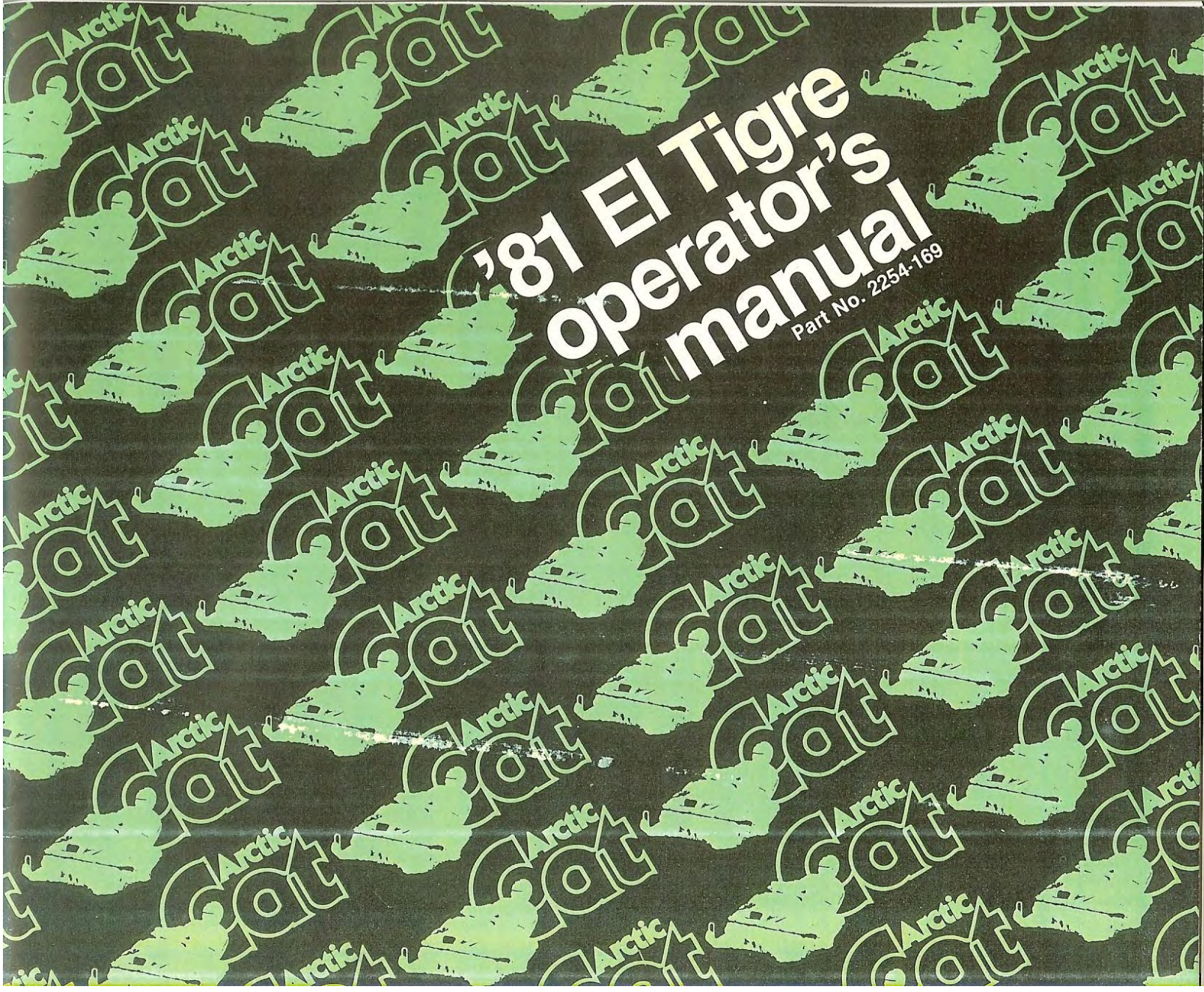


# '81 El Tigre operator's manual

Part No. 2254-169



## ***FOREWORD***

Congratulations! You have chosen a quality Arctic product designed and manufactured to give dependable service backed by total "field support". Be sure, as the owner/operator of an Arctic Cat Snowmobile, to become thoroughly familiar with its basic operation and maintenance procedures. Read this manual and the accompanying Snowmobile Safety Handbook before operating the snowmobile to ensure safe and proper use of your new Arctic Cat.

The Operator's Manual, Snowmobile Safety Handbook, and snowmobile decals display the words Warning, Caution, and Note to emphasize important information. The symbol ▲ **WARNING** ▲ identifies personal safety-related information. Be sure to read the directive because it deals with the possibility of personal injury. The symbol ● **CAUTION** ● identifies snowmobile-related information. Read the directive because it deals with the possibility of damaging part or parts of the snowmobile. If the directive is violated, the snowmobile will usually sustain major damage. The symbol ■ **NOTE:** identifies supplementary information worthy of particular attention.

This manual covers operator-related maintenance, operating instructions, and summer storage instructions. If major repair or service is ever required, contact an authorized Arctic Cat Snowmobile dealer for his professional service.

At the time of publication, all information, photographs, and illustrations were technically correct. Because Arctic Enterprises, Inc. constantly refines and improves its products, no retroactive obligation is incurred.

This Arctic Cat Operator's Manual should be considered a permanent part of the snowmobile and must remain with the snowmobile at the time of resale.

This manual was prepared by the  
Publications Section of  
the Product Services Dept.,  
Arctic Enterprises, Inc.

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## **1981 EL TIGRE 5000 SPECIFICATIONS\***

<b>ENGINE AND DRIVE</b>	
Model	AD50F6
Bore x Stroke	70 x 65 mm (2.756 x 2.559 in.)
Displacement	500 cc (30.5 cu in.)
Lighting Coil Output	12V/120W
Ignition Type	CDI/NCI
Spark Plug Type	NGK BR9ES
Spark Plug Gap	0.5 mm (0.020 in.)
Brake Type	Caliper/Disc w/Parking Brake
Track Width	38 cm (15 in.)
Overall Track Length	295 cm (116 in.)
Track Length on Ground	94 cm (37 in.)
<b>CHASSIS</b>	
Length w/Skis	259 cm (102 in.)
Length w/o Skis	239 cm (94 in.)
Height w/Windshield	98 cm (38.5 in.)
Height w/o Windshield	79 cm (31 in.)
Overall Width	104 cm (41 in.)
Ski "Center-to-Center" Distance	81 cm (32 in.)
<b>MISCELLANY</b>	
Curb Weight (approx.)	202 kg (445 lb)
Dry Weight (approx.)	178 kg (393 lb)
Fuel Tank Capacity	24.6 l (6.5 U.S. gal.)
Chain Case Capacity	236 ml (8 fl oz)
Gasoline	88 Minimum Octane Regular Leaded
Engine Oil	Arctic Cat 50:1 Oil

**MISCELLANY (cont.)**

Chain Case Lubricant	Arctic Chainlube
Taillight/Brakelight Bulb p/n	0109-460
Headlight Bulb p/n	0109-735
Gauge Light Bulb p/n	0109-453
Drive Belt p/n	0227-030
Ignition Timing	20° BTDC @ 6000 rpm (2.489 mm or 0.098 in.)
Fuel Mixture for Break-In	24:1
Fuel Mixture After Break-In	50:1

\*Specifications subject to change without notice.

## 1981 EL TIGRE 6000 SPECIFICATIONS\*

ENGINE AND DRIVE	
Model	AH50L2
Bore x Stroke	70 x 65 mm (2.756 x 2.559 in.)
Displacement	500 cc (30.5 cu in.)
Lighting Coil Output	12V/120W
Ignition Type	CDI/NCI
Spark Plug Type	NGK BR10EV
Spark Plug Gap	0.5 mm (0.020 in.)
Brake Type	Caliper/Disc w/Parking Brake
Track Width	38 cm (15 in.)
Overall Track Length	295 cm (116 in.)
Track Length on Ground	94 cm (37 in.)
CHASSIS	
Length w/Skis	259 cm (102 in.)
Length w/o Skis	239 cm (94 in.)
Height w/Windshield	98 cm (38.5 in.)
Height w/o Windshield	81 cm (32 in.)
Overall Width	104 cm (41 in.)
Ski "Center-to-Center" Distance	81 cm (32 in.)
MISCELLANY	
Curb Weight (approx.)	215 kg (474 lb)
Dry Weight (approx.)	188 kg (415 lb)
Fuel Tank Capacity	26.2 l (6.9 U.S. gal.)
Chain Case Capacity	236 ml (8 fl oz)
Cooling System Capacity	2.39 l (0.62 U.S. gal. or 2.48 qt)
Gasoline	88 Minimum Octane Regular Leaded

MISCELLANY (cont.)	
Engine Oil	Arctic Cat 20:1 Oil
Chain Case Lubricant	Arctic Chainlube
Taillight/Brakelight Bulb p/n	0109-460
Headlight Bulb p/n	0109-735
Gauge Light Bulb p/n	0109-453
Drive Belt p/n	0227-032
Ignition Timing	25° BTDC @ 6000 rpm (3.854 mm or 0.151 in.)
Fuel Mixture for Break-In	20:1
Fuel Mixture After Break-In	20:1

\*Specifications subject to change without notice.

## **PERIODIC MAINTENANCE CHECKLIST**

The longevity of your El Tigre 5000 or 6000 Snowmobile can be increased by your making periodic checks of the items in this checklist. Although not all items may apply to both snowmobile models, the checklist should be used as thoroughly as possible.

If at any time abnormal noises, vibrations, or improper working conditions of any component of this snowmobile are detected, **DO NOT OPERATE**

**THE SNOWMOBILE.** Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for inspection and adjustment or repair.

The El Tigre Snowmobile should be taken to an authorized Arctic Cat Snowmobile dealer at the end of each snowmobiling season for general inspection and for summer storage servicing. This inspection and servicing is at the expense of the snowmobile owner.

