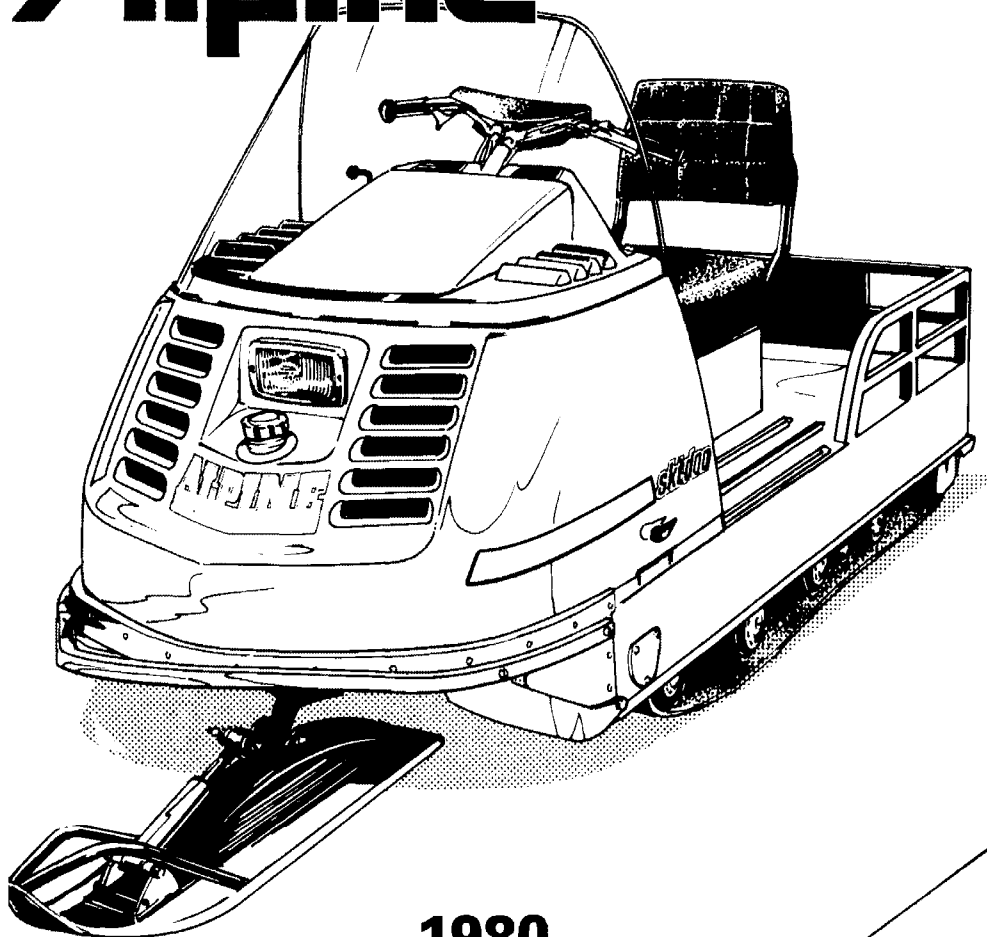


# Alpine



## 1980 OPERATOR'S MANUAL



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

© Trademark of Bombardier Limited

model \_\_\_\_\_

V.I.N. \_\_\_\_\_

purchase date \_\_\_\_\_

warranty expiry date \_\_\_\_\_

DEALER IMPRINT AREA

Technical Information Centre  
After Sales Service Department  
Bombardier Limited  
Valcourt, Quebec  
Canada, J0E 2L0

(First copy free with unit purchased)

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| CARRY BOOSE        |           | MIRAGE      |
| ELAN               |           | SUPER SONIC |
| ELITE              |           | ULTRA SONIC |
| GRAND PRIX SPECIAL |           |             |

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## FOREWORD


CONGRATULATIONS... You are now the proud owner of a new 1980 Bombardier snowmobile. This vehicle is the result of incomparable teamwork between Bombardier designers, engineers and technicians. Consequently, this vehicle is designed and engineered with safety, handling, comfort and quietness in mind.


The Operator Manual and the Snowmobile Safety handbook have been prepared to acquaint the owner / operator of a new snowmobile with the various vehicle controls, maintenance and safe operating instructions.


Each is indispensable for the proper use of the product, and should be kept with the vehicle at all times.

Should you have any questions pertaining to the warranty and its application, please consult the "Often Asked Question" section of this manual, or your selling dealer.

This manual emphasizes particular information denoted by the following symbols and wording.

 **WARNING:** Identifies and instruction which, if not followed, could cause personal injury.

 **CAUTION:** Denotes an instruction which, if not followed, could severely damage vehicle components.

 **NOTE:** Indicates supplementary information needed to fully complete an instruction.

Although the mere reading of such information does not eliminate the hazard, your understanding of the information will promote its correct use.

---

**Ride safe and have fun.**

Recreational Products Group  
Bombardier Limited  
Valcourt, Quebec, Canada

**PLEASE ENSURE YOUR WARRANTY BY REGISTERING  
YOUR SNOWMOBILE THROUGH YOUR DEALER, AT THE  
COMPANY**

# SAFETY IN MAINTENANCE

## **Observe the following precautions:**

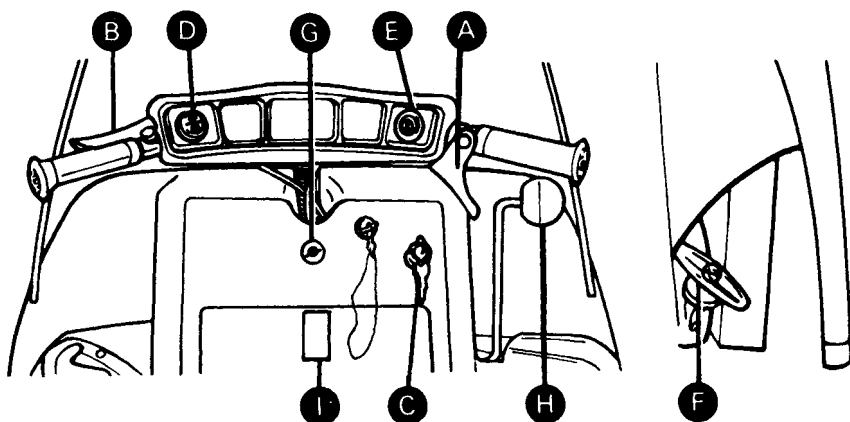
- Throttle mechanism should be checked for free movement before starting engine.
- Engine should be running only when pulley guard is secured in place.
- Never run engine without drive belt installed. Running an unloaded engine can prove to be dangerous.
- Never run the engine when the tracks are raised off the ground.
- It can be dangerous to run engine with the cab removed.
- 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. On such surfaces abnormal and excessive wear of critical parts is inevitable.

- Only perform procedures as detailed in this manual. Unless otherwise specified, engine should be turned OFF for all lubrication and maintenance procedures.
- Installation of other than standard equipment, including ski-spreaders, bumpers, pack racks, etc., could severely affect the stability and safety of your vehicle. Avoid adding on accessories that alter the basic vehicle configuration.
- The snowmobile engine can be stopped by activating the emergency cut-out or tether switches, or turning off the key.
- Whenever the vehicle is parked outdoors, overnight or for a long period, it is suggested to protect it against the inclemency of the weather with a snowmobile cover.

**Please read and understand all other warnings contained elsewhere.**

**THIS MANUAL SHOULD REMAIN WITH THE VEHICLE AT THE TIME OF RESALE**

## CONTROLS / INSTRUMENTS



- A) Throttle Control Lever
- B) Brake Control Lever
- C) Ignition / Light Switch
- D) Headlamp Dimmer Switch
- E) Emergency Cut-Out Switch

- F) Manual Starter Handle
- G) Primer
- H) Gear Shift Lever
- I) Access Door Latch
- J) Tether cut-out switch

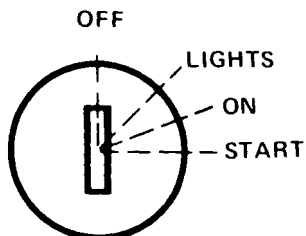
### A) Throttle Control Lever

Located on right side of handlebar. When depressed, it controls the **engine speed** and the **engagement of the transmission**. When released, engine speed returns automatically to idle.

### B) Brake Control Lever

Located on the left side of handlebar. When depressed, the brake is applied. When released, it automatically returns to its original position. Braking effect is proportionate to the pressure applied on the lever.

### C) Ignition / Light Switch



Key operated, 4 position switch. To start engine, turn key fully clockwise to START position and hold. Return key to ON position immediately engine has started. To stop engine, turn key counter-clockwise to OFF position. To illuminate both headlamp and taillight, turn key to LIGHTS position.

### D) Headlamp Dimmer Switch

The dimmer switch, located on left side of handlebar, allows correct selection of headlamp beam. To obtain high or low beam simply depress switch.

### E) Emergency Cut-Out Switch

A push button switch located on right side of handlebar. To stop the engine in an emergency, press button down into **lower** position.

Before re-starting engine always depress button into released **upper** position. The driver of this vehicle should familiarize himself with the function of this device by using it several times on

first outing. Thereby being mentally prepared for emergency situations requiring its use.

◆ **WARNING:** If the button has been used in an emergency situation the source of malfunction should be determined and corrected before restarting engine.

## F) Manual Starter Handle

Auto rewind type located on right hand side of vehicle. To engage mechanism, pull handle.

## G) Primer

A push-pull button. Pull and push button (2-3 times) to activate primer. The primer should always be used for cold engine starts. After engine is warm however, it is not necessary to use primer when starting.

## H) Gear Shift Lever

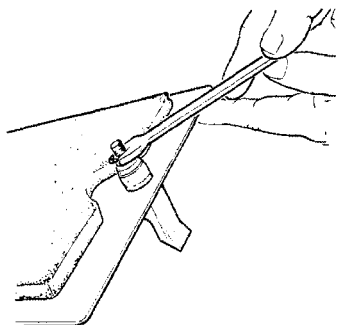
A 2 position, (FORWARD / REVERSE) gear shift lever. Push **up** for forward and **down** for reverse.

▼ **CAUTION:** Do not activate gear shift lever while snowmobile is in motion.

○ **NOTE:** When towing a disabled vehicle, its drive belt must be removed from pulleys and the gear shift lever positioned into forward gear.

## I) Access Door Latch

To gain access to the carburetor or spark plugs, lift pressure lock tab and pull open access door.



To adjust locking device turn nut in required direction.

## J) Tether Cut-Out Switch

Attach tether cord to wrist or other convenient location then snap tether cut-out cap over receptacle before starting engine.

