Élan Tundra

1992

Operator's Guide

Version française au revers

414 7519 00

model _____

V.I.N. _____

purchase date _____

warranty expiry date _____

To be completed by dealer at time of sale

DEALER IMPRINT AREA

Élan
Tundra/LT

SAFETY WARNING

Disregarding any of the safety precautions and instructions contained in this *Operator's Guide* and the *Snowmobiler's Safety Handbook* could cause injury, including the possibility of death.

This *Operator's Guide* and the *Snowmobiler's Safety Handbook* should remain with the vehicle at the time of resale.

AFTER SALES SERVICE
BOMBARDIER INC.
VALCOURT (QUEBEC)
CANADA J0E 2L0

Litho'd in Canada

NOTICE

The *Operator's Guide* and the *Snowmobiler's Safety Handbook* have been prepared to acquaint the owner / operator or passenger 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 guide, or an authorized dealer.

This guide uses the following symbols.

◆ **WARNING : Identifies an instruction which, if not followed, could cause serious personal injuries including possibility of death.**

▼ **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.

The information and components / system descriptions contained in this guide are correct at time of publication. Bombardier Inc. however, maintains a policy of continuous improvement of its products without imposing upon itself any obligation to install them on products previously manufactured.

Bombardier Inc. reserves the right at any time to discontinue or change specifications, designs, features, models or equipment without incurring obligation.

The illustrations show the typical construction of the different assemblies and, in all cases, may not reproduce the full detail or exact shape of the parts shown, however, they represent parts which have the same or a similar function.

Most specifications are given in both metric and customary units. Where precise accuracy is not required, some conversions are rounded to even numbers for easier use.

A *Shop Manual* can be obtained for complete service, maintenance and repair information.

◆ **WARNING : The engine and components implemented in a particular model should not be used on other models. Use of Rotax® snowmobile engines in other than Ski-Doo snowmobiles is not recommended or authorized by Bombardier Inc.**

◆ **WARNING : Maintenance procedures and tightening torques must be strictly adhered to, never attempt repairs unless the appropriate tools are available.**

▼ **CAUTION : Most components of this vehicle are built with parts dimensioned in the metric system. Most fasteners are metric and must not be replaced by customary fasteners or vice versa. Mismatched or incorrect fasteners could cause damage to the vehicle or possible personal injury.**

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Observe the Following Precaution:

- Throttle mechanism should be checked for free movement before starting engine.
- Do not operate vehicle near snow making equipment.
- Engine should be running only when belt guard and/or pulley guard is secured in place.
- Never run the engine without drive belt installed. Running an unloaded engine can prove to be dangerous.
- Never run the engine when the track is raised off the ground.
- It can be dangerous to run engine with the hood removed.
- Fuel is flammable and explosive under certain conditions. Always manipulate in a well ventilated area. Do not smoke or allow open flames or sparks in the vicinity. If fuel fumes are noticed while driving, the cause should be determined and corrected without delay.
- 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, ice, hard pack or other abrasive surfaces. On such surfaces abnormal and excessive wear of critical parts is inevitable.
- 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.
- 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 switch, tether switch or by 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.
- Do not lubricate throttle and/or brake cables and housings.
- Perform procedures only as detailed in this guide. Unless otherwise specified, engine should be turned OFF for all lubrication and maintenance procedures.
- Clean and check operation of the headlight, taillight and brake light.
- This vehicle is designed for the driver only. No provisions have been made for a passenger.
- Should removal of a locking device be required when undergoing repairs/disassembly, always replace by new ones. Tighten fasteners as specified in the applicable *Shop Manual.*

THE 1992 SNOWMOBILE LIMITED WARRANTY

1 - PERIOD

BOMBARDIER INC. as manufacturer, warrants FROM THE DATE OF DELIVERY TO THE FIRST CONSUMER, every 1992 BOMBARDIER® snowmobile, sold as NEW AND UNUSED, and predelivered by an authorized BOMBARDIER® dealer for a period of :

- 12 consecutive months.
- Warranty coverage on all new snowmobiles delivered between June 1st and December 1st of a year will expire on December 1st of the following year.

2 - WHAT BOMBARDIER INC. WILL DO

BOMBARDIER INC. 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 BOMBARDIER® dealer during said warranty period.

3 - CONDITION TO HAVE WARRANTY WORK PERFORMED

Present to the servicing dealer, the hard copy of the BOMBARDIER® Warranty Registration card or proof of purchase received by the customer from the selling dealer at time of delivery.

4 - EXCLUSIONS - ARE NOT WARRANTED

- Normal wear on all items such as, but not limited to :
  - drive belts
  - slider shoes
  - spark plugs
  - bulbs
  - runners on skis
- Replacement parts and/or accessories which are not genuine BOMBARDIER® parts and/or accessories.
- Replacement parts not installed by an authorized Ski-Doo dealer.
- Damage resulting from installation of parts other than genuine BOMBARDIER® parts.
- Damage caused by failure to provide proper maintenance as detailed in the *Operator's Guide.* The labour, parts and lubricants costs of all maintenance services, including tune-ups and adjustments will be charged to the owner.
- Cold seizure and piston scuffing caused by insufficient warm-up.
- Vehicles designed and/or used for racing purposes.
- All optional accessories installed on the vehicle. (The normal warranty policy for parts and accessories, if any, applies).
- Damage resulting from accident, fire or other casualty, misuse, abuse or neglect.
- Damage resulting from operation of the snowmobile on surfaces other than snow.
- Damage resulting from modification to the snowmobile not approved in writing by BOMBARDIER INC.
- Damage incurred by track studs.
- 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 damage.

5 - BATTERY WARRANTY:

- 12 consecutive months (Prorated).

  100% warranty coverage will start on the date the snowmobile was delivered and run to the following April 30th. The remainder of the 12 month-period will be prorated as follows :

  — 50% from April 30th to December 1st.
  — 40% from December 1st to December 31st.
  — 30% from January 1st to end of warranty.

6 - 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 INC., its distributors and the selling dealer, including any warranty of merchantability or 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 INC. or any other person.

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.

BOMBARDIER INC. 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.

7 - CONSUMER ASSISTANCE

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

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

Bombardier Inc.
Ski-Doo® Service Department
Valcourt, Quebec Canada J0E 2L0
October 1990

OFTEN ASKED QUESTIONS

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

A : Registration is very important and your dealer must register your snowmobile with Bombardier Inc. Make sure the card has been sent. All of this will allow you to :

a) have warranty work perfomed at any authorized Bombardier dealer in North America. Your registration card will provide the dealer with all the necessary data to complete warranty claim forms.

b) be advised by Bombardier should there be a safety recall or particular warranty campaign.

c) be contacted much faster by the police, the minute they find your stolen vehicle (if such a case occurs).

Q : Why must my snowmobile be registered with the governing body having jurisdiction over snowmobile use?

A : Snowmobile registration has two purposes : In many provinces or states it is mandatory to register a snowmobile in the same way as for a car. It allows the state or province to maintain records of existing snowmobiles and governmental agencies use part of the registration fees for establishing and maintaining trails.

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

A : In this Operator's Guide *provided with the vehicle at the time of delivery.*

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

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

Q : Would you give some examples of abnormal use or strain, neglect or abuse which may affect warranty?

A : These terms are general and overlap each other in areas. Some specific examples may include : running the machine out of oil, chain failure caused by a lack of lubrication, 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, and incidental or consequential damages costs as explained in the warranty.

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 : 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 been registered with the manufacturer.

Q : How can I receive the best owner assistance?

A : The satisfaction and goodwill of the owners of Bombardier products are of primary concern to any dealers and Bombardier Inc. Normally, any problems that arise in connection with the sales transaction or the operation of your snowmobile will be handled by your Dealers Sales or Service Departments. It is recognized, however, that despite the best intentions of everyone concerned, misunderstandings will sometimes occur. Frequently, complaints are the result of a breakdown in communications and can quickly be resolved by a member of the dealership management. If the problem already has been reviewed with the Sales Manager or Service Manager, contact the Dealer himself or the General Manager.

LISTING OF AREA DISTRIBUTORS

CANADIAN DISTRIBUTORS

PROVINCE OF QUEBEC

SERVICE OFFICE
BOMBARDIER INC.
1350 Nobel Street
Boucherville, Quebec J4B 1A1
(514) 655-6121

SALES OFFICE
BOMBARDIER INC.
1350 Nobel street
Boucherville, Quebec J4B 1A1
(514) 655-6121

PROVINCE OF ONTARIO

SERVICE OFFICE
BOMBARDIER INC.
230 Bayview Drive
Barrie, Ontario L4N 5E9
(705) 728-8600

SALES OFFICE
BOMBARDIER INC.
230 Bayview Drive
Barrie, Ontario L4N 5E9
(705) 728-8600

MARITIMES

SERVICE OFFICE
BOMBARDIER INC.
P.O. Box 7060
Riverview, New Brunswick E1B 1V0
(506) 386-6117

SALES OFFICE
BOMBARDIER INC.
1350 Nobel Street
Boucherville, Quebec J4B 1A1
(514) 655-6121

ALBERTA, BRITISH COLUMBIA, MANITOBA, SASKATCHEWAN, YUKON

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

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

NEWFOUNDLAND, LABRADOR

SERVICE OFFICE
CHARLES R. BELL LIMITED
Riverside Drive P.O. Box 1050
Corner Brook, Newfoundland A2H 6J3
(709) 634-3533

SALES OFFICE
CHARLES R. BELL LIMITED
Riverside Drive P.O. Box 1050
Corner Brook, Newfoundland A2H 6J3
(709) 634-3533

NORTH-WEST TERRITORIES, FRANKLIN DISTRICT & KEEWATIN

SERVICE OFFICE
THE NORTH WEST CO. INC.
77 Main Street
Winnipeg, Manitoba R3C 2R1
(204) 934-1566

SALES OFFICE
THE NORTH WEST CO. INC.
77 Main Street
Winnipeg, Manitoba R3C 2R1
(204) 934-1566

AMERICAN DISTRIBUTORS

EAST-CENTRAL, CENTRAL REGIONS

SERVICE OFFICE

BOMBARDIER CORPORATION
4418 Grand Avenue
Duluth, MN 55807 U.S.A.
(218) 628-2881

OR

BOMBARDIER CORPORATION
7575 Bombardier Court
P.O. Box 8035
Wausau, WI
54402-8035
U.S.A.
(715) 842-8886

SALES OFFICE

BOMBARDIER CORPORATION
7575 Bombardier Court
P.O. Box 8035
Wausau, WI 54402-8035 U.S.A.
(715) 842-8886

WESTERN REGION

SERVICE OFFICE

BOMBARDIER CORPORATION
P.O. Box 1572
Golden, CO 80402-1572 U.S.A.
(303) 232-5284

SALES OFFICE

BOMBARDIER CORPORATION
7575 Bombardier Court
P.O. Box 8035
Wausau, WI 55402-8035 U.S.A.
(715) 842-8886

EASTERN REGION

SERVICE OFFICE

BOMBARDIER CORPORATION
East Main Street Road
Malone, NY 12953 U.S.A.
(518) 483-4411

OR

BOMBARDIER INC.
P.O. Box 7060
Riverview NB E1B 1V0
CANADA
(506) 386-6117

SALES OFFICE

BOMBARDIER CORPORATION
East Main Street Road
Malone, NY 12953 U.S.A.
(518) 483-4411

ALASKA

SERVICE OFFICE

THE BRYANT CORPORATION
NE. 190th & Woodinville
Snohomish Road
P.O. Box 389
Woodinville, Wa 98072 U.S.A.
(206) 483-0110

SALES OFFICE

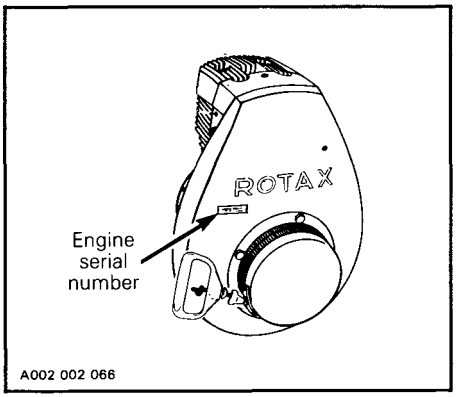
THE BRYANT CORPORATION
NE. 190th & Woodinville
Snohomish Road
P.O. Box 389
Woodinville, Wa 98072 U.S.A.
(206) 483-0110

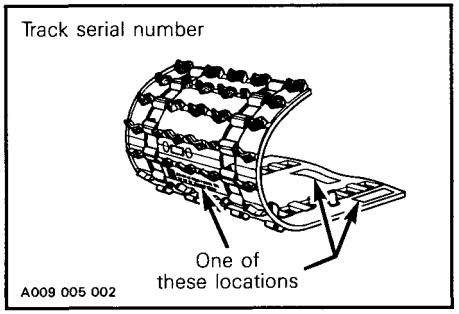
HOW TO IDENTIFY YOUR SNOWMOBILE

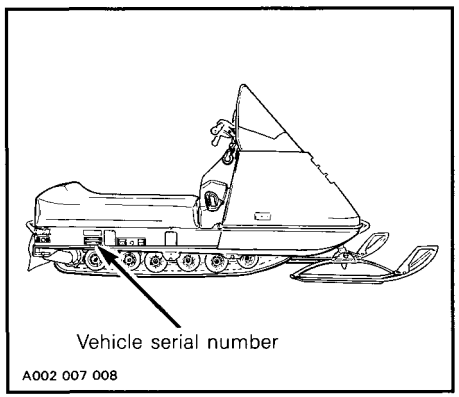
The main components of your snowmobile (engine, track and frame) are identified by different serial numbers. It may sometimes become necessary to locate these numbers for warranty purposes or to trace your snowmobile in the event of loss.

NOTE : We strongly recommend that you take note of all the serial numbers on your vehicle and supply them to your insurance company.

