

*Arctic Cat*

**Models 400 4x4/400 4x4 3in1/500 4x4/500 4x4 3in1/650 H1/650 H1 3in1/700 Diesel**



**Operator's manual**



## ***INTRODUCTION***

Congratulations for purchasing a high quality All-Terrain-Vehicle (ATV) by ARCTIC CAT. Be sure, as the owner/operator of the ATV to become thoroughly familiar with its basic operation, maintenance and storage procedures. Carefully read the Operator's Manual before starting your ATV.

Particularly important information is distinguished in this manual by the notations „Warning, Caution and Note“. **!!WARNING!!** refers to the safety of ATV operators, bystanders or persons inspecting or repairing the ATV. Please follow exactly the instructions in order not to endanger your health or even your life. **!!PRECAUTION!!** indicates special precautions that must be taken to avoid damage to the ATV. ■ **NOTE** provides key information to make procedures easier or more clear.

This booklet contains instructions on how to start and operate the ATV as well as some important information on how to store it in the season break. For bigger repairs and service please contact an authorized ARCTIC CAT ATV dealer.

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

This ARCTIC CAT operator's manual should be considered a permanent part of the ATV and must remain with the ATV at the time of resale. If the ATV changes ownership please contact the warranty service of the company ARCTIC CAT, Industriestraße 43, 5600 ST. JOHANN/PG., to ensure a proper registration. This manual was prepared by the service department of ARCTIC CAT.

When in need of replacement parts, oil or accessories for your ARCTIC CAT ATV, be sure to use only 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 ATV. For a complete list of accessories refer to the current ARCTIC CAT ATV Accessory Catalog. Your ARCTIC CAT ATV dealer will be pleased to aid you in service and maintenance procedures.

## **OWNER/VEHICLE**

|                |  |
|----------------|--|
| SURNAME        |  |
| NAME           |  |
| ZIP/CITY       |  |
| Street/Nr.     |  |
| Vehicle model  |  |
| Chassis number |  |
| Engine number  |  |
| Key number     |  |
| Purchase date  |  |
| Dealer         |  |

Vehicle owner

Owner's signature

Dealer

Dealer's signature and stamp

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## Technical Data ARCTIC CAT ATV

| <b>Engine and Drive</b> | <b>400 4x4</b>                                  | <b>400 4x4 3in1</b>       |
|-------------------------|---|---------------------------|
| Type                    | Four-cycle/Oil cooled                           | Four-cycle/Oil cooled     |
| Bore x Stroke           | 82x72,1 mm                                      | 82x72,1 mm                |
| Displacement            | 376 ccm   | 376 ccm                   |
| Ignition type           | CDI   | CDI                       |
| Ignition timing         | 10° BTDC < 1500 turns/min                       | 10° BTDC < 1500 turns/min |
| Spark plug type         | NGK CR7EA                                       | NGK CR7EA                 |
| Spark plug gap          | 0,7-0,8 mm                                      | 0,7-0,8 mm                |
| Brake type              | Hydraulic service brake; mechanic parking brake |                           |
| Carburetor type         | Keihin CVK 34                                   | Keihin CVK 34             |

| <b>Chassis</b>                     |                      |                      |
|------------------------------------|----------------------|----------------------|
| Length (overall)                   | 205 cm               | 244,5 cm             |
| Height (overall)                   | 122 cm               | 125 cm               |
| Width (overall)                    | 112 cm               | 120,7 cm             |
| Suspension travel (front and rear) | 21 cm                | 21 cm                |
| Wheelbase                          | 127 cm               | 147 cm               |
| Front Tire Size                    | 185-65-15 or 25x8-12 | 185-65-15 or 25x8-12 |

|                                     | <b>400 4x4</b>  | <b>400 4x4 3in1</b>                       |
|-------------------------------------|---|---|
| Rear Tire Size                      | 205-60-15 or 25x11-12                                     | 205-60-15 or 25x11-12                     |
| Tire Inflation Pressure<br>On Road  | 0,8-1,0 bar (according to load and route)                 | 0,8-1,0 bar (according to load and route) |
| Tire Inflation Pressure<br>Off Road | 0,8-1,0 bar (according to load and route)                 | 0,8-1,0 bar (according to load and route) |
| <hr/>                               |   |   |
| <b>Miscellany</b>                   |   |   |
| Dry weight                          | 288,5 kg  | 300 kg                                    |
| Gas tank capacity                   | 24,6 l  | 20,8 l                                    |
| Reserve capacity                    | 2,46 l  | 2 l                                       |
| Differential capacity               | 275 ml  | 275 ml                                    |
| Differential lubricant              | SAE 80W-90  |   |
| Taillight / Brakelight              | 12V/5W/21W  |   |
| Engine oil capacity                 | 3,4 L   | 3,4 L                                     |
| Rear drive volume                   | 250 ml  | 250 ml                                    |
| Gasoline (recommended)              | 87 Octane Regular Unleaded (EU: Regular Gasoline 91 oct.) |   |
| Engine oil (recommended)            | SAE 10W-40  |   |

|                 |                              |
|-----------------|------------------------------|
| Headlight       | 12V/35W (2)                  |
| Starting System | Electric with Manual Recoil* |

### ***Technical Data ARCTIC CAT ATV 500 4x4/500 4x4 3in1***

| <b>Engine and Drive</b> | <b>500 4x4</b>                                  | <b>500 4x4 3in1</b>       |
|-------------------------|---|---------------------------|
| Type                    | Four-cycle/Liquid cooled                        | Four-cycle/Liquid cooled  |
| Bore x Stroke           | 87,5x82 mm                                      | 87,5x82 mm                |
| Displacement            | 493 ccm   | 493 ccm                   |
| Ignition type           | CDI   | CDI                       |
| Ignition timing         | 10° BTDC < 1500 turns/min                       | 10° BTDC < 1500 turns/min |
| Spark plug type         | NGK CR6E  | NGK CR6E                  |
| Spark plug gap          | 0,7-0,8 mm                                      | 0,7-0,8 mm                |
| Brake type              | Hydraulic service brake; mechanic parking brake |                           |
| Carburetor type         | Keihin CVK 36                                   | Keihin CVK 36             |

\* according to equipment

| <b>Chassis</b>                     | <b>500 4x4</b>                            | <b>500 4x4 3in1</b>                       |
|------------------------------------|---|---|
| Length (overall)                   | 210,8 cm                                  | 244,5 cm                                  |
| Height (overall)                   | 125 cm                                    | 125 cm                                    |
| Width (overall)                    | 120,7 cm                                  | 120,7 cm                                  |
| Suspension travel (front and rear) | 21 cm                                     | 21 cm                                     |
| Wheelbase                          | 127 cm                                    | 147 cm                                    |
| Front Tire Size                    | 185-65-15 or 25x8-12                      | 185-65-15 or 25x8-12                      |
| Rear Tire Size                     | 205-60-15 or 25x11-12                     | 205-60-15 or 25x11-12                     |
| Tire Inflation Pressure<br>On Road | 0,8-1,0 bar (according to load and route) | 0,8-1,0 bar (according to load and route) |
| Tire Inflation Pressure<br>On Road | 0,8-1,0 bar (according to load and route) | 0,8-1,0 bar (according to load and route) |
| <b>Miscellany</b>                  |   |   |
| Dry weight                         | 310 kg                                    | 310 kg                                    |
| Gas tank capacity                  | 24,6 l                                    | 20,8 l                                    |
| Reserve capacity                   | 2,46 l                                    | 2 l                                       |
| Differential capacity (front)      | 275 ml                                    | 275 ml                                    |
| Differential Lubricant             | SAE 80W-90                                | SAE 80W-90                                |

|                          |   |             |
|--------------------------|---|-------------|
| Rear drive volume        | 250 ml  | 250 ml      |
| Coolant volume           | 2,9 l   | 2,9 l       |
| Taillight / Brake light  | 12V/5W/21W  | 12V/5W/21W  |
| Engine oil capacity      | 2,5 l   | 2,5 l       |
| Gasoline                 | 87 Octane Regular Unleaded (EU: Regular Gasoline 91 oct.) |             |
| Engine oil (recommended) | SAE 10W-40  | SAE 10W-40  |
| Head light               | 12V/35W (2)   | 12V/35W (2) |
| Starting System          | Electric with Manual Recoil*                              |             |

