

***ski-doo***<sup>®</sup>  
**Snowmobile**



***ski-doo***<sup>®</sup>



**Operator  
Manual**

PART ONE

**GENERAL  
INSTRUCTIONS**



## YOUR KEY TO WINTER

In the past sixteen years, over seven million people have discovered that winter can be both fun and enjoyable. The key of course is to do as you have done . . . participate in the exciting, invigorating sport of snowmobiling. We commend your decision, and thank you for selecting the Ski-Doo snowmobile as your partner in the many winter seasons to come.

To truly enjoy this wonderful sport, we urge you to join your local snowmobile club. You will find its activities and trail systems are planned for both fun and safety.

If your area does not have such benefits, you can find added social enjoyment by forming a new club and assisting with the

layout, construction and marking of a snowmobile trail. You will find the activities both stimulating and rewarding. And only you can make it happen.

We also suggest that you enroll in a safety/driver education program. The benefits derived are invaluable toward the safe and sane operation of any snowmobile.

We, at Bombardier Limited, fully realize the ramifications associated with the sport, and toward this end this manual is prepared. Please take the time to have every member of your family read and fully understand the content of this manual . . . Ride safe . . . and have fun!

Laurent Beaudoin,  
President - Executive Officer,  
Bombardier Limited.



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**TECHNICAL INFORMATION CENTRE  
AFTER SALES SERVICE DEPARTMENT  
BOMBARDIER LIMITED  
VALCOURT, QUEBEC, CANADA  
JOE 2L0**

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<b>Ski-Doo</b>	<b>T'NT</b>	<b>Bombardier</b>
<b>Ski-Boose</b>	<b>Elan</b>	<b>Elite</b>
<b>Nordic</b>	<b>Blizzard</b>	<b>Everest</b>
<b>Alpine</b>	<b>Carry-Boose</b>	

### PATENTS and DESIGNS

This vehicle is covered by one or more of the following patents and design registrations.

Canadian Patents: 605,317 - 710,592 - 724,395 - 853,505 - 895,749 - 897,747 - 914,457 - 916,204 - 918,200 - 921,521 - 923,523 - 923,939 - 928,746 - 932,253 - 937,264  
United States Patents: 2,899,242 - 3,066,546 - 3,536,153 - 3,637,254 - 3,666,323 - 3,673,844 - 3,693,884 - 3,693,992 - 3,704,918 - 3,707,297 - 3,732,939 - 3,742,205 - 3,756,667 - 3,774,465 - 3,770,330.

Canadian Designs: D1,217 - F,28172 - D1,249 - F/31317 and 316 - D32,479 - D32,535 - D32,655 to 657 - D32,661 to '669 - 33,982 - 33,983 - 34,006 and '007 - 35,341 to '345 - 35,366 - 36,086 - 36,493 - 36,582 - 36,868 - 36,892.

United States Design Patents: 221,332 to '334 - 221,637 and '638 - 222,244 to '247 - 222,649 - 222,858 - 222,995 - 223,604 - 223,709 - 224,005 - 224,907 and '908 - 225,105

