



Aurora 800 8x8

Aurora 800 SX 8x8

Aurora 800 SX Huntmaster 8x8

Aurora 800 Limited 8x8

Aurora 950 SX 8x8

OPERATOR'S MANUAL

*Do not remove this
manual from this vehicle.*

Safety!
...always in Season!

A MESSAGE FROM THE PEOPLE WHO BUILT YOUR ARGO

Thank you for selecting an **ARGO** amphibious, off-road utility vehicle!

Ontario Drive & Gear Limited has been building **ARGO** vehicles since 1967. By listening carefully to our customers and responding to their needs, we have been constantly improving the **ARGO** and will continue to do so.

Over thirty thousand **ARGO** vehicles have provided reliable service all over the world. From Britain to the Far East, Alaska to the Antarctic, and from the tropical forests of South America to the deserts of Saudi Arabia. We are proud to provide you with a vehicle that represents the ultimate in amphibious, all-terrain transportation.

Your safety and the safety of all **ARGO** users is of the greatest concern to us. You will find numerous safety statements in this manual. Please read and follow them carefully. Always be safety conscious when you operate your **ARGO** and remember it is a motorized vehicle.

The **ARGO** is easy to drive and you will soon be tempted to take on new challenges. Please take the time to develop your driving skills before doing so. Observe the recommendations outlined in this Operator's Manual and remember; some things are just impossible, even with an **ARGO**.

WELCOME TO THE WORLD WIDE ARGO FAMILY!



NOTE

Read this manual *before* you operate your ARGO. It contains safe operating instructions and warns the user about potential hazards that can result in personal injury.

Warnings are identified in the text by the following symbol:



Warning text warns the user about potential hazards that can result in personal injury or death.

Cautions are identified in the text by the following symbol:



Caution text contains cautions that can prevent damage to the vehicle.

This manual is based on the latest product information available at the time of printing. Ontario Drive & Gear Limited reserves the right to make changes at any time and without obligation.

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PREFACE

This manual describes the controls, operation and basic maintenance procedures for all HDi, HD, AVENGER and FRONTIER models of the ARGO from date of printing. Please take the time to read this manual carefully, for your safety and that of others. By following these instructions, you will ensure extended, trouble free operation of your vehicle.

For maintenance and adjustment of the engine, refer to the engine manufacturer's operation and maintenance manual included in your vehicle's information package.

Before you drive your ARGO, make sure you understand how to use all controls, particularly the brakes and steering system. Learn how to drive your vehicle in an open level area, away from buildings, trees and other obstacles, until you are completely familiar with its operating characteristics. Drive very slowly until your driving skills improve, and drive with caution and consideration at all times. The risk of accident or injury is greatest during the first weeks of use. Take special care during this period. ALWAYS RESPECT OUR ENVIRONMENT.

CAUTION TO THE ARGO OWNER/OPERATOR

- Make sure everyone who drives this vehicle receives proper operating instructions and reads this Operator's Manual.
- No one under the age of 16 should be allowed to operate the ARGO. Children under the age of 16 may not have the skills, abilities or judgement needed to operate the ARGO safely and may be involved in an accident causing severe injury or death.
- Never allow anyone under the influence of alcohol or any other intoxicating substance to drive or ride in the vehicle.
- Wear an approved safety helmet and eye protection when driving or riding in the vehicle.
- Special operating and safety procedures described in this manual must be observed before and during water operation as outlined in Section 5.
- When operating your vehicle for extended periods of time, we recommend the use of approved hearing protection.
- Equip your vehicle with a fire extinguisher and a first aid kit.
- Equip your vehicle with basic tools for emergency repairs.
- Before starting your engine, check for spilled gasoline and wipe any up immediately. Gasoline is a potentially explosive substance that can cause serious personal injury when ignited.
- Keep the floor pans secured in place at all times. Fingers, feet, animal tails or paws can be injured in the drive components beneath the floor pans. The floor pans also help keep damaging debris out of the drive components.
- Make sure all passengers remain seated while the vehicle is in motion. Advise your passengers to hold onto the vehicle at all times.
- Never overload your vehicle. Trying to steer an overloaded vehicle can overheat the brakes. This will lead to brake fade which means loss of steering control and the ability to stop the vehicle. Overloading your vehicle can lead to premature brake system failures and costly damage to drive chains, axles or bearings. Follow the recommended load capacity for your vehicle listed in Section 1.
- Do not drive the vehicle at high speeds over unfamiliar or rough terrain. Personal injury or vehicle damage may result.
- Certain terrain and steep hills cannot be traversed safely with the ARGO or any other vehicle. Do not attempt to drive over terrain that is questionable.
- Avoid driving your vehicle on asphalt or concrete roadways when possible. When the vehicle turns, its tires skid on the driving surface. Asphalt or concrete causes extensive tire wear.
- Use common sense at all times when driving your vehicle.

IMPORTANT

Operate this vehicle with safety constantly in mind. Off-road vehicles face unpredictable and often hazardous terrain conditions. It is ultimately the operator's responsibility to handle the vehicle safely within its limitations and to decide when and where to travel.

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SECTION 1 GENERAL INFORMATION

1.1 AMPHIBIOUS OPERATION

All models of the ARGO are amphibious and capable of traversing calm water. Special operating procedures and safety precautions must be observed before entering the water and during amphibious operation. Do not drive your vehicle into water until you have read Section 5.6 Amphibious Operation.

Operators with disabilities need to take certain precautions in the interest of their own safety. Refer to Section 2.4 of this manual for more details.

1.2 MAINTENANCE PROCEDURES

Maintenance procedures described in this manual can be carried out by the operator. These procedures include:

1. checking fluid levels
2. changing the engine and transmission oil
3. cleaning and replacing filters
4. preventative maintenance
5. inspections, adjustments, repairs and trouble-shooting

If you perform your own maintenance, carefully follow the lubrication and preventative maintenance schedule (Section 7.5). By following this schedule, you will receive trouble free, long term service from your vehicle.

Your Argo dealer will perform regular maintenance and lubrication for a reasonable service charge.

The trouble-shooting chart (Section 8) contains information for locating and correcting mechanical problems. In many cases, potential problems can be identified by unusual noises, sluggishness or vibration, before they result in a breakdown. Refer to the chart to identify these symptoms. Take immediate corrective action or take the vehicle to an Argo dealer for service.

This manual does not provide detailed maintenance or servicing information for the engine. Refer to the engine manufacturer's manual (supplied with each Argo) for important warranty, service and operating information.

If the engine requires servicing, take the vehicle to an authorized engine service outlet.

1.3 WIND CHILL FACTOR

Why does it feel much colder outdoors on a windy day than when there's no wind, especially in winter?

The cooling effect of the wind makes it feel that it's colder than it really is. This combined effect of wind and low temperature is known as the "wind chill factor".

Argo operators should be aware of the wind chill factor. Dress warmly and make sure exposed skin is protected. Pay particular attention that young passengers are properly "bundled up" with their hands and faces well protected.

WIND CHILL									
Wind Speed									
km/h	8	16	24	32	40	48	56	64	
Actual Temp.(C)									Gradually
0	-2	-8	-11	-14	-16	-17	-19	-19	Increasing
-5	-7	-14	-18	-21	-23	-25	-26	-27	Danger
-10	-12	-20	-25	-28	-31	-33	-34	-35	Dangerous
-15	-18	-26	-32	-35	-38	-40	-42	-43	
-20	-23	-32	-38	-43	-46	-48	-50	-51	
-25	-28	-38	-45	-50	-53	-56	-57	-59	Extremely
-30	-33	-45	-52	-57	-61	-63	-65	-67	Dangerous
-35	-39	-51	-59	-64	-68	-71	-73	-75	
-40	-44	-57	-65	-71	-75	-79	-81	-83	
-45	-49	-63	-72	-78	-83	-86	-89	-90	
-50	-54	-69	-79	-85	-90	-94	-96	-98	

1.4 LEGEND FOR OPERATOR'S MANUAL

Below are some icons you will find throughout this manual. These icons will indicate that the information is relevant only for vehicles with that feature.



Admiral Transmission (34-200 configuration)













Liquid Cooled



Air Cooled

SECTION 1 GENERAL INFORMATION

Argo produces and manufactures several Aurora Models. They are listed in the table below with their corresponding transmission, engine type and horse power.

Vehicle	Transmission Option	Engine Type	H.P.
Aurora 800 8x8			30HP
Aurora 800 Huntmaster			30hp
Aurora 800 SX 8x8			30HP
Aurora 800 Limited 8x8			30HP
Aurora 950 SX 8x8			40HP

SECTION 1 GENERAL INFORMATION

4 Wheel Trailer

Load Capacity: 270 kg (600 lbs.)
Trailer Weight: 181 kg (400 lbs.) with 25" tires, 156 kg (345 lbs.) with 24" tires

8 Wheel Trailer

Load Capacity: 590 kg (1300 lbs.) with 25" tires, 635 kg (1405 lbs.) with 24" tires*
Trailer Weight: 318 kg (700 lbs.) with 25" tires, 270 kg (595 lbs.) with 24" tires
Gross Vehicle Rating: 907 kg (2000 lbs.) on land
817 kg (1800 lbs.) on water

* Load capacity equals gross weight rating minus the weight of the trailer and accessories.

WARNING

Do NOT use an Argo on water when equipped with a snow plow. The increased weight of the snow plow out front will make the Argo unstable and could cause the vehicle to capsize, causing injury or drowning to the driver and passengers.

1.4.1 Argo Vehicle Capacity

CAUTION

Vehicle capacity includes occupants, cargo, fuel, and all additional accessories. Capacity for occupants and cargo is reduced by the weight of accessories as shown in the following chart.

Some models come with accessories included. Available vehicle capacity must be reduced if your vehicle is equipped with any additional accessories. Reduce the available capacity by the total weight of additional accessories fitted to your vehicle.

WARNING

Load capacity on water is reduced by 100lbs. if your 8x8 Argo is equipped with optional smaller 24x10.00-8 tires when the standard spec would include 25x12.00-9. The reduced buoyancy could cause the Argo to become swamped and sink, causing injury or drowning to the driver and passengers.

Accessory On Vehicle	Reduce By	
	On Land	On Water
Regular Tracks 6x6	135 lbs. (60 kg)	85 lbs. (40 kg)
Regular Tracks 8x8	175 (80)	110 (50)
Supertracks 6x6	145 (65)	90 (40)
Supertracks 8x8	210 (95)	135 (60)
Rubber Track 8x8	295 (135)	175 (80)
Rubber Track 6x6	230 (105)	150 (68)
Winch Kit	30 (6.8)	50 (23)
Brush Guard	15 (5)	11 (5)
Windshield	33 (15)	33 (15)
Roll Bar 6x6	50 (23)	50 (23)
ROPS 6x6	130 (60)	SEE WARNING
ROPS 8x8	155 (70)	155 (70)
Half Top	16 (7)	16 (7)
Full Top 8x8	27 (12)	27 (12)
Full Top 6x6	22 (10)	22 (10)
Snow Plow	190 (85)	SEE WARNING
Dump Box	100 (45)	500 (225)
Rear Bench Seat	34 (15)	34 (15)

SECTION 1 GENERAL INFORMATION

1.5 REAR SEATS - 8 WHEEL MODELS

Aurora 8 wheel models are fitted with a “quick-release” rear bench seat.

Removal

1. Standing at the rear of the bench seat, pull back on the left and right side release pins allowing the seat to pop up. Figure 1-5 & 1-6
2. Tilt the seat forward slightly.
3. Lift up and out of the vehicle.

Installation

1. With the rear bench seat tilted forward, align and attach the front seat pins first to the lower bench seat frame.
2. Lower the back end of the seat. Click and lock pins into slots at the rear of the seat bracket securely.



Figure 1-5. Release latches, tilt seat forward

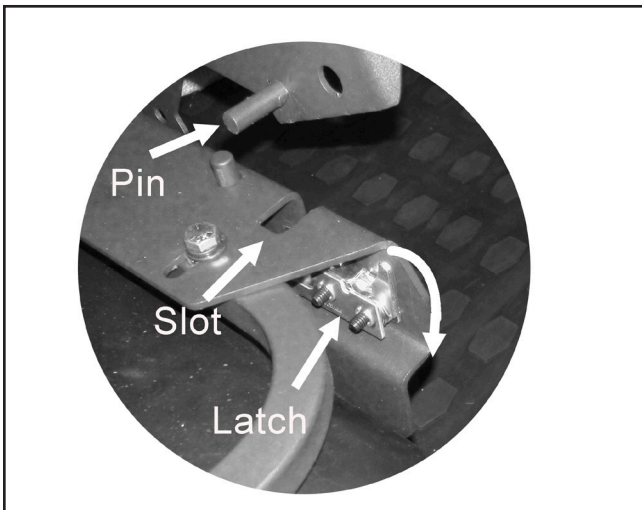


Figure 1-6 Pull back latch (left & right side of seat)

! CAUTION

Always ensure that the spring loaded pull pin on each side is fully engaged after installing the seat. Pull the seat hard to ensure that it is secured properly. Never attach a tow line to the handrail of the seat back rest.

When a roll over protection structure (ROPS) is installed, seat belts must be installed for rear bench seat passengers and used properly.