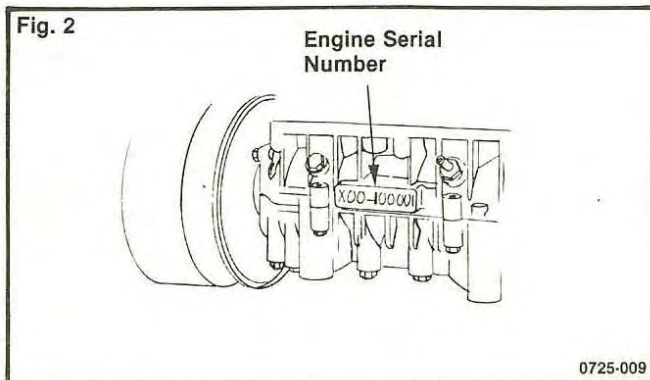
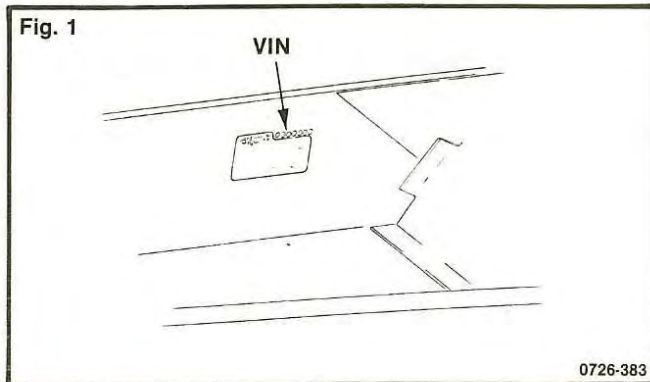
ITEM	INTERVAL			REMARKS
	Daily	Weekly	Monthly	
Brake System	X			Check binding, sticking, proper operation, brake lever travel, spring, wear indicator/jam nut clearance, cable, caliper, disc
Cooling System - Radiator	X			Check leakage, damage, cooling fins for obstructions, coolant level
Emergency Stop Switch	X			Check proper operation
Hoses	X			Check damage, leakage, routing
Lights - Headlight, Taillight/Brakelight	X			Check proper operation, cleanliness
Steering System	X			Check proper operation, tightness of bolts, binding
Throttle Control System	X			Check binding, sticking, proper operation, throttle cable tension, routing, damage
Carburetors - Idle Speed Screws, Pilot Air Screws, Main Jets		X		Adjust according to specifications, install proper main jets according to specifications
Drive Belt Condition		X		Check wear, cracks, fraying
Electrical Wiring		X		Check wear, damage, tight connections, routing
Exhaust System		X		Check damage, leakage, obstructions
Fuel System-Fuel Tank, Fuel Pump, In-Line Fuel Filter, Vent Hose		X		Check damage, wear, obstructions, leakage

ITEM	INTERVAL			REMARKS
	Daily	Weekly	Monthly	
Nuts, Bolts, Fasteners		X		Check tightness
Recoil Starter		X		Check rope for wear, fraying, proper operation
Ski Alignment		X		Check according to specifications
Ski Shock Absorbers		X		Check fluid leakage, damage
Ski Wear-Bars		X		Check wear, damage
Spark Plugs		X		Check center electrode insulator color, carbon, gap, tightness
Suspension		X		Check damage, loose components, proper adjustment
Track Alignment, Tension		X		Check according to specifications
Wear-Strips		X		Check wear (according to specifications), damage
Wires, Cables		X		Check wear, damage, routing
Chain Case, Chain			X	Check Chainlube level, leakage, chain tension, wear, damage (annually)
Cooling System - Heat Exchangers			X	Check wear, leakage, damage
Cooling System - Water Pump Belt			X	Check tightness (according to specifications), wear, damage
Drive Belt			X	Check length and width dimensions (according to specifications)
Drive Clutch			X	Check damage, abnormal noise, vibration, drive belt deposits, lubricate (250 miles)
Driven Pulley			X	Check binding, sticking, damage, drive belt deposits
Rear Suspension Arm			X	Grease (low-temperature)

## GENERAL INFORMATION

### SNOWMOBILE IDENTIFICATION

The Arctic Cat Snowmobile has two identification numbers: The Vehicle Identification Number (VIN) is stamped into the tunnel near the right side footrest (Fig. 1). The engine serial number is stamped into the crankcase on the intake side of the engine (Fig. 2). The engine model number is located on the engine magneto housing.



These numbers are required by the dealer to complete warranty claims properly. No warranty will be allowed by Arctic if the engine serial number or VIN is removed or mutilated in any way.

**NOTE: Refer to the Consumer Warranty and Service Booklet for complete details concerning owner responsibility and provisions of the warranty.**

Always provide the snowmobile name, VIN, engine serial number, and engine model number when contacting an authorized Arctic Cat Snowmobile dealer for parts, service, accessories, or warranty. If the complete engine must be replaced, ask the dealer to notify Arctic for correct registration information.

### CONTROL LOCATIONS

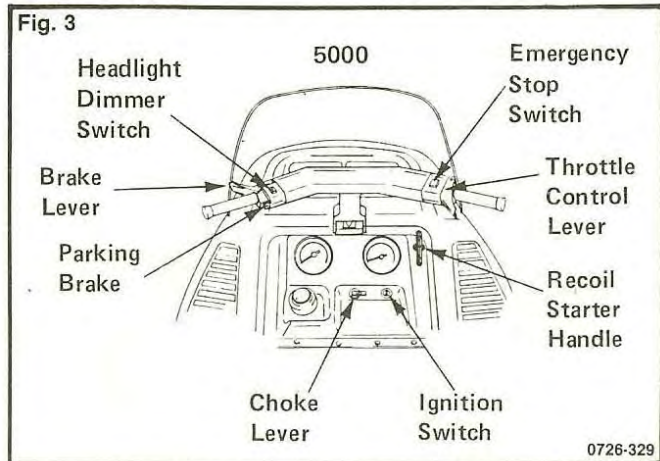
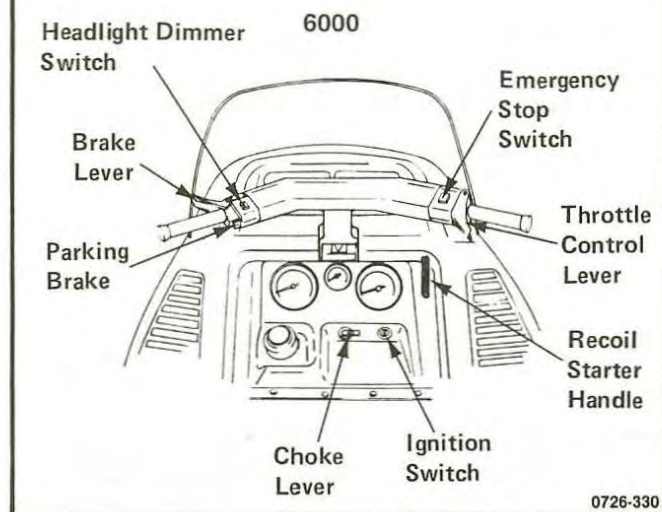


Fig. 4



## GASOLINE-OIL

### Recommended Gasoline

The correct gasoline to use is 88 minimum octane regular leaded.

**NOTE:** Arctic recommends leaded gasoline; however, unleaded premium gasoline may be used as a substitute if leaded gasoline is not available.

#### CAUTION

Gasoline additives, gasohol, and white gas **MUST NOT BE USED**; they will eventually cause engine damage.

### Recommended Oil

The correct oil to use for the 5000 is Arctic Cat 50:1 Oil and for the 6000 is Arctic Cat 20:1 Oil. These oils are specially formulated to meet the lubrication requirements for each Arctic Cat Snowmobile engine.

#### CAUTION

Any other oil used besides Arctic Cat 50:1 Oil for the 5000 or Arctic Cat 20:1 Oil for the 6000 will likely cause serious engine damage.

### Gas/Oil Mixing Instructions (5000)

Before mixing gasoline and oil, make sure the oil is at room temperature (20° C/68° F). Use an approved 24.6 l (6.5 U.S. gal.) fuel container for mixing the gasoline and oil. To properly mix the fuel at a 50:1 ratio for the 5000, use the following procedure:

#### CAUTION

Never mix gasoline and oil in the snowmobile fuel tank.

1. Pour gasoline into the fuel container until approximately half full.
2. Pour one can (473 ml or 16 fl oz) of Arctic Cat 50:1 Oil into the container.
3. Cap the container and shake the mixture vigorously.

4. Fill the container with a total of 22.7 l (6 U.S. gal.) of gasoline.
5. Cap the container and shake the mixture vigorously.
6. Using a fine-mesh screened funnel, pour the fuel mixture from the container into the snowmobile fuel tank.



#### **WARNING**

Always fill fuel tank in a well-ventilated area. Never add fuel to the snowmobile fuel tank near any open flames or with engine running. **DO NOT SMOKE** while mixing fuel or filling fuel tank.

### **Gas/Oil Mixing Instructions (6000)**

Before mixing gasoline and oil, make sure the oil is at room temperature (20° C/68° F). Use an approved 24.6 l (6.5 U.S. gal.) fuel container for mixing the gasoline and oil. To properly mix the fuel at a 20:1 ratio for the 6000, use the following procedure:



#### **CAUTION**



Never mix gasoline and oil in the snowmobile fuel tank.

1. Pour 9.5 l (2 1/2 U.S. gal.) of gasoline into the fuel container.

2. Pour one can (946 ml or 32 fl oz) of Arctic Cat 20:1 Oil into the container.
3. Cap the container and shake the mixture vigorously.
4. Pour an additional 9.5 l (2 1/2 U.S. gal.) of gasoline into the container.
5. Cap the container and shake the mixture vigorously.
6. Using a fine-mesh screened funnel, pour the fuel mixture from the container into the snowmobile fuel tank.



#### **WARNING**



Always fill fuel tank in a well-ventilated area. Never add fuel to the snowmobile fuel tank near any open flames or with engine running. **DO NOT SMOKE** while mixing fuel or filling fuel tank.

### **ENGINE BREAK-IN**

The El Tigre Snowmobile requires a short break-in period before the engine is subjected to heavy load conditions. The break-in period should last until the first tankful of fuel is consumed.

During the break-in period, a maximum of 1/2 throttle is recommended; however, brief full-throttle accelerations and variations in driving speeds contribute to good engine break-in. After the second tankful of fuel (on the 5000, one tankful of a 24:1 fuel mixture for break-in and one tankful of the standard 50:1 fuel mixture), the snowmobile may be taken to an authorized Arctic Cat Snowmobile dealer for a checkup. This checkup is at the discretion and the expense of the snowmobile owner.

For the 5000, the break-in tankful of fuel should be a 24:1 mixture; therefore, two cans (946 ml or 32 fl oz) of Arctic Cat 50:1 Oil in 22.7 l (6 U.S. gal.) of gasoline.

For the 6000, the break-in tankful of fuel should be the standard 20:1 mixture (See Gas/Oil Mixing Instructions (6000) section).

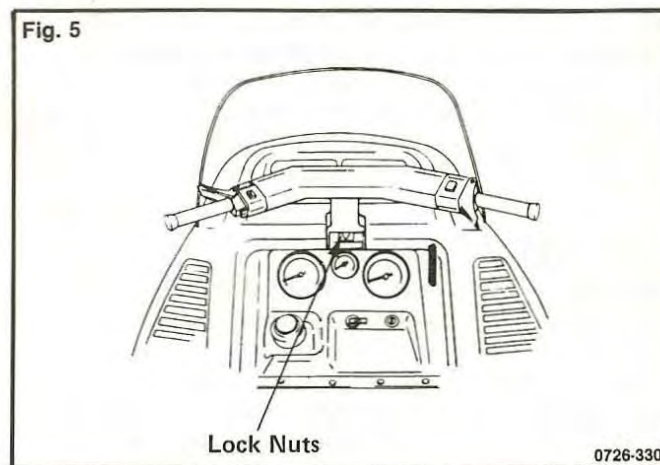
**NOTE:** It is not necessary to exceed the one tankful limitation of 24:1 gas/oil mixture break-in in the 5000. Continuous use of a 24:1 gas/oil mixture could cause spark plug fouling and excessive carbon buildup.

## HANDLEBAR TILT

The El Tigre Snowmobile is equipped with a handlebar tilt feature. To adjust the handlebar, use the following procedure:

1. Loosen the four lock nuts securing the handlebar caps and block directly above the console (Fig. 5).

Fig. 5



2. Adjust the handlebar up or down to operator's desired tilt, tighten the lock nuts evenly to 1.4 kg-m (10 ft-lb), and check steering for maximum right/left turning capabilities.



## WARNING



Tighten lock nuts according to specifications to prevent unexpected "fold-down" of the handlebar during operation over rough terrain and **DO NOT** position handlebar so steering (full right and full left turning capabilities) or throttle and brake controls are affected.

## AIR INTAKE SILENCER

Used in conjunction with the carburetors is a specially designed air intake silencer. The purpose of the silencer is to quiet the intake of fresh

air used in carburetion. Since the carburetors are calibrated with the air intake silencer in place, the engine must never be run with the silencer removed. Performance will not be improved if the air intake silencer is removed. In contrast, severe engine damage will occur.