Others: Swedish Design No. 6038-

Swiss Design No. 104,756-

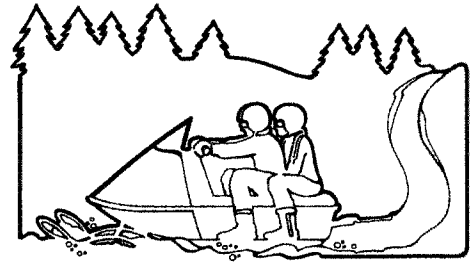
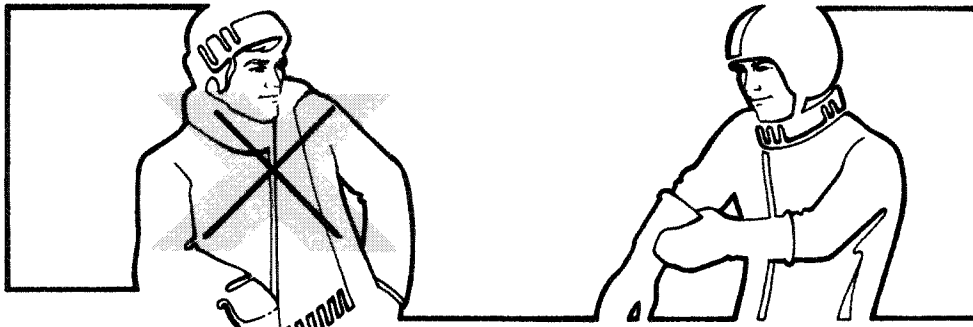
Norwegian Design No. 51,444.

Other patent and design applications pending.

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## PART TWO

### LUBRICATION AND MAINTENANCE GUIDE



## A WORD TO ALL SNOWMOBILERS

**Everybody is a Beginner** the first time he sits behind the controls of a snowmobile, regardless of previous experience in driving an automobile, a motorcycle or a motorboat!

**Driver Etiquette** and snowmobile safety go hand-in-hand. With so many snowmobiles cruising the countryside, it is vitally important, that you do your part to make snowmobiling a welcome activity in rural and suburban neighborhoods.

**Basic Training** is required for the safe operation of any snowmobile. Study your Operator Manual. Join your local snowmobile club and learn from experts. Obtain basic instructions from your snowmobile dealer, friend or fellow club member. Enroll in your state or provincial safety training program.

**Know the Laws** regarding snowmobiles. Become familiar with and respect the federal, local, state or provincial regulations governing the licensing and use of snowmobiles. Also be aware of the liability, property damage and insurance laws relating to your equipment.

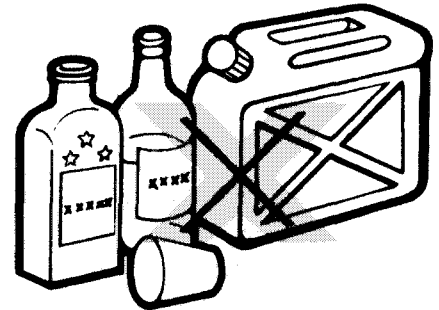
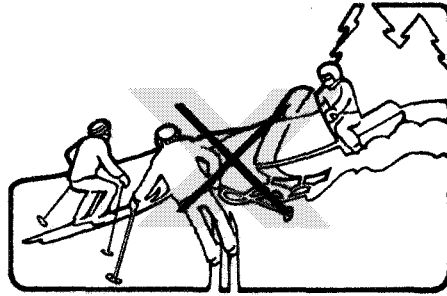
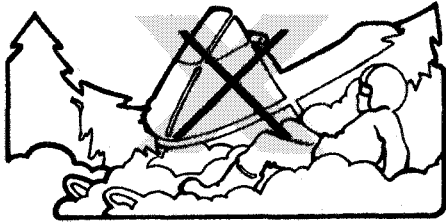
**Treat Your Snowmobile** with the respect and care due any power-driven machine. A snowmobile is not just a plaything, it is a finely engineered self-propelled vehicle. Common sense, proper handling and proper maintenance will result in safe and enjoyable use of your machine.

**Use the buddy system.** Always travel with at least one other snowmobile, especially in unfamiliar terrain or on trail rides. If you are planning to explore new areas, leave word of your approximate whereabouts and estimated time of return with

someone. Remember a snowmobile can often travel farther in 30 minutes than you can walk in a day.

**Show Proper Courtesy and Respect** for other people, their privacy and their property. Do not trespass. Obtain consent of property owners before snowmobiling on private lands. Check with officials before using public lands. Drive slowly in residential areas. Do not damage the landscape or existing facilities. Do not litter. Snowmobiling and liquor do not mix. Don't drink and drive.