Élan







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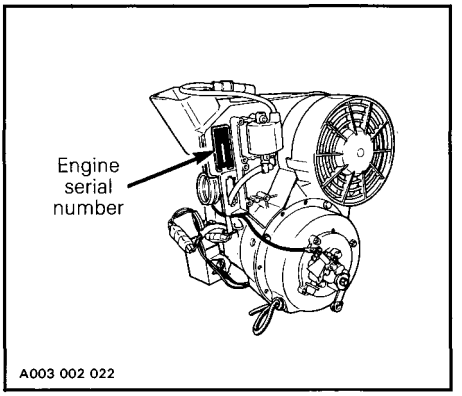

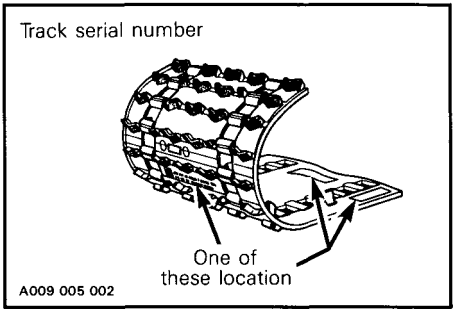

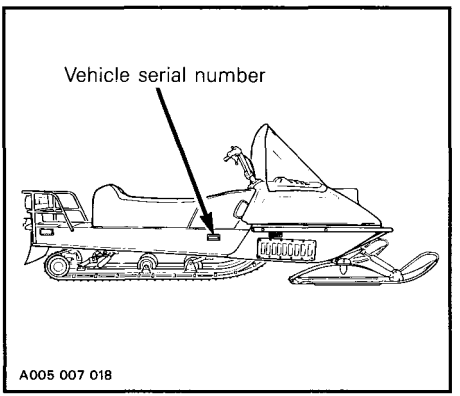

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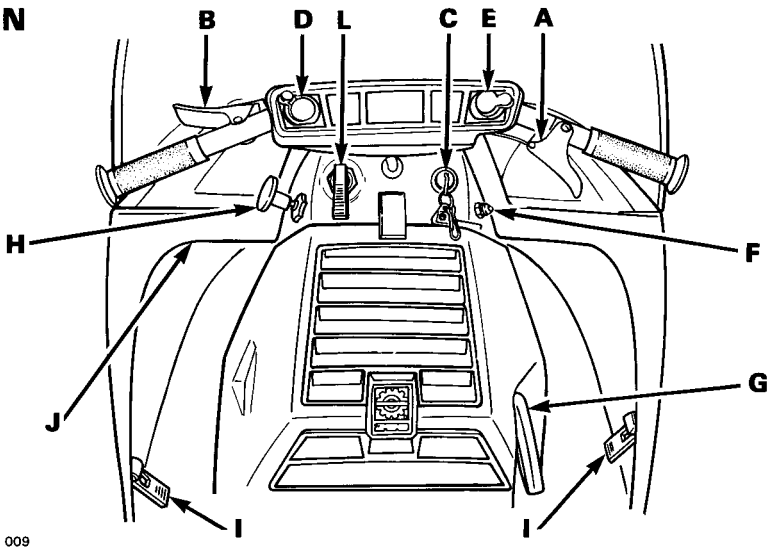

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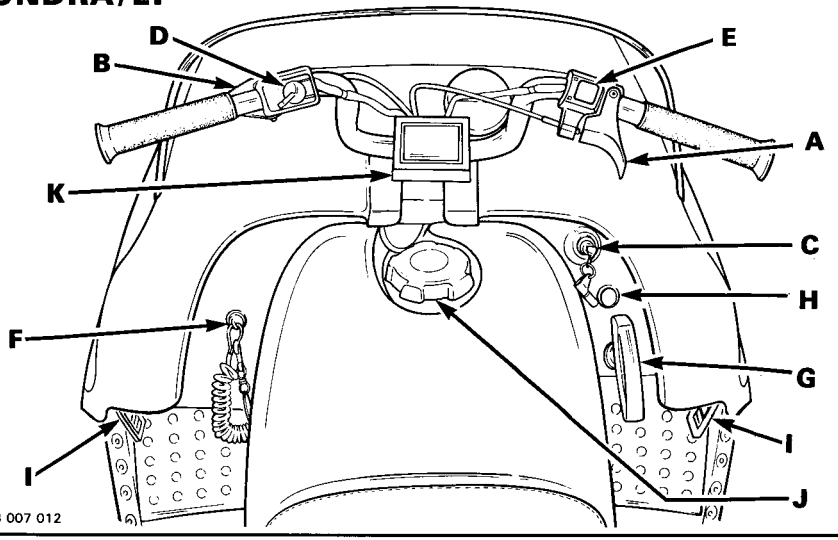
TUNDRA/LT



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A) Throttle Lever
B) Brake Lever
C) Ignition Switch
D) Headlight Dimmer Switch
E) Emergency Cut-Out Switch
F) Tether Cut-Out Switch
G) Rewind Starter Handle
H) Primer Button
I) Hood Latches
J) Fuel Tank Cap
K) Adjustable Handlebar
L) Decompressor Lever

A) Throttle Lever

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

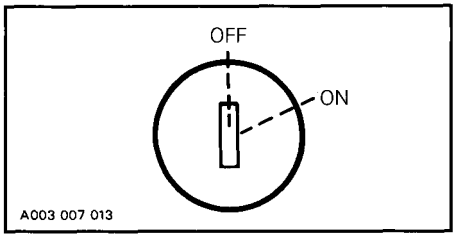
B) Brake Lever

Located on the left side of handlebar. When pressed, the brake is applied. When released, it automatically returns to its original position. Braking effect is proportionate to the pressure applied on the lever and to the type of terrain and its snow coverage.

C) Ignition Switch

The lights are automatically ON whenever the engine is running.

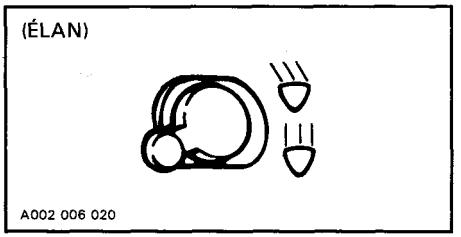
Starting

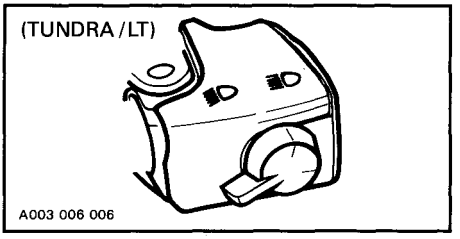


Key operated, two-position switch. To start engine, first turn key to ON position. To stop engine, turn key to OFF position.

D) Headlight Dimmer Switch

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

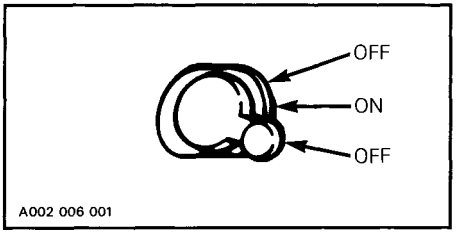




E) Emergency Cut-Out Switch

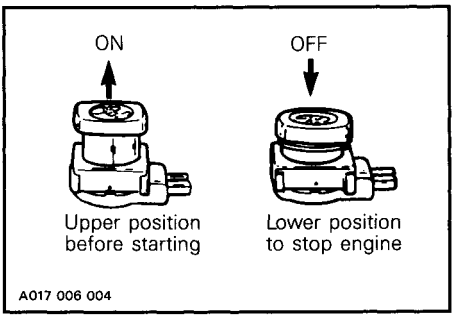
Élan

A three position switch located on the right side of the handlebar. To stop the engine in an emergency, flick the lever to either upper or lower OFF position and simultaneously apply the brake. To start engine, lever must be in middle ON position (middle).



Tundra/LT

A push pull type switch located on the right side of the handlebar. To stop the engine in an emergency, push the button to the lower off position and simultaneously apply the brake. To start engine, switch must be at the upper ON position.



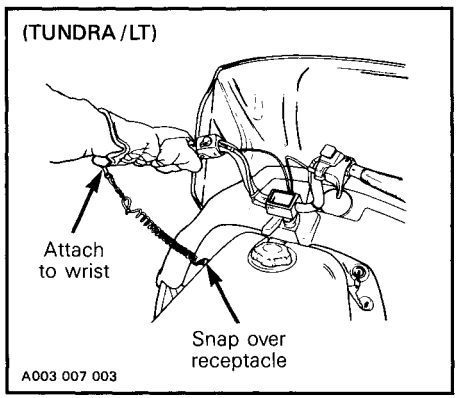
All Models

The driver of the 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 switch has been used in an emergency situation the source of malfunction should be determined and corrected before restarting engine.**

F) 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.**

G) Rewind Starter Handle

Auto rewind type located on right hand side of vehicle. To engage mechanism, pull handle, slowly until a resistance is felt then pull vigorously.

H) Primer Button

Pull and push button until a pumping resistance is felt. Then, activate primer two or three times to start a cold engine. Not necessary when engine is warm.

I) Hood Latches

Pull down the latches to unlock hood from the anchors.

○ NOTE : Always lift hood gently up until stopped by restraining device.

◆ **WARNING : It is dangerous to run an engine with the hood opened, unfastened or removed.**

J) Fuel Tank Cap

◆ **WARNING : Never use open flame to check fuel level.**

Élan

Open hood to access fuel tank cap.

The fuel tank is translucent and fuel level can be checked by glancing at fuel tank.

Tundra/LT

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

K) Adjustable Handlebar (Tundra/LT only)

Handlebar height is adjustable, see an authorized dealer.

L) Decompressor Lever (Élan only)

Lift lever to operate. Tip down when engine has started.

▼CAUTION : The decompressor provides easier starting by reducing engine compression. However, leaving the decompressor lever lifted while running will damage your engine. Always pull down after the engine has started.

Tool Box

Located under the hood. Ideal location for spare spark plug, rope, flashlight, first aid kit, etc.

Accessories

Some optional accessories may be added to your vehicle such as front bumper, carbide runner, hitch, etc. Ask an authorized dealer for more information.

Recommended Fuel

Élan

Oil must be added to the fuel in premeasured amounts then both oil and fuel should be thoroughly mixed together before fueling the snowmobile tank.

NOTE : During the break-in period, engine requires a richer fuel/oil mixture. Refer to BREAK-IN section.

All Models

Use regular unleaded gasoline available from all service stations or gasohol with less than 10% of ethanol.

WARNING : Never top up the fuel tank before placing the vehicle in a warm area. As temperature increases, fuel expands and might overflow. Fuel is flammable and explosive under certain conditions. Always handle in a well ventilated area. Do not smoke or allow open flames or sparks in the vicinity. If 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 when temperature is below freezing point. Always wipe off any fuel spillage from the vehicle.

CAUTION : Never experiment with other fuels or fuel ratios. The use of fuel containing methanol, or similar products including naphta is not recommended. The use of unrecommended fuel can result in vehicle performance deterioration and damage to critical parts in the fuel system and engine components.

Recommended Oil

CAUTION : Never mix brands of two-cycle oil as serious chemical reactions can cause severe damage. Never use outboard or straight mineral oils.

Élan

Use BLIZZARD OIL (P/N 496 0135 00 – 500 mL) available from an authorized dealer. This type of oil will flow at temperatures as low as −40°C (−40°F).

If BLIZZARD OIL is unavailable, substitute with BOMBARDIER Snowmobile Injection Oil (P/N 496 0133 00 – 1 liter) or equivalent.

Tundra/LT

Use BOMBARDIER Snowmobile Injection Oil (P/N 496 0133 00 - 1 liter) available from an authorized dealer. This type of oil will flow at temperature as low as −40°C (−40°F).

If BOMBARDIER Snowmobile Injection Oil is unavailable, substitute with BLIZZARD OIL (P/N 496 0135 00).

Fuel/Oil Mixture Ratio
(Élan only)

The importance of using the correct fuel/oil mixture cannot be overstressed. An incorrect fuel/oil ratio results in serious engine damage. Recommended fuel/oil ratio is 50:1 (40:1 during break-in period refer to BREAK-IN PERIOD section for mixing chart.

SI UNITS

500 mL of oil to
25 liters of fuel = 50:1

IMPERIAL UNITS

16 oz of oil to
5 imp. gal of fuel = 50:1
or
500 mL of oil to
5-1/2 imp. gal of fuel = 50:1

U.S. UNITS

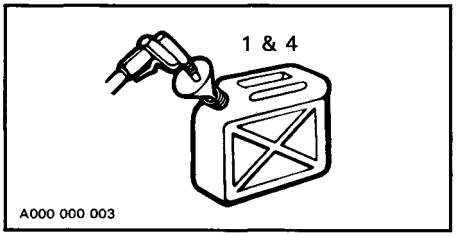
13 oz of oil to
5 U.S. gal of fuel = 50:1
or
500 mL of oil to
6.6 U.S. gal of fuel = 50:1

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

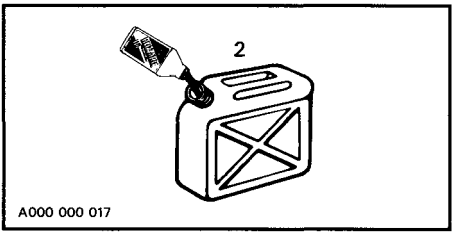
Fuel/Oil Mixing Procedure (Élan only)

To mix the fuel and oil always use a separate clean container. Never mix directly in your snowmobile tank.

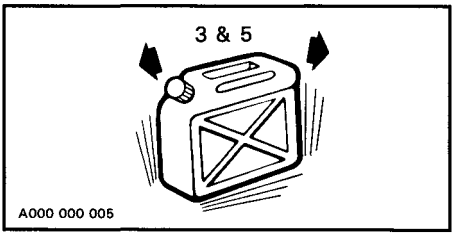
1. Pour approximately four liters (one gallon) of fuel into a clean container.



2. Add the amount of oil required for the total mixture.



3. Replace the container cap and shake the container thoroughly.



4. Add the remainder of the fuel.
5. Once again thoroughly agitate the container. Then using a funnel with a fine mesh screen to prevent the entry of foreign particles, pour the mixture into the snowmobile tank.

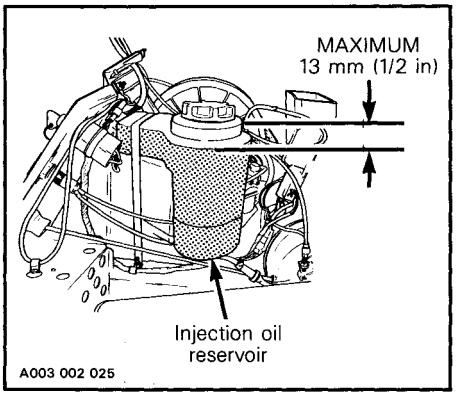
WARNING : To prevent fuel spillage in the engine compartment, a funnel must always be used when filling the fuel tank.

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

Oil Injection System
(Tundra/LT only)

Always maintain a sufficient amount of Bombardier Snowmobile Injection Oil in the injection oil tank.