## EXHAUST SYSTEM

On the 5000, the exhaust system consists of a pulse charger. On the 6000, the exhaust system consists of a muffler and an expansion chamber. The exhaust system is designed to improve the total performance of the engine and to reduce noise. If any exhaust system component is removed from the engine, severe engine damage will result; therefore, removal of any exhaust system component voids the engine warranty.

## LIQUID COOLING SYSTEM (6000)

The El Tigre 6000 is equipped with a liquid cooling system for engine cooling. The cooling system capacity is 2.39 l (0.62 U.S. gal. or 2.48 qt). The cooling system should be inspected daily for leakage and damage. Also, the coolant level should be checked daily. If leakage or damage is detected, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service.

### CAUTION

Do not use a "stop leak" or any other radiator additive. Severe engine damage may occur.

When filling the cooling system, use a coolant/water mixture which will satisfy the cold-

est anticipated weather conditions of your area in accordance with the coolant manufacturer's recommendations. While the cooling system is being filled, air pockets may develop; therefore, run the engine for two to three minutes after the initial fill, shut the engine off, and then fill the cooling system to approximately 25 mm (1 in.) below the filler neck.

Every two years the cooling system should be drained, flushed, and pressure tested for leakage. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service.

## DRIVE CLUTCH AND DRIVEN PULLEY

The driven pulley does not require lubrication; therefore, no special maintenance is required by the snowmobile owner. However, the drive clutch should be lubricated approximately every 250 miles (See Lubrication - Drive Clutch section). Also, the drive clutch and driven pulley should be disassembled, cleaned, and inspected by an authorized Arctic Cat Snowmobile dealer after every 1000 miles of operation or at the end of the snowmobiling season, whichever occurs first.

### CAUTION

DO NOT attempt to service the drive clutch and driven pulley. The drive clutch and driven pulley must be serviced by an authorized Arctic Cat Snowmobile dealer only. Servicing the drive clutch and driven pulley by persons other than an authorized Arctic Cat Snowmobile dealer voids the warranty.


## DRIVE CLUTCH/DRIVEN PULLEY ALIGNMENT


The parallelism and the offset between the drive clutch and driven pulley are set at the factory. Normally, no adjustment is necessary as long as neither the drive clutch nor the driven pulley is removed or disassembled. However, if premature drive belt failure is experienced or if the drive belt turns over, the drive clutch/driven pulley alignment must be checked. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service.

## DRIVE CHAIN TENSION

The drive chain must be properly tensioned for proper operation to prevent "ratcheting" and unnecessary chain/sprocket wear. The chain tensioner in the Arctic drive system is automatic;

therefore, no adjustment is required by the snowmobile owner/operator. Arctic recommends that the chain, sprockets, chain tensioner, and pads be checked for wear and the chain for proper tension annually when preparing the snowmobile for summer storage. To check the chain, sprockets, chain tensioner, and pads, remove the chain-case cover and seal and drain the lubricant. If any of the components of the chain case are damaged or worn excessively, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service.

 **NOTE:** On the 5000, the pulse charger must be removed for this procedure.

 **NOTE:** Place rags in the belly pan to absorb the lubricant.

# OPERATING INSTRUCTIONS

## STARTING AND STOPPING ENGINE

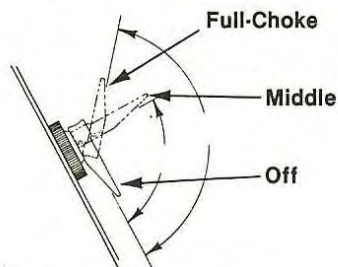
It is imperative that all safety checks found on pages 24-25 of the accompanying Snowmobile Safety Handbook be performed before attempting to start the engine. After the engine has been started, check the headlight (high and low beam), taillight, and brakelight to be sure they are working properly and adjusted correctly. Make sure all lights are clean to provide maximum illumination. The headlight and taillight must be clean and must be illuminated whenever the engine is running.

### ● CAUTION ●

On the 6000, always check coolant level before starting the engine.

1. Move the emergency stop switch to the UP position.
2. For a cold engine, move the choke lever to the full-choke position (Fig. 6). If the engine is warm, choking is not normally necessary.

Fig. 6



0725-001

**NOTE:** When the engine is being started with aid of the choke, **DO NOT COMPRESS THE THROTTLE CONTROL LEVER.** If the throttle control lever is compressed, the engine will not start because the fuel/air mixture will be too lean. To start a warm engine, however, the throttle control lever may have to be compressed slightly.

3. Insert key into ignition switch; then rotate key to the RUN position.
4. Pull the recoil handle slowly until resistance is felt; then give a short quick pull. The engine should start; however, if the engine does not start, repeat this step.

**CAUTION**

To avoid damaging the recoil starter, **DO NOT** pull the recoil rope to its limit or release the recoil handle from an extended position. Allow rope to rewind slowly.

5. When the engine starts, allow it to warm up for approximately 30 seconds with the choke lever in the full-choke position. After the 30-second warm-up, move the choke lever to

the middle position. Choke lever should be fully off when engine is warm (Fig. 6). Slight throttle control lever compression may be necessary after the engine starts and during warm-up. Idle the engine several minutes until the engine has reached normal operating temperature.

**CAUTION**

The engine must be thoroughly warmed up before high speed operation or severe engine damage may occur. Do not operate the engine at more than 1/2 throttle until the engine has reached normal operating temperature.

6. Flooding—If the engine does not start when the choke is being used but seems ready to start, move the choke lever fully off. Lock the parking brake; then compress the throttle control lever fully and try to start the engine. When the engine starts, release the throttle control lever immediately. After warm-up, release the parking brake.

**NOTE:** Continued choking will only cause the engine to flood more.

**NOTE:** If the engine fails to start during the attempt with the throttle control lever compressed, remove the spark plugs and clean and dry them thoroughly or install a new set of properly gapped, recommended spark plugs.

7. To shut off the engine, turn the ignition key to the OFF position or push the emergency stop switch to the DOWN position.

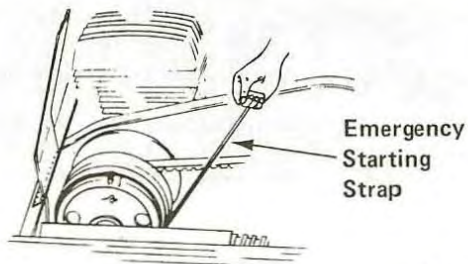
**NOTE:** On the 6000 to prevent backfiring, allow the engine to idle for approximately 30 seconds before shutting off the engine.

### EMERGENCY STARTING (5000)

The El Tigre 5000 is equipped with an emergency starting strap if the recoil starter system should fail. The emergency starting strap is enclosed in the tool kit located in the tool box. Keep the tool kit with the snowmobile at all times. To use the emergency starting strap, use the following procedure:

1. Open the hood and remove the hitch pin securing the clutch shield; then swing the shield forward.
2. Place the end of the strap in one of the cap screw notches of the drive clutch.
3. While holding the strap in the notch, wind the strap counterclockwise around the drive clutch.
4. Following proper starting procedures, pull the strap briskly upward to start the engine (Fig. 7).

Fig. 7



0725-447



### WARNING

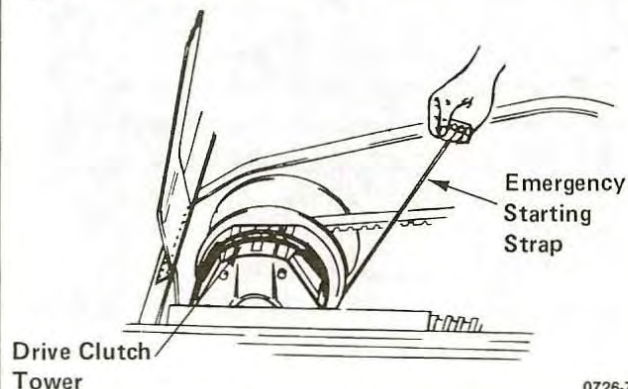


After using the emergency starting strap to start the engine, carefully lower the clutch shield and secure with the hitch pin. Keep hands and clothing away from the driven pulley and the rotating drive clutch. **DO NOT** operate the snowmobile without the clutch shield in place. Personal injury may result.

### EMERGENCY STARTING (6000)

The El Tigre 6000 is equipped with an emergency starting strap if the recoil starter system should fail. The emergency starting strap is enclosed in the tool kit located in the tool box. Keep the tool kit with the snowmobile at all times. To use the emergency starting strap, use the following procedure:

Fig. 8



0726-794

1. Open the hood and remove the hitch pin securing the clutch shield; then swing the shield forward.
2. Place the end of the strap on the outside of one of the towers of the drive clutch.
3. While holding the strap on the tower, wind the strap counterclockwise around the drive clutch.



#### **WARNING**



Do not wrap the end of the strap around the clutch tower. Personal injury may result. Place the end of the strap on the outside of the tower only.

4. Following proper starting procedures, pull the strap briskly upward to start the engine (Fig. 8).



#### **WARNING**



After using the emergency starting strap, **DO NOT** allow the strap to come in contact with the rotating drive clutch. Also, carefully lower the clutch shield and secure with the hitch pin. Keep hands and clothing away from the driven pulley and the rotating drive clutch. **DO NOT** operate the snowmobile without the clutch shield in place. Personal injury may result.

### **THROTTLE/IGNITION MONITOR SWITCH**

The throttle control is equipped with a monitor switch for safety purposes which will stop the engine when a loss of return spring force occurs. If ice forms in the carburetor/throttle system or if there is some other malfunction of the carburetor/throttle system resulting in a loss of return spring force, the monitor switch will stop the engine when the throttle control lever is released.

If the snowmobile engine stops abruptly when the throttle control lever is released and the activation of the monitor switch is suspected, use the following procedure:

1. Rotate the ignition key to the OFF position.
2. Remove ice and snow from the carburetor/throttle system and wait 5-10 minutes for the engine heat to thaw ice from the carburetor/throttle system.
3. Test the throttle control lever by compressing and releasing it several times. The lever **MUST** return to the idle position quickly and completely.



#### **WARNING**



If the throttle control lever does not work properly, **DO NOT ATTEMPT TO START THE ENGINE.**

4. If the throttle control lever operates properly, rotate the ignition key to the RUN position and go through normal starting procedures.

**NOTE:** If the throttle control lever operates properly and the engine does not start, a malfunctioning monitor switch may be the problem. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. However, if a dire emergency exists wherein the engine must be started, install the Emergency Throttle/Ignition Monitor Switch Bypass Plug. The Bypass Plug is located in the tool kit in the tool box of the snowmobile. Keep the Bypass Plug and tool kit with the snowmobile at all times. If the Bypass Plug is needed to start the engine, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service.

**! WARNING !**

If any malfunction of the carburetor/throttle system occurs (such as freezing in fluffy snow) and the monitor switch does not shut off the engine, press down on the emergency stop switch **IMMEDIATELY** to stop the engine. **DO NOT** start the engine until the malfunction in the carburetor/throttle system has been located and corrected.

