

**TNT**®

**1977**  
**OPERATOR**  
**MANUAL**

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Litho'd in Canada 484 019 900



**ski-doo**®  
snowmobiles



## Recreational Products Group

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## FOREWORD

Within the North American Continent, there exist a very special breed of people... people who enjoy ice and snow, and the unexcelled trails that lead to virtually every corner of the snowbelt. They enjoy too, the comfort of warm clothing, the friendliness of companions, and the recreational vehicle that made it all possible... the Ski-Doo snowmobile.

We, like millions of North American families, have never forgotten our pioneer heritage, or our love of nature and the great outdoors, consequently, we have designed and engineered all our models with safety, comfort and quietness foremost in our minds. We do respect your desires, and that of others.

Information has been prepared to acquaint the owner / operator of a new 1977 snowmobile with the various vehicle controls, owner-related maintenance, and safe operating instructions.

This is accomplished via three manuals; 'The Snowmobile Safety Handbook' the 'Warranty and Consumer Guide Booklet' and the 'Operator Manual'. Each is inseparable toward proper use of the product, and should be kept with the vehicle at all times.

This manual emphasizes particular information denoted by the wording and symbols;

 **WARNING:** Identifying an instruction which, if not followed, could cause personal injury.

 **CAUTION:** Denotes an instructions 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.

MICHEL CLOUTIER,



General Manager  
Recreational Product Group

# 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 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 and 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 "stock" 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.
- On T'NT equipped with free air engine since the engine cooling is in effect only when the vehicle is in motion, it is recommended that you do not allow the engine to idle for more than brief periods. Prolonged idling and low speed operation may cause engine damage.

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

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

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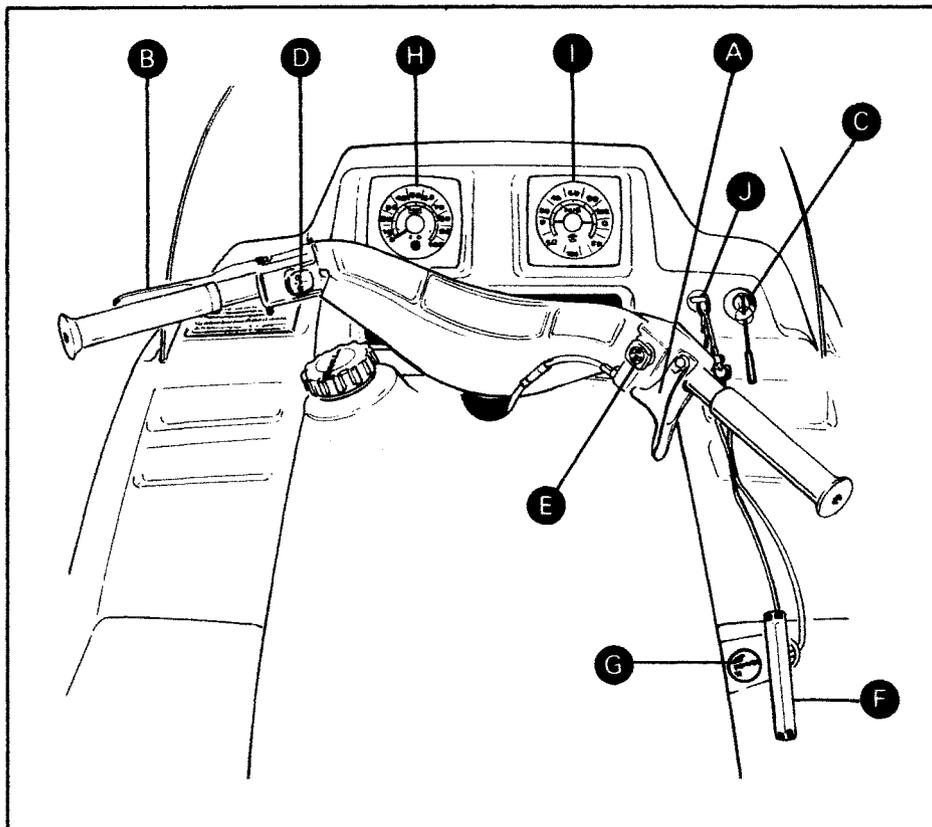
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## CONTROLS / INSTRUMENTS



- A) Throttle Control Lever
- B) Brake Control Lever
- C) Ignition / Light Switch
- D) Headlamp Dimmer Switch
- E) Emergency Cut-Out Switch
- F) Rewind Starter Handle
- G) Primer
- H) Tachometer
- I) Speedometer
- J) Tether Cut-Out

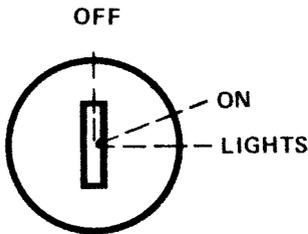
## A) Throttle Control Lever

Located on right side of handlebar. When compressed, 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 compressed, 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, 3 position switch. To start engine, first turn key clockwise to ON position. **To stop engine**, turn key counter-clockwise to OFF position. Turning key fully clockwise, with engine running, illuminates both headlamp and taillight.

