnel
- ② Track
- ③ Brake System
- ④ Drive Chain
- ⑤ Chain Case
- ⑥ Front Shock
- ⑦ Rear Shock
- ⑧ Rail
- ⑨ Track Tensioning Block
- ⑩ Ski
- ⑪ Spindle
- ⑫ Ski Skags

- ⑬ Jack Shaft
- ⑭ Chain Case Chain
- ⑮ Idler Sprocket
- ⑯ Drive Shaft



FEATURES

TOOLS

Timbersled recommends carrying a few tools to work on the snow bike kit when in the backcountry. These tools will take the entire snow bike kit apart.

- Wrenches: 7/16, 1/2, 9/16, Adjustable Wrench that adjusts up to 1"
- Hex Keys: 5/32, 7/32 & 1/4
- Torques: T27, T45
- Other Tools: Flat blade screwdriver, Pliers

CARGO STORAGE

Never hang heavy items or fuel containers from the rear of the tunnel. Cargo may be stowed only in the tunnel storage bag (if equipped).

NOTE
Exceeding the tunnel cargo weight capacity could result in tunnel and or suspension pad damage. Do not exceed tunnel weight limit.

RAIL SCRATCHERS

Timbersled recommends rail scratchers to help prevent overheating when riding on ice or hard-packed snow.

ACCESSORIES

Timbersled offers a wide range of accessories for your snow bike to help make each ride more enjoyable.

Use only Timbersled parts and accessories on your Timbersled snow bike. Use of unapproved parts and accessories may result in:

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

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

THE PERFECT FIT

SUSPENSION QUICK SET-UP GUIDE

INTRODUCTION

The front and rear suspensions on your Timbersled snow bike are easy to adjust. Just remember three simple steps:

1. Ride your snow bike.
2. Adjust the *rear track shock spring* to tune *vehicle balance* (ski pressure and weight transfer).
3. Adjust *shock clickers* (if equipped) to tune *ride quality* (stiffer or softer ride).

Step 1: Ride your Timbersled snow bike.

Ride the snow bike in various terrain to fully experience the existing suspension settings before making any adjustments.

Step 2: Adjust the rear spring to tune vehicle balance.

After riding, you should be able to determine if the snow bike needs more or less transfer.

- For more transfer, *decrease* the rear track spring preload.
- For less transfer, *increase* the rear track spring preload.

If you prefer lighter steering on your snow bike, decrease the rear track spring preload or increase the front track shock spring preload.

Step 3: Adjust shock clickers (if equipped) for ride quality.

For models equipped with monotube shocks, always adjust the rear track shock spring preload to enhance bottoming resistance.

For models with shock clickers, you can adjust the clickers to control bottoming and adjust ride comfort.

- Turn a clicker counter-clockwise to decrease damping for a softer ride.
- Turn a clicker clockwise to increase damping for a stiffer ride and less bottoming.

NOTICE

Always adjust the clicker at least one click below full stiff (full clockwise) or shock damage will occur.

Test ride the snow bike and continue making spring and clicker adjustments until you achieve the perfect ride.

THE PERFECT FIT

RYDE FX COIL OVER SHOCKS

All RAW models are equipped with Ryde FX coil over shocks specifically designed for snow bike application. The Ryde FX shocks have no spring preload, compression, or rebound adjustment. They come from the factory pre-set with the best recommended settings.

FRONT TRACK SHOCK SPRING SETTINGS

NOTE

The Ryde FX shocks that come standard with all RAW models are pre-set with the best recommended settings. FOX Zero Pro and FOX QS3 shocks are available as accessory suspension upgrades.

Factory settings, combined with user adjustments to the front track shock spring, should be all that's necessary to provide the best riding experience for most riders. *Always perform shock spring preload adjustments with the weight of the vehicle removed from the shock and with the shock at full extension.*

NOTICE

Never adjust spring preload to an installed length longer than the factory length or shorter than the minimum length as shown in the following chart. Damage to the suspension could result. When decreasing preload, make sure at least two turns of preload are holding the retainer against the spring.

FACTORY SPRING	MAXIMUM INSTALLED LENGTH	MINIMUM INSTALLED LENGTH
Ryde FX	N/A	N/A
FOX Zero Pro*	7-7/8"	7-7/16"
FOX QS3*	7-7/8"	7-7/16"

* Can be offered as accessory suspension upgrade.

REAR TRACK SHOCK SPRING SETTINGS

Always perform shock spring preload adjustments with the weight of the vehicle removed from the shock and with the shock at full extension.