If emergency engine "shut-off" is required completely pull cap from safety switch and engine power will be automatically shut "off".

○ **NOTE:** The cap must be installed on the safety switch at all times in order to operate the vehicle.

◆ **WARNING:** If the switch is used in an emergency situation the source of malfunction should be determined and corrected before restarting engine.

## Cab Removal

Unlatch cap by turning both handles toward front of vehicle, remove fuel tank cap, gently lift cab then disconnect junction block at right side of engine. Remove cab from vehicle.

◆ **WARNING:** It is dangerous to run engine with cab off. Personal injury could result.

## Seat Compartment

Remove backrest and tilt seat. Ideal location for spare plugs, belt, rope, etc.

○ **NOTE:** Emergency materials should be wrapped in foam or similar material. This will prevent possible damage to breakable items when travelling over rough or bumpy terrain.

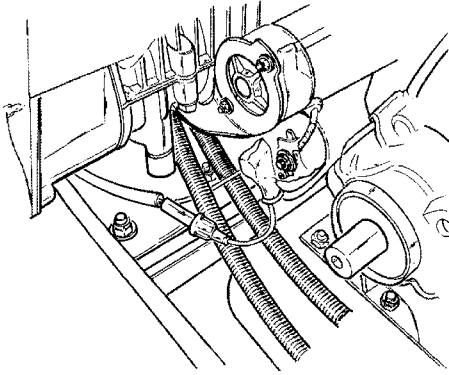
## Fuel Gauge

Unscrew fuel tank cap and withdraw dipstick to check fuel level.

◆ **WARNING:** Never use a lit match or open flame to check fuel level.

### Fuse Holder

Located in the engine compartment (front of engine R.H. side).



With Bombardier-Rotax snowmobile engines, a break-in period is required before running the vehicle at full throttle. Engine manufacturer recommendation is 10 to 15 operating hours. During this period, a richer mixture is needed (i.e. 40 parts of gas for 1 part of 50/1 Bombardier oil). Maximum throttle should not exceed  $\frac{3}{4}$ , however, brief full acceleration 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.

### 10-Hour Inspection

As with any precision piece of mechanical equipment, we suggest that after the first 10 hours of operation or 30 days after the purchase, whichever comes first, that your vehicle be checked by your dealer. This inspection will give you the opportunity to discuss the unanswered questions you may have encountered during the first hours of operation. Remember that it is easier to remedy at this time than to allow the snowmobile to operate until a possible failure occurs.

**The 10 hour inspection is at the expense of the vehicle owner.**





| 10-HOUR INSPECTION CHECKLIST   |  |
|--|--|
| Engine timing  |  |
| Fan belt tension   |  |
| Spark plug condition   |  |
| Carburetor adjustment  |  |
| Engine head nuts   |  |
| Engine mounts nuts   |  |
| Muffler attachment   |  |
| Gearbox oil level  |  |
| Chain tension  |  |
| Battery electrolyte level  |  |
| Brake operation and lining condition   |  |
| Ski alignment (runner condition)   |  |
| Pulley alignment and drive belt condition  |  |
| Track condition, tension and alignment   |  |
| Lubricate (steering, suspension, driven pulley)  |  |
| Electrical wiring (loose connections, stripped wires, damaged insulation), tightend all losse bolts, nuts and linkage        |  |
| Operation of lighting system (HI / LO beam, brake light, etc.), test operation of emergency cut-out switch and tether switch |  |

**We recommend that you have your dealer sign this inspection list.**

Date of 10 hour inspection

Dealer signature

# FUEL MIXING

Oil must be added to the gasoline in pre-measured amounts then both oil and gasoline should be thoroughly mixed together before fueling the tank.

## Recommended Gasoline

Use regular leaded gasoline available from all service stations.

▼ **CAUTION:** Never experiment with different fuel or fuel ratios. Never use naphtha, methanol or similar product.

## Recommended Oil

Use concentrated Bombardier snowmobile oil available from your dealer. This type of oil has specially formulated oil bases to meet the lubrication requirements of the Bombardier-Rotax engine.

If Bombardier snowmobile oil is unavailable, substitute with a high-quality 2 cycle snowmobile oil. The oil / gas mix must meet the vehicle requirements. See oil manufacturer recommendations on container.

▼ **CAUTION:** Never use outboard or straight mineral oils.

## Fuel Mixture Ratio

The importance of using the correct fuel mixture cannot be overstressed. An incorrect fuel ratio results in serious engine damage. Recommended fuel ratio is 50 / 1.

### S.I. MEASURE

500 mL oil to 25 liters = 50/1

### IMPERIAL MEASURE

1 can 16 oz oil to 5 imp. gals = 50/1  
or

1 can 500 mL oil to 5 1/2 imp. gals = 50/1

### U.S. MEASURE

1 can 12 oz oil to 5 U.S. gals = 50/1

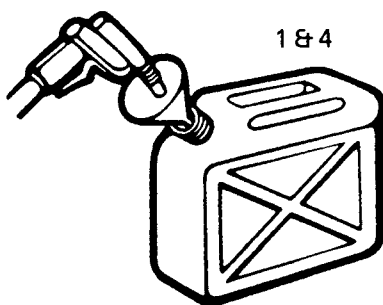
○ **NOTE:** To facilitate fuel mixing oil should be kept at room temperature.

## Fuel Mixing Procedure

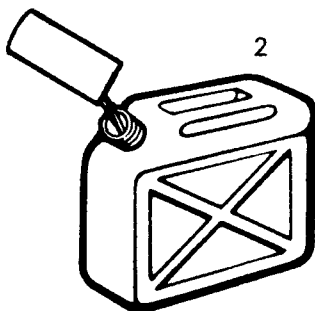
To mix the gasoline and oil always use a separate clean container. Never mix directly in your snowmobile tank. For best results, acquire two containers, either plastic or metal. Draw from one until empty then use the second one.

◆ **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. Avoid skin contact with fuel at below freezing temperatures.

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

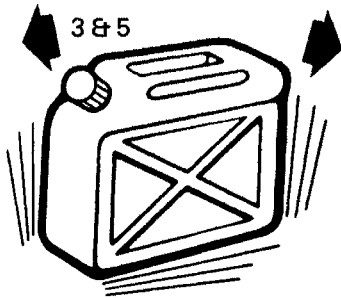


2. Add the full amount of oil.



## PRE-START CHECK

3. Replace container cap and shake the container thoroughly.



4. Add the remainder of the gasoline.
5. Once again thoroughly agitate the container. Then **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.

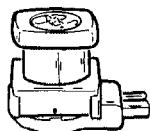
◆ **WARNING:** Never 'top up' gas tank before placing the vehicle in a warm area. At certain temperatures, gasoline will expand and overflow.

### Check Points

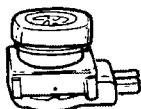
- Activate the throttle control lever several times to check that it operates easily and smoothly. The throttle control lever must return to idle position when released.
- Check fuel level.
- Check that the skis and tracks are not frozen to the ground or snow surface and that the steering operates freely.
- Activate the brake control lever and make sure the brake fully applies before the brake control lever touches the handlebar grip.
- Verify that the path ahead of the vehicle is clear of bystanders and obstacles.

◆ **WARNING:** Only start your snowmobile once all components are checked and functioning properly.

# STARTING PROCEDURE



**Upper position**  
before starting engine



**Lower position**  
to stop engine

1. Insert key in ignition switch.
2. **Test throttle control lever.**
3. Activate primer (2 or 3 times). Primer is not necessary if engine is warm.
4. Ensure the tether cut-out cap is in position and that the cord is attached to your clothing. Check that the emergency cut-out button is in the released **upper** position.
5. Turn ignition key clockwise until starter engages. If engine does not start on first try, key must be turned fully back to OFF each time.

◆ **WARNING:** Do not apply throttle while starting.

6. Release key immediately after engine has started.

▼ **CAUTION:** Never operate your snowmobile with the battery removed or disconnected.

7. Check operation of the emergency cut-out switch and the tether switch.

◆ **WARNING:** If engine does not shut-off when applying the emergency cut-out switch and/or by pulling the tether cut-out cap, stop the engine by turning OFF the ignition key. Do not operate the vehicle, see your dealer.

8. Allow the engine to warm before operating at full throttle.

○ **NOTE:** If for some reason, the vehicle cannot be started electrically, place ignition key to-ON position and start engine manually.

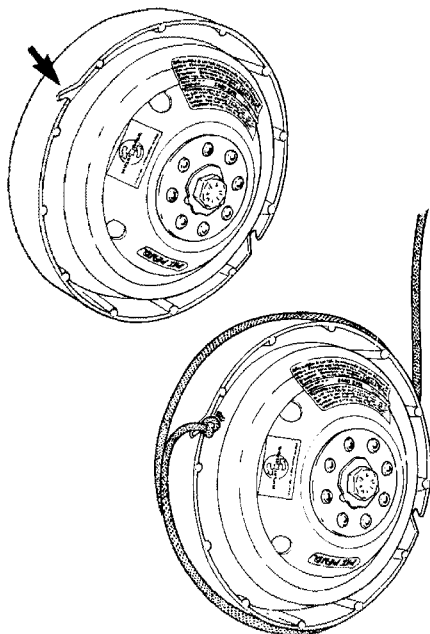
## Emergency Starting

Should the rewind starter rope fray and break, the engine can be started with an emergency starter rope.

○ **NOTE:** Transfer the rope handle to your emergency rope.

Remove pulley guard from vehicle and wind the emergency rope tight around the drive pulley sliding half.

Grasp emergency starter rope handle firmly and pull slowly until a resistance is felt then pull vigorously.



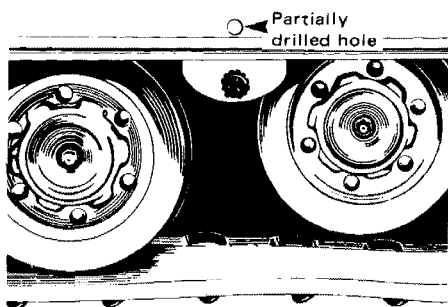
◆ **WARNING:** When starting the vehicle in an emergency situation by the drive pulley do not reinstall the pulley guard.

◆ **WARNING:** Do not start the vehicle by the drive pulley unless it is a true emergency situation, have the vehicle repaired as soon as possible.