SECTION 1 GENERAL INFORMATION

1.6 Aurora 8x8 VEHICLE MATRIX

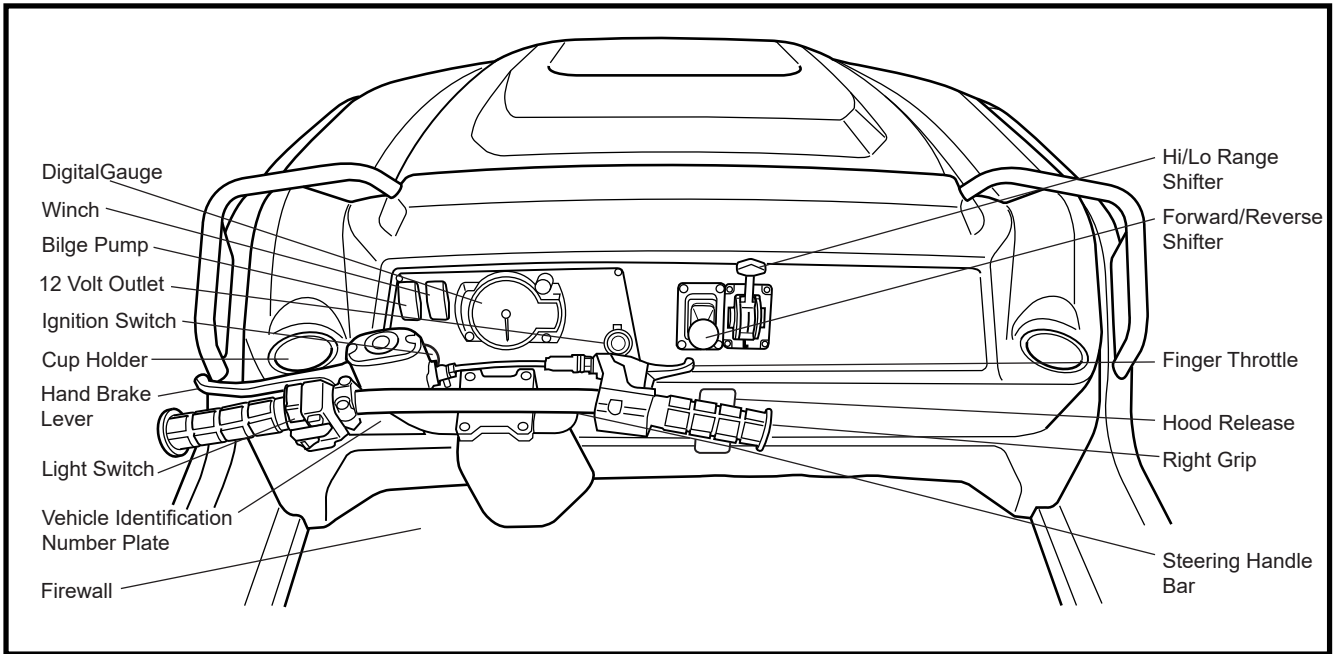
Model		Aurora 800	Aurora 800 SX	Aurora 800 Hunt Master	Aurora 800 Limited	Aurora 950 SX
Engine		Kohler (30 hp) EFI V-twin 4 cycle, liquid cooled				Briggs 40HP Twin EFI fan cooled
Transmission		(ADMIRAL) Forward, neutral and reverse with high/low range				
Clutch		Belt-driven, Continuously Variable Transmission (CVT) maximizes engine power to the transmission				
Fuel Capacity		27 L (7.1 U.S Gal.)				
Steering/Brakes		Argo Progressive Steering (APS) Hydraulic steering disc brakes with hydraulic disc stopping brakes				
Drive Chains		Double RC 50 & Single RC 60 Roller chain				
Electrical		12 volt D.C. battery, 400 cold cranking amps at 0 F; 25 Amp charging system, electronic ignition				
Speed		Land - 32 km/h (20 mph)* Water - 5 km/h (3 mph)				
Load Capacity	Land	1010 lbs (479 kg)	925lbs (422 kg)	925lbs (422 kg)	950lbs (433 kg)	TBD
	Water	710 lbs (411 kg)	625lbs (354 kg)	625lbs (354 kg)	650lbs (365 kg)	TBD
Seating Capacity	Land	4 persons				
	Water	4 persons				
Shipping Weight		1540 lbs (610 kg)	1625 lbs (667 kg)	1625lbs (667 kg)	1600 lbs (655 kg)	TBD
Accessory						
Brake Cooling		Optional	Optional	Optional	Optional	Optional
Brake lights		Yes	Yes	Yes	Yes	Yes
Brushguard		No	STD	STD	STD	STD
Drive Belt		127-137HD	127-137HD	127-137HD	127-137HD	127-159HD
Tires		25"XT	25"XT	25"XT	25"XT	25"XT
Rims		Steel Offset	Steel Bead Lock	Steel Bead Lock	Aluminum Bead Lock	Steel Bead Lock
Winch		No	STD 3500 lbs.	STD 3500 lbs.	STD 3500 lbs.	STD 3500 lbs.
Alternator Output		40 AMPS	40 AMPS	40 AMPS	40 AMPS	50 AMPS
Hitch Capacity Draw Bar Pull		N / LBS 4448/1000	N/ LBS 4448/1000	N / LBS 4448/1000	N / LBS 4448/1000	N / LBS 4448/1000
Hitch Capacity Vertical Tongue Load		N / LBS 445/100	N / LBS 445/100	N / LBS 445/100	N / LBS 445/100	N / LBS 445/100

* Speed is 20% less with 34-200-8.1

** Load capacity in water is 100lbs. less if equipped with optional 24x10.00-8NHS tires.

SECTION 1 GENERAL INFORMATION

1.7 IDENTIFICATION AND LOCATION OF CONTROLS



SECTION 1 GENERAL INFORMATION

1.8 INFORMATION LABELS

There are labels on all Aurora models which indicate operating hazards and provide special operating instructions. Information about the use of the holding brake system, the use of the vehicle in water, correct fueling procedures and placement of the floorpans has been provided on distinctive coloured labels fastened to the various locations on the Argo.

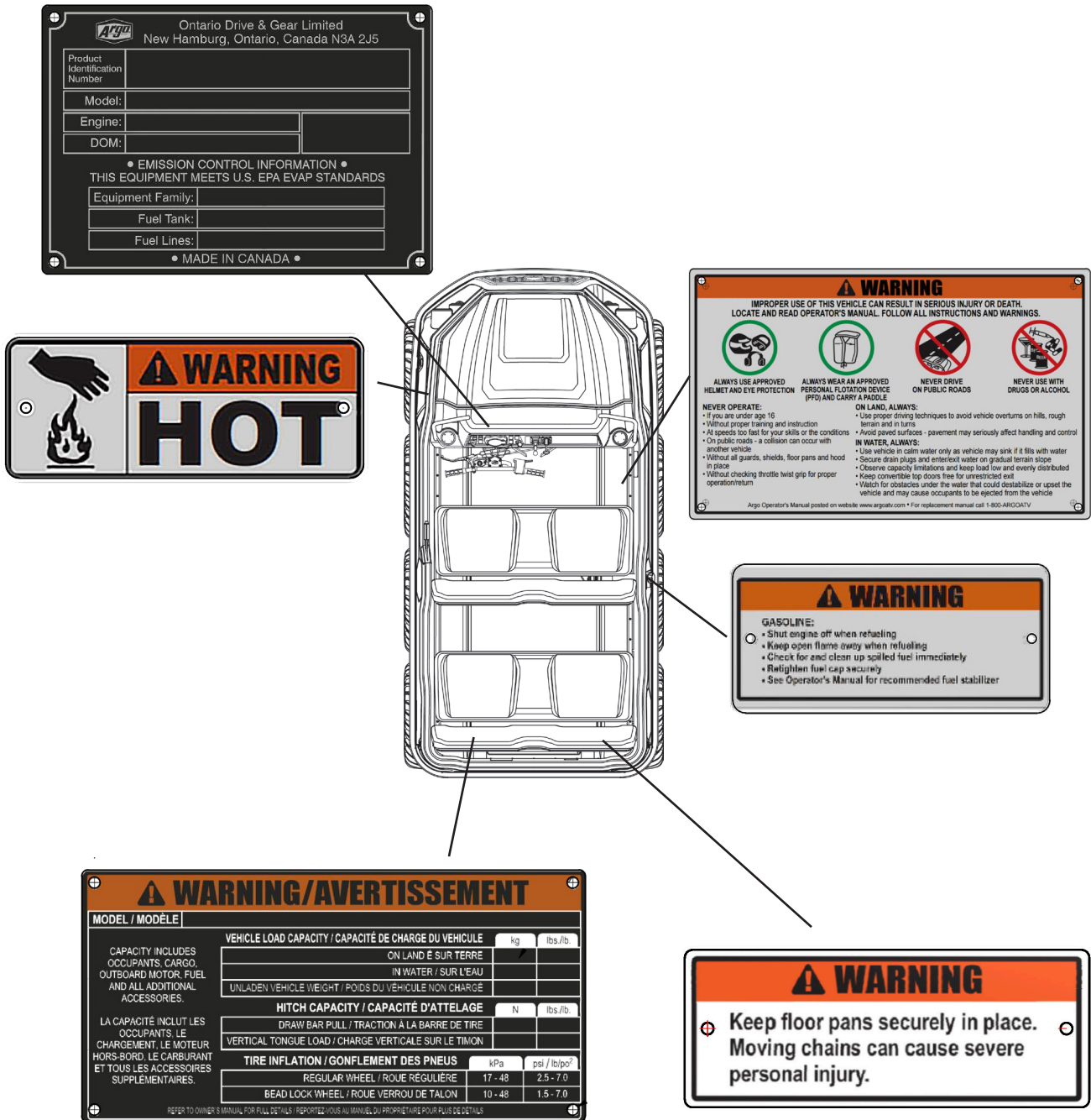


Figure 1-1 Location of Information Labels - All Models

SECTION 2

GENERAL OPERATING INFORMATION

2.1 NEW VEHICLE “BREAK-IN” PROCEDURE

To obtain long term, trouble free service from your vehicle, observe the following break-in guidelines:

1. Vary the speed of the vehicle for the first tank of fuel. Avoid full throttle operation during break-in period.
2. Check engine and transmission oil levels daily during break-in period.
3. Change the transmission oil after initial 20 hours of operation. Failure to do so can result in damage to the transmission bearings or gear surfaces. Refer to Section 6.2 and 6.2.1 for transmission oil changing instructions.
4. Change the engine oil in the Kohler or Briggs engine after the first 20 hours of operation. Refer to Section 6.1.3 of this manual and the oil change section of each engine owner’s manual for oil change information.
5. Never overload your vehicle. Trying to steer an overloaded vehicle can overheat the brakes. This will lead to brake fade which means loss of steering control and the ability to stop the vehicle. Overloading the vehicle can lead to premature brake system failures and costly damage to drive chains, axles or bearings. Follow the recommended load capacity for the vehicle listed in Section 1.4.
6. Do not allow the brakes to drag, particularly during the first 10 hours of operation. To maximize brake pad life, start by making several low speed turns to both sides. Allow the brakes to cool by driving in a straight line. Repeat the low speed turns. Allow the brakes to cool again. This procedure will properly seat the brake pad friction material to the brake disc. The handlebar should be kept centered during straight ahead operation. Dragging the brakes will cause overheating of the brake components and result in brake fade.

2.2 PRE-OPERATION CHECKS

Carefully follow the engine manufacturer’s recommended pre-operation/daily checks as well as the following:

1. Check the fuel level in the see-through tank located under the driver’s seat.
2. Check the air pressure in all tires. NOTE: Improperly inflated tires can cause the vehicle to pull to one side, requiring constant steering correction. See Section 7.2.5 for tire pressure specifications.

3. Test the operation of the finger grip throttle control by squeezing it to the fully open position and releasing it. The throttle must operate smoothly and return automatically to the fully closed position. Take the vehicle to an ARGO dealer if the finger grip throttle requires adjustment.
4. Check hand operated brake lever on left hand steering bar for braking capability Section 7.3.5. Check steering handle bar travel to the left and to the right for steering capability.
5. Check the engine intake and exhaust screen for obstructions. Clear any debris that has accumulated.

2.3 CARRYING PASSENGERS AND CARGO

1. Keep cargo as low as possible and evenly distributed.
2. Use extreme CAUTION when negotiating inclines with a loaded vehicle. Heavy loads and high loads decrease the stability of the vehicle and may cause it to roll. Be prepared to shift occupant weight and load forward or have passengers get out of the vehicle to climb an incline.
3. Secure cargo to prevent it from shifting while driving.
4. Do not mount any heavy fixtures to the upper body without support to the vehicle frame. The added weight may cause body deformation that could result in the tires rubbing through the body.

WARNING

Make sure all passengers riding in an ARGO equipped with tracks and ice cleats are informed to keep hands, feet and clothing inside the vehicle, well away from the tracks and ice cleats, while the ARGO is in motion. Serious injury or death could result from getting caught by the ice cleats.

SECTION 2

GENERAL OPERATING INFORMATION

2.4 OPERATORS WITH DISABILITIES

WARNING

The information below pertains to safety procedures, which, if not followed, can result in personal injury or death or damage to the Argo vehicle.

We advise persons with disabilities who operate Argo vehicles, to take certain precautions in the interest of their own safety. Since the nature of disabilities can vary widely, it is impossible to give complete instructions that apply to every specific case. Therefore, it is the responsibility of the Argo driver to take steps beyond the ones suggested in the following that take the special nature of his/her disability into account in order to operate the vehicle safely.

Please read this Operator's Manual thoroughly BEFORE OPERATING YOUR NEW ARGO VEHICLE.

Equipment

For mobility-impaired drivers, the following additional equipment should be installed in the Argo vehicle:

- roll-over protection
- a special seat assisting the driver in maintaining his/her seating position
- four-point safety harness
- fire extinguisher within reach of the driver

Maximum Payload

Due to the additionally installed equipment, including any other ARGO accessories, the maximum available payload of the vehicle must be reduced accordingly; refer to Section 1 in your ARGO Operator's Manual under Argo Vehicle Capacity. Never exceed the maximum load capacity of the vehicle.

General

Ensure that an on-board fire extinguisher is fully charged at all times and have it inspected on a regular basis by qualified personnel.

We recommend that you do not venture out in your Argo without being accompanied by an able-bodied person to assist you in case you encounter difficulty. If this is not possible, make sure that adequate communications equipment (eg. cell phone, two-way radio) with an independent power supply is on-board and communication lines are open at all times to call for help if necessary. Remember, a simple technical failure could leave you stranded.

If parts of your body are pain insensitive, please take extra care to ensure that your skin does not touch components of the Argo that may be hot. Also, be aware of hot air exhaust outlets and moving parts.

Water Operation

Carefully read Section 5 of the Operator's Manual covering water operation.

Enter the water from a firm gradual slope. If the water is deep enough for the vehicle to float, unlatch all safety belts and restraining devices, including the operator's. In shallow water be prepared to free yourself from restraining devices quickly. If an emergency arises, you and your passengers may have to leave the vehicle quickly.

If the vehicle is equipped with an optional convertible top assembly, fold the top assembly down to allow for a quick exit in case the vehicle submerges and to reduce the surface exposed to the wind.

Be aware that the weight of the ROPS makes the vehicle more likely to rollover in water than an unmodified vehicle.