If adjustments to the factory-installed springs are not sufficient for riders over 300 lbs. (136 kg), optional stiffer springs are available. Your Timbersled dealer can assist.

FACTORY SPRING	MAXIMUM INSTALLED LENGTH	MINIMUM INSTALLED LENGTH
Ryde FX	N/A	N/A
FOX Zero Pro	7-7/8"	7-9/16"
FOX QS3	7-7/8"	7-9/16"

TSS SHOCK TUNING

The TSS suspension system is intended to work in harmony with the in track rear suspension that create a dual rear suspension feel that is unique to a Timbersled snow bike. It is not intended to have a soft squishy feel like the stock motorcycle rear suspension. It is important to not try and tune it to feel this way. For maximum suspension performance follow the tuning instructions.

The TSS shock is preset from the factory with 260 psi. This is tuned best for a 150 lbs. to 200 lbs. rider. Your kit includes a 300 psi Fox Float air pump to adjust the spring rate and preload of the TSS shock. Your shock will have a sticker on it with the air pressure tuning parameters and recommendations to best fit your body weight.

Suggested TSS Pressures	
Rider Weight (lbs)	PSI
Minimum	200
Factory	260
Maximum	400

To tune the TSS shock, do the following:

1. Take the weight off the shock by lifting the bike from under the engine or tipping it on its side.
2. Remove the silver valve cap.

THE PERFECT FIT

3. Thread the pump onto the valve-stem until the pump pressures up and you will be able to see the supplied pressure on the gauge.

NOTE

When the pump pressures up the shock instantly loses 20 psi from the volume it takes to fill the pump hose. You will need to compensate for this when checking pressures.

4. When finished, unthread the pump. You will hear it release air, but will not affect the exact pressure you gave it. When tuning your TSS shock it is best to change air pressure in increments of 25 psi at a time.

NOTE

When tuning your TSS shock it is best to change air pressure in increments of 25 psi at a time. Be very careful to not get snow or water inside the valve stem; this can cause the shock to leak air.

5. For a more refined tuning method the TSS shock has an O-ring on the outer shock body. This O-ring is intended to be a gauge to show how much travel you are using. The TSS shock has a max travel distance of 1.5" to bottom out. It is recommended that the targeted amount of shock travel used is 1-1/8" of stroke. Tune in increments of 25 psi to accomplish perfect calibration.

NOTE

Once you have made an adjustment slide the O-ring back down and ride for approximately 10 minutes before rechecking your shock travel distance.

PRE-RIDE INSPECTION**PRE-RIDE CHECKLIST**

Inspect all items on the checklist for proper operation or condition before each use of the snow bike. Procedures are outlined in the referenced sections.

ITEM	SEE SECTION
Steering System	page 33
Coolant Level	See Host Bike's Owners Manual
Injection Oil Level	See Host Bike's Owners Manual
Ignition Switch	See Host Bike's Owners Manual
Headlight/Taillight/Brakelight	See Host Bike's Owners Manual
Suspension Mounting Bolts	page 27
Skags (Wear Bars)	page 49
Ski Saddle and Spindle Bolts	page 50
Track Alignment/Condition	page 48
Rail Slide Condition	page 49

PRE-RIDE INSPECTION

PRE-RIDE SUSPENSION INSPECTION

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

ITEM	SEE SECTION
Check suspension mounting bolts for tightness.	-
Check rear idler wheel bolt for tightness.	page 34
Check rear idler adjusting bolt locknuts for tightness.	-
Check rail slide condition.	page 49
Check track tension.	page 34
Check ski runner/skag condition.	page 49
Check ski spindle bolts for tightness.	-
Check tie rod end nuts for tightness.	-
Swing Arm Pivot Bolt	-

BEFORE STARTING THE ENGINE

Before starting the engine, reference your host bike's owner's manual for engine starting process and safety warnings.

WARNING

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

READ AND UNDERSTAND YOUR OWNER'S MANUAL

Read your Timbersled owner's manual, as well as your host bike's owner's manual, completely and refer to it often. The manual is your guide to safe and enjoyable experience.

STEERING SYSTEM

WARNING

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

Before driving, manually turn the ski to the left and right to be sure ice and snow are not interfering with full left and right steering. If difficulty is encountered, remove ice and snow build-up that may be obstructing the steering linkage or front ski and skags.

Ensure fork clamps, spindle and ski bolts, and front axle bolt are torqued properly.

BRAKES

Always check the following items for proper operation before starting the engine.

BRAKE LEVER TRAVEL

Squeeze the brake lever. It should move no closer to the handgrip than 1/2 inch (1.3 cm). A smaller distance indicates low brake fluid level or air in the hydraulic system. Your dealer can assist.