**Know your Snowmobile.** Become familiar with your machine, its capabilities and its limitations. Proper maintenance of your snowmobile is important. Have it checked by your dealer on a regular basis to assure all components are kept in a good working condition. Check your machine before each ride.



## SNOWMOBILE CODE OF ETHICS

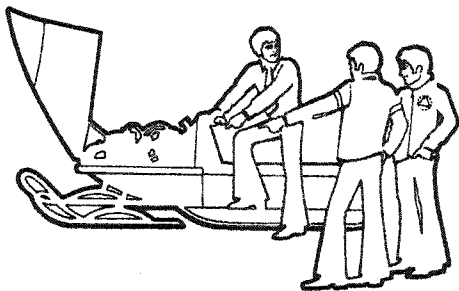
Developed by a committee comprised of representatives from the U.S. Forest Service, Bureau of Outdoor Recreation; Michigan Department of Natural Resources; Minnesota Department of Natural Resources; Department of Lands and Forests, Ontario, Canada; U.S. National Park Service; and snowmobile manufacturers.

1. I will be a good sportsman. I recognize that people judge all snowmobile owners by my actions. I will use my influence with other snowmobile owners to promote sportsmanlike conduct.  
2. I will not litter any trails or areas. I will not pollute streams or lakes.

3. I will not damage living trees, shrubs, or other natural features.  
4. I will respect other people's property and rights.  
5. I will lend a helping hand when I see someone in distress.  
6. I will make myself and my vehicle available to assist search and rescue parties.  
7. I will not interfere with or harass hikers, skiers, snowshoers, ice fishermen or other winter sportsmen. I will respect their rights to enjoy our recreation facilities.

8. I will know and obey all federal, state and local rules regulating the operation of snowmobiles in areas where I use my vehicle. I will inform public officials, as required, when using public lands.  
9. I will not harass wildlife. I will avoid areas posted for the protection or feeding of wildlife.  
10. I will use marked trails, areas, or only roads open to snowmobiles. I will not travel cross-country when prohibited.

Extracted from I.S.I.A "Snowmobile Safety Handbook". Copies of handbook can be obtained from your area dealer or distributor.



## SAFETY PRECAUTIONS

To many of us winter is a revealing experience. Weather, atmospheric conditions, snow surfaces, individual driving habits and vehicle usage have considerable affects. We ask that you familiarize yourself with them . . . read the operator manual; it has been prepared to acquaint you with the operation of your vehicle, its safety aspects and systems as well as preventative maintenance procedures that must be periodically upheld . . . all aimed toward a more enjoyable winter season.

### **Observe the following precautions:**

- Throttle mechanism should be checked for free movement before starting engine.
- Engine should be running only when pulley guard is secured in place.
- Never run engine without drive belt installed. Running an unloaded engine can prove to be dangerous.

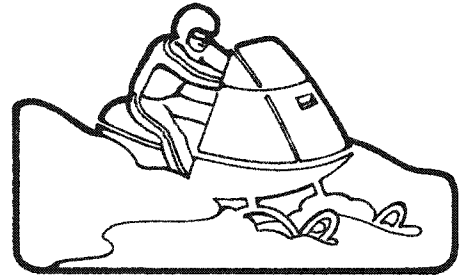
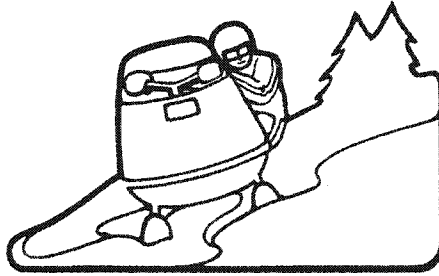
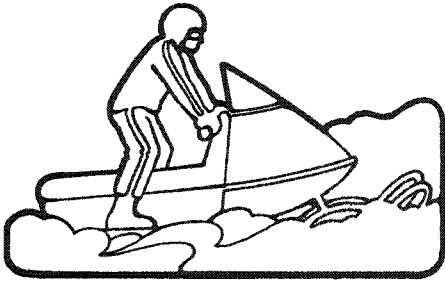
- Never run the engine at high R.P.M. when the track of the vehicle is raised off the ground.
- It can be dangerous to run engine with the cab open.
- Gasoline is flammable and explosive under certain conditions. Always perform procedures in a well ventilated area. Do not smoke or allow open flames or sparks in the vicinity. If gasoline fumes are noticed while driving, the cause should be determined and corrected without delay.
- Your snowmobile is not designed to be operated on public streets, road or highways. In most States and Provinces, it is considered an illegal operation.
- Maintain your vehicle in top mechanical condition at all times.