We do not recommend the use of your Argo on frozen water surfaces because of the danger of breaking through the ice and the risk of exposure in cold water. (Refer to Section 5 of the Operator's Manual.) If you must cross ice-covered bodies of water, take along an able-bodied person to assist if difficulties are encountered.

Land Operation

When operating the vehicle on land, make sure all occupants including yourself are wearing the seat belts and you are strapped in your seat firmly at all times. Loss of seating position could result in loss of control of the vehicle.

Be constantly aware of the overall height and width of your Argo vehicle equipped with the ROPS. Watch out for low objects, eg. brush, branches, etc. which could strike the ROPS and cause the vehicle to stop abruptly, rollover, or go out of control.

Due to the weight of the ROPS, your vehicle is more likely to rollover on land than a standard Argo vehicle. Ensure passengers and operator remain seated at all times and keep all cargo low and evenly distributed.

Seat belts must be properly adjusted and worn by all occupants at all times EXCEPT when the vehicle is floating in water.

SECTION 2

GENERAL OPERATING INFORMATION

We have provided this information because we want you to enjoy your mobility in the outdoors safely. However, please keep in mind that all the warnings and instructions in the world cannot replace common sense. You've got it – please use it.

2.5 FUELING THE VEHICLE

WARNING

Gasoline is extremely flammable and can explode under certain conditions. Do not add fuel while the engine is running or hot. If fuel is spilled in, on or around the vehicle, wipe it up immediately. Flush out any fuel spilled in the vehicle with water and allow it to drain out through the drain plug holes. Do not smoke when filling the fuel tank.

Use clean, fresh, unleaded gasoline in all models of the ARGO. Minimum 87 octane fuel is recommended.

Leaded gasoline can be used as a substitute fuel. However, if leaded gasoline is used, the engine will require more frequent servicing.

Never use gasoline containing methanol or white gas since engine or fuel system damage could occur.

All Argo models are equipped with a 27 litre (5.9 Imp. Gal, 7.1 U.S. Gal.) "see-thru" polyethelene fuel tank located under the driver's seat. Depending on loading and driving conditions, an ARGO can be driven for 7 to 12 hours on one tank of fuel. Verify your vehicle's actual fuel consumption *before* attempting any long trips. Never travel in remote areas or set out on long trips *without* a full tank of fuel and adequate spare fuel stored in approved watertight fuel containers.

The fuel filler neck and fuel cap are located on the right side of the vehicle behind the driver's seat. Replace the fuel cap if fuel leakage occurs, or if moisture is detected in the fuel. Use ARGO Part No. 126-100 fuel cap.

Never fill the tank to the point where the fuel level rises into the filler neck. If the tank is overfilled, heat may cause the fuel to expand and overflow through the vent.

Portable fuel containers may contain contaminants (dirt, water, etc.) that will cause engine operating problems. Use only clean, approved gasoline containers.

After filling the fuel tank, be sure the fuel cap is replaced

securely. Do not drive the vehicle unless the fuel cap is properly in place.

CAUTION

Never use untreated gasoline that has been stored for more than 45 days. Stale gasoline can cause deposits to form in the fuel lines and carburetor. These deposits clog the fuel system and cause engine starting and operating problems.

When storing the ARGO for 45 days or more, use ARGO Part No. 130-107 Fuel Stabilizer to treat fuel in the fuel tank and fuel containers.

2.6 VENTED FUEL SYSTEM - ALL MODELS

All ARGO models have fuel systems that are vented through a special hose connected to the filler neck assembly that runs along the upper body forward to the engine.

WARNING

When installing the Convertible Top Kit; Since the fuel vent hose runs along the under side of the upper body, care must be taken when drilling mounting holes. The fuel vent hose could be pierced during the drilling process, resulting in a dangerous fuel leak into the vehicle and a costly repair procedure.

CAUTION

Never use gasoline or other harsh solvents to clean the Argo body. All Camouflage material is especially vulnerable to damage and peeling if it comes into contact with gasoline. Take precautionary action when refueling to protect the body from any such occurrences.

2.7 INSTRUMENT CLUSTER

Argo Aurora's are equipped with an LCD instrument cluster. Figure 2-1.

The LCD cluster displays battery voltage, hour meter, odometer, speedometer, coolant temperature (liquid cooled engines only) and tachometer. There are indicator lights for parking brake, low oil pressure, and diagnostic light.

Gauges can be calibrated in km or miles both in speed and distance.

SECTION 2 GENERAL OPERATING INFORMATION

NOTE

When the vehicle is initially started, the high temperature indicator will flash until the vehicle is warmed up. Light should extinguish after 1 minute. In the case of the engine overheating, the indicator will start to flash. Shut down the vehicle as soon as possible to avoid any damage to engine.

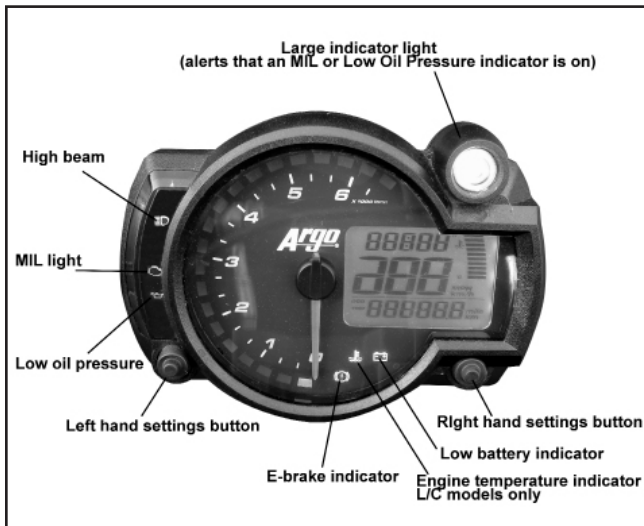


Figure 2-1. LCD Instrument Cluster

2.7.1 Operator Settings

Operator may program:

- digital display brightness
- kilometers/miles
- time/clock

To enter program settings, hold both right side and left side settings buttons simultaneously for 3 seconds.

Digital display brightness flashes. Cycle through brightness levels with right side settings button. When desired brightness level is achieved, push left side settings button. Miles/Kilometers flashes. Use right side settings button to cycle between miles and kilometers. When desired setting is met, push left side button, clock settings flashes. Set clock.

Under normal operating conditions the operator may use the right side settings button to cycle through:

- trip A
- trip B
- hours of operation
- max recorded RPM and Speed history.

SECTION 3 OPERATING INSTRUCTIONS

3.1 BRAKES AND STEERING

⚠ CAUTION

Do NOT over steer. Avoid the tendency to push or pull harder on the steering system if the vehicle is not responding as expected. Once the steering brakes have been locked, pushing or pulling harder on the steering system will not increase the turning capacity of the vehicle. Damage may occur to the steering system as a result of oversteering.

The moto-cross style steering handle bar is used to turn the vehicle when it is moving in forward or reverse. Pulling back on the right side of the steering handle bar while pushing on the left side of the handle bar, causes the vehicle to turn right. Pulling back on the left side of the steering handle bar while pushing on the right side causes the vehicle to turn left. (Figure 3-1). To stop the vehicle, pull back on the hand brake lever located on the left handle bar.

The ARGO is a skid steer vehicle. During a turn, the rear of the vehicle swings outward as the vehicle pivots on the front tire on the inside of the turn. To make a right hand turn, the rear of the vehicle skids out to the left. To make a left hand turn, the rear of the vehicle skids out to the right.

⚠ WARNING

When turning, the back of the vehicle swings to the opposite direction of the turn. Always take care to avoid hitting persons or objects with the rear of the vehicle! Serious injury or death can result!

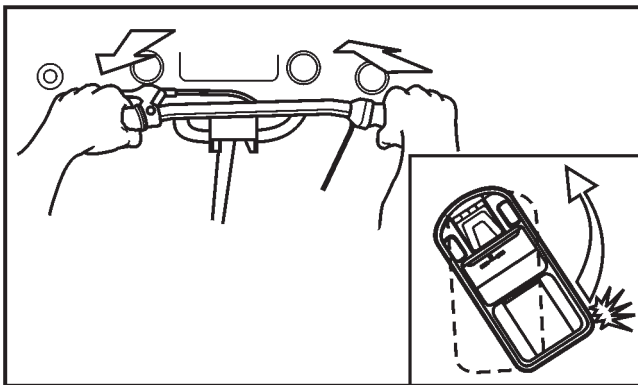


Figure 3-1. Making a left hand turn.

3.2 EMERGENCY/PARKING BRAKE SYSTEM

When in use, the emergency/parking brake system keeps the wheels locked in the full braking position.

To apply the emergency/parking brake system:

1. Pull the hand brake lever up firmly so the ratchet mechanism engages.

To release the emergency/parking system:

1. Pull up on the hand brake lever and press the button on the end to release the ratchet mechanism.

3.3 THROTTLE CONTROL

Vehicle speed is controlled by the finger throttle. To increase vehicle speed, squeeze the finger throttle towards the hand grip as shown in Figure 3-2. To decrease vehicle speed, release the finger throttle so the engine returns to idle.

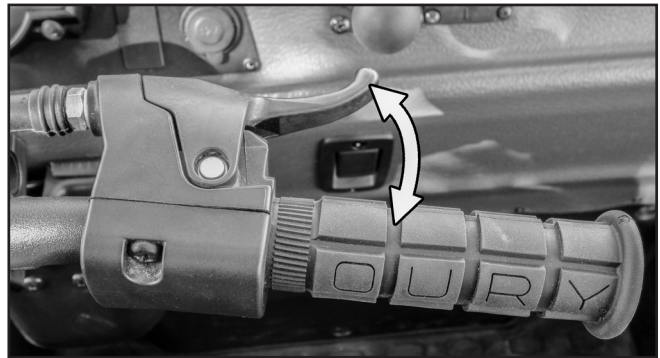


Figure 3-2. Operation of the finger throttle

3.4 STARTING PROCEDURE

⚠ WARNING

Never start or run the engine in a closed building or confined area. Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odourless, colourless and can cause serious personal injury or death.

The Aurora is equipped with a key operated, electric start system combined with ATV style start button located on the left side steering bar. Starting procedure is identical for all models. To start the vehicle, proceed as follows:

1. Place the gearshift in the neutral (N) position.
2. Apply the emergency/parking brake system.
3. Turn the key to the "Run" position. (See Figure 3-3).

SECTION 3 OPERATING INSTRUCTIONS

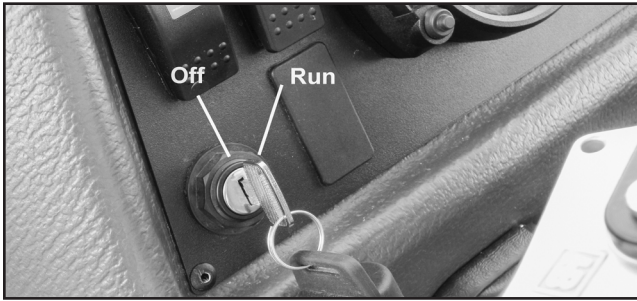


Figure 3-3. Ignition Switch.

4. Ensure red switch is in "run" position. (See figure 3.4)
5. Apply left hand brake lever.
6. Push green "START" button.

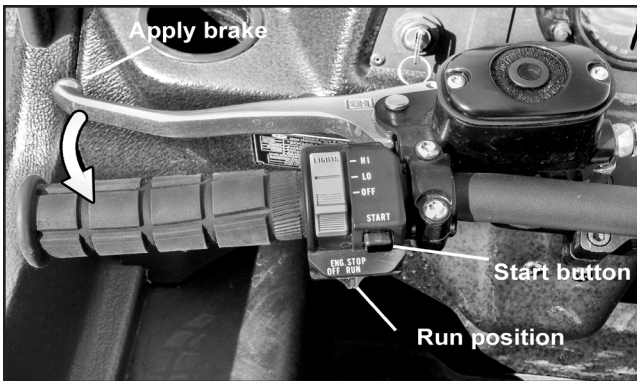


Figure 3.4 Ignition Switch.

7. Release the button as soon as the engine starts
8. Allow the engine to come to an idle.
9. Release the parking brake.
10. If the engine fails to start, refer to the troubleshooting chart in Section 8 for corrective action.

CAUTION

Do not operate the starter continuously for more than 5 seconds or the starter may overheat. Wait 30 seconds between each operation of the starter to let it cool and the battery power to recover. Never attempt to restart the engine until the engine completely stops. Always remove key from switch when leaving vehicle unattended or when vehicle is not in use.

3.5 PRIMING PROCEDURE

If the vehicle has run out of fuel, follow the procedure below to prime the fuel system to restart.

1. Turn the key switch to the "RUN" position for one minute. Allow the fuel pump to cycle and prime the system. Turn the key switch "OFF".
2. Perform the STARTING PROCEDURE to crank and start engine.
3. If the engine fails to start, repeat steps 1 and 2. If the engine does not start after two priming intervals, contact your Kohler Engine Service Dealer for further assistance.

3.6 STOPPING THE ENGINE

Release the finger throttle control. Let the engine speed return to idle and slide red "kill" switch to "OFF" position. (See figure 3.5)

Turn ignition key switch to the "OFF" position. Always remove key from ignition switch when leaving the vehicle unattended.



Figure 3.5 Ignition Switch.

3.7 SELECTING AND CHANGING TRANSMISSION GEARS

DO NOT CHANGE TRANSMISSION GEARS WHILE THE VEHICLE IS MOVING. To change gears, bring the vehicle to a complete stop, let the engine idle down completely, engage hand brake and move the shift lever to the selected gear.

SECTION 3 OPERATING INSTRUCTIONS

3.7.1 Changing Transmission Gears



The "Admiral" transmission is equipped with two shift levers. Both gearshift levers extend through the dash and move top to bottom. The Forward/Reverse shift lever is located to the left of the High/Low shift lever. Forward gear is located to the top of neutral and reverse gear to the bottom of neutral. PLEASE OBSERVE CAUTIONS

The High/Low range shift lever is located to the right of the Forward/Reverse shift lever on the dash. High range is selected when the lever is in the up position and should be used for most driving conditions. Low range is selected when the lever is in the down position. (See Figure 3-6.)

CAUTION

Do not shift from Hi to Lo range or vice versa while vehicle is in motion. Ensure vehicle is at a complete stop before placing any of the shift levers into the desired range.