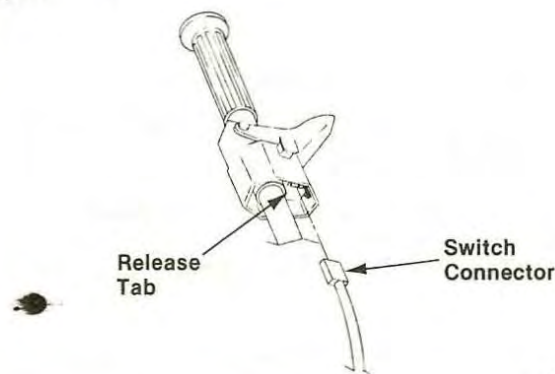
5. To install the Emergency Throttle/Ignition Monitor Switch Bypass Plug, use the following procedure:

**! WARNING !**

Under no circumstances should this Bypass Plug be used as a substitute for the monitor switch during normal operation of the snowmobile. Personal injury and damage could occur if the carburetor/throttle system malfunctions or if the operator is unable to stop the engine in an emergency. If the snowmobile must be operated using the Bypass Plug, **EXTREME CAUTION MUST BE TAKEN. NEVER EXCEED 10 MPH WITH THE BYPASS PLUG INSTALLED.**

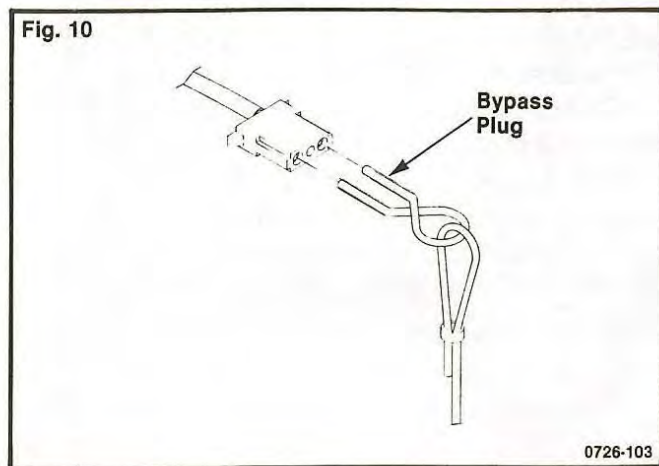
- A. Cut the handlebar pad cable ties; then roll the pad back to expose the switch connector.
- B. Pull up on switch connector release tab and remove switch connector from the throttle control lever housing (Fig. 9).

Fig. 9



0726-104

- C. Insert Bypass Plug into switch connector (Fig. 10).



**NOTE:** The monitor switch is now bypassed. With exception of the monitor switch and the emergency stop switch, all other ignition/electrical features (ignition switch, headlight, taillight, and brakelight) will operate properly. Disengagement of the switch connector and Bypass Plug will stop the engine.

- D. Attach the Bypass Plug cord to the snowmobile operator in some manner (suit, belt, vest, etc.).



### WARNING



The Bypass Plug cord must be attached to the operator; it will serve as an emergency engine "shut off" if the operator accidentally falls off the snowmobile or if another emergency arises.

## LUBRICATION

### CHAIN CASE (EVERY 40 OPERATING HOURS)

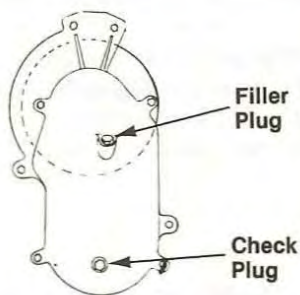
1. Shut engine off and wait for all moving parts to stop; then open the hood.
2. Remove the check plug from the chain-case cover. Check the oil level. Oil must be at the point of overflowing at the check plug hole (Fig. 11).

**NOTE:** On the 5000, the pulse charger must be removed for this procedure.

3. If oil is low, remove the filler plug (Fig. 11) and add Arctic Chainlube through the filler plug hole. When the oil is at the point of overflowing in the check plug hole, install both the check plug and the filler plug.

**NOTE:** If excessive oil deposits are noticed in the belly pan, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service.

Fig. 11



0725-062

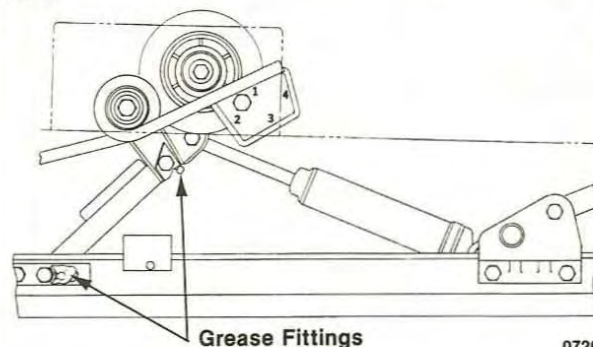
● CAUTION ●

The correct lubricant to use in the chain case is Arctic Chainlube, and any substitute may cause premature chain failure or serious damage to the chain drive system.

### REAR SUSPENSION ARM (EVERY 40 OPERATING HOURS)

1. Shut engine off and wait for all moving parts to stop.
2. With the fuel tank nearly empty (less than 1/4 full), lay the snowmobile on its side. A piece of cardboard should be used to protect the finish on the hood and belly pan.
3. Remove ice and snow buildup from the skid frame to expose the grease fittings on the rear suspension arm (Fig. 12).

Fig. 12



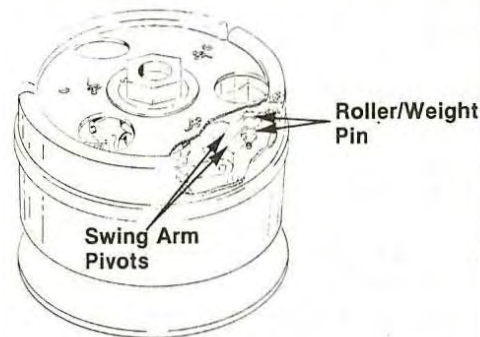
0726-156

4. Lubricate the rear suspension arm with a low-temperature grease.

### DRIVE CLUTCH (EVERY 250 MILES)

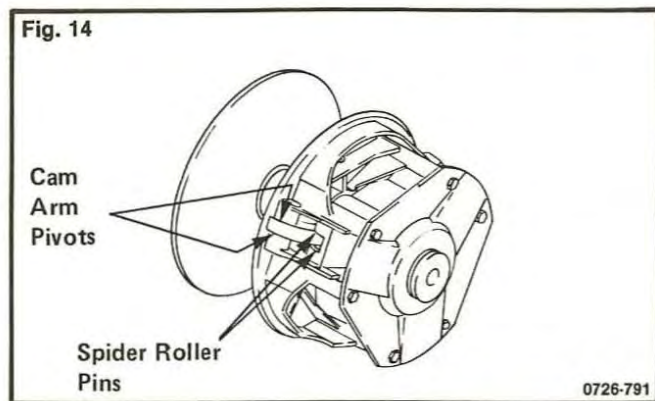
The swing arm pivots and roller/weight pins of the El Tigre 5000 drive clutch should be lubricated with the Arctic Drive Clutch Lubricant (Fig. 13).

Fig. 13



0725-060

The cam arm pivots and spider roller pins of the El Tigre 6000 drive clutch should be lubricated with the Comet Drive Clutch Lubricant (Fig. 14).



A modest amount of lubricant should be applied to both sides of each pivot and pin.

**NOTE:** The Arctic Drive Clutch Lubricant (p/n 0352-115) and the Comet Drive Clutch Lubricant GP-730A are available from an authorized Arctic Cat Snowmobile dealer.

## MAINTENANCE

### FUEL SYSTEM

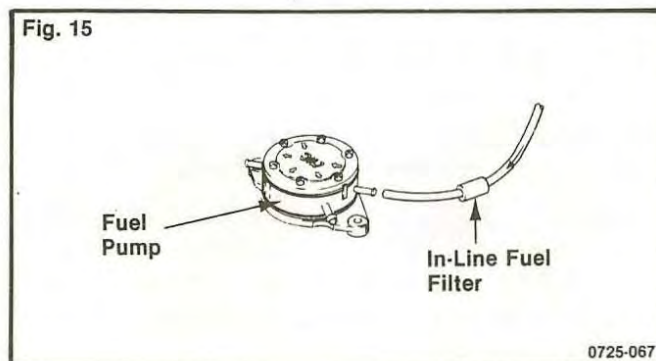
#### Fuel Tank

The El Tigre Snowmobile has a single fuel tank located in front of the seat cushion. The fuel tank capacity of the 5000 is 24.6 l (6.5 U.S. gal.) and of the 6000 is 26.2 l (6.9 U.S. gal.).

#### In-Line Fuel Filter

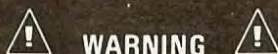
Arctic recommends that the in-line fuel filter be checked once a month. The in-line fuel filter is located just before the fuel pump inlet fitting. The filter must be clean to allow the fuel line to transmit the maximum amount of fuel. If the in-line fuel filter is obstructed, fuel flow will be restricted; therefore, the filter must be cleaned or replaced. To remove and install the in-line fuel filter, use the following procedure:

1. Using a screwdriver, pry the fuel lines off the in-line fuel filter and remove the filter (Fig. 15). After the filter is removed, plug the fuel line to prevent drainage from the fuel tank.



**NOTE:** Since the in-line fuel filter is a one-piece unit, the only cleaning possible is to back-flush the filter using gasoline. The in-line fuel filter must be replaced if damaged. Filters are available from an authorized Arctic Cat Snowmobile dealer.

2. Install the in-line fuel filter in the fuel line so the arrow on the filter points toward the fuel pump.



### WARNING

Whenever any maintenance or inspection is made on the fuel system where there may be fuel leakage, there should be no welding, smoking, etc., in the area.

## Fuel Pump

The fuel pump (two fuel pumps on the 6000) is a non-serviceable item; therefore, if it malfunctions, it must be replaced as a complete unit (Fig. 15). If a malfunctioning fuel pump is suspected, take the snowmobile to an authorized Arctic Cat Snowmobile dealer.

## ADJUSTING CARBURETORS

The El Tigre (Mikuni slide) carburetors have been calibrated at the factory for average riding conditions; however, altitude, temperature, and general wear may necessitate certain carburetor adjustments. Since carburetor adjustments critically af-

fect engine performance, Arctic recommends that most changes in internal carburetor calibration (See Selecting Carburetor Main Jets (6000) section) be made by an authorized Arctic Cat Snowmobile dealer; however, four external adjustments can be made on each carburetor. These are the idle speed screw, swivel adapter, choke cable travel, and the pilot air screw (Fig. 16 & 17).

Fig. 16

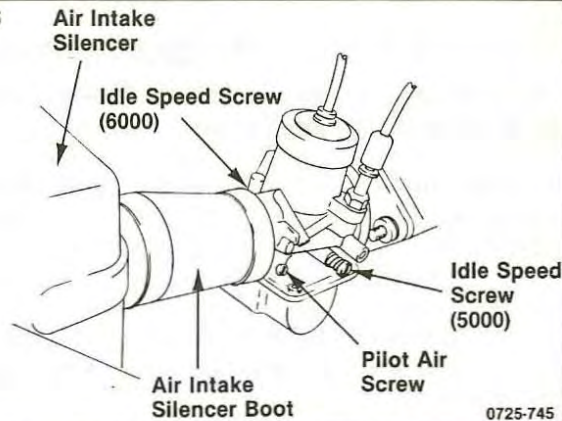
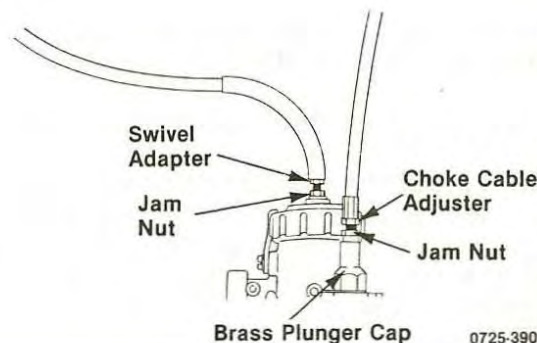


Fig. 17



● CAUTION ●

The air intake silencer must be secured to the carburetors whenever the engine is run or when the carburetors are being adjusted. If the air intake silencer is removed and the engine is run, a too lean condition will result; therefore, **DO NOT** run the engine with the air intake silencer removed.