\* according to equipment

## ***Technical Data ARCTIC CAT ATV 650 H1/650 H1 3in1***

| <b>Engine and Drive</b> | <b>650 H1</b>                                   | <b>650 H1 3in1</b>        |
|-------------------------|---|---------------------------|
| Type                    | Four-cycle/Liquid cooled                        | Four-cycle/Liquid cooled  |
| Bore x Stroke           | 97,9x85 mm                                      | 97,9x85 mm                |
| Displacement            | 641 ccm   | 641 ccm                   |
| Ignition type           | CDI   | CDI                       |
| Ignition timing         | 10° BTDC < 1500 turns/min                       | 10° BTDC < 1500 turns/min |
| Spark plug type         | NGK CR6E  | NGK CR6E                  |
| Spark plug gap          | 0,7-0,8 mm                                      | 0,7-0,8 mm                |
| Brake type              | Hydraulic service brake; mechanic parking brake |                           |
| Carburetor type         | Keihin CVK-40                                   | Keihin CVK-40             |

| <b>Chassis</b>                     |          |          |
|------------------------------------|----------|----------|
| Length (overall)                   | 210,8 cm | 244,5 cm |
| Height (overall)                   | 125 cm   | 125 cm   |
| Width (overall)                    | 120,7 cm | 120,7 cm |
| Suspension travel (front and rear) | 21 cm    | 21 cm    |
| Wheelbase                          | 127 cm   | 147 cm   |

|                                  | <b>650 H1</b>   | <b>650 H1 3in1</b>    |
|----------------------------------|---|-----------------------|
| Front Tire Size                  | 185-65-15 or 25x8-12                                      | 185-65-15 or 25x8-12  |
| Rear Tire Size                   | 205-60-15 or 25x11-12                                     | 205-60-15 or 25x11-12 |
| Tire Inflation Pressure On Road  | 0,8-1,0 bar (according to load and route)                 |                       |
| Tire Inflation Pressure Off Road | 0,8-1,0 bar (according to load and route)                 |                       |
| <b>Miscellany</b>                |   |                       |
| Dry weight                       | 348 kg  | 348 kg                |
| Gas tank capacity                | 24,6 l  | 20,8 l                |
| Reserve capacity                 | 2,46 l  | 2 l                   |
| Differential capacity (front)    | 275 ml  | 275 ml                |
| Differential Lubricant           | SAE 80W-90  |                       |
| Taillight / Brakelight           | 12V/5W/21W  |                       |
| Engine oil capacity              | 3,4 l   | 3,4 l                 |
| Rear drive volume                | 250 ml  | 250 ml                |
| Gasoline (recommended)           | 87 Octane Regular Unleaded (EU: Regular Gasoline 91 oct.) |                       |
| Engine oil (recommended)         | SAE 10W-40  |                       |
| Headlight                        | 12V/35W (2)   |                       |
| Starting System                  | Electric with Manual Recoil*                              |                       |

\* according to equipment



## Technical Data ARCTIC CAT ATV 700 Diesel

| Engine and Drive | 700 Diesel                                      |
|------------------|---|
| Type             | Four-cycle Diesel/Liquid cooling                |
| Bore x Stroke    | 75x77,6 mm                                      |
| Displacement     | 686 ccm   |
| Brake type       | Hydraulic service brake; mechanic parking brake |

| Chassis                            |   |
|------------------------------------|---|
| Length (overall)                   | 237 cm                                    |
| Height (overall)                   | 124,5 cm                                  |
| Width (overall)                    | 120 cm                                    |
| Suspension travel (front and rear) | 20 cm                                     |
| Wheelbase                          | 147 cm                                    |
| Front Tire Size                    | 25x8-12                                   |
| Rear Tire Size                     | 25x10-12                                  |
| Tire Inflation Pressure On Road    | 0,8-1,0 bar (according to load and route) |
| Tire Inflation Pressure Off Road   | 0,8-1,0 bar (according to load and route) |

| <b>Miscellany</b>             | <b>700 Diesel</b>       |
|-------------------------------|-------------------------|
| Dry weight                    | 374 kg                  |
| Gas tank capacity             | 20,8l                   |
| Reserve capacity              | 2 l                     |
| Differential capacity (front) | 275 ml                  |
| Differential Lubricant        | SAE 80W-90              |
| Taillight/Brake light         | 12V/5W/21W / 12V/8W/27W |
| Engine oil capacity           | 2 l                     |
| Rear drive capacity           | 250 ml                  |
| Gasoline (recommended)        | 42-50 Cetan             |
| Engine oil (recommended)      | SAE 10W-40              |
| Transmission oil              | SAE80W-90/600ml         |
| Head light                    | 12V/27W (2)             |
| Starting System               | Electric                |

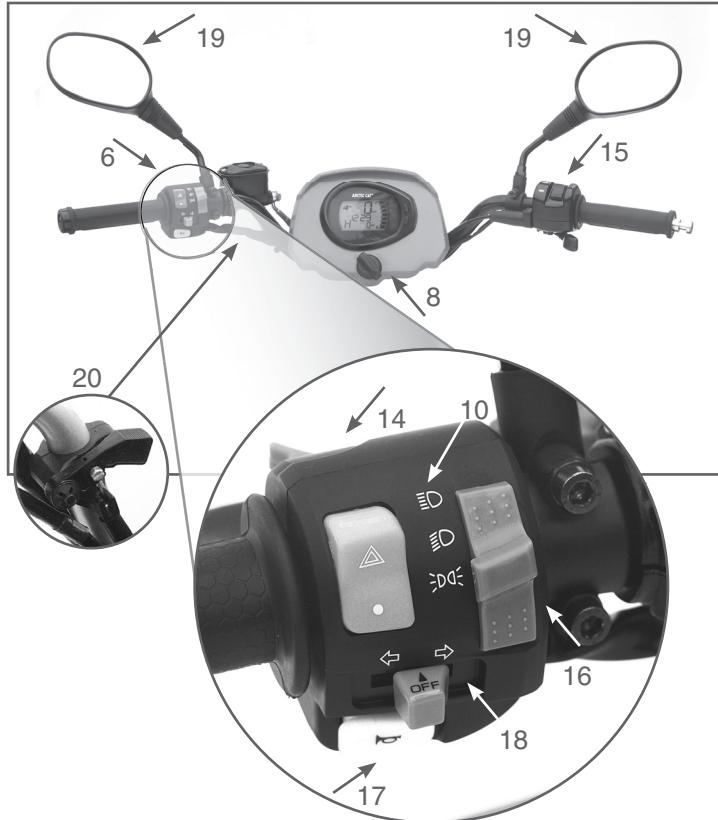
**Location of Parts and Controls Models 400 4x4/400 4x4 3in1/500 4x4/500 4x4 3in1/650 H1/  
650 H1 3in1**



Symbolic pictures

- 1. Battery (under the seat)
- 2. Headlight
- 4. Seat lock
- 5. Tool storage (under the seat)
- 9. Gearshift lever
- 11. Recoil starter
- 12. Taillight/Brake light/Registration number
- 13. Operator's Manual Location
- 21. Storage box

**Location of Parts and Controls Models 400 4x4/400 4x4 3in1/500 4x4/500 4x4 3in1/650 H1/650 H1 3in1/700 Diesel**



- 6.Hand brake lever and parking brake
- 8.Ignition switch
- 10.Hazard warning lights
- 14.E-Starter
- 15.Drive selector (Model 4x4)
- 16.Low beam / full beam
- 17.Horn
- 18.Blinker left side and right side
- 19.Mirror
- 20.Differential lock

**□ NOTE**

The ATV you have purchased may differ slightly from those shown in the figures of this manual.

**□ NOTE**

The engine is turned off with the ignition key.

## ***Operator's Manual***

### **Precautionary measures**

The more you familiarize with the operation of your vehicle, the better you can handle it.

Always wear protective clothing: Helmet, goggles, long-sleeved shirt, long pants and boots with low heels and a good tread which prevents you from slipping.

### **!! WARNING !!**

Beginning and inexperienced ATV riders should take a rider training course in occasion of which they obtain or reinforce riding skills and get to know some operating techniques. For further information please contact an authorized ARCTIC CAT dealer.

Check before starting

### **!! WARNING !!**

Always inspect this ATV each time you use it to make sure it is in safe operating conditions. Use the checklist you'll find at the next page.

### **Brake burnishing procedure:**

The service brake is activated by the foot pedal (according to directive 93/14A EC homologation) or via the left hand brake lever (both hydraulic). The right hand lever only activates the parking/auxiliary brake which must not be used as service brake.

### **!! IMPORTANT !!**

For perfect brake efficiency you have to burnish the brake pads.

To do so, please follow the instructions below:

Choose an area sufficiently large to safely accelerate your ATV to 30 km/h.

Accelerate to 30 km/h, then compress brake lever to decelerate to 0 – 5 km/h.

Repeat this procedure approx. 20 times until brakes are heated up.

When mounting the mirrors, please do not screw them in completely to the stop, but fix them first with the counter-nut. (Otherwise you risk to seriously damage the support!)

## ATV - Checkliste

### Steering system

Turn the handlebars completely to the right/left – there must be no resistance. All parts of the steering system must be properly fixed. No play is allowed and steering has to move freely.

### Brakes

Check the brake fluid level. Activate the service brake several times. Check levers for tightness and manoeuvrability. Test the parking brake: The wheels must lock when the parking brake is engaged. Check the brake linings for signs of wear.

### Tire pressure

Make sure that each tire has the right pressure. Check the state of the tires: tread (at least 1,6 mm for road tires/ at least 3mm for off-road tires).

### Fuel

Check the fuel level in the tank and the fuel pipes. Make sure that the filler cap is closed.

### Lights

Inspect all lights (full beam and low beam light).

### Engine oil

Check the oil level with the oil level stick (400/500) and, if necessary, fill some engine oil into the crank-case.

### Transmission oil

Check the oil level in the front differential (model 4x4) as well as in the rear differential (model 400/500).

### Throttle

Push the throttle control several times and check if it returns easily and rapidly into its original position (there should be some play).

### Gear linkage

Make sure that you can shift into all gears without problems.

Follow these steps to start up the engine:

1. Inspect the vehicle following the check list
2. Test the hydraulic brake system by pushing the pedal several times.
3. Engage the parking brake.

### !! WARNING !!

Never start the vehicle if the brake systems don't work properly (if the brake lever is loose, if there's not enough brake liquid or the parking brake does not lock the wheels). Your personal safety depends on the functionality of the brake systems. The parking brake may get loose, if it is activated for a longer period of time. Thus, block the

## Start up the engine

wheels with appropriate objects (stone, wedge).

1. Test the throttle control by pushing it several times. It must return immediately and completely into its original position.

### **!! WARNING !!**

If the throttle control doesn't work properly the vehicle should not be started.

1. Shift the transmission into neutral.
2. Rotate the ignition key to the O-position.

### **Starting a cold engine**

(400, 500, 650)

If the outdoor temperature is below + 5 °C

### **!! WARNING !!**

It is very important not to touch or compress the throttle lever during the starting procedures.