## 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) Rewind Starter Handle

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

## G) Primer

A push-pull button located alongside manual starter handle. 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) Tachometer

The tachometer registers the impulses of magneto. Direct-reading dial indicates, in thousands, the number of revolutions per minute (RPM) of the engine.

▼ **CAUTION:** The tachometer is protected by a fuse, if tachometer stops operating, check fuse condition and if necessary, replace. The fuse is .2 amps. Do not use a higher rated fuse as this can cause severe damage to the tachometer.

## I) Speedometer

The speedometer is linked directly to the drive axle. Direct-reading dial indicates the speed of the vehicle in miles per hour (MPH). Odometer records the total number of miles travelled.

## J) Tether Cut-Out Switch

A pull switch located on the right side of cab. 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 re-starting engine.

## Cab Opening

Push down on cab and turn cab handles toward front of vehicle then lift cab gently up until stopped by restraining device. Carefully close cab until it sits correctly in position.

## Tool Box

Located under the cab. To gain access, tilt cab. Ideal location for spare plugs, belt, rope, etc. Spark plugs and other breakable emergency items should be wrapped in foam or similar material. This will prevent possible breakage while travelling over rough or bumpy terrain.

## Fuel Gauge

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

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

## BREAK-IN PERIOD

With Ski-Doo snowmobile engines, a break-in period is required before running the vehicle at full throttle. Manufacturers' recommendation for the Bombardier-Rotax engine 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.

### Inspection

After the break-in period, each Ski-Doo snowmobile should have an inspection check. This inspection is at the expense of the vehicle owner.

## 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

The correct gasoline is regular gasoline, available from all service stations.

 **CAUTION:** Never experiment with different fuel or fuel ratios. Never use low lead or non leaded gasoline, naphta, methanol or similar products.

### Recommend 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.

5 gallons of regular gasoline plus 1 can of 50 / 1 concentrated Bombardier snowmobile oil = correct fuel mixture.

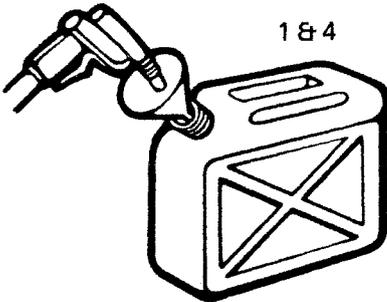
 **NOTE:** To facilitate fuel mixing, oil should be kept at room temperature.

## Fuel Mixing Procedure

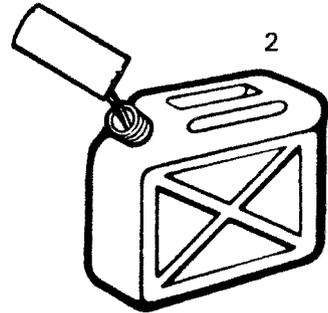
To mix the gasoline and oil always use a separate clean container. Never mix directly in your snowmobile tank. For best results, acquire two containers, either plastic or metal. Draw from one until empty then use the second one.

◆ **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.

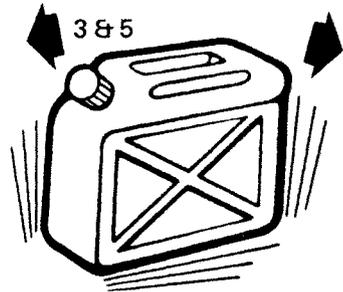
1. Pour approximately one gallon of gasoline into a clean container.



2. Add the full amount of oil.



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.

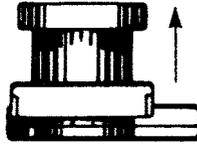
◆ **WARNING:** Never 'top up' gas tank before placing vehicle in a warm area. At certain temperatures, gasoline will expand and overflow.

## Check Points

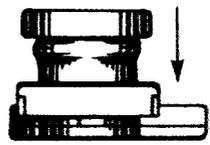
- Activate the throttle control lever several times to check that it operates easily and smoothly. The throttle control lever must return to idle position when released.
- Check that the skis and the track are not frozen to the ground or snow surface and that the steering operates freely.
- Activate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

Upper position  
before starting  
engine



Lower position  
to stop engine



1. Insert key in ignition and turn to ON position.
2. **Test throttle control lever.** Then activate primer (2 to 3 times). Primer is not necessary if engine is warm.
3. Make sure the tether cut-out cap is in position and that the cord is attached to your body. Check that the emergency cut-out button is in the released upper position.
4. Grasp manual starter handle firmly and pull slowly until a resistance is felt then pull vigorously. Slowly release rewind starter handle.
5. Check operation of the emergency cut-out and tether cut-out switches. Re-start engine.

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

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

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

▼ **CAUTION:** On free air models since engine cooling is in effect only when the vehicle is in motion. Prolonged idling and low speed operation may cause engine damage. Do not allow the engine to idle for more than brief periods.