1. Be sure ignition key is in the OFF position and the parking brake is set.
2. Loosen the jam nut securing each choke cable adjuster (Fig. 17). Rotate each choke cable adjuster to obtain 1.5 mm (1/16 in.) free play between the choke cable housing and choke cable adjuster when choke lever is in the off position. Lock each adjuster in place by bottoming each jam nut against its brass plunger cap.
3. Loosen the jam nut securing each swivel adapter (Fig. 17).
4. Rotate each swivel adapter clockwise until free play is felt in the throttle cable.
5. Remove the air intake silencer boots (Fig. 16).
6. Rotate each idle speed screw (Fig. 16) counterclockwise until its spring is fully extended. Rotate each screw clockwise until the screw contacts the piston valve; then rotate an additional 1 1/2 turns.

7. Rotate each swivel adapter counterclockwise until no free play is felt in the throttle cable.

■ **NOTE:** Due to cable “stretch”, it is recommended to check throttle cable tension daily and adjust both swivel adapters as necessary.

8. Compress the throttle control lever and using the fingers, check the synchronization of the piston valves. The piston valves must reach the top of the carburetor bores at the same time. If one piston valve is lower than the other, rotate its swivel adapter until it is synchronized with the other piston valve. Lock both swivel adapters by tightening the jam nuts.
9. Carefully rotate each pilot air screw (Fig. 16) clockwise until lightly seated.

● CAUTION ●

**DO NOT** overtighten the pilot air screws when seating; damage will result.

10. Rotate each pilot air screw counterclockwise from the seated position 1 turn on the 5000 and 1 1/2 turns on the 6000.

■ **NOTE:** In high-altitude areas, the pilot air screw on the 5000 should be rotated 1 1/2 turns.

11. Install the air intake silencer boots taking care that the boots are properly positioned and that the boots are not "folded" in the air intake silencer causing a restriction of air flow.
12. With the snowmobile on a shielded safety stand, start the engine and allow it to thoroughly warm up; then "fine tune" the idle speed screws and the pilot air screws until the engine idles smoothly at the desired rpm (2000-2500 rpm is recommended).

**NOTE:** If the engine does not start after the carburetors have been adjusted, repeat steps 4 and 7 because the throttle/ignition monitor switch may not be correctly tensioned. If all throttle cable slack is not "taken up", the monitor switch will prevent the ignition system from firing the spark plugs.

13. Release the parking brake.



### WARNING



**DO NOT** operate the snowmobile when any component in the throttle system is damaged, frayed, kinked, worn, or improperly adjusted. If the snowmobile is operated when the throttle system is not functioning properly, personal injury could result.

### SELECTING CARBURETOR MAIN JETS (6000)

On the 6000, carburetor main jets should be changed in conjunction with temperature and altitude for optimum performance (See Main Jets chart).



### CAUTION



A main jet which is too small will cause severe engine damage.

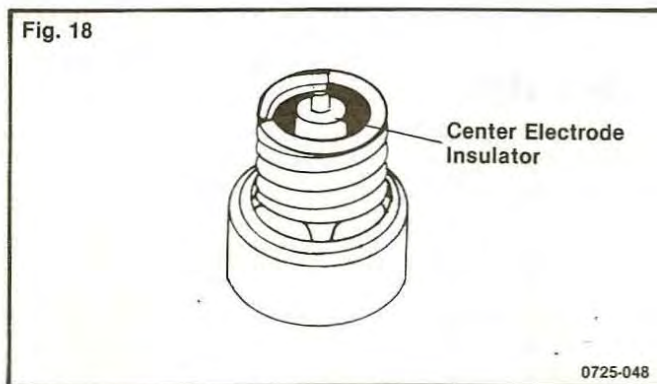
ALTITUDE		MAIN JETS			
FEET	(METERS)	(AVAILABLE FROM ARCTIC)			
8000	(2440)	310	290	270	250
6000	(1830)	340	320	300	280
4000	(1220)	370	350	330	310
2000	(610)	400	380	360	340
0	(0)	430	410	390	370
TEMPERATURE		- 40 to - 20	- 20 to 0	0 to + 20	+ 20 to + 40
°Fahrenheit (Celsius)		(- 40 to - 29)	(- 29 to - 18)	(- 18 to - 7)	(- 7 to + 4)

## SPARK PLUGS

The recommended spark plugs to use on the 5000 are NGK BR9ES and on the 6000 are NGK BR10EV. Correct gap is 0.5 mm (0.020 in.). Varying terrain conditions and operating usage may require spark plugs of a different heat range. For example, sustained cross-country riding will usually require colder heat-range spark plugs while trail riding or other continual slow speed operation will usually require hotter heat-range spark plugs.

### Checking Spark Plugs

To see if the spark plugs being used are of the proper heat range after the snowmobile has been operated under normal driving conditions, pull the spark plug caps off the spark plugs, remove the spark plugs, and examine the condition of the center electrode insulator of each spark plug (Fig. 18).



- A. TAN or LIGHT BROWN insulator indicates correct spark plugs (heat range).

- B. LIGHT GRAY or WHITE insulator indicates overheating of the engine. This condition is caused by a too lean condition or incorrect spark plugs (heat range too hot).
- C. BLACK insulator indicates fuel in the combustion chamber is not burning completely. This condition is caused by a too rich condition, too much oil, or incorrect spark plugs (heat range too cold).

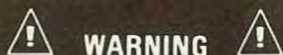
**NOTE:** If the center electrode insulators are light gray, white, or black and if the carburetor adjustments and ignition timing are correct, different heat-range spark plugs may be necessary. Authorized Arctic Cat Snowmobile dealers have detailed spark plug information. It may be wise to consult your dealer before changing spark plugs, as incorrect heat-range spark plugs could cause poor engine performance or engine damage.

### CAUTION

If only one spark plug is light gray, white, or black and the other spark plug is tan or light brown, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for inspection and servicing.

## BRAKE

Arctic recommends that the brake system (brake lever, brake lever travel, wear indicator/jam nut clearance, cable, caliper, spring, and disc) be checked daily for wear or damage and for smooth operation.



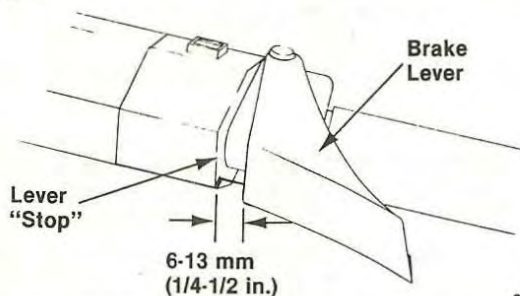
## WARNING

DO NOT operate the snowmobile when the parking brake is engaged or when any component in the brake system is damaged, worn, or adjusted improperly. If the snowmobile is operated and the brake system is not functioning properly, personal injury could result.

### Checking Brake Lever Travel

1. Rotate the brake disc alternately forward and backward while slowly compressing the brake lever.
2. At the point where the disc is locked, check the distance between the brake lever and the lever "stop" (Fig. 19). The distance must be within a range of 6-13 mm (1/4-1/2 in.).

Fig. 19



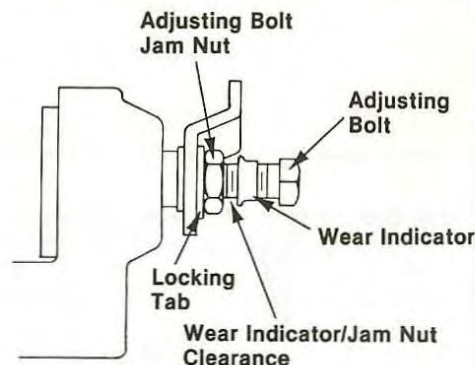
0726-099

3. If distance is not within specifications, an adjustment is necessary.

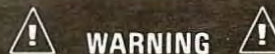
### Adjusting Brake Lever Travel

1. To decrease the brake lever travel (set up the brake), bend the locking tab back and loosen the adjusting bolt jam nut (Fig. 20). Tighten the adjusting bolt (Fig. 20) and check brake lever travel distance periodically until correct travel distance is attained.

Fig. 20



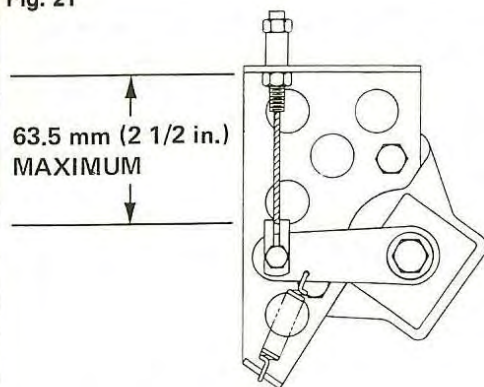
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## WARNING

When brake lever travel distance is correct, the distance between the top of the brake actuating arm clevis and the bottom edge of the brake cable bracket must not exceed a maximum 63.5 mm (2 1/2 in.) with the brake lever in the released position (Fig. 21). If the distance exceeds the maximum 63.5 mm (2 1/2 in.) specification, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service.

Fig. 21



0726-762



### WARNING



**DO NOT** attempt to adjust the brake with the flange nuts on the brake cable bracket. Incorrect brake adjustment may occur causing possible brake failure.

2. To increase the brake lever travel (loosen the brake), bend the locking tab back and loosen the adjusting bolt jam nut. Loosen the adjusting bolt and check brake lever travel distance periodically until correct travel distance is attained.
3. Tighten the jam nut and secure with the locking tab after adjustment is completed.



### WARNING



When the brake pucks are new, there will be 6 mm (0.240 in.) clearance between the wear indicator and the adjusting bolt jam nut (Fig. 20). When the wear indicator bottoms on the jam nut with the jam nut tight against the bracket, the brake pucks **MUST BE REPLACED**. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service.

## DRIVE BELT

The drive belt transfers power from the drive clutch to the driven pulley. If the belt is worn, cracked, or stretched, maximum power will not be transmitted and the belt could also fail and therefore must be replaced. Periodic checks (at least once a month under normal use) of two drive belt specifications are essential:

1. Measure the outside circumference of the drive belt.
  - A. On the 5000, the belt should be 109-110 cm (43 1/16-43 7/16 in.) in circumference.
  - B. On the 6000, the belt should be 110-111 cm (43 7/16-43 13/16 in.) in circumference.
2. Measure the outside width of the drive belt. The belt should be 34-36 mm (1 11/32-1 13/32 in.) in width.

3. Check the belt for cracking, fraying, etc.

If any of the specifications or conditions are unsatisfactory, replace the drive belt.

**NOTE:** Drive belts should be purchased from an authorized Arctic Cat Snowmobile dealer, as Arctic belts are made to exact specifications and of quality material. Belts made by other manufacturers may not be of the same specifications or quality and, therefore, usage could result in poor performance and premature belt failure.