LEVER FEEL

If the brake lever feels "spongy" when squeezed, check the brake fluid level and condition.

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.

NOTICE

To gain 100% braking performance, Timbersled recommends performing 20–50 stop cycles of the Timbersled Brake System before first ride. Brake cycles should be performed at a slow controlled speed in a flat, open environment. Starting the snowbike and engaging it into gear, allow the track to spin 3–5 full rotations. Apply moderate pressure to the brake until the track is completely stopped and is no longer spinning. Repeat as necessary.

PRE-RIDE INSPECTION

TRACK

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

WARNING

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

CAUTION

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.

OPERATION

BREAK-IN PERIOD

SNOW BIKE SYSTEM BREAK-IN

Break-in Function	Engine Run Time	Description
Chain: Drive and Chain Case	3 hours	Lubricate
Chain (Drive and Chain Case) Deflection	3 hours	Check Tension
Brake Line Connections	3 hours	Check for leaks
Track Tension	3 hours	Check Tension
Swing Arm Bolt	3 hours	Re-Torque
Strut Rod Bolts	3 hours	Re-Torque
Front Axle	3 hours	Re-Torque
Ski Bolt	3 hours	Re-Torque

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

TRACK WARM-UP

WARNING

A loose track or flying debris could cause serious injury or death. Stand clear of the front of the snow bike and the moving track. Never hold the snow bike off the ground or stand behind it while warming up the track. Do not use excessive throttle during warm-up or when the track is free-hanging. Use a stable rear support.

WARNING

Use of traction products such as studs, ice growlers, 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 snow bike.

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 snow bike at the rear bumper. The track should be about 4 inches (10 cm) off the ground.
2. Start the engine and allow it to warm up two to three minutes.
3. Engage the throttle abruptly and allow the track to rotate several revolutions.

TIP

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 snow bike to the ground.
5. Grasp the ski by the front loop and move it from side to side to loosen snow and ice.

SLIDE RAIL AND TRACK COOLING

NOTICE

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

DEEP LUG TRACK OPERATION

Deep lug tracks are designed specifically for operation in deep snow conditions. Operation with deep lug tracks on low snow, hard-packed trails, ice, or at high speeds may cause track overheating, track lug separation, and/or rail slide damage.

Track damage attributed to track overheating and/or lug separation is not covered under the Timbersled limited warranty policy.

FUEL STORAGE

WARNING

Gasoline is highly flammable and explosive under certain conditions.

- Always exercise extreme caution whenever handling gasoline.
- Always follow the safety procedures outlined in your host bike's owner's manual.
- Always refuel outdoors or in a well-ventilated area.
- Always turn off the engine before refueling.
- 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.

FUEL RECOMMENDATION

See host bike owner's manual for fuel recommendation.

NOTICE

Operating with obstructed fuel systems will result in serious engine damage. Perform maintenance as recommended. Prolonged exposure to petroleum based products may damage paint. Always protect painted surfaces when handling fuel.

DAILY STORAGE

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

Remove the key (if applicable) and cover the vehicle.

MAINTENANCE

HOST BIKE MAINTENANCE

For host bike maintenance procedures and recommendations, refer to your host bike's owner's manual. The maintenance information found in the manual only applies to the Timbersled Snow Bike system.

TIMBERSLED RECOMMENDED MAINTENANCE PROGRAM

Always follow recommended regular maintenance and perform service checks as outlined in this manual. Record maintenance and service in the Maintenance Log.

The recommended maintenance schedule on your vehicle 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 vehicle. 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, your authorized Timbersled dealer can provide any needed service.

NOTICE

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

NOTE

Timbersled recommends changing the oil in your host bike more frequently that stated in the host bike's owners manual.

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 Timbersled parts, available from your Timbersled dealer.

I - INSPECT (CLEAN, ADJUST, TIGHTEN, LUBRICATE, REPLACE IF NECESSARY) C - CLEAN, R - REPLACE, L - LUBRICATE					
ITEM	FREQUENCY				
	150 MI. (240 KM)	500 MI. (800 KM)	1000 MI. (1600 KM)	2000 MI. (3200 KM)	PRE- SEASON
BRAKES					
Hose Routing					
Hose Condition					
Fluid Leaks					
Brake Pads					
Brake Disc					
Brake System					
Brake Fluid					
FUEL MANAGEMENT					
Air Box/Air Intake					
CHASSIS					
Suspension Mounting Bolts					
Steering Fasteners					
Rear Suspension Fasteners					
Ski Saddle/Spindle Bolts					
Drive Chain Tension					
Rear Wheel Idler Bolt					
Idler Bolt Jam Nut					
Track Alignment					