## Emergency Starting

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

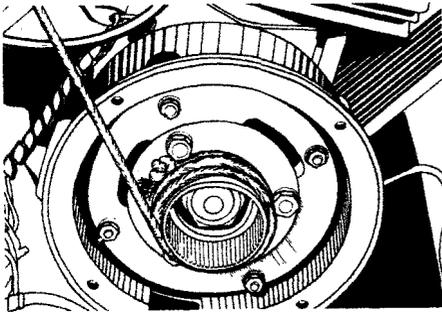
Remove the tuned muffler.

◆ **WARNING:** Make sure that the muffler is cold before attempting to remove it from vehicle.

Remove the rewind starter assembly from the engine and transfer the rope handle to your emergency rope.

Install tuned muffler **before** attempting to start engine.

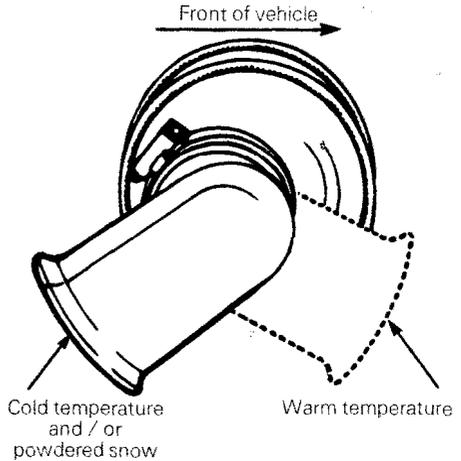
Wind rope around starting pulley. The knot of the emergency rope should be positioned behind one stud of the pulley.



Pull vigorously as per usual manual starting to start engine.

## Air Intake Silencer

At cold temperature and / or when the vehicle is operated in powdered snow, the air intake silencer elbow must be turned toward the rear of the vehicle. The elbow may be turned to the front of the vehicle only when the vehicle is operated at warm temperature.



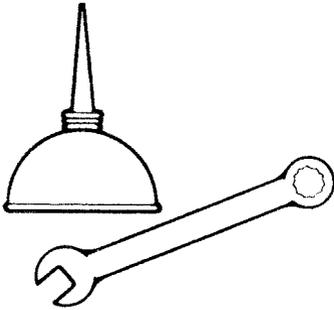
▼ **CAUTION:** Never operate your snowmobile with the air intake silencer disconnected. Serious engine damage will occur if this notice is disregarded.

## Slide Suspension

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

# LUBRICATION

## Frequency



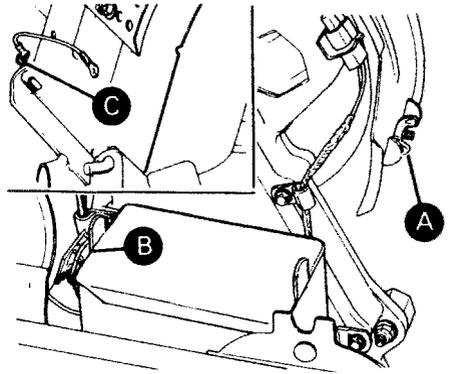
Routine maintenance is necessary for all mechanized products, and the snowmobile is no exception. A weekly vehicle inspection contributes to the life span of the snowmobile as well as retain safe and trouble-free operation. It is recommended that the steering system and suspension, be lubricated monthly 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. 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.

## Pulley Guard Removal

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

1. Tilt cab, unscrew wing nut (A) and pull out retainin clips (B & C).

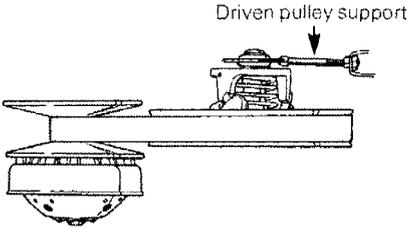


2. Disengage guard from rear and middle brackets then disengage pin from front bracket. Remove complete assembly.

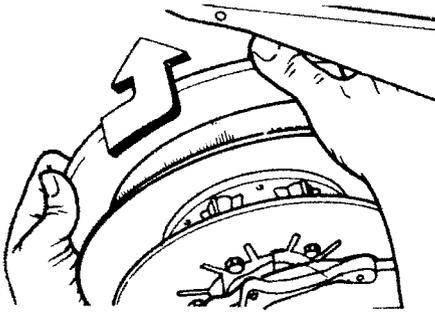
## Drive Belt Removal

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

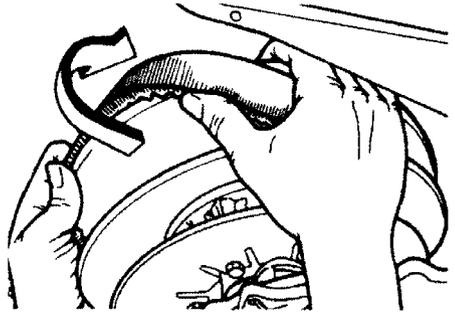
1. Tilt cab and remove pulley guard. Unlock and raise driven pulley support.