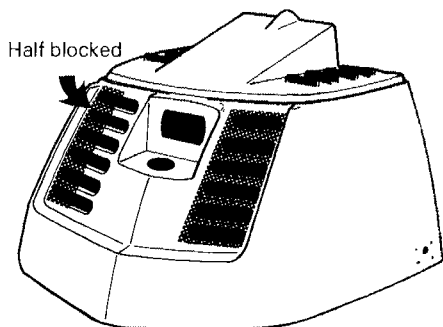
## DRIVING TIPS

### Bogie Wheel

By raising the outer attachment of the bogie wheel sets, vehicle maneuverability in deep snow will increase. You will note that there are partially drilled holes located approx. 3.5 cm (1  $\frac{3}{8}$ "') above the original cross shaft holes of the frame. To reposition bogie wheel sets, drill holes fully through using a  $\frac{5}{16}$ " dia. drill. Remove capscrews securing bogie wheel cross shafts to frame and reinstall bogie wheels in new position.



### Front Cab Louvers

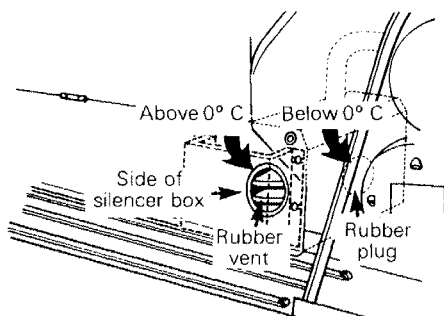


When operating the vehicle in powder snow it is advisable to block the front cab louvers as per illustration. Unblock the louvers as soon as snow condition becomes firmer or as soon as engine becomes too hot.

### Air Silencer Box

**CAUTION:** Never operate your snowmobile with the air silencer tube disconnected. Serious engine damage will occur if this notice is disregarded.

When operation the vehicle in temperature exceeding 0° C (32° F), the rubber plug must block the engine side orifice and the rubber vent must be positioned on the side of the silencer box to allow cold air circulation.



In temperatures below 0° C (32° F) and/or powder snow, the rubber plug must block the entry of fresh air on the side of the silencer box and the rubber vent must allow the warm air being emitted from the engine to be directed over the carburetor.

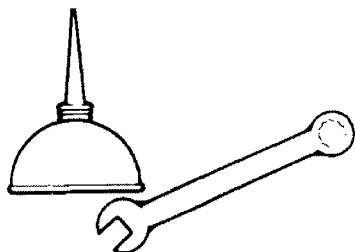
**CAUTION:** Observe temperature changes and locate plugs accordingly. Incorrect location of plugs may cause carburetor ice-up or engine overheating.

### Pulling Heavy Loads

When pulling heavy loads, such as trail groomer, it is strongly recommended to enrich the Low Speed Mixture by turning its screw  $\frac{1}{4}$  of a turn clockwise.

# LUBRICATION

## Frequency



Routine maintenance is necessary for all mechanized products, and the snowmobile is no exception. A weekly vehicle inspection contributes to the life span of the snowmobile as well as safe and trouble-free operation.

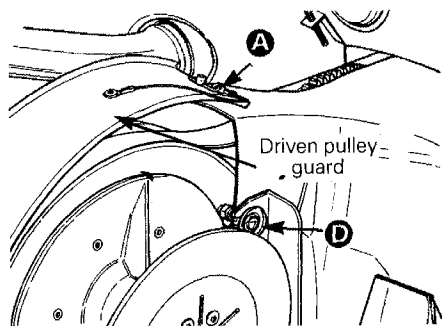
It is recommended that the steering system and suspension, be lubricated monthly or every 40 hours of operation. If the vehicle is operated in wet snow or in severe conditions these items should be lubricated more frequently.

◆ **WARNING:** Only perform such procedures as detailed in this manual. Unless otherwise specified, engine should be turned OFF for all lubrication and maintenance procedures.

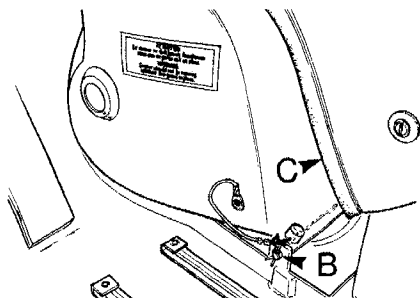
## Pulley Guard Removal

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

1. Remove cab. Pull out retaining clip (A) and tilt driven pulley guard toward front of vehicle.



2. Pull out retaining clip (B) to disengage pin (C) from bracket.

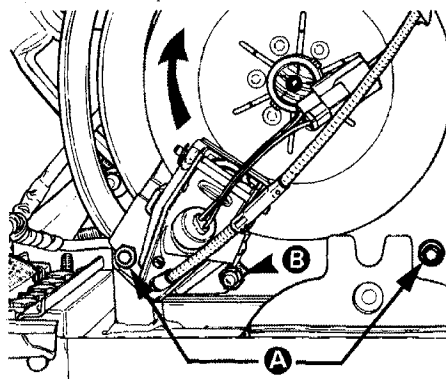


3. Move pulley guard toward front of vehicle to disengage front attaching device from front bracket.

## Drive Belt Removal

◆ **WARNING:** Never start or run engine without drive belt installed. Running an unloaded engine is dangerous.

Remove cab and pulley guard. Remove the two bolts (A) holding disc brake to the frame. Loosen nut (B) to separate brake caliper from disc brake bracket. Pivot the brake bracket assembly half a turn. Open the driven pulley. Twist and push the sliding half then hold in open position; slip slackened belt over the top edge of the sliding half. Slip the belt out from the drive pulley and remove from vehicle by passing it under the driven pulley and disc brake assembly. To install drive belt follow reverse procedure.



## Driven Pulley

With cab removed, grease the driven pulley shaft as follows:

Remove pulley guard and slip off drive belt. Open the driven pulley, (push and twist sliding half).

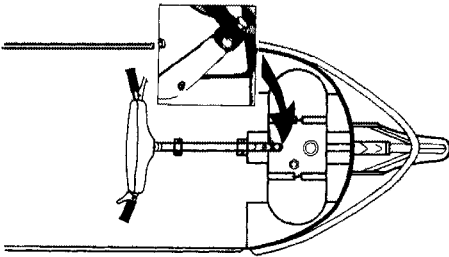
Thoroughly clean the driven pulley shaft.

Apply a light coat of low-temp grease on the shaft. Always lubricate lightly and wipe off surplus.

○ **NOTE:** Activate the sliding half several times to distribute lubricant over full length of shaft. Be careful that lubricant does not get on inner halves of pulley.

## Steering Mechanism

Using light machine oil, lubricate the spring located on top of steering column housing. Allow oil to run in. Oil the mobile contact point at bottom end of steering arm. Using a small brush, dipped in low temp grease, lubricate steering arm ball joint.



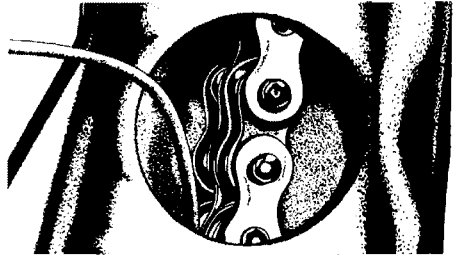
Grease the ski leg at grease fitting until new grease appears at the joint. Lubricate spring coupler bolt with oil.

## Gearbox Oil Level

The gearbox oil capacity is 454 mL (16 oz). To check level:

Remove rubber inspection cover located on bottom right side of gearbox. Using a rigid piece of wire as dipstick,

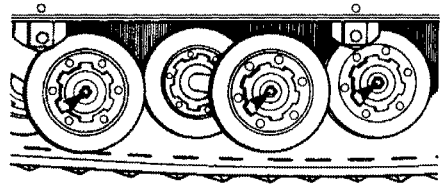
check oil level. Oil level must reach 82 mm (3 1/4 ") on dipstick.



To fill, remove filler cap from top of gearbox. Refill as required using Bombardier chaincase oil.

## Bogie Wheels

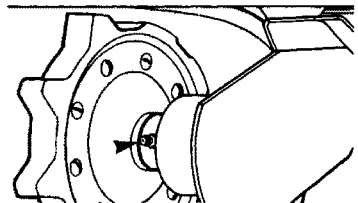
Grease the suspension bogie wheels with low-temperature grease. Pump through the grease fitting at the center of each wheel until new grease appears at the joint of inner side.



To grease the inner side bogie wheels, tilt vehicle on its side and apply pressure on track to expose grease fittings.

## Rear Axles

Lubricate the rear axles with low-temperature grease. Pump grease through the rear axle fittings.



▼ **CAUTION:** Always use a low-pressure grease gun.

# MAINTENANCE

The following Maintenance Chart indicates regular servicing schedules to be performed by you or your servicing dealer. If these services are performed as suggested, your snowmobile will give you many years of low-cost use.

◆ **WARNING:** Only perform such procedures as detailed in this manual. It is recommended that dealer assistance be periodically obtained on other components / systems not covered in this manual. Unless otherwise specified, engine should be turned OFF for all lubrication and maintenance procedures

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| M5   | Muffler attachment          | 18   |
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| M7   | Vehicle general inspection  | 19   |
|      | Headlamp adjustment         | 19   |

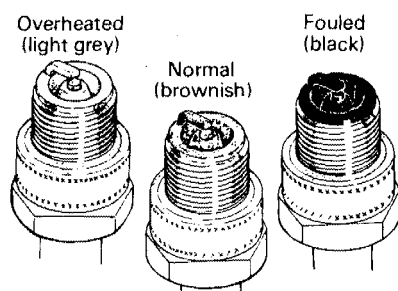
## (W1) Spark Plugs

Open access door. Disconnect spark plug wires and remove plugs. Check condition of plugs.

- A brownish tip reflects ideal conditions. (Correct carburetor adjustment, spark plug heat range, etc.).
- A black insulator tip indicates foul-

ing caused by: carburetor idle speed mixture and / or high speed mixture too rich, incorrect fuel mixing ratio, wrong type of spark plug (heat range), or excessive idling.

A light grey insulator tip indicates a lean mixture caused by; carburetor high speed mixture adjusted too lean, wrong spark plug heat range, incorrect fuel mixture ratio, or a leaking seal or gasket.



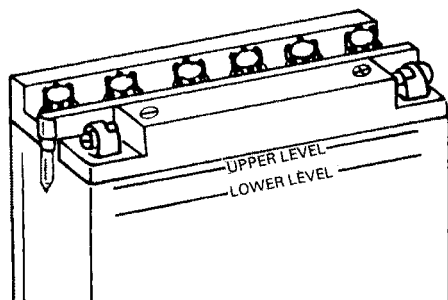
▼ **CAUTION:** If spark plug condition is not ideal, contact your authorized dealer.