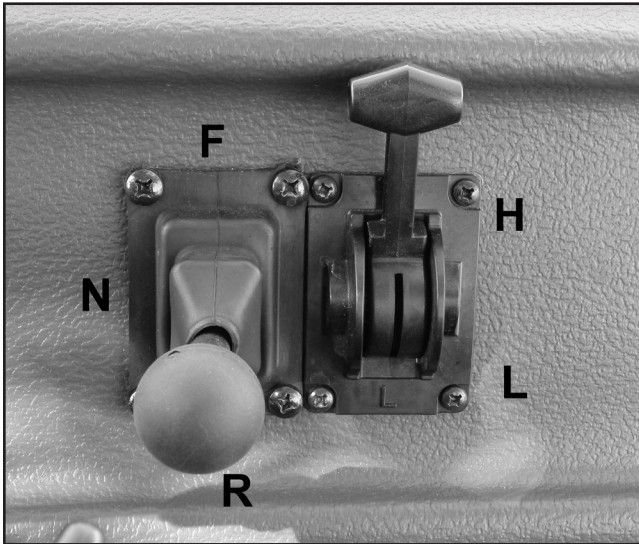


Figure 3-6. Gear shift travel and gear positions.

CAUTION

Do not attempt to move the gearshift from the neutral (N) starting position until the engine idles down completely. The ARGO is equipped with an automatic clutch that is activated by engine speed. If the engine idle speed is too high, the transmission will grind during gear engagement.

3.8 HEADLIGHTS

All Aurora model vehicles are equipped with High/Low beam headlights that are operated through the hand control switch on the left steering bar. The switch controls "Off" "LO" and "HI" beam. To operate the lights, slide the switch to the desired position (See figure 3.7)

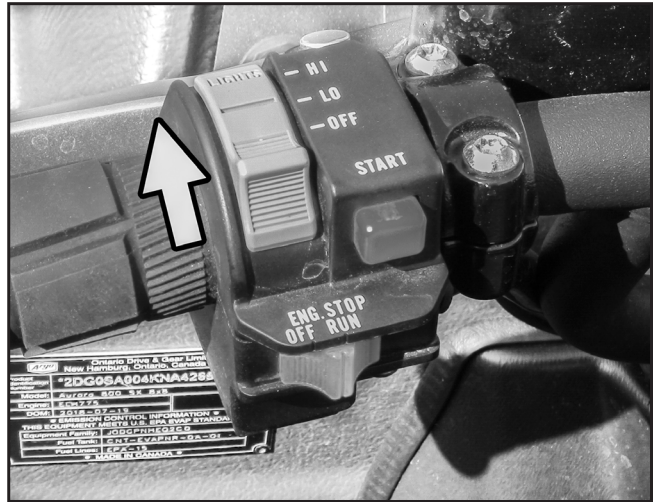


Figure 3-7. Headlight positions.

CAUTION

Do not leave the lights on for any length of time when the engine is not running. Leaving them on will drain the battery.

Always turn the ignition switch to the 'OFF' position when turning off the engine.

Avoid frequent starting of the engine and extensive idling. Both will lead to a drain of the battery because the electrical draw may be greater than the charging rate at engine idle.

SECTION 4

DRIVING PROCEDURES

4.1 DRIVING STRAIGHT AHEAD

The Moto-Cross style steering bar is spring loaded to return to a centered position. (See Figure 4-1). At this location, no braking is applied to either of the calipers. It is at this position that the steering bar should be when driving straight ahead. Apply the finger throttle slowly until the clutch system engages and the vehicle moves forward.

⚠ CAUTION

Avoid inadvertently riding the hand brake while steering and driving the vehicle. Riding the hand brake will overheat the brake system.



Figure 4-1. Position of moto-cross style steering bar in straight ahead operation.

4.2 STOPPING THE VEHICLE

Allow the finger throttle to return to the idle position. Squeeze the handle mounted brake lever with your left hand.

4.3 TURNING THE VEHICLE

The ARGO is a skid steer vehicle. The rear of the vehicle swings outward during a turn. Always take precautions when making turns to avoid hitting persons or objects.

⚠ WARNING

Sharp turns, especially at high speeds or when heavily loaded, may cause the vehicle to roll over. Slow the vehicle down before making a turn. Do not apply the brakes too suddenly.

4.3.1 Left Turn

⚠ CAUTION

Do NOT oversteer. Avoid the tendency to push or pull harder on the steering system if the vehicle is not responding as expected. Once the vehicle's brake disc has been locked, pushing or pulling harder on the steering system will not increase the turning capacity of the vehicle. Damage may occur to the steering system as a result of oversteering.

To make a left turn, pull back on the left steering bar while at the same time pushing on the right to stop the brake on the left side of the vehicle. When the turn has been completed, return the steering bar to the centre position.

4.3.2 Right Turn

Pull back on the right steering bar while at the same time pushing on the left to stop the brake on the right side of the vehicle. When the turn has been completed, return the steering bar to the centre position.

4.4 BACKING THE VEHICLE UP

With the engine at idle, shift the transmission into reverse. Ensure that the steering handle bar is centred. Squeeze the finger throttle slowly until the clutch engages and the vehicle moves backwards. Increase speed by slowly squeezing the finger throttle. It is recommended that the Hi/Low shift be set in the Low position when operating in reverse.

4.4.1 Turning The Vehicle While Backing Up

Pull on the right bar and push on the left to turn right. Pull on the left bar and push on the right to turn left. When turning the vehicle while backing up, the rear of the vehicle swings in the direction of the turn. This is unusual for most people who are not familiar with skid steer vehicles. Carefully practice backing up and turning in an open area until you become accustomed to this procedure. Take precautions to avoid hitting persons or objects.

⚠ WARNING

Do not push against the firewall with your knees. Damage to the firewall and serious personal injury can result from the driven clutch wearing through the firewall.

SECTION 4

DRIVING PROCEDURES

4.5 OPERATING INSTRUCTIONS



The Aurora Argo models are equipped with the ADMIRAL steering transmission. The ADMIRAL is a triple differential transmission with unique steering characteristics not found in prior Argo models or traditional skid steer vehicles. The ADMIRAL features two distinct modes of operation, HIGH range for typical trail riding and LOW range when tight turns are required. This transmission allows the ARGO to tackle a wider range of terrains and operating conditions.

When operating in HIGH range, a **full lock right steering input** will cause the right side wheels to turn forward at a lower rate (approximately 1/3 the speed) compared to the left side wheels and vice versa when **full lock left steering input** is applied. While this does not allow for zero radius turns, as found on some models equipped with the Classic single differential transmission (e.g; some Frontier and Avenger models), it does greatly increase efficiency, reduces engine, transmission & brake temperatures and reduces driver steering effort.

When operating in LOW range, a **full lock right steering input** will cause the right side wheels to slow down and come close to a complete stop. This will result in a much tighter turn. This mode of operation should only be used for slow speed operation when tight turning is required.

NOTE: Extended use of Low range at higher speeds may result in increased engine, transmission and brake temperatures. This mode of operation should be avoided unless the terrain or obstacles warrants its use.

4.5.1 Selecting Forward, Neutral, Reverse, High or Low

The ADMIRAL transmission uses dog clutches to engage internal gears. The dog clutch is not synchronized to allow for shifting-on-the-fly. To avoid personal injury, transmission, vehicle or property damage, always bring the vehicle to a complete stop, allow the engine to return to idle, compress and hold the hydraulic hand brake, then select the appropriate gear function. Once selected, release the hydraulic hand brake and accelerate to desired speed.

NOTE: When selecting from HI to LOW or LOW to HI, the dog clutch may not automatically engage its mating gear. This is normal and expected. The HI and LOW selector is spring-loaded and will lock into place once engine RPM rises and clutches begin to engage. A slight, but normal, “clunk” noise may be heard during this procedure.

4.5.2 Recommended Gear Selections

Trails and higher speed driving: Recommended gear selection HIGH range: In High range, these models will turn as tight as most ATV’s and UTV’s, which is ideal for trail riding. Compared to previous braked skid steer vehicles, these models will corner with minimal loss of speed or engine power. The increased efficiency results in cooler running temperatures for the engine, transmission and steering system.

Towing: Recommended gear selection HIGH range: With increased efficiency and positive all-wheel drive in high range, the operator is able to maintain momentum, traction and control while under load. Engine power and smooth steering is maintained, point-turn operation is eliminated, allowing for smooth operation and towing. The elimination of point-turn while in high range reduces the likelihood of a “jackknife” situation.

Climbing hills: Recommended gear selection HIGH range: Similar to a towing situation, climbing hills successfully means maintaining traction and momentum. It is usually unwise (and unsafe) to perform sharp turns while climbing hills, so Low range, if required, should be used with caution in these situations.

Mud and Snow (including track use): Recommended gear selection HIGH or LOW range: Low traction situations are usually handled best in high range due to the fact that any turning inputs will “lock the differential” and force all 8 wheels to drive. If tightly spaced obstacles are present, low range will provide added maneuverability, albeit at a cost in both traction and efficiency.

Water / Amphibious use: Recommended gear selection HIGH or LOW range: While operating the vehicle in deep water, either range selection may be appropriate. In High range, the operator may notice a lack of maneuverability, especially at full throttle. In Low range, the inside, or steered, tires can counter rotate thereby providing greater maneuverability and control when turning the vehicle. There is a slight reduction of top speed when selecting Low range for water / amphibious use.

Low speed (with obstacles): Recommended gear selection Low range: While traversing a rock field or a wooded area, increased maneuverability available in Low range is a valuable asset. Switching back to High is highly recommended when the terrain clears and tight / sharp turning is not required.

SECTION 5

DRIVING PROCEDURES IN UNUSUAL CONDITIONS

5.1 REMOTE AREA USE

When traveling in remote areas or when traveling long distances, the following items are essential:

- a first aid kit
- a complete survival kit
- protective clothing and footwear
- waterproof safety matches
- candles
- emergency flares
- communications equipment
- adequate fuel supply in approved, watertight containers
- fire extinguisher
- back-up battery
- basic mechanic's tools and Argo spare parts

Before venturing into remote areas, carry out all inspections, adjustments and lubrication checks detailed in this manual. Do not proceed unless your vehicle is in good working condition.

Inform someone of your departure and return plans and your route so that help can be dispatched if you do not return as scheduled. Do not travel into a remote area alone.

Choose your equipment and supplies to meet the climate and terrain conditions that you may encounter.

Practice safe driving habits when traveling in remote areas. Avoid terrain that may be impassable.

5.2 ANGLE OF OPERATION

When operating any Argo vehicle on an angle, (up and down hills or across uneven terrain that causes the vehicle to tilt in any direction) the engine oil level and fuel delivery to the engine is affected.

If the engine oil level falls below the oil pump intake, damage can occur because of inadequate lubrication. To avoid engine damage and costly repairs:

- Do not operate your engine continuously on angles or inclines that are greater than 30 degrees in any direction.
- Make sure the engine oil level is near the "full" mark (However, do not overfill.)

The engine may also starve for fuel if the angle of operation is excessive. An engine starved for fuel is likely to sputter and hesitate, and may cause the vehicle to "buck." This can lead to loss of control and rollover. To prevent this, do not operate the vehicle on slopes greater than 30 degrees.

5.3 UPHILL OPERATION

WARNING

Never accelerate or brake suddenly while driving up or down a hill. Sudden acceleration or braking can cause the vehicle to roll over, causing serious personal injury or death.

Never attempt to turn the vehicle around on a steep hill or grade. Turning the vehicle around on a hill can result in the vehicle rolling over.

Approach the hill head on to minimize the possibility of sliding sideways or rolling over. Accelerate slowly to prevent loss of traction. When traction is lost, the vehicle may slide sideways or backwards. If this occurs, apply the brakes gently and evenly to stop the slide. Allow the vehicle to coast to the bottom of the hill by carefully releasing the brakes.

Try to avoid steep hills. When a steep hill can't be avoided, be prepared to shift occupant weight forward, or have them get out of the vehicle to prevent the vehicle from rolling over. As a general rule, driving up a steep hill greatly increases the possibility of rolling over.

5.4 DOWNHILL OPERATION

Always approach the hill head on to minimize the possibility of sliding sideways, or rolling over. Gently apply the brakes to control downward vehicle speed. Do not jam on the brakes while traveling downhill. Sudden braking can cause the vehicle to roll over frontwards. Continuous or excessive use of the brakes while going downhill can overheat them, leading to brake fade. An alternative to applying the brakes while going down a gentle decline is to use engine braking. Select low range and keep the engine speed up just enough to keep the clutch engaged.

WARNING

Continuous or excessive use of the brakes while going downhill can overheat them, leading to brake fade. Loss of brakes could result in serious injury or death.

Avoid steep declines when possible. When a steep decline cannot be avoided, shift occupant weight to the rear of the vehicle to prevent the vehicle from rolling over. As a general rule, driving the vehicle down a steep decline greatly increases the possibility of rolling over.

SECTION 5

DRIVING PROCEDURES IN UNUSUAL CONDITIONS

5.5 SIDE SLOPE OPERATION

Do not drive your vehicle across the side of a hill. Side slope operation greatly increases the risk of rolling the vehicle over sideways.

Prolonged side slope operation may cause engine damage. Observe the engine angle of operation limitations in Section 5.2.

Operation on side slopes will require frequent use of the brakes for steering correction since the vehicle tends to head downhill. This may cause brake overheating or fade.

5.6 AMPHIBIOUS OPERATION - GENERAL

⚠ WARNING

ARGO vehicles may sink if they fill with water. If water starts entering the vehicle, head to the nearest shore immediately. Be prepared to abandon the vehicle if it appears that the vehicle will fill with water before you reach the shore. Be especially cautious when operating a loaded vehicle (cargo and/or passengers) in water. Observe the capacity limits.

Use caution and good judgement when entering water. Drowning can occur even in shallow water. Watch for obstacles under the water that could destabilize or upset the vehicle and may cause occupants to be ejected from the vehicle. Make sure all persons in the vehicle are wearing approved life jackets or Personal Flotation Devices.