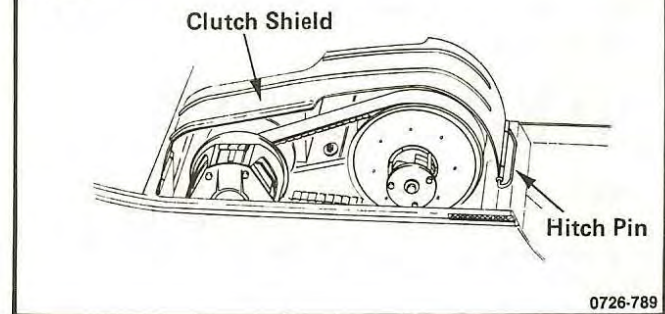
**CAUTION**

**DO NOT** run the engine with the drive belt removed. Excessive revving of the engine could result in serious engine damage and drive clutch failure.

### Removing Drive Belt

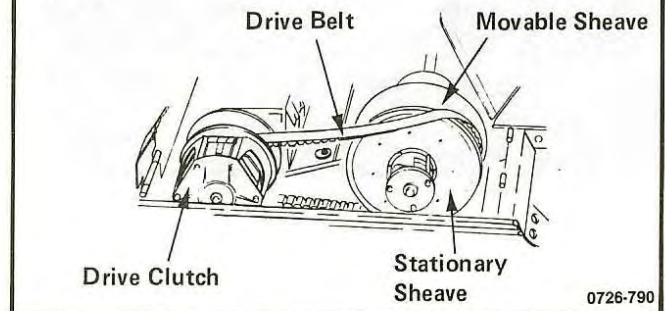
1. Turn ignition key to the OFF position and wait for all moving parts to stop.
2. Set the parking brake.
3. Open the hood and remove the hitch pin securing the clutch shield (Fig. 22); then swing the clutch shield forward.

Fig. 22



4. Grasp the driven pulley movable sheave and push against it while rotating it clockwise (Fig. 23).

Fig. 23



5. When the sheaves are fully apart, hold movable sheave, pull up on drive belt, and roll belt over stationary sheave until it is free of the driven pulley. Slowly release the movable sheave.
6. When the belt is free of driven pulley, remove the belt from the drive clutch.

## Installing Drive Belt

1. Place the belt between the sheaves of the drive clutch.
2. Grasp the driven pulley movable sheave and push against it while rotating it clockwise.
3. When the sheaves are fully apart, hold movable sheave, roll the belt over the stationary sheave, and slowly release the movable sheave.
4. After the belt is installed properly, secure the clutch shield with the hitch pin.
5. Release parking brake.



### WARNING



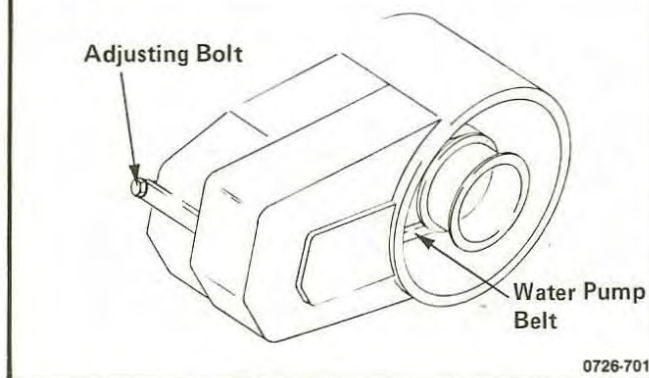
Never operate the snowmobile without the clutch shield in place and fastened properly. Personal injury could result.

## WATER PUMP BELT

Arctic recommends that the condition of the water pump belt be inspected monthly.

1. Remove the four bolts and lock washers securing the recoil; then remove recoil.
2. Inspect water pump belt for cracks and wear (Fig. 24).

Fig. 24



3. Check tension (tightness) of the belt by squeezing the belt together near mid-span using the thumb and forefinger. The maximum belt deflection must not exceed 6 mm (1/4 in.).

**NOTE:** If the belt is damaged, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for repair.

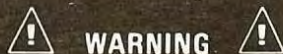
4. If the water pump belt deflection exceeds specifications, use the following procedure:
  - A. Loosen the four water pump bolts on the PTO side of the magneto case.
  - B. Tighten the water pump adjusting bolt (Fig. 24) on the magneto case.
  - C. Affirm correct belt deflection.
  - D. Tighten the four bolts securing the water pump.

5. Place the recoil into position and secure with four bolts and lock washers. Tighten bolts to 0.7 kg-m (5 ft-lb).

## TRACK TENSION

Track tension is directly related to the overall performance of the snowmobile. If the track is too loose, it may slap against the tunnel causing wear or it may "ratchet" on the track drive sprockets. If extremely loose, the idler wheels may climb over the track lugs forcing the track against the tunnel causing the track to "lock". If the track is too tight, premature wear may result to the wear-strips and rear idler wheels. In addition, a track that has improper tension will prevent the snowmobile from reaching optimum performance. Arctic recommends that the track tension be checked after the first 100 miles of operation and once a week thereafter and adjusted according to need. The track will take a "set" during break-in. Because of this "set", the track deflection should be within a range of 13-19 mm (1/2-3/4 in.) for the first 100 miles and within a range of 25-32 mm (1-1 1/4 in.) thereafter.

## Checking Track Tension



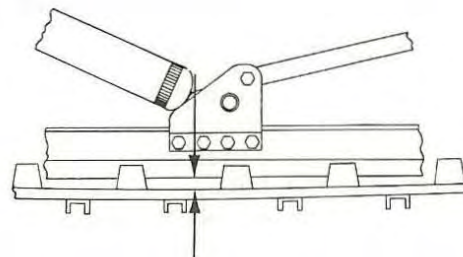
**WARNING**



**DO NOT** attempt to check or adjust track tension with engine running. Turn ignition key to OFF. Personal injury could result from contact with a rotating track.

1. Remove excess ice and snow buildup from the track, track drive sprockets, and the inside of the skid frame.
2. With the fuel tank nearly empty (less than 1/4 full), lay the snowmobile on its side. A piece of cardboard should be used to protect the finish on the hood and belly pan.
3. Exert moderate pressure (approximately 9 kg or 20 lb) at mid-span of the lower track section. Measure the distance between the bottom of the wear-strip and the inside surface of the track (Fig. 25). The measurement must be within a range of 13-19 mm (1/2-3/4 in.) for the first 100 miles and within a range of 25-32 mm (1-1 1/4 in.) thereafter. If the measurement is not as specified, an adjustment is necessary.

Fig. 25

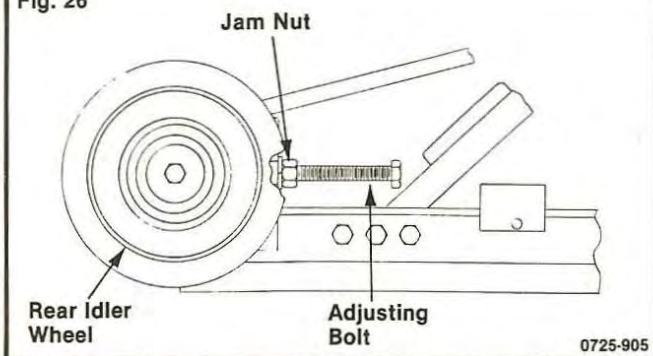


0725-165

## Adjusting Track Tension

1. Loosen the rear idler wheel adjusting bolt jam nuts (Fig. 26).

Fig. 26



**NOTE:** To ensure proper track tension adjustment, perform all adjustments on both sides of the snowmobile.

2. If the distance between the bottom of the wear-strip and the inside surface of the track exceeds specifications, tighten the adjusting bolts. Tightening the adjusting bolts moves the rear idler wheels rearward taking up excessive slack in the track.
3. If the distance between the bottom of the wear-strip and the inside surface of the track is less than specified, loosen the adjusting bolts. Loosening the adjusting bolts moves the rear idler wheels forward increasing the slack in the track.

**NOTE:** For maximum performance the track must be adjusted just tightly enough to prevent "ratcheting" during hard acceleration or braking.

4. Check track alignment (See Track Alignment section).

5. When the proper track tension is obtained, tighten the adjusting bolt jam nuts against the axle housings.

**NOTE:** Since track tension and track alignment are interrelated, always check both, even if only one adjustment seems necessary.



#### WARNING



If jam nuts are not tightened properly, the adjusting bolts could loosen causing the track to become extremely loose and, under some operating conditions, allow the idler wheels to climb over the track lugs forcing the track against the tunnel causing the track to "lock". If a track "locks" during operation, serious personal injury could result.

#### TRACK ALIGNMENT

Proper track alignment is obtained when the rear idler wheels are centered between the track drive lugs. Excessive wear to the idler wheels, drive lugs, and track will occur if track is improperly aligned. Arctic recommends that the track alignment be checked once a week or whenever the track tension is adjusted.

## Checking Track Alignment



### WARNING

Make sure the ignition key is in the OFF position and the track is not rotating before checking or adjusting track alignment. Personal injury could result if contact is made with a rotating track.

1. Remove excess ice and snow buildup from the track, track drive sprockets, and the inside of the skid frame.
2. Using a shielded safety stand, raise the rear of the snowmobile off the floor making sure the track is free to rotate.



### WARNING

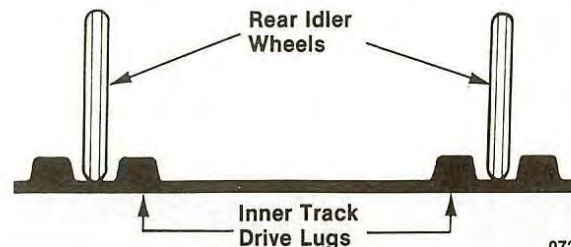
The tips of the skis must be positioned against a wall or similar object for safety.

3. Start the engine and accelerate slightly. Use only enough throttle to turn the track several revolutions. SHUT ENGINE OFF.

**NOTE:** Allow the track to coast to a stop. DO NOT apply the brake because it could produce an inaccurate alignment condition.

4. When the track stops rotating, check the relationship of the rear idler wheels and the inner track drive lugs. If the distances from the rear idler wheels to the inner track drive lugs are the same on both sides, no adjustment is necessary (Fig. 27).

Fig. 27



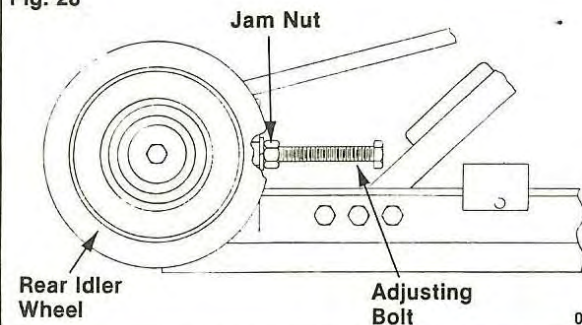
0725-070

5. If the distances from the rear idler wheels to the inner track drive lugs are not the same on both sides, an adjustment is necessary.

## Adjusting Track Alignment

1. On the side of the track which has the inner track drive lugs closer to the rear idler wheel, loosen the adjusting bolt jam nut (Fig. 28); then rotate the adjusting bolt clockwise 1-1 1/2 turns.

Fig. 28



0725-905

2. Check track alignment and continue adjustment until proper alignment is obtained.

**NOTE:** Make sure correct track tension is maintained after adjusting track alignment (See Track Tension section).

3. After proper track alignment is obtained, tighten the adjusting bolt jam nut against the axle housing.



### WARNING



If jam nuts are not tightened properly, the adjusting bolts could loosen causing the track to become extremely loose and, under some operating conditions, allow the idler wheels to climb over the track lugs forcing the track against the tunnel causing the track to "lock". If a track "locks" during operation, serious personal injury could result.