Check spark plug gap using a wire feeler gauge. Gap must be 0.5 mm (.020").

Reinstall plugs and connect wires.

## (W2) Battery

Check electrolyte level. Electrolyte level must be at upper level line on battery casing.





If necessary add distilled water. Battery connections must also be free of corrosion. If cleaning is necessary, remove corrosion using a stiff brush then clean with a solution of baking soda and water. Rinse and dry well.

**CAUTION:** Do not allow cleaning solution to enter battery. It will destroy the chemical properties of the electrolyte.

After reconnecting battery, coat battery terminals and connectors with petroleum jelly to prevent corrosion. Check that battery is well secured and that battery overflow tube is not blocked or kinked.

**WARNING:** Overflow tube must be free and open. A kinked or bent tube will restrict ventilation and create gas accumulation that could result in an explosion. Avoid skin contact with electrolyte.

**CAUTION:** Prior to charging the battery, always remove it from the vehicle to prevent electrolyte spillage.

### (W3) Suspension

Visually inspect suspension springs. Replace any weak or broken spring.

### (W4) Track

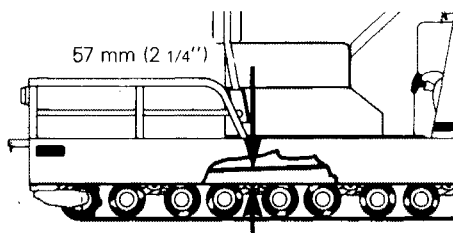
Lift rear of vehicle and support it off the ground. With the engine **OFF**, place gear shift lever in forward position, rotate track manually and inspect condition. If worn or cut, or if track fibers are exposed or missing or if defective inserts are noted, contact your dealer.

**WARNING:** Do not operate a snowmobile with a cut, torn or damaged track.

### (W5) Track Tension and Alignment

Lift the rear of vehicle and support it off the ground. Using a ruler, check track tension, at the second set of

bogie wheels from rear.

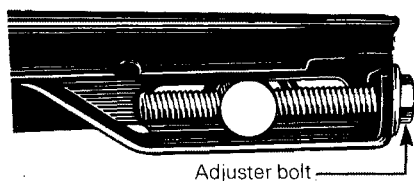


The deflection of each track should be 57 mm (2 1/4 ") between top inside edge of track and center of bogie wheel set retaining bolt.

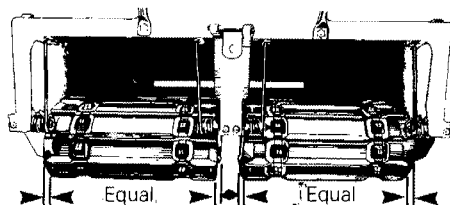
To adjust track use the following procedure:

Loosen link plate spring lock nuts (4) located on inner side of link plate springs.

Turn adjuster bolts clockwise to tighten tracks, counter-clockwise to slacken.



Start engine and allow tracks to rotate **slowly**. Check if tracks are well centered and turn evenly on the rear sprockets. The distance between track edges and link plates should be equal.



To correct:

Turn inner side adjuster bolt(s) counter-clockwise to bring track closer to center link plate(s), turn clockwise to withdraw track(s) from link plate(s).

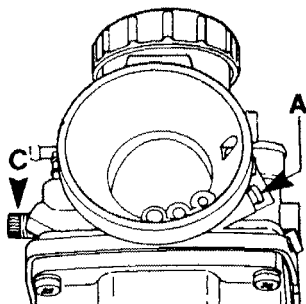
Tighten link plate spring lock nuts.

Rotate tracks slowly and recheck alignment.

◆ **WARNING:** Before checking track alignment, ensure that the track is free of all particles which could be thrown out while track is rotating. Keep hands, tools, feet and clothing clear of track. Ensure no-one is standing in close proximity to the vehicle.

## (W6) Carburetor Adjustment

The carburetor adjustments are: Air Screw Adjustment, Throttle Slide Adjustment and Idle Speed Adjustment.



### A) Air Screw Adjustment

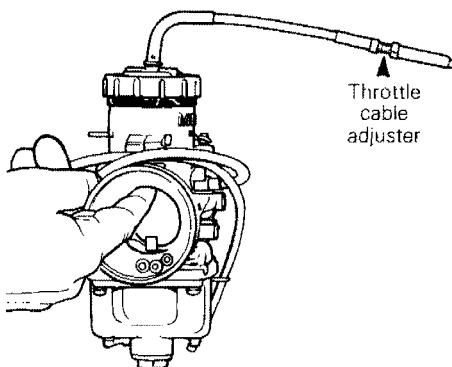
Completely close the air screw (until a slight seating resistance is felt) then back off screw  $1\frac{1}{2}$  turn  $\pm$   $\frac{1}{8}$ .

### B) Throttle Slide Adjustment

◆ **WARNING:** Ensure the engine is turned **OFF**, prior to the throttle slide adjustment.

With the throttle cable adjuster jam nut unlocked, press the throttle lever against the handle grip. Unscrew the cable adjuster by hand to obtain maximum carburetor slide opening. (With the air silencer elbow removed, check with your finger if the carburetor slide is well seated against the carburetor top portion).

Then, screw the cable adjuster in two turns in order to nullify any possible tension on the throttle cable and tighten the cable adjuster jam nut.



### C) Idle Speed Adjustment

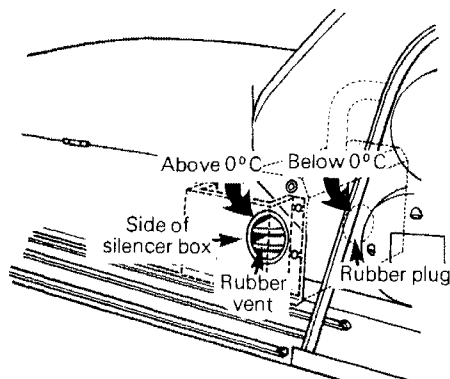
Turn idle speed screw clockwise until it contacts the throttle slide then continue turning two (2) additional turns. This will provide a preliminary idle speed setting. Start engine and allow it to warm then adjust idle speed to 1500-1800 RPM by turning idle speed screw clockwise or counter-clockwise.

▼ **CAUTION:** Do not attempt to set the idle speed by using the air screw. Severe engine damage can occur. If idle speed is unobtainable contact your authorized dealer.

## Air Silencer Box

▼ **CAUTION:** Never operate your snowmobile with the air silencer tube disconnected. Serious engine damage will occur if this notice is disregarded.

When operating the vehicle in temperature exceeding 0° C (32° F), the rubber plug must block the engine side orifice and the rubber vent must be positioned on the side of the silencer box to allow cold air circulation.



In temperatures below 0° C (32° F) and/or powder snow, the rubber plug must block the entry of fresh air on the side of the silencer box and the rubber vent must allow the warm air being emitted from the engine to be directed over the carburetor.

**CAUTION:** Observe temperature changes and locate plugs accordingly. Incorrect location of plugs may cause carburetor ice-up or engine overheating.

## (W7) Drive Belt

Inspect belt for cracks, fraying or abnormal wear (uneven wear, wear on one side, etc.) If abnormal wear is noted, probable cause is pulley misalignment. Contact your dealer. Check drive belt width, it should not be less than 30 mm (1 3/16") wide.

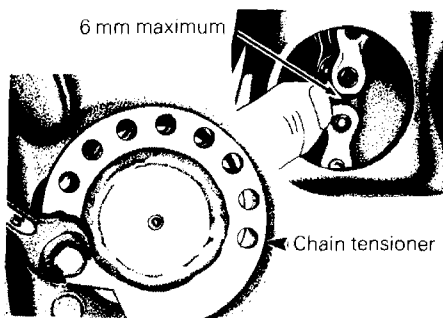
**NOTE:** When installing a new drive belt, a break-in period of 15-25 km (10-15 miles) is strongly recommended.

## (W8) Steering Mechanism

Inspect steering mechanism for tightness of components (steering arm, ball joint, etc.). If necessary, replace or retighten. Check condition of ski and ski runner. Replace if worn.

## (W9) Drive Chain Tension

Run vehicle forward so that true free-play can be taken. Check tension then turn driven pulley 1/2 turn counter-clockwise and recheck. Starting from maximum reading, adjust chain tension to 6 mm (1/4") free-play. Remove capscrew locking chain tensioner in place. (Tensioner is located at bottom left of gearbox).

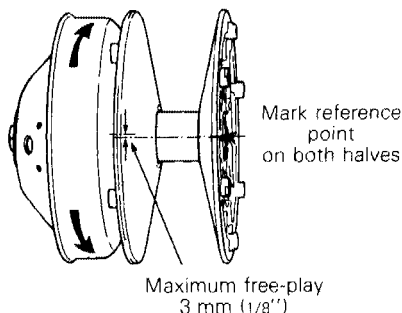


Rotate the tensioner as required to obtain correct chain tension.

Replace capscrew to lock chain tensioner in place.

## (W10) Drive Pulley

Inspect the Duralon bushing condition by checking the free-play of the sliding half pulley. This is achieved by restraining the inner half and checking if the sliding half moves in the direction of the arrows more than 3 mm (1/8"). If so contact your dealer.



## (M1) Brake

The brake mechanism is self-adjusting, therefore, periodic adjustment is not required. However, the brake mechanism can be checked by depressing brake control lever. Brake should apply fully when lever is 13 mm (1/2") approx. from handlebar grip. If it does not, do not tamper with the brake, contact your servicing dealer. Check the stop light to see if it functions. If necessary, readjust switch position.

◆ **WARNING:** Brake pucks less than 5 mm (3/16") thick must be replaced. Replacement must be performed by an authorized Bombardier dealer. Always check the stop light to see if it functions.

## (M2) Steering Adjustment

Ski should be perpendicular to handlebar. To align:

Remove steering padding.

Remove bolt securing handlebar to steering column.

Remove handlebar to expose splined end of steering column.

Reposition handlebar on splines so that it is perpendicular with ski. Install and tighten bolt to 40-47 N•m (30-35 ft-lbs).

○ **NOTE:** If correct spline alignment is unobtainable at handlebar, move lower steering bracket (located on top of gearbox) to obtain proper location. Lower steering bracket holes are slotted.

## (M3) Engine Head Nuts

**IMPORTANT:** The engine head nut torque should be checked after the first 5 hours of operation.

With **engine cold**, check that engine head nuts are tight and equally torqued to 20 N.m (15 ft-lbs).