All ARGO vehicles are self-propelled, amphibious vehicles, capable of navigating calm water, provided the following precautions are observed:

1. Do not enter water if the vehicle is overloaded. Refer to Section 1.4 of this manual for recommended load capacity in water.
2. Do not use seat belts or any restraining device while the ARGO is floating in water. In shallow water, be prepared to free yourself from restraining devices quickly. If an emergency arises, you and your passengers may have to leave the vehicle quickly.
3. Do not attempt to cross large bodies of water. Stay close to the shore in case an emergency arises and you have to leave the water.
4. Do not attempt to navigate any body of water with a strong current. Avoid water operation under windy conditions.

5. Do not use the Argo in water when equipped with tracks unless it is also equipped with an outboard motor. The tracks do not propel the Argo in water.
6. Use extra caution when operating the ARGO in cold water. If the vehicle upsets or swamps, exposure in cold water significantly reduces the chance of survival.
7. Be prepared to adjust the position of cargo and passengers so the vehicle floats level.
8. Care must be taken when encountering submerged obstacles that may upset the vehicle.

Observe the following safety precautions BEFORE entering the water:

1. All occupants must wear an approved personal flotation device (PFD) or life jacket while traveling in water.
2. Equip the vehicle with a paddle and bailing can for water operation. Your model may also include a bilge pump. Test bilge pump if equipped.

Drain Plugs

1. Drain Plugs are accessible from the outside of the vehicle. Make sure both drain plugs in the rear of the lower body (Figure 5-1) are in place and properly tightened. To install, locate the drain plugs at the rear of the vehicle and thread each drain plug in a clockwise direction into the plug fitting ensuring a snug fit. Check the O-ring on drain plug periodically. When removed, each drain plug remains attached to the hole opening to prevent loss or misplacement of the plug while the vehicle is draining. (Figure 5-2).

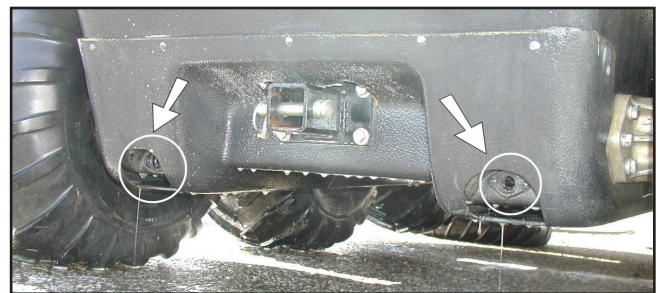


Figure 5-1. Location of rear drain plugs.

2. Visually check the lower body of the vehicle for cuts, punctures or holes that will allow water to enter the vehicle.
3. Make sure that any cargo in the rear of the vehicle is evenly distributed.
4. Periodically inspect the outer bearing flange and gaskets

SECTION 5

DRIVING PROCEDURES IN UNUSUAL CONDITIONS

of each axle (Figure 5-3) to ensure they are water tight. If there are signs of water leaking into the lower body, take corrective action before entering water again. Make sure there is sufficient grease in the bearing flange and that the grease seal is in good condition.

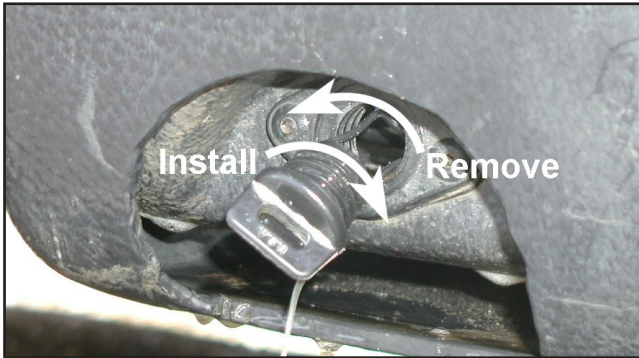


Figure 5-2. Removing and Installing the drain plug.

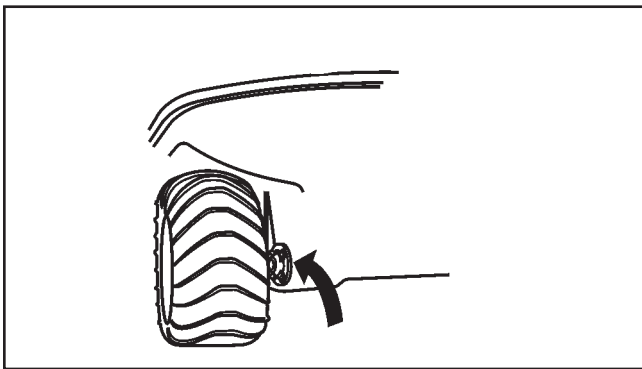


Figure 5-3. Outer bearing flange sealing area.

NOTE

Always observe the recognized rules of boating while travelling in water.

5.6.1 Entering the Water

⚠ WARNING

Load capacity on water is reduced by 100lbs. if your 8x8 Argo is equipped with smaller 24x10.00-8 tires when the standard spec would include 25x12.00-9 (see Section 1.4). The reduced buoyancy could cause the Argo to become swamped and sink, causing injury or drowning to the driver and passengers.

The point of entry should be free of rocks, stumps and other obstacles. Enter the water from a firm, gradual slope whenever possible. With the wheels partially submerged but still in contact with the bottom, stop and check thoroughly for water entering the lower body.

If a leak is detected, drive back onto shore. Drain the vehicle

and repair the leak before re-entering the water.

If the body of water must be entered from a steep slope or uneven terrain, it may be better to back the vehicle into the water. With the engine and transmission weight concentrated in the front of the vehicle, the rear is lighter and floats higher if the rear compartment is not heavily loaded. In some cases, if there is a passenger or two and/or additional cargo in the rear, backing into the water could cause water to flood over the transom area and into the rear compartment. Always seek out a safer route for entry into the water if the terrain appears too dangerous.

Be careful not to submerge the bumper as you enter the water. With the bumper submerged, water can enter through the openings in the upper body.

5.6.2 Driving Procedures in Water

After the vehicle is floating evenly on the water, apply the finger throttle to increase speed. (**Note: If the vehicle is equipped with a ROPS, unlatch all seatbelts.**) Use only part throttle when traveling through water. Full throttle only results in excessive turbulence, not higher speeds.

The vehicle is steered by a combination of pulling on the right bar and pushing on the left to steer right or vice-versa to travel left. The turning radius is somewhat greater in water, and the vehicle does not respond to changes in direction as quickly as it does on land. Turning in water may be more effective in Low gear.

The vehicle is propelled forward through the water by the web of the tires as they rotate. To back up in water, release the throttle, shift the transmission into neutral, and use a paddle.

Avoid rocks, stumps or other obstacles that are below the surface of the water. Striking these obstacles may damage the bottom or upset the vehicle.

If your vehicle begins to fill with water, immediately head to the nearest shore. Get the vehicle out of the water and drain it by removing both rear drain plugs. Correct the leak before entering the water again.

⚠ CAUTION

Do not leave the vehicle in water for extended periods of time. Water could enter the axle seals and cause damage to the axle bearings.

SECTION 5

DRIVING PROCEDURES IN UNUSUAL CONDITIONS

5.6.3 Driving Out of Water

When driving out of water, choose an area of the shore that is reasonably flat and free of rocks, stumps and other obstacles. Steer the vehicle so that both front wheels reach the shore at the same time. Accelerate slowly until the vehicle is out of the water. If vehicle is equipped with a ROPS system, re-fasten seatbelts.

5.6.4 Outboard Motor Bracket

Your vehicle may be equipped with an optional outboard motor bracket to mount an outboard motor up to 9.9 h.p. A long shaft outboard motor is preferred to prevent cavitation.

Do not mount an outboard motor on the vehicle unless the special bracket is used. Damage to the vehicle will occur if an outboard motor is mounted directly on the vehicle body.

WARNING

Gasoline is extremely flammable and can explode if ignited. Fill outboard motor fuel tanks outside of the vehicle. Wipe up any spilled fuel immediately. Do not carry or store fuel tanks in a vehicle equipped with a cab or convertible top unless adequate ventilation is provided.

5.7 WINTER OPERATION

Follow these precautions when operating the ARGO in winter conditions:

- Equip the vehicle for remote area use, as listed in Section 5.1.
- Keep the battery fully charged and in good condition.
- Use the recommended winter grade of engine oil.
- Do not allow water or snow to accumulate in the vehicle. Snow may melt during operation of the vehicle, collect in the lower body and freeze around the chains and final drive components, immobilizing the vehicle.
- Store the vehicle indoors or under cover.
- Equip your vehicle with snow tracks for travel over deep snow.
- **Steep, snow-covered or icy hills may be more difficult to ascend. Ice cleat kits are available for Super Track and Rubber Track systems. Contact your nearest dealer for details.**
- Never travel alone into a remote area. Leave your route and arrival plans with someone who can send help if you fail to arrive as planned.

5.7.1 Use on Ice Covered Bodies of Water

WARNING

Using the ARGO on ice-covered bodies of water is potentially hazardous. Use extreme caution. Exposure to cold water reduces a person's chance of survival. Protective clothing, such as a marine survival suit will significantly decrease the effect of exposure in frigid water.

Before venturing out onto ice-covered bodies of water, it is extremely important to:

- Check the ice thickness and condition to be sure it will support the vehicle.
- Take all precautions as in Section 5.6, particularly paragraph 3 referring to drain plugs.

If the vehicle breaks through the ice, it will float in the water, provided that there are no leaks in the body, the drain plugs are in place and vehicle is not taking on water through any body openings. However, there is a risk of the vehicle tipping, particularly if the load is unbalanced. Be prepared to shift occupants' weight for balance.

Getting back onto safe ice depends on various conditions and the expertise of the driver. Be especially careful to prevent water from entering the vehicle.

- Balance the cargo and passenger load.
- Keep openings, like air intakes/exhaust, etc. above the water line.
- Keep the bilge pump running.
- Winch the vehicle out.
- Back onto ice, as the back end is lighter and floats higher in the water.
- Avoid getting the wheels on only one side onto the ice surface as water could enter over the opposite side of the vehicle.
- Avoid turning as the Argo is climbing out to avoid vehicle tip-over.
- Break the thin ice around the vehicle with the paddle until there is firm ice for the vehicle to climb onto.
- Be wary of currents which may pull the vehicle under the ice.

If you feel that you may not be able to get the vehicle back onto safe ice or land, you might consider staying put to await rescue. This may be safer than trying to leave the vehicle to walk over thin ice.

SECTION 6

OIL, FILTER AND LUBRICATION INFORMATION

6.1 ENGINE OIL INFORMATION

⚠ WARNING

Detailed information on standard workshop and safety procedures and general installation practices is not included here. ODG assumes no responsibility or liability for PERSONAL INJURY or VEHICLE DAMAGE which results from any procedure performed, including those procedures outlined here. Before performing any procedure, an individual must have determined to his/her satisfaction that personal injury or vehicle damage will not result from the procedure, working environment or tools selected.

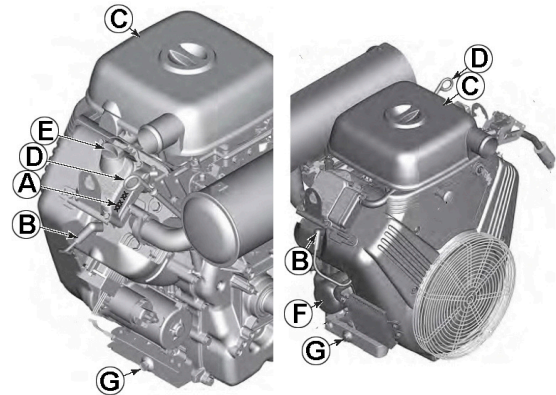


Figure 6-3. Briggs Big Block engine.

- | | | |
|--------------------|----------------|-----------------|
| A - Engine ID | B - Spark Plug | C - Air Cleaner |
| D - Dipstick | E - Oil Fill | F - Oil Filter |
| G - Oil Drain Plug | | |

6.1.1 Checking the Engine Oil Level

Check the engine oil level each day before operating the engine.

To check the oil during an operating period, shut the engine off, let it cool down and allow the oil time to drain into the sump before checking the oil level. Position the vehicle so the engine is level.

Kohler engines (Figure 6-2) and Briggs engines (Figure 6-3) are equipped with a dipstick and a separate oil filler tube. To check the oil level, clean the area around the dipstick before removing. Remove the dipstick and wipe it with a clean cloth. Re-insert the dipstick and push it all the way into the tube. Remove the dipstick and check the oil level. The oil level should be between the ADD and FULL marks. If the level has dropped, add oil to bring the level up to the FULL mark. **DO NOT OVERFILL.**

⚠ CAUTION

Do not run the engine if the oil level is above the FULL mark or below the ADD mark. Premature engine damage or total engine failure can occur when the oil level is not properly maintained.

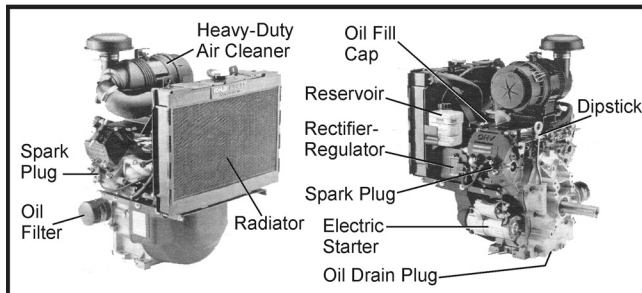
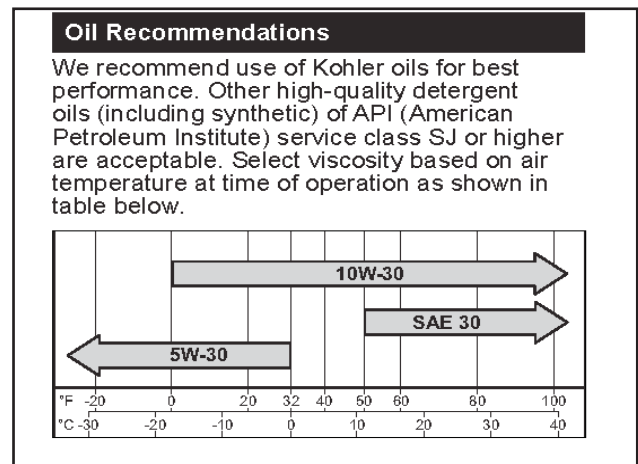


Figure 6-2. Kohler Aegis engine.