MAINTENANCE

I - INSPECT (CLEAN, ADJUST, TIGHTEN, LUBRICATE, REPLACE IF NECESSARY)
 C - CLEAN, R - REPLACE, L - LUBRICATE

ITEM	FREQUENCY				
	150 MI. (240 KM)	500 MI. (800 KM)	1000 MI. (1600 KM)	2000 MI. (3200 KM)	PRE- SEASON
Track Tension	I	I	I	I	I
Rail Slide Condition	I		I	I	I
Chain Case Chain Tension	I		I	I	I
Fork Clamp Bolts	I		I	I	I
Swing Arm Bolts	I		I	I	
Strut Rod Bolt	I		I	I	I
Front Axle Bolt	I		I	I	I

MAINTENANCE

LUBRICATION

CHAIN LUBRICATION

Lubricate the chains every 8 to 10 hours of operation. We have found that the use of Maxima Chain Wax for O-ring chains works best. It is recommended to lift the track off the ground. Start the bike and put it into first gear and let the clutch out allowing the drive system to spin. Slowly spray lube directly onto the chain rollers and O-rings, soaking the chain. This will allow good penetration into the moving chain parts.

TRACK LUBRICATION

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

WARNING

Operating with insufficient lubrication between the rail slide and track guide clips can cause track failure, loss of vehicle control and loss of braking ability, which can result in serious injury or death. Avoid operating for extended periods on ice and other surfaces that have little or no snow for lubrication.

If excessive rail slide wear occurs due to poor snow conditions, additional wheel kits are available. Your dealer can provide more information.

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

EXHAUST SYSTEM

For exhaust system inspection procedures, see your host bike's owner's manual.

CAUTION

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

SUSPENSION

SUSPENSION MAINTENANCE

The following procedures should be performed regularly to properly maintain the suspension of your snow bike.

1. Adjust the track only if it starts to skip on the drivers. This sometimes happens with new tracks after they have been run. Proper track tension should be 1/2 to 3/4" free hang from the top of track clip to the bottom of the rail slide at its lowest hanging point. Adjust equally on both sides for the track to run true.
2. Inspect the rail slide regularly for wear and replace them if they have thin spots. Rail slide wear can be prevented by making sure snow is spraying on them when riding on the trail. It is recommended to install ice scratchers on the rails if frequently riding on hard pack snow conditions. The rails are pre drilled for this. Ice Scratchers and rail slides can be purchased through Timbersled or most snow bike shops.

NOTE

Replacement rail slides are the same profile as late model Timbersled snow bikes.

BRAKES

HYDRAULIC BRAKE INSPECTION

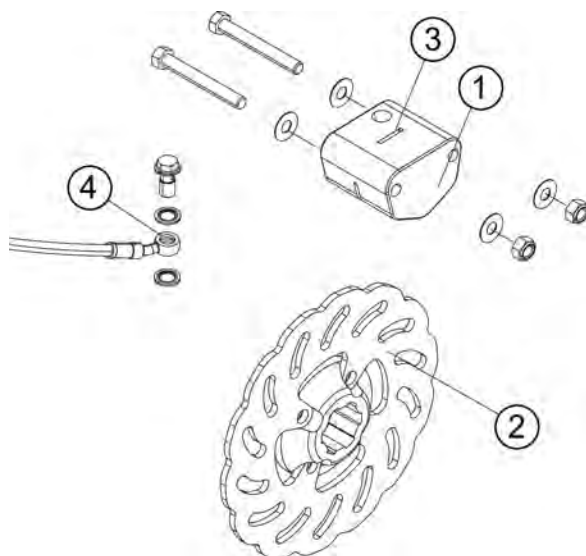
Inspect the brake lever reserve before each use of the snow bike. See page 33.

Brake pads must be replaced when the brake pad material becomes thinner than 1/16 inch (1.5 mm). A kit is available for replacing brake pads. Your Timbersled dealer can assist.

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 1/16 inch (1.5 mm).

BRAKE COMPONENTS



- ① Brake Caliper
- ② Brake Disc
- ③ Brake Pad Material
- ④ Brake Line

EXCESSIVE LEVER TRAVEL

Hydraulic brakes are self-adjusting, but if excessive brake pad clearance develops, bring the snow bike to an authorized Timbersled dealer for inspection and adjustment.

TIP

The lightweight brake discs have vent holes that may cause a high-pitched sound during operation.

BRAKE FLUID

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.