1. Only Diesel: Preheating

### **!! CAUTION !!**

Don't push the E-starter button longer than 30 seconds.

1. Push the E-starter button.

### **!! CAUTION !!**

If the temperature is –18°C or below, you should activate the carburetor pump three times.

### **!! CAUTION !!**

It is extremely important to warm up the engine before raising the RPM. The engine should be left in the idle position for at least 3 – 4 minutes before you accelerate more than half way. In case of extremely low temperatures, the

time needed for warming up increases. If you don't warm up the engine sufficiently, there could occur damages which are excluded of warranty.

### **Starting a warm engine**

Accelerate slightly and press the E-starter button.

### **Emergency starting**

All ATV models have an emergency recoil starter to use if the electric starter becomes inoperative. To use the recoil starter follow this procedure:

### **!! WARNING !!**

Be sure the transmission is in the neutral position, there is no gear inserted and the parking brake is engaged when using the emergency recoil starter.

1. Pull the recoil starter handle slowly until resistance is felt; then give a short, quick pull.
2. Repeat until the engine starts.

#### **!! WARNING !!**

When using the recoil starter, please keep exactly to the procedure mentioned above.

#### **!! 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.

#### **Turning off the engine**

To turn off the engine, rotate the ignition key to the OFF-position.

Bild: 400/500/



#### **Shifting** (Automatic transmission)

The ARCTIC CAT ATV with an automatic transmission has a dual-range transmission with reverse:

1. R (Reverse)
2. N (Neutral)
3. H (High Range)
4. L (Low Range)

To shift the ATV follow these steps:

1. To engage the high range from neutral, move the shift lever forward.
2. To engage the low range from high range, move the shift lever outward and forward.

## ***Braking***

### **!! WARNING !!**

The high range is for normal riding with light loads. The low range is for carrying heavy loads or trailer towing. Compared to HIGH range, the LOW range position provides slower speed and greater torque to the wheels.

3. To engage reverse gear from neutral, move the shift lever outward and rearward into the R position.

4 = L  
3 = H  
2 = N  
1 = R



### **!! CAUTION !!**

Always come to a complete stop before attempting to shift from one range to the other or into reverse. Always shift on level ground, or engage the parking brake before shifting into another range or into reverse.

### **Brake burnishing procedure**

The service brake is activated by the foot pedal (according to directive 93/14A EC homologation) or via the left hand brake lever (both hydraulic). The right hand lever only activates the parking/auxiliary brake which must not be used as service brake.

### **!! IMPORTANT !!**

For perfect brake efficiency you have to burnish the brake pads.

To do so, please follow the instructions below:

Choose an area sufficiently large to safely accelerate your ATV to 30 km/h.

Accelerate to 30 km/h, then compress brake lever to decelerate to 0 – 5 km/h.

Repeat this procedure approx. 20 times until brakes are heated up.

### **!! WARNING !!**

Please note that new brake pads have to be prepared. Don't put yourself into situations that require an immediate braking unless the brake pads are working properly (this may result in serious accidents!).

When using the hydraulic brakes, you must be familiar with the following points:

#### **□ NOTE**

Further information on how to maintain the hydraulic brake system can be found in the Service booklet.

The brake fluid is the most important part of the system. Keep an eye on the right level. If there's some kind of dirt in the brake system or the brake fluid, the fluid has to be changed. (Impurities in the brake fluid lower the boiling point).

1. Never „ride“ the brake. Even maintaining minimal pressure on the brake will cause the brake pads to drag on the disc.

2. The service brake is the main brake for the ATV.

3. In order to stop the vehicle, release the throttle control and push the brake pedal.

4. The left hand brake lever disposes of a detent used to block the whole hydraulic system. When using the detent, the wheels are blocked additionally.

#### **!! WARNING !!**

Excessive repetitive use of the hydraulic brake for high speed stops will cause overheating of the brake fluid and premature brake pad wear.

#### **!! WARNING !!**

Use only DOT 4 brake liquid. Don't use several types of brake liquids which may result in an unexpected loss of brakes. Before starting your ATV check the brake liquid level and the state of the brake pads.

#### **Parking**

Please observe the following points:

- After the ATV stops, shift into neutral.
- Turn off the engine.
- Try to park only on level surfaces. If you have to park on a hill, shift the ATV into low gear.
- Engage the mechanic parking brake. (right hand lever)



## General Information

### ATV-Identification numbers

The Arctic Cat ATV has two identification numbers: Vehicle Identification Number (VIN) and Engine Serial Number (ESN).

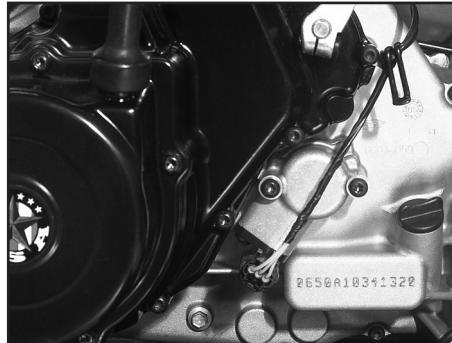
The Vehicle Identification Number is located on the frame support rail beneath the rear right-side fender.



The Engine Serial Number is located at the left-side of the recoil starter (500/650 H1).

With model 400, the engine number is located at the left upper side.

With model 700 Diesel, the engine number is located on the back of the engine block between engine and transmission.



Always provide the ATV name, Vehicle Identification Number and Engine Serial Number when contacting an authorized Arctic Cat ATV dealer for parts, service, accessories or warranty. If a complete engine must be replaced, ask the dealer to notify Arctic Cat for correct registration information.



## **Ignition switch key**

Two keys come with the ATV. Keep the spare key in a safe place. An identifying number is stamped on each key. Use this number when ordering a replacement key.

The same applies for the keys of the anti-theft device.



## Control locations and functions

### Ignition switch

The ignition switch has three positions:

**OFF**-Position: All electrical circuits except the accessory plug are off. The engine will not start. The key can be removed in this position.

#### NOTE

The accessory plug is powered by the battery at all times.

**ON**-Position (level 1): The ignition circuit is complete and the engine can run. The key cannot be removed in this position. The sidelight is on.

Only 700 Diesel: Preheating.

### !! CAUTION !!

Leaving the ignition switch in the **LIGHTS** position for a long period of time when the engine is not running may cause the battery to discharge. Always leave the ignition switch in the OFF position when engine is not running.

**Lights Position (level 2):** The ignition circuit is complete and the headlights and taillight are on. The key cannot be removed in this position.



### Speedometer/Indicator Lights

#### 1. Speedometer:

The speedometer shows approximate speed.

#### 2. Odometer: The odometer shows the total distance travelled.

#### 3. Trip Meter: The trip meter is an odometer which can be reset. It can be used to show the distance travelled on short trips or between gas stops.



4. High Beam Indicator: A blue light will illuminate when the lights are on high beam. The light will not be illuminated when the lights are switched to low beam.

5. Temperature Indicator: A red light will illuminate if the engine overheats (400/500/650 H1).

700 Diesel: The complete display extinguishes and only the „F“- lamp will flash.



**□ NOTE**

High engine RPM, low vehicle speed or heavy load can raise engine temperature. Decreasing engine RPM, reducing load and selecting an appropriate transmission gear can lower the temperature.

**□ NOTE**

Debris in front of the engine or packed between the oil cooler/radiator cooling fins can reduce cooling capability. Clean the engine and oil cooler/radiator to remove any debris preventing air flow.

6. Neutral Indicator: The „N“ indicator light will illuminate when the transmission is in neutral and the ignition switch is on. The light will go out when shifted into any gear other than neutral.

7. Reverse Indicator: An orange light will illuminate when the reverse gear is engaged. (500/650)

**!! CAUTION !!**

A continuous use of the ATV with low oil pressure can cause engine damage or a premature wear of the engine.

**!! WARNING !!**

A continuous use of the ATV with high oil temperature can cause engine damage or a premature wear of the engine.

## Drive Selector

The electrical drive selector allows the operator to operate the ATV in either 2-wheel-drive (rear wheels) or 4-wheel drive (all wheels). For normal riding on flat, dry, hard surfaces, 2-wheel drive should be sufficient. In situations of aggressive trail conditions, 4-wheel drive would be the desired choice. To either engage or disengage the front wheels, come to a complete stop; then push the 2WD/4WD switch located on the handlebars.



### !! CAUTION !!

Do not attempt to either engage or disengage the front differential while the ATV is moving.

## Parking brake

The parking brake should only be applied as an auxiliary brake. Whenever a braking situation is needed, use the service brake.



### !! WARNING !!

Always check to be sure that the parking brake has been disengaged before operating the ATV. An accident could result if the parking brake is left engaged while the ATV is operated. The brake may relax.

if left engaged for a long period of time.

Park the vehicle on a flat surface. If you can't do so, block the wheels and engage a low gear.

### Light switch

The light switch has 2 positions: low beam, high beam.

With position „ON“, the side lights are on. With position 2, low beam and high beam are on.



### Electric starter button

Pushing in on this button activates the starter motor. Before starting the engine, make sure the ignition switch is in the ON position, the transmission is in neutral, the reverse shift lever is in the forward position and the parking brake is engaged.



#### □ NOTE

This ATV has safety interlock switches which prevent the starter motor from activating when the transmission is not in neutral. When the transmission is shifted into neutral or into a gear, the models can be

started also when engaging the brake.

### Choke

The vehicle is equipped with an automatic choke.

### Throttle lever

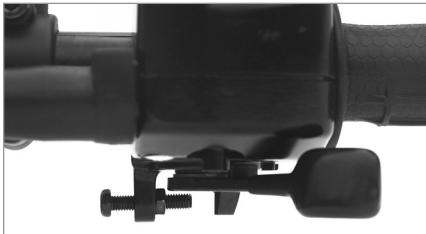
Control engine RPM with the position of the throttle lever. Operate this lever with the thumb. Pushing it forward increases engine RPM.



## Throttle Limiter Screw

Throttle lever travel may be limited by adjusting the throttle limiter screw. The throttle limiter should be adjusted according to the operator's skill and experience. To adjust the throttle limiter, use the following procedure:

1. Loosen the jam nut
2. Turn the throttle limiter screw clockwise to decrease engine RPM maximum or counter-clockwise to increase engine RPM maximum.
3. Tighten the jam nut securely.



## □ NOTE

The ATV is equipped with a CDI unit that retards ignition timing when maximum RPM is approached.

## Foot brake pedal (right side)

Pressing the foot brake pedal downward will apply the brake to the front and rear wheels.

## Hand brake lever (left side)

Compressing the brake lever will also apply the brake to the front and rear wheels.



## Parking brake lever (right side)

Will block the rear wheels.



## Filler Cap/Refuelling Indicator

Turn the filling cap counter clockwise. To close it turn the filler cap clockwise. The refuelling indicator informs you about the gas level.



### Oil level stick (Automatic transmission)

There is an oil level stick for checking the engine oil level. To check the oil level, use the following procedure:

#### NOTE

The vehicle should be on level ground when checking the engine

oil level.

1. Unscrew the oil level stick and wipe it with a clean cloth.
2. Install the oil level stick without threading it in.
3. Remove the oil level stick; the engine oil level should be above the „L“ mark but not higher than the „F“ mark.

### Seat Lock

1. To remove the seat, pull the seat lock lever (located in the middle on the rear of the seat) upwards. Raise the rear end of the seat.
2. To lock the seat into position, slide the front of the seat into the seat retainers and push down firmly on rear of the seat. The seat should automatically lock into position.

## Rack Loading Capacity

| Vehicle type                  | front | rear  |
|-------------------------------|-------|-------|
| 400/<br>500/650/<br>700Diesel | 45 kg | 90 kg |

#### NOTE

When loading the vehicle, respect the maximum permissible load of each vehicle!

#### **!! WARNING !!**

Make sure the loads on the front and rear racks will not interfere with the ATV controls or obstruct the view of the operator. Also, make sure the loads are evenly distributed, properly secured and will not shift while operating the ATV.

## Mirrors

Your vehicle is equipped with two mirrors, one on the left and one on the right side of the handlebars.



The mirrors are to be found on the vehicle.

### □ NOTE

When mounting the mirrors, please do not thread them in completely, but fix them with the counter-nut (in order not to damage the mirror mountings!)

### □ NOTE

The left mirror has a right-hand thread!

The right mirror has a left-hand thread!



## Trailering and towing

The trailer hitch is not standard equipment of the ATV. Please only use genuine ARCTIC CAT trailer hitch brackets. Make sure that the load in the trailer is evenly distributed and properly secured.

### !! WARNING !!

Do not overload the trailer and position the load well.



### !! WARNING !!

Never exceed any of the ATV weight restrictions.

Approximately 60 % of the cargo load must be located in front of the axle of the trailer. Spread the cargo in the trailer so the trailer tongue weight is approximately 10% of the trailer load. Never exceed the maximum trailer tongue weight.

When towing a trailer, always maintain slow speed, avoid sudden accelerations and stopping of the ATV. Allow more stopping distance than when not towing a trailer.

#### **!! WARNING !!**

Riding an ATV without extra caution when towing a trailer will be hazardous. Tow only at low speeds and never exceed second gear. Avoid sudden accelerations and stopping of the ATV. Do not make quick manoeuvres. Avoid uneven surfaces and do not tow an hills. Never carry passengers in a trailer unless the trailer is designed for such use and has a rigid tow bar. Allow more stopping distance.

#### **ATV-Transport**

When transporting the ATV use the following procedure:

Engage the parking brake and place the transmission in position L. Secure the ATV with load rated hold-down straps.

#### **□ NOTE**

Suitable hold-down straps are available from your Arctic Cat ATV dealer.



#### **!! CAUTION !!**

If using additional hold-down straps in any other area, care must be taken not to damage the ATV.

#### **!! CAUTION !!**

When transporting the ATV, make sure the parking brake is engaged, the transmission is in first gear and the ATV is properly secured.



## Gasoline /oil /lubricant

### Recommended gasoline

The recommended gasoline to use in gasoline vehicles: 91 octane (in EU) and for Diesel vehicles: 42-50 cetane.

### Recommended engine and transmission oil (except 700 Diesel)

The recommended oil to use in this ATV is an oil which is rated SE, SF or SG under API service classification. These oils meet all of the lubrication requirements of the Arctic Cat ATV engine. The recommended engine oil viscosity is SAE 10W-40. Ambient temperature should determine the correct weight of oil. See the viscosity chart or an authorized Arctic Cat ATV dealer for details.

### !! CAUTION !!

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

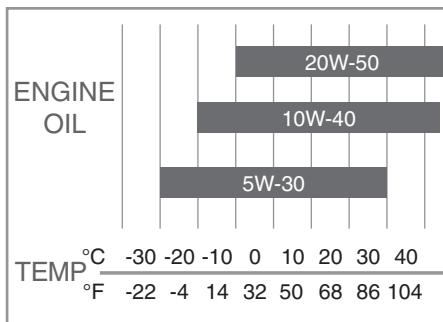
### !! CAUTION !!

You should change the engine and transmission oil of your ATV every 500km (and 1500 km later on). Please respect in this regard the maintenance schedule in your service booklet.

### 700 Diesel:

Engine oil: **SAE 10W-40**

Transmission oil: **80W90 Hypoid**



### □ NOTE

Arctic Cat recommends the use of

of genuine Arctic Cat lubricants.

### Recommended Differential Lubricant (4 x 4)

The recommended lubricant for the differential is SAE approved 80W-90 hypoid. This lubricant meets all of the lubrication requirements of the Arctic Cat ATV.

### !! CAUTION !!

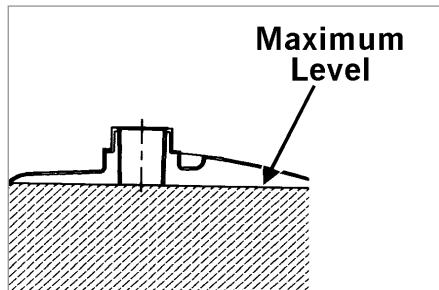
Any lubricant used in place of the recommended lubricant could cause serious differential damage.

## Filling Gas Tank

### **!! WARNING !!**

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

Since gasoline expands as its temperature increases, the gas tank must be filled to its rated capacity only.



Allow the engine to cool before filling the gas tank. Care must be taken not to overfill the tank. If overfilled, gas may leak onto the engine creating a fire hazard.

Tighten the gas tank cap securely after filing the tank.

### **!! WARNING !!**

Do not overfill the gas tank.

## **Break-in Procedure**

New ATV and renewed ATV engines require a „break-in“ period. The first month is most critical to the life of this ATV. Proper operation during this break-in period will help assure maximum life and performance from the ATV.

During the first 10 hours of operation, always use less than  $\frac{1}{2}$  throttle. Varying the engine RPM during the break-in period aids the engine/transmission component mating process. Although it is essential to place some stress on the engine components during break-in, care should be taken not to overload the engine too often. Do not pull a trailer during the break-in period.

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.

During the break-in period, you should not use more than  $\frac{1}{2}$  throttle. Short acceleration manoeuvres and riding at different velocities provide an optimum break-in of the engine.

During the break-in period you must also burnish brake pads (hydraulic brake) to achieve full braking effectiveness. To properly burnish the brakes, use the following procedure:

### **BRAKE BURNISHING PROCEDURE**

The service brake is activated by the foot pedal (according to directive 93/14A EC homologation) or via the left hand brake lever (both hydraulic). The right hand lever

only activates the parking/auxiliary brake which must not be used as service brake.

After the completion of the break-in period, the engine oil and oil filter should be changed. Other maintenance after break-in should include checking of all prescribed adjustments and tightening of all fasteners. Your Arctic Cat ATV dealer will be pleased to do this initial service.

## Air filter

The air filter (including the foam element) must be kept clean to provide good engine power, a low gas consumption and a long life of the engine.

If operated in dusty, wet or muddy conditions, inspect and service the filter more frequently than under normal conditions.

### !! CAUTION !!

Never use your ATV without air filter or foam element (danger of engine damage).

## Air Filter Housing Drain Tube

Periodically (weekly) check the drain tube for gasoline or oil accumulation.

### !! WARNING !!

If necessary drain the gasoline or oil into a suitable container.

## Shock absorbers

Each shock absorber should be visibly checked weekly for excessive fluid leakage, cracks or breaks in the lower case, or a bent shock rod. If any one of these conditions is detected, replacement is necessary. Contact your Arctic Cat ATV dealer.

### □ NOTE

When the ATV is operated in extremely cold weather (-23° C or colder), a small amount of leakage may be present. Unless the leakage is excessive, replacement is not necessary.

## Shock absorbers adjustment

(400/500/650/700 DIESEL)

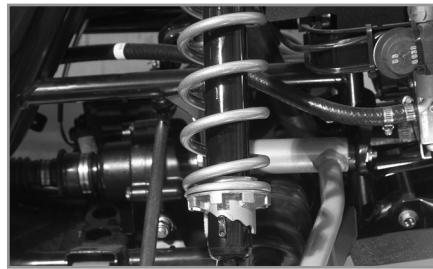
### !! CAUTION !!

Use a spanner wrench to adjust the sleeve to the desired position.

| Position | Spring Force | Setting | Load  |
|----------|--------------|---------|-------|
| 1        |              | Soft    | Light |
| 2        | ↓            |         |       |
| 3        | ↓            | ↔       |       |
| 4        | ↓            | ↔       | ↔     |
| 5        | Stronger     | Stiff   | Heavy |

**NOTE**

Please adjust the shock absorbers with the vehicle unladen.



## General maintenance

### **□ NOTE**

Proper maintenance of the ATV is important for optimum performance. Follow all given instructions.

If, at any time, abnormal noises, vibrations, or improper functioning of any component of this ATV is detected, DO NOT OPERATE THE ATV. Take the ATV to an authorized ARCTIC CAT ATV dealer for inspection and adjustment or repair.

### **□ NOTE**

The following instructions and information refer to specific items in the maintenance and care of the ATV.

### **General lubrication**

#### **Cables**

None of the cables require lubrication; however it is advisable to lubricate the ends of the cables periodically with a good cable lubricant.

### **Engine/Transmission Oil and Filter**

(400/500/650/700 Diesel)

Change the engine oil and oil filter at the scheduled intervals. The engine should always be warm when the oil is changed so the oil will drain easily and completely.

1. Park the ATV on level ground.
2. Remove the oil filler plug. Be careful not to allow contaminates to enter the opening.
3. Remove the drain plugs from the bottom of the engine and drain the oil into a drain pan.
4. Remove the oil filter plug from

the filter mounting boss (located on the front-right side of the transmission case) and allow the filter to drain completely.

4. Remove the old oil filter and dispose of properly. Do not re-use oil filter.
5. Apply oil to the new filter O-ring and check to make sure it is positioned correctly.; then install the new oil filter. Tighten securely.
6. Install the oil filter drain plug and tighten securely.
7. Install the oil filter drain plug and tighten securely.



8. Install the engine drain plug and tighten it securely. Pour the recommended oil into the filter hole. Install filter plug.
9. Start the engine and allow it to idle for a few minutes.
10. Turn the engine off and wait approximately one minute. Recheck the oil level.
11. Inspect the area around the drain plug and oil filter for leaks.

#### **Front Differential Lubricant (Model 4x4)**

Inspect and change the gear lubricant at the scheduled intervals. When changing the lubricant, use approved SAE 80 W-90 hypoid oil and use the following procedure:

1. Place the ATV on level ground.
2. Remove the oil filler plug.
3. Drain the oil into a drain pan after having removed the drain plug.
4. After all the oil has been drained, install the drain plug and tighten securely.

#### **!! CAUTION !!**

Inspect the oil for any signs of metal filings or water. If found, take the ATV to an authorized Arctic Cat ATV dealer for servicing.

1. Pour recommended oil into the filler hole (up to 2cm below the brim).
2. Install the filler plug.

## Brake pads

The clearance between the brake pads and brake discs is adjusted automatically as the brake pads wear. Check the thickness of each of the brake pads as follows:

1. Remove a front wheel.
2. Measure the thickness of each brake pad.
3. If thickness of either brake pad is less than 3,2 mm, have brake pads replaced. Install the wheel and tighten to 65 Nm.



## Hydraulic Brake

The hydraulic brake must be properly maintained to be fully functional.

1. Press the foot brake pedal or the hand brake at the handlebars respectively.
2. With the engine off, transmission in neutral and the reverse lever in the forward position, attempt to move the ATV.
3. If the front and the rear wheels are locked, it is adjusted properly.
4. If the wheels are not locked, it must be adjusted (set up).



## !! WARNING !!

Be sure to inspect the hydraulic brake system before each use. Always maintain brakes according to the maintenance schedule.

## Brake fluid

Check the brake fluid level in the brake fluid reservoir.

If the level in the reservoir is below the lower mark, add DOT 4 brake fluid.



### **!! CAUTION !!**

Be careful not to spill any fluid when filling the brake fluid reservoir. Wipe away spilled fluid immediately in order not to damage plastic parts.

### **!! CAUTION !!**

When the right-hand jam nut cannot be loosened, both brake pads must be replaced. Take the ATV to an authorized Arctic Cat ATV dealer for this service.

### **Protective Rubber Boots**

The protective boots should be inspected periodically.



### **Battery**

The battery of the models 400, 500 and 650 is located under the right rear fender. (700 Diesel: at the rear of the vehicle) The level of the battery fluid must be kept between the MAX and MIN level lines at all times. If the level drops below the MIN level line, add only distilled water until it reaches MAX level line.

### **!! WARNING !!**

When working on the battery, you have to be extremely careful in order to not get in contact with the battery acid.

If the battery is discharged, remove the battery from the ATV and charge the battery at the standard charging rate of 1,4 amps for 10 hours.

**!! WARNING !!**

Anytime service is performed on a battery, the following must be observed: Keep sparks, open flame, cigarettes or any other flame away. Always wear safety glasses. Protect skin and clothing when handling batteries. When servicing battery in enclosed space, keep the area well-ventilated.

To charge the battery, use the following procedure:

1. Remove the battery hold-down bracket.
2. Remove the negative battery cable; then remove the positive cable and the battery vent tube. Remove the battery.

**!! WARNING !!**

Avoid contact with skin and eyes.

**!! CAUTION !!**

Do not charge the battery while it is in the ATV with the battery terminals connected.

3. Remove the vent plugs; then (if necessary) fill the battery with distilled water to the MAX level indicated on the battery.
4. Charge the battery at 1,4 amps for 10 hours.

**!! CAUTION !!**

Never exceed the standard charging rate.

5. After charging, check fluid level and fill with distilled water as necessary; then install vent plugs.

**!! CAUTION !!**

Before installing the battery, make sure the ignition switch is in the OFF position.

6. Place the battery into position in the ATV and secure with the hold-down bracket.

7. Attach the vent tube and check the vent tube to make sure it is not crimped and that it is properly secured to the frame.

8. Clean the battery posts and cable ends.

9. Connect cables to the proper terminals. Connect the negative cable last.

**!! CAUTION !!**

Be sure to connect the positive cable to the positive terminal and the negative cable to the negative terminal!

## **Spark plug (except 700 Diesel)**

The ATV comes equipped with a specified spark plug (see technical data). A light brown insulator indicates that the plug is correct. A white or dark insulator indicates that the engine may need to be serviced or the carburetor may need to be adjusted. Take the ATV to an authorized Arctic Cat ATV dealer.

### **□ NOTE**

If the spark plug fails prematurely due to cold outside temperature, low speed or low RPM, please contact your Arctic Cat ATV dealer.

Before removing the spark plug, be sure to clean the area around the spark plug. If you do not, dirt could enter engine when removing or installing the spark plug.

Adjust the gap on the 400/500 and 650 to 0,7-0,8mm for proper ignition.

Use a feeler gauge to check the gap.

When installing the spark plug, be



sure to tighten it securely. A new spark plug should be tightened  $\frac{1}{2}$  turn once the washer contacts the cylinder head. A used plug should be tightened only  $\frac{1}{8}$  –  $\frac{1}{4}$  turn.

## **Engine Idle RPM Adjustment**

(except 700 Diesel)

To properly adjust the idle, a tachometer is necessary. If one is not available, take the ATV to an authorized Arctic Cat ATV dealer. (Diesel vehicles must always be taken to the dealer!)

To adjust idle RPM:

1. Start the engine and warm it up to normal operating temperature.
2. Turn the throttle stop screw in or out until the engine idles at the recommended RPM.

| <b>Engine idle RPM</b> |                     |
|------------------------|---------------------|
| 400                    | 1250-1350 turns/min |
| 500                    |                     |
| 650                    | 1050-1150 turns/min |



## !! WARNING !!

Adjust the idle to the correct RPM. Make sure the engine is at normal operating temperature before adjusting the idle RPM.

### Throttle cable adjustment

To adjust the throttle cable free-play:

1. Loosen the jam nut.
2. Slide the rubber boot away and turn the adjuster until the throttle lever has proper free-play of 2-4 mm.
3. Tighten the knurled nut against the throttle cable adjuster securely;

then slide the rubber boot over the adjuster.



### Carburettor Float Bowl

Periodically, the float bowl should be drained. Your Arctic Cat ATV dealer will do this service.

### Gas/Vent Hoses

Replace the gas hose every two years. Do not bend or obstruct the routing of the carburetor vent hose. Make certain that the vent hose is securely connected to the carburetor and hose holder and the opposite end is always open.

### Air filter

The air filter inside the air filter housing must be kept clean to provide good engine power. If the ATV is used under normal conditions, service the filter at the intervals specified. If operated in dusty, wet or muddy conditions, inspect and service the filter more frequently. The air filter is to be found under the storage box:

- Remove the two plastic rivets.
- Remove the storage box cover and slide the loose panelling element forward.



- Pull the storage box out
- Open the 4 clamps and remove the air filter cover.
- Remove the filter with the foam element.
- Separate the foam element from the filter and clean both parts with soapy water.
- Put the foam element in a plastic bag and pour in some air filter cleaning solvent; then work the solvent into the element.
- Slightly squeeze the element to remove excess solvent.
- When the element is dry, put it into the filter.

### **!! CAUTION !!**

Never put oil into the filter or the foam element.

- Place the foam around the air filter and install the filter into the air filter housing.
- Make sure that the air filter is properly seated in the housing.
- Install the cover and secure with the 4 clamps. Install the storage box.

### **Vent hose and air filter housing**

Periodically check the drain tube for gasoline, oil or dirt accumulation.



### **Diesel filter (only 700 Diesel)**

The vehicle is equipped with a highly efficient Diesel filter. The filter has to be changed periodically according to the Service manual or even more often, if the vehicle is also used in winter.

### **Draining V-Belt cover**

(Automatic transmission)

#### **□ NOTE**

If the ATV has been driven through water, the V-belt cover must be drained of any water.

To drain the belt cover, us the following procedure:

1. Place the ATV on a level surface.
2. Remove the drain bolt from the cover and allow the water to drain out.

3. Shift the range lever to the neutral position; then start the engine.
4. Accelerate several times to „blow out“ any water. Then stop the engine.
5. Install the drain bolt and tighten securely.

**□ NOTE**

The V-belt and clutches should be inspected periodically and the belt replaced (if necessary).



**Tires**

The ATV has low-pressure tubeless tires. Below you'll find a list with the right tire sizes. Always use the size

and type of tires as specified.

**!! WARNING !!**

Always use the size and type of tires as specified and maintain proper tire inflation pressure.

| Vehicle type   | front                | rear                  |
|----------------|----------------------|-----------------------|
| 400/500<br>650 | 185/65/15<br>25x8-12 | 205/60/15<br>25x11-12 |
| 700 Diesel     | 25x8-12              | 25x10-12              |

**Tire inflation pressure**

In the tool set supplied with your ATV you'll find a barometer to measure the tire inflation pressure. Always check tire pressure before starting your ATV.

**Tire Tread condition**

The use of worn-out tires on and ATV is very dangerous. A tire is considered to be worn out when the depth of the tread is less than 3mm for off road tires and less than 1,6mm for road tires.

Please observe legal regulations of your country!

Worn-out tires have to be replaced immediately!

| Type           | Pressure (all models)                     |      |
|----------------|---|------|
|                | front                                     | rear |
| Road tires     | 0,8-1,0 bar (according to load and route) |      |
| Off-road tires | 0,8-1,0 bar (according to load and route) |      |



## **!! WARNING !!**

The use of worn-out tires can be dangerous and can increase the risk of an accident.

### **Tire Replacement**

The ATV has low-pressure tubeless tires. Air is sealed by the contact surfaces of the inner wheel rim and the tire bead. If either the inner wheel rim or tire bead is damaged, air may leak. Be extremely careful not to damage these areas when replacing tires. If proper tools and related items are not available, have this maintenance performed

by an authorized Arctic Cat ATV dealer.

## **!! CAUTION !!**

When breaking the tire bead loose from the wheel, be extremely careful not to damage the inner wheel surface or the tire bead.

### Front/Rear Wheel Removal

- Park the ATV on level ground and engage the parking brake.
- Loosen the lug nuts.
- Elevate the ATV by placing a jack under the axle.
- Remove the wheel
- Install the wheel and install the lug nuts.
- Tighten the nuts to 65 Nm
- Remove the jack.

### **Headlight**

## **□ NOTE**

The bulb portion of the headlight is fragile. When replacing the headlight bulb, do not touch the glass portion of the bulb. If the glass is touched, it must be cleaned with a dry cloth.

To replace the headlight bulb, use the following procedure:

- Remove the sealing and the retainer.
- Retract the bulb housing from the retainer and remove the bulb.
- Install the new bulb .
- Install the bulb housing in reverse order.

## **!! CAUTION !!**

When replacing the headlight bulb, be careful not to touch the glass portion of the bulb. If the glass is touched, it must be cleaned with a dry cloth.

## Tail light

To replace the taillight/brake light bulb, use the following procedure:

1. Remove the two screws and remove the cover.
2. Grasp the bulb and turn it counter clockwise.
3. Install the new bulb by turning it clockwise while pushing in.
4. Install the cover.

## Adjusting Headlight Aim

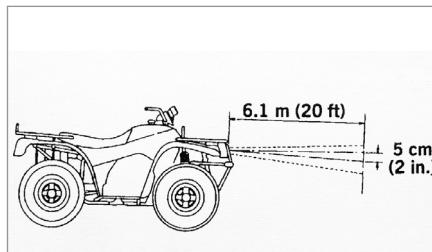
The headlights can be adjusted horizontally (high beam/low beam). The geometric centre of the HIGH beam light zone is to be used for vertical and horizontal aiming.

1. Position the ATV on a level floor so the headlights are approximately 6,1 m from an aiming surface (e.g. a wall).

### □ NOTE

There should be an average operating load on the ATV when adjusting the headlight aim.

2. Measure the distance from the floor to the mid-point of each headlight.
3. Using the measurements obtained in step 2, make horizontal marks on the aiming surface.
4. Make vertical marks which intersect the horizontal marks on the aiming surface.
5. Switch on the lights. **MAKE SURE THE HIGH BEAM IS ON.**
6. Observe each headlight beam



aim. Proper aim is when the most intense beam is centred on the vertical mark 5 cm below the horizontal marks on the aiming surface.

7. Adjust each headlight until correct aim is obtained.
8. Horizontal: Loosen the nut beside the sealing of the headlight retainer. Adjust proper aiming and tighten the nut securely.

## Fuses

At the models 400/500/650/700 the fuse box is to be found under the seat.



**□ NOTE**

To remove the fuse, compress the locking tabs on either side of the fuse case.

If there is any type of electrical system failure, always check the fuses first.

**!! CAUTION !!**

Always replace a blown fuse with a fuse of the same type and rating. If the new fuse blows after a short period of use, consult an authorized Arctic Cat ATV dealer immediately.

**Electrical Output Terminals**

(400/500/650/700 Diesel)

One output terminal for electrical accessories is located on the front wiring harness (less than 180 W).

**!! CAUTION !!**

Always use electrical accessories less than 180 W.

**Tools**

Under the seat of your ATV you'll find a basic tool kit. Maintain the tool kit with the ATV at all times.



## ***Preparation for storage***

### **!! CAUTION !!**

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

Arctic Cat recommends the following procedure to prepare the ATV for storage. An authorized Arctic Cat ATV dealer should perform this service; however the owner/operator may perform this service if desired:

1. Clean the seat cushion with a damp cloth.
2. Clean the ATV thoroughly by washing dirt, oil, grass and other foreign matter from the entire ATV. DO NOT get water into any part of the engine or air intake. Allow the ATV to dry thoroughly.
3. Either drain the gas tank or add a fuel stabilizer to the gas in the gas tank. Remove the air filter. Start the engine and allow it to idle.

Then using Arctic Cat Engine Preserver, rapidly inject the preserver into the air filter opening for a period of 10 to 20 seconds. Install the air filter.

### **!! CAUTION !!**

If the interior of the air filter housing is dirty, clean the area before starting the engine.

4. Drain the carburettor float bowl.
5. Plug the hole in the exhaust system with a clean cloth.
6. Apply light oil to the upper steering post bushing and plungers of the shock absorbers.
7. Take care that all screws, nuts and holding components are tightened properly.
8. Clean the ATV thoroughly.
9. Disconnect the battery cables (negative cable first); then remove the battery, clean the battery posts and cables and store in a clean

dry area.

10. If possible, store the ATV indoors.

### **!! CAUTION !!**

Avoid storing outside in direct sunlight and avoid using a plastic cover as moisture will collect on the ATV causing rusting.

## ***Preparation after storage***

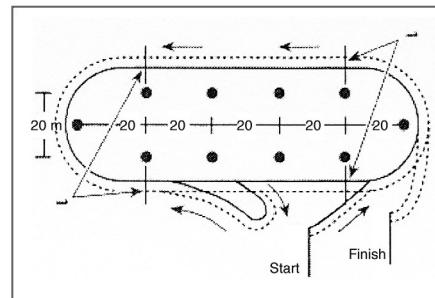
Taking the ATV out of storage and correctly preparing it will assure many kilometres and hours of trouble-free riding. Arctic Cat recommends the following procedure to prepare the ATV:

1. Clean the ATV thoroughly.
2. Clean the engine. Remove the cloth from the exhaust system.
3. Check all control wires and cables for signs of wear or fraying.
4. Change the engine/transmission oil and filter.
5. Charge the battery; then install. Connect the battery cables making sure to connect the positive cable first.
6. Check the entire brake system (fluid level, pads etc.), all controls, headlights, taillight, brake light and headlight aim.
7. Check the tire pressure.
8. Take care that all screws, nuts and holding components are tightened properly.
9. Make sure the steering moves freely and does not bind.
10. Check the spark plug. Clean or replace as necessary.

## For your safety

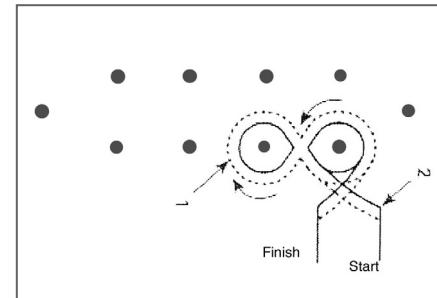
Let your dealer demonstrate you the operating and riding manoeuvres; then practice each manoeuvre. Learn the correct techniques.

Set up a riding course using traffic cones (approx. 6m wide by 30m long). Also, have a few posts or lumber (at least 10cm in diameter) to use as obstacles to climb over.



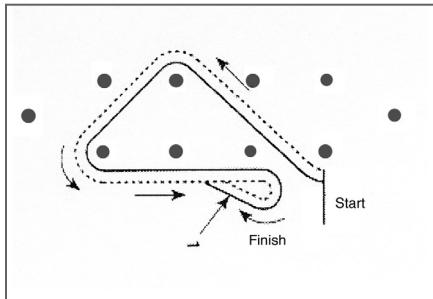
### 1) Starting & Stopping

- Once around clockwise and back around counter-clockwise
- Stop and start while riding around course (1)



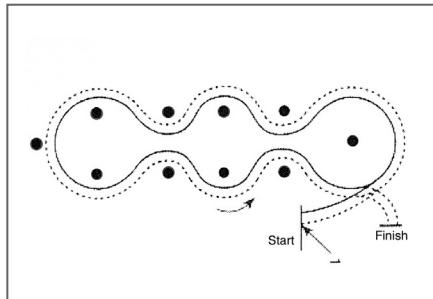
### 2) Turning Left & Right

- Figure 8 using two of the cones
- Three laps



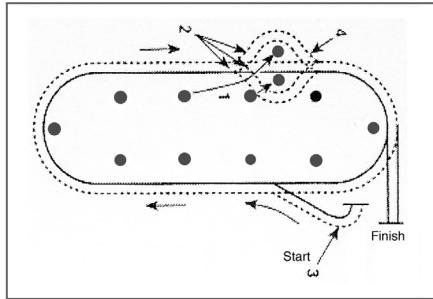
### 3) Sharp turns

- Turns of less than 90 degrees
- Two laps clockwise, three laps counter-clockwise



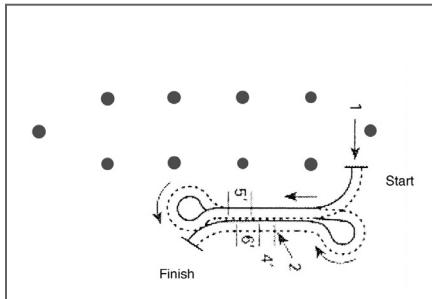
### 4) Slalom turns

- Turning in and out of the cones
- Three laps



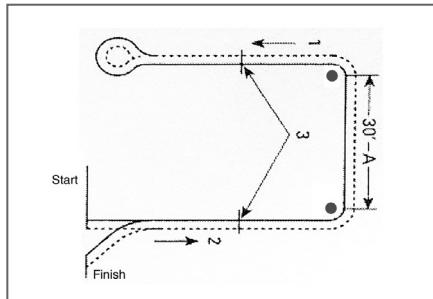
### 5) Quick turns

- Move two cones (1)
- Suddenly go left, right or straight (2)



#### 6) Crossing obstacles

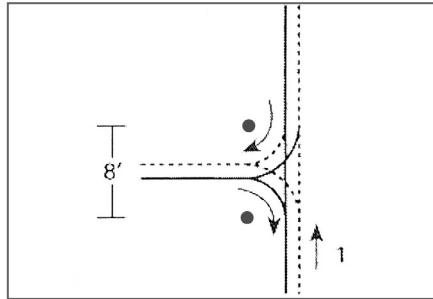
- Use posts or lumber at least 10cm in diameter (2)
- Cross once each with left, right and both wheels



#### 7) Traversing hills

- Up (2) and down (1) hill (slope less than 25 degrees)
- Stop, start (3) and traverse (A) on hill

Practice this manoeuvre on flat land if a hill is not available.



#### 8) K-turns & U-turns

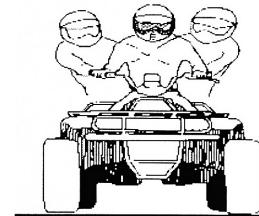
- Up and down hill
- U-turn on hill
- K-turn on hill

Practice this manoeuvre on flat land if a hill is not available.

## Active Riding

Active riding involves moving your body. You must learn to lean and shift your weight into your turns to maintain control.

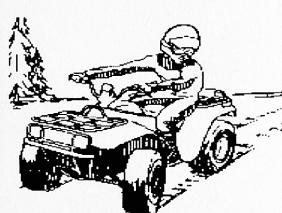
Statistics say that inexperienced riders are 13 times more likely to have an ATV accident than riders who have over 1 month of experience!



### Riding

Once the engine's warm, the ATV is ready to go. Please observe the following points:

Keep your feet on the footrests and both hands on the handlebar. Hold the brake lever and release the parking brake. Shift into first gear. Release the brake slowly and apply the throttle with your thumb.



### Leaning, weight shift and balance:

When you turn, the trick is to move forward and slide over to the side of the seat that's on the inside of the turn. Support your body weight on the inside of the footrest. At the same time, lean your body to the inside of the turn. Pay attention to the handling – if you feel the tires coming off the ground, reduce speed, shift more of your body weight to the side that's lifting and make the turn wider if possible.



## Wide Turns

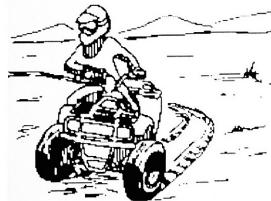
About 20 % of ATV accidents happen during turns. For this reason be extremely careful in such a situation.

Use this method for wide turns:

1. As you approach the turn, slow down.

2. Shift your body weight to the inside of the turn.

3. Gradually increase your speed as you come out of the turn.



## Sharp Turns

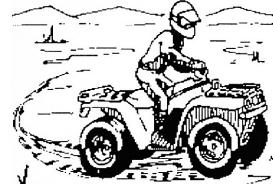
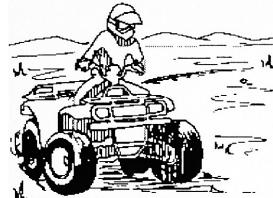
After mastering wide turns, practice the advanced skill of sharp turns. To make sharp turns, please observe the following steps:

1. As you approach the turn, slow down.
2. Shift your body weight to the inside of the turn.

3. You might have to lean into the turn more than you do in a wide turn.

4. If shifting your weight and balance aren't enough to keep the ATV tires on the ground, slow down and straighten out the handlebars as much as you can.

5. Gradually increase your speed as you come out of the turn.



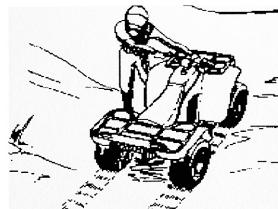
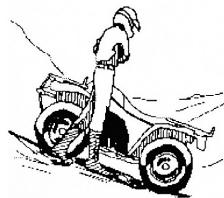
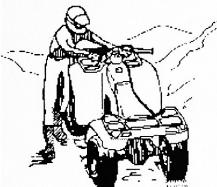
## Quick Turns

Quick turns are the most difficult turns and should only be done after you are experienced with your ATV.

1. As you approach the turn, slow down.
2. Turn the handlebars and shift your body weight to the inside of the turn.

3. Follow this with slight acceleration.

4. To make your turn quicker, try raising yourself off the seat a little bit as you shift your weight.

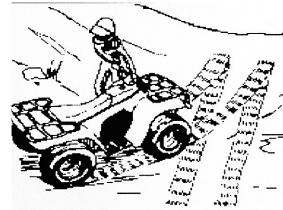


## K-Turns

Use K-turns if you accidentally stall while riding uphill.

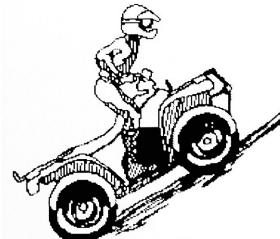
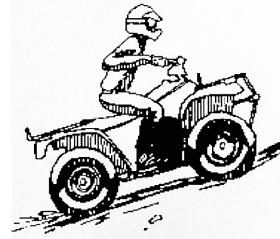
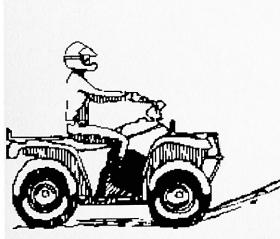
1. Stop where you are, apply the brakes and shift to neutral.
2. Shut off the engine.
3. Keep your body weight shifted forward.
4. Get off the ATV on the uphill side.

5. If you're to the left of the ATV, turn the handlebar all the way left.
6. Partially release the brake, but lightly hold the brake lever.
7. Let the ATV roll to your right side, until it faces slightly downhill.
8. Reapply the brakes.
9. Get back on the ATV from the uphill side and keep your weight



shifted uphill when you sit down.

10. Start the engine and follow the method for riding downhill.



## Riding uphill

Roughly 20 % of accidents happen while riding on hills as a result of incorrect behaviour. So, use extreme caution and follow this method for riding uphill:

1. Shift down and accelerate before you start climbing. Then maintain a steady pace.
2. Lean as far forward as possible. For steeper hills come off your seat to stand and lean forward.

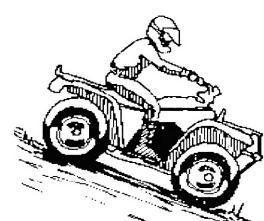
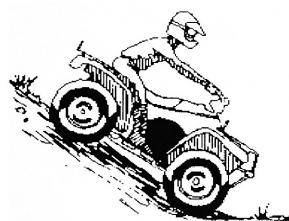
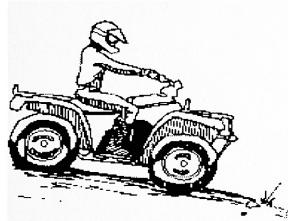
3. If you lose speed, quickly shift to a lower gear. At the same time, release the throttle so your front tires don't lift OR

4. If that doesn't work and the terrain permits, do a U-turn, go back down and try climbing again, OR

5. If you have lost all forward motion, follow the K-turn procedure.

### !! WARNING !!

Never climb hills with an angle of gradient higher than 25 %.

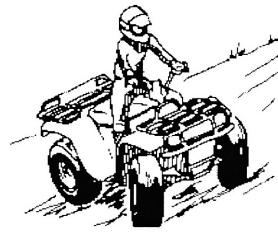
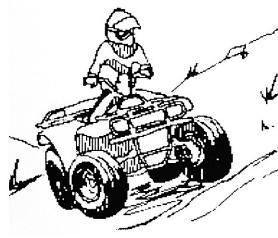


### Riding downhill

1. Shift your body weight as far back on the seat as possible.

2. Keep it in a low gear.

3. Lightly apply the brake and ease up on the throttle.



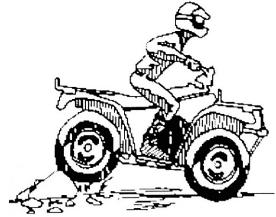
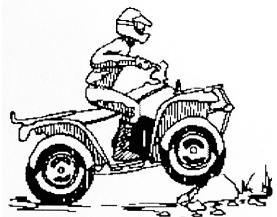
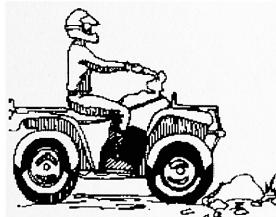
## Sidehilling/Traversing

Sidehilling is considered an advanced skill; it's really tricky and unpredictable. So, whether your skills are advanced or not, try to avoid this kind of riding. If you're in a situation where you absolutely have to sidehill, follow this method:

1. Keep your speed low and consistent.

2. Shift all your body weight to the uphill side of the seat; also, support your weight on the uphill footrest.

3. If the ATV feels like it's tipping, turn the handlebar downhill. If that's not possible because of the terrain or other conditions or if it just doesn't work, stop and get off. Dismount the ATV on the uphill side.



### Crossing obstacles

Crossing obstacles is risky. Avoid it if possible. Riding over logs and rocks means combining all the active riding skills into one big motion. These are general guidelines for overcoming obstacles:

- Keep your speed way down.
- Approach the obstacle head-on.
- Come up off the seat.
- Keep your weight on the footrests.

- Apply a little throttle when the front tires make contact with the obstacle.
- Lean forward and release the throttle when the front tires clear the obstacle.
- Keep your body loose to absorb any shock.

- If the ATV starts tipping, shift your weight to keep it in balance.

### **Skidding or Sliding**

If you lose control after hitting sand, ice, oil or water:

1. Turn your handlebar into the direction of the slide.
2. Keep your hand off the brakes until you're out of the skid.
3. Shift your weight forward.

### **Parking on a hill**

1. Keep it in gear.
2. Engage the parking brake.
3. Find something to block the rear tires (e.g. wedges).

### **Crossing water**

Your ATV can only handle water up to its footrests. Any more than that and you risk engine damage. Stay away from fast moving rivers.

Please observe the following:

1. Examine the depth of the water and check for hidden obstacles like logs or rocks.
2. Keep your speed slow.
3. Make sure you have a way out on the other side of the water.
4. If you get stuck in the mud, try rocking the ATV from side to side.
5. Once you've cleared the water, briefly apply the brakes to make sure they work.

### **Driving in cold weather**

#### **□ NOTE**

Check that all control levers move freely. Make sure that they are free of ice and snow.

#### **!! WARNING !!**

For your personal safety, it is very important to wear enough warm clothing.

1. With the transmission in neutral, move the ATV forward and backward to check that the wheels roll freely. If the ATV will not roll, the tires may be frozen to the ground or the brake pads may be frozen to the discs.
2. If the tires are frozen to the ground, pour warm water around them to melt the ice.

**!! CAUTION !!**

Before riding, manually move the ATV forward and backward to make certain that all wheels roll freely.

1. If the brakes are frozen, take the ATV to a warmer area to thaw out the brakes.

**!! WARNING !!**

Never attempt to free frozen brakes by pouring warm water on the brake pads and housings!

 **NOTE**

After the brakes thaw, dry them by applying them several times while riding slowly.

 **NOTE**

After riding through water, mud and snow, it is important to dry both brake systems before parking the ATV.

**!! WARNING !!**

Go slowly and be extra careful, when riding on snow-covered or ice-covered terrain. Always be alert to changing terrain conditions when operating the ATV!

2. Practice driving in an open snow-covered or ice-covered area before driving on ice-covered trails.
3. Learn how the ATV responds to steering and braking on an ice-covered terrain.

## FAQ's

## Troubleshooting

### Problem

- Your vehicle cannot be started.
- You cannot shift into reverse gear and/or you hear a roaring noise.
- The lights ( horn, blinker,... ) do not work.
- The engine stalls
- You cannot switch from 2WD to 4WD.

### Solution

- ✓ Is the battery attached or does it have to be recharged (for ex after a longer standstill)?
- ✓ Bring the gear lever into position „N“, or activate the hand brake lever when you have shifted into a gear.
- ✓ Was the vehicle stopped completely before shifting?
- ✓ Is the ignition key in the correct position?  
✓ Examine the fuses in the fuse box.
- ✓ Is the idling speed to low?
- ✓ Did you activate the differential lock?  
✓ Move your ATV slightly forward and back.

## FAQ's

### Problem

- The speedometer does not indicate the correct speed
- Starting from a height of 1500m your vehicle may not have full output any more.
- Can you use a high pressure cleaner for cleaning your vehicle?
- What is important when purchasing accessories?

### Solution

- ✓ Did you pay attention to the unit in which speed is indicated (km/h or mph )?
- ✓ Are magnets and sensors properly attached to your vehicle?
- ✓ Change the main jets of the carburetor (400/500/650)
- ✓ Generally yes. But do not direct the jet towards electrical parts (lights, fuses,...)
- ✓ Is it genuine Arctic Cat™ accessory?
- ✓ Was it built in by an authorized Arctic Cat™ dealer?
- ✓ Please also respect the legal regulations in your country.

#### NOTE

If you cannot remedy these problems with the suggested solutions and/or if there should arise other problems, please contact your Arctic Cat-dealer.

## ***Warranty***

Arctic Cat extends legal warranty on each new Arctic Cat ATV and each part and accessory manufactured or sold by Arctic Cat. Warranty claims can be made only for parts and accessories sold by an authorized Arctic Cat ATV dealer. Warranty is extended to the original retail purchaser; however, against a fee of EUR 25,- the balance of the unused warranty may be transferred to a second party.

Warranty claims become invalid when there are other than the genuine Arctic Cat parts used. Arctic Cat does not assume any liability for consequential damages.

Arctic Cat assumes the costs for all parts that are found to be warrantable. The repair work MUST be done by an authorized Arctic Cat ATV dealer. No transportation or rental charges (for rented vehicles)

will be paid by Arctic Cat. The warranty is validated upon examination of said parts by Arctic Cat or an authorized Arctic Cat ATV dealer. Arctic Cat reserves the right to inspect such parts at its factory.

### **The warranty periods are as follows:**

1. 24 months from date of sale – for ATVs.
2. 6 months from date of sale – for batteries.
3. 30 days from date of sale for all parts and accessories.

### **Excluded from this warranty are:**

- Defects due to abuse of the vehicle or spare parts and accessories
- Parts subject to normal wear:

### **The following will VOID warranty:**

- Failure to perform the proper break-in procedure and all related maintenance and storage procedures.
- Repair by anyone other than an authorized Arctic Cat ATV dealer.
- Improper use.
- Use of improper carburetor jets and other accessories.
- Use of improper gasoline, lubricating oils or spark plug.
- An accident or subjecting the ATV to misuse, abuse or negligent operation.
- Modification or removal of parts (e.g. muffler, carburettor boot etc.) unless instructed to do so by Arctic Cat.
- Use of the ATV in any way for racing purposes.
- Removal of the engine for use in another vehicle.

- Removal or mutilation of the Chassis or Engine Number.
- Use of parts not sold by Arctic Cat.
- Damage due to improper transportation.
- Failure to perform the prescribed service (1. Service after 500 km, 2. Service after 1500 km, 3. Service after 5000 km, afterwards every 5000 km or after 1 year respectively, it depends on what comes first).
- Inappropriate modifications not expressly authorized by the manufacturer.

In consideration of the foregoing any warranty claim is limited in duration to the various warranty periods set forth.

## **Warranty claims**

At the time of purchase of a new ATV you get a registration card which you have to fill out and send to Arctic Cat AG, Industriestraße 43, 5600 ST. Johann/Pg., Austria. One copy remains with your Arctic Cat ATV dealer.

Apart from that the customer receives a vehicle registration certificate which has to be presented in occasion of each warranty claim.

Only an authorized Arctic Cat ATV dealer has the right to perform warranty repair work.

If a warrantable condition appears to exist, the Arctic Cat ATV dealer examines the ATV and will repair or replace, free of charge all damaged parts. The customer is then asked to sign a warranty form to ensure that warranty work (repair or replacement of the warrantable

part respectively) was actually performed.

It's the owner's responsibility to maintain and service the ATV in accordance with Arctic Cat's recommendations in the Operator's Manual.

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 ATV dealer.

## **Change of address / ownership or warranty transfer**

Arctic Cat keeps on file the current address of the owner of this ATV. This will allow Arctic Cat to reach the current owner with any important safety information. For this reason we ask you to inform Arctic Cat immediately if you move or if the ATV is sold to another party. Please fill out this form completely and send it to Arctic Cat, Industriestraße 43, 5600 ST. Johann/Pg., Austria.

This form may also be used to transfer the unused portion of the original warranty to a second party: Fill out this form completely and send it to Arctic Cat enclosing a copy of the vehicle registration certificate and an account-only cheque of the amount of EUR 25,-.

Arctic Cat will then process the application and issue a new vehicle certificate for the remaining period of the warranty claim.

***Address change***

***Warranty transfer***

***Ownership change***

***Change of address/ownership/  
warranty transfer to:***

***Name:*** \_\_\_\_\_

***Address:*** \_\_\_\_\_

***Construction year  
& Model:*** \_\_\_\_\_

***Chassis Nr.:*** \_\_\_\_\_

## Notes

## Notes

## Notes

## Notes

## ***Notes***

**Note:**

All vehicle features in this booklet refer to the basic variation. Further equipment and options are to be found in the price list.

**NOTE**

Some of the information in this booklet may not be up-to-date due to changes performed since printing. The models shown in the pictures contain, in part, special equipment. Please ask your ATV dealer for the newest information before placing an order. The producer reserves the right to make price, colour, material, specification and model changes without notice.

Errors and omissions excepted!