6.1.2 Recommended Engine Oil

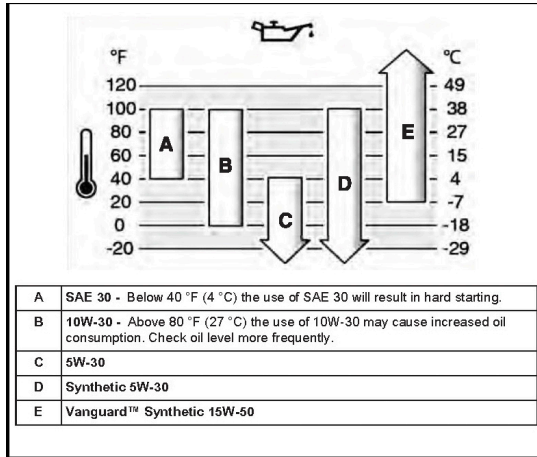
Use a high quality detergent oil of API (American Petroleum Institute) service class as listed in chart. Choose the correct viscosity of oil for seasonal driving conditions. Using the proper type and weight of oil in the crankcase is extremely important. **Argo Brand 5W40 synthetic oil is also an approved engine oil for your Aurora (Part No. 130-103).** Check oil daily and change oil regularly. Failure to use the correct oil, or using dirty oil, causes premature engine wear and failure.



Oil capacity Kohler (with filter): 1.9 L (2.0 qts.)

SECTION 6

OIL, FILTER AND LUBRICATION INFORMATION



Oil Type/Capacity Big Block Briggs: 2.3 L (2.4 qts.)

6.1.3 Changing Engine Oil

During the initial engine break-in period, change the oil after the first 20 hours of operation. After the break-in period, change the engine oil every 100 operating hours or annually or more frequently if the vehicle is operated in dusty or dirty conditions.

Draining the Engine Oil

Each engine is equipped with a drain plug for draining the oil. The drain plug location is shown in the engine owner's manual. Drain the oil from the engine as follows:

1. Start and warm up the engine so the oil will drain easily.
2. Level the vehicle so the oil will drain completely.
3. Place a suitable container under oil drain of engine and remove drain plug.

NOTE

There is limited space between the engine and power pack frame. Cut down an empty plastic container to the correct height so it will fit under the engine oil drain. Make sure the container will hold the correct amount of oil in the engine.

As an alternative to draining the engine oil from the drain plug you can use a vacuum pump and remove the oil through the dipstick tube. A pump suitable for this is available through your Argo dealer, Part No. 638-02.

PLEASE DISPOSE OF WASTE OIL PROPERLY TO CONSERVE OUR ENVIRONMENT.

4. When all the oil has been drained from the engine, clean and replace the drain plug. **MAKE SURE** it is properly tightened before refilling the engine.

5. See Oil Filter Replacement in Section 6.3.3.

Refilling the Engine

Refill the engine through the oil fill port with the correct amount of oil according to the oil chart. Make sure the appropriate grade of oil is used (Section 6.1.2). As you add oil, frequently check the level with the dipstick. Do not overfill. Start engine. Check for leaks. Stop the engine. Check the oil level. Add oil only to the "Full" mark on the dipstick.

6.2 TRANSMISSION OIL INFORMATION

6.2.1 Checking the Transmission Oil Level



Admiral transmissions do not have an oil dipstick. Check for correct oil level by viewing the site glass installed to the lower portion of the transmission housing (Figure 6-4). To view this site glass, remove the quick release firewall. Oil filling half the site glass indicates correct oil level.

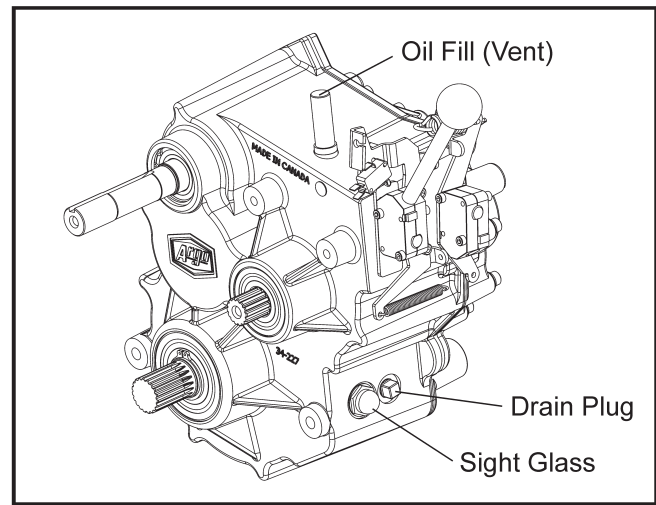


Figure 6-4. Admiral transmission.

6.2.2 Changing the Transmission Oil



Removing the oil from the Admiral transmission requires the use of a vacuum style pump such as the 638-02 Big Boy, Top Sider (available from Ontario Drive and Gear). Due to the design of the ADMIRAL transmission, the majority of the oil in the case will be below the drain plug.

Remove the drain plug (Figure 6-4) and drain the oil until the flow stops. Insert the vacuum tube of the Big Boy Vacu-Pump into the drain plug hole and remove the remaining oil from the transmission sump.

SECTION 6

OIL, FILTER AND LUBRICATION INFORMATION

6.2.3 Refilling the Transmission

Install the drain plug. Remove the fill/vent plug located on the top of the transmission. Fill the transmission with 80W90 Gear Lube or ARGO brand 75W90 Synthetic lube (Part No. 130-104). Fill the transmission until the sight glass is half full. For Oil capacity see Oil Capacity Chart (Figure 6-5).

Transmission Oil Capacity	
Admiral (34-200)	1.2 L

Figure 6-5. Transmission Oil Capacity

6.3 FILTER INFORMATION

6.3.1 Air Filter (Briggs)

Briggs Big Block engines are equipped with a foam precleaner and dry paper air filter element housed in an air cleaner assembly attached to the throttle body. Figure 6-6

Replace or wash precleaner in warm water with detergent. Rinse and allow to air dry. Saturate precleaner with new engine oil; squeeze out excess oil. Replace the paper element.

Wash and oil the precleaner after every 25 hours of operation or more often under extremely dusty or dirty conditions.

Check the paper air filter element every 100 hours of operation or more often under extremely dusty or dirty conditions.



Figure 6-7. Air Cleaner Element and Inner Element.

Air filter (Kohler)

The Kohler Aegis engine is equipped with a heavy duty high density paper air cleaner element surrounding a canister style inner element. Cleaning is not recommended, each element should be replaced when dirty. See Figure 6-8

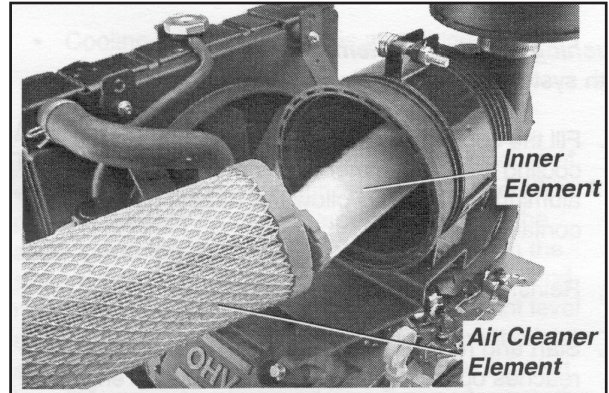


Figure 6-8. Air Cleaner Element and Inner Element.

For instructions to remove, clean and replace the air filter components, refer to the air cleaner section of the engine Owner's Manual.

6.3.2 Fuel Filter (Kohler)

AURORA EFI models have 1 fuel filter, located in the rear compartment at the fuel tank (Part No. 24 050 03). Figure 6-9.



Figure 6-9. Aurora EFI fuel filter location.

CAUTION

Fuel under high pressure.

Replace the Kohler high pressure fuel filter after every 1000 hours of operation or once a year. To replace the filter, loosen the gear clamps with a standard screw driver and pull the rubber fuel lines off of the filter. Install the new filter with the flow arrow pointing toward the engine. Tighten the clamps securely. Start the engine and check for fuel leaks.

SECTION 6

OIL, FILTER AND LUBRICATION INFORMATION

Fuel Filter (Briggs)



The fuel filter for the Big Block Briggs powered air cooled vehicle is located at the engine.

6.3.3 Oil Filter

Change the oil filter when the oil is changed (Part No.12 050 01-S for Kohler Aegis engines) or (Part No. 842921 Briggs for Big Block 40 h.p.)

Before installing the new filter, lubricate the rubber filter gasket with clean engine oil. Screw the filter on by hand until the gasket contacts filter adapter. Tighten 1/2 to 3/4 turn more. Start and run engine to check for oil leaks. Stop engine and re-check oil level. Add oil if required.

6.4 LUBRICATION INFORMATION

6.4.1 General

The following parts and components require regularly scheduled lubrication to prevent premature wear and replacement.

1. Drive Chains
2. Bearings

Use the recommended lubricants listed in this section and carefully observe the recommended lubrication intervals.

6.4.2 Clutch Lubrication

No lubrication is required for either the driven clutch or driver clutch. They are designed to run dry. If lubricant is used, use of the vehicle will attract dirt and cause damage to the clutch components. Contamination by dust and dirt can cause poor performance, premature wear or failure.

⚠ WARNING

Only qualified personnel should perform installation, maintenance, adjustments and repair operations on the variable speed transmission system.

A complete service of the clutch units is required after every 250 hours of operation. To perform this procedure, the clutches must be disassembled. Special tools are required to disassemble the clutch units. We recommend that you return your vehicle to an authorized ARGO dealer to have the clutch units serviced.

6.4.3 Drive Chain Lubrication

Your AURORA is equipped with roller chains to each axle. Lubricate the chains every 10 hours with Aerosol Chain Lube (ARGO Part No. 130-101), or more frequently in dirty or wet conditions.

After every 100 hours of operation, or for extended periods of storage, remove all the drive chains from the vehicle and clean them thoroughly in a suitable solvent, i.e. degreaser. See **WARNING** below.

⚠ WARNING

Never use gasoline as a cleaning solvent. Gasoline is extremely flammable and can explode if ignited, causing serious personal injury.

Allow the chains to dry thoroughly, re-lubricate generously with ARGO Chain Lube and re-install.

Refer to Section 7.2.3 of this manual for drive chain removal and re-installation instructions.

6.4.4 Automatic Chain Oiler System (if equipped)

NOTE

Proper lubrication of the chain drive components greatly increases their service life. Keeping chains out of water and dirt will also improve the effectiveness of chain lubrication.

Operation:

The automatic chain oil system operates on a timed circuit that starts as soon as the key is turned to the run position. The system starts with a 15 minute (or 1 hour optional) off cycle followed by a 5 second on cycle when the pump runs and supplies oil to the oil drip tubes. The drip tubes, direct the drips to land between each inner and outer plate of the chain.

The override switch on the dash bypasses the timer and will run the pump for as long as the switch is pressed. This switch is meant to be used to run the pump for initially priming the system, checking drip tube alignment, or manually re-lubricating the chains after cleaning them. Once the switch is activated, the timer is reset to the beginning of the 15 minute or 1 hour timer cycle.

The chain lube system timer ground is also run through the parking brake switch. When the engine is running and the parking brake is applied, the timer is interrupted and shuts down the lube system. The timer is reset to beginning of timer cycle, 15 minute or 1 hour. **IMPORTANT:** If vehicle is never driven longer than the 15 minute or 1 hour time duration, lube system will never operate to lube chains.

SECTION 6

OIL, FILTER AND LUBRICATION INFORMATION

Recommended Oil:

ARGO Brand Chain Lube Auto Oil - 1L (part no. 130-100) or any good quality oil of the proper viscosity (based on temperature, see chart) can be used. The oil must be able to penetrate into the bushings and side plates to be effective. **Do not use** used oils, high tack oils (i.e. chainsaw bar oil), heavy oil, or grease.

TEMPERATURE	-40 ~ 0 C (-40 ~ 32 deg. F)	0 ~ 40 C (32 ~ 104 deg. F)	40 ~ 50 C (104 ~ 122 deg. F)
OIL VISCOSITY	SAE 10 or 5W-30	SAE 20 or 10W-30	SAE 30 or 10W-40

First time operation:

1. Fill the reservoir with appropriate oil.
2. Remove the front floor pan, firewall, and rear floor pan.
3. Turn the key to run position, press and hold the override switch. You will hear the pump.
4. With the pump running watch below the drip tubes to see when the oil begins to drip. It may take close to 2 minutes of continuously holding the switch before the system is primed. The oil will start dripping on the front chains several seconds before it drips on the rear.
5. Once the oil starts dripping watch the drips to make sure they are falling onto the side plates of the chain.
6. Loosen the bolt holding the drip tube and adjust the position as required.

System may require priming if reservoir is run dry or after extended periods of non use.

Maintenance:

- Check the level in the reservoir prior to daily operation.
- For optimum pump and chain life, do not let the reservoir run dry.
- Periodically check to make sure all holes are dripping oil correctly.
- Wiping the bottom of the drip tubes with a rag will remove any larger deposits of dirt.
- A full reservoir of oil should last approx. 40 hrs. of run time.

! CAUTION

If your vehicle is equipped with an auto chain lube system, monitor steering brake discs and service brake discs weekly, for any signs of oil contaminated dirt and debris. This can be the result of excess oil spraying from moving chains. Regularly clean or pressure wash drive train if oily dirt and debris builds up on drive chains, brake discs or other components that could affect vehicle performance and braking capabilities.

6.4.5 Outer Axle Bearing Lubrication

! CAUTION

DO NOT USE HIGH PRESSURE PNEUMATIC GREASING EQUIPMENT

Each outer axle flange is equipped with one grease nipple. This grease nipple supplies grease directly to the outer axle bearing. It requires re-greasing every 25 hours of operation or before the vehicle is taken out of service for any extended period. Use a pistol grip type grease gun to avoid dislocating the bearing seals due to excessive grease pressure. Figure 6-10.