- Your snowmobile is not designed to be driven or operated on black top, bare earth, or other abrasive surfaces. Abnormal and excessive wear of critical parts is inevitable.

### **Slide Suspension.**

During normal driving, snow will act as a lubricant and coolant for the slider shoes. Extensive riding on ice or sanded snow, (not to mention dirt, asphalt, etc. never recommended) will create excessive heat build up and cause premature slider shoe wear.

**Please read and understand all other warnings contained elsewhere in this manual.**



## DRIVING TECHNIQUE

### Driving Positions.

There are three driving positions on a snowmobile—standing, kneeling or sitting. Each presents certain advantages depending on the nature of the terrain, snow conditions, the turns you desire or the personal preference of the driver.

**Standing**—This position is undoubtedly the best for climbing steep hills, traveling a short stretch of bumpy trail or when manoeuvring in deep snow. In this position, however, always keep your knees slightly flexed to absorb surface shocks.

### Deep Snow.

Use the standing position recommended earlier and if your vehicle continues to make reasonable headway, responding to light changes in acceleration, you are safe enough to explore new areas. If not, turn in as wide an arc as possible and look for firmer trails.

**Kneeling**—crossing a steep slope, for example from side to side, you will find the kneeling position a definite advantage. Place one foot on the footboard (on the high side of the hill), the opposite knee on the seat then lean into the hill.

**Warning: Side hills and steep slopes are not recommended for a beginner.**

An alternate recommended kneeling position and one that is frequently used, is to place both knees on the seat, with one foot on each side, loosely pressing against the seat.

**Sitting**—for all normal driving. Feet should be on the footboards, body mid-way back on the seat.

**Warning: Prolonged sitting while riding over rough terrain may cause kidney and/or spinal discomfort, specially for the driver or passenger having an existing back weakness.**

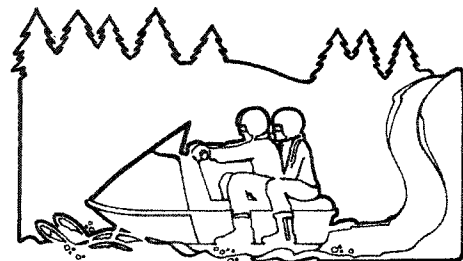
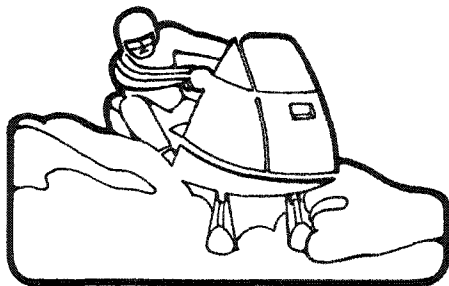
### Icy Surface.

Ice or extremely hard-packed snow can be difficult to negotiate as both skis and track do not have much traction. Best advice is to slow down and avoid rapid acceleration or braking.

### Turning.

To snowmobile properly you must learn to “body english”, (using the weight or position of your body). Shifting to left or right as the turn demands and keeping your center of gravity as low as possible will give you the mark of an experienced snowmobiler.