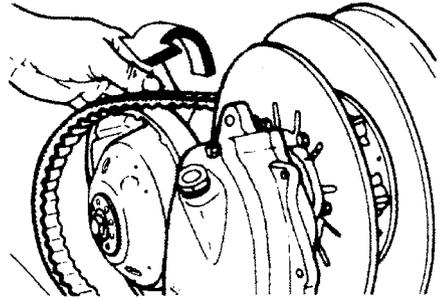
2. Open the driven pulley by twisting and pushing the sliding half. Hold in fully open position.



3. Slip slackened belt over the top edge of the sliding half.

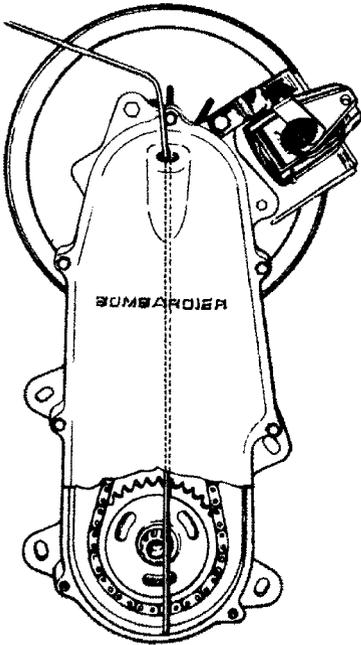


4. Slip the belt out from the drive pulley and remove completely from vehicle. To install drive belt, reverse procedure.



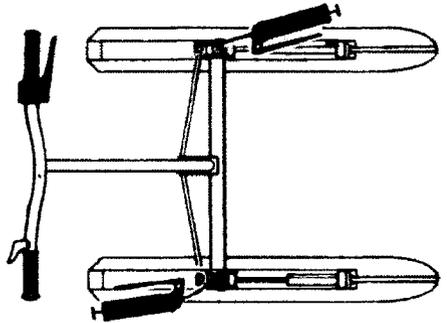
## Chaincase Oil Level

Using the spark plug socket, remove the filler cap then using a rigid wire as a "dipstick" check oil level. The oil level on the "dipstick" should be 75-90 mm (3" to 3½"). Replenish as necessary. The chaincase oil capacity is approximately 256 ml (9 oz.).



## Steering Mechanism

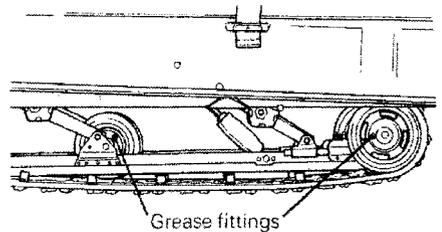
Lubricate ski legs at grease fittings until new grease appears at joints. Oil spring coupler bolts.



◆ **WARNING:** Do not lubricate throttle and / or brake cable and housings.

## Slide Suspension

Using a low pressure grease gun, lubricate the four (4) idler wheels, with low temperature grease. Pump 3 to 4 times through the grease fitting located on each cap of idler wheel. Wipe off excess.



# MAINTENANCE

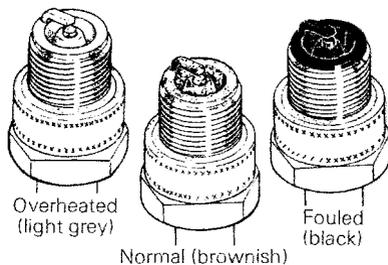
The following Maintenance Chart indicates regular servicing schedules to be performed by you or your servicing dealer. If these services are performed as suggested, your snowmobile will give you many years of low-cost use.

**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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## (W1) Spark plug

1. Disconnect spark plug wires and remove spark plugs.
2. Check condition of plugs.
  - A brownish tip reflects ideal conditions. (Correct carburetor, spark plug heat range; etc.).
  - A black insulator tip indicates fouling caused by; carburetor idle speed mixture and / or high speed mixture too rich, incorrect fuel mixture 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 Ski-Doo dealer.

3. Reinstall plugs and connect wires.

## (W2) Suspension

Visually inspect suspension springs. Replace any weak or broken spring. If vehicle is equipped with a slide suspension, inspect shoe condition and replace as necessary.

## (W3) Track

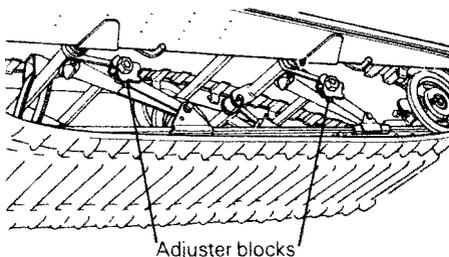
With rear of vehicle off the ground, rotate track and inspect condition. Check for bad cuts, missing inserts or track guides. If bad cuts missing or defective inserts or guides are noted, contact your dealer for replacement.