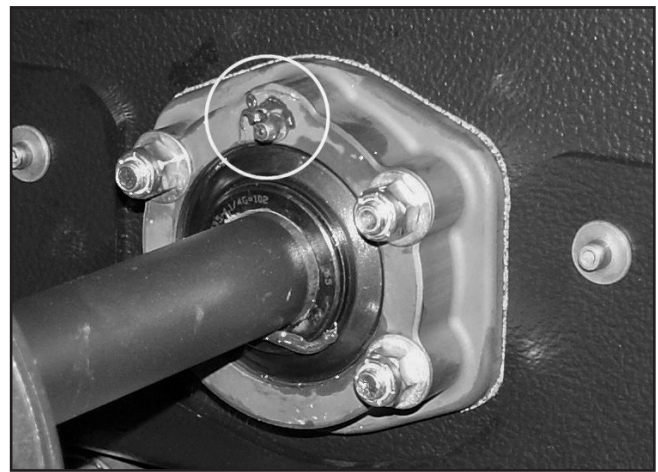


Figure 6-10. Outer bearing flange.

To promote regular maintenance of important Argo components, Ontario Drive & Gear has provided an access hole through each rim and hub for ease of bearing lubrication.

! CAUTION

Do not use high pressure or excessive amounts of grease. Damage to the bearing seals could result.

6.4.6 Idler Shaft Outer Bearing Lubrication

Left and right hand side outer idler shaft bearings are fitted with a grease fitting. With the firewall and front floor pan removed, these grease fitting are accessible at the top of the bearing flange. All of these can be accessed conveniently with a grease gun fitted with a flexible extension head. (Figure 6-11) Grease with a small amount of a lithium based, NLGI #2 or 3 mineral oil based grease, (such as Shell Alvania #3 or ARGO Brand Multi-Purpose Grease Part No. 130-105). Apply every 50 hours of operation, if vehicle has been used in water for extended periods of time or whenever major maintenance is performed on the vehicle.

SECTION 6

OIL, FILTER AND LUBRICATION INFORMATION

6.4.7 Output Shaft Coupler Lubrication

Output shaft spline couplers are equipped with a grease fitting (Figure 6-11) to allow lubrication to the spline of the shaft and coupling connector. Lubricate every 25 hours with a lithium based, NLGI #2 or 3 mineral oil based grease, (such as Shell Alvania #3 or ARGO Brand Multi-Purpose Grease Part No. 130-105). Wipe off excess.

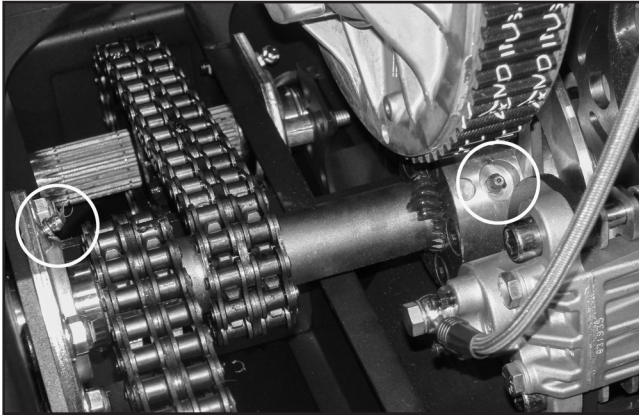


Figure 6-11. Output shaft grease fitting.

6.4.8 Inner Axle Bearing Lubrication

The inner axle flanges are equipped with a grease nipple (Figure 6-12). Lubricate the bearings with a small amount of a lithium based, NLGI #2 or 3 mineral oil based grease, (such as Shell Alvania #3 or ARGO Brand Multi-Purpose Grease Part No. 130-105). Apply every 50 hours or before the vehicle is taken out of service for any extended period. Dirt, dust and exposure to water will accelerate this servicing to less than 50 hour intervals. Only a small amount of grease is required.

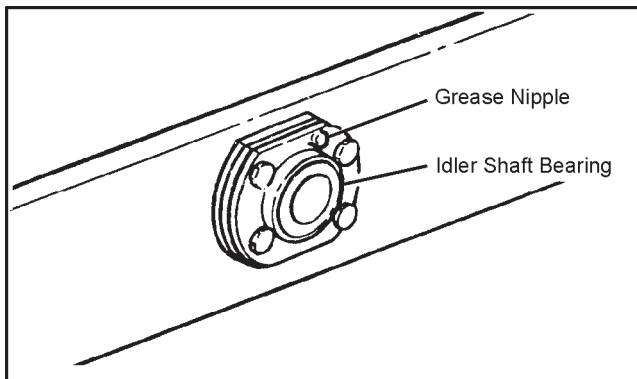


Figure 6-12. Inner axle flange grease nipple.

SECTION 7 MAINTENANCE INFORMATION

7.1 ELECTRICAL SYSTEM

⚠ WARNING

Detailed information on standard workshop and safety procedures and general installation practices is not included here. ODG assumes no responsibility or liability for PERSONAL INJURY or VEHICLE DAMAGE which results from any procedure performed, including those procedures outlined here. Before performing any procedure, an individual must have determined to his/her satisfaction that personal injury or vehicle damage will not result from the procedure, working environment or tools selected.

7.1.1 General

To prevent damage to the electrical system:

- Never weld on the vehicle. If welding is required, take your vehicle to an authorized Argo dealer.
- Connect battery booster cables properly, positive to positive and negative to negative. Connect negative cable last, disconnect first. **It is not a recommended practice to boost your Argo if the battery is dead. If possible, avoid the use of booster cables from an external battery source. Damage can occur to the engine ignition system.**
- Connect switch terminals properly, especially the ground wire.

7.1.2 AGM Battery - ARGO Part No. 10005B (Yuasa)

⚠ WARNING

Battery fluid contains sulphuric acid. If battery fluid comes in contact with skin or eyes, flush thoroughly with water. If swallowed, call physician or poison control centre immediately. **KEEP AWAY FROM CHILDREN.** Serious personal injury can occur. Always wear rubber gloves and safety glasses when servicing the battery.

Batteries can explode and cause serious personal injury if exposed to flame or sparks. Never smoke while servicing the battery.

The battery is located under the hood on the right hand side of the vehicle at the dash (intake side of vehicle) Figure 7.1

AGM batteries look different than other battery types. They are more compact because there is no free electrolyte making them more “volume efficient” in that they take up less space for their energy storing capacity. Because they are filled with electrolyte only one time during activation there are no filler caps. Instead a sealing plug permanently covers

the filler ports. Also there is no vent tube. AGM batteries are ideal for long term storage. In addition, an AGM battery is an excellent choice for use in vehicles where acid spills could occur (atv's etc.).

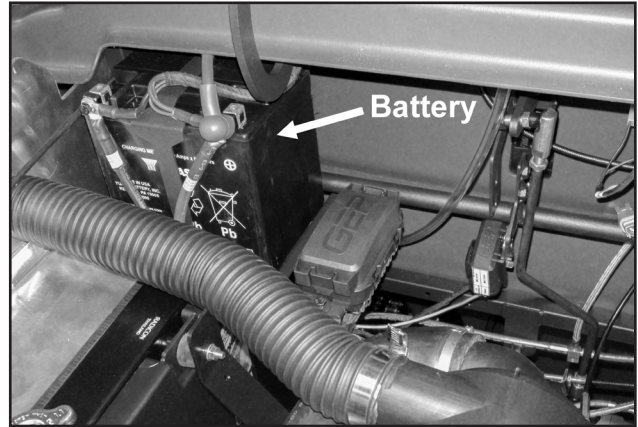


Figure 7-1. battery location

Activating and Charging AGM Batteries

Activating an AGM battery is a simple process and differs from activating a Conventional battery. Un-activated, AGM batteries can be stored for long periods of time as long as they are kept in a cool, dry location and out of direct sunlight. Also the foil sealing strip covering the filler ports should not be removed until the battery is ready to be activated. Use only the electrolyte container that comes with the battery for filling the cells as it has a higher concentration of sulphuric acid than the acid used for Conventional batteries.



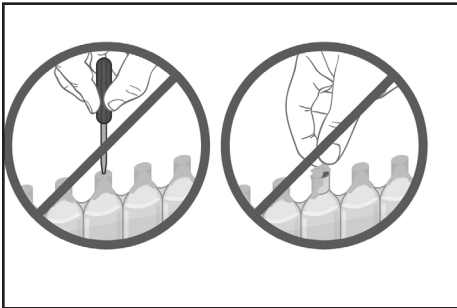
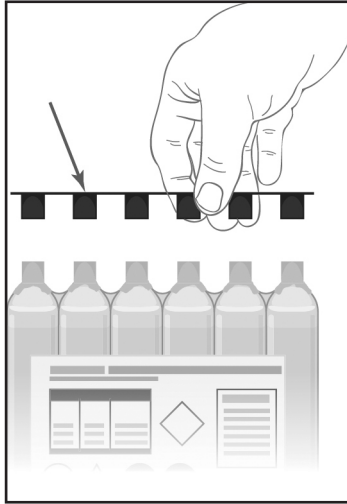
The electrolyte container that is shipped with a dry AGM battery contains the correct amount of battery acid and is more concentrated than the electrolyte used in a conventional battery. All AGM battery electrolyte containers are not the same. Each contains the proper amount of electrolyte for its specific battery.

Before filling, read the electrolyte handling instructions and precautions on the label. Do not smoke when activating a battery or handling battery acid. Always wear plastic gloves and protective eyewear and be sure to read the Battery Safety section that comes with your battery. The following seven steps should be used to activate an AGM battery:

1. The battery must be out of the vehicle and placed on a level surface.

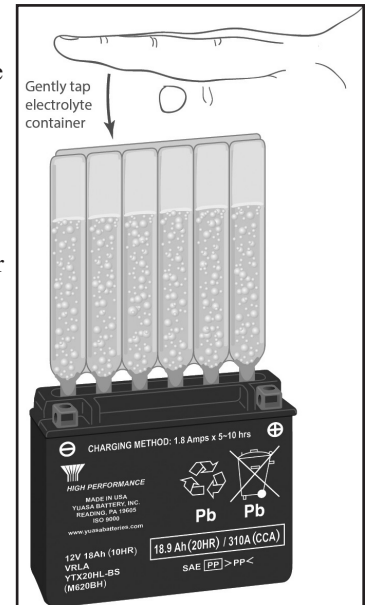
SECTION 7 MAINTENANCE INFORMATION

2. Remove electrolyte container from the plastic storage bag. Remove the strip of caps. **Put the strip aside as you will use it later to seal the battery cells.** For battery filling use only the dedicated acid container that comes with the battery as it contains the proper amount of electrolyte for that specific battery. This is important to service life and battery performance. Do not pierce, or otherwise open the foil seals on the electrolyte container. Do not attempt to separate the individual electrolyte containers.

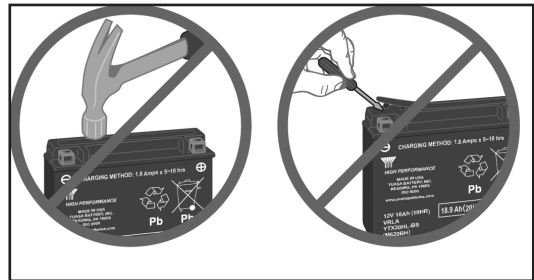


3. Place the electrolyte container with the foil seals facing down into the cell filler ports on the battery. Hold the container level and push down to break the foil seals. Electrolyte will start to flow into the battery and air bubbles will be seen inside the container. Do not tilt the electrolyte container.
4. Check the electrolyte flow. Keep the container in place for 20 minutes or longer until it empties completely. If no air bubbles are coming up from the filler ports, or if container cells haven't emptied completely after 20 minutes, tap the container and/or battery case a few times to cause the electrolyte to flow into the battery. Do not remove the acid container from the battery until it is completely empty. The battery requires all of the electrolyte from the container for proper operation.

Bubbles will appear as the electrolyte container fills the battery indicating the flow of battery acid. Tap the container periodically to keep the electrolyte flowing until the container is completely empty. Never puncture the top of the acid container to speed up the filling process.



5. Remove the empty electrolyte container from the battery. Fully insert the strip of sealing caps (previously removed from the electrolyte container) into the battery filling ports. Make sure the strip of caps is fully inserted and flush with the top of the battery. Insert the caps by hand, do not use a hammer or excessive force. Never remove the strip of caps or add water or electrolyte to the battery during its service life.



After filling, the sealing caps should be installed using hand pressure only. The sealing cap should never be removed once the battery is activated.

6. For batteries with ratings of less than 18 AH, let the battery stand for 20 to 60 minutes. For batteries with higher AH ratings, and/or having the High Performance rating (designated by an "H" in the part number/name) allow the battery to stand for 1 to 2 hours. Yuasa AGM batteries have the amp hour (AH) printed on the front of the battery case. The stand, or rest period, allows the electrolyte to permeate into the plates for optimum performance.
7. Newly activated AGM batteries require an initial charge. After adding electrolyte, a new battery is approximately 75-80% charged. After the "stand" period (step 6), charge the battery to bring it to a full state-of-charge. The battery

SECTION 7

MAINTENANCE INFORMATION

charger used for initial charging should be able to charge at 12.8+-volts for an AGM battery. All Yuasa battery chargers are capable of reaching this minimum voltage and initializing/activating an AGM battery.

Points to Remember

- Newly activated AGM and Conventional batteries require an initial charge before being placed into service
- Yuasa Smart Battery Chargers use constant current and pulse technology and can activate, charge and maintain all Yuasa batteries
- High-rate, automotive types of chargers can cause damage to powersports batteries
- High performance batteries (designated by an “H” in the part number) must stand 1 to 2 hours after initial charging
- Never remove the strip of caps on an AGM battery to add water or electrolyte during its service life
- Before activation of Conventional batteries remove the red sealing cap from the vent elbow and discard it

⚠ WARNING

Ventilate area when charging. Keep away from spark, heat, cigarettes or open flame.

Cleaning the Battery Terminals and Cable Connections

Clean the battery terminals and cable connections every 100 hours. Remove the black NEGATIVE (-) cables first. Make sure you reconnect the NEGATIVE (-) cables to the NEGATIVE (-) post and the red POSITIVE (+) cables to the POSITIVE (+) posts. Damage to the electrical system will occur if the cables are reversed.

Cleaning the Battery

Clean the top of the battery every 250 hours with a mixture of baking soda and water. Before cleaning the battery, remove it from the vehicle and make sure the pod vents are in place (non-sealed batteries only). Soak a cloth in the soda/water mixture and scrub the top of the battery. After the foaming has stopped, flush with clean water and dry with a clean cloth.