Moving your body weight toward the front of the vehicle, particularly in hard-packed snow, adds pressure to the skis and ski runners so that they bite more deeply into the snow surface. Avoid tail-gating.



## CLOTHING

### Passenger Carrying

Always play safe with children aboard. Go more slowly with young passengers. Exert extra care. Avoid sidehills and broken terrain. See that the child firmly grips the handles or straps and is protectively seated with feet on running boards.

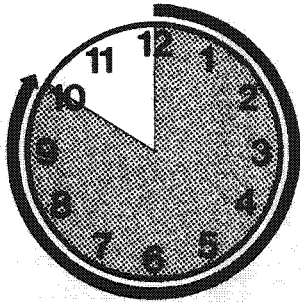
Check frequently to make sure child is still riding correctly. When carrying small children always position so they can be watched.

When carrying passengers, smooth starting and stopping are required. A fast start could result in a whiplash injury to the passenger seated behind you. You have the benefit of knowing about the start and also the additional support of your grip on the handlebars. Your passenger can only rely on your careful and safe machine operation. Use moderate speeds. Too much speed over a bump could result in a serious back injury to any unsuspecting passenger. Warn your passenger of dangers that you may encounter; branches, low hanging limbs, etc., can thus be safely avoided. Be certain passengers are warm.

To millions of enthusiasts, snowmobiling has added an entirely new dimension to winter. To truly enjoy the fun, however, there is one item as indispensable as your snowmobile — warm clothing.

Always wear an approved snowmobile helmet. Mitts, boots and suit are the next most important items. Cloth yourself according to the wind chill factor. Avoid wearing loose clothing, scarves, etc..., that could get entangled in the moving parts of your snowmobile.





## BREAK-IN PERIOD

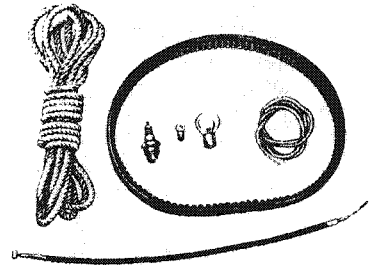
To properly protect your investment, a break-in period is required before running the vehicle at full throttle. Manufacturer's recommendation for the engine is 10 to 15 operating hours. During this period, maximum throttle should not exceed 3/4. However, brief full accelerations and speed variations contribute to a good break-in. Continued wide open throttle accelerations, prolonged "cruising" speeds and lugging are detrimental during the break-in period.

### Inspection

After the break-in period, each new snowmobile must have an inspection check. This inspection is at the expense of the vehicle owner. (See "Responsibilities", Part Two).

## IN CASE OF EMERGENCY

Emergency situations are accepted hazards with any moving vehicle. A hidden rock or stump on the trail, a burnt light bulb while driving at night, an empty fuel tank while miles from anywhere, can all cause varying degrees of inconvenience. Unlike an automobile, which has a distinct advantage in that service stations are usually within walking distance, **snowmobiles are specifically designed to travel off the highways.** When the unexpected happens, the driver often has only his own ingenuity and that of his companions to return home safely. Fortunately, 9 out of 10 difficulties encountered on the trail can be fixed on the spot. However, you must carry at least a minimum assortment of tools and spare parts to enable you to effect minor repairs.