## (M4) Engine Mount nuts

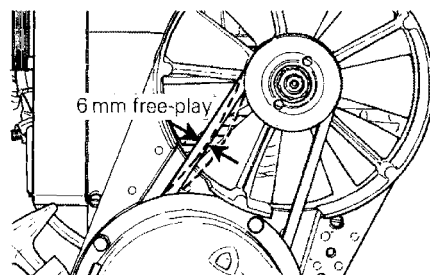
Check engine mount nuts for tightness. Retighten if necessary.

## (M5) Muffler Attachment

The engine / muffler attaching parts are vital toward efficient muffler function. Check all attachments. Replace springs and / or tighten if necessary.

## (M6) Fan Belt

Inspect belt for cracks, uneven wear, etc. Check fan belt tension, 6 mm (1/4") free-play should exist when deflection is correct.



If belt seems damaged or if tension is incorrect, contact your dealer immediately.

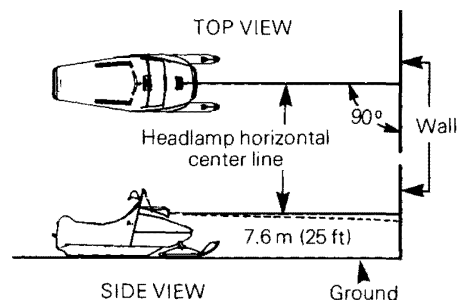
◆ **WARNING:** If fan protector is removed, always reinstall after servicing.

## (M7) General Inspection

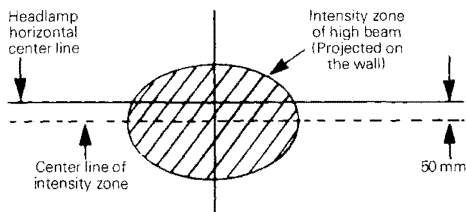
Check electrical wiring and components, retighten loose connections. Check for stripped wires or damaged insulation. Thoroughly inspect the vehicle and tighten loose bolts, nuts and linkage. Inspect ski and ski runner for wear.

## Headlamp Beam Aiming

The angle of the headlamp beam has been pre-adjusted prior to delivery. Should you wish re-adjustment, place vehicle on a flat surface 7.6 m (25') from a wall or screen.



With the rider seated on the vehicle and the high beam **ON**, check that the center of high intensity zone of high beam is 50 mm (2") below horizontal line of headlamp height.



To adjust,

Remove headlamp chrome ring, turn upper or lower adjusting screws to obtain desired beam position.

## Bulb Replacement

If headlamp is burnt, remove cab. Unplug connector from headlamp. Remove rubber boot and 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. Verify all lights after replacement.

# STORAGE

**IMPORTANT:** It is during summer, or when a vehicle is not in use for any length of time that proper storage is a necessity. **Storage of the snowmobile during long period of inactivity consists of: checking and replacing missing, broken or worn parts;** proper lubrication and treatment to insure that parts do not become rusted; cleaning items such as carburetor or oil mixtures, to prevent gum varnish formation within the carburetor; and in general, preparing the vehicle so that when the time comes to use the snowmobile again it will start and be in top condition.

◆ **WARNING:** Only perform such procedures as detailed in this manual. It is recommended that dealer assistance be periodically obtained on other components / systems not covered in this manual. Unless otherwise specified, engine should be turned OFF for all lubrication and maintenance procedures.

## Tracks

Inspect tracks for wear, cuts, missing track inserts or broken rods and make any necessary replacement.

◆ **WARNING:** Do not operate a snowmobile with a cut, torn or damaged track.

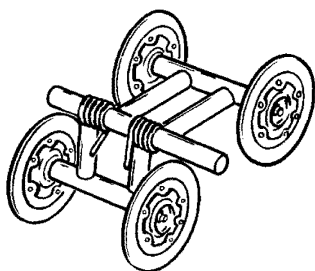
Lift rear of vehicle until tracks are clear of ground then support with brace or trestle. The snowmobile should be stored in such a way that the tracks do not stay in contact with cement floor or bare ground.

○ **NOTE:** The tracks should be rotated periodically, (every 40 days). Do not release track tension.

▼ **CAUTION:** To prevent track damage, temperature in the storage area must not exceed 38° C (100° F).

## Suspension

Remove the bogie wheel sets from the vehicle. Remove cross shaft from bogie wheel set. Clean bogie wheel assembly and cross shaft of dirt or rust. Grease each bogie wheel until all old grease is flushed out. Spray bogie wheel springs with metal protector. If unavailable, wipe with cloth or rag soaked in oil. Check condition of shaft and replace if bent or worn. Apply a coat of low temp. grease on cross shaft.



Reassemble entire bogie wheel set, making sure assembly moves freely. Reinstall bogie wheel set. Repeat above steps on remaining bogie wheel sets. Lubricate rear hubs through grease fittings.

## Ski Assembly

Wash or brush all dirt or rust accumulation from ski and spring. Grease ski leg at grease fitting. Check condition of ski and ski runner. Replace if worn or weak. Apply metal protector on ski assembly. If unavailable, wipe the entire ski with a cloth soaked in oil to prevent rust formation.

## Fuel Tank

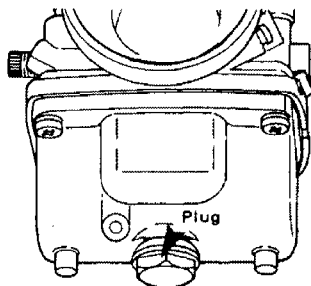
Remove cap then using a syphon, remove gasoline from tank.

◆ **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.

## Carburetor

The carburetor must be dried out completely to prevent gum formation during the storage period.

Assure that carburetor inlet fuel line is disconnected. Remove plug of the float chamber. Drain carburetor.



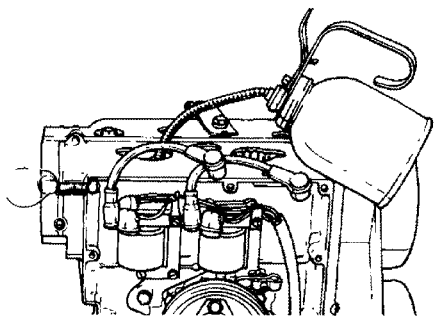
Reinstall plug and connect fuel line.

## Cylinder Lubrication

Engine internal parts must be lubricated to protect cylinder walls from possible rust formation during the storage period.

○ **NOTE:** This operation should be repeated every 40 days during storage.

Remove spark plugs, operate rewind starter to bring piston at top position. Pour the equivalent of one spoonful of oil into spark plug hole.

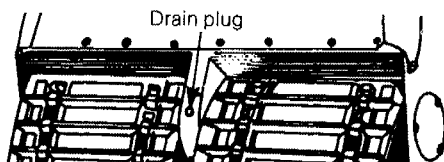


Slowly crank engine several times using manual starter. Repeat above steps for other cylinder. Install spark plugs.

▼ **CAUTION:** To prevent ignition system damage, make sure that the cut-out button is in the lower position.

## Gearbox

Drain gearbox and refill with 454 mL (16 oz) of fresh Bombardier chaincase oil. (Drain plug is located beneath frame).



## Controls

Lubricate steering mechanism. Inspect components for tightness, spring coupler bolt, steering arm locking bolt, ball joint, etc.). Tighten if necessary. Oil moving joints of brake mechanism.

◆ **WARNING:** Do not lubricate throttle and / or brake cable or housing. Avoid getting oil on brake lining(s).

## Driven Pulley

Remove cab and drive belt. Thoroughly clean the driven pulley shaft. Apply a light coat of low-temperature grease on shaft. Activate the sliding half several times to distribute grease on shaft. Activate the sliding half several times to distribute lubricant. Spray internal pulley surfaces with metal protector.

○ **NOTE:** Leave drive belt off during entire storage period.

## Battery

Remove battery from vehicle and clean outside surface of battery with solution of baking soda and water. Remove all deposits from posts then rinse with clear tap water.

▼ **CAUTION:** Do not allow cleaning solution to enter battery interior since it will destroy the electrolyte.

Check electrolyte level. Refill if necessary with distilled water. Fully charge battery. (A stored battery should be recharged at least every 40 days).

▼ **CAUTION:** Prior to charging the battery, always remove it from the vehicle to prevent electrolyte spillage.

◆ **WARNING:** Gases given off by a battery being charged are highly explosive. Always charge in a well ventilated area. Keep battery away from cigarettes or open flames. Avoid skin contact with electrolyte.

Coat electrical connections and switches with a greaseless metal protector, if unavailable, use petroleum jelly. Store unit in a cool, dry place.

## Chassis

Clean the vehicle thoroughly, removing all dirt and grease accumulation.

▼ **CAUTION:** Plastic alloy components such as windshield, console, etc., can be cleaned using mild detergents or isopropyl alcohol. Do not use strong soaps, degreasing solvents, abrasive cleaners, paint thinners, etc.

Inspect cab and repair damage. Repair kits are available at your authorized Bombardier dealer.

Touch up all metal spots where paint has been scratched off. Spray all bare metal parts of vehicle with metal protector. Wax the cab for better protection.

○ **NOTE:** Apply wax on glossy finish of cab only. Protect the vehicle with a cover to prevent dust accumulation during storage.

▼ **CAUTION:** If for some reason the snowmobile has to be stored outside it is necessary to cover it with an opaque tarpaulin. This caution will prevent the sun rays affecting the plastic components and the vehicle finish.

## General Inspection

Check electrical wiring and components, retighten loose connections. Check for stripped wires or damaged insulation. Thoroughly inspect the vehicle and tighten loose bolts, nuts and linkage.



# PRE-SEASON PREPARATION

To simplify the pre-season preparation we have drawn up a small chart. The chart indicates servicing points to be performed by you and your servicing dealer. If these services are performed as suggested, your vehicle will give you many hours of fun and low cost use.

**IMPORTANT:** Observe all Warnings and Cautions mentioned throughout this manual which are pertinent to the item being checked. When component conditions seem less than satisfactory, replace with genuine Bombardier parts.