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

## (W4) Track Tension and Alignment

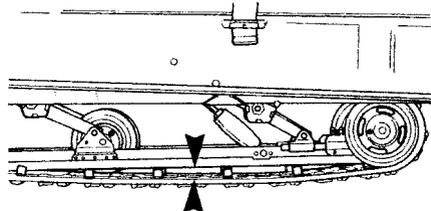
The suspension is adjustable, the front adjustment for surface condition, the rear for driver's weight.

When the front adjuster blocks are at the lowest elevation more weight is distributed on skis. At the highest position the weight is transferred from the skis to the track. The rear adjuster blocks should be adjusted to suit the driver's preference. (The spark plug socket is an ideal tool to turn adjuster blocks).



▼ **CAUTION:** Always turn left side adjuster blocks in a clockwise direction, the right side blocks in a counter-clockwise direction. Left and right adjuster blocks of each adjustment must always be set at the same elevation.

Lift rear of vehicle and support with a mechanical stand. Allow slide to extend normally. A gap of 19 mm ( $\frac{3}{4}$  inch) should exist between slider shoe and bottom inside of track. If track tension is too loose, the track will have a tendency to thump.



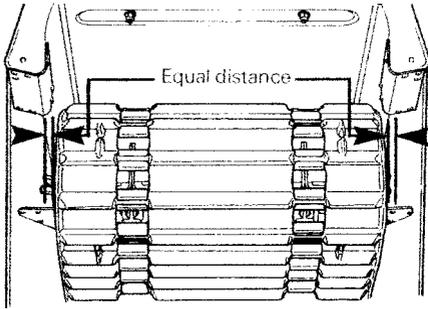
19 mm ( $\frac{3}{4}$ " )

▼ **CAUTION:** Too much tension will result in power loss and excessive stresses on suspension components.

If necessary to adjust, loosen or tighten adjuster bolts located on inner side of rear idler wheels. If correct tension is unobtainable. Contact your dealer.

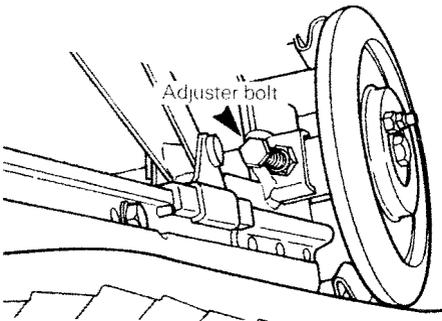
○ **NOTE:** Track tension and alignment are inter-related. Do not adjust one without the other.

Start the engine and accelerate slightly so that track turns **slowly**. Check that track is well centered and turns evenly.



**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.

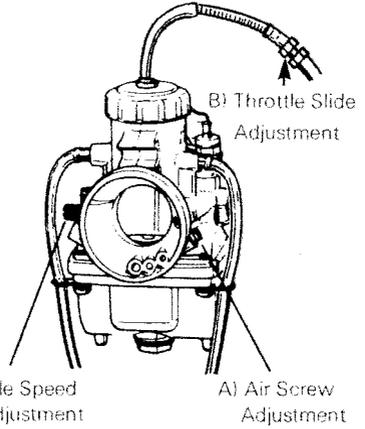
To correct, stop engine then loosen the lock nuts and tighten the adjuster bolt on side where track is closest to the frame. Tighten lock nuts and recheck alignment.



### (W5) Carburetor Adjustment

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

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), for T'NT with free air engine back off screw 1 turn, for T'NT 440 fan cooled back off screw 1½ turn.

### B) Throttle Slide Adjustment

Completely open (counter-clockwise) the idle speed screw, unlock cable adjuster lock nut then adjust the throttle cable to remove all slack when operating throttle control lever. Lock cable adjuster in position by tightening the adjuster lock 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.

## (W6) 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. The drive belt width should not be less than 3 cm (1 $\frac{1}{16}$ " ) wide.

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

## (W7) Steering Mechanism

Inspect steering mechanism for tightness of components (steering arms, tie rods, ball joints, spring coupler bolts, etc.). If necessary, replace or retighten. Check condition of skis and ski runners. Replace if worn.

## (M1) Brake

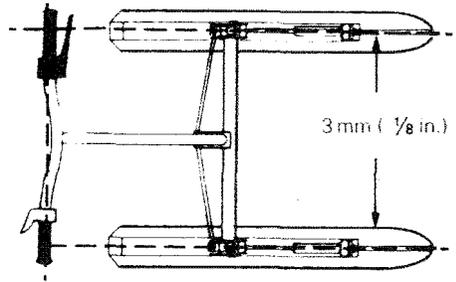
The brake mechanism is self-adjusting, therefore, periodic adjustment is not required. However, check operation of brake mechanism by depressing brake control lever. Brake should apply fully when lever is 13 mm (½ in.) approx. from handlebar grip. If not, do not tamper with the brake, contact your servicing dealer.

◆ **WARNING:** Brake pad or pucks less than 4.5 mm (  $\frac{3}{16}$  in.) must be replaced. Replacement must be performed by an authorized Ski-Doo dealer.

## (M2) Steering Adjustment

Skis should have a toe out of 3 mm (  $\frac{1}{8}$  in.). To check, measure distance between each ski at front and rear of leaf springs. The front distance should be 3 mm (  $\frac{1}{8}$  in.) more than the rear when the handlebar is horizontal.

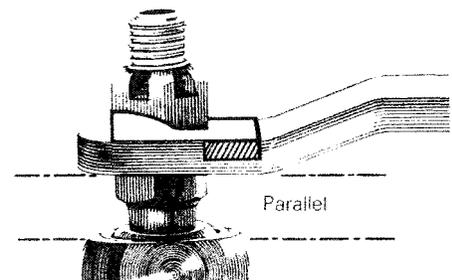
**IMPORTANT:** Close front of skis manually to take all slack from steering mechanism.



If adjustment is required:

Unscrew the nuts locking the tie rods in place. Turn one or both tie rods until skis are parallel to each other. Then, measuring at front of leaf springs, add an additional 1.5 mm (  $\frac{1}{16}$  in.) on each side by rotating turnbuckles. Tighten the nuts firmly against the tie rod. Check tightness of the steering arm locking bolts, ball joints wear, etc.

◆ **WARNING:** The ball joint socket must run parallel with the steering arm. The socket must be restrained when tightening the tie rod end lock nuts. Ensure at least half of the ball joint threads are inserted into the tie rod.



### (M3) Engine Head Nuts

After the first 5 hours of operation, check that engine head nuts are tight and equally torqued 1.9-2.2 kg-m (14-16 ft-lbs) when engine is cold.

### (M4) Engine Mount Nuts

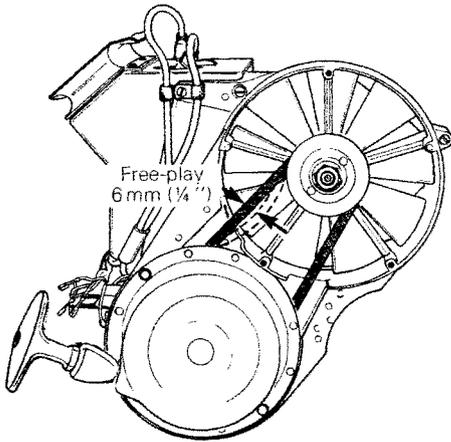
Check engine mount nuts for tightness. Retighten if necessary.

### (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

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



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

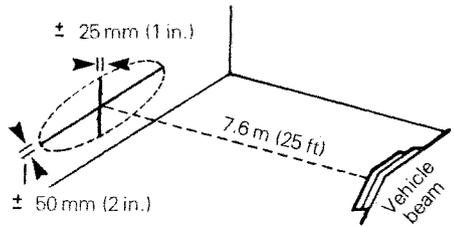
**WARNING:** If fan protector is removed, always reinstall after servicing.

### (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 skis and ski runners 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 meter (25 feet) from a wall or screen. Turn HI beam on (engine must be running). Beam aiming is correct when beam center is equal with horizontal deviation of 50 mm (2 inches) and a maximum vertical deviation of 25 mm (1 inch).



If applicable remove chrome ring then turn upper or lower adjustment screws turn upper or lower adjustment screws to obtain specified beam position.

### Bulb Replacement

If headlamp is burnt, tilt cab. Unplug connector from headlamp. Remove rubber boot and unfasten bulb retainer clips. Detach bulb and replace. If tail-light 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

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 periods 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 of 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.

### Track

Inspect track for cuts, missing track guides and broken rods. Make any necessary replacement.

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

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

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

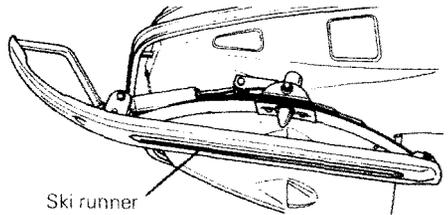
### Suspension

Remove any dirt or rust. Grease idler wheels at grease fittings. Wipe off surplus. Replace worn slider shoes.

### Ski assembly

Wash or brush all dirt or rust accumulation from skis and springs. Grease ski

legs at grease fittings. Check condition of skis, ski runners and leaf springs. Replace if worn or weak.



Apply metal protector on ski assembly. If unavailable, wipe the entire ski with cloth soaked in oil to prevent rust formation.

### Fuel Tank

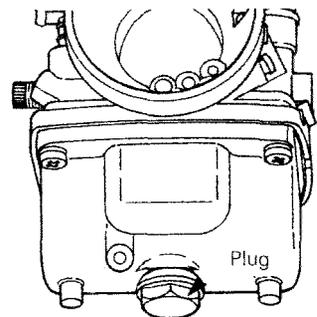
Remove cap then using a syphon, remove gasoline from tank.

◆ **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 inlet fuel line is disconnected. Remove plug of the float chamber of carburetor. Drain carburetor.



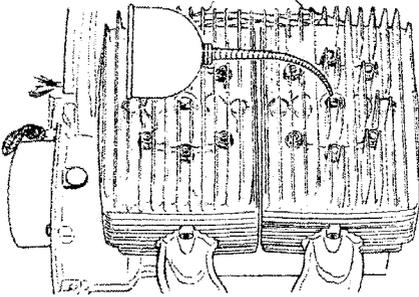
Reinstall plug and connect fuel line.

## 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.

## Chaincase

Drain the chaincase and refill to proper level. To drain chaincase, remove chaincase cover.

## Controls

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

◆ **WARNING:** Do not lubricate throttle and/or brake cable housing. Avoid getting oil on brake pads.

Coat electrical connections and switches with a greaseless metal protector. If unavailable, use petroleum jelly.

## Chassis

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

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

Inspect cab and repair damage. Clean frame.

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 Ski-Doo cover to prevent dust accumulation during storage.

## 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.

○ **NOTE:** Leave drive belt off pulleys for the entire storage period.

# PRE-SEASON PREPARATION

Snow is falling and you are now anticipating the next snowmobile safari. If you have observed and adhered to the storage procedures outlined in this manual, your vehicle preparation become a relatively easy task.

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 or approved equivalents.

## PRE-SEASON PREPARATION

To be performed by dealer ●	
To be performed by owner ○	
Change spark plugs	○
Check chaincase oil level	○
Check drive pulley condition	●
Check ski alignment / ski runners	○
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	●
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	●
Fan cooled model, check fan belt condition and tension	○

# TROUBLE SHOOTING GUIDE

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. Spark Plug	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, being careful to hold away from spark plug hole. Follow engine starting procedure and check for spark. If no sparks appear, replace spark plug. If trouble persists, check item 3.
	3. Faulty ignition	Disconnect spark plug wire from plug, unscrew the spark plug cap then position wire about 3 mm ( 1/8 in.) from the cylinder head. Follow engine starting procedure and if no sparks appear, it means a faulty ignition system. Do not attempt to repair. Contact your dealer.
	4. 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.
	5. Clogged fuel line (water or dirt)	Check condition of fuel filter, if necessary change filter cartridge. Check condition and connections of fuel lines. Check the cleanliness of fuel tank.
	6. Faulty Carburetor	First make primary adjustments on carburetors (See Maintenance Section). If carburetor is still faulty, contact your dealer for repair.
	7. Too much oil in fuel	Drain the fuel tank and refill with the correct gas / oil mixture.
	8. Engine Timing	Engine timing may be defective or out of adjustment. Contact your dealer.
	9. 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. Seizure is a direct result of poor lubrication.

<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 2 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 5 of "Engine turns over but fails to start or starts with difficulty").
	3. Carburetor	Readjust the carburetor. (See Maintenance section). If trouble persists, contact your dealer.
	4. Defective ignition	First check item 2 and 3 of "Engine turns over but fails to start or starts with difficulty". If the ignition system still seems defective, contact your dealer.
	5. Engine	If unable to locate specific symptoms, contact your dealer.
Engine continually backfires	1. Faulty spark plug	Check item 2 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.

		340	440 (Free Air)	440 (Fan Cooled)
Engine	Number of cylinders	2	2	2
	Bore	59.5 mm (2.342")	67.5 mm (2.657")	67.5 mm (2.657")
	Stroke	61 mm (2.401")	61 mm (2.401")	61 mm (2.401")
	Displacement	339.2 cm <sup>3</sup> (20.7 in <sup>3</sup> )	436.6 cm <sup>3</sup> (26.6 in <sup>3</sup> )	436.6 cm <sup>3</sup> (26.6 in <sup>3</sup> )
	Compression ratio	11.5:1	11:1	12:1
	Carburetor	VM 34-118	VM 36-53	VM 34-110
	Starting	Manual	Manual	Manual
Chassis	Overall length	254 cm (100")	254 cm (100")	254 cm (100")
	Overall width	92.1 cm (36 1/4")	92.1 cm (36 1/4")	92.1 cm (36 1/4")
	Height	98.4 cm (38 3/4")	98.4 cm (38 3/4")	98.4 cm (38 3/4")
	Ski stance	71.2 cm (28")	71.2 cm (28")	71.2 cm (28")
	Weight	181.5 kg (400 lbs)	183.8 kg (405 lbs)	183.8 kg (405 lbs)
	Bearing area	7516 cm <sup>2</sup> (1165 po <sup>2</sup> )	7516 cm <sup>2</sup> (1165 po <sup>2</sup> )	7516 cm <sup>2</sup> (1165 po <sup>2</sup> )
	Ground pressure	.024 kg / cm <sup>2</sup> (.348 lb / po <sup>2</sup> )	.024 kg / cm <sup>2</sup> (.348 lb / po <sup>2</sup> )	.024 kg / cm <sup>2</sup> (.348 lb / po <sup>2</sup> )
Power Train	Track width	41.9 cm (16 1/2")	41.9 cm (16 1/2")	41.9 cm (16 1/2")
	Std. gear ratio	15 / 34	18 / 38	18 / 38
Electrical System	Lighting system (output)	12 Volts, 100 Watts	12 Volts, 100 Watts	12 Volts, 100 Watts
	Headlamp	60 / 60 Watts	60 / 60 Watts	60 / 60 Watts
	Tail / stop light	5 / 21 Watts	5 / 21 Watts	5 / 21 Watts
	Spark plug gap	0.50 mm (.020")	0.50 mm (.020")	0.50 mm (.020")
	Advanced ignition timing	Direct 2.26-2.77 mm (.089-.109") B.T.D.C.	Direct 2.26-2.77 mm (.089-.109") B.T.D.C.	Indirect 3.43-4.04 mm (.135-.159") B.T.D.C.
Fuel	Tank capacity -- SI *	27.2 liters	27.2 liters	27.2 liters
	-- Imp.	6 gals.	6 gals.	6 gals.
	-- U.S.	7.5 gals.	7.5 gals.	7.5 gals.
	Gasoline	Regular	Regular	Regular
	Gas / oil ratio	50 / 1	50 / 1	50 / 1
Brake	Type	Disc, self-adjusting	Disc, self-adjusting	Disc, self-adjusting

\* International Standard

All information, illustration and component / system description, contained in this manual are correct at the time of publication. However, 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 products previously manufactured.

**WE ARE  
WORKING AT  
YOUR LEISURE**

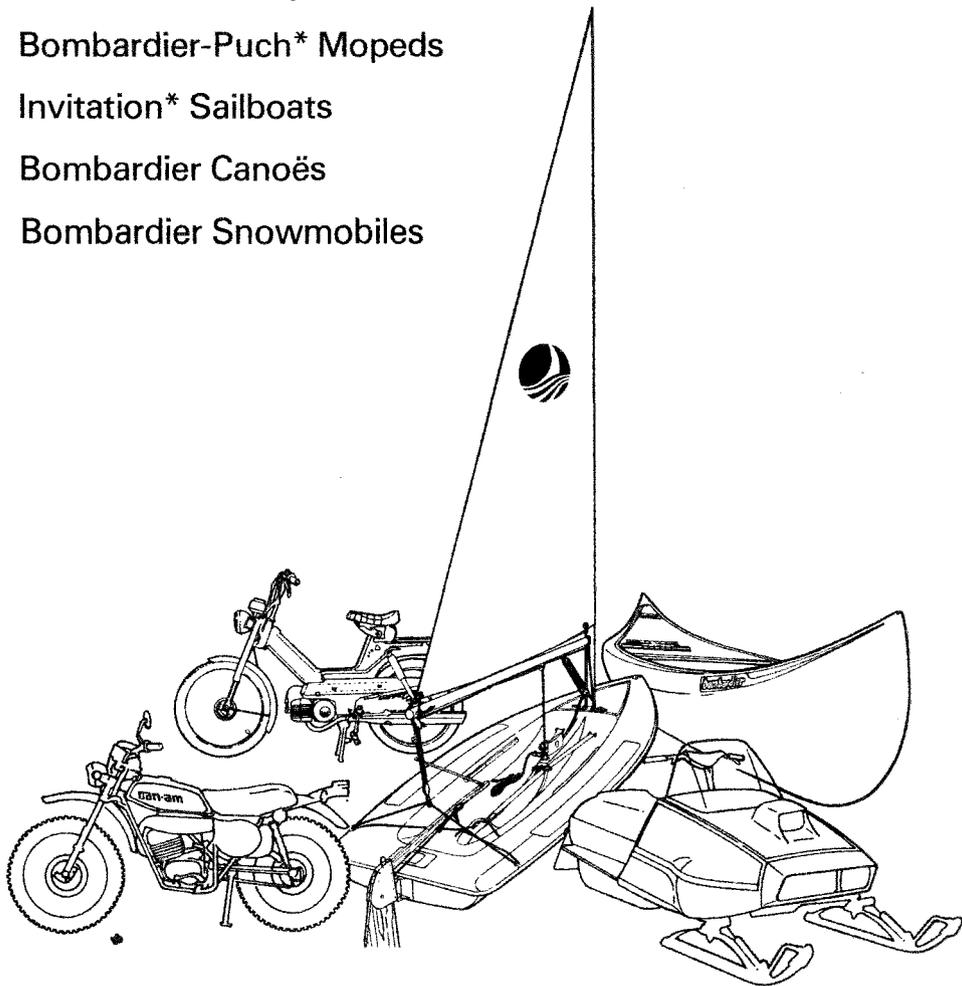
Can-Am\* Motorcycles

Bombardier-Puch\* Mopeds

Invitation\* Sailboats

Bombardier Canoës

Bombardier Snowmobiles



**Recreational  
Products**

*\*Trade Mark of Bombardier Limited*