4. Field test the track under actual conditions.
5. After the field test, check the alignment of the track. If additional adjustment is necessary, repeat steps 1-4.

## SUSPENSION

The suspension should be adjusted for the operational needs and riding preference of the operator. The springs should not be adjusted so stiffly that the suspension will not work properly under normal operating conditions.

The front springs influence the way the snowmobile performs in snow and the effort required to steer the snowmobile. Optimum setting

for the front springs is when the spring tension is sufficiently stiff to prevent the suspension from collapsing in deep snow but not so stiff that steering becomes ineffective.

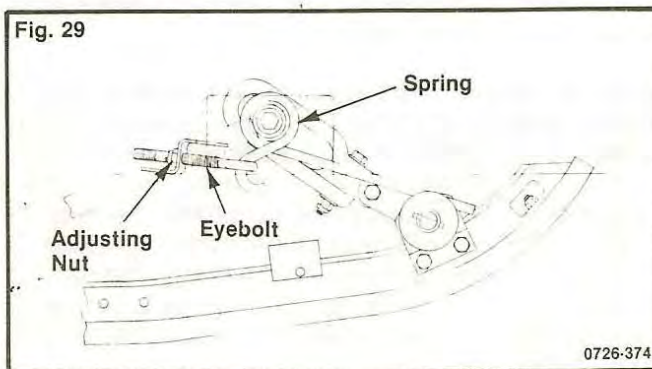
The rear springs should be adjusted for the weight and riding preference of the operator. The optimum setting on the rear springs prevents the suspension from "bottoming out" on all but the most severe bumps.

A good test of properly adjusted suspension is the operator should just be able to "bottom" the suspension when jumping up and down on the rearmost part of the running board.

## Adjusting Front Spring Tension

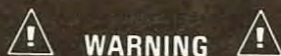
To adjust front spring tension, tighten or loosen the adjusting nut on the eyebolt connected to the front spring (Fig. 29) until desired tension is attained. Perform this procedure on both sides of the snowmobile to maintain equal adjustment on both front springs.

Fig. 29



0726-374

**NOTE:** When the adjusting nut is tightened, spring tension is increased; when the adjusting nut is loosened, spring tension is decreased.



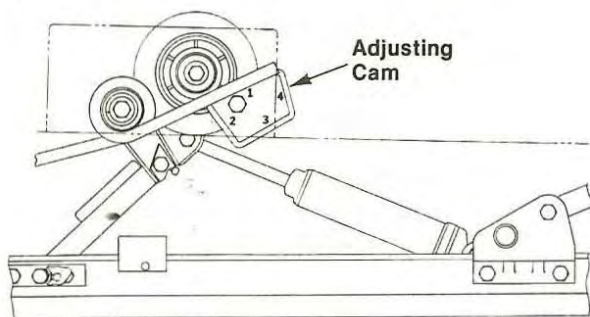
### WARNING

At least two threads must be maintained on the eyebolt behind the adjusting nut. Failure to maintain this distance may result in personal injury.

## Adjusting Rear Spring Tension

Rear spring tension adjustment is accomplished by rotating the adjusting cams (Fig. 30). Each cam is numbered 1-4 for identification with position 4 providing the stiffest ride and position 1 for the light driver or slow-speed trail riding. Positions 2 and 3 are for average operator under normal conditions with position 3 providing the stiffer ride.

Fig. 30



0726-156

To rotate an adjusting cam, insert the handle from the spark plug wrench into one of the holes in the cam. Rotate the handle until the cam is in the desired position. Make the adjustment on the other cam and be sure both cams are adjusted equally.



### CAUTION



**DO NOT** rotate the adjusting cam directly from position 1 to position 4. Always rotate in numerical sequence. Cam failure or damage may result if the cam is rotated directly from position 1 to position 4.

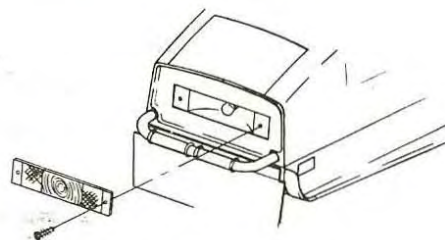
## TAILLIGHT/BRAKELIGHT

The correct taillight/brakelight bulb is Arctic p/n 0109-460.

### Removing and Installing Taillight/Brakelight Bulb

1. Remove the screws securing the taillight/brakelight lens (Fig. 31); then remove the lens.

Fig. 31



0725-176

2. Push in on the bulb and rotate it counter-clockwise to remove it from the socket.
3. Install the new bulb in the socket by pushing it in and rotating it clockwise.
4. Install the lens and secure with the screws.

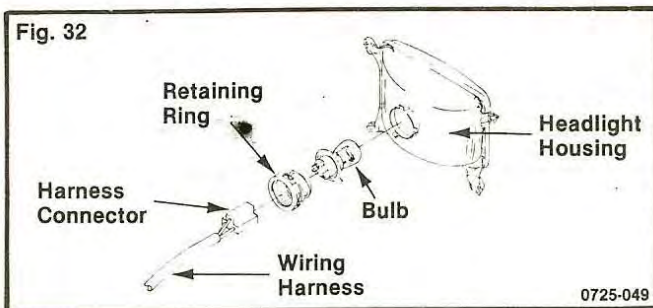
## HEADLIGHT

The correct headlight bulb is Arctic p/n 0109-735.

### Removing Headlight Bulb

**NOTE:** The bulb portion of the headlight is fragile. **HANDLE WITH CARE.** When replacing the headlight bulb, the bulb assembly must first be removed from the housing.

1. To release the retaining ring, depress the ring and rotate it counterclockwise. Slide the retaining ring down the wiring harness (Fig. 32).



2. With harness connector attached to the bulb, carefully withdraw the bulb from the headlight housing.
3. Grasp bulb by the metal base and carefully remove bulb from harness connector.

### Installing Headlight Bulb

1. While holding bulb by the metal base, install the bulb in the harness connector.
2. Install bulb with harness attached into headlight housing.
3. Install retaining ring onto back of headlight housing making sure ring "TOP" is properly positioned. Depress ring and rotate clockwise to lock in place.
4. Check headlight aim (See Adjusting Headlight Aim of this section).



### WARNING



Do not operate the snowmobile unless headlight beam is adjusted properly. An incorrectly adjusted beam will not provide the operator the amount of light necessary for safe operation at night.

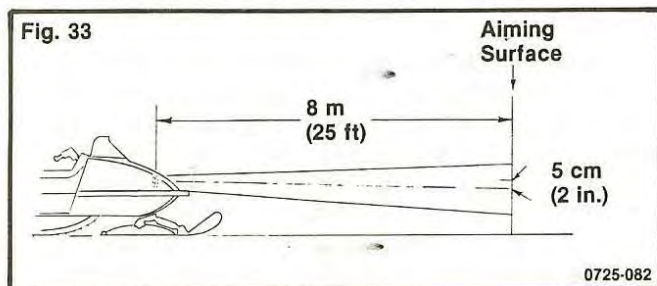
### Adjusting Headlight Aim

The headlight can be adjusted for vertical and horizontal aim of the HIGH/LOW beam. The geometric center of HIGH beam zone is to be used for vertical and horizontal aiming.

1. Position the snowmobile on a level floor so the headlight is approximately 8 m (25 ft) from an aiming surface (wall or similar surface).

**NOTE:** There should be an "average" operating load on the snowmobile when adjusting headlight aim.

2. Measure the distance from the floor to mid-point of the headlight.
3. Using the measurement obtained in step 2, make a horizontal mark on the aiming surface.
4. Make a vertical mark which intersects the horizontal mark on the aiming surface directly in front of the headlight.
5. Set the parking brake and start the engine. Move the headlight dimmer switch to the HIGH beam position. **DO NOT USE LOW BEAM.**
6. Observe the headlight beam aim. Proper aim is when the most intense beam is centered on the vertical mark 5 cm (2 in.) below the horizontal mark on the aiming surface (Fig. 33).
7. Adjust the four headlight housing mounting screws until correct aim is obtained.



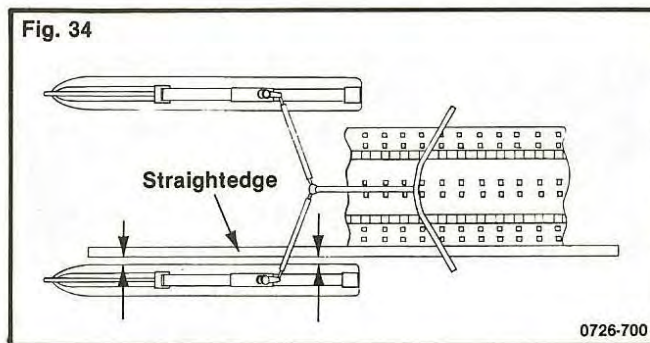
## SKI ALIGNMENT

The skis have been aligned by the dealer during "setup" of the snowmobile. Ski alignment usually

will not change unless a rock or some similar hard object is hit. Arctic recommends that ski alignment be checked once a week.

## Checking Ski Alignment

1. Turn the handlebar to the straight-ahead position.
2. Place a long straightedge against the outside edge of the track so it lies next to the inside edge of the left-side ski (Fig. 34).



**NOTE:** The straightedge should be long enough to extend from the back of the track to the front of the ski.

3. Measure the distances from the straightedge to the edge of ski in two places. Take one measurement from the forward end of the ski edge and the other measurement from the rearward end of the ski edge.

**NOTE:** Make sure measurements are taken on a flat surface of the ski edge and not on a rounded surface.

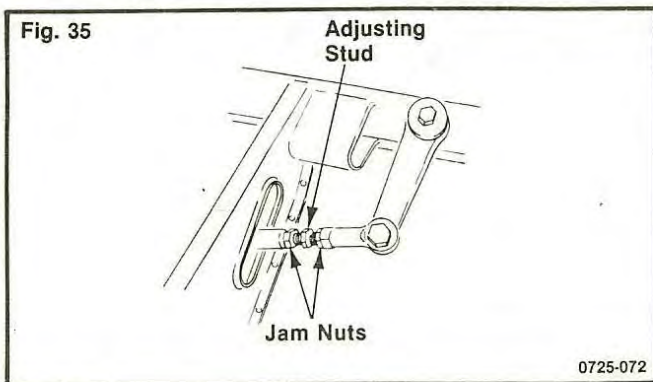
4. The measurements from the forward and rearward ends of the ski edge either must be equal or the forward measurement must not exceed the rearward measurement by more than 3 mm (1/8 in.).
5. If ski alignment is not as specified, the snowmobile will have a tendency to wander and may be difficult to control; therefore, an adjustment is necessary.
6. Repeat checking and adjusting ski alignment procedures on the right-side ski.

### Adjusting Ski Alignment

**NOTE:** The following procedure can be used to adjust the alignment of either ski.

1. Unlock the adjusting stud by loosening the jam nuts (Fig. 35).

**NOTE:** The inside jam nuts are "left-hand" thread. Care should be taken to rotate them in the proper direction.



2. Adjust the ski by rotating the adjusting stud.
3. When the ski alignment is correct, lock the adjusting stud in place by tightening the two jam nuts. Tighten one jam nut against the tie rod and the other jam nut against the tie rod end.