7.1.3 ELECTRICAL SYSTEM FUSES

All models of the ARGO are equipped with push-in type automotive fuses. The fuses protect the electrical circuits of the vehicle. They are located in a sealed fuse block, inside the engine compartment, on the right hand side of the vehicle closest to the firewall (intake side). Return your vehicle to an ARGO dealer for inspection of the electrical circuit if a fuse blows repeatedly. Figure 7-2

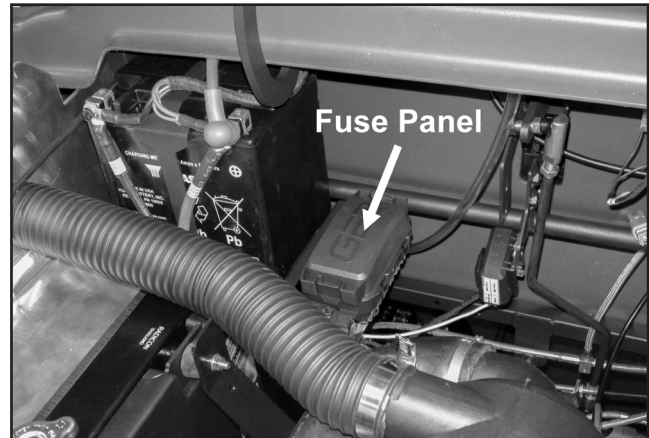


Figure 7-2. Fuse box

7.1.4 SPARK PLUGS

Remove and inspect the spark plugs after every 100 hours of operation. Clean the plugs and reset the gap as detailed in the engine owner’s manual.

Replace the spark plugs if the electrodes are corroded or damaged or if the insulator is cracked. Use the correct plug for the engine as detailed in the engine owner’s manual.

Re-install the spark plugs carefully, taking care to start the threads properly. Torque the plugs to 10 - 15 ft. lbs (14 to 20 N·m). Do not over tighten.

7.1.5 SPARK ARRESTER

Cleaning the Spark Arrester

⚠ CAUTION

After operating the engine, do not touch any part of the exhaust system until it has had sufficient time to cool!

1. Keep a record of the number of hours of engine use. The spark arrester should be removed, cleaned and inspected every 50 hours of operation.
2. Remove the tail pipe assembly by disconnecting the springs from the muffler attached to the tail pipe.
3. The screen-type spark arrester assembly is located inside the tail pipe. It is fastened with one (1) slotted washer-head hex screw and one (1) internal tooth lockwasher. Find the screw on the side of the outlet tube.
4. Remove the screw and save it for step 8.
5. Take out the screen-type spark arrester assembly.

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6. Shake loose particles out of the screen assembly.
7. Clean the screen with a wire brush. (Soak it in oil solvent if necessary.)
8. If any breaks in the screen or weldments are discovered, replace the assembly with Part No. 607-171.
9. Return the screen assembly to the tailpipe and outlet tube assembly and re-fasten it with the screw and internal tooth lock washer from Step 4.

7.2 DRIVE SYSTEM & TIRES

⚠ WARNING

Do not attempt to adjust, repair or replace the drive belt, clutches or any moving part while the engine is running. Doing so will cause injury. Before servicing the vehicle, disconnect the battery to prevent accidentally starting the engine.

Keep the engine compartment hood, clutch guard and firewall securely in place when the engine is running. Severe injury can result if the drive belt, clutch components or other moving parts come loose.

*If engine compartment inspection is necessary while the engine is running, use **EXTREME CAUTION!** Keep engine RPM low. Avoid standing directly in line with moving components. Use a mirror to view the components.*

7.2.1 DRIVE BELT

The drive belt transmits power from the driver clutch (on the engine) to the driven clutch (on the transmission). These components are located on the left side of the engine compartment (Figure 7-3).

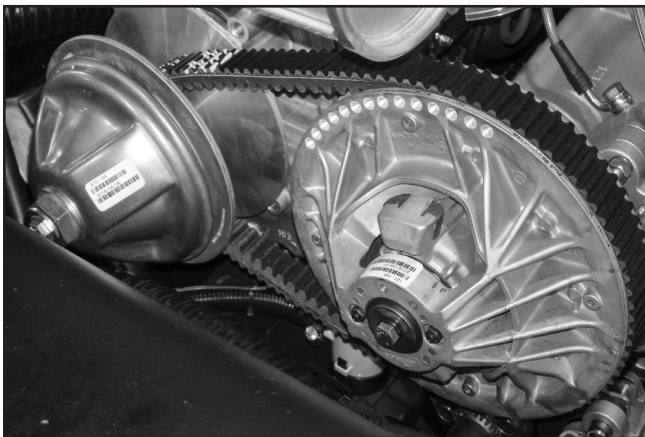


Figure 7-3 Location of drive clutches and drive belt.

Check the drive belt after every 25 hours of operation, or whenever there is a noticeable reduction in clutch performance. Replace the belt when:

- the top width of the belt has worn to 1-1/16" (27mm)
- cracks, fraying or shredding is apparent
- it becomes contaminated with oil or some other fluid

Refer to the ARGO Parts Manual for correct drive belt part number.

Drive Belt Adjustment

To extend the life of the drive belt, the INVANCE driven clutch allows for some adjustment to reset the belt height if necessary. If belt wear causes the belt to start sitting below the sheaves at idle, adjustment can be made to bring the belt back up to flush or 1/10" above the sheaves.

1. Remove the driven clutch from the vehicle and move to a clean work bench.
2. Loosen both jam nuts located on the fixed face of the clutch. Figure 7-4.

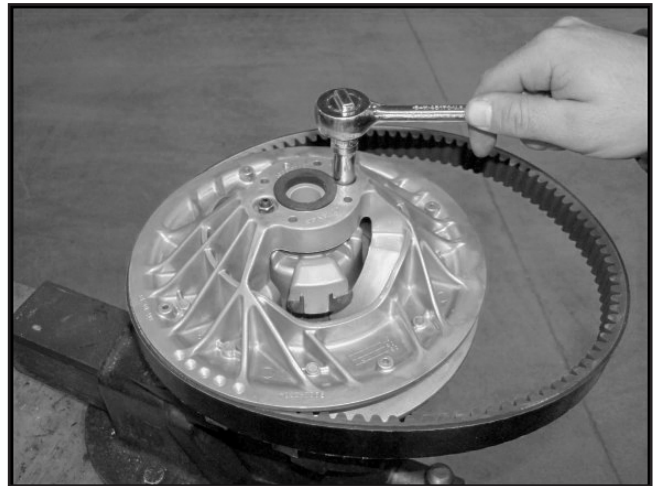


Figure 7-4 Loosen jam nuts.

3. Using an allen wrench, turn the adjustment set screw either in (to lower the belt) or out (to raise the belt) between the clutch sheaves. Figure 7-5.

IMPORTANT

Loosen set screws uniformly 1/2 turn at a time. It is crucial that the clutch faces remain true and parallel to each other around the entire circumference of the sheaves.

4. After adjustment, check belt level by placing a drive belt between the sheaves. Belt position should be anywhere from flush with the top of the sheaves, to 1/10" above. Re-tighten jam nuts and torque to 60-75 in. lbs. (7.5 +/- 1 Nm)

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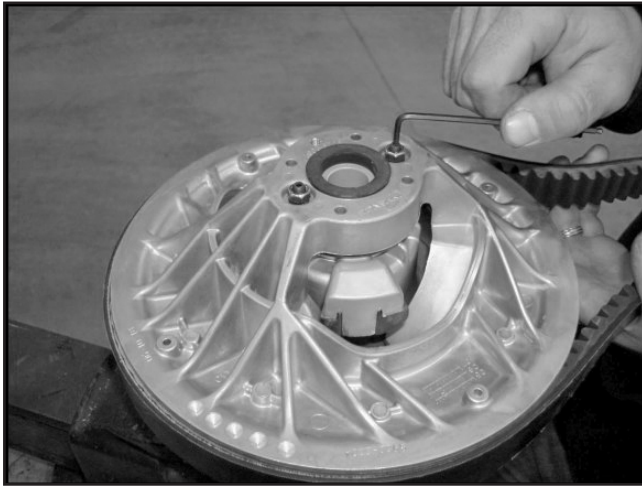


Figure 7-5 Turn the adjustment set screw.

To Remove the Drive Belt

The Invince Driven Clutch (transmission clutch), is manufactured with a 6mm x 1.0 threaded hole in the clutch face. This hole is provided to assist in spreading the driven clutch pulleys apart by threading a 6mm x 1.0 thread bolt in through the face. This bolt should be a least 2" in length with full thread. Spreading the pulleys allows for easy removal and installation of the 127-137HD or 127-159HD (Aurora 950 SX) drive belt. Figure 7-6.



Figure 7-6 Drive belt removal.

To install the Drive Belt:

⚠ CAUTION

If this procedure is not carried out as described, the edge of the fixed face may cut or damage the drive belt.

1. Position the belt around the driver clutch first.
2. Ease the belt over the edge of the fixed face on the driven clutch and at the same time, turn the inside, movable face clockwise.

Drive Belt alignment and tension are pre-set at the factory and are not adjustable. They are critical for proper operation of the drive system. Return the vehicle to an ARGO dealer if rapid belt wear occurs.

7.2.2 CLUTCH MAINTENANCE

Disassembly and repair of the driver and driven clutch requires special tools. Return the vehicle to an authorized ARGO dealer if the clutch units need servicing. The following indicates that clutch service might be required:

- a drop in vehicle performance
- the clutch does not shift smoothly
- the clutch sticks during vehicle operation
- the drive belt wears rapidly
- the vehicle vibrates severely during operation
- the vehicle does not accelerate when the engine speed is increased with the transmission in gear
- transmission will not shift smoothly into gear at engine idle.

Clutch Inspection

Inspect the nylon sliders every 50 hours. The nylon sliders are mounted in the driven clutch moveable pulley. (Figure 7-7). When the clutch shifts, the cam moves on the nylon sliders.

Replace the nylon sliders *before* there is aluminum to aluminum contact between the cam and the movable pulley. Driven clutch disassembly is required to replace the nylon sliders properly. Return the vehicle to an ARGO dealer for service

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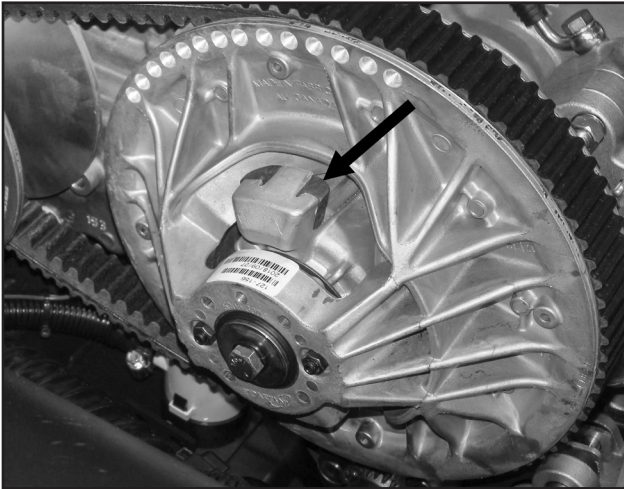


Figure 7-7. Location of the sliders.

7.2.3 DRIVE CHAINS

Roller chain “stretch” results from wear to the chain pins and bushings because of the loss of lubricant.

To prevent sprocket damage and unnecessary breakdowns, replace the chains when:

- the chain tensioner can no longer take up the chain slack.
- the chain is rubbing on a frame cross member.
- the chain is seized due to rust and lack of lubrication.
- the chain climbs the sprocket teeth, especially noticeable when turning.

To remove the Drive Chains:

1. Place the gearshift in the N (neutral) position.
2. Remove the floor pans.
3. Turn the tensioner cam assembly in the direction which winds up the torsion spring and push the assembly down as close as possible to the cam follower block in the bottom of the frame. Secure it in this position with a Vice-Grip 10CR as illustrated in Figure 7-8.
4. Roll the vehicle until the connecting link on one of the chains is visible.
5. Remove the spring clip from the connecting link as shown in Figure 7-9. Remove the outside plate and tap out the connecting link. The inside plates will be released when the connecting link is removed (Figure 7-9).

6. Remove the chain from the vehicle.
7. Repeat steps 4 to 6 until all drive chains are removed.

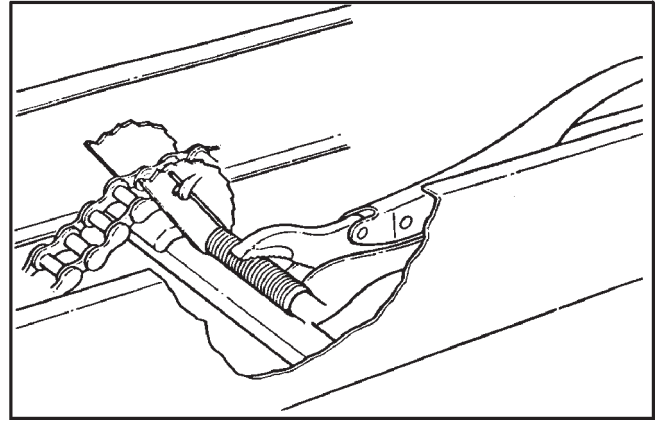


Figure 7-8. Securing tensioner cam

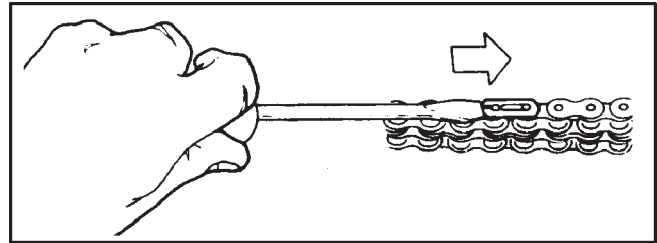


Figure 7-9. Removal of the spring clip.

To install the Drive Chains:

1. Position the drive chain over the slider block and around the drive sprockets.
2. Pull the ends of the chain together and insert the connecting link as shown in Figure 7-10 and 7-11. When connecting the RC50-2 chain, insert the inside plates before tapping the connecting link into position.

NOTE

Use a pair of modified 7R Vice Grips to hold the ends of the chain together while inserting the connecting link. Some drive chains have no slack, and replacement of the connecting link is difficult without this tool. Modified Vice Grips can be ordered from your ARGO dealer (ARGO Part No. 658-08) or refer to Appendix 1 for modