Operator's Manual

2010

Mountain/Crossover Models

Crossfire 600
Crossfire 800/Sno Pro/LE
M6
M8/Sno Pro/LE
M8 HCR
M1000 Sno Pro



ARCTIC CAT®
SHARE OUR PASSION.™

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LIMITED WARRANTY

Arctic Cat Inc. (hereinafter referred to as Arctic Cat) extends a limited warranty on each new Arctic Cat Snowmobile it manufactures and on each part and accessory manufactured or sold by Arctic Cat. The warranty is extended to the original retail purchaser only on parts and accessories sold through an authorized Arctic Cat Snowmobile dealer. Warranty on snowmobiles is extended to the original retail purchaser; however, the balance of the unused warranty may be transferred to a second party.

Arctic Cat warrants only the products it manufactures and/or sells and does not warrant that other products will function properly when used with an Arctic Cat Snowmobile or will not damage the Arctic Cat Snowmobile. Arctic Cat does not assume any liability for incidental or consequential damages.

Arctic Cat will repair or replace, at its option, free of charge (including any related labor charges), any parts that are found to be warrantable in material or workmanship. This repair work MUST be done by an authorized Arctic Cat Snowmobile dealer. No transportation charges, rental charges, or inconvenience costs will be paid by Arctic Cat. The warranty is validated upon examination of said parts by Arctic Cat or an authorized Arctic Cat Snowmobile dealer. Arctic Cat reserves the right to inspect such parts at its factory for final determination if warranty should apply.

The warranty periods are as follows:

1. For snowmobiles used for recreational purposes:
   —If purchased between May 1 and November 30, warranty expires ONE (1) YEAR from December 1 of the current year.
   —If purchased between December 1 and April 30, ONE (1) YEAR from the date of sale.
2. For snowmobiles used for commercial purposes (including rental operations), ONE (1) YEAR from the date of sale and/or 5000 MILES whichever comes first.
3. THIRTY (30) DAYS from date of sale of snowmobile on Arctic Cat supplied batteries.
4. THIRTY (30) DAYS from date of sale for all dealer installed genuine Arctic Cat service parts and accessories.
5. UNTIL EXPIRATION OF THE NEW PRODUCT WARRANTY (paragraphs 1 and 2 above) for all eligible replacement parts on new product.

Exclusions to this warranty include normal wear, abuse (i.e. a track run on marginal snow conditions without proper lubrication or additional idler wheels), and the following parts:

Fuel Filter	Light Bulbs	Windshield	Torn or Punctured Upholstery
Drive Belt	Wear Bars	Water Pump Belt	Brake Pads
Fan Belt	Spark Plugs	Wear Strips	Drive Clutch/Driven Pulley Wear Parts

The following will VOID Arctic Cat's warranty:

1. Failure to perform the proper break-in procedure and all related maintenance, storage procedures (if stored for extended periods), and/or service as recommended in the Operator's Manual.
2. Repairs and/or adjustments by anyone other than an authorized Arctic Cat Snowmobile dealer.
3. Use of an improper fuel mixture ratio.
4. Use of improper carburetor main jets.
5. Use of improper gasoline, lubricating oils, or spark plugs.
6. An accident or subjecting the snowmobile to misuse, abuse, or negligent operation.
7. Any modification, addition, or removal of parts unless instructed to do so by Arctic Cat.
8. Use of the snowmobile in any way for racing purposes.
9. Removal of the engine for use in another vehicle.
10. Removal or mutilation of the Vehicle Identification Number or Engine Serial Number.
11. Use of parts not sold or approved by Arctic Cat.
12. Track and tunnel damage resulting from either ice stud or hooker plate installation.
13. Damage due to improper transportation.

In consideration of the foregoing, any implied warranty is limited in duration to the various warranty periods set forth. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state and country to country. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

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REFERENCE INFORMATION

Write the appropriate information for your Arctic Cat Snowmobile in the spaces below.

Always use these numbers when referring to your snowmobile.

Model: _____

Date of Purchase: _____

Vehicle Identification Number: _____

Engine Serial Number: _____

Your Arctic Cat Dealer: _____

Address: _____

Phone: _____

⚠ WARNING

A snowmobile is a very high performance vehicle. Because it does accelerate rapidly and is capable of very high speeds, it should not be operated by a novice or an inexperienced operator. Never accelerate rapidly or drive at high speed beyond the limits of visibility or without being totally familiar with the terrain and what lies in front of you. Obey speed limits and never operate at speeds that do not allow adequate maneuvering and stopping distances. Read and study the entire Operator's Manual and Safety Handbook.

Failure to follow this warning could result in personal injury to yourself or others.

PERSONAL INJURY

- To avoid injury to yourself and others, NEVER operate the snowmobile without first reading and understanding this manual and the Snowmobile Safety Handbook; then follow the instructions and heed the warnings given.
- USE COMMON SENSE.
- DON'T DRINK and DRIVE.
- STAY IN CONTROL at ALL TIMES.
- TELL YOUR FRIENDS. If you see a friend operating a snowmobile recklessly, at excessive speeds, while intoxicated, or in other unsafe ways, don't wait until it is too late to warn of the consequences of snowmobile misuse. Such conduct endangers everyone. TAKE AN ACTIVE ROLE IN THE SAFETY OF YOURSELF AND OTHERS.

PARTS AND ACCESSORIES

When in need of replacement parts, oil, or accessories for your Arctic Cat Snowmobile, be sure to only use GENUINE ARCTIC CAT PARTS, OIL, AND ACCESSORIES. Only genuine Arctic Cat parts, oil, and accessories are engineered to meet the standards and requirements of your Arctic Cat Snowmobile. For a complete list of accessories, refer to the current Arctic Cat Accessory Catalog. To aid in service and maintenance procedures on these snowmobiles, an Illustrated Parts Manual and a Service Manual are available through your local Arctic Cat Snowmobile dealer.

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FOREWORD

Congratulations! You have chosen a quality Arctic Cat Snowmobile designed and manufactured to give dependable service. Be sure, as the owner/operator of an Arctic Cat Snowmobile, to become thoroughly familiar with its basic operation, maintenance, and off-season storage procedures. Read this manual and the accompanying Snowmobile Safety Handbook before operating the snowmobile to learn safe and proper use of your new Arctic Cat Snowmobile. Always operate the snowmobile within your level of skill and current terrain conditions.

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 follow the directive because it deals with the possibility of serious personal injury or even death. A **CAUTION** identifies unsafe practices which may result in snowmobile-related damage. Follow the directive because it deals with the possibility of damaging part or parts of the snowmobile. The symbol ■ **NOTE:** identifies supplementary information worthy of particular attention.

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

At the time of publication, all information and illustrations were technically correct. Some illustrations used in this manual are used for clarity purposes only and are not designed to depict actual conditions. Because Arctic Cat Inc. constantly refines and improves its products, no retroactive obligation is incurred.

This Operator's Manual should be considered a permanent part of the snowmobile and must remain with the snowmobile at the time of resale. If the snowmobile changes ownership more than once, contact Arctic Cat Inc., Service Department, P.O. Box 810, Thief River Falls, MN 56701, for proper registration information. This manual was prepared by the Product Service and Warranty Department of Arctic Cat Inc.

Every Arctic Cat Snowmobile meets or exceeds the standards of the Snowmobile Safety and Certification Committee and displays the SSCC decal. Arctic Cat Inc. endorses and encourages the safe use of all snowmobiles. Always wear a helmet and eye protection. Drive with caution, observe all state and local regulations, and respect the rights of others. ISMA members like Arctic Cat do their part to improve trails, sponsor events, and generally support the sport of snowmobiling. As a member of the National Snowmobile Foundation, Arctic Cat Inc. promotes snowmobiling through education, charity, and research programs.

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DECLARATION OF CONFORMITY

Application of council directives: EMC Directive 89/336/EEC
Issued by European Commission. EC Machinery Directive 98/37/EC

Type of Equipment: Snowmobile
Brand Name: Arctic Cat
Model Numbers:

S2010M6D3EUSG	S2010M8H3EUSG	S2010M8HSPUSW	S2010M8HLEUSB
S2010M8HEKUSG	S2010M8HSEUSW	S2010M8HHCUSG	S2010M1LSEUSW
S2010CFD1EUSG	S2010CFH1EUSG	S2010CFHSPUSW	S2010CFHLEUSB

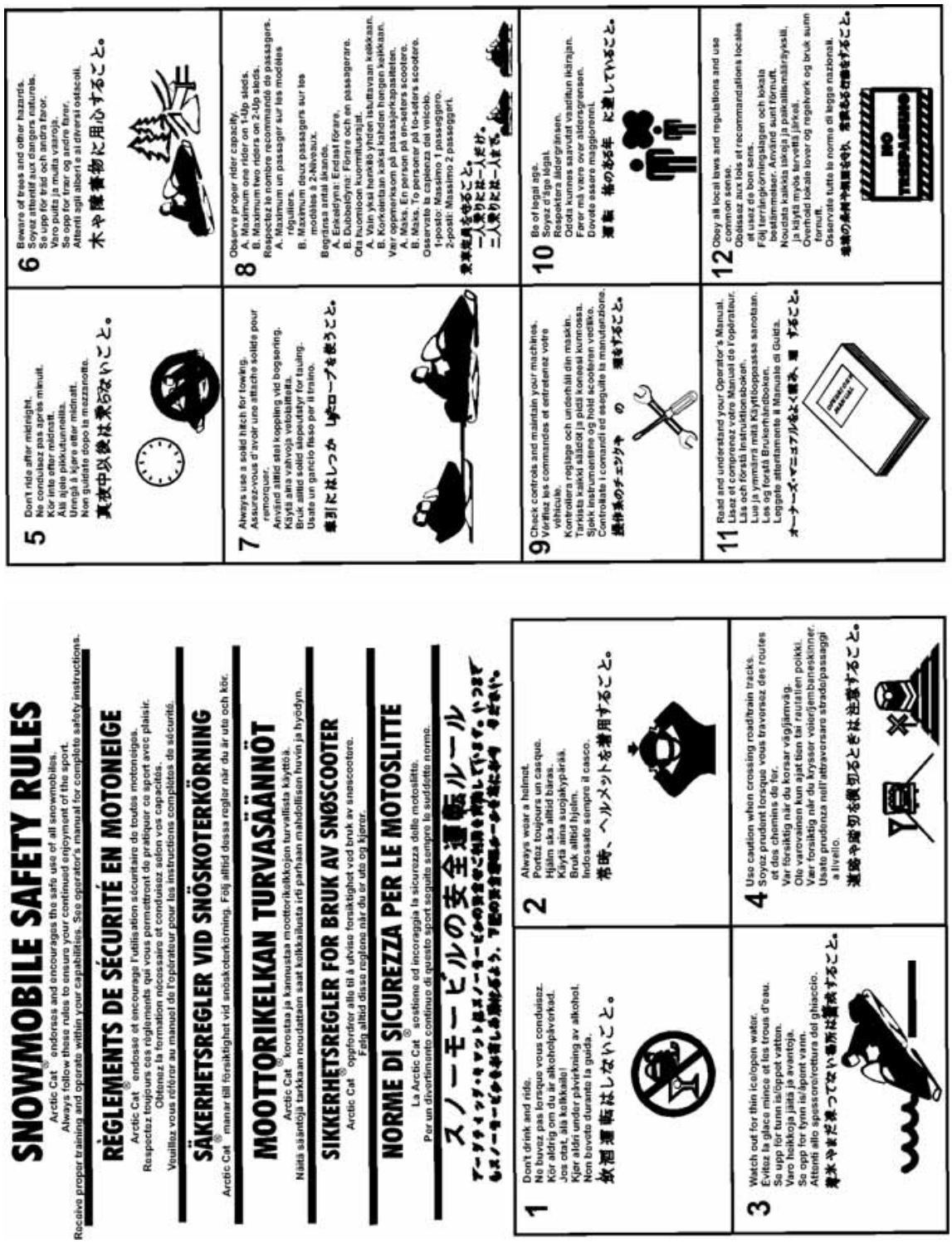
Standards to which conformity is declared:

EMC: EN 55012, EN 61000-6-0
MACHINERY: EN 292-1, EN 292-2, EN 953, EN 1050, EN 954-1

Manufacturer (if not issuing agent): Arctic Cat Inc.
601 Brooks Ave. S.
Thief River Falls, MN
56701 USA

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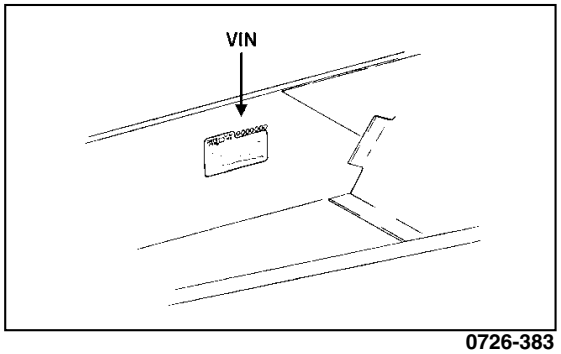
SNOWMOBILE SAFETY RULES



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SNOWMOBILE IDENTIFICATION

The Arctic Cat Snowmobile has two important identification numbers. The Vehicle Identification Number (VIN) is stamped into the tunnel near the right-side footrest and on a decal beneath the seat. The decal also displays pertinent production information. The Engine Serial Number (ESN) is stamped into the crankcase of the engine.



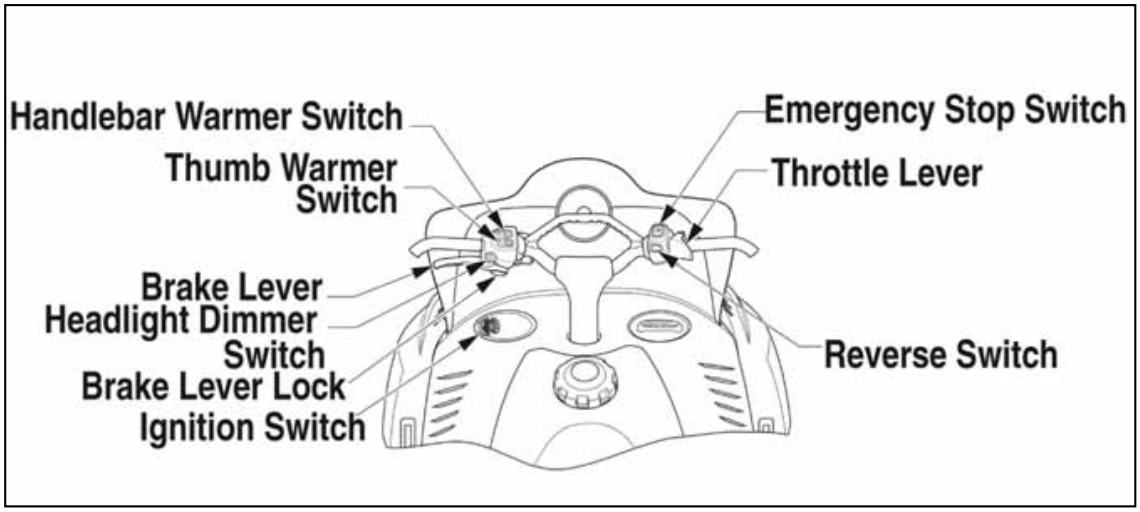
0726-383

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

Always provide the snowmobile name, VIN, and ESN 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 Cat for correct registration information.

CONTROL LOCATIONS

Shown are the typical control locations for Arctic Cat snowmobiles. Location of a specific control will vary according to model.



741-633A

GASOLINE-OIL

Recommended Gasoline (600/ 1000 cc Models)

The recommended gasoline to use in these snowmobiles is 87 octane regular unleaded.

■ **NOTE: For optimum performance, do not exceed the recommended 87 octane gasoline. Using a higher octane gasoline will not increase overall performance.**

In many areas, oxygenates (either ethanol or MTBE) are added to the gasoline.

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Oxygenated gasolines containing up to 10% ethanol or up to 15% MTBE are acceptable gasoline. Do not use gasolines containing methanol.

CAUTION

Do not use white gas or gasoline containing methanol. Only Arctic Cat approved gasoline additives should be used.

Recommended Gasoline (800 cc Models)

The only recommended gasoline to use in these snowmobiles is 91 octane (minimum).

■ NOTE: For optimum performance, use only 91 octane (minimum) gasoline.

CAUTION

If a situation arises wherein 91 octane gasoline is not available, 87 octane gasoline can be substituted; however, do not prolong the usage of 87 octane gasoline as it will cause poor engine performance.

In many areas, oxygenates (either ethanol or MTBE) are added to the gasoline.

Oxygenated gasolines containing up to 10% ethanol or up to 15% MTBE are acceptable gasoline. Do not use gasolines containing methanol.

CAUTION

Do not use white gas or gasoline containing methanol. Only Arctic Cat approved gasoline additives should be used.

Recommended Injection Oil

The recommended oil to use in the oil-injection system is Arctic Cat Synthetic APV 2-Cycle Oil. This oil is specially formulated to be used either as an injection oil or as a pre-mix oil (for break-in) and meets all of the lubrication requirements of the Arctic Cat snowmobile engine.

CAUTION

Any oil used in place of the recommended oil could cause serious engine damage.

Filling Gas Tank

Since gasoline expands as its temperature increases, the gas tank must be filled to its rated capacity only. Expansion room must be maintained in the tank particularly if the tank is filled with cold gasoline and then moved to a warm area.

Also, if the snowmobile is to remain on a trailer after filling the gas tank, the bed of the trailer must be maintained level to prevent gasoline from draining out through the gas tank vent hose.

⚠ WARNING

Always fill the gas tank in a well-ventilated area. Never add gasoline to the snowmobile gas tank near any open flames or with the engine running. DO NOT SMOKE while filling the gas tank. Do not sit on the snowmobile without first installing the gas tank cap.

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Break-In Gas/Oil Mixing Instructions

Before mixing gasoline and oil, make sure the oil is at room temperature (20° C/68° F). Use a U.L. approved 22.7 l (6 U.S. gal.) gasoline container for mixing the gasoline and oil. To properly mix the fuel at a 100:1 ratio, use the following procedure:

CAUTION

Never mix oil and gasoline in the snowmobile gas tank.

1. Pour gasoline into the gasoline container until approximately half full.
2. Pour 236 ml (8 fl oz) of the recommended 2-cycle oil into the gasoline container.
3. Install cap on gasoline container and shake the mixture vigorously.
4. Fill the gasoline container with gasoline; then cap the gasoline container and shake the mixture vigorously.
5. Using a fine-mesh screened funnel, pour the fuel mixture from the gasoline container into the snowmobile gas tank.

⚠ WARNING

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

ENGINE BREAK-IN

The Arctic Cat engine (when new or rebuilt) requires a short break-in period before the engine is subjected to heavy load conditions. Arctic Cat requires that the first tankful of fuel be premixed at a 100:1 ratio in all oil-injection models.

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 one (1) tankful break-in period, 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.

CAUTION

DO NOT exceed the one (1) tankful limitation of a 100:1 gas/oil break-in mixture. Continuous use of a gas/oil mixture, unless consistently operating in extremely cold conditions (-26°C/-15°F or colder), could cause spark plug fouling and excessive carbon buildup. A 100:1 gas/oil mixture must be used in conjunction with the oil-injection system to ensure adequate engine lubrication in extremely cold conditions.

DRIVE BELT BREAK-IN

Drive belts require a break-in period of approximately 25 miles. Drive the snowmobile for 25 miles at 3/4 throttle or less. By revving the engine up and down (but not exceeding 60 mph), the exposed cord on the side of a new belt will be worn down. This will allow the drive belt to gain its optimum flexibility and will extend drive belt life.

■ NOTE: Before starting the snowmobile in extremely cold temperatures, the drive belt should be removed and warmed up to room temperature. Once the drive belt is at room temperature, install the drive belt (see Drive Belt sub-section in the Maintenance section of this manual).

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CAUTION

Never run the engine with the drive belt removed. Excessive revving of the engine could result in serious engine damage and drive clutch failure.

SPEEDOMETER/ TACHOMETER

These snowmobiles are equipped with different speedometer/tachometer styles. Determine which style your model is equipped with and use the appropriate following information.

Indicator Icons (Standard Gauge)

Certain models are equipped with a standard gauge combination speedometer/tachometer. Indicator icons are incorporated within the speedometer/ tachometer. Also incorporated into the speedometer/tachometer is a digital readout screen.



FZ003D

A. Oil Pressure/Low Oil

B. Coolant Temperature

C. Low Fuel

D. Fuel Level

E. Service

F. High Beam

RPM/MPH (kph)

By pushing the left button once, the RPM and MPH will be displayed (one on the readout screen and one with the needle). By pushing the button once again, the functions will be reversed.

By pushing the left button (with speed being displayed) for more than two seconds, the display will change between standard mph or metric kph. Release the button when desired display appears.

With RPM displayed on the readout screen by pushing and holding the left button, maximum RPM will be displayed on the readout screen. The maximum RPM readout will reset when the right button is pushed (while maximum RPM is displayed).

Odometer/Trip-Meter (1)/Trip-Meter (2)/ Hour-Meter

By pushing the right button, the readout screen will display odometer, trip-meter (1), trip-meter (2), and hour-meter. To reset the trip meter with the trip meter displayed, push and hold the right button until the display is cleared. The hour-meter readout will not reset.

Service Icon

The icon should briefly illuminate each time the engine is started; then it should go out. If the icon illuminates while the engine is running, the system is receiving input that is outside of its established parameters. If the icon illuminates indicating an error, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

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Coolant Temperature Warning Icon

If the coolant temperature is at or above the maximum running temperature, the coolant temperature warning icon will flash a warning (alert). If the coolant temperature is at or above the maximum running temperature, the coolant temperature warning icon will cease flashing and will remain constantly illuminated.

Steady Flash (Coolant Temperature Icon)	Coolant Temperature Above 80° C (176° F).
Constant On (Coolant Temperature Icon)	Coolant Temperature Above 93° C (200° F).

CAUTION

At this point, take precautionary measures such as changing to loose snow terrain, shutting the engine off (allowing the engine to cool down), and checking coolant level. If unable to either determine or remedy the problem, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

Low Oil Warning Icon

The Low Oil Warning Icon is designed to alert the snowmobile operator when the oil in the oil injection reservoir gets below a prescribed level; however, it is highly recommended that a visual verification of the oil level in the reservoir be done prior to operating the snowmobile. Once the Low Oil Warning Icon illuminates during operation of the snowmobile, the operator must periodically monitor the level of oil in the reservoir and must fill the reservoir the next time gasoline is added to the gas tank. The "alert level" of the Low Oil Warning Icon is approximately equal to 1 tankful of gasoline under normal operating conditions.

Indicator Icons (Deluxe Gauge)

Certain models are equipped with a deluxe gauge combination speedometer/tachometer. Indicator icons are incorporated within the speedometer/tachometer. Also incorporated into the speedometer/tachometer is a digital readout screen.



FZ001E

A. High Beam

B. Oil Pressure/Low Oil

C. Coolant Temperature

D. Increment Button

E. Select Button

F. Decrement Button

G. Service

RPM/MPH (kph)

By pushing the increment button once, the RPM and MPH will be displayed (one on the readout screen and one with the needle). By pushing the button once again, the functions will be reversed.

By pushing the increment button (with speed being displayed) for more than two seconds, the display will change between standard mph or metric kph.

With RPM displayed on the readout screen by pushing and holding the increment button, maximum RPM will be displayed on the readout screen. The maximum RPM readout will reset when the decrement button is pushed (while maximum RPM is displayed).

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Odometer/Trip-Meter (1)/Trip-Meter (2)/ Hour-Meter

By pushing the decrement button, the readout screen will display odometer, trip-meter (1), trip-meter (2), and hour-meter. To reset the trip meter with the trip meter displayed, push and hold the decrement button until the display is cleared. The hour-meter readout will not reset.

Altimeter

By pushing the select button, the readout screen will display altimeter and maximum altimeter.

The altimeter readout is based off barometric pressure and may require calibration as weather conditions change.

To calibrate the altimeter to an established altitude with altimeter selected on the display screen by pushing and holding the select button for a minimum of two seconds, the acronym CAL will be displayed on the readout screen for one second; then the altitude value will flash. Push the increment button to increase the displayed altitude; push the decrement button to decrease the displayed altitude. Pushing and holding a button will accelerate the number display.

■ NOTE: If MPH has been selected in the speed readout, the altitude value will be displayed in feet. If kph has been selected in the speed readout, the altitude value will be displayed in meters.

To reset the maximum altimeter readout with the maximum altimeter displayed, push and hold the select button for a minimum of two seconds.

Service Icon

The icon should briefly illuminate each time the engine is started; then it should go out. If the icon illuminates while the engine is running, the system is receiving input that is outside of its established parameters. If the system icon illuminates indicating an error, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

Coolant Temperature Warning Icon

If the coolant temperature is at or above the maximum running temperature, the coolant temperature warning icon will flash a warning (alert). If the coolant temperature is at or above the maximum running temperature, the coolant temperature warning icon will cease flashing and will remain constantly illuminated.

Steady Flash (Coolant Temperature Icon)	Coolant Temperature Above 80° C (176° F).
Constant On (Coolant Temperature Icon)	Coolant Temperature Above 93° C (200° F).

CAUTION

At this point, take precautionary measures such as changing to loose snow terrain, shutting the engine off (allowing the engine to cool down), and checking coolant level. If unable to either determine or remedy the problem, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

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Low Oil Warning Icon

The Low Oil Warning Icon is designed to alert the snowmobile operator when the oil in the oil injection reservoir gets below a prescribed level; however, it is highly recommended that a visual verification of the oil level in the reservoir be done prior to operating the snowmobile. Once the Low Oil Warning Icon illuminates during operation of the snowmobile, the operator must periodically monitor the level of oil in the reservoir and must fill the reservoir the next time gasoline is added to the gas tank. The "alert level" of the Low Oil Warning Icon is approximately equal to 1 tankful of gasoline under normal operating conditions.

DIAGNOSTIC CODES (Standard/Deluxe Gauges)

Diagnostic codes are activated by the ECU and may be displayed on the readout screen for a number of reasons.

If a code is displayed while the engine is running, the ECU is receiving input that is outside of its established parameters. If a code has been activated, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

Additional codes are displayed on the readout screen. Refer to the following chart for diagnostic codes.

Code	Trouble
2	Failure in injector(s).
4	Open or short circuit in barometric pressure sensor.
5	Open or short circuit in intake air temperature sensor.
6	Open or short circuit in water temperature sensor.
7	Open or short circuit in throttle position sensor.
12	Failure in ignition coil.
16*	Incorrect adjustment/failure in APV cable.
17*	Failure in exhaust temperature sensor.
18*	Failure in servomotor.
21*	Failure in knock sensor.
23*	Fail-safe mode activated in knock control system.
OCTN*	Low octane gasoline.

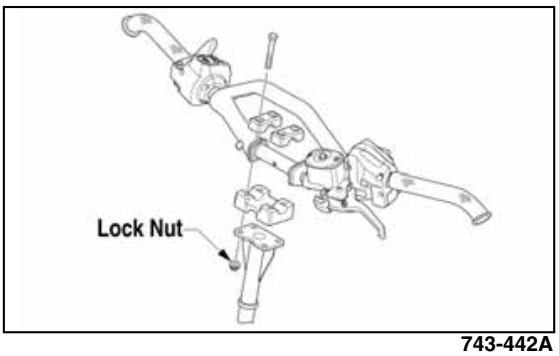
* On certain models.

HANDLEBAR TILT

The handlebar can be adjusted to the position providing the operator with the most comfort. To adjust the handlebar, use the following procedure:

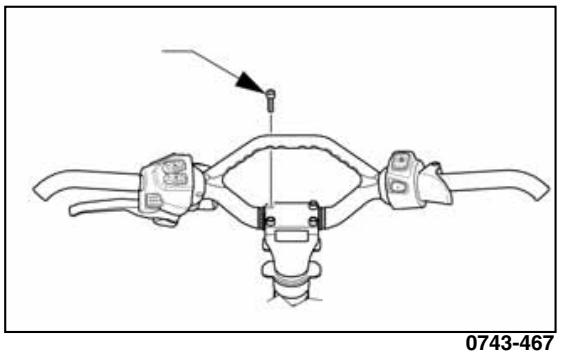
■ NOTE: It may be necessary to remove the handlebar cover for this procedure.

1. Loosen the four lock nuts (Allen-head cap screws on models with a telescoping handlebar) securing the handlebar caps and block to the steering post.



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0743-467

2. Adjust the handlebar to operator's desired tilt; then tighten the lock nuts/cap screws evenly and securely. Check steering for maximum right/left turning capabilities.

■ NOTE: Do not adjust the handlebar to a position that allows air to enter the brake system.

3. Recheck lock nuts/cap screws; tighten securely.

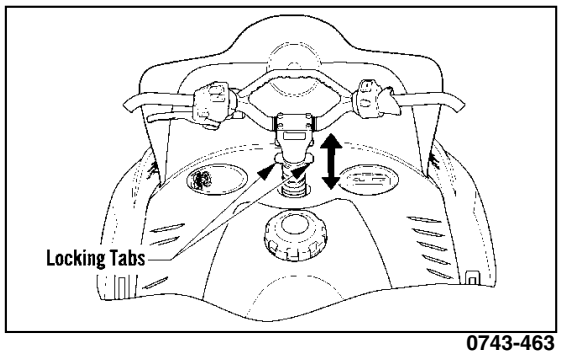
■ NOTE: Recommended torque value of lock nuts is 18 ft-lb. Recommended torque value for the Allen-head cap screws (on models with a telescoping handlebar) is 20 ft-lb.

⚠ WARNING

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

TELESCOPIC HANDLEBAR (Sno Pro/ Sno Pro LE Models)

1. From each side of the steering post, compress the locking tabs to unlock the handlebar.



0743-463

2. With the tabs compressed, adjust the handlebar up or down to the desired position; then release the tabs to lock the handlebar in place.

EXHAUST SYSTEM

The exhaust system is designed to reduce noise and to improve the total performance of the engine. If any exhaust system component is removed from the engine and the engine is run, severe engine damage will result.

AIR-INTAKE SILENCER

Used in conjunction with the fuel intake system is a specially designed air-intake silencer. The purpose of the silencer is to quiet the intake of fresh air. Since the fuel intake system is 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.

CAUTION

These snowmobiles are not designed to be operated in dusty conditions. Operating the snowmobile in dusty conditions will result in severe engine damage.

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COOLING SYSTEM

These snowmobiles are equipped with a closed liquid cooling system for engine cooling. 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. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

When filling the cooling system reservoir, use an ethylene glycol-based coolant/water mixture which will satisfy the coldest anticipated weather conditions of your area in accordance with the coolant manufacturer's recommendations.

For checking/filling cooling system, refer to Coolant Level sub-section in the Maintenance section of this manual.

DRIVE CLUTCH AND DRIVEN PULLEY

The drive clutch and driven pulley do not require lubrication; therefore, no special maintenance is required by the snowmobile owner except for periodical cleaning (see the Periodic Maintenance Checklist in this manual).

However, the drive clutch and driven pulley should be disassembled, cleaned, and inspected by an authorized Arctic Cat Snowmobile dealer after every 800 miles of operation or at the end of the snowmobiling season whichever occurs first. This service is at the discretion and expense of the snowmobile owner.

When operating the snowmobile at high altitudes, it may be necessary to change certain component parts of the drive clutch and/or the driven pulley. See an authorized Arctic Cat Snowmobile dealer for further information.

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.

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 wear 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. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

FUEL PUMP

The fuel pump is designed to provide adequate amount of gas to the injectors at all throttle settings. If a fuel delivery problem is suspected, take the snowmobile to an authorized Arctic Cat Snowmobile dealer. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

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SHOCK ABSORBERS (Standard Gas)

Each shock absorber should be visibly checked weekly for fluid leakage, cracks or breaks in the lower case, or a bent plunger. If any one of these conditions is detected, replacement is necessary. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

■ NOTE: When the snowmobile is operated in extremely cold weather (-23° C/-10° F or colder), a small amount of leakage may be present. Unless the leakage is excessive, replacement is not necessary.

SHOCK ABSORBERS (Rebuildable Gas)

■ NOTE: The presence of a FOX identifier (decal or embossed) on a shock absorber body indicates a "rebuildable" shock absorber.

■ NOTE: The frequency of servicing rebuildable shock absorbers will vary according to the types of conditions and terrain the snowmobile has been subjected to. If riding quality deteriorates (or seems to be deteriorating), take the snowmobile to an authorized Arctic Cat Snowmobile dealer for shock absorber evaluation and/or servicing. This service is at the discretion and expense of the snowmobile owner.

Servicing rebuildable shock absorbers is considered normal maintenance and is the responsibility of the owner. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner. Kits are available to either stiffen or soften gas shock valving. If changes in shock valving are desired, see an authorized Arctic Cat Snowmobile dealer. This service is at the discretion and expense of the snowmobile owner.

Each shock absorber should be visibly checked weekly for fluid leakage, cracks or breaks in the lower case, or a bent plunger. If any one of these conditions is detected, replacement is necessary. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

■ NOTE: When the snowmobile is operated in extremely cold weather (-23° C/-10° F or colder), a small amount of leakage may be present. Unless the leakage is excessive, replacement is not necessary.

DEEP-LUG TRACK

Some models are equipped with a deep-lug track which is specially designed for use in powder snow riding conditions. When the deep-lug track is operated in hard-packed snow conditions, it will run slightly slower than a standard-lug track and it will accelerate wear strip wear. To decrease the amount of wear strip wear, slower speeds must be maintained when operating on hard-packed trails. Accelerated wear strip wear caused by operating a deep-lug track on hard-packed snow conditions is NOT covered under Arctic Cat Inc. warranty policy.

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■ **NOTE: If operating on ice or hard-packed snow conditions, it is recommended that Ice Scratchers (p/n 4639-958) be installed to reduce wear strip and engine overheating.**

TRACK STUDS (Crossfire Models)

■ **NOTE: Stud or hooker plate installation will void track and tunnel warranty.**

■ **NOTE: Stud installation can be performed by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.**

⚠ WARNING

When installing studs on a single-ply track, it is important to use Arctic Cat-approved studs (proper head diameter). If approved studs (proper head diameter) are not used, studs could tear free of the track causing possible injury or even death. Consult an authorized Arctic Cat Snowmobile dealer for information.

CAUTION

If installing studs, a short Snowflap (p/n 5639-232) must be installed or component damage will occur.

■ **NOTE: To prevent tunnel damage from the studs, Tunnel Protector Kit (p/n 4639-968) must be installed.**

For proper installation, use the following procedure:

1. Using the stud template (see chart), mark the desired stud pattern to be used.

Stud Template Chart	
Track Length	p/n
141 in.	4639-991

2. Using the proper-sized stud hole drill bit, drill out the stud holes.
3. Push the stud through the hole from inside the track; then place the domed support plate and lock nut on the exposed stud.
4. Using a wrench to secure the stud, tighten the lock nut on the exposed stud.

It is also recommended that whenever studs are installed on a track, carbide wear bars should be installed on the skis. Carbide wear bars complement the track studs to balance steering control under these conditions. The length of the carbide on the wear bars should be proportionate to the number of track studs (i.e. small number of track studs — short length of carbide...many track studs — long length of carbide). The proper proportion between the number of studs and carbide length on the wear bar will maintain steering balance.

⚠ WARNING

Always balance the snowmobile with the proper proportion between the number of studs and carbide length on the wear bars. Do not "over drive" conditions; use common sense in all operating conditions.

CAUTION

Do not use studs that are more than 9.525 mm (0.375 in.) longer than the track lug height.

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⚠ WARNING

Do not operate a snowmobile with loose studs as they may be thrown from the track. Always use a shielded safety stand whenever performing any maintenance or adjustments.

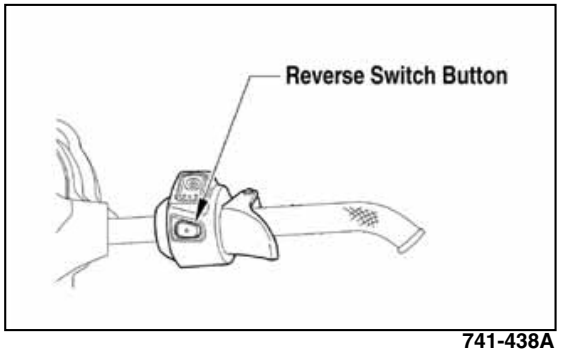
⚠ WARNING

DO NOT stand behind the snowmobile or near the rotating track. NEVER run the track at high speed when the track is suspended.

REVERSE OPERATION

The reverse function offers the operator the convenience of being able to back up the snowmobile rather than having to turn the snowmobile around by hand. This feature, under most situations, should not be used to free a stuck snowmobile as it will tend to dig the skis deeper into the snow. Always use minimal speed when operating in reverse and come to a complete stop before shifting from either forward to reverse or reverse to forward.

Shifting Into Reverse



741-438A

■ NOTE: Correct drive belt tension (deflection) is important for the reverse function to operate properly. If the belt is too tight, difficulty in engaging reverse will be experienced (the reverse function will make up to three attempts to engage into reverse, and if the function is not completed after the third attempt, the engine will shut down).

1. Always warm up the engine for 2-3 minutes prior to shifting into reverse. The reverse function is cancelled when engine temperature is below -22° F (-30° C) or above 176° F (80° C).
2. Shift only with the engine at idle RPM and the snowmobile completely stopped. The reverse function will not engage if engine speed is above 4000 RPM.

■ NOTE: If attempting to shift into reverse at too high engine RPM (above 4000 RPM), the reverse function will be cancelled and the coolant temperature warning icon will flash. This indicates the reverse switch button was pressed at too high RPM. The operator must reduce engine RPM below 4000 and press the button a second time.

3. Upon pressing the reverse switch button, the reverse function will make up to three attempts to engage into reverse. If the function is not completed after the third attempt, the engine will shut down.

CAUTION

Never shift into reverse while the snowmobile is moving forward as it is hard on the driven pulley torque bracket and the cam rollers.

Operating in Reverse

CAUTION

Never engage the electric starter or pull the recoil starter rope when the engine is running or when operating in reverse. Damage to the engine and/or either the electric start or recoil start system will occur.

1. When reverse is engaged, a reverse icon will illuminate in the speedometer/tachometer and a reverse alarm will sound.

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2. If the throttle lever is compressed before complete reverse engagement, the engine may shut down. Always wait for the reverse icon to illuminate and the reverse alarm to sound before backing up.

3. If reverse is used for longer than five minutes continuously, the engine will shut down.

⚠ WARNING

Do not use high speed when backing up. Control could be lost and injury could occur.

CAUTION

Do not use high speed when backing up. Damage to the drive belt and driven pulley components may occur.

■ NOTE: While operating in reverse, a "rev-limiter" will activate at 6000 RPM.

4. After shifting from reverse to forward (or from forward to reverse), apply the throttle slowly and evenly to allow the driven pulley to engage properly.

5. The reverse function is cancelled whenever the engine is shut off.

CAUTION

After reversing in deep powder snow conditions, make sure the snowflap does not become "caught up" in the track. Track and/or snowflap damage may occur.

REMOVABLE SEAT (Crossfire 600/800 cc STD Models)

These snowmobiles are equipped with a removable seat. To remove the seat, use the following procedure:

1. Inside the rear storage compartment on the bottom of the seatbase, rotate the latch cover away from the right-side locking pin.

2. Lift on the back of the seat and move it rearward to remove it from the tunnel.

To install the seat, use the following procedure:

1. Slide the front of the seat into position on the tunnel; then lower the rear of the seat onto the locking pins.

2. Press down on the rear of the seat until the retaining clips snap into place on the locking pins; then rotate the latch cover until it snaps into place on the right-side locking pin.

⚠ WARNING

Make sure the seat is securely locked in place or personal injury may result.

TOWING

If the snowmobile is to be towed by another snowmobile, do not tow using the loops in the skis. The tow rope should be attached to the spindles.

ARCTIC POWER VALVE (APV) SYSTEM

CAUTION

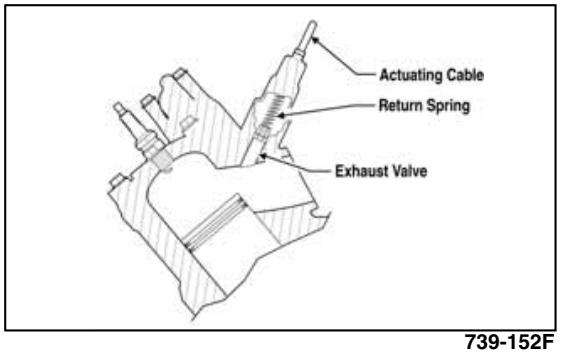
The correct engine oil to use is Arctic Cat Synthetic APV 2-Cycle Oil (p/n 4639-348). Any substitute may cause an APV malfunction.

This RPM controlled servomotor (servo) actuated system adjusts the size of the exhaust ports to provide peak performance throughout the RPM range.

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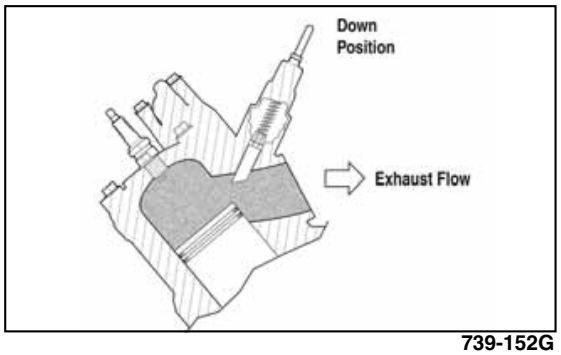
The system consists of an exhaust valve assembly mounted to the exhaust side of each cylinder and connected by adjustable cables to an electronic servo mounted beneath the hood.

■ NOTE: The mounting location of the servo will vary from model to model.



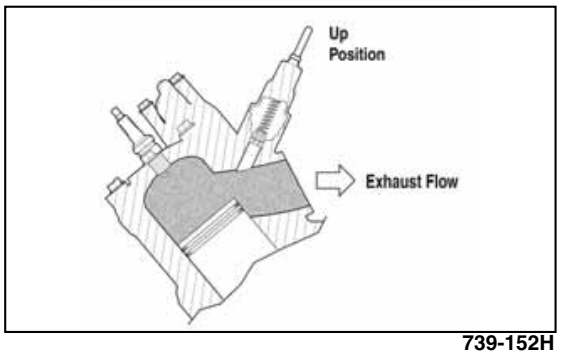
739-152F

At low RPM, the exhaust valves are held in the DOWN position by return springs. This gives the engine a "low port" exhaust design calibrated to provide maximum low RPM power and improve fuel economy at trail speeds.



739-152G

At high RPM, the exhaust valves are raised. This creates a "high port" exhaust design calibrated to provide maximum performance at high RPM.



739-152H

■ NOTE: The RPM ranges will vary from model to model.

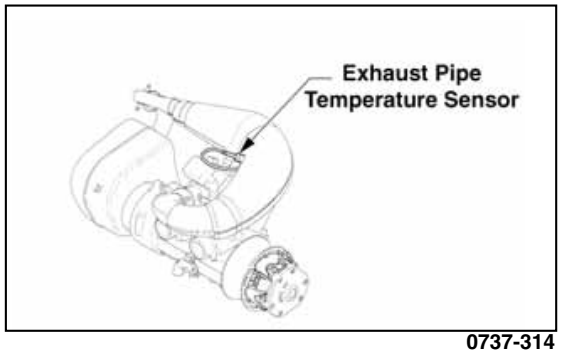
■ NOTE: If the servomotor cycles three times and then shuts down, the exhaust valve cables are not adjusted correctly. The exhaust valves may also be sticking.

■ NOTE: APV cleaning may be done by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

EXHAUST CONTROLLED TIMING (ECT) SYSTEM

This system automatically adjusts the ignition timing to provide maximum performance through a variety of operating conditions. The ECU receives input on engine RPM (demand) and exhaust pipe temperature (engine condition) and adjusts the ignition timing accordingly. This system is not adjustable and is maintenance free.

If a system fault is suspected, use an ohmmeter to check continuity of the exhaust pipe temperature sensor located in the expansion chamber. A reading of either 0 ohm or infinity indicates a failed sensor.



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■ NOTE: A disabled ECT system WILL NOT cause engine damage; however, a failed ECT system will have slower throttle response and may produce slightly less top-end performance.

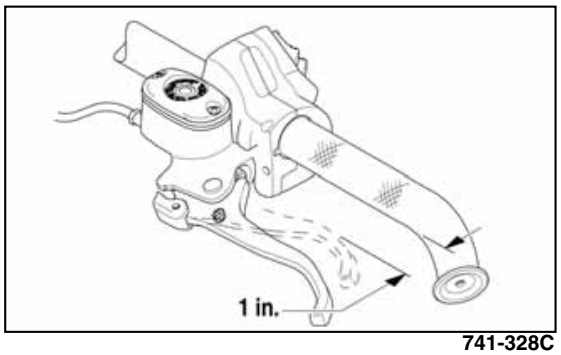
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OPERATING INSTRUCTIONS

STARTING AND STOPPING ENGINE

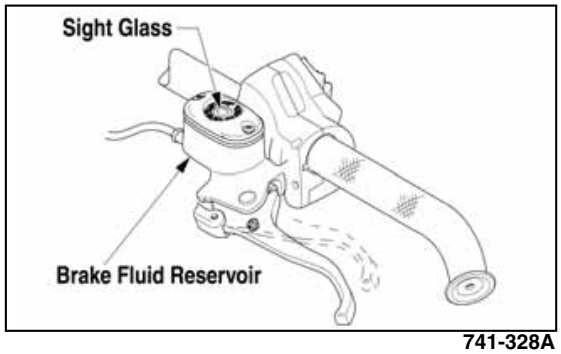
It is imperative that the brake system be checked for wear and proper operation and that all safety checks found in the accompanying Snowmobile Safety Handbook be performed before attempting to start the engine. After the engine has been started, check the headlights (high and low beam), taillight, and 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.

1. Test the operation of the brake system by compressing the brake lever. The brake lever must feel firm when compressed; then while holding the brake lever in the compressed position, measure the distance between the brake lever and the handlebar. The distance must be greater than 2.54 cm (1 in.).



741-328C

2. Check the fluid level in the reservoir. The brake fluid level must be visible in the sight glass. Add Arctic Cat approved brake fluid as necessary.



741-328A

■ **NOTE: If the sight glass appears dark, there is a sufficient amount of fluid in the reservoir.**

⚠ WARNING

Do not start the engine if the brake system is not functioning properly. Service the brake system or have it properly repaired prior to operating the snowmobile. Serious personal injury or even death may occur if the brake system is not operating properly.

3. Test the throttle control lever by completely compressing and releasing it several times. The lever MUST return to the idle position quickly and completely.

CAUTION

Always check the coolant level before starting the engine.

4. Move the emergency stop switch to the UP or RUN position.

5. Insert key into ignition switch; then rotate key to the RUN position.

■ **NOTE: When a cold engine is being started, 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.**

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■ NOTE: When a warm engine is being started, the throttle control lever may have to be compressed slightly.

6. On manual start models, pull the recoil handle slowly until resistance is felt; then give a short quick pull. Repeat until the engine starts.

■ NOTE: On large-displacement engines in extremely cold weather, pull the recoil handle slowly two to three times to begin the starting procedure.

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 the rope to rewind slowly.

7. When the engine starts, allow it to warm up properly. Idle the engine several minutes until the engine has reached normal operating temperature. Do not idle the engine for excessively long periods of time.

CAUTION

It is extremely important that the engine is properly warmed up before subjecting the engine to high speed operation or heavy loads. The engine should be allowed to idle at least 3-4 minutes before it is operated at more than 1/2 throttle. In extremely cold conditions, the warm-up time will be longer. Cold seizure and piston scuffing caused by insufficient warm-up will not be covered by warranty. Also, do not idle the engine for excessively long periods of time.

8. Flooding — If the engine does not start but seems ready to start, engage the brake lever lock; then compress the throttle control lever fully and try to start the engine. When the engine starts, release the throttle control lever immediately. After the warm-up, release the brake lever lock.

■ 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.

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

BRAKING

The following items are items that the operator must be familiar with when operating this snowmobile and its hydraulic brake system. Important additional information on the proper maintenance of the brake system is found in the maintenance section of this manual.

1. Use the brakes wisely. Each time the brakes are applied in all hydraulic brake systems (including automotive applications), heat is transferred to the brake fluid. The amount of heat transferred during high speed stops and/or repetitive use may be high enough to boil the brake fluid and cause the brakes to either fade or may cause an unexpected loss of brakes.

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If this occurs, the brake fluid requires a cool-down period before the brakes will again function properly. This cool-down period will vary depending upon the ambient air temperature and the temperature of the brake fluid. If loss of brakes has occurred because of high fluid temperatures, do not operate the snowmobile until the cool-down period has expired and brake lever firmness has returned.

⚠ WARNING

Excessive repetitive use of the hydraulic brake for high speed stops will cause overheating of the brake fluid and premature brake pad wear which will result in an unexpected loss of brakes.

2. Be sure to maintain the brake fluid at the proper level and take care not to get any moisture in the system as moisture in the brake fluid lowers the boiling point. If the brake fluid is ever boiled (by high speed stops or repetitive use) or if moisture is allowed to enter the system, it must be changed. Never substitute or mix different types or grades of brake fluid.

⚠ WARNING

Use only Arctic Cat approved brake fluid. Never substitute or mix different types or grades of brake fluid. Brake loss can result. Check brake fluid level and pad wear before each use. Brake loss can result in severe injury or even death.

3. Never ride the brake. Even maintaining minimal pressure on the brake lever will cause the brake pads to drag on the disc and may overheat the brake fluid.
4. The brake lever lock is not a parking brake and should not be applied for periods exceeding 5 minutes. NEVER OPERATE THE SNOWMOBILE WITH THE BRAKE LEVER LOCK ENGAGED.

⚠ WARNING

The brake lever lock is not a parking brake and should not be applied for periods exceeding 5 minutes. The brake lever lock maintains the brake lever in the compressed position and maintains pressure against the brake disc; however, after a period of time, the pressure applied to the brake disc may relax below the amount required to hold the snowmobile stationary.

5. Pumping the brake lever is permissible; however, if pumping the brake lever more than twice is necessary to obtain the necessary stopping power, immediately take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.
6. When new brake pads are installed, a “burnishing” process is required. Drive the snowmobile slowly and compress the brake lever several times until the pads just start to heat up; then allow them to thoroughly cool down. This process stabilizes the pad material and extends the life of the pads.

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EMERGENCY STOPPING

There are several methods of stopping or slowing the snowmobile under a variety of situations. Identified in the following chart are the ways a snowmobile may be brought to a stop and the effectiveness under normal conditions.

ITEM	FUNCTION	CONDITION
Emergency Stop Switch	interrupts ignition circuit	ALL
Throttle/Ignition Monitor Switch	interrupts ignition circuit	ALL
Ignition Switch	interrupts ignition circuit	ALL
Brake	slows the ACT drive	ALL

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 throttle system or if there is some other malfunction of the throttle system resulting in a loss of return spring force, the monitor switch will stop the engine when the throttle control lever is released.

⚠ WARNING

If any malfunction of the 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 throttle system has been located and corrected.

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 throttle system and wait 5-10 minutes for the engine heat to thaw ice from the 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.

■ NOTE: If the throttle control lever operates properly and the engine does not start, compress the throttle lever slightly (approximately 1/8 throttle) and try starting the engine. If the engine now starts and stops when the throttle lever is released, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

⚠ 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.

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■ **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. If not under warranty, this service is at the discretion and expense of the snowmobile owner. However, if a dire emergency exists wherein the engine must be started, disconnect the throttle monitor switch located in the right-side handlebar control.**

■ **NOTE: If disconnection of the throttle monitor switch is needed to start the engine, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service as soon as possible. If not under warranty, this service is at the discretion and expense of the snowmobile owner.**

⚠ WARNING

Under no circumstances should disconnection of the throttle control wiring harness be used as a substitute for the monitor switch during normal operation of the snowmobile. Personal injury and damage could occur if the throttle system malfunctions or if the operator is unable to stop the engine in an emergency. If the snowmobile must be operated with a disconnected throttle control wiring harness, EXTREME CAUTION MUST BE TAKEN. NEVER EXCEED 10 MPH WITH THE THROTTLE CONTROL WIRING HARNESS DISCONNECTED.

■ **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.**

VARYING ALTITUDE OPERATION

Operating a snowmobile at varying altitudes requires changes in performance components. These changes affect drive train components.

The altitude information decal is located beneath the hood of the snowmobile.

■ **NOTE: Just as important as calibrating the snowmobile for higher altitudes is recalibrating the snowmobile when going to lower altitudes. Always consult the altitude decal beneath the hood of the snowmobile.**

Crossfire models are initially set up at the factory for operation between 0-3000 feet.

M-Series models are initially set up at the factory for operation between 6000-9000 feet.

■ **NOTE: Drive train changes can be made by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.**

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ACT DRIVE GEAR CASE (Each Season Prior to Storage)

■ NOTE: Flushing the gear case and replacing the lubricant can be done by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

It is very important that the gear case be flushed and the lubricant be replaced after each season of use. Arctic Cat recommends that the flushing and replacing be done prior to off-season storage.

To flush the gear case and replace the lubricant, use the following procedure:

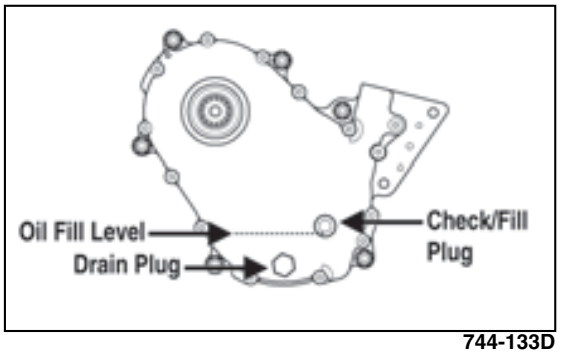
1. Open the left-side access panel; then remove the panel and the belt guard.
2. Remove the drive belt (see Drive Belt sub-section); then remove the driven pulley.

■ NOTE: If excessive oil deposits are noticed, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

3. Tip the snowmobile onto its right side and place a piece of cardboard underneath to protect the finish on the hood and belly pan.

■ NOTE: It is recommended that the gas tank be nearly empty (less than 1/4 full) when tipping the snowmobile.

4. Remove the drain plug from the gear case; then install a drain adapter fitting with hose into the drain plug hole.



744-133D

■ NOTE: To aid in draining the lubricant, it is advisable to fashion a drain adapter by acquiring a fitting - Gear Case Drain Fitting (p/n 0644-552) - and a length of 3/8-in. hose.

5. Tip the snowmobile back to the upright position; then place a drain pan on the floor next to the drain hose and tip the snowmobile toward its left side far enough to allow the lubricant to drain from the gear case into the drain pan.

■ NOTE: It is critical that the snowmobile is on a level surface to ensure the lubricant drains properly and completely.

6. Secure the snowmobile in this position until the lubricant is completely drained.

CAUTION

It is critical that all of the old lubricant be drained from the gear case prior to flushing the gear case.

7. When the lubricant has completely drained from the gear case, tip the snowmobile back to the upright position, remove the drain adapter, and install and securely tighten the drain plug; then remove the check/fill plug.

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8. Pour Arctic Cat ACT Drive Flush Fluid (p/n 4639-333) into the check/fill hole; then install the plug. Tighten securely.

CAUTION

Do Not add more or less than the recommended amount of flush fluid to the gear case.

9. Install the driven pulley; then install the drive belt (see Drive Belt sub-section) and the belt guard.
10. Install the left-side access panel; then close the access panel.
11. Position the tips of the skis against a wall; then 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.

⚠ WARNING

DO NOT stand behind the snowmobile or near the rotating track. NEVER run the track at high speed when the track is suspended.

12. Start the engine and accelerate slightly. Use only enough throttle to turn the track several revolutions. SHUT ENGINE OFF.
13. Open the left-side access panel; then remove the panel and the belt guard.
14. Remove the drive belt (see Drive Belt sub-section); then remove the driven pulley.
15. Tip the snowmobile onto its right side and place a piece of cardboard underneath.
16. Remove the drain plug from the gear case; then install the drain adapter fitting with hose into the drain plug hole.
17. Tip the snowmobile back to the upright position; then place a drain pan on the floor next to the drain hose and tip the snowmobile toward its left side far enough to allow the flush fluid to drain from the gear case into the drain pan.
18. Secure the snowmobile in this position until the flush fluid is completely drained.

CAUTION

It is critical that all of the flush fluid be drained from the gear case prior to filling with new lubricant.

19. When the fluid has completely drained from the gear case, tip the snowmobile back to the upright position, remove the drain adapter, and install and securely tighten the drain plug; then remove the check/fill plug.

CAUTION

The correct lubricant to use in the gear case is Arctic Cat Synthetic ACT Gear Case Fluid. Any substitute may cause serious damage to the drive system.

20. Pour 12 fl oz (600 cc models) or 15 fl oz (remaining models) of recommended gear case fluid into the check/fill hole; then install the plug. Tighten securely.

CAUTION

Do not add more or less than the recommended amount of lubricant to the gear case or damage to the gear case will occur. Oil level should be at the Oil Fill Level on the gear case cover.

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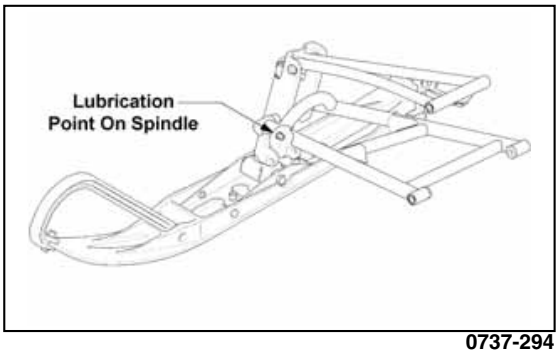
21. Install the driven pulley; then install the drive belt (see Drive Belt sub-section) and the belt guard.

22. Install the left-side access panel; then close the access panel.

FRONT SUSPENSION

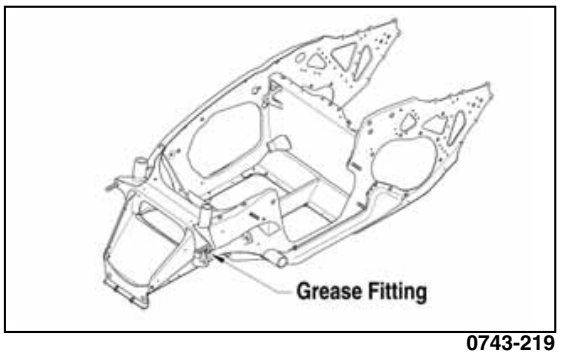
■ NOTE: Arctic Cat recommends that Arctic Cat Low-Temp Grease (p/n 4639-365) be used for this procedure.

It is very important that the front suspension is greased on a monthly basis using low-temperature grease. The front suspension should also be greased after trailering the snowmobile on an open trailer. Pump grease into the spindle grease fitting (both sides) until grease is noted coming out of the top and bottom of the spindle. Wipe excess grease from the spindle.



0737-294

Pump grease into the upper steering shaft grease fitting (located on each side of the snowmobile directly below the inner cap screw securing the upper A-arm to the chassis) until grease is noted coming out of the bottom of the shaft. Wipe excess grease from the shaft.



0743-219

REAR SUSPENSION (Every 40 Operating Hours)

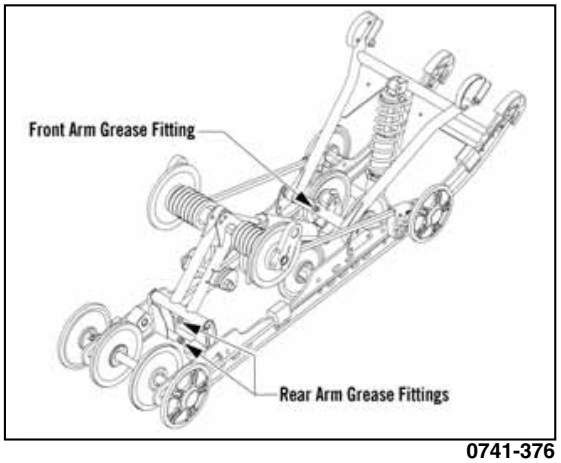
■ NOTE: Arctic Cat recommends that Arctic Cat Low-Temp Grease (p/n 4639-365) be used for this procedure.

■ NOTE: Illustrated are the general locations of grease fittings. Actual locations will vary from model to model.

1. Shut engine off and wait for all moving parts to stop.

2. With the gas tank nearly empty (less than 1/4 full), lay the snowmobile on its left 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.



0741-376

4. Lubricate the grease fittings with low-temperature grease.

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PERIODIC MAINTENANCE CHECKLIST			
ITEM	INTERVAL	PAGE	REMARKS
Brake System (Hydraulic)	Daily	29	Check for binding, leakage, and proper operation; lever firmness, travel, caliper, disc, and pads
Cooling System - Liquid	Daily	12,27	Check for leakage, damage, obstructions, coolant level
Oil-Injection System	Daily	—	Check for leakage, damage, and injection oil level
Stop Switch	Daily	—	Check for proper operation
Hoses	Daily	—	Check for damage, leakage, and wear
Headlight & Taillight/Brakelight	Daily	40-42	Check for proper operation and cleanliness
Steering System	Daily	—	Check for proper operation, tightness of bolts, and binding
Throttle Control System	Daily	21	Check for binding, sticking, proper operation, throttle cable tension, and wear
Drive Belt	Daily Monthly	32	Check for wear, cracks, and fraying Check length and width dimensions
Ski Wear Bars	Daily	42	Check for wear and damage
Electrical Wiring	Weekly	—	Check for wear, damage, and tight connections
Exhaust System	Weekly	11	Check for damage, leakage, and obstructions
Nuts, Bolts, Fasteners	Weekly	—	Check tightness
Recoil Starter	Weekly	—	Check rope for wear, fraying, and proper operation
Shock Absorbers	Weekly	13,38	Check for fluid leakage and damage and air pressure (Fox Air Shocks)
Spark Plugs	Weekly	27	Check center electrode insulator color, carbon, and gap
Suspension	Weekly	37	Check for damage, loose components, and proper adjustment
Track Tension/Alignment	Weekly	35,36	Check/adjust as necessary
Wear Strips	Weekly	43	Check for wear and damage
Wires & Cables	Weekly	—	Check for wear, damage, and fraying
Fuel System - Tank, Pump, In-Line Filter, & Vent Hose	Weekly	—	Check for damage, wear, obstructions, and leakage
APV System	Monthly	28	Check/adjust as necessary
ACT Drive Gear Case	Seasonal	23	Flush and change drive fluid prior to storage
Heat Exchangers	Monthly	—	Check for wear, leakage, and damage
Drive Clutch/Driven Pulley	Monthly	12	Check for damage, binding, and wear/remove drive belt, clean drive clutch/driven pulley with compressed air, and clean sheaves with suitable parts-cleaning solvent
Front & Rear Suspension	Monthly	25	Grease

The longevity and safety of the snowmobile can be increased by making periodic checks of the items in the preceding checklist.

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. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

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

FUEL SYSTEM

⚠ WARNING

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

Gasoline Additives

Fuel de-icer can be used for all models. Also, periodic use of an injector cleaner is recommended especially in the last tank of gasoline before storage. Arctic Cat Fuel Stabilizer (p/n 0436-907) should also be added to the last tank of gasoline before storage.

Fuel Pickup Valves

All models are equipped with fuel pickup valves in the gas tank. If ever there is a restricted fuel flow and a pickup valve is suspected, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

COOLANT LEVEL

■ NOTE: Use a good quality, ethylene glycol-based, automotive-type coolant.

■ NOTE: Always check the coolant level with the engine cold.

Locate the appropriate FULL mark on the coolant reservoir. If coolant is below the FULL mark, add coolant to the FULL mark.

SPARK PLUGS

■ NOTE: Always use the recommended spark plugs in the engine. See the appropriate specifications chart for correct spark plug gap.

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.

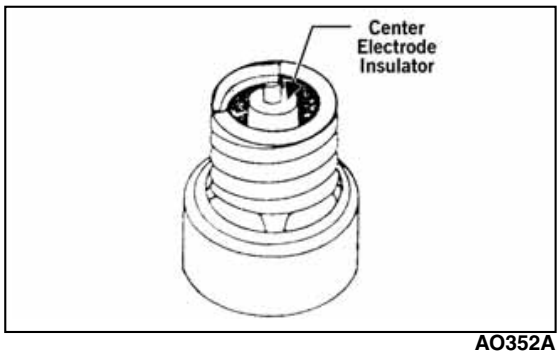
Removing/Installing Spark Plugs

1. Remove the springs securing the expansion chamber to the exhaust manifold and resonator; then move the expansion chamber out of the way to access the spark plugs.
2. Remove the spark plug caps from the plugs.
3. Using a spark plug wrench, remove the plugs.
4. Install the plugs and finger-tighten.
5. Tighten the spark plugs to 19 ft-lb; then install the spark plug caps.
6. Place the expansion chamber into position and secure to the exhaust manifold and resonator with the springs.

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), remove the spark plugs and examine the condition of the center electrode insulator of each spark plug.

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AO352A

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

B. LIGHT GRAY or WHITE insulator indicates over-heating 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).

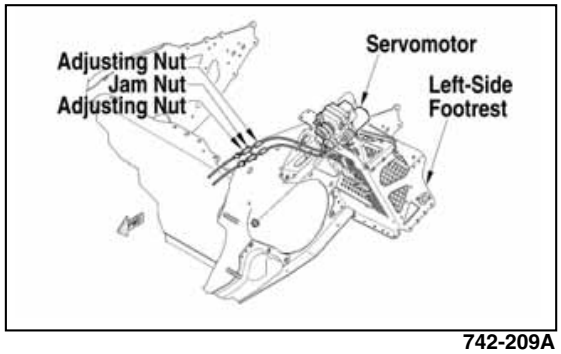
■ NOTE: If the center electrode insulators are light gray, white, or black and if the oil-injection pump synchronization and ignition timing are correct, different heat-range spark plugs may be necessary. Authorized Arctic Cat Snowmobile dealers have detailed spark plug information. Consult a dealer before changing spark plugs, as incorrect heat-range spark plugs could cause poor engine performance or engine damage.

CAUTION

If a spark plug is light gray, white, or black and another is tan or light brown, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for inspection and service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

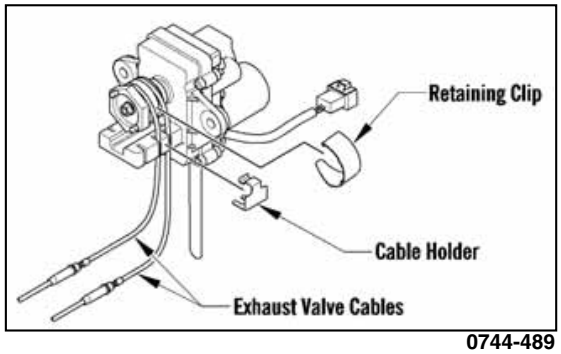
CHECKING/ ADJUSTING APV CABLES

Proper cable adjustment is critical to the operation of the APV system. Although inspecting cable adjustment is recommended every 1000-2000 miles, the cable should not need adjustment often. To check the cable adjustment, use the following procedure:



742-209A

1. Using a small needle-nose pliers, remove the servomotor retaining clip (800/1000 cc models) and the cable holder.



0744-489

2. Using an adjustable wrench, rotate the servomotor actuator counterclockwise to loosen the cable; then pull the cable housings down and out of the servomotor.

CAUTION

Do not use the nut securing the pulley to the servomotor to rotate the actuator.

■ NOTE: For installing purposes, note the side that the servomotor cables are installed on.

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3. Slide each cable drum out of the slot of the servomotor actuator.

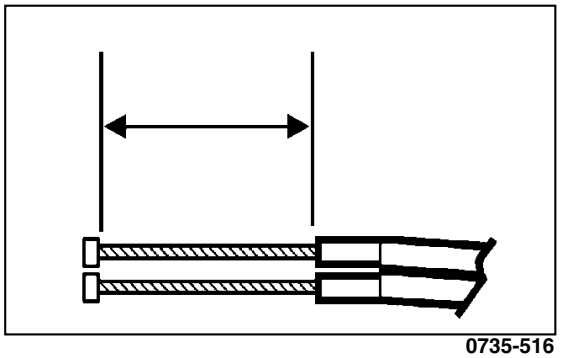
4. While holding the cable housing firmly, pull the cable as far out as it will go; then release. Repeat three to four times. The cable/exhaust valve should move freely without binding.

■ NOTE: If the cable/exhaust valve does not move freely, the exhaust valve assembly will need to be removed for further inspection. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service.

■ NOTE: When measuring the cables, they are to be routed as close to their installed position as possible.

5. While holding the cable housing, lightly pull on one cable end to remove any slack; then measure the amount of exposed cable from the cable housing to the end of the cable (cable drum).

APV CABLE LENGTH	
ENGINE	CENTER ± 0.039 in.
600 cc	1.417 in.
800 cc	1.377 in.
1000 cc	1.319 in.



0735-516

■ NOTE: The two cable measurements must be equal in length or less than 0.5 mm (0.020 in.) difference in length from each other.

■ NOTE: Repeat steps 4 and 5 for each cable; then compare the measurements to the APV Cable Length chart.

■ NOTE: The measurements must be within the specifications from the chart. If the measurements are within specifications, no adjustment is necessary (proceed to step 8). If they are not within specifications, proceed to step 6.

6. Loosen the jam nut on the cable to be adjusted; then using the adjusting nuts, lengthen or shorten the housing as needed.

7. Once the proper length has been attained, hold the adjusting nut in place and tighten the jam nut securely.

8. Place the cable housings into position in the servomotor. Secure the cable housings with the cable holder and retaining clip (800/1000 cc models).

CAUTION

Assure the cables are rotated and secured properly to avoid contacting exhaust components.

HYDRAULIC BRAKE SYSTEM

Arctic Cat recommends that the brake system (brake lever, fluid reservoir, hose, caliper, pads, and brake disc) be checked daily for fluid leakage, wear, or damage and for proper operation. Also, the brake fluid level must be checked every time before starting the engine. The brake fluid must be visible in the sight glass.

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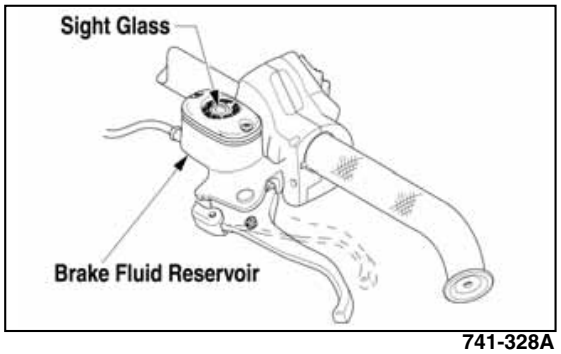
⚠ WARNING

DO NOT operate the snowmobile when the brake lever lock 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, severe personal injury could result.

Checking/Adding Brake Fluid

1. With sight glass reservoir in a level position, check the fluid level. The brake fluid level must be visible in the sight glass.

■ NOTE: If the sight glass appears dark, there is a sufficient amount of fluid in the reservoir.



741-328A

2. If the brake fluid is not visible in the sight glass, remove the reservoir cover and add Arctic Cat approved brake fluid until the fluid is at the recommended level. Install and secure the reservoir cover. Do not allow moisture to contaminate the brake system.

CAUTION

Brake fluid is highly corrosive. Do not spill brake fluid on any surface of the snowmobile.

⚠ WARNING

Do not overfill the brake fluid reservoir. Overfilling the reservoir may cause the brake system to hydraulically lock. Use only Arctic Cat approved brake fluid. Never substitute or mix different types or grades of brake fluid. Brake loss can result. Brake loss can result in severe injury or even death.

Changing Brake Fluid

The brake fluid must be changed on a regular basis and whenever the brake fluid has been overheated or contaminated. The brake fluid should be changed every 1000 miles or at the end of the snowmobiling season, whichever occurs first. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

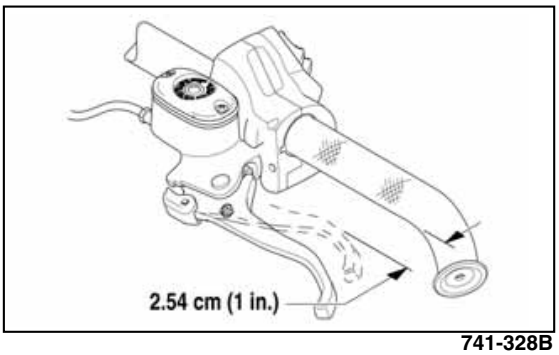
Checking Brake Lever Travel

Before each use, check the brake lever travel using the following procedure:

1. Compress the brake lever fully.

■ NOTE: Do not pump the brake lever as it will produce an inaccurate reading.

2. Measure the distance between the brake lever and the handlebar. The distance must be greater than 2.54 cm (1 in.).



741-328B

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3. If the resultant distance is less than specified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for service. If not under warranty, this service is at the discretion and expense of the snowmobile owner.

⚠ WARNING

Do not operate the snowmobile if the compressed distance between the brake lever and the handlebar is less than 2.54 cm (1 in.). Brake loss may occur. Brake loss can result in severe personal injury.

Bleeding Brake System

If the brake lever feels spongy when applied, the brake system may need to be bled. To bleed the brake, use the following procedure:

■ NOTE: The brake system may be bled by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

1. Remove the reservoir cover and fill the reservoir with Arctic Cat approved brake fluid.

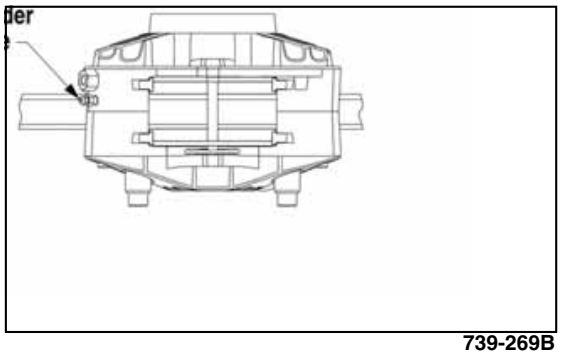
CAUTION

Brake fluid is highly corrosive. Do not spill brake fluid on any surface of the snowmobile.

⚠ WARNING

Use only Arctic Cat approved brake fluid. Any substitute may result in a loss of brakes.

2. Slide a piece of flexible tubing over the ball of the bleeder valve and direct the other end into a container.



739-269B

3. Slowly compress the brake lever and hold. Open the bleeder valve to release the fluid and air. When the fluid stops, close the bleeder valve; then release the brake lever.

4. Repeat step 3 until the brake fluid flows free of air bubbles.

■ NOTE: It may be necessary to refill the reservoir during the bleeding process.

5. When the brake fluid is free of all air and the brake lever feels firm when compressed, fill the reservoir; then install and secure the cover. Remove the tube from the bleeder valve.

Checking/Changing Brake Pads

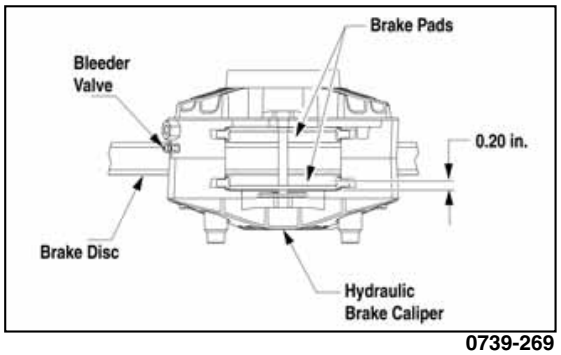
The condition of the brake pads must be checked daily and changed if worn or damaged. To check and change the brake pads, use the following procedure:

■ NOTE: The brake pads may be changed by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

■ NOTE: When installing new brake pads, always install them as a set. Never install just one pad or use brake pads which have been used in another snowmobile.

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1. Measure the thickness of both brake pads. The brake pad thickness must be greater than 5.0 mm (0.20 in.). If the brake pad thickness is less than specified, replacement of both pads is necessary.



0739-269

2. Remove the pin/hairpin clip securing the brake pads to the caliper assembly.

3. Remove the brake fluid reservoir cover; then remove most of the brake fluid from the reservoir. Install the cover.

■ NOTE: The above procedure will allow room for the fluid from the caliper when the pistons are pushed into the caliper for installing new brake pads. Replacing the cover will prevent fluid spillage.