Replace brake fluid at least every two years with DOT 4 high temperature brake fluid, or an equivalent product.

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 serious injury.

WARNING

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

NOTICE

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

MAINTENANCE

BLEEDING THE HYDRAULIC BRAKE SYSTEM

Air in the hydraulic brake system will cause spongy brake lever action. If the brakes feel spongy, bleed the system before operating the snow bike.

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

WARNING

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

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

NOTE

6–8 in lbs (0.7–0.9 Nm)

DRIVE SYSTEM

DRIVE CHAIN TENSION

TFS (TIMBERSLED FIXED STRUT) MODELS

Check drive chain tension before riding. Place a ruler on the top of the chain tensioner pivot point. Measure a total of $\frac{1}{2}$ " to $\frac{5}{8}$ " up and down free play on the top side of the chain. Do this by pinching the chain with your fingers and lightly pushing and pulling up and down. If the chain needs to be adjusted, loosen the jam nut on the adjuster bolt. Adjust the bolt as needed and tighten the jam nut. Recheck again for proper adjustment.

TSS (TIMBERSLED SUSPENSION STRUT) MODELS

Always check the engine chain tension before riding. Adjust the chain so that it is taut to the touch (zero free play) at full extension of the TSS shock. If the chain needs to be adjusted, loosen the jam nut on the adjuster bolt and adjust as needed. Tighten the jam nut once completed.

IMPORTANT

The chain will become looser as the TSS suspension compresses. It is extremely important that you keep the chain adjusted properly (taut) for long chain life and reliability.

CHAIN CASE CHAIN ADJUSTMENT

It is recommended that you check the chain case chain adjustment each time the chain is lubed. Remove the fasteners that hold the chain case cover on. Place a ruler against the back side of the idler sprocket with the ruler facing back. Measure a total of $\frac{1}{2}$ " to $\frac{5}{8}$ " front to back free play on the back side of the chain. Do this by pinching the chain with your fingers and lightly pushing it front to back. If the chain needs to be adjusted, loosen the nut(s) that hold the tensioner on. Adjust as needed and tighten the nut firmly. Check once more for proper adjustment.

MAINTENANCE

TRACK INSPECTION

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

WARNING

Broken track rods can cause a rotating track to come off the snow bike, which could cause serious injury or death. Never operate with a damaged track.
Never rotate a damaged track under power.

SKI MAINTENANCE

Timbersled recommends periodically inspecting your ski for damage.

- Check the ski bolt to make sure it is tight. Torque to specification.

TORQUE

45 Nm (33 ft. lbs)

WARNING

Failure to torque fasteners as directed will adversely affect the steering system and may lead to severe injury or death.

- Inspect for cuts or peeled up plastic that will cause the ski to handle poorly.
- Inspect for bent, broken, or worn-out ski skags.
- Inspect the ski saddle for bends that may make the ski crooked.
- Inspect the ski rubber to make sure it is not smashed or worn out.

NOTE

Timbersled highly recommended that you **DO NOT** tie your bike against the front of the ski. This can permanently bend the plastic ski causing your bike to handle poorly.

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.

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

TIP

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

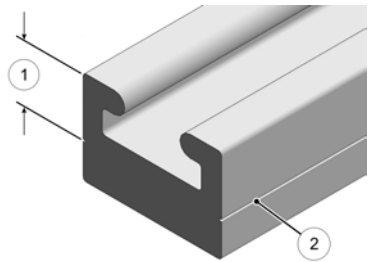
SKAG REPLACEMENT

1. Raise and support the front of the snow bike so the ski is approximately 6 inches (15.2 cm) from the ground.
2. Remove the attaching nuts and pry the skag downward.
3. Remove the front end of the skag.
4. Remove the rear end of the skag.
5. Reverse the steps to install a skag.

RAIL SLIDE WEAR

Timbersled rail slides run along the bottom of the rail to prevent track wear. The rail slide should be inspected periodically and replaced when necessary.

For ease of inspection, all Timbersled rail slides have a wear limit indicator groove ② to indicate the minimum permissible slide thickness ①. Replace the rail slides if they are worn to the top of the groove at any point along their length. Failure to do so may result in permanent damage to the track or rails.



MAINTENANCE

SPINDLE MAINTENANCE

The spindle does not require any maintenance. It is designed to bend if it comes in contact with a rock or stump during operation. Timbersled recommends thoroughly inspecting the assembly for bends or cracks before you ride.

FALL TUNE-UP

For maximum performance, your Timbersled dealer can perform a fall service tune-up. Their experienced and trained service technicians will keep your snow bike in peak operating condition.