## PRE-SEASON PREPARATION CHART

| To be performed by dealer ●                               |   |
|---|---|
| To be performed by owner ○                                |   |
| Change spark plugs  | ○ |
| Check gear box oil level                                  | ○ |
| Check pulleys, clean and check condition of drive pulley  | ● |
| Check steering adjustment / ski runner                    | ○ |
| Replace fuel filter                                       | ○ |
| Connect fuel lines and check attaching points             | ○ |
| Check track tension and alignment                         | ○ |
| Lubricate suspension                                      | ○ |
| Inspect drive belt and install                            | ○ |
| Check throttle cable for damage and free operation        | ○ |
| Inspect brake condition and operation                     | ○ |
| Inspect oil seals for possible cuts or leaks              | ● |
| Test battery, clean and install                           | ● |
| Set engine timing, if necessary, replace breaker points   | ● |
| Check electrical wiring (broken wire, damaged insulation) | ○ |
| Inspect condition of starting rope                        | ○ |
| Check tightness of all bolts, nuts and linkage            | ○ |
| Refill gas tank   | ○ |
| Adjust carburetor   | ● |
| Check fan belt condition and tension                      | ● |

# TROUBLE SHOOTING

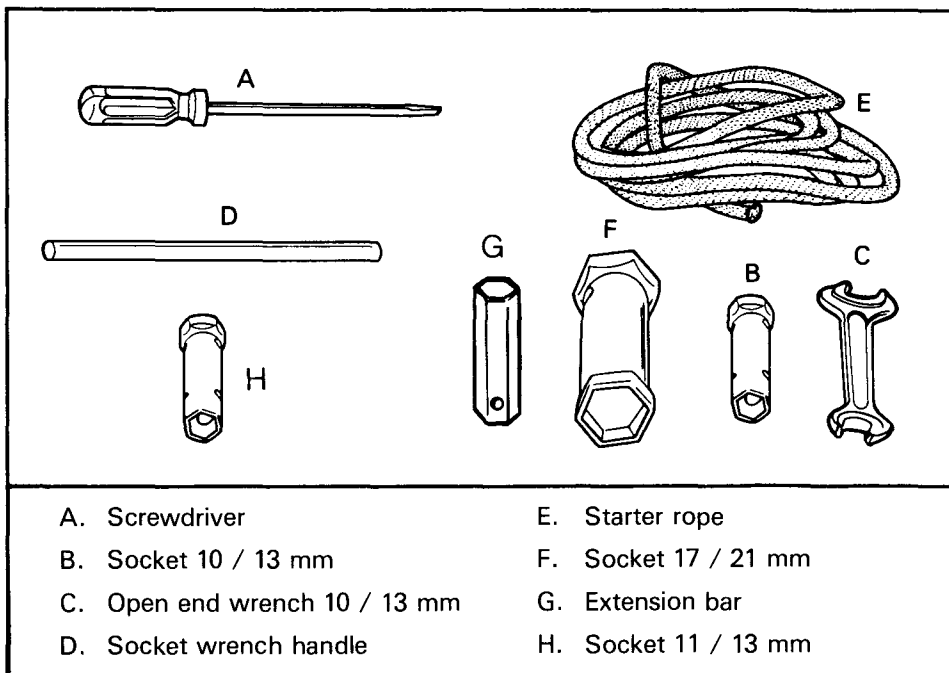
| SYMPTOMS   | POSSIBLE CAUSES                      | WHAT TO DO   |
|--|--------------------------------------|--|
| Engine turns over but fails to start or starts with difficulty | 1. No fuel to the engine             | Check the tank level and fill up with correct gas-oil mixture. Check for possible clogging of fuel line, item 5.   |
|  | 2. Flooded engine                    | Remove wet spark plugs, turn ignition to OFF and crank engine several times. Install clean dry spark plugs. Start engine following usual starting procedure. If engine continues to flood, see your dealer.  |
|  | 3. Spark plug/faulty ignition        | Check for fouled or defective spark plug. Disconnect spark plug wire, unscrew plug and remove from cylinder head. Reconnect wire and ground exposed plug on engine cowl, <b>being careful to hold away from spark plug hole</b> . Follow engine starting procedure and check for spark. If no sparks appear, replace spark plug. If trouble persists, contact your dealer. |
|  | 4. Clogged fuel line (water or dirt) | Remove and clean the fuel filter. Change filter cartridge if necessary. Check condition and connections of fuel lines. Check the cleanliness of fuel tank.   |
|  | 5. Faulty carburetor                 | First make primary adjustments on carburetor (See Maintenance Section). If carburetor is still faulty, contact your dealer for repair.   |
|  | 6. Too much oil in fuel              | Drain the fuel tank and refill with the correct gas/oil mixture.   |
|  | 7. Engine timing                     | Engine timing may be defective or out of adjustment. Contact your dealer.  |
|  | 8. Poor engine compression           | Running with a lean fuel mixture may produce excessive engine wear resulting in poor engine compression. If this occurs, contact your dealer at once.  |
| Engine will not turn manually                                  | 1. Seized engine                     | In the case of a seized engine contact your dealer.  |

| <b>SYMPTOMS</b>                    | <b>POSSIBLE CAUSES</b>               | <b>WHAT TO DO</b>   |
|------------------------------------|--------------------------------------|---|
| Engine lacks acceleration or power | 1. Fouled or defective spark plug    | Check item 3 of "Engine turns over but fails to start or starts with difficulty"  |
|                                    | 2. Clogged fuel line (water or dirt) | Check fuel line condition. (See item 4 of "Engine turns over but fails to start or starts with difficulty").  |
|                                    | 3. Carburetors                       | Readjust the carburetor. (See Maintenance section). If trouble persists, contact your dealer.   |
|                                    | 4. Faulty ignition                   | First check item 3 of "Engine turns over but fails to start or starts with difficulty". If the ignition system still seems faulty, contact your dealer. |
|                                    | 5. Engine                            | If unable to locate specific symptoms, contact your dealer.   |
| Engine continually backfires       | 1. Faulty spark plug                 | Check item 3 of "Engine turns over but fails to start or starts with difficulty".   |
|                                    | 2. Overheated                        | Carburetor set too lean. Contact your dealer.   |
|                                    | 3. Engine timing incorrectly set     | Contact your dealer.  |
| Snowmobile cannot reach full speed | 1. Drive Belt                        | Check for damaged or worn drive belt. Replace if necessary.   |
|                                    | 2. Incorrect track adjustment        | Check track tension and alignment. Readjust to specifications. (See Maintenance Section).   |
|                                    | 3. Faulty engine                     | Check item 1 to 5 of "Engine lacks acceleration or power".  |
|                                    | 4. Pulley misaligned                 | Contact your dealer.  |

# TOOLS

As standard equipment each new snowmobile is supplied with a basic tool kit such as screwdriver, wrenches, emergency starter rope, etc...

## Standard Tools



# SPECIFICATIONS

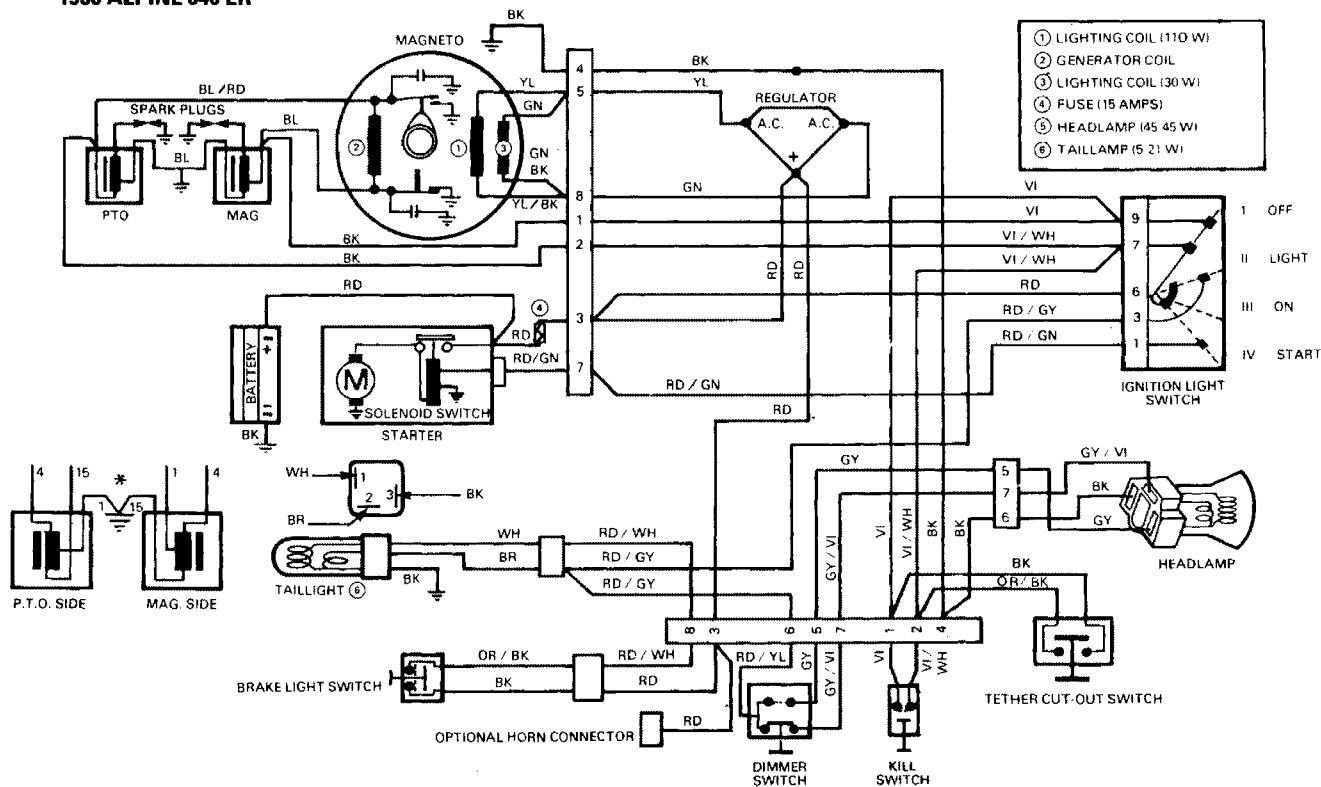
|  | ALPINE 640 ER  |
|--|--|
| <b>ENGINE</b><br>No. of cylinders<br>Bore<br>Stroke<br>Displacement<br>Compression ratio (corrected)<br>Carburetor type<br>Carburetor adjustment<br>— air screw<br>— main jet<br>— idle speed<br>Engine head nuts (torque)<br>Fan belt free-play | 2<br>76 mm (2.992 in.)<br>70 mm (2.755 in.)<br>635.1 cm <sup>3</sup> (38.76 in. <sup>3</sup> )<br>6:1<br>VM 34-215<br>1 1/2 turn $\pm$ 1/8<br>280<br>1500-1800 R.P.M.<br>20 N•m (15 ft-lbs)<br>6 mm (1/4 in.)  |
| <b>CHASSIS</b><br>Overall length<br>Overall width<br>Overall height<br>Ski alignment<br>Handlebar / steering column<br>bolt torque<br>Weight<br>Bearing area<br>Ground pressure  | 288.3 cm (113.5 in.)<br>88.9 cm (35 in.)<br>124 cm (48 7/8 in.)<br>Ski perpendicular to handlebar<br>40-47 N•m (30-35 ft-lbs)<br>281.2 kg (620 lbs)<br>13936.3 cm <sup>2</sup> (2160 in. <sup>2</sup> )<br>1.98 kPa (.287 lbs/in. <sup>2</sup> )   |
| <b>POWER TRAIN</b><br>Track dimensions<br>Track tension<br><br>Track alignment<br>Std. gearbox ratio<br>Gearbox oil capacity<br>Gearbox chain tension<br>Drive belt (minimum width)  | 2 x 38.1 cm (15 in.) x 353 cm (139 in.)<br>A deflection of 57 mm (2 1/4 in. $\pm$ 1/8 in.) should exist between the top inside edge of the track and the retaining bolt of the second bogie wheel set from the rear of the vehicle.<br>Equal distance between edges of tracks and link plates.<br>17/38<br>454 mL (16 oz.)<br>6 mm (1/4 in.)<br>30 mm (1 3/16 in.) |
| <b>ELECTRICAL</b><br>Lighting system (output)<br>Headlamp bulb<br>Tail/stop light<br>Spark plug<br>Spark plug gap<br>Advanced ignition timing<br>— direct<br>— indirect  | 12 volts, 140 watts<br>45/45 W<br>5/21 W<br>Bosch M 240 T1 (M4A2)<br>0.5 mm (.020 in.)<br>3.7-4.2 mm (.145"- .165")<br>3.8-4.3 mm (.150"- .170")   |
| <b>FUEL</b><br>Tank<br>— S.I.*<br>capacity<br>— Imp.<br>— U.S.<br>Gasoline<br>Gas/oil ratio  | 22.7 liters<br>5 gallons<br>6 gallons<br>Regular<br>50/1   |
| <b>BRAKE</b><br>Brake type<br>Brake adjustment (control lever)<br><br>Brake linings (minimum thickness)  | Disc, self-adjusting<br>13 mm (1/2 in.) minimum distance from handlebar grip when fully applied<br>5 mm (3/16 in.)   |