4. Using a pair of pliers, pull one brake pad out of the caliper assembly.

■ NOTE: Changing one pad at a time will prevent one piston from pushing out the other piston from the caliper.

5. Using a flat-blade tool, slowly and carefully push the piston into the caliper.

6. Position the new brake pads into the caliper.

7. Repeat steps 4-6 for the other pad; then secure the pads with the pin/hairpin clip.

8. Remove the reservoir cover and remove the remaining fluid; then fill the reservoir with fresh fluid and install the cover.

9. Pump the brake lever to ensure correct positioning of the brake pads; then release.

10. Remove the reservoir cover and fill the reservoir to the proper level with fresh brake fluid; then install the cover.

■ NOTE: When new brake pads are installed, a "burnishing" process is required. Drive the snowmobile slowly and compress the brake lever several times until the pads just start to warm up; then allow them to cool down. This procedure stabilizes the pad material and extends the life of the pads.

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 usage) of two drive belt specifications are essential.

1. Measure the outside circumference of the drive belt. The belt should be within the recommended range in circumference.

2. Measure the outside width of the drive belt. The belt should be within the recommended range in width.

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

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

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■ **NOTE: Drive belts should be purchased from an authorized Arctic Cat Snowmobile dealer, as Arctic Cat drive 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.**

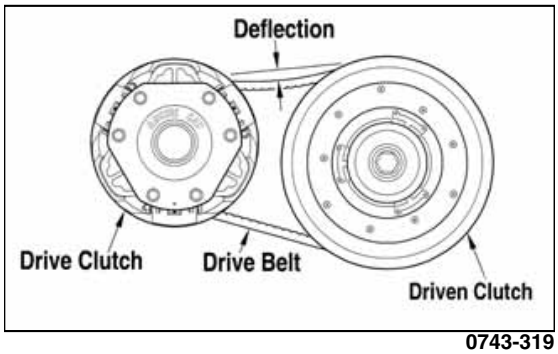
■ **NOTE: Before starting the snowmobile in extremely cold temperatures, the drive belt should be removed and warmed up to room temperature. Once the drive belt is at room temperature, install the drive belt.**

Also, drive belts have a break-in period of approximately 25 miles. After installing a new drive belt, drive the snowmobile for 25 miles at 3/4 throttle or less. By revving the engine up and down (but not exceeding 60 mph), the exposed cord on the side of a new belt will be worn down.This will allow the drive belt to gain its optimum flexibility and will extend drive belt life.

CAUTION

Never run the engine with the drive belt removed. Excessive revving of the engine could result in serious engine damage and drive clutch failure.

Checking/Adjusting Drive Belt Deflection



0743-319

The drive belt must have the proper fit in the drive clutch and driven pulley. To check for proper drive belt fit, use the following procedure.

1. Place a straightedge on the top of the drive belt. The straightedge should reach from the drive clutch to the top of the driven pulley.

■ **NOTE: Make sure the drive belt is all the way out in the driven pulley before checking drive belt fit.**

2. Using a stiff ruler centered between the drive clutch and driven pulley, push down on the drive belt just enough to remove all slack and note the amount of deflection. The deflection should be within the range of 28.5-31.8 mm (1 1/8-1 1/4 in.).

3. To correct drive belt deflection, remove the sheave adjuster from the pulley, remove or add shim washers to the adjuster, and install the adjuster.

■ **NOTE: Adding shim washers will decrease belt deflection and removing shim washers will increase belt deflection. Available shim washers from Arctic Cat are p/n 0648-714 (0.090 in.) - one included in the tool kit, p/n 0648-715 (0.030 in.), and p/n 0648-716 (0.060 in.).**

■ **NOTE: Removing/adding shim washers may be done by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.**

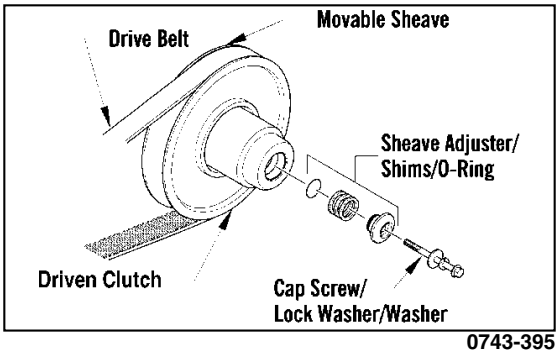
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Removing Drive Belt

■ NOTE: Changing a drive belt can be done by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

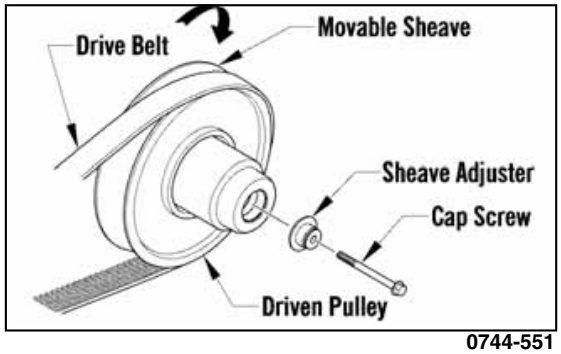
1. Turn ignition key to the OFF position and wait for all moving parts to stop.
2. Set the brake lever lock.
3. Open the left-side access panel; then remove the belt guard.
4. Remove the cap screw, lock washer, washer, and sheave adjuster from the end of the driven pulley.

■ NOTE: Assure that the shims and O-ring are not removed from the adjuster.



0743-395

5. Remove the cap screw (w/lock washer and washer) from the adjuster, remove the washer and lock washer from the cap screw, turn the adjuster around (reverse it), and insert the cap screw into the adjuster.



0744-551

6. Install the sheave adjuster and cap screw onto the driven pulley; then tighten the cap screw until the movable sheave opens far enough to allow the belt to be removed.

■ NOTE: Before installing the drive belt, use a suitable cleaning solvent to thoroughly clean the sheaves.

7. Remove the drive belt from the driven pulley first; then from the drive clutch.

Installing Drive Belt

1. Place the drive belt (so the part number can be read) between the sheaves of the drive clutch first; then between the sheaves of the driven pulley.
2. Remove the sheave adjuster and install it in its original position (beveled side out); then install the cap screw, lock washer, washer, and sheave adjuster back into the driven pulley. Tighten the cap screw to 32 ft-lb.

CAUTION

Do not apply Loctite to the driven pulley cap screw or component damage may occur.

3. Install the belt guard; then close the left-side access panel.

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⚠ WARNING

Never operate the snowmobile without the belt guard/access panel secured in place.

4. Release the brake lever lock.

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." Arctic Cat recommends that the track tension be checked daily during the first 300 miles of operation and once a week thereafter and adjusted according to need. The track will stretch and take a "set" during break-in. Track deflection must be maintained within the recommended range.

⚠ WARNING

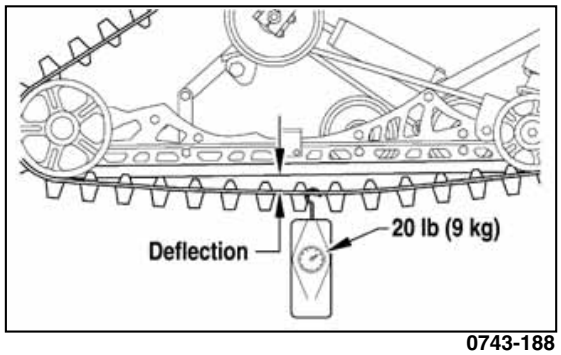
Track tension must be properly maintained. Personal injury could result if a track is allowed to become excessively loose.

Checking Track Tension

⚠ WARNING

DO NOT attempt to check or adjust track tension with engine running. Turn ignition key to the OFF position. 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. Elevate the snowmobile on a shielded safety stand high enough to use a spring scale.
3. At mid-point of the track (on the bottom side), hook a spring scale around a track clip; then pull down on the scale to the recommended pressure. Measure the deflection (distance) between the bottom of the wear strip and the inside surface of the track clip. Compare the measurement with the chart.



0743-188



0743-191

Model	Setup Tension	After Break-In Tension
Crossfire@ 20 lb	44-51 mm (1 3/4-2 in.)	51-57 mm (2-2 1/4 in.)
M-Series @ 10 lb	51-64 mm (2-2 1/2 in.)	51-64 mm (2-2 1/2 in.)

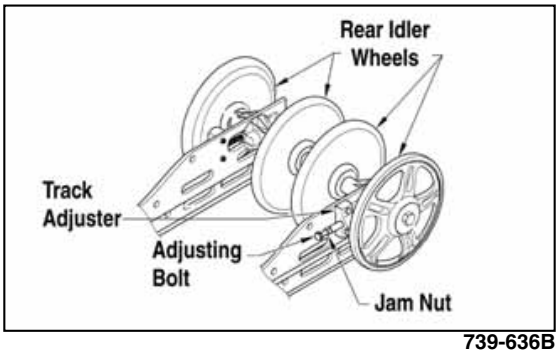
■ NOTE: On the M-Series models, measurement is from the bottom of the wear strip at the point of the shock pad on the slide rail.

Adjusting Track Tension

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

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1. Loosen the rear idler wheel adjusting bolt jam nuts.



739-636B

2. If the deflection (distance between the bottom of the wear strip and the inside of the track) exceeds specifications, tighten the adjusting bolts to take 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 to increase the slack in the track.
4. Check track alignment (see Track Alignment sub-section).
5. When 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, severe personal injury could result.

TRACK ALIGNMENT

Proper track alignment is obtained when the rear idler wheels are equal distance from the inner track drive lugs. Excessive wear to the idler wheels, drive lugs, and track will occur if the track is improperly aligned. Arctic Cat 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. Position the tips of the skis against a wall; then 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.

⚠ WARNING

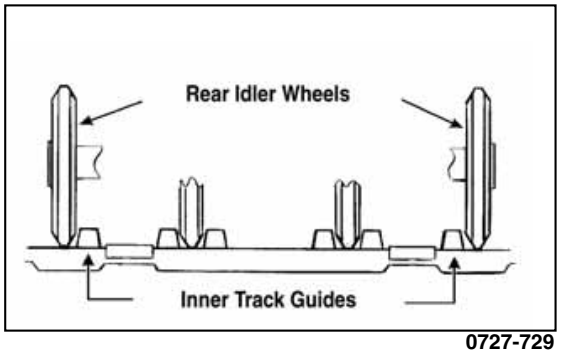
DO NOT stand behind the snowmobile or near the rotating track. NEVER run the track at high speed when the track is suspended.

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

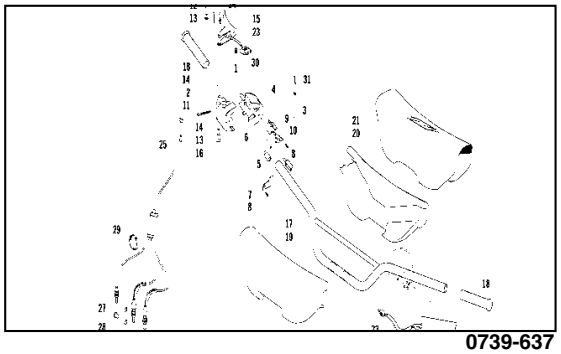
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■ **NOTE: Allow the track to coast to a stop. DO NOT apply the brake because it could produce an inaccurate alignment condition.**

4. When the track stops rotating, check the relationship of the rear idler wheels and the inner track drive lugs. If the rear idler wheels are centered between the inner track drive lugs, no adjustment is necessary.



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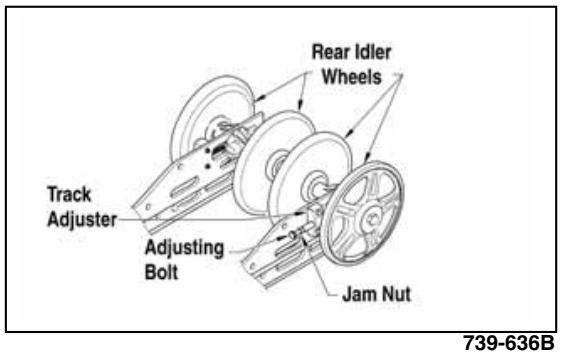


0739-637

5. If the idler wheels are not centered between the inner track drive lugs, 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; then rotate the adjusting bolt clockwise 1 to 1 1/2 turns.



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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 sub-section).**

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

⚠ WARNING

If a jam nut is not tightened properly, the adjusting bolt could loosen causing the track to become dangerously loose.

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 Adjusting Track Alignment procedure.

SUSPENSION

The suspension should be adjusted for the operational needs and riding preference of the operator.

The front shock springs determine the amount of ski pressure and the reaction of the front suspension to rough terrain. The amount of ski pressure can also be changed by adjusting the length of the skid frame front arm limiter straps.

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The rear springs influence the load carrying capability of the snowmobile and should be adjusted for the weight and riding preference of the operator.

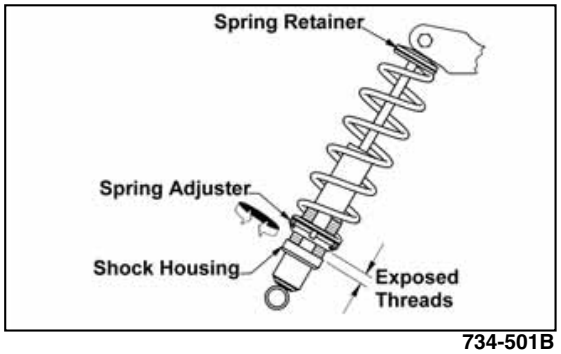
Adjusting Front Shock Springs (STD)

■ NOTE: On some models, the front shock springs are not adjustable.

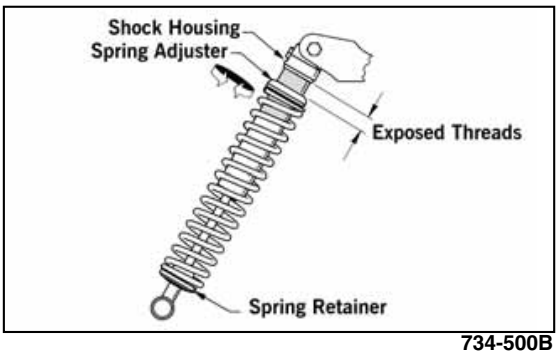
The front shock springs are individually adjustable for the terrain conditions and driving style of the operator. The spring adjuster has been set at the factory so the correct amount of threads are exposed between the spring adjuster and the shock housing as an initial setting. Additional ski pressure can be obtained by tightening the spring tension; ski pressure can be decreased by relaxing spring tension.

■ NOTE: Equal adjustments should be maintained on both sides of the snowmobile.

To adjust spring tension, use the Spring Adjuster Tool from the tool kit and rotate the adjuster in whichever direction is desired. If after adjusting spring tension you note the snowmobile front end wants to pitch, relax the spring tension on the side that is pitching. If both sides are pitching, relax the spring tension on both sides.



734-501B



734-500B

Adjusting Shocks (Fox Air Shocks)

■ NOTE: It is recommended to monitor the air pressure in the air shocks once every month.

■ NOTE: Adjusting air shocks may be done by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

The air shocks are individually adjustable for the terrain conditions and driving style of the operator. The shocks are preset at the factory (see chart) as an initial setting; however, it is possible to "fine tune" the shocks to match the operator's weight, riding style, and terrain conditions.