MATTE CLEAR COAT CLEANING (IF EQUIPPED)

Matte finish products are prone to trapping dirt, oils and other contaminants. Timbersled recommends cleaning with warm water and a mild dish detergent. Use a soft sponge to gently rub the surface and rinse with clean warm water. For stubborn stains such as grease or oil, use a citrus based cleaner (3M Citrus Base Cleaner recommended). Spray onto the area to be cleaned and rub with a soft sponge. Allow to sit for a couple of minutes and wash away with clean warm water. Repeat as necessary to clean the surface.

NOTICE

Never use a polishing/buffing wax or any sponge that has an abrasive surface. These products will buff the matte surface of the finish resulting in a glossy finish. It is not recommended that you clean matte finishes with a pressure washer as this will further imbed contaminants into the clear coat and possibly damage the labels.

EXTENDED STORAGE

Off-season or extended storage of your snow bike 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 cowling, side panels, 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 snow bike should be stored in a dry garage or shed, out of direct sunlight, and covered with a fabric snow bike cover. Plastic tarp may cause condensation to form and damage snow bike components.

TRACK AND SUSPENSION

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

TRANSPORTING THE SNOW BIKE

Whenever the snow bike is transported:

1. Be sure the fuel cap and oil cap are installed correctly.
2. Tie the snow bike to the transporting unit securely using suitable straps.
3. Remove the ignition key (if equipped) to prevent loss.

NOTE

Use of a cover is recommended when transporting your vehicle on an open trailer.

SPECIFICATIONS

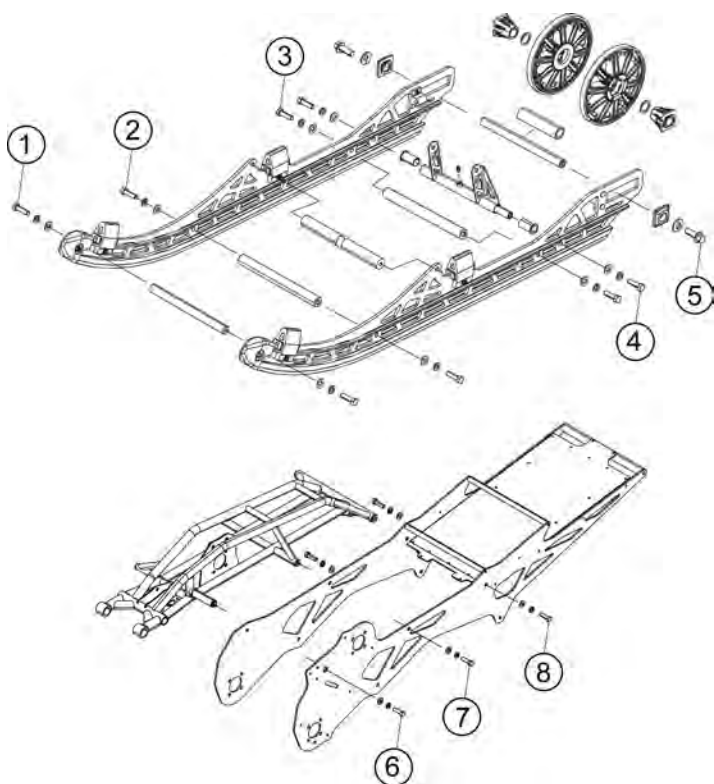
ST 120 RAW

DIMENSIONS	
Estimated Dry Weight - Front (lbs./kg.)	18.5 (8.4)
Estimated Dry Weight - Rear (lbs./kg.)	115.0 (52.2)
Overall Length - pivot to bumper (in./cm.)	63.0 (160.0)
ENGINE AND DRIVETRAIN	
Disc Brake Type	Wilwood Hydraulic Dual Piston
Drive Shaft Sprocket	17 tooth - splined
Upper Chain Case Sprocket	17 tooth - splined
Lower Chain Case Sprocket	17 tooth - splined
Drive Chain	EK520 SRX2 70 Link (master link)
Chain Case Chain	EK520 SRX2 54 Link (continuous)
Chain Slider	Standard
SUSPENSION	
Rear Suspension	Non-Pivoting Long Arm
Front Track Shock	RydeFX ®
Rear Track Shock	RydeFX ®
Rear Travel - Fixed Fit Kit (in./cm.)	12.0 (30.5)
Rear Travel - TSS Fit Kit (in./cm.)	20.0 (50.8)
Ski Type	Traverse
Skag Type	Traverse Hardened
Track Width/Length/Height	12.5 x 120 x 2.5 Convex
FEATURES	
Fuel Storage	Accessory (3.5 gal / 13.2 L)
Fuel Storage Strap	Accessory
Storage	Accessory
Install Kits	Fixed Strut/Suspension Strut

SPECIFICATIONS

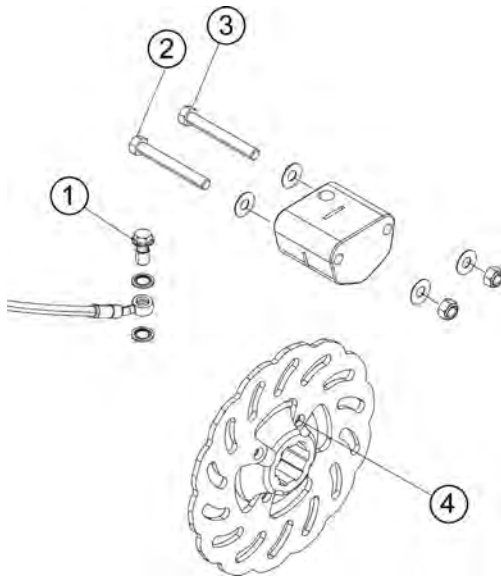
TORQUE TABLES

RAILS AND TRACK



	Torque		Torque
①	42.5 ft./lbs. with Loctite 243	⑤	42.5 ft./lbs. with Loctite 243
②	42.5 ft./lbs. with Loctite 243	⑥	35 ft./lbs. with Loctite 243
③	42.5 ft./lbs. with Loctite 243	⑦	42.5 ft./lbs. with Loctite 243
④	42.5 ft./lbs. with Loctite 243	⑧	42.5 ft./lbs. with Loctite 243

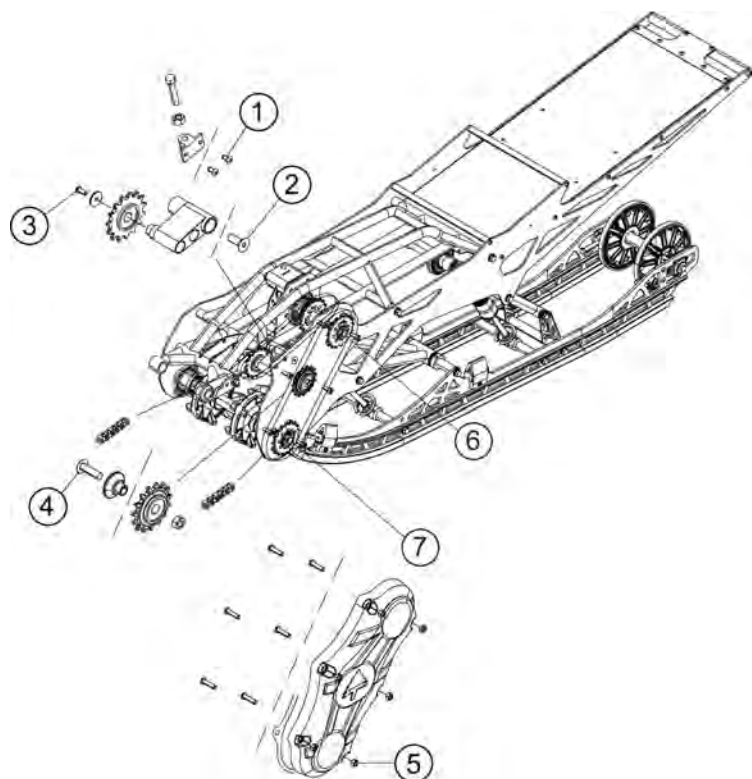
BRAKES



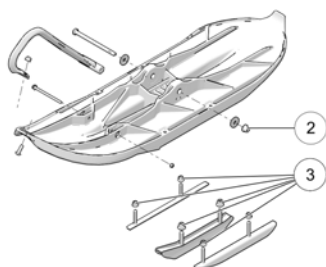
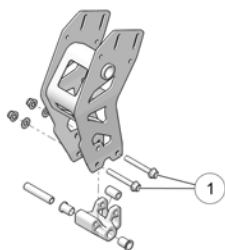
	Torque		Torque
①	20 ft/lbs	③	40 ft/lbs w/ Loctite 243
②	40 ft/lbs w/ Loctite 243	④	9 ft/lbs w/Loctite 263

SPECIFICATIONS

DRIVE CHAIN ASSEMBLY



	Torque		Torque
①	9 ft/lbs	⑤	13 ft/lbs
②	Patch lock bolt	⑥	120 ft/lbs with Loctite® 263 Red
③	Patch lock bolt	⑦	120 ft/lbs with Loctite® 263 Red
④	45 ft/lbs w/ Grease		