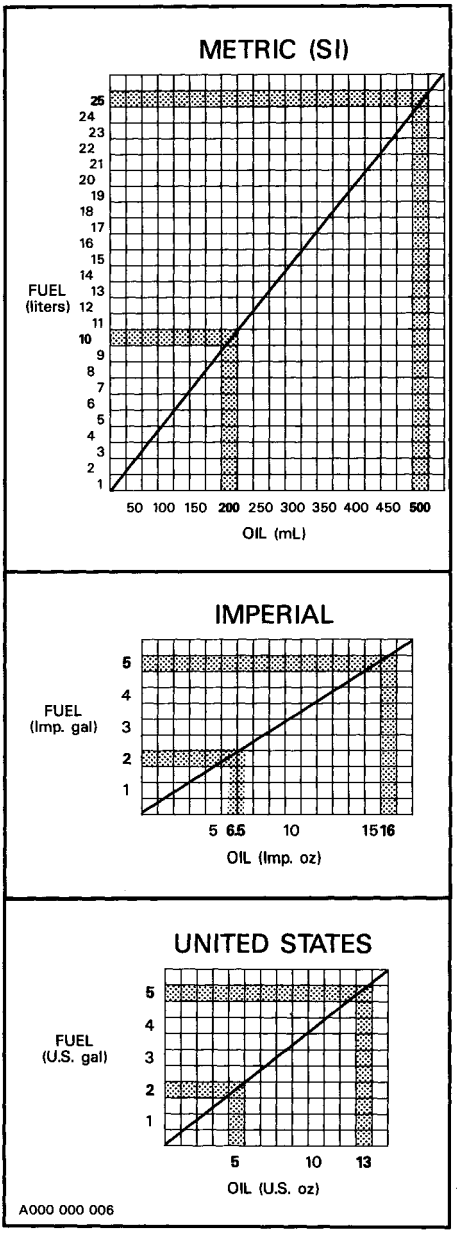
▼ **CAUTION : Never allow oil level to drop more than 2/3.**



▼ **CAUTION : Check level and refill every time you refuel. Do not overfill.**

◯ **NOTE :** To assure additionnal protection during the initial engine break-in, 500 mL (18 oz) of BLIZZARD OIL (P/N 496 0135 00) or the same quantity of Bombardier Injection oil should be added to fuel for the **first** full fuel tank filling.

Fuel/Oil Mixing Charts (50 to 1 ratio)
(Élan only)



BREAK-IN PERIOD

Engine

With Rotax® snowmobile engines, a break-in period is required before running the vehicle at full throttle. Engine manufacturer break-in recommendation is 10 to 15 operating hours.

Maximum throttle should not exceed 3/4, however, brief full acceleration and speed variations contribute to a good break-in. Continued wide open throttle accelerations, high cruising speeds, and engine over-heating are detrimental during the break-in period.

▼ **CAUTION : Remove and clean spark plug after engine break-in.**

Élan

During this period, a richer mixture is needed (i.e. 40 parts of fuel for 1 part of BLIZZARD oil. See **Break-in Fuel/Oil Mixing Charts.**

Tundra/LT

To assure additional protection during the initial engine break-in, 500 mL (18 imp. oz) of BLIZZARD Oil (P/N 496 0135 00) or the same quantity of BOMBARDIER Injection Oil (P/N 496 0133 00) should be added to fuel for the first full fuel tank filling.

Belt

A new drive belt requires a break-in period of 25 km (15 miles).

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 an authorized dealer. This inspection will give you the opportunity to discuss the unanswered questions you may have encountered during the first hours of operation.

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

Break-In Fuel/ Oil Mixing Charts (Élan only)

▼ CAUTION : The following chart only applies to break-in period to give a richer mixture ratio of 40 to 1.

SI UNITS

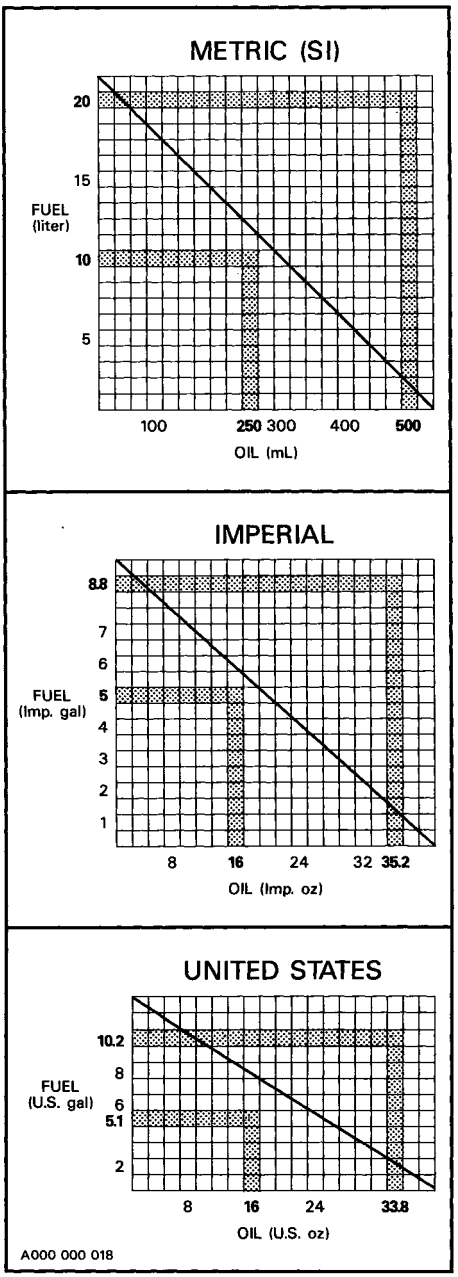
500 mL of oil to
20 liters of fuel = 40:1

IMPERIAL UNITS

16 oz of oil to
4.6 imp. gal of fuel = 40:1
or
500 mL of oil to
4.8 imp. gal of fuel = 40:1

U.S. UNITS

16 oz of oil to
5.1 U.S. gal of fuel = 40:1
or
500 mL of oil to
5.3 U.S. gal of fuel = 40:1



10-HOUR INSPECTION CHECKLIST	✓
Engine timing	
Fan belt tension (Tundra/LT)	
Spark plug condition (Remove and clean)	
Carburetor adjustment	
Engine head nuts (Élan)	
Drive pulley screw (torque)	
Engine mount nuts	
Muffler attachment	
Chaincase oil level	
Oil injection pump adjustment (Tundra/LT)	
Injection oil reservoir level (Tundra/LT)	
Brake operation and lining condition	
Ski alignment (runner condition)	
Steering arm retorque to 31 N•m (23 lbf•ft)	
Handlebar bolts, retorque to 26 N•m (19 lbf•ft) (Tundra/LT)	
Pulley alignment and drive belt condition	
Track condition, tension and alignment	
Lubrication (steering, suspension, driven pulley, etc.)	
Electrical wiring (routing, connections) tighten all loose 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

PRE-START CHECK

Check Points:

- ACTIVATE THE THROTTLE LEVER SEVERAL TIMES to check that it operates easily and smoothly. It must return to idle position when released.
- Check fuel level.
- Check injection oil level (Tundra / LT).
- Check that the skis and the track are not frozen to the ground or snow surface and that steering operates freely.
- Activate the brake lever and make sure the brake fully applies before the brake lever touches the handlebar grip. It must fully return when released.
- Verify that the path ahead of the vehicle is clear of bystanders and obstacles.
- Clean and check operation of the headlight, taillight and brake light.

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

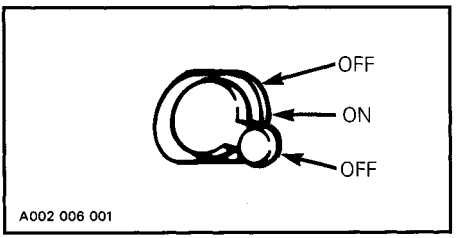
STARTING PROCEDURE

Starting

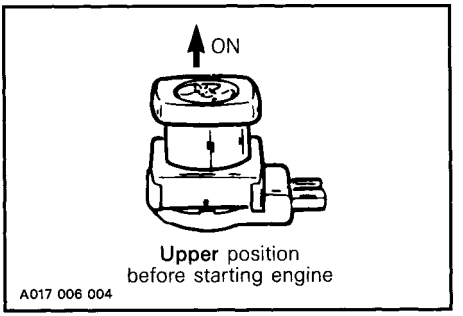
Test throttle lever operation.

Check that the emergency cut-out switch is in the ON position.

Élan



Tundra/LT



All Models

Ensure the tether cut-out cap is in position and that the cord is attached to your clothing.

Insert the key in the ignition and turn to ON position.

Activate primer two or three times.

NOTE : Priming is not necessary when the engine is warm. To prime, activate the primer button until a pumping resistance is felt. This indicates that fuel has reached primer valve. From this point, pump two or three times to inject fuel in intake manifold. After priming, ensure that primer button is pushed all the way in to avoid fuel from draining.

CAUTION : Use of ether and/or other types of fluid as a starting aid can cause damage to engine components and is not recommended.

Élan

Lift the decompressor lever.

All Models

Grasp rewind starter handle firmly and pull slowly until a resistance is felt then pull vigorously. Slowly release the rewind starter handle.

WARNING : Do not apply throttle while starting.

Élan

Tip the decompressor lever down once engine has started.

Before Riding

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

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

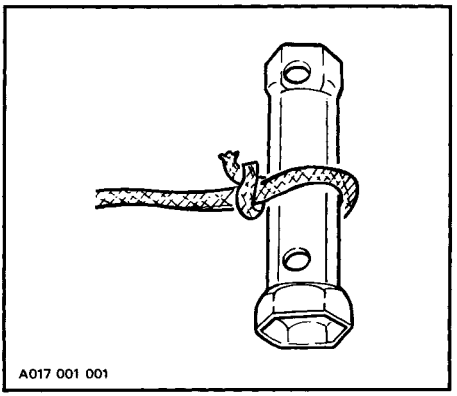
CAUTION : Let engine idle two minutes for warm-up. Then, ride at reduced pace for the first kilometer. This will enable all components of the vehicle to warm-up.

WARNING : This snowmobile is propelled by a revolving track which must be partially exposed for proper operation. Serious injuries may be caused by operator carelessness, resulting in hands, feet or clothing becoming entangled in the track.

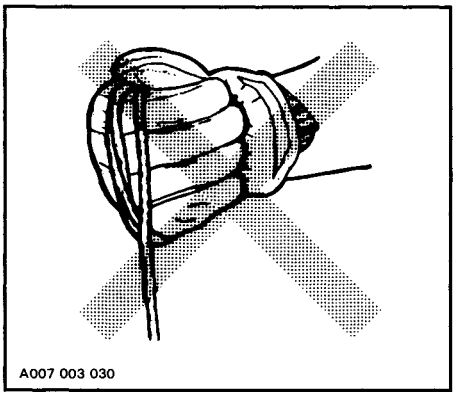
Emergency Starting

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

NOTE : The spark plug socket can be used as an emergency starting grip.



WARNING : Do not wind starting rope around your hand. Hold rope by the handle only.



A007 003 030

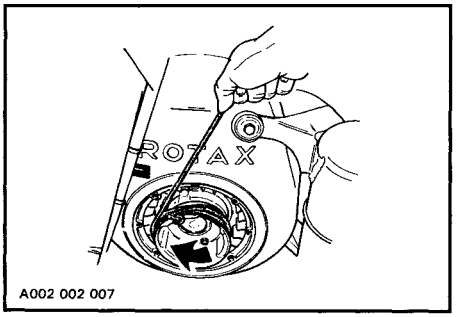
Élan

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

◯ NOTE : The spark plug socket can be used as an emergency starter handle.

Wind the rope around the starter pulley, so that when pulled, pulley will turn clockwise (same direction as the track).

◆ **WARNING : Do not make a knot at the end of the emergency rope. Do not start the vehicle by the starter pulley, unless it is a true emergency situation. Have the vehicle repaired as soon as possible.**



A002 002 007

◆ **WARNING : After starting the vehicle in an emergency situation by the starting pulley, do not reinstall the rewind starter assembly.**

Tundra/LT

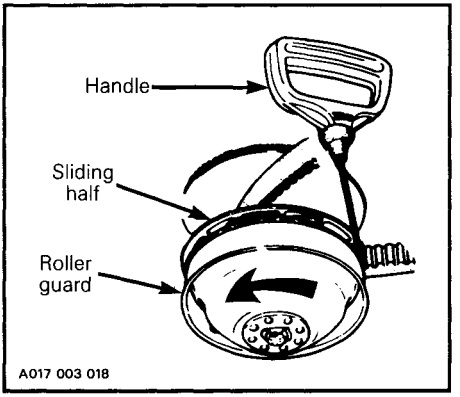
Remove the belt guard from vehicle (see MAINTENANCE section).

Transfer rewind starter handle to your emergency rope.

◯ NOTE : The spark plug socket can be used as an emergency starting handle.

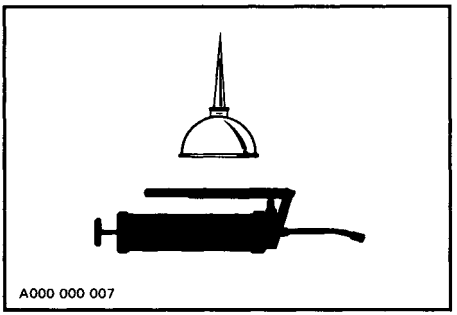
Wind emergency starting rope tightly around the drive pulley between sliding half pulley and roller guard. When pulled, drive pulley must turn counter-clockwise (same direction as the track).

◆ **WARNING : Do not start the vehicle by the drive pulley unless it is a true emergency situation.**



A017 003 018

◆ **WARNING : When starting the vehicle in an emergency situation, using drive pulley, do not reinstall the belt guard and return slowly to have vehicle repaired.**


A000 000 007

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.

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.

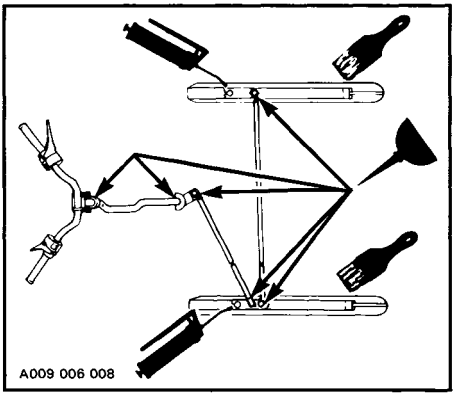
NOTE : When lubricating through grease fittings, slowly pump grease gun until grease appears at joints. Always use low temperature grease (P/N 413 7061 00).

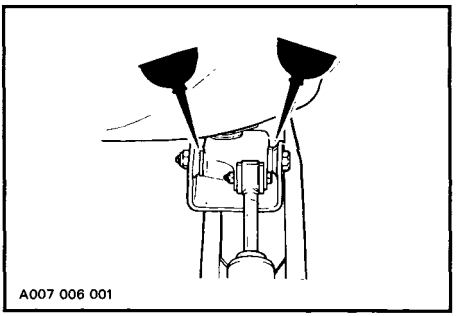
WARNING : Only perform such procedures as detailed in this guide. It is recommended that dealer assistance be periodically obtained on other components/systems not covered in this guide. Unless otherwise specified, engine should be turned OFF for all lubrication and maintenance procedures. Do not lubricate throttle and/or brake cables and housings.

Steering Mechanism

Lubricate the ski legs at grease fittings until new grease appears at joints. Coat spring slider cushion with grease.

Oil spring coupler bolts, ball joints and steering column bushings.