Checking and adjusting air pressure must be done at riding temperature (outside). Also, it is advisable to check air pressure when the outside temperature varies more than 25°.

Initial Setting Chart		
Model	**Front Shock (Ski)**	**Rear Arm Shock**
Crossfire Sno Pro	4.6 kg/cm^2 (65 psi)	9.5-10.2 kg/cm^2 (135-145 psi)
M-Series Sno Pro	4.2 kg/cm^2 (60 psi)	9.5-10.2 kg/cm^2 (135-145 psi)

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■ **NOTE: Care should be taken to have equal pressure in the front (ski) shocks before operating the snowmobile.**

To increase or decrease air pressure, use the following procedure.

■ **NOTE: When adjusting air pressure, all weight must be removed from the suspension, and the shock absorbers must be fully extended.**

■ **NOTE: Adding air pressure will increase the air spring force; reducing air pressure will decrease air spring force.**

⚠ WARNING

Do not exceed 10.5 kg/cm^2 (150 psi) in the shock.

1. Remove the air valve cap from the shock.
2. Thread the valve of Shock Absorber Air Pump (p/n 2603-614) onto the shock air valve approximately six rotations.

■ **NOTE: As the pump is being attached to the shock, the hose will fill with air. This will result in a lower gauge pressure 0.14-3.52 kg/cm^2 (2-5 psi).**

3. To decrease air pressure in the shock, press the black bleed valve button half way down and hold until desired pressure is attained.

■ **NOTE: Pressing the button fully down and releasing it will allow only a small amount of air to escape (micro-adjust).**

4. To increase air pressure in the shock, pump until desired pressure is attained.
5. Remove the pump valve from the shock air valve.

■ **NOTE: As the pump valve is being removed from the shock, the sound of air loss is from the pump hose, not from the shock.**

6. Install the air valve cap onto the shock.

Skid Frame Front Arm

■ **NOTE: On some models, the front arm limiter straps are not adjustable.**

The skid frame front arm shock spring and limiter straps are adjustable. However, Arctic Cat recommends that the shock spring be maintained at the factory preset of 1/8-1/4 in. preload. Tightening the skid frame front arm shock spring may cause improper balance and may ruin the handling features of the snowmobile.

The length adjustment of the front arm limiter straps determines the weight distribution between the front of the skid frame and the skis. Tightening the limiter strap (shortening the strap) will pull up on the front of the skid frame and will increase ski pressure. Loosening the limiter strap (lengthening the strap) lowers the front of the skid frame and decreases ski pressure.

When customizing the amount of ski pressure, be sure to adjust both straps equally and do not over-adjust the limiter straps to adversely affect steering and operator control of the snowmobile. Some experimentation may be required until the proper adjustment for the operator's individual style is obtained.

■ **NOTE: If the limiter straps are adjusted, it is highly recommended that at least a minimum of 1/8 in. preload on the shock spring be maintained.**

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⚠ WARNING

Do not adjust the front arm limiter straps to a point at which steering and operator control of the snowmobile are adversely affected.

Adjusting Rear Spring Pre-Load

Proper adjustment of rear spring pre-load is necessary to get the most comfortable ride. The chart is designed to help in setting up rear spring pre-load; however, riding style is the single greatest factor in determining rear spring requirements.

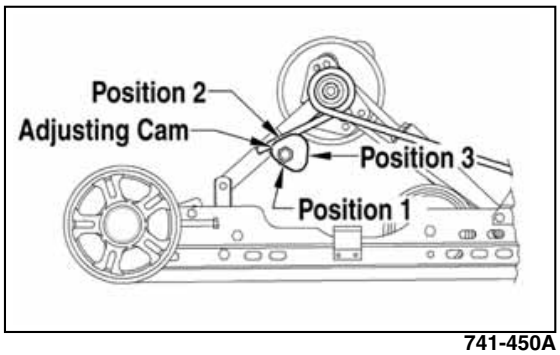
Rider Weight (lb)	Cam Position
Up to 180	1
180-240	2
Over 240	3

■ NOTE: These cam position settings are suggestions only. Personal riding style will greatly influence cam position settings. Spend time to determine setting preferences.

Rear spring pre-load adjustment is accomplished by rotating the adjusting cams. Position 3 provides the stiffest ride, and position 1 is for the light driver or slow-speed trail riding. Position 2 is for the average operator under normal conditions. Always rotate the cam from the lighter position to the heavier position.

CAUTION

Never force the adjustment cams from the low position to the high position. Cam damage may occur.



741-450A

To rotate an adjusting cam, use the spark plug wrench from the tool kit. Rotate the wrench until the cam is in the desired position. To stiffen the ride, rotate the cam so as to raise the spring end. Make the appropriate adjustment on the other cam.

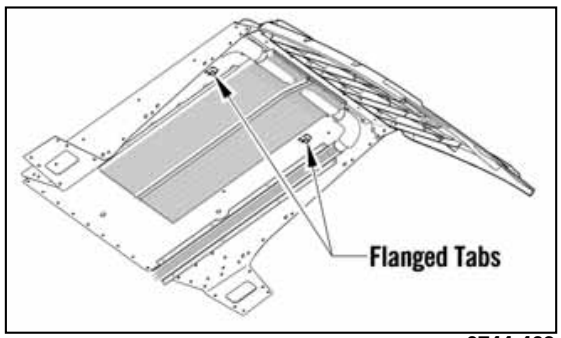
LIGHTS

For the correct headlight bulb and/or taillight/brakelight LED, see the appropriate specifications sheet.

Removing and Installing Taillight/ Brakelight

These models are equipped with an LED taillight/brakelight. If the LED fails, it must be replaced. To remove and install the LED, use the following procedure.

■ NOTE: To access the harness connector and the two self-tapping screws securing the taillight to the snowflap, compress the two flanged tabs (located on the underside of the tunnel) and carefully pry up on the front of the taillight/ snowflap.



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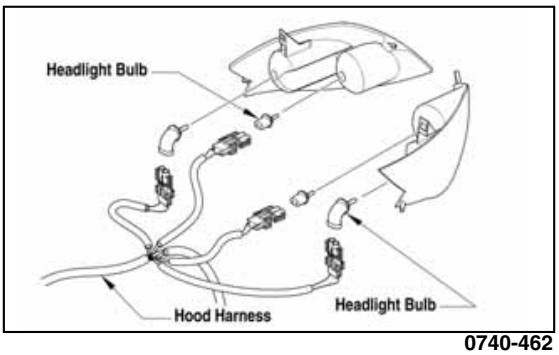
1. Disconnect the taillight harness connector.
2. Remove the two self-tapping screws securing the taillight to the snowflap.
3. Secure the taillight to the snowflap with the two self-tapping screws; then connect the taillight connector.
4. Secure the front of the snowflap to the tunnel by carefully tapping the snowflap until the two flanged tabs snap into place.

Removing Headlight Bulb

■ NOTE: The bulb portion of headlight is fragile. HANDLE WITH CARE. When replacing the headlight bulb, the bulb assembly must first be removed from the housing. Do not touch the glass portion of the bulb. If the glass is touched, it must be cleaned with a dry cloth before installing.

To access the headlight bulbs, use the following procedure:

1. With the hood closed, loosen the headlight adjustment knobs.
2. Carefully push the headlight lenses rearward far enough to remove the torx-head screws securing the air silencer plenum to the hood.
3. Open the hood; then remove the O-rings securing the air silencer plenum to the hood and remove the air silencer plenum to access the bulbs.
4. Remove the bulb from the headlight housing and disconnect the wiring harness from the bulb.



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Installing Headlight Bulb

CAUTION

Do not touch the glass portion of the bulb. If the glass portion is touched, it must be cleaned with a dry cloth before installing.

1. Plug the wiring harness into the headlight bulb.
2. Insert the bulb into the headlight housing.
3. Press the air silencer plenum into place on the hood and secure with the O-rings; then close the hood.
4. Carefully push the headlight lenses rearward far enough to install the torx-head screws. Tighten the screws securely.
5. Tighten the headlight adjustment knobs.
6. Check headlight aim (see Adjusting Headlight Aim in this sub-section).

⚠ WARNING

Do not operate the snowmobile unless headlight beam is adjusted properly. An incorrectly adjusted beam will not provide the operator the optimum amount of light.

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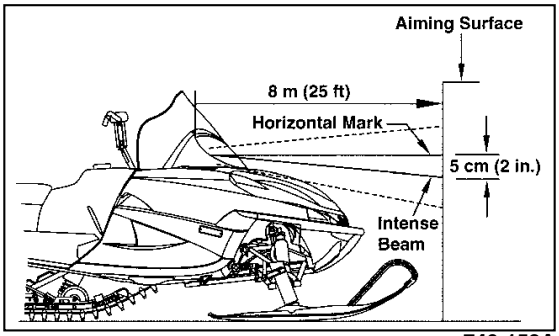
Adjusting Headlight Aim

The headlight can be adjusted for vertical aim of the HIGH/LOW beam. The geometric center of HIGH beam zone is to be used for vertical 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 midpoint 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. Engage the brake lever lock 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.



740-153A

7. Adjust the headlight using the adjustment knobs until correct aim is obtained. Shut the engine off; then disengage the brake lever lock.

SKI WEAR BARS

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, the ski wear bar will wear faster. To maintain positive steering characteristics, Arctic Cat recommends that the ski wear bars be checked before each use and replaced if worn beyond 1/2 of the original diameter. Ski wear bars are available from an authorized Arctic Cat Snowmobile dealer.

⚠ WARNING

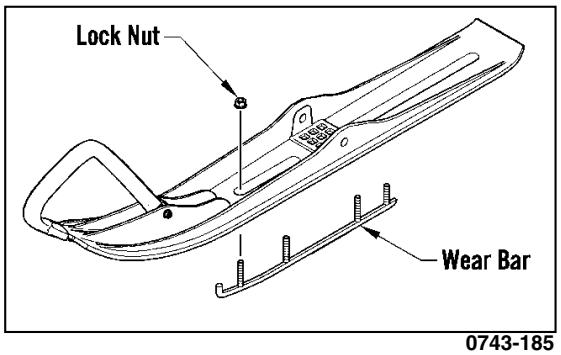
Operating the snowmobile with excessively worn ski wear bars may result in a loss of steering control.

Removing Ski Wear Bars

■ NOTE: Determine which type of wear bar is being replaced and remove and install accordingly.

1. Remove ice and snow buildup from the ski.
2. Using a suitable safety stand or lift, elevate the front of the snowmobile.
3. Remove the lock nuts securing the wear bar to the ski.

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4. Remove the wear bar from the ski.

Installing Ski Wear Bars

1. Move the wear bar into position on the bottom of the ski.

■ NOTE: If installing a double-offset wear bar, the carbide edge must be directed to the outside of the ski.

2. Align the wear bar studs with the holes in the ski; then install the lock nuts. Tighten to 11-15 ft-lb.

ADJUSTING SKI STANCE

■ NOTE: Ski stance can be increased/decreased by 2.5 cm (1.0 in.).

1. Place the front of the snowmobile on a support stand.
2. Remove the cotter pin; then remove the slotted nut and cap screw securing the ski assembly to the spindle. Remove the ski. Account for the rubber damper, inserts, and washers.
3. To increase ski stance, place both ski stance spacers to the outside of the spindle.
4. To decrease ski stance, place both ski stance spacers to the inside of the spindle.
5. Apply a low-temperature grease to the non-threaded portion of the cap screw; then slide the cap screw through the ski accounting for the rubber damper, inserts, and washers.

■ NOTE: Install the cap screw so the slotted nut will be located to the inside of the ski.

6. Apply red Loctite #271 to the threads of the cap screw; then tighten the nut to 45 ft-lb.
7. Place the cotter pin into the ski cap screw and spread the pin.
8. Repeat procedure for the other ski.

RAIL WEAR STRIPS

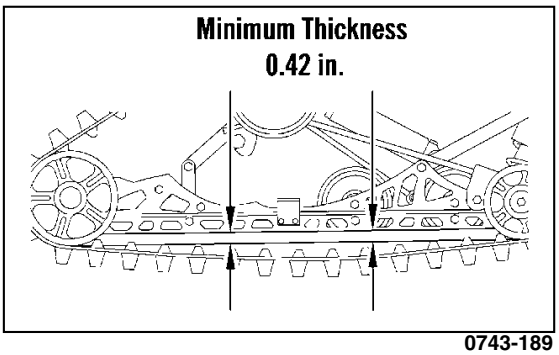
Arctic Cat recommends that the wear strips be checked weekly and replaced as necessary. Measure the wear strips at 25.4 cm (10 in.) intervals. Wear strips must be 10.7 mm (0.42 in.) thick or thicker.

If wear strip measurements are less than specified, replacement of both wear strips is necessary to prevent premature track clip wear and possible track damage. Take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

Each time a new set of wear strips are installed, they should be tempered. Temper the wear strips by driving the snowmobile for approximately a mile on a hard pack trail; then immediately drive into deep snow and allow the wear strips to cool. Repeat the procedure (warming up the wear strips; then cooling them down) two or three times.

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■ **NOTE: The rail wear strips will wear rapidly if the snowmobile is operated on terrain on which the snow cover is minimal. Loose snow is required to cool and lubricate the wear strips and prevent accelerated wear.**



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PERFORMANCE TIPS

Operating a high performance snowmobile requires a special attention that is not required by a low performance snowmobile. Often, a minor adjustment will result in a large increase in performance. This section is intended to highlight minor conditions that adversely affect performance and the adjustments needed to correct them. Be sure, however, to thoroughly read and understand this entire manual especially the section on spark plugs, track tension and alignment, and suspension.

DRIVE BELT — This link between the engine and drive train is often the most neglected component. The drive belt must have the proper fit in the drive clutch and driven pulley. Proper fit is when the top surface of the drive belt is flush with the top or up to 1/16 in. higher than the driven pulley sheaves (with the sheaves fully closed). If drive belt deflection is above specification, the snowmobile will bog and lack power at engagement and will have a slower maximum speed. For good performance, proper belt deflection is critical. To correct this condition, first determine if the drive belt is within specifications (see Drive Belt sub-section) and replace if worn or too long. Always run the drive belt in the same direction. Installing the drive belt so the part number can be read will ensure that the drive belt is always run the same direction.

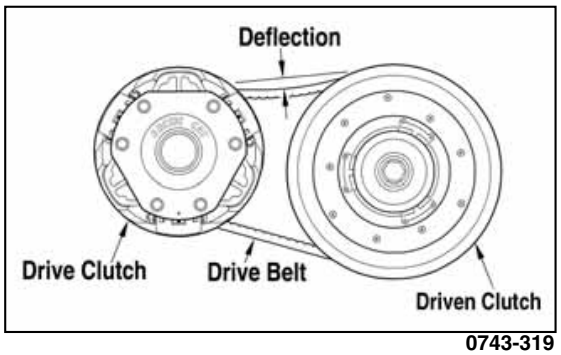
DRIVE BELT DEFLECTION — Drive belt length, condition, and deflection are all important for peak performance. To check and adjust drive belt deflection, remove the belt guard; then use the following procedure.

■ NOTE: It may be necessary to remove a shim washer from between the driven pulley sheaves to allow the driven pulley to close tighter. Adding shim washers will decrease belt deflection and removing shim washers will increase belt deflection. Available shim washers from Arctic Cat are p/n 0648-714 (0.090 in.) - one included in the tool kit, p/n 0648-715 (0.030 in.), and p/n 0648-716 (0.060 in.).