\*International Standard

*Bombardier Limited reserves the right to make changes in design and specifications and/or to make additions to, or improvements in its product without imposing any obligation upon itself to install them on its product previously manufactured.*

## 1980 ALPINE 640 ER

## WIRING DIAGRAM



# S.I.\* METRIC INFORMATION GUIDE

## BASE UNITS

| DESCRIPTION | UNIT               | SYMBOL |
|-------------|--------------------|--------|
| length      | meter              | m      |
| mass        | kilogram           | kg     |
| liquid      | liter              | L      |
| temperature | celsius            | °C     |
| pressure    | kilopascal         | kPa    |
| torque      | Newton meter       | N•m    |
| speed       | kilometer per hour | km/h   |

## PREFIXES

| PREFIX | SYMBOL | MEANING             | VALUE |
|--------|--------|---------------------|-------|
| kilo   | k      | one thousand        | 1,000 |
| centi  | c      | one hundredth of a  | 0.01  |
| milli  | m      | one thousandth of a | 0.001 |

\*THE INTERNATIONAL SYSTEM OF UNITS (SYSTEME INTERNATIONAL) ABBREVIATES "SI" IN ALL LANGUAGES.

## LIMITED WARRANTY SKI-DOO® SNOWMOBILES 1980

BOMBARDIER Limited as manufacturer, warrants FROM THE DATE OF FIRST CONSUMER SALE, every 1980 Ski-Doo® snowmobile, sold as NEW AND UNUSED, by an authorized SKI-DOO dealer, subject to the following limitations and conditions, for a period of:

- **two (2) seasons maximum** for models:

Elan® , Citation\* , Everest® , Elite® ,

Warranty STARTS on the date of sale to the first consumer and ENDS the SECOND APRIL 30TH following the date warranty coverage started.

or

- **Ninety (90) consecutive** days for the following models: BLIZZARD® 5500-7500-9500 and ALPINE® subject to the following:

1. When a sale is made after MARCH 31ST of a given year but before THE 1ST DAY OF DECEMBER of the same year, the warranty will start on DECEMBER 1ST following the date of sale and terminate 90 days later.
2. When a sale is made on/or after JANUARY 2ND of a given year, the unused portion of the 90 days warranty as of MARCH 31ST, of that year will be carried over to the next season, beginning the 1ST DAY OF DECEMBER.

**Any 1980 model not listed is not warranted.**

### WHAT WE WILL DO

BOMBARDIER will repair and/or replace, at its option, components defective in **material and/or workmanship (under normal use and service,)** with a genuine BOMBARDIER component without charge for parts or labour at any authorized SKI-DOO dealer during said warranty period.




## EXCLUSIONS

### Items and components:

Any of the following expendable items and/or components that are damaged or worn due to normal use: variable speed drive belt, wind-shield, filters, ignition breaker points, condensers, spark plugs, light bulbs, protective lenses, brake linings, ski runner shoes, slider shoes on suspension and variable speed pulleys, labels, soft trim, appearance items, lubricants and paints and all tune-ups, seized, melted or holed piston and adjustments required.

### Also excluded are:

- Damage resulting from installation of parts other than genuine BOMBARDIER parts.
- Damage caused by failure to provide **proper maintenance** as detailed in the **Operator Manual** supplied with each SKI-DOO snowmobile. The labour, parts and lubricants cost of all maintenance services, including tune-ups and adjustments will be charged to the owner.
- Damage resulting from improper servicing or adjustment of the drive pulley assembly. **The drive pulley assembly is factory sealed, and can only be serviced by an authorized SKI-DOO dealer.**
- Vehicles used for racing purposes.
- Vehicle used for rental purpose or other business purposes.
- All optional accessories installed on the vehicle.  
**(The normal warranty policy for parts and accessories, if any, applies).**
- Damage resulting from operation of the snowmobile on surfaces other than snow.
- Damage resulting from accident, fire or other casualty, misuse, abuse or neglect.
- Damage resulting from modification to the snowmobile not approved in writing by BOMBARDIER.
- Losses incurred by the snowmobile owner other than parts and labour, such as, but not limited to, transportation, towing, telephone calls, taxis, or any other incidental or consequential damages.



Some states or provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply.

## **CONDITION TO HAVE WARRANTY WORK PERFORMED**

Present, to the servicing dealer, the hard copy of the BOMBARDIER Customer Registration card given by the selling dealer at time of purchase.

## **EXPRESSED OR IMPLIED WARRANTIES**

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

Where applicable this warranty is expressly in lieu of all other expressed or implied warranties of BOMBARDIER, its distributors and the selling dealer, including any warranty of merchantability of fitness for any particular purpose; otherwise the implied warranty is limited to the duration of this warranty. However, some states or provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply.


Neither the distributor, the selling dealer, nor any other person has been authorized to make any affirmation, representation or warranty other than those contained in this warranty, and if made, such affirmation, representation or warranty shall not be enforceable against BOMBARDIER or any other person.

## **CONSUMER ASSISTANCE**

If a servicing problem or other difficulty occurs, we suggest the following:

1. Try to resolve the problem at the dealership with the Service Manager or Owner.
2. If this fails, contact your area distributor listed in the Operator Manual.
3. Then if your grievance still remains unsolved, you may write to us:

Bombardier Limited  
Customer Relations Department  
Recreational Product Group  
Valcourt, Quebec, Canada, JOE 2LO



**Bombardier Limited reserves the right to modify its warranty policy at any time, being understood that such modification will not alter the warranty conditions applicable to vehicles sold while the above warranty is in effect.**

November 1978

Bombardier Limited  
Valcourt, Quebec, Canada, JOE 2LO

\*Trademark of Bombardier Limited

® Registered Trademark Bombardier Limited

## OFTEN ASKED QUESTIONS

**Q:** Why must my snowmobile be registered? After all I do have my original invoice as proof of when I purchased my snowmobile.

*A: The information provided by the Customer Warranty Registration card is computerized, and all warranty claims thereafter, are processed by the computer. Without this valuable information on the Warranty Registration Card, we cannot acknowledge warranty or notify owners of a possible recall.*

**Q:** How do I know my vehicle has been registered at the factory?

*A: When you bought your snowmobile the dealer should have completed, and forwarded us the manufacturer's copy of the Customer Warranty Registration. The **hard copy** of the card is your proof that the snowmobile is registered.*

**Q:** I bought my snowmobile in O'King County but I snowmobile in Washington County. Can the dealer in Washington County accept to perform warranty work on my snowmobile?

*A: Yes, any authorized dealer in North America can perform warranty repairs, providing the customer warranty registration card is presented.*

**Q:** Where can I find information on the lubrication and maintenance of my snowmobile?

*A: In this Operator Manual provided with the vehicle at the time of first sale.*

**Q:** Will the entire warranty be void or cancelled, if I do not operate or maintain my new snowmobile exactly as specified in the Operator's Manual?

*A: The warranty of the snowmobile cannot be "Voided" or "Cancelled". However, if a particular failure is caused by operation or maintenance other than is shown in the Operator Manual, **that** failure may not be covered under warranty. This includes service work performed by the customer, especially the critical adjustments to ignition, timing, carburetion and oil injection/or oil mixture.*

**Q:** Would you give some examples of abnormal use or strain, neglect or abuse?

*A: These terms are general and overlap each other in areas. Some specific examples may include: running the machine out of oil, sustained high r.p.m. full throttle use, chain failure caused by a lack of lubrication and/or adjustments, operating the machine with a broken or damaged part which causes another part to fail, and so on. If you have any specific questions on operation or maintenance, please contact your dealer for advice.*

Q: What costs are my responsibility during the warranty period?

*A: The customer's responsibility includes all costs of normal maintenance services, non-warranty repairs, accidents and collision damage, as well as oils, and spark plugs.*

Q: Are "Genuine" Bombardier replacement parts used in warranty repairs covered by warranty?

*A: Yes. When installed by an authorized dealer, any "genuine" Bombardier part used in warranty repairs assumes the remaining warranty that exists on the machine.*

Q: What is Bombardier's policy on extending a warranty?

*A: It is not Bombardier's policy to extend warranty. Bombardier has selected a warranty period sufficiently long to permit adequate use of the machine to allow for concealed manufacturing defects to occur.*

Q: Manufacturer does not accept warranty work on seized, scored or melted pistons, why?

*A: From testing and experience, we know that such piston failures can only be caused by detonation or pre-ignition, which are directly related to the following factors and therefore, are beyond the manufacturer's control.*

- Incorrect oil/gas mixture (too little or too much oil).
- Poor quality, outboard or straight mineral oils.
- Removal of intake silencer.
- Hot spark plug(s) (improper heat range).

Q: If I sell my snowmobile within the warranty period, will the new owner qualify for the balance of the warranty?

*A: Yes, provided the unit has already been registered with the manufacturer. Note that the change of ownership card in this manual should be completed and sent to Valcourt.*

## WHEN YOU BUY ...

our product you will receive:

**SERVICE** — from the product itself

**SERVICE** — from the dealer who sells the product

If, however, the service or product is unsatisfactory,

### 1<sup>st</sup>

Return to your dealer's service department and discuss the details of the problem with the manager. He is in a position to help you with all maintenance and service needs. If the matter cannot be resolved, he may want to bring the sales manager or the general manager into discussion.

If the dealer cannot solve the situation.

### 2<sup>nd</sup>

Write to your nearest area distributor.

**TELL HIM THE FACTS**

- Vehicle identification number.
- Date of purchase.
- Name and address of your selling dealer.
- Your name, address and phone number.
- The specific problem.

The matter will receive immediate attention from the distributor's service department.

If at this point your grievance still remains unresolved, **contact**

### 3<sup>rd</sup>

**Bombardier Limited,  
Valcourt, P.Q. J0E 2L0  
Att'n Customer relations**

Provide all necessary details (including names of persons previously contacted). Your problem will be reviewed and instructions will be provided to the persons responsible for product service in your area or we may contact you directly.

# LISTING OF AREA OF DISTRIBUTORS



## CANADIAN DISTRIBUTORS

**ALPINE DISTRIBUTORS LIMITED**  
Kalamalka Lake Road  
P.O. Box 159  
Vernon, British Columbia, V1T 6M2  
(604) 645-1314  
British Columbia

**BOMBARDIER LIMITED**  
EASTERN CANADA DISTRIBUTION DIVISION  
Atlantic Branch  
P.O. Box 670  
Shediac, New Brunswick, E0A 3G0  
(506) 532-4454  
Magdalen Island, Nova Scotia, New Brunswick,  
Prince Edward Island

**BOMBARDIER LIMITED**  
EASTERN CANADA DISTRIBUTION DIVISION  
Quebec Branch  
1350 Nobel Boulevard  
Boucherville, Quebec, J4B 1A1  
(514) 527-2469 or 655-6121  
Province of Quebec

**BOMBARDIER LIMITED**  
EASTERN CANADA DISTRIBUTION DIVISION  
Ontario Branch  
230 Bayview Drive  
Barrie, Ontario, L4M 2Y8  
(705) 728-8600  
Province of Ontario

**BROOKS EQUIPMENT LIMITED**  
1616 King Edward Street  
P.O. Box 985  
Winnipeg, Manitoba, R3C 2V8  
(204) 633-7247  
Manitoba, Saskatchewan

**HUDSON'S BAY CO. LTD.**  
165 Hymus Boulevard  
Pointe-Claire, Québec, M4W 1A8  
(514) 697-8500  
North-West Territories, Franklin District & Keewatin

**J.W. RANDALL LIMITED**  
West Street  
P.O. Box 757  
Corner Brook, Newfoundland, A2H 6G7  
(709) 634-3533  
Newfoundland, Labrador

**TRACT EQUIPMENT**  
14325, 114th Avenue  
Edmonton, Alberta, T5M 2Y8  
(403) 452-9910  
Alberta, Dist. Mackenzie, Yukon, N.W.T.



## AMERICAN DISTRIBUTORS

**BOMBARDIER CORPORATION**  
4506 West Superior Street  
P.O. Box 6106  
Duluth, Minnesota 55806  
(218) 628-2881  
North Dakota, Minnesota, Wisconsin, Illinois, Missouri,  
Michigan, Indiana, Ohio (less eastern half), Tennessee,  
Kentucky, West Virginia, Virginia, Northern Idaho,  
Northern Wyoming, Montana, Iowa, Washington  
**ELLIOTT & HUTCHINS INC.**  
East Main Street Road  
Malone, New York 12953  
(518) 483-4411  
New York, Massachusetts, Connecticut, Rhode Island,  
Pennsylvania, New Jersey, Maryland, Delaware, District of  
Columbia, Northern half of Ohio.

**MILLER EQUIPMENT AND RECREATIONAL CENTER**  
1049 Whitney Road  
Anchorage, Alaska 99501  
(907) 274-9513  
Alaska

**TIMBERLAND MACHINES INC.**  
10 North Main Street  
Lancaster, New Hampshire 03584  
(603) 788-4738  
Maine, New Hampshire, Vermont

## THROUGHOUT THE WORLD

**BOMBARDIER-ROTAX GmbH**  
Vienna Branch,  
P.O. Box 86  
Donaufelderstrasse 73-79  
1210 Vienna, Austria  
Austria

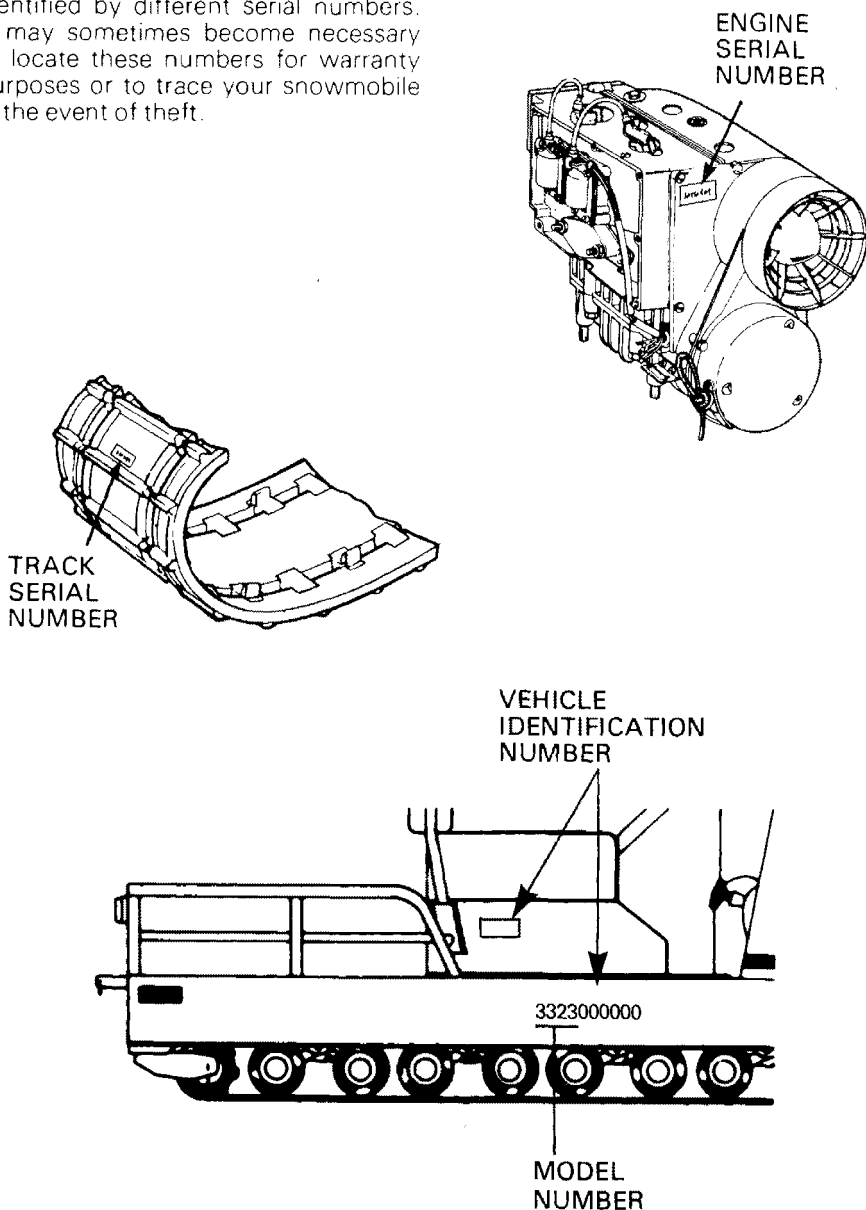
**COLBJORNSEN & CO. A/S**  
P.O. Box 80  
1341 Bekkestua, Norway  
Norway

**KY LAATUVAUNU**  
Italahdenkatu 25  
SF-00210 Helsinki 21, Finland  
Finland

**MOVAC AB**  
Box 791  
S901 — 10 Umäa, Sweden  
Sweden

# HOW TO IDENTIFY YOUR SNOWMOBILE

The main components of your snowmobile (engine, track and frame) are identified by different serial numbers. It may sometimes become necessary to locate these numbers for warranty purposes or to trace your snowmobile in the event of theft.



**NOTE:** We strongly recommend that you take note of all the serial numbers on your vehicle and supply them to your insurance company. It will surely help in the event a snowmobile is stolen.



# CHANGE OF ADDRESS AND OWNERSHIP

Any change in address or ownership should be brought to the attention of the manufacturer by completing and sending out the card supplied below. This will help us to maintain our files up-to-date.

## CHANGE OF ADDRESS

VEHICLE IDENTIFICATION NUMBER

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

OLD ADDRESS:

|      |        |                   |
|------|--------|-------------------|
| NAME |        |                   |
| NO   | STREET | APT.              |
| CITY | STATE  | ZIP / POSTAL CODE |

NEW ADDRESS:

|      |        |                   |
|------|--------|-------------------|
| NAME |        |                   |
| NO   | STREET | APT.              |
| CITY | STATE  | ZIP / POSTAL CODE |

## CHANGE OF OWNERSHIP

VEHICLE IDENTIFICATION NUMBER

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

The ownership of this vehicle is transferred

FROM:

|      |        |                   |
|------|--------|-------------------|
| NAME |        |                   |
| NO   | STREET | APT.              |
| CITY | STATE  | ZIP / POSTAL CODE |

TO:

|      |        |                   |
|------|--------|-------------------|
| NAME |        |                   |
| NO   | STREET | APT.              |
| CITY | STATE  | ZIP / POSTAL CODE |



**BOMBARDIER LIMITED**  
ATT.: WARRANTY DEPARTMENT  
VALCOURT, QUEBEC  
CANADA, J0E 2L0

**BOMBARDIER LIMITED**  
ATT.: WARRANTY DEPARTMENT  
VALCOURT, QUEBEC  
CANADA, J0E 2L0