### WARNING



Neglecting to lock the adjusting stud may cause loss of snowmobile control and possible personal injury. Also, the adjusting studs must be threaded at least 13 mm (1/2 in.) into the tie rods and the tie rod ends to assure maximum steering linkage strength. Personal injury may result if the snowmobile is operated when these components are incorrectly adjusted or damaged.

### SKI WEAR-BAR

The ski wear-bar is a replaceable bar attached to the underside of the ski. The purpose of the wear-bar is to assist in turning the snowmobile, to minimize ski wear, and to maintain good steering control. If the snowmobile is operated primarily in deep snow, ski wear-bar wear will be minimal; however, if the snowmobile is operated on terrain where the snow cover is minimal, ski wear-bar wear will be excessive. To maintain positive steering characteristics, Arctic recommends that the ski wear-bars be checked once a week and replaced if excessively worn. Ski wear-bars are available from an authorized Arctic Cat Snowmobile dealer.



## WARNING

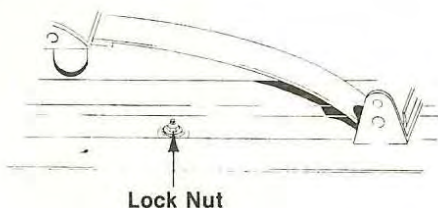


Operating the snowmobile with excessively worn ski wear-bars may result in a loss of steering control.

### Removing Ski Wear-Bar

1. Remove ice and snow buildup from the ski.
2. With the fuel tank nearly empty (less than 1/4 full), lay the snowmobile on its side. A piece of cardboard should be used to protect the finish on the hood and belly pan.
3. Remove the lock nut and washer (Fig. 36) securing the wear-bar to the ski.

Fig. 36



0725-071

4. Insert a pry bar between the wear-bar and the ski and pry the wear-bar bolt away from the ski until the wear-bar bolt is free of the hole in the ski. Holding the wear-bar in this position, insert a wooden block between the wear-bar and the ski directly behind the wear-bar bolt.

5. Drive the wear-bar forward by hitting the wooden block with a hammer. Continue to drive wear-bar forward until it disengages from the hole at the rear of the ski; then pull the wear-bar from the hole at the front of the ski.

### Installing Ski Wear-Bar

1. Insert the front of the wear-bar into the hole at the front of the ski and swing the wear-bar toward the ski until contact is made between the ski and wear-bar.



## WARNING



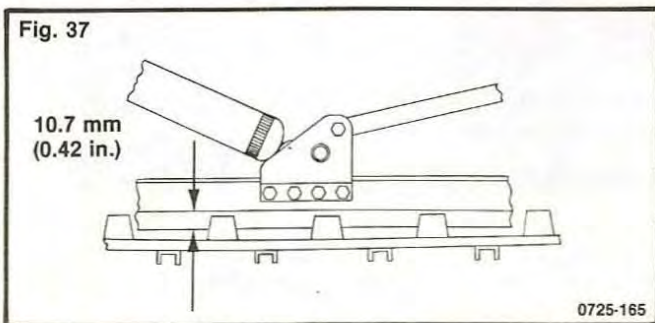
**DO NOT** bend the wear-bar excessively. Excessive bending of the wear-bar may cause premature wear, breakage, and possible personal injury.

2. Holding the wear-bar in this position, slide a wooden block between wear-bar and ski directly in front of the wear-bar bolt.
3. Drive the wear-bar back by hitting the wooden block with a hammer while guiding the rear of the wear-bar into the hole at the back of the ski.
4. When the wear-bar bolt aligns with the hole in the center of the ski and the rear of the wear-bar is in the hole at the back of the ski, carefully remove the wooden block (using a pry bar); then slowly release the pry bar allowing the wear-bar bolt to slide into the hole in the center of the ski.

5. Install the washer and lock nut on wear-bar bolt. Tighten the lock nut to 1.5-2.1 kg-m (11-15 ft-lb).

### RAIL WEAR-STRIP

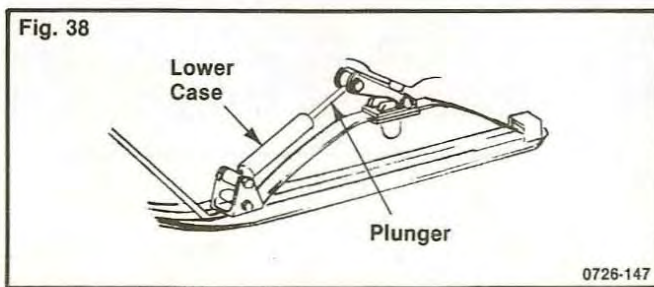
Arctic recommends that the wear-strips be checked weekly and replaced as necessary. Measure the wear-strips at 25.4 cm (10 in.) intervals (Fig. 37). Wear-strips must be 10.7 mm (0.42 in.) thick or thicker. If wear-strip measurements are less than specified, replacement of both wear-strips is necessary. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service.



### SKI SHOCK ABSORBER

Each ski is equipped with a shock absorber (Fig. 38) to gently retard the resilience of the ski spring, thereby increasing the stability and handling qualities of the snowmobile. Each shock absorber should be visibly checked weekly for excessive fluid leakage, cracks or breaks in the lower case, or a bent plunger. If any one of these conditions is detected, replacement is necessary.

**NOTE:** When the snowmobile is operated in extremely cold weather ( $-23^{\circ}\text{C}/-10^{\circ}\text{F}$  or colder), a small amount of leakage may be present. Unless the leakage is excessive, replacement is not necessary.



### SUMMER STORAGE

#### CAUTION


Prior to storing the snowmobile for the summer, it must be properly serviced to prevent rusting and component deterioration.

Arctic recommends the following procedure to prepare the snowmobile for storage. An authorized Arctic Cat Snowmobile dealer should perform this service; however, the owner/operator can perform this service if desired.

1. Remove the seat cushion from the tunnel. Clean the seat cushion with a damp cloth and store in a dry place.
2. Clean the snowmobile thoroughly by hosing dirt, oil, grass, and other foreign matter from the skid frame, tunnel, hood, and belly pan. Allow the snowmobile to dry thoroughly. DO NOT get water into any part of the engine.
3. Drain all fuel from the fuel tank. Remove the air intake silencer boots. Start the engine and allow it to idle; then using a rust-preventative oil, rapidly inject the oil into the carburetor air intakes for a period of 10 to 20 seconds until all fuel in the carburetor float bowls is used and the engine stops. This procedure will coat the crankshaft with a protective coating of oil. Install the air intake silencer boots taking care that the boots are properly positioned. Install fuel tank cap if it was removed.
4. Plug the hole in the exhaust system (pulse charger on the 5000—muffler on the 6000) with a clean cloth.
5. With the ignition key in the OFF position:
  - A. Disconnect the spark plug caps from the spark plugs and remove the spark plugs.
  - B. Pour 29.5 ml (1 fl oz) of SAE #30 petroleum-based oil into each spark plug hole and pull the recoil handle slowly about 10 times. (Because it is part synthetic oil, Arctic Cat 50:1 Oil should not be used for this purpose; however, Arctic Cat 20:1 Oil may be used.)
  - C. Install spark plugs and connect the spark plug caps.
6. Drain chain case lubricant by removing the chain-case cover and seal. Allow the lubricant to flow onto rags placed in the belly pan. Inspect chain, sprockets, chain tensioner, and pads for wear and the chain for proper tension. Install chain-case cover and seal and pour 236 ml (8 fl oz) of Arctic Chainlube into the filler hole.
7. Remove the hitch pin securing the clutch shield; then swing the clutch shield forward. Remove the drive belt from the driven pulley and drive clutch. Lay the belt on a flat surface or slide it into a cardboard sleeve to prevent warping or distortion during storage. Lubricate the drive clutch; then secure the clutch shield with hitch pin.
8. Apply light oil to the upper steering post bushing, ski spindles and bolts, front and rear pivot bushings of the skid frame, and plungers of the ski shock absorbers.
9. Lubricate the grease fittings on the rear suspension arm with a low-temperature grease.
10. Tighten all nuts, bolts, and screws. Make sure rivets holding components together are tight. Replace all loose rivets. Care must be taken that all calibrated nuts and bolts are tightened to specifications.
11. On the 6000, fill the cooling system to the filler cap with properly mixed coolant.

12. Clean and polish the hood, console, and chassis with an automotive-type cleaner wax. **DO NOT USE SOLVENTS OR SPRAY CLEANERS. THE PROPELLENT WILL DAMAGE THE FINISH.**
13. Coat the bottom of the skis with grease.
14. If possible, store the snowmobile indoors. Raise the track off the floor by blocking up the rear end making sure the snowmobile is secure. Loosen the rear idler wheel adjusting bolts to decrease track tension. Cover with an

El Tigre machine cover or a heavy tarpaulin to protect it from dirt and dust. If the snowmobile must be stored outdoors, block the entire snowmobile off the ground making sure it is secure. Loosen the rear idler wheel adjusting bolts to decrease track tension. Cover with an El Tigre machine cover or a heavy tarpaulin to protect it from dirt, dust, and rain.

 **NOTE: Avoid using a plastic cover as moisture will collect on the snowmobile causing rusting.**

## ***AFTER-STORAGE PREPARATION***

Taking the snowmobile out of summer storage and correctly preparing it for another season will assure many miles and hours of trouble-free snowmobiling. Arctic recommends the following procedure to prepare the snowmobile.

1. Clean the snowmobile thoroughly. Polish the exterior of the snowmobile using an automotive-type cleaner wax.
2. Clean all engine cooling fins and vents. Remove the cloth from the exhaust system.
3. Check all control wires and cables for signs of wear or fraying. Replace if necessary. Use cable ties or tape to route wires and cables away from hot or rotating parts.
4. Inspect the drive belt for cracks and tears. Check belt specifications. Replace if damaged or worn. If the old belt is worn but yet in a reasonable condition, keep it in the tool box

as a spare in case of emergency. Install drive belt.

5. Examine the in-line fuel filter and replace if necessary. Fill the fuel tank with properly mixed fuel (See Gasoline-Oil section).
6. On the 6000, check the coolant level and add properly mixed coolant as necessary.
7. Check brake lever travel, wear indicator/jam nut clearance, all controls, headlight, taillight, brakelight, ski alignment, ski wear-bars, rail wear-strips, and headlight aim; adjust or replace if necessary.
8. Place the seat cushion into position and secure with the snaps.
9. Adjust track to the proper tension.
10. Lubricate the drive clutch.

## ***NOTICE OF CHANGE OF ADDRESS OR OWNERSHIP***

Arctic Enterprises keeps on file the current name and address of the owner of this snowmobile. This will allow Arctic to reach the current owner with any important safety information which may be necessary to protect customers from personal injury or property damage. Please make sure this form is completed and returned to Arctic Enterprises if you move or if the snowmobile is sold to another party.

Address Change ☐

Ownership Change ☐

### **CHANGE OF ADDRESS/OWNERSHIP**

Name \_\_\_\_\_

Address \_\_\_\_\_

Year and Model Snowmobile \_\_\_\_\_

Serial Number \_\_\_\_\_

(stamped into right side tunnel near footrest)

 **NOTE: If the snowmobile changes ownership more than once, contact Arctic Enterprises, Inc., Product Services Department, P.O. Box 635, Thief River Falls, MN 56701, for proper registration information.**

Staple

Fold Back Once

Place  
Stamp  
Here

ARCTIC ENTERPRISES, INC.  
PRODUCT SERVICES DEPT.  
P.O. BOX 635  
THIEF RIVER FALLS, MN 56701

**ARCTIC ENTERPRISES, INC.**

Thief River Falls, Minnesota 56701

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