A009 006 008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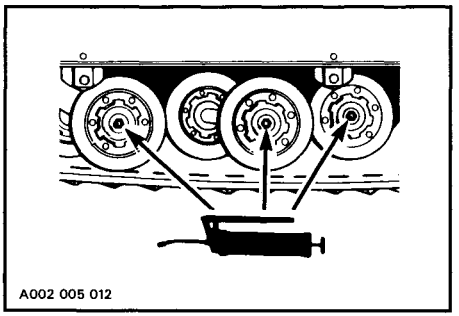
Rear Suspension

Élan

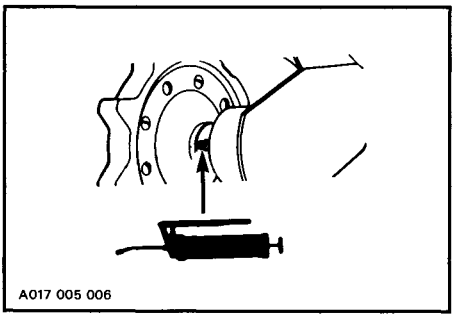
Using low temperature grease, lubricate the suspension bogie wheels through the grease fittings until new grease appears at the inner side joints.



A002 005 012

Rear Axle

Lubricate the rear axles with low temperature grease. Pump grease through the rear axle fittings using a low-pressure grease gun.

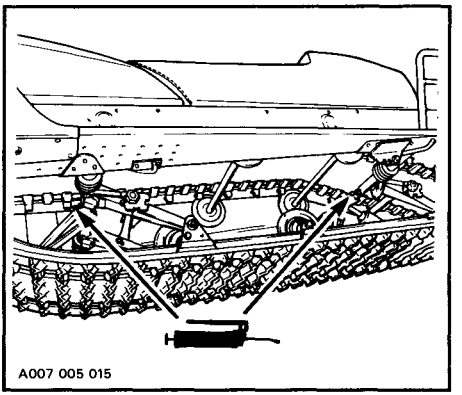


A017 005 006

▼ CAUTION : When lubricating the rear axle bearing, do not apply excessive grease as the seal will be pushed out of its housing. Check seal position with finger.

Tundra/LT

Lubricate front and rear arms at grease fittings with low temperature grease only (P/N 413 7061 00).



A007 005 015

Chaincase Oil Level

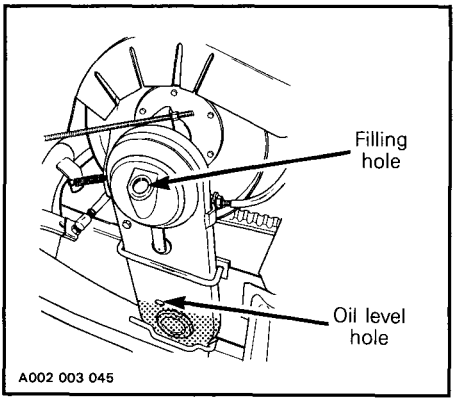
Élan

Remove tool box from vehicle. Remove oil level plug and check oil level through hole. If necessary to replenish, remove filler plug and pour chaincase oil (P/N 413 8019 00) until it flows through oil level hole.

NOTE : Chaincase oil capacity is 200 mL (7 oz).

Wipe off any oil spillage.

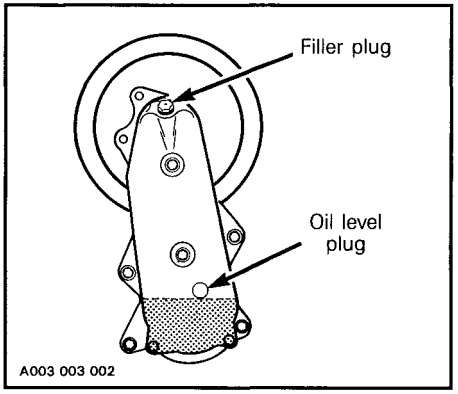
Reinstall plugs and tool box.



A002 003 045

Tundra/LT

Check the oil level by removing the chaincase oil level plug.



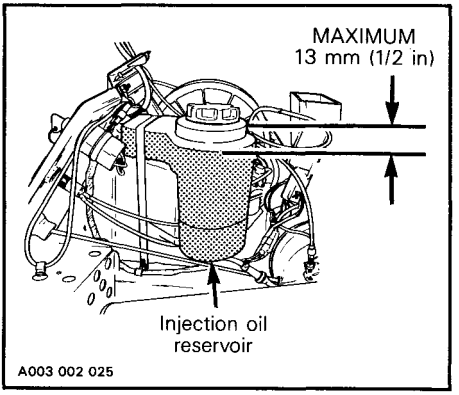
The oil should be level with the bottom of the oil level hole. Refill as required using Bombardier chaincase oil (P/N 413 8019 00).

NOTE : The chaincase oil capacity is 200 mL (7 oz).

Oil Injection System (Tundra/LT)

Always maintain a sufficient amount of Bombardier Snowmobile Injection Oil in the injection oil reservoir.

CAUTION : Never allow oil level to drop more than 2/3.



CAUTION : Check level and refill every time you refuel. Do not overfill. Wipe off any spillage

Drive Pulley

No lubrication required.

Driven Pulley

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 film of low temperature grease on the shaft. Always 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.

Brake Caliper

See an authorized dealer for proper lubrication of brake caliper ratchet wheel.

WARNING : Do not lubricate throttle and/or brake cables and housings.

MAINTENANCE

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

NOTE : Shadow areas in chart indicate recommended frequency.

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

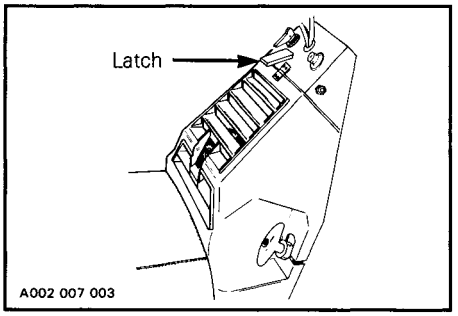
MAINTENANCE CHART	Weekly or every 240 km (150 mi)	Monthly or every 800 km (500 mi)	Once a year or every 3200 km (2000 mi)	Refer to page
Drive Belt Condition	■			33
Brake Condition	■			33
Brake Adjustment		■		34
Spark Plug		■		36
Rear Suspension Condition		■		36
Stopper Strap Condition (Tundra/LT)			■	36
Rear Suspension Setting (Tundra/LT)	(as required)			37
Track Condition		■		39
Track Tension and Alignment	(as required)			39
Drive and Driven Pulley			■	42
Steering Mechanism		■		42
Ski and Runner Wear	■			42
Steering Adjustment (Tundra/LT)		■		42
Exhaust System		■		44
Engine Mount Nuts			■	44
Engine Head Nuts (Élan)			■	44
Carburetor Adjustment			■	44
Fuel Filter Replacement			■	45
Injection Oil Filter Condition (Tundra/LT)		■		46
Oil Injection Pump Adjustment (Tundra/LT)			■	46
Fan Belt (Tundra/LT)			■	46
Headlight Beam Aiming			■	47
General Inspection		■		48

NOTE : The 10-hour inspection is a very important part of proper service and maintenance.

Console Removal
(Élan)

For any procedure that may require removal of the console, proceed as follows :

1. Unlock the latch where the console and dash panel meet.

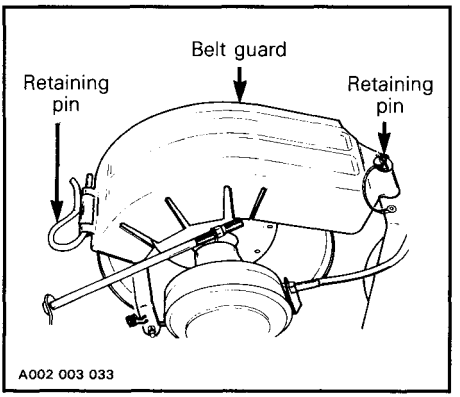


2. Push the console downward then tilt away from the engine. To reinstall, reverse the procedure.

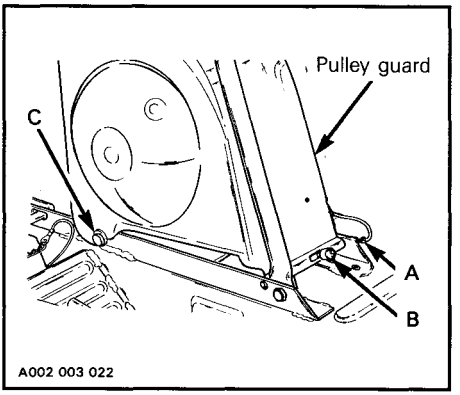
Belt Guard/Pulley Guard Removal
(Élan)

◆ **WARNING : Engine should be running only when belt guard and/or pulley guard are secured in place.**

1. Tilt the hood and remove the console.
2. Remove the belt guard (front) by unlocking it from retaining pins.



3. To remove the pulley guard, pull out the retaining clip (A) and pull on the spring (B) to disengage the pin from the bracket.



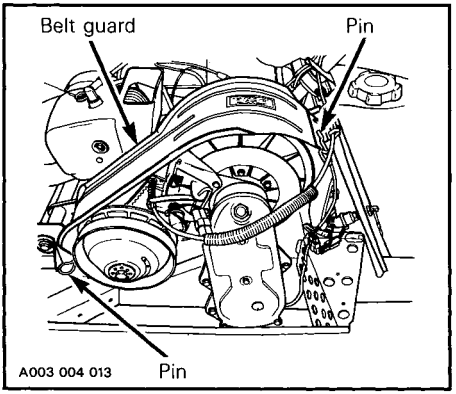
4. Push the pulley guard forward to disengage the front attachment (C) from the frame. Lift the guard from the vehicle.

Belt Guard Removal (Tundra/LT)

◆ WARNING : Belt guard should always be in place when engine is running.

A. Open the hood and pull both retaining pins out.

B. Remove the guard.

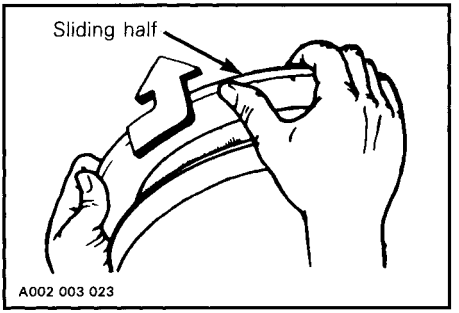


Drive Belt Removal

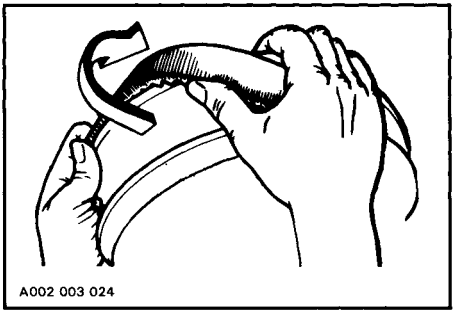
◆ WARNING : Never start or run engine without the drive belt installed. Running an unloaded engine is dangerous.

Élan

1. Remove ignition key.
2. Open the hood and remove the belt guard.
3. Remove console and pulley guard.
4. Open the driven pulley by twisting and pushing the sliding half. Hold in fully open position.



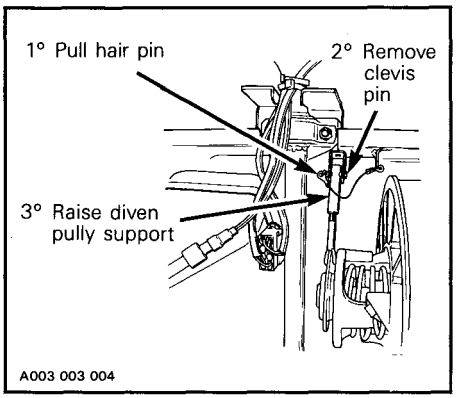
5. Slip the belt over the top edge of the sliding half.



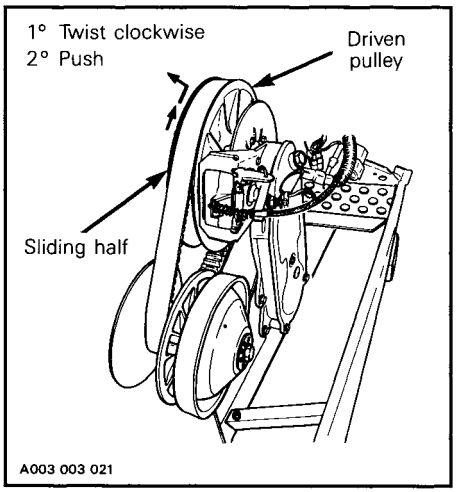
6. Slip the belt out from the drive pulley and remove completely from vehicle.

Tundra/LT

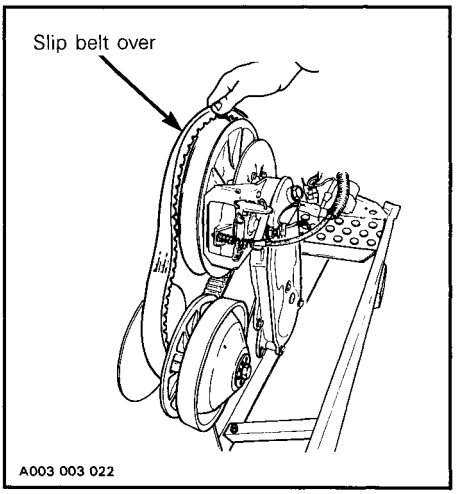
1. Remove ignition key.
2. Open the hood and remove the belt guard.
3. Unlock and raise driven pulley support.



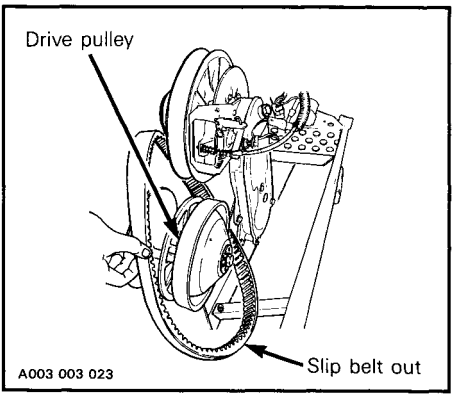
4. Open the driven pulley by twisting and pushing the sliding half. Hold in fully open position.



5. Slip the belt over the top edge of the sliding half.



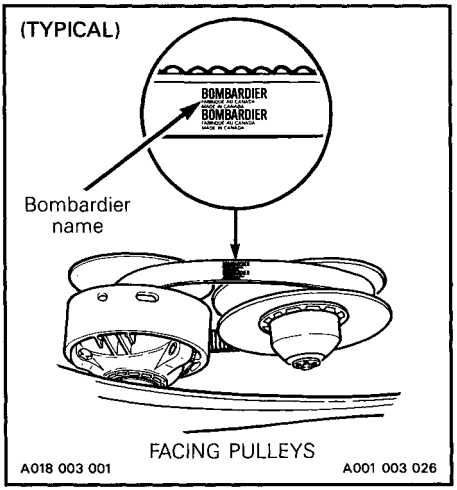
6. Slip the belt out from the drive pulley and remove completely from vehicle.



Drive Belt Installation

To install the drive belt, reverse the removal procedure of appropriate model, however pay attention to the following :

The maximum drive belt life span is obtained when the belt has the proper rotation direction. Install it so the Bombardier name on the belt can be read when facing pulleys.



▼ CAUTION : Do not force or use tools to pry the belt into place, as this could cut or break the cords in the belt.

Drive Belt Condition

Inspect belt for cracks, fraying or abnormal wear (uneven wear, wear on one side, missing cogs, cracked fabric). If abnormal wear is noted, probable cause could be pulley misalignment, excessive RPM with frozen track, fast starts without warm-up period, burred or rusty sheave, oil on belt or distorted spare belt. Contact an authorized dealer.

Check the drive belt width.

Élan

Replace the drive belt if width is less than 27 mm (1-1/16 in).

Tundra/LT

Replace the drive belt if width is less than 30 mm (1-3/16 in).

New Drive Belt

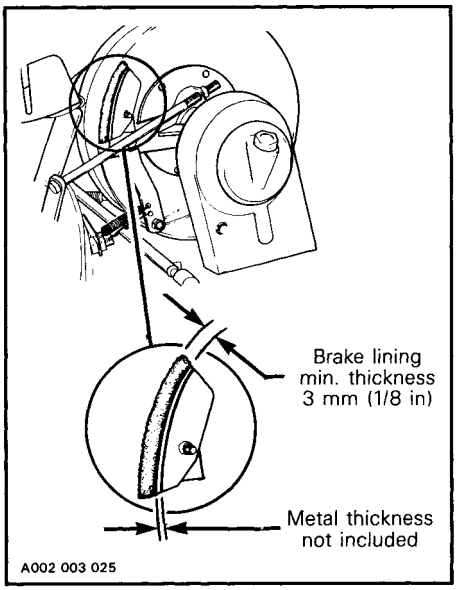
When installing a new drive belt, break-in period of 25 km (15 miles) is strongly recommended.

◯ NOTE : Always store a spare belt in a manner to allow its natural shape to be maintained.

Brake Condition

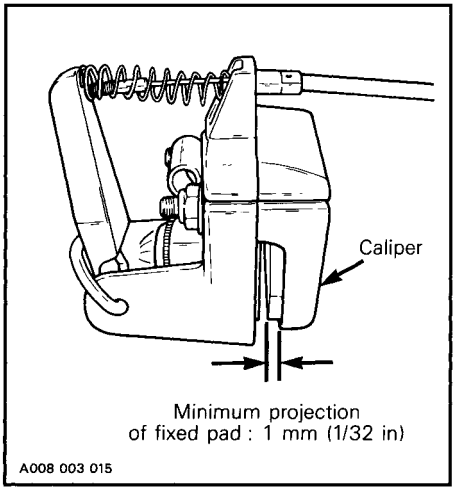
The brake mechanism on your snowmobile is an essential safety device. Keep this mechanism in proper working condition. Above all, do not operate your snowmobile without an effective brake system.

Élan



◆ WARNING : Brake lining less than 3 mm (1/8 in) thick must be replaced. Replacement must be performed by an authorized dealer.

Tundra/LT

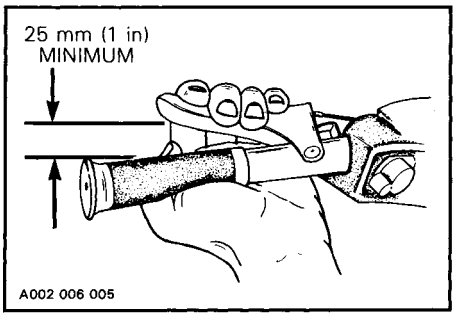


◆ WARNING : Brake pads must be replaced as soon as only 1 mm (1/32 in) of the fixed pad is still projected out of caliper. Replacement must be performed by an authorized dealer.

Brake Adjustment

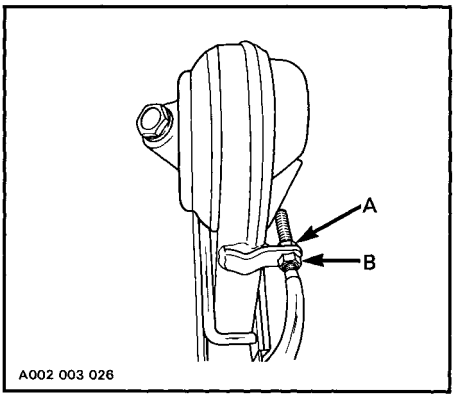
Élan

Brake should apply fully while brake control lever is still 25 mm (1 inch) minimum from the handlebar grip.



Minor Adjustment :

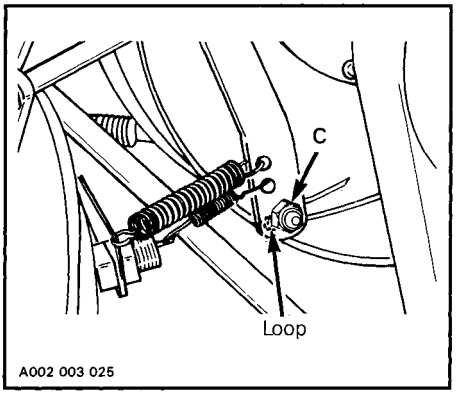
If a minor adjustment is necessary, slack off the cable housing nut (A) and tighten the nut (B) to reduce the lever clearance.



Once minor adjustment is completed, firmly tighten the nuts (A and B) against the bracket. If correct brake control lever clearance is unobtainable, proceed with major adjustment as follows :

Major Adjustment :

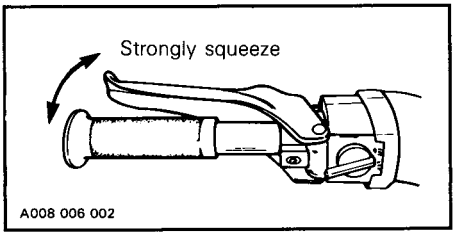
Slacken off the nut (C) retaining the brake cable to the lower brake lever. Adjust the cable to required length by lengthening or shortening the brake cable. Retighten the nut. Ensure that minor adjustment nuts are located approximately half way on the adjuster threads.



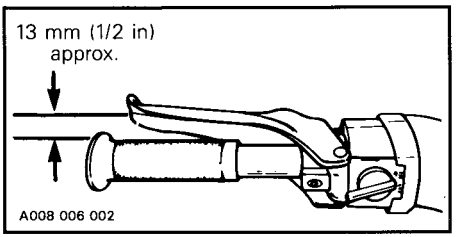
◆ **WARNING : Brake cable must make a loop around the bolt head. Strongly pull the brake handle to check cable tightness. Always check the brake light to see if it functions after performing brake adjustment.**

Tundra/LT

The brake mechanism is a self-adjusting type. If a quicker brake response is desired, strongly squeeze the brake lever several times, this will actuate the self adjusting mechanism.



After the adjustment, brake should apply fully when lever is approximatively 13 mm (1/2 in) from handlebar grip. If not, do not tamper with the brake, contact your authorized dealer.



Brake Light Switch Adjustment

To check operation :

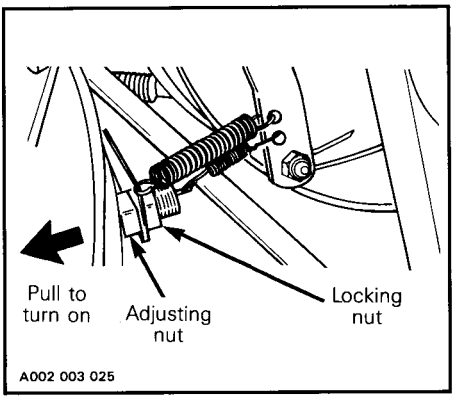
Pull the brake lever and check that a light resistance is felt while rotating the driven pulley. This is the position where the switch should have turned the brake light on.

To adjust :

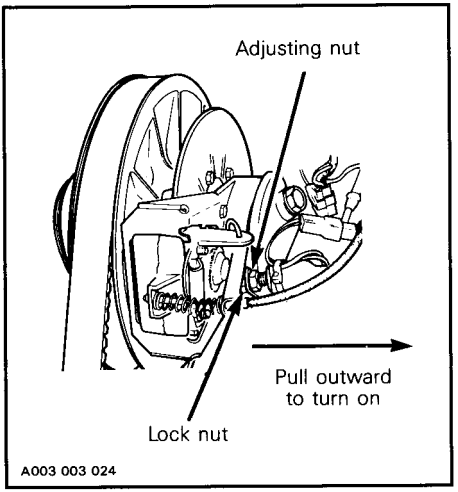
— Loosen the brake switch lock nut.

— While turning adjusting nut, pull switch outward to turn the light on or push inward to turn it off.

Élan



Tundra/LT



All Models

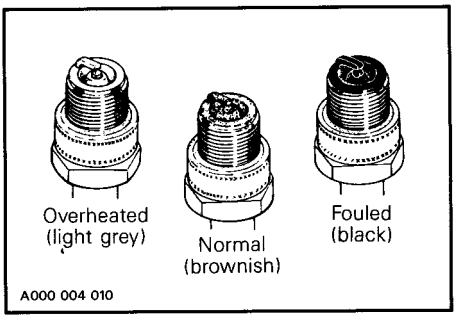
— Tighten the lock nut while restraining the other one. Recheck brake light operation.

Spark Plug

Disconnect the spark plug wire and remove the spark plug.

Check the condition of the plug.

- A brownish tip reflects ideal conditions. (Carburetor adjustments, spark plug heat range, etc., are correct).
- 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 an authorized dealer.

Check spark plug gap using a wire feeler gauge. It should be 0.5 mm (.020 in).

Reinstall spark plug and connect wire.

Rear Suspension Condition

Élan

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

Check for wear or looseness. Correct as required.

Tundra/LT

Visually inspect all suspension components including slider shoes, springs, wheels, etc.

NOTE : During normal driving, snow will act as a lubricant and coolant for the slider shoes. Extensive riding on ice or sanded snow, will create excessive heat build-up and cause premature slider shoe wear.

Inspect strap for wear and cracks, bolt and nut for tightness. If loose inspect holes for deformation. Replace as required. Torque nut to 9 N•m (80 lbf•**in**).

Rear Suspension setting

Élan

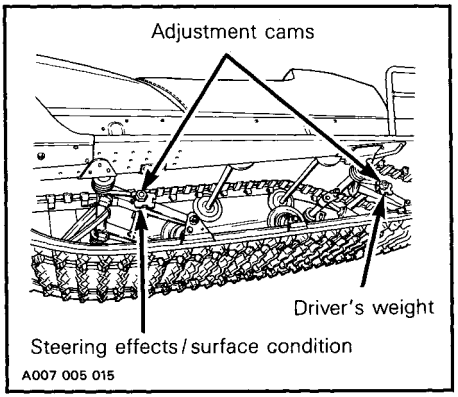
This model does not have any adjustment on the suspension springs.

Tundra/LT

The front portion of rear suspension is adjustable for surface condition and steering effects.

The stopper strap is adjustable for vehicle weight transfer control.

The rear portion of rear suspension is adjustable for driver's weight.



Choice of suspension adjustments depends on carrying load, driver's weight, personal preference, riding speed and field condition.

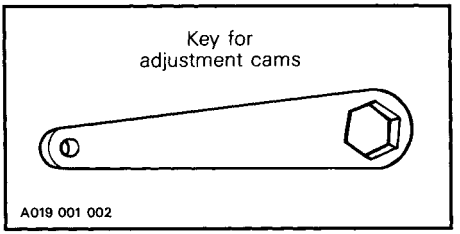
Rear Suspension Setting Table

Cam position	Soft → stiff
Operator's weight	Light → Heavy
Riding speed	Low → High
Field condition	Flat → Bumpy

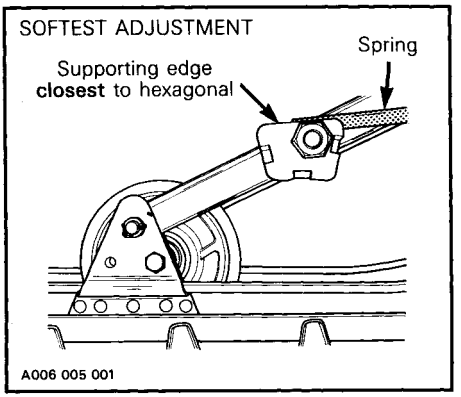
Slight suspension bottoming occuring under the worst riding conditions indicates a good choice of springs preload.

Adjustment Cam Tool

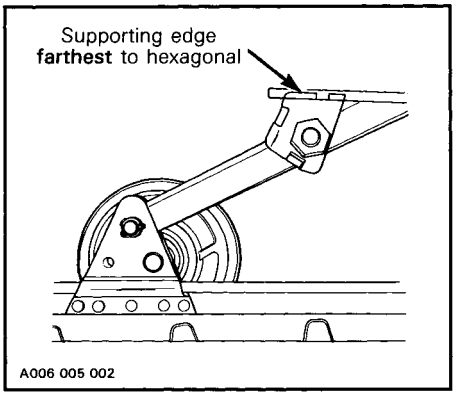
To adjust rear suspension adjustment cams, use the special key supplied in tool kit.



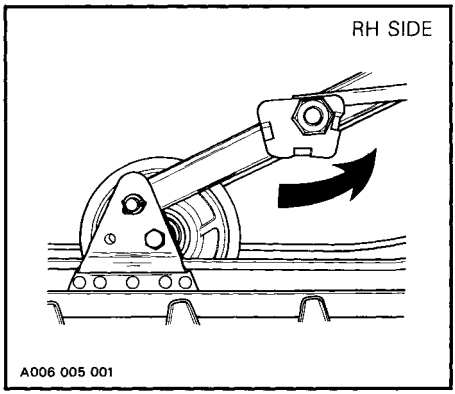
Turning adjustment cam moves edges of cam supporting spring rod. The softest adjustment is reached when the supporting edge of cam is the closest to hexagonal portion of cam.

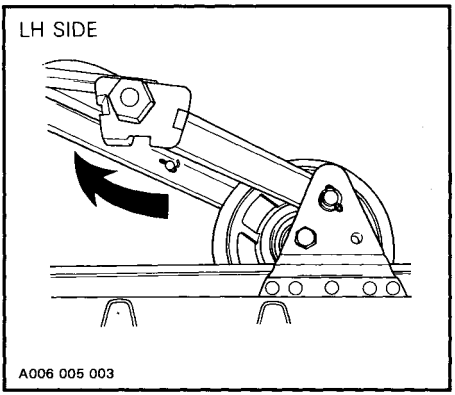


The stiffest adjustment is reached when the supporting edge of cam is the farthest to hexagonal portion of cam.



▼ CAUTION : Always turn the left side adjustment cams in a clockwise direction, the right side cams in a counterclockwise direction. Left and right adjustment cams must always be set at the same position.





Stopper Strap

The function of the suspension stopper strap is to control the transfer of vehicle weight during acceleration and to control track lead angle.

The longer the belt, the more the weight will be transferred to the track to provide a better traction. The shorter the belt, the lesser the weight transferred to the track, thus maintaining a more positive steering.

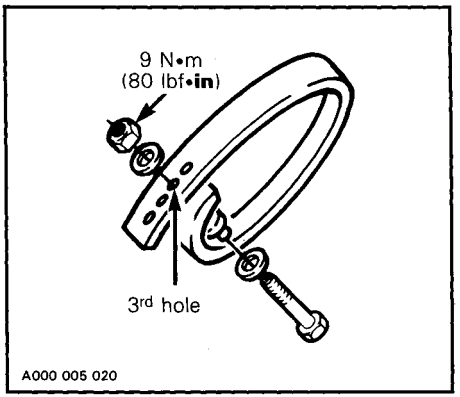
The longer the belt, the greater will be the track lead angle. A shorter belt will reduce track lead angle which may help when negociating a particular snow condition.

Adjusting holes on the stopper strap allow to adjust it according to driver's requirements, field and/or snow conditions.

◆ CAUTION : Whenever stopper strap length is changed, track tension must be readjusted to prevent any possibility of operating vehicle with a too loose or too tight track tension.

For normal use locate bolt through 3rd hole from strap end.

◆ **WARNING : Always torque the nut to 9 N•m (80 lbf•in). Replace strap if worn or torn.**



Deep Snow Operation

When operating the vehicle in deep snow, it may be necessary to change position of adjustment cams, stopper strap and / or driver's riding position, to change the angle at which the track rides on the snow. Operator's familiarity with the various adjustment as well as snow conditions will dictate the most efficient combination.

Track Condition

Lift rear of vehicle and support it off the ground. With the engine **OFF**, rotate track by hand, and inspect condition. If worn or cut, or if track fibers are exposed, or if missing or defective inserts are noted ; contact an authorized dealer.

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

Track Tension

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

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

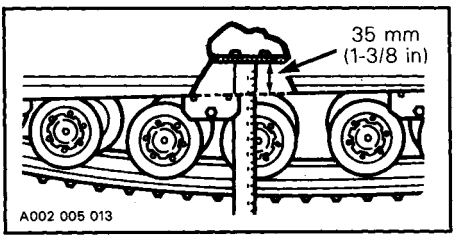
◯ **NOTE :** A belt tension tester (P / N 414 3482 00) may be used to measure deflection as well as force applied.

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

◯ **NOTE :** If the track tension is too loose, the track will have a tendency to thump.

Élan

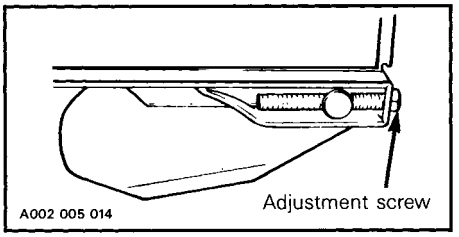
The distance between the top inside edge of the track and the bottom of the footboard at the middle set of bogie wheels should be 35 mm (1-3/8 in).



To adjust tension :

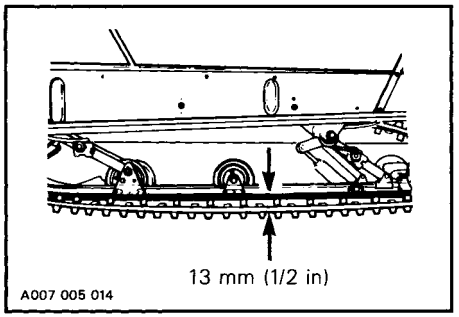
Loosen link plate spring lock nuts located on inner side of link plate springs.

Turn adjustment screws clockwise to tighten track, counterclockwise to slacken.



Tundra/LT

The gap should be 13 mm (1/2 in) between the slider shoe and the bottom inside of the track. If the track tension is too loose, the track will have a tendency to thump.

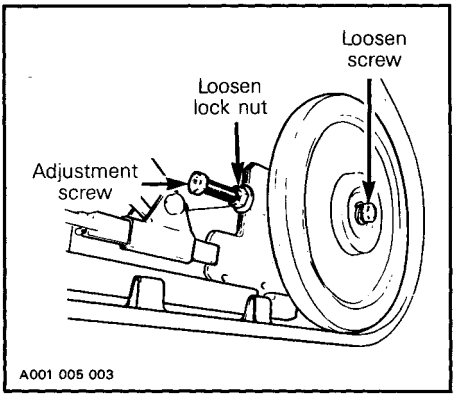


To adjust tension :

— Loosen the rear idler wheel retaining screws.

— Loosen the lock nuts then turn adjustment screws to adjust.

If correct tension is unattainable, contact an authorized dealer.



Track Alignment

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

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.

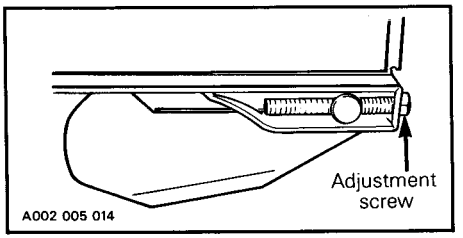
Élan

To align track, use the following procedure :

Lift rear of vehicle and support it off the ground.

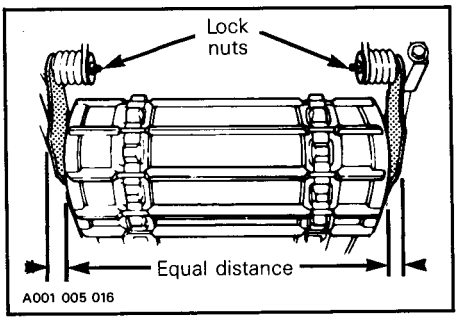
Loosen link plate spring lock nuts located on inner side of link plate springs.

Turn adjustment screws clockwise to tighten track, counterclockwise to slacken.



Start engine and allow track to barely **turn**. Check if track is well centered and turns evenly on the rear sprockets. The distance between track edges and link plates should be equal on each side.

Misalignment can cause excessive wear of track edges and sprocket teeth.



To correct :

Stop engine and on appropriate side, turn adjustment screw clockwise to withdraw track from link plate.

Tighten link plate spring lock nuts.

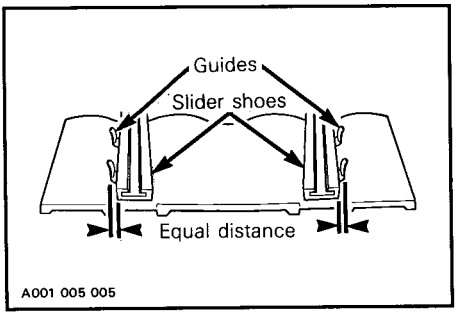
Restart engine and rotate track **slowly** to recheck alignment.

Reposition vehiche on ground.

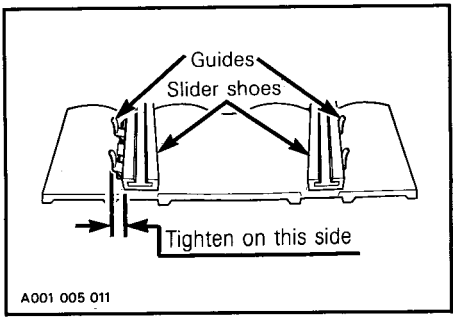
Tundra / LT

Lift rear of vehicle and support it off the ground.

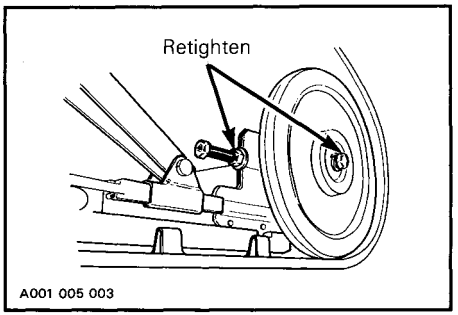
Start the engine and accelerate slightly so that track barely turns. This must be done in a short period of time (one to two minutes). Check that the track is well centered ; equal distance on both sides between edges of track guides and slider shoes.



To correct, **stop the engine :** Loosen the lock nuts and tighten the adjustment screw on side where the slider shoe is the farthest from the track insert guides.



Tighten lock nuts and adjustment screws.



Restart engine and rotate track **slowly** to recheck alignment.

Reposition vehicle on ground.

Drive & Driven Pulleys

These are complex mechanism which operate at high rotational speeds. Each pulley is dynamically balanced at the factory. Any tempering by the owner may disrupt this precisions balancing and create an unstable condition.

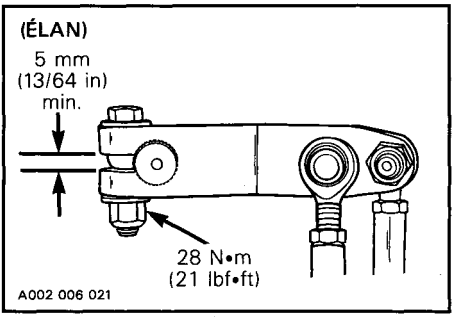
Pulleys are factory adjusted to provide the best performance under most riding conditons. However certain conditions. such as deep snow, high altitude, pulling a load, etc., may require a different adjustment. Contact an authorized dealer for adjustment.

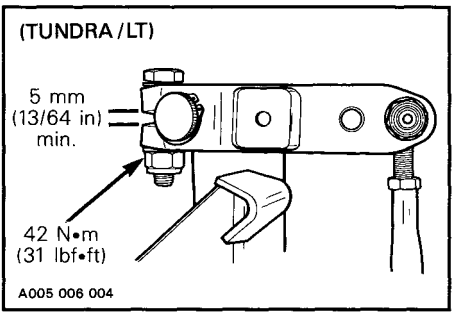
◆ WARNING : The drive and driven pulleys must be inspected and cleaned by an authorized dealer at least annually.

Steering Mechanism

Inspect the steering mechanism for tightness of components (steering arms, tie rods, ball joints, spring coupler bolts, etc.) or wear. If necessary, replace or retighten.

Torque steering arm bolts making sure to keep a minimum gap of 5 mm (13/64 in) between lugs.



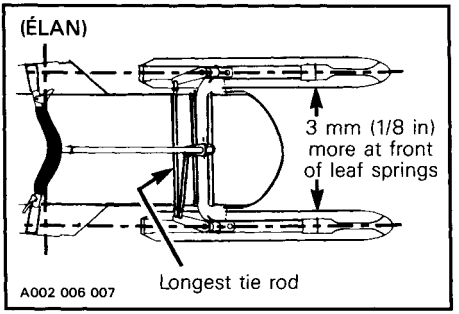


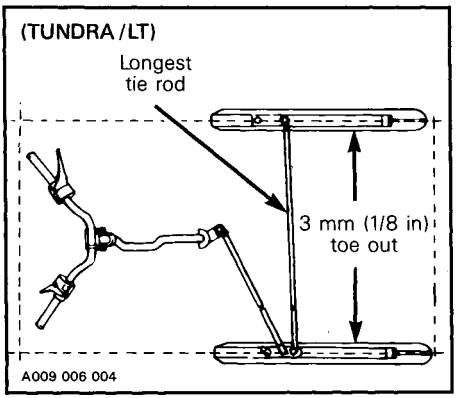
◆ WARNING : Check the condition of the skis, ski runners and leaf spring. Replace if weak. Replace runners if they are more than half worn.

Steering Adjustment

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

IMPORTANT : Close the front of the skis to eliminate all slack from the steering mechanism using a rubber strap.

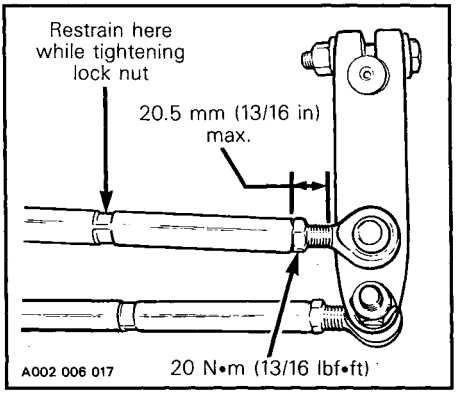




If adjustment is required :

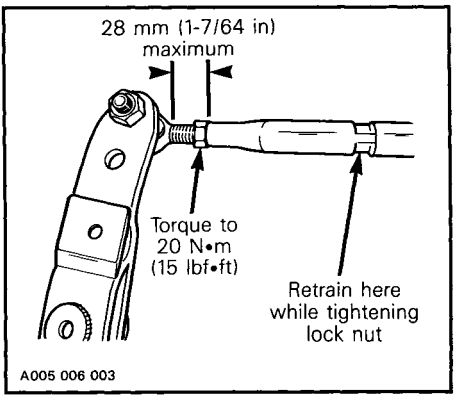
Loosen the lock nuts of the longer tie rod. Turn the tie rod manually until the skis are properly aligned. Firmly retighten the lock nuts.

Élan



◆ **WARNING : The maximum ball joint external threaded length not engaged in the tie rod end must not exceed 20.5 mm (13/16 in). Torque lock nut to 20 N•m (15 lbf•ft).**

Tundra / LT



◆ **WARNING : The maximum ball joint external threaded length not engaged in the tie rod end must not exceed 28 mm (1-7/64 in). Torque lock nut to 20 N•m (15 lbf•ft).**

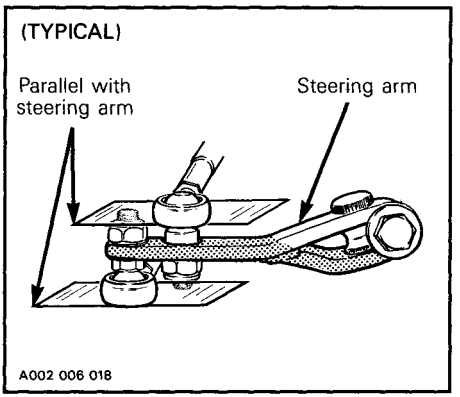
All Models

The handlebar should also be horizontal when the skis are pointed toward the front.

To adjust :

Loosen the lock nuts of the shortest tie rod. Turn the tie rod manually until the handlebar is horizontal. Retighten the lock nuts firmly.

◆ **WARNING : The ball joint socket must run parallel with the steering arm. The tie rod must be restrained when tightening the tie rod end lock nuts.**



Exhaust System

Repair or replace any components which has rusted or developed cracks or holes. Ensure muffler is properly secured in its mount and the ends of retaining springs have not been over-stretched. The tail pipe of the muffler should be centered with the exit hole in the bottom pan.

▼ **CAUTION : Do not operate vehicle with muffler disconnected otherwise serious engine damage will occur.**

Engine Mount Nuts

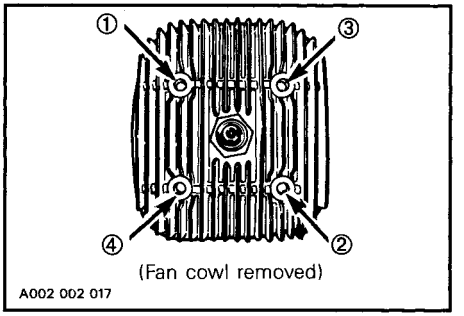
Check the engine mount nuts for tightness. Retorque if required to :

Élan : 38 N•m (28 lbf•ft)

Tundra / LT : 55 N•m (41 lbf•ft).

Engine Head Nuts (Élan)

With the ENGINE COLD, check that engine head nuts are tight and equally torqued to 21 N•m (15 lbf•ft). Follow the illustrated sequence.



IMPORTANT : The engine head nut torque should be checked after the first 10 hours of operation.

Carburetor Adjustment

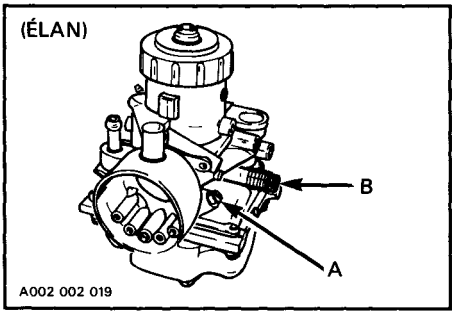
▼ **CAUTION : Never operate your snowmobile with the air intake silencer disconnected. Serious engine damage will occur if this notice is disregarded.**

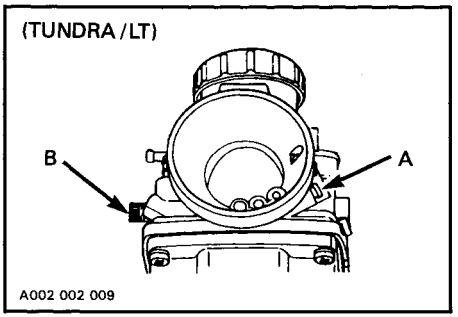
A) Air Screw Adjustment

Completely close the **air screw** (until a slight seating resistance is felt) then back off screw : 1-1/2 turns.

Élan : 1-1/2 turns

Tundra / LT : 1 turn





B) Idle Speed Adjustment

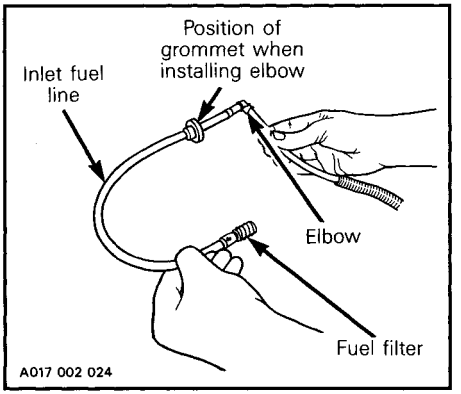
Turn the **idle speed** screw clockwise until it contacts the throttle slide then continue turning two additional turns. This will provide a preliminary idle speed setting. Start the engine and allow it to warm-up then adjust the idle speed by turning the idle speed screw clockwise or counterclockwise.

Élan : 1100-1300 RPM

Tundra / LT : 1800-2000 RPM

Fuel Filter Replacement

Remove fuel line grommet from fuel tank and pull out inlet fuel line from tank.



Replace fuel filter. To facilitate the fuel line installation, slide grommet on fuel line about 50 mm (2 in) away from elbow than install grommet on fuel tank and push down elbow through grommet.

Engine Compartment

Keep clean of grass, twigs, cloth, etc. These are combustible under certain conditions.

High Altitude Kit

Snowmobiles used in high altitude areas (1200 m (4000 ft) and up) are subjected to loose power as temperature, elevation and snow conditions are different.

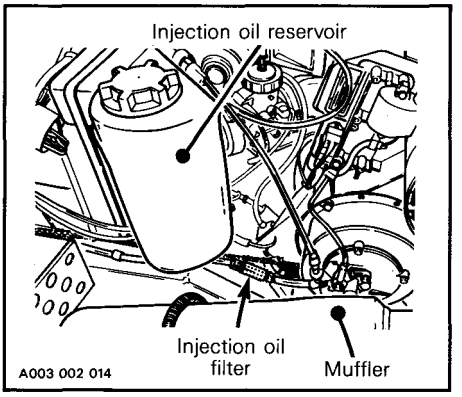
The carburetor and power train have to be recalibrated to meet those particular requirements. Ask an authorized dealer for more information on high altitude kit availability.

▼ **CAUTION : Do not change original jetting if using vehicle below 1200 m (4000 ft).**

Oil Injection System
(Tundra/LT)

Injection Oil Filter Condition

Inspect oil filter at least once a month. Insure that filter is not obstructed by foreign particles ; if so, see an authorized dealer.



▼ **CAUTION : An obstructed injection oil filter will cause oil starvation resulting in serious engine damage.**

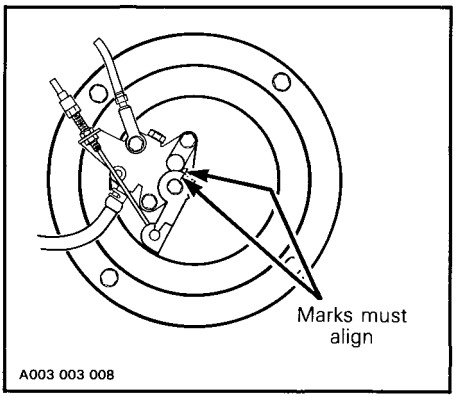
◯ NOTE : After a storage period, it is **important** that an **authorized dealer** replace the injection oil filter and that he verifies the oil flow of the injection pump.

Injection Pump Adjustment

Proper oil injection pump adjustment is very important. Any delay in the opening of the pump can result in serious engine damage.

TO CHECK ADJUSTMENT :

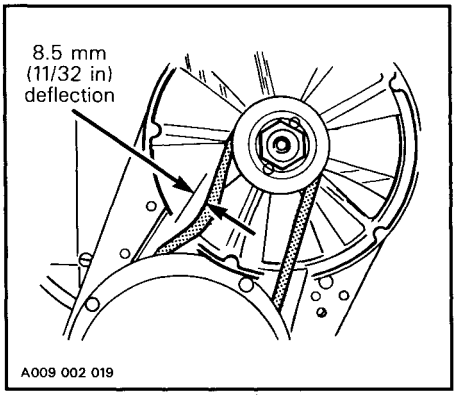
Eliminate the throttle cable free-play by pressing the throttle lever until a slight resistance is felt then hold in place. The aligning marks on the pump casting and lever must align perfectly. If not, contact an **authorized dealer** immediately.



▼ **CAUTION : The carburetor must be adjusted before adjusting the oil injection pump. Make sure the idle speed is 1800-2000 RPM.**

Fan Belt
(Tundra/LT)

Inspect belt for cracks, uneven wear, etc. Check fan belt tension ; deflection must be 8.5 mm (11/32 in) when applying a force of 5 kg (11 lb).



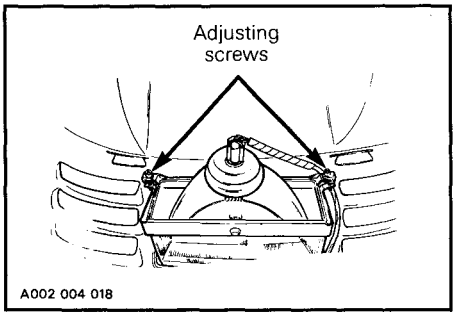
If belt seems damaged or if tension is incorrect, contact an authorized dealer immediately.

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

Headlight Beam Aiming

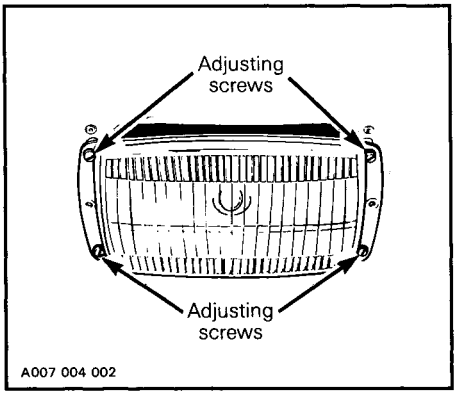
Élan

Open hood to adjust. From inside of hood, turn adjusting screws to obtain desired beam position.



Tundra/LT

To adjust, remove the fours caps, turn upper or lower adjusting screws to obtain desired beam position.

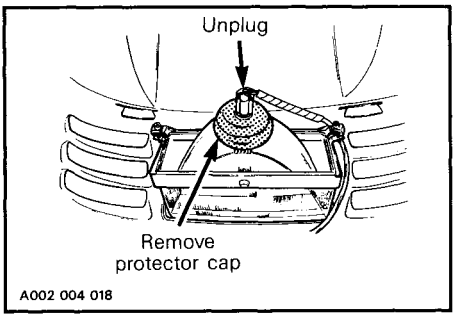


Headlight Bulb Replacement

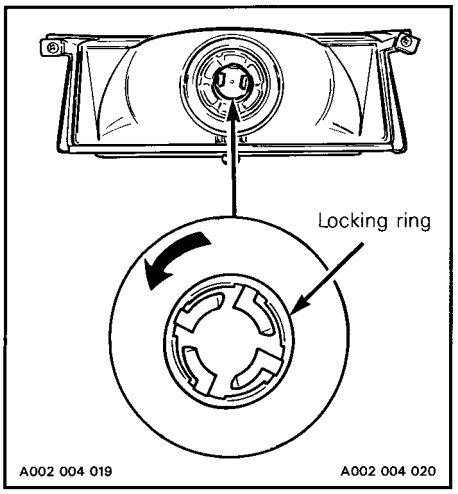
◆ **WARNING : Always check headlight operation after bulb replacement.**

Élan

If headlight is burnt, open hood. Unplug connector from headlight and remove protector cap.



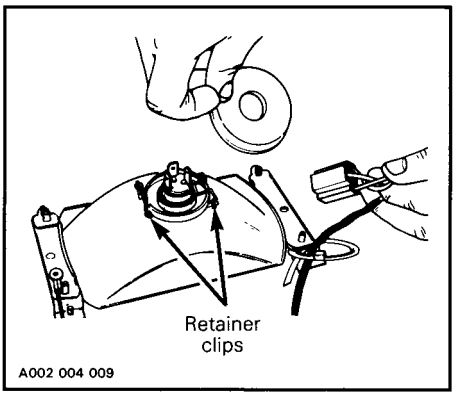
To remove bulb, rotate locking ring counterclockwise then pull bulb.



Reverse procedure to install new bulb.

Tundra/LT

If the headlight bulb is burnt, open hood, unplug the connector from the headlight. Remove the protector cap and unfasten bulb retaining clips. Detach the bulb.



Reverse procedure to install new bulb.

Taillight Bulb Replacement

If taillight bulb is burnt, expose the bulb by removing the red plastic lens. To remove, unscrew the two screws.

◆ **WARNING : Always check taillight operation after bulb replacement.**

Wiring Harnesses, Cables & Lines

Ensure each routing is well secured with proper fasten device (locking tie, clip, grommet, etc.) away from hot or rotating components.

General Inspection

Check the 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.

◆ **WARNING : Check condition of skis, ski runners and leaf springs, replace if weak. Replace ski runners if more than half worn.**

It is during summer, or when a vehicle is not in use for more than one month that proper storage is a necessity.

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

Track

Lift rear of vehicle until track is clear of the ground and support with a brace or trestle.

◯ NOTE : Do not release track tension.

Controls

Lubricate the steering mechanism. Inspect all components for tightness. Oil all moving joints of the brake mechanism.

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

Coat all electrical connections and switches with silicone dielectric grease (P/N 413 7017 00). If unavailable, use petroleum jelly.

Chaincase

Drain then refill to proper level, using fresh chaincase oil. (P/N 413 8019 00 - 250 mL (9 oz)).

Drive & Driven Pulleys

Remove drive belt.

Spray antirust product on pulleys.

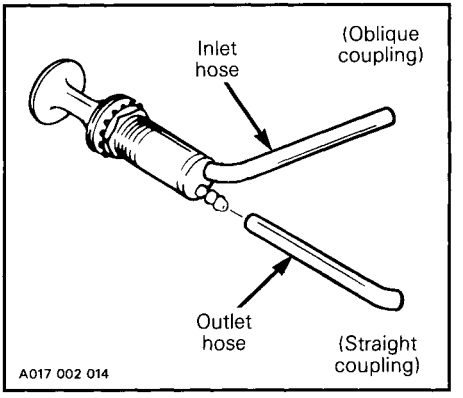
Engine

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

To perform the storage procedures proceed as follows :

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

1. Start the engine and allow it to run at idle speed until the engine reaches its operating temperature.
2. Stop the engine.
3. To prevent fuel from draining, primer button should be pushed all the way.
4. Disconnect the outlet primer hose from the primer valve (straight coupling).



5. Insert storage oil (P/N 496 0141 00) can nozzle into primer outlet hose.
6. Restart engine and run at idle speed.
7. Inject storage oil until the engine stalls or until a sufficient quantity of oil has entered the engine (approximately half a can).
8. With the engine stopped, remove the spark plug and spray storage oil (P/N 496 0141 00) into each cylinder.
9. Crank slowly two or three revolutions to lubricate cylinder.
10. Reinstall the spark plug and the outlet primer hose.

◆ WARNING : This procedure must only be performed in a well ventilated area. Do not run engine during storage period.

Fuel Tank & Carburetor

A fuel stabilizer, such as Sta-Bil® (or equivalent), can be added in fuel tank to prevent fuel deterioration and avoid draining fuel system for storage. Follow manufacturer's instructions for proper use.

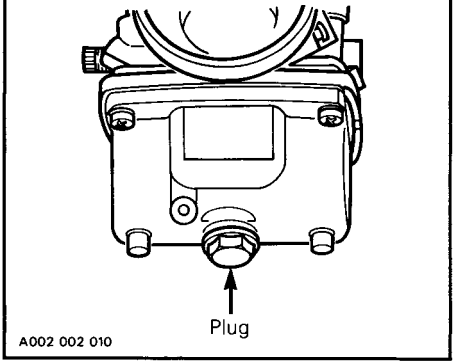
If above fuel stabilizer is not used, drain fuel sytem as described below.

Remove the cap and using a siphon. drain fuel tank.

◆ WARNING : Fuel is flammable and explosive under certain conditions. Ensure work area is well ventilated. Do not smoke or allow open flames or sparks in the vicinity.