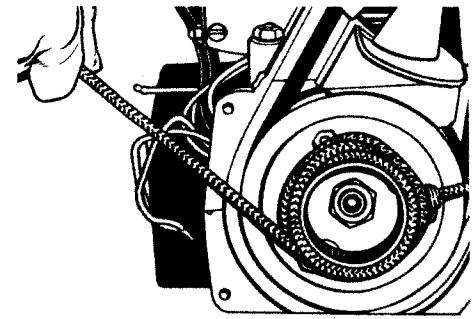
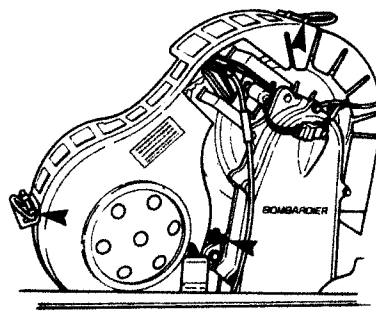
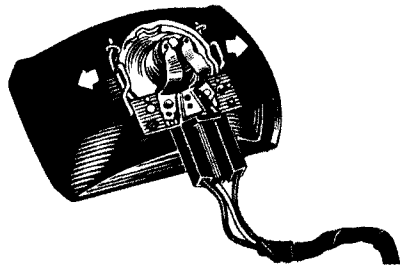
### Emergency Materials

In addition to those tools which the manufacturer provides, you should carry the following

**Tools:** General Purpose Pliers—Adjustable Wrench (3/4" opening)—Flashlight

**Spare Parts:** Spark Plug—Drive belt—Headlamp and Taillight bulbs—Throttle Cable and Housing—Starting and towing rope—Fuse (electric models).

**Important:** Always carry spare plugs and drive belt. Check condition of spark plug frequently and look for signs of a fouled or defective plug.



### **Burnt Light Bulb**

If headlamp is burnt, stop engine, unlock cab latches (2) and tilt cab. Unfasten bulb retainer clips. Detach bulb and replace. If taillight bulb is burnt, expose bulb by removing red plastic lens. To remove, unscrew the two (2) Phillips head screws.

**Note:** Immediately replace a burnt light bulb. This will prevent the other bulbs from burning out.

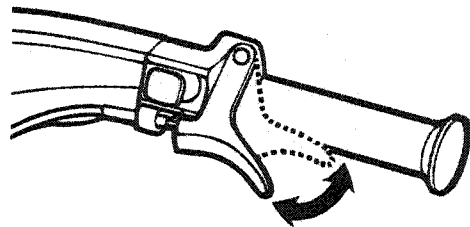
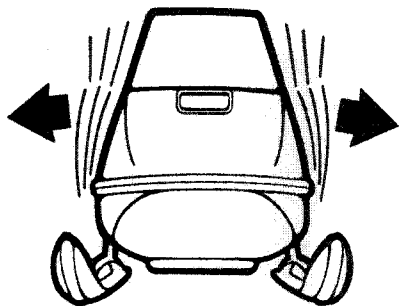
### **Pulley Guard Removal**

Detach air duct from engine and pull it out from muffler compartment wall. Unlock pulley guard from attaching points and remove from vehicle.

**Warning: Engine should be running only when pulley guard is secured in place.**

### **Broken Rewind Starter Rope**

Abuse of the rewind starter may cause the rope to fray and break. Should this situation arise, remove starter unit using wrench supplied in tool kit. Transfer rope grip to your emergency rope. Make a knot at the end of emergency starter rope and wind rope around starter pulley. Pull vigorously as per usual manual start. See your dealer for immediate repair or replacement of starter unit.



## PRE-START CHECK

### Fuel Tank Quantity

Check that there is sufficient fuel in the tank for your trip. A good habit to acquire is to refill the tank before starting out each day.

Since mixed fuel has a tendency to settle overnight, agitate the fuel in the tank by standing on the footboards and rocking the vehicle from side to side.

### Track (Daily, before first run)

Under certain climatic conditions, the track of a snowmobile left outdoors overnight may freeze to the ground or snow surface. Always make sure that the track is free before attempting to start the vehicle. (This procedure will eliminate unnecessary drive belt wear).

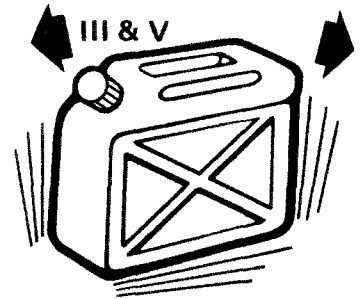
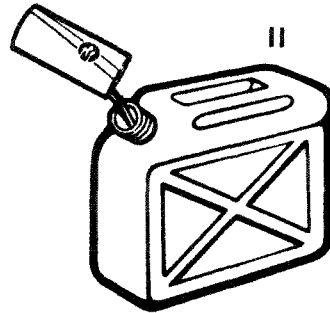
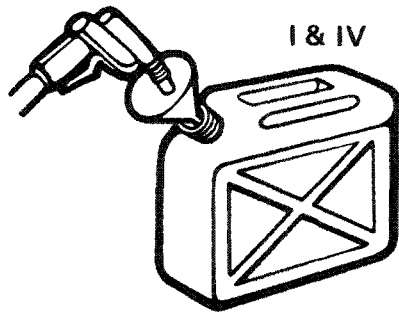
### Steering Operation

Check operation of steering mechanism by rotating the handlebar several times from side to side. If roughness or binding is felt, check for ice or snow that may be blocking the mechanism.

### Throttle and Brake

Depress and release handles several times to check that they operate easily and smoothly. The throttle handle should return to the idle position when released. The brake handle should be fully applied when it has minimum clearance from the handlebar grip (see Maintenance Brake). If the handles do not return swiftly, remove cables and/or housings and replace. Re-check handle operation.

**Warning: Throttle mechanism should be checked for free movement before starting engine. Once all components are checked and functioning properly, you can start your Ski-Doo snowmobile.**



## FUEL MIXING

### Fuel Mixing Procedure

To mix the gasoline and oil always use a separate clean container. Never mix directly in your snowmobile tank. For best results, acquire two containers, either plastic or metal. Draw from one until empty then use the second one.

**Warning: Gasoline is flammable and explosive under certain conditions. Always perform procedures in a well ventilated area. Do not smoke or allow open flames or sparks in the vicinity. If gasoline fumes are noticed while driving, the cause should be determined and corrected without delay. Never add fuel while engine is running.**

I. Pour approximately one gallon of gasoline into a clean container.

II. Add the full amount of concentrated Ski-Doo oil, or equivalent.

III. Shake the container thoroughly.

IV. Add the remainder of the gasoline.

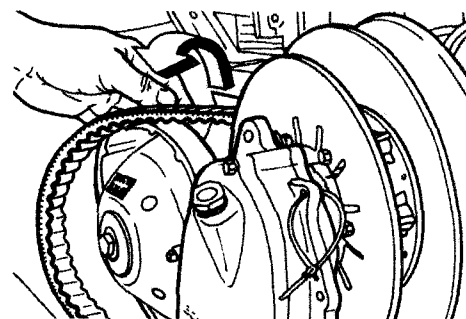
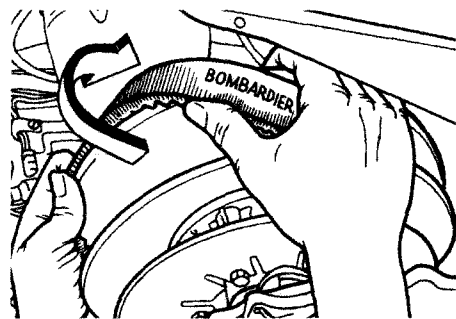
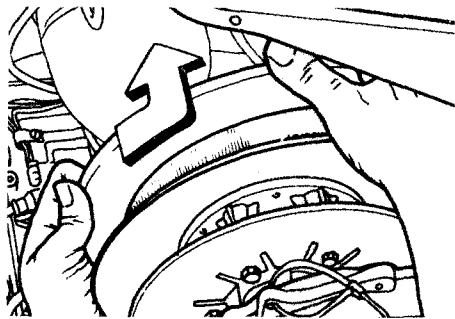
V. Once again thoroughly agitate the container. Using a funnel with a fine mesh screen to prevent the entry of water and foreign particles, transfer mixture from container into the snowmobile tank.

**Note:** When using pre-mixed fuel, always shake the container thoroughly as the oil has a tendency to settle.

**Warning: Never 'top use' gas tank before placing vehicle in a warm area. At certain temperatures, gasoline will expand and overflow. Always check for possible fuel spills or leaks, specially when leaving vehicle indoors overnight.**

### Fuel consumption

A good idea is for you to rate the fuel consumption of your snowmobile at the first opportunity. Starting with a full fuel tank, mark the time of your departure then note time elapsed until tank is half-full. Repeat on different occasions to get a mean average of your snowmobiles consumption and length of running time under varying conditions.



### **Drive Belt Removal**

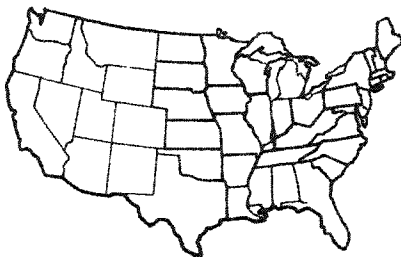
Tilt cab and remove pulley guard. Open driven pulley by twisting and pushing the sliding half. Hold in open position then slip slackened belt over top edge of pulley. Slip belt from drive pulley.

**Warning: Never start or run engine without drive belt installed.**

### **Assisting Stranded Vehicles**

It is an unwritten law of snowmobiling that you go to the aid of any snowmobile stranded in the field. Should another vehicle have to be towed: Remove the drive belt. Tie both skis to your vehicle. Taking the driver with you as a passenger, tow the vehicle back slowly. For short distances or if tow rope is unavailable, you may push both vehicle and driver. Manoeuvre until rear of vehicle to be pushed is between your skis, then proceed slowly.





## SKI-DOO PRODUCTS

BOMBARDIER LIMITED  
VALCOURT, QUEBEC, CANADA  
JOE 2LO

## SERVICE AREAS

### CANADIAN DISTRIBUTORS

<b>ALPINE DISTRIBUTORS</b> 3206 - 28th Avenue, Vernon B.C. V1T 6M2	British Columbia
<b>BOMBARDIER LIMITED EASTERN CANADA DISTRIBUTION DIVISION</b> (Atlantic Branch) P.O. Box 670 Shediac, N.B. E0A 3G0	Prince Edward Island  Magdalen Island Nova Scotia New Brunswick
<b>BOMBARDIER LIMITED EASTERN CANADA DISTRIBUTION DIVISION</b> (Quebec Branch) 1350 Nobel, Boucherville, Que. J4B 1A1	Quebec Est of Ontario
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<b>HUDSON'S BAY CO.</b> 121 Richmond West, Toronto, Ont. X0A 0A0	North-West Territories Franklin District & Keewatin
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<b>TIMBERLAND MACHINES INC.</b> 10 Main St. North, Lancaster, New Hampshire 03584	Maine New Hampshire Vermont

### BOMBARDIER CORPORATION

325 South Lake Avenue, Duluth 2, Minn 55802	North Dakota South Dakota Minnesota Wisconsin Iowa Illinois Missouri Michigan Indiana Ohio Tennessee Kentucky W. Virginia
<b>BOMBARDIER CORPORATION</b> (Western Zone) 609 West Broadway, Idaho Falls, Idaho 83401	California New Mexico Nevada Arizona Montana Kansas Idaho Nebraska Wyoming Washington Utah Oregon Colorado

*We recommend you contact your local Authorized Ski-Doo dealer when your Ski-Doo snowmobile requires service. However for further inquiries, you may contact your Regional Distributor listed above.*



Suggested Retail Price \$1.00  
For part one and two  
(First copy free with unit purchased)

Bombardier Limited. © July 1974

Arts Graphiques  
de Bombardier Ltée

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