■ NOTE: Removing/adding shim washers may be done by the snowmobile owner if qualified to do so. If the owner does not feel qualified, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for this service. This service is at the discretion and expense of the snowmobile owner.

1. Turn the engine off; then open the access panel.
2. Make sure the drive belt is sitting at the top of the driven pulley sheaves.
3. Place a straightedge on top of the drive belt. The straightedge should reach from the driven clutch to the top of the driven pulley.
4. Using a stiff ruler centered between the drive clutch and driven pulley, push down on the drive belt just enough to remove all slack. Note the amount of deflection on the ruler at the bottom of the straightedge. The deflection should be at 1 1/4 in.

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■NOTE: Push down on the belt with the ruler only until the bottom of the belt flexes upward; then read the amount of deflection.

5. To correct drive belt deflection, remove the sheave adjuster from the pulley, remove or add shim washers to the adjuster, and install the adjuster.

■NOTE: Adding shim washers will decrease belt deflection; removing shim washers will increase belt deflection.

6. Install the belt guard; then close the access panel.

DRIVE CLUTCH AND DRIVEN PULLEY — Keeping the drive clutch and driven pulley clean should be the primary consideration of the operator. The drive clutch and driven pulley can be cleaned of any drive belt accumulation using compressed air. The sheaves can be cleaned using a clean cloth and parts-cleaning solvent.

DRIVE CLUTCH/DRIVEN PULLEY OFFSET — If premature drive belt wear is experienced or if the drive belt turns over, offset must be checked. Also, offset must be checked whenever either the drive clutch or driven pulley is serviced.

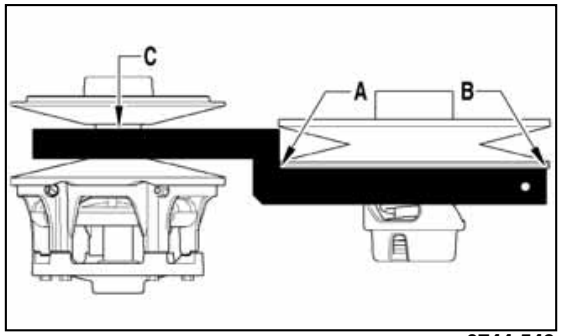
■ NOTE: For checking offset, it is necessary to use Clutch Alignment Bar (p/n 0644-496). This special tool can be purchased from an authorized Arctic Cat snowmobile dealer.

To check offset, use the following procedure.

1. Open the left-side access panel; then remove the belt guard.
2. Install the clutch alignment bar between the drive clutch sheaves.
3. Allow the bar to rest on the drive clutch shaft and against the outside edge of the driven pulley stationary sheave.

■ NOTE: The alignment bar must extend beyond the front edge of the drive clutch.

4. With the bar against the outside edge of the driven pulley stationary sheave at points A and B, the bar should just clear the inside edge of the stationary sheave of the drive clutch and rest on the stationary shaft at point C. If the bar either will not clear the inside edge or is more than the specified amount (1.507 in.), the offset must be corrected.



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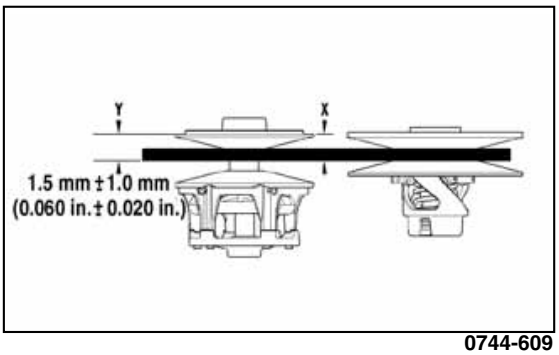
■ **NOTE: If the offset is out of specification, take the snowmobile to an authorized Arctic Cat Snowmobile dealer for drive system evaluation and/or servicing. This service is at the discretion and expense of the snowmobile owner.**

DRIVE CLUTCH/DRIVEN PULLEY PARALLELISM — If premature drive belt wear is experienced or if the drive belt turns over, parallelism must be checked. Also, parallelism must be checked whenever either the drive clutch or driven pulley is serviced.

■ **NOTE: For checking parallelism, it is necessary to use Clutch Alignment Bar (p/n 0644-509). This special tool can be purchased from an authorized Arctic Cat Snowmobile dealer.**

To check parallelism, use the following procedure.

1. Remove the drive belt; then open the driven sheaves and place clutch alignment bar between the sheaves. Release the sheaves.
2. Check the parallelism of the drive clutch/driven pulley using the parallelism bar and reference points X and Y with the parallelism bar between the driven sheaves. Using a caliper or a machinist's scale, measure X and Y from the back side of the parallelism bar to the back side of the drive clutch sheave. Measurement Y must be 0.060 in. ± 0.020 in. more than measurement X, but Y must not exceed measurement X by more than 0.100 in.



0744-609

3. If parallelism is not within specifications, the parallelism must be corrected by first loosening all the engine mounting bolts (left side, front, and right top rear). Then, pry the front of the engine towards the MAG-side of the engine compartment. Next tighten the left-side mounting bolts followed by the front and right-top rear bolts. Recheck the parallelism. If still out of specification, repeat correction procedure.

GASOLINE — On the 600/1000 cc models for optimum performance, do not exceed the recommended 87 octane gasoline. Using a higher octane gasoline will not increase overall performance. On the 800 cc models for optimum performance, use 91 octane (minimum) gasoline.

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PREPARATION FOR STORAGE

Prior to storing the snowmobile, it must be properly serviced to prevent corrosion and component deterioration. An authorized Arctic Cat Snowmobile dealer should perform this service; however, the owner/ operator can perform this service if desired. This service is at the discretion and expense of the snowmobile owner. To prepare the snowmobile for storage, Arctic Cat recommends the following procedure:

1. Clean the seat cushion with a damp cloth and a Vinyl Protectant.
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. Place the rear of the snowmobile up on a shielded safety stand.
4. Start the engine and allow to idle. With the engine idling, pry the intake boot forward; then spray an Engine Storage Preserver into the intakes until the engine exhaust starts to smoke heavily or until the engine starts to drop in RPM. Turn engine off. Install the intake boot.

CAUTION

Do not run the engine without the belt guard in place and secured.

5. Plug the exhaust system outlet with a clean cloth.
6. With the ignition switch in the OFF position:
   A. Disconnect the high tension leads from the spark plugs; then remove the plugs, connect them to the leads, and ground them on the cylinder heads.

CAUTION

Never crank the engine over without grounding the spark plugs. Damage to coils and/or ECU may result.

   B. Pour 29.5 ml (1 fl oz) of SAE #30 petroleum-based oil into each spark plug hole and pull the recoil starter handle slowly about 10 times.
   C. Install the spark plugs and connect the high tension leads.
7. Fill the gas tank to its rated capacity; then add Arctic Cat Fuel Stabilizer (p/n 0436-907) to the gas tank following directions on the container for the stabilizer/gasoline ratio. Tighten the gas tank cap securely.
8. Flush the gear case and replace the lubricant (see Lubrication section).
9. Remove the drive belt from the drive clutch/driven pulley. Lay the belt on a flat surface or slide it into a cardboard sleeve to prevent warping or distortion during storage.
10. Clean and inspect the drive clutch and driven pulley.
11. Apply light oil to the upper steering post bushing and shafts of the shock absorbers.
12. Lubricate the rear suspension, spindles, and steering arms with a low-temperature grease.
13. Tighten all nuts, bolts, and cap screws making sure all nuts, bolts, and cap screws are tightened securely. Make sure all rivets holding the components together are tight. Replace all loose rivets.

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14. Clean and polish the hood, console, and chassis with Arctic Cat Hood and Windshield Cleaner/ Polish (p/n 4639-559). DO NOT USE SOLVENTS OR SPRAY CLEANERS. THE PROPELLANT WILL DAMAGE THE FINISH.

15. If possible, store the snowmobile indoors. Raise the track off the floor by blocking up the back end making sure the snowmobile is secure. Loosen the track adjusting bolts to reduce track tension. Cover the snowmobile with a machine cover or a heavy tarpaulin to protect it from dirt and dust.

16. If the snowmobile must be stored outdoors, position the snowmobile out of direct sunlight; then block the entire snowmobile off the ground making sure the snowmobile is secure. Loosen the track adjusting bolts to reduce track tension. Cover with a machine cover or a heavy tarpaulin to protect it from dirt, dust, and rain.

CAUTION

Avoid storing in direct sunlight and using a plastic cover as moisture may collect on the snowmobile causing corrosion.

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PREPARATION AFTER STORAGE

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

1. Clean the snowmobile thoroughly. Polish the exterior of the snowmobile.
2. Clean the engine. Remove the cloth from the exhaust system. Check exhaust system and air-intake silencer for obstructions.
3. Inspect 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. Install the drive belt.

■ NOTE: If the old belt is worn but in reasonable condition, retain it with the snowmobile as a spare in case of emergency.

5. Inspect all fuel hoses and oil hoses for deterioration or cracks; replace if necessary. Make sure all connections are tight; then on 2-stroke models, fill the oil-injection reservoir with the recommended 2-cycle oil (see Gasoline-Oil subsection).

■ NOTE: After prolonged storage, Arctic Cat recommends one tankful of 100:1 gas/oil mixture be used in conjunction with the oil-injection system to ensure proper lubrication.

6. Inspect the spark plugs. Replace, gap, or clean as necessary.
7. Tighten all nuts, bolts, and cap screws making sure all nuts, bolts, and cap screws are tightened securely.
8. If not done during preparation for storage, lubricate the rear suspension, spindles, and steering arms with a low-temperature grease.
9. Check the coolant level and all coolant hoses and connections for deterioration or cracks. Add properly mixed coolant as necessary.
10. Inspect the entire brake system, all controls, headlight, taillight, brakelight, ski wear bars, and headlight aim; adjust or replace as necessary.
11. Adjust the track to the proper tension and alignment (see Track Tension and Track Alignment subsections in the Maintenance section).

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U.S. EPA EMISSION CONTROL STATEMENT/ WARRANTY COVERAGE (U.S. Only)

STATEMENT/WARRANTY

Arctic Cat warrants to the original retail purchaser, and each subsequent purchaser, that all U.S. EPA-certified Arctic Cat snowmobiles are designed, built, and equipped to conform to all U.S. EPA Emission Control Regulations. Please read the following information completely.

Your authorized Arctic Cat snowmobile dealer will repair or replace any defective emission-related component at no cost to you during the warranty period. You may have non-warranty service performed by any repair establishment that uses equivalent components. The regulations provide significant civil penalties for tampering that causes your snowmobile to no longer meet U.S. EPA emission standards.

Arctic Cat further warrants that the engine and its emission-related components are free from defects in materials or workmanship that could cause the engine to fail to comply with applicable regulations during the warranty period.

If you have any questions about this information, or the emission warranty coverage statement, contact your local authorized Arctic Cat snowmobile dealer.

WARRANTY PERIOD

The emission warranty period for this snowmobile begins on the same date as the standard warranty coverage and continues for 30 months or 2500 miles, whichever comes first.

COMPONENTS COVERED

The emissions warranty covers major emissions control components and emission-related components listed as follows:

Engine Management and Sensors
Barometric Pressure Sensor
Camshaft Position Sensor
Engine Control Unit (ECU)
Engine Coolant Temperature Sensor
Intake Air Temperature Sensor
Manifold Absolute Pressure Sensor
Oxygen Sensor
Throttle Position Sensor

Ignition System
Ignition Coil
Knock Sensor System
Spark Plugs
Capacitive Discharge Ignition (CDI) Module
Magneto Pick-Up

Fuel/Air System
Fuel Injectors
Fuel Pressure Regulator
Fuel Pump
Carburetor(s)
Turbocharger Assembly
Air Bypass Valve
Turbo Waste Gate Control Valve
Crankcase Ventilation System
ISC Valve

Miscellaneous Items Used in Aforementioned Systems
Connectors
Switches
Grommets
Clamps
Hoses
Ties
Gaskets
Wiring

OWNER'S RESPONSIBILITIES

The owner of any snowmobile warranted under this Arctic Cat Emission Control Statement is responsible for the proper maintenance and use of the snowmobile as stated in the Operator's Manual. Proper maintenance generally includes replacement and service, at the owner's choosing, such items as air filter, oil and oil filter, or any other part, item, or device related to emissions control as specified in the Operator's Manual. It is the owner's responsibility to ensure that the snowmobile is used in a manner for which it was designed.

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NOTES

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CHANGE OF ADDRESS, OWNERSHIP, OR WARRANTY TRANSFER

Arctic Cat Inc. keeps on file the current name and address of the owner of this snowmobile. This will allow Arctic Cat 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 a copy of this form is completed and returned to Arctic Cat Inc. if you move or if the snowmobile is sold to another party.

This form may also be used to transfer the unused portion of the original warranty to a second party. In order to transfer warranty, fill out this form completely; then return a copy of this form to Arctic Cat Inc. Arctic Cat will then process the application and issue warranty for the balance of the time remaining of the original warranty.

- ❑ Address Change
- ❑ Ownership Change
- ❑ Warranty Transfer

CHANGE OF ADDRESS/OWNERSHIP/ WARRANTY TRANSFER TO:

Name _____

Address _____

City/State (Province)/Zip Code (Postal Code) _____

Phone # ( )_____

Year and Model Snowmobile _____

Vehicle Identification Number (VIN) _____

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Fold Back Once

Place
Stamp
Here

CHANGE OF ADDRESS/OWNERSHIP

ARCTIC CAT INC.
PRODUCT SERVICE AND
WARRANTY DEPT.
P.O. BOX 810
THIEF RIVER FALLS, MN 56701

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WARRANTY PROCEDURE/OWNER RESPONSIBILITY

At the time of sale, an Owner Registration form is to be completed by the selling dealer and consumer. The receipt of the registration form by Arctic Cat is a condition precedent to warranty coverage. It is the selling dealer's responsibility to retain and/or submit the appropriate copies of the form to the appropriate place(s) to initiate warranty coverage.

The dealer will furnish to the consumer a signed copy of the form which must be presented to the dealer when requesting warranty service. The registration form is the consumer's proof of ownership and warranty eligibility. The form is used by the dealer to validate the warranty claim. Retain your copy of the form and keep it in a safe place.

When warranty repair is suspected, the snowmobile should be taken to the selling dealer, who has the primary responsibility to perform warranty repairs. In the event the selling dealer has ceased to do business, you have moved, or you are in a location away from your selling dealer, warranty may be performed by any authorized Arctic Cat Snowmobile dealer.

The authorized Arctic Cat Snowmobile dealer will examine the snowmobile or part to determine if, in his opinion, a warrantable condition exists. If a warrantable condition appears to exist, the dealer will repair or replace, at Arctic Cat's option, free of charge, including any related labor costs, all parts that are found to be warrantable and any other parts which the warrantable part caused to be damaged. You, the consumer, will then be asked to sign a warranty form to ensure Arctic Cat that the warranty work was actually performed.

It is the consumer's responsibility to maintain and service the snowmobile in accordance with Arctic Cat's recommendations in the Operator's Manual. To protect yourself and your snowmobile, follow all safety and service tips. Arctic Cat will NOT warrant repairs required as a result of not performing standard operator maintenance, storage procedures, and service as outlined in the Operator's Manual.

Should you have any questions concerning the warranty, contact an authorized Arctic Cat Snowmobile dealer.

Arctic Cat Inc., P.O. Box 810, Thief River Falls, MN 56701 (218) 681-8558

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