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

Once the fuel tank is emptied, remove the float chamber drain plug from carburetor. Drain carburetor and reinstall plug.



General Inspection

Grease or oil at all recommended lubrication points. Wipe off surplus.

Block air intake hole and exhaust system hole using clean cloths.

Remove any dirt or rust.

To clean the entire vehicle, use only flannel clothes or Kimtowels® wipers no. 58-380 from Kimberly-Clark.

To clean the entire vehicle, including metallic parts with a thin coat of grease, use "Endust" imported by Bristol Myers, available at hardware stores or supermarkets.

To clean the entire vehicle, including metallic parts with a thick coat of grease, use "Simple Green" from Sunshine Makers Inc, available at hardware stores or at automotive parts retailer.

To remove scratches on windshield or hood : Start with "Slip Streamer Motorcycle Windshield Heavy Duty Scratch Remover". Finish with "Slip Streamer Motorcycle Cleaner and Polish".

NOTE : The latest product may be use alone if only light scratches are noticeable.

CAUTION : Never clean plastic parts or hood with strong detergent, degreasing agent, paint thinner, acetone, products contaning chlorine, etc.

Inspect the hood and repair any damage.

Touch up all metal spots where paint has been scratched off. Spray all metal parts with antirust product. Wax the hood and the painted portion of the frame for better protection.

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

CAUTION : The snowmobile has to be stored in a cool and dry place and covered with an opaque tarpaulin. This will prevent sun rays and grime from affecting plastic components and vehicle finish.

PRE-SEASON PREPARATION

We cannot overstress the importance of proper pre-season preparation. We have drawn up a chart which indicates service points to be performed by an authorized dealer. Make an appointment before first snow.

PRE-SEASON PREPARATION CHART	To be performed by dealer ● To be perormed by owner ○	Refer to page
Check electrical wiring	○	48
Check fuel lines and attaching points	○	48
Replace fuel filter (located inside fuel tank)	○	45
Inspect seals for possible cuts or leaks	○	–
Check chaincase oil level	○	27
Inspect condition of starting rope	○	–
Check tightness of all bolts, nuts and linkage	○	48
Refill fuel tank	○	17
Replace injection oil filter (Tundra/LT)	●	Shop man.
Refill injection oil reservoir (Tundra/LT)	○	17
Checks pulleys, verify components and clean, lubricate driven pulley	●	Shop man.
Inspect drive belt and install	○	31
Check throttle cable for free operation	○	23
Adjust carburetor	●	Shop man.
Adjust oil injection pump (Tundra/LT)	●	Shop man.
Check track condition, tension and alignment	○	39
Lubricate suspension	○	26
Inspect brake condition and operation	○	33
Lubricate brake caliper ratchet wheel (Tundra/LT)	●	Shop man.
Check fan belt condition and tension (Tundra/LT)	●	Shop man.
Check steering adjustment and ski runners wear	●	43
Check engine timing (Élan : replace breaker points if necessary)	●	Shop man.
Change spark plugs*	○	36

○ ***NOTE :** Before installing new spark plugs, it is suggested to burn excess storage oil by starting the engine, using the old spark plugs. Only perform this operation in a well ventilated area.

TROUBLESHOOTING

SYMPTOMS	POSSIBLE CAUSES	WHAT TO DO
Engine turns over but fails to start.	1. Ignition switch, emergency cut-out switch or tether switch is in the OFF position.	Place all switches in the RUN or ON position.
	2. Mixture not rich enough to start cold engine.	Check fuel tank level and check starting procedure, particularly use of the primer.
	3. Flooded engine (spark plug wet when removed).	Do not overprime. Remove wet spark plug, turn ignition to OFF and crank engine several times. Install clean dry spark plug. Start engine following usual starting procedure. If engine continues to flood, see an authorized dealer.
	4. No fuel to the engine (spark plug dry when removed).	Check fuel tank level ; turn fuel shut-off valve ON if applicable ; check fuel filter ; replace if clogged ; check condition of fuel and impulse lines and their connections. A failure of the fuel pump or carburetor has occurred. Contact an authorized dealer.
	5. Spark plug/ignition (no spark).	Check that emergency cut-out switch is at ON position and the tether cut-out switch cap is snapped over the receptacle. 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 a metallic part of engine **being careful to hold away from spark plug hole**. Follow engine starting procedure and check for sparks. If no spark appears, replace spark plug. If trouble persists, contact an authorized dealer.

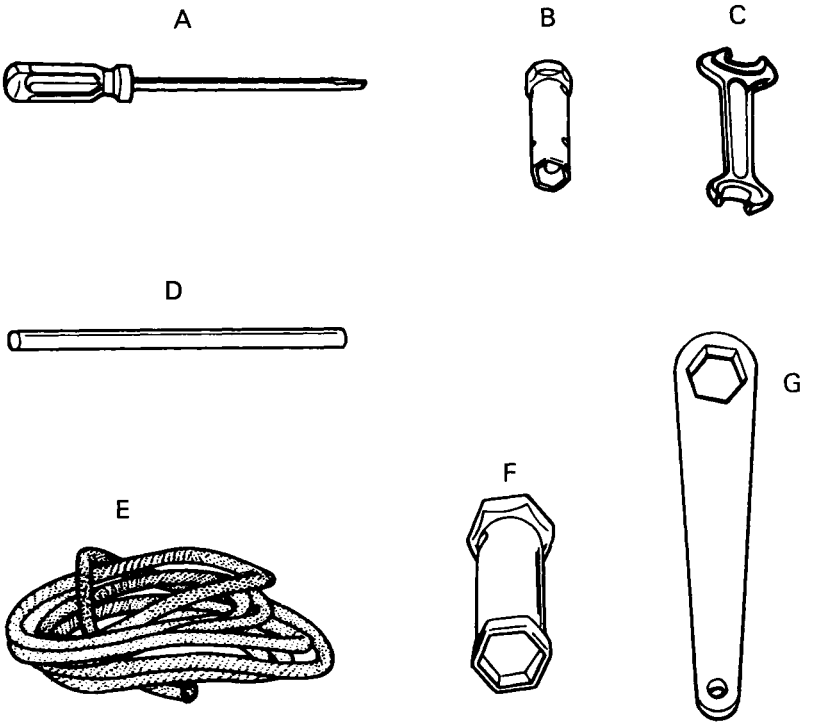
SYMPTOMS	POSSIBLE CAUSES	WHAT TO DO
	6. Engine compression.	As the engine is pulled over with the rewind starter, "cycles" of resistance should be felt as piston goes past top dead center (each piston on twin-cylinder engines). If no pulsating resistance is felt, it suggests a major loss of compression. Contact an authorized dealer.
Engine lacks acceleration or power.	1. Fouled or defective spark plug.	Check item 5 of "Engine turns over but fails to start."
	2. Lack of fuel to engine.	Check item 4 of "Engine turns over but fails to start."
	3. Carburetor adjustments.	Contact an authorized dealer.
	4. Drive belt worn too thin.	If the drive belt has lost more than 3 mm (1/8 in) of its original width, it will affect vehicle performance.
	5. Drive and driven pulleys require servicing.	Contact an authorized dealer.
	6. Engine is overheating.	On liquid cooled engines, check coolant level, pressure cap, thermostat and for air locks in cooling system. On fan cooled engines, check fan belt and its tension ; clean cooling fins of engine ; if heating persists, contact an authorized dealer.

SYMPTOMS	POSSIBLE CAUSES	WHAT TO DO
Engine backfire.	1. Faulty spark plug.	See item 5 of "Engine turns over but fails to start".
	2. Water in fuel.	Drain fuel system and refill with clean fuel.
	3. Engine is running too hot.	See item 6 of "Engine lacks acceleration or power".
	4. Ignition timing is incorrect or there is an ignition system failure.	Contact an authorized dealer.
Snowmobile cannot reach full speed.	1. Drive belt.	Check item 4 of "Engine lacks acceleration or power".
	2. Incorrect track adjustment.	See maintenance section for proper alignment and tension adjustments.
	3. Pulleys misaligned.	Contact an authorized dealer.
	4. Engine.	See items 1, 2, 3 & 6 of "Engine lacks acceleration or power".

TOOLS

As standard equipment each new snowmobile is supplied with basic tools such as screwdriver, wrenches, emergency starting rope, etc.

Standard Tools



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DESCRIPTION	PART NUMBERS
A. Screwdriver	414 6424 00
B. Socket 10/13 mm	414 6426 00
C. Open end wrench 10/13 mm	414 6428 00
D. Socket wrench handle	414 6427 00
E. Emergency starting rope	412 5001 00
F. Socket 21/26	414 6425 00
G. Hexagonal wrench (Tundra/LT)	529 0024 00

SPECIFICATIONS

	ÉLAN	TUNDRA/TUNDRA LT
ENGINE		
Type	247	253
No. of cylinder(s)	1	1
Bore	69.5 mm (2.736")	72 mm (2.835")
Stroke	66 mm (2.598")	61 mm (2.402")
Displacement	250.4 cm^3 (15.28 in^3)	248.4 cm^3 (15.16 in^3)
Compression ratio (corrected)	5.5:1	6.25:1
Maximum horsepower RPM ①	5000	7000
Carburetor type	Variable venturi, float type	
Carburetor adjustment :		
— air screw	1-1/2 turns	1 turn
— idle speed	1100-1300 RPM	1800-2000 RPM
Fan belt deflection	N.A.	8.5 mm (11/32") ②
Torque :		
— engine head nuts	M8 : 21 N•m (15 lbf•ft)	N.A.
— crankcase/cylinder nuts	N.A.	M8 : 28 N•m (21 lbf•ft)
— crankcase nuts/screws	M8 : 22 N•m (16 lbf•ft)	M6 : 10 N•m (7 lbf•ft)
— magneto flywheel nut	M22 : 85 N•m (63 lbf•ft)	M22 : 90 N•m (66 lbf•ft)
— fan nut	N.A.	60 N•m (44 lbf•ft)
— crankcase/engine support nuts or screws	38 N•m (28 lbf•ft)	21 N•m (15 lbf•ft)
— exhaust manifold nuts	21 N•m (15 lbf•ft)	N.A.
CHASSIS		
Overall length	224.8 cm (88.5")	272 cm (107.1") LT : 287 cm (113")
Overall width	77.5 cm (30.5")	84.5 cm (33.3")
Overall height	106.7 cm (42")	111 cm (43.7")
Ski stance (center to center)	64.8 cm (25.5")	72.5 cm (28.5")
Ski alignment (toe out)	3 mm (1/8")	3 mm (1/8")
Torque :		
— steering arm/ski leg bolt	28 N•m (21 lbf•ft)	50 N•m (37 lbf•ft)
— handlebar	N.A.	26 N•m (19 lbf•ft)
Dry weight	129.3 kg (285 lb)	149 kg (328 lb) LT : 163 kg (358 lb)
Bearing area	6505 cm^2 (1008 in^2)	7261 cm^2 (1125 in^2) LT : 8035 cm^2 (1245 in^2)
Ground pressure	1.95 kPa (.283 lb/in^2)	2.01 kPa (.292 lb/in^2) LT : 1.99 kPa (.288 lb/in^2)

① The maximum horsepower RPM is applicable with engine on the vehicle. It may vary under certain circumstances, Bombardier Inc. reserves the right to modify it without any obligation.

② With a force of 5 Kg (11 lb).

N.A. : Not applicable

Bombardier Inc. 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 itselt to install them on its product previously manufactured.

	ÉLAN	TUNDRA/TUNDRA LT
POWER TRAIN		
Track :		
— width	38.1 cm (15")	38.1 cm (15")
— length	290 cm (114")	315 cm (124") LT : 355 cm (140")
— tension	35 mm ± 3 (1-3/8" ± 1/8") distance between top inside edge of track and the bottom of the footboard.	13 mm (1/2") gap between slider shoe and bottom inside of track.
— alignment	Equal distance between edges of track and link plates.	Equal distance between edge of track guides and slider shoes.
Standard gear ratio	10/25	12/27
Drive belt :		
— number	570 0411 00	414 5234 00
— max. width	30.2 mm (1-3/16")	33.3 mm (1-5/16")
— min. width	27 mm (1-1/16")	30 mm (1-3/16")
Chaincase oil capacity	200 mL (7 oz)	200 mL (7 oz)
ELECTRICAL		
Lighting system (output)	12 V, 75/23 W	160 W
Bulb :		
— headlight	60/60 W	60/60 W
— taillight	8/26 W	8/26 W
Breaker point gap	0.35-0.40 mm (.014-.016")	N.A.
Spark plug :		
— type	Bosch M7A	NGK BR9ES
— gap	0.55 mm (.022")	0.45 mm (.018")
Ignition timing :		
— timing mark (BTDC)	3.98 mm (.157")	1.88 mm (.074") (18°)
Dynamic edge gap	7-10 mm (9/32-25/64")	N.A.
Stroboscopic timing	N.A.	6000 RPM
FUEL		
Fuel type	Regular unleaded	Regular unleaded
Fuel tank capacity :		
— S.I.	13.6 L	26 L
— Imp.	3 gal	5.7 gal
— U.S.	3.6 gal	6.9 gal
Oil type :	BLIZZARD oil	Bombardier injection oil
— ratio	50:1	N.A.
Injection oil reservoir capacity :		
— S.I.	N.A.	1.5 L
— Imp.	N.A.	53 oz
— U.S.	N.A.	51 oz
BRAKE		
Type	Drum	Disc self-adjusting.
Lining minimum thickness	3 mm (1/8")	When only 1 mm (1/32") or fixed pad is protected out of caliper.
Control lever adjustment (minimum distance from handlebar grip when fully applied)	25 mm (1")	13 mm (1/2")

N.A. : Not applicable

SI* METRIC INFORMATION GUIDE

BASE UNITS

DESCRIPTION	UNIT	SYMBOL
length	meter	m
mass	kilogram	kg
force	Newton	N
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	0.01
milli	m	one thousandth	0.001
micro	μ	one millionth	0.000 001

CONVERSION FACTORS

TO CONVERT	TO †	MULTIPLY BY
in	mm	25.4
in	cm	2.54
in^2	cm^2	6.45
in^3	cm^3	16.39
ft	m	0.3
oz	g	28.35
lb	kg	0.45
lbf	N	4.4
lbf•**in**	N•m	0.11
lbf•ft	N•m	1.36
lbf•ft	lbf•**in**	12
PSI	kPa	6.89
imp. oz	U.S. oz	0.96
imp. oz	mL	28.41
imp. gal	U.S. gal	1.2
imp. gal	L	4.55
U.S. oz	mL	29.57
U.S. gal	L	3.79
MPH	km/h	1.61
Fahrenheit	Celsius	(°F − 32) ÷ 1.8
Celsius	Fahrenheit	(°C × 1.8) + 32

*The international system of units abbreviates "SI" in all languages.

†To obtain the inverse sequence, divide by the given factor. To convert "mm" to "in", divide by 25.4.

NOTES