SPINDLE AND SKI

	Torque		Torque
①	50 Nm (Tighten from Nut Side)	②	45 Nm
		③	18 Nm

WARRANTY

TIMBERSLED CONVERSION SYSTEMS LIMITED

WARRANTY

POLARIS Sales Inc., 2100 Highway 55, Medina, MN 55340 (POLARIS) gives a 12 MONTH LIMITED WARRANTY on all components of your TIMBERSLED Conversion System against defects in material or workmanship. This warranty covers parts and dealer labor charges for repair or replacement of defective parts and begins on the date of purchase by the original retail purchaser. This warranty is transferable to another owner during the warranty period through a TIMBERSLED dealer, but any such transfer will not extend the original term of the warranty. The duration of this warranty may vary by international region based upon local laws and regulations.

See your dealer for details and separate terms and conditions for any promotional warranties.

REGISTRATION

At the time of sale, the Warranty Registration Form must be completed by your dealer and submitted to TIMBERSLED within ten days of purchase. Upon receipt of this registration, TIMBERSLED will record the registration for warranty. No verification of registration will be sent to the purchaser as the copy of the Warranty Registration Form will be your proof of warranty coverage. If you have not signed the original registration and received the customer copy, please contact your dealer immediately. **NO WARRANTY COVERAGE WILL BE ALLOWED UNLESS YOUR CONVERSION SYSTEM IS REGISTERED WITH TIMBERSLED.**

WARRANTY COVERAGE AND EXCLUSIONS: LIMITATIONS OF WARRANTIES AND REMEDIES

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

This warranty also excludes failures resulting from improper lubrication; surface imperfections caused by external stress, heat, cold or contamination; operator error or abuse; improper component alignment, tension, adjustment; improper maintenance; modified components; use of aftermarket components; 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.

WARRANTY

This warranty excludes coverage for consumable components, general wear items, or any parts exposed to friction surfaces, stresses, environmental conditions and/or contamination for which they were not designed or not intended, including but not limited to the following items:

Skis	Ski Wear Rods
Tracks	Slide Rails
Suspension Components	Finished and Unfinished Surfaces
Brake Components	Chains
Idler Wheels	Hydraulic Components

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

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

THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXCLUDED FROM THIS LIMITED WARRANTY. ALL OTHER IMPLIED WARRANTIES (INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY) ARE LIMITED IN DURATION TO THE ABOVE 12 MONTH WARRANTY PERIOD. TIMBERSLED DISCLAIMS ALL EXPRESS WARRANTIES NOT STATED IN THIS WARRANTY. SOME STATES DO NOT PERMIT THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU IF INCONSISTENT WITH CONTROLLING STATE LAW.

HOW TO OBTAIN WARRANTY SERVICE

If your Conversion System requires warranty service, you must take it to a TIMBERSLED Servicing Dealer. When requesting warranty service you must present your copy of the Warranty Registration to the dealer. (THE COST OF TRANSPORTATION TO AND FROM THE DEALER IS YOUR RESPONSIBILITY). TIMBERSLED suggests that you use your original selling

dealer; however, you may use any TIMBERSLED Servicing Dealer to perform warranty service.

In the Country where your product was purchased:

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

Outside the Country where your product was purchased:

If you are traveling temporarily outside the country where your product was purchased, you should take your product to an authorized TIMBERSLED 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 TIMBERSLED Customer Assistance and the customs department of the destination country before you move. Product importation rules vary considerably from country to country. You may be required to present documentation of your move to TIMBERSLED in order to continue your warranty coverage. You may also be required to obtain documentation from TIMBERSLED in order to register your product in your new country. You should warranty register your product at a local TIMBERSLED dealer in your new country immediately after you move to continue your warranty coverage and to ensure that you receive information and notices regarding your Conversion System.

If you purchase from a private party:

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

EXPORTED PRODUCTS

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

WARRANTY

personnel on assignment outside the country of the selling dealer's authorized location. This policy does not apply to Safety Bulletins.

NOTICE

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

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

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

For questions call TIMBERSLED Customer Assistance:

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

French: 1-800-268-6334

MAINTENANCE LOG

MAINTENANCE LOG

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

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

MAINTENANCE LOG

DATE	HOURS	TECHNICIAN	SERVICE PERFORMED / COMMENTS

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*For your nearest Polaris dealer,
call 1-800-POLARIS (765-2747)
or visit www.polaris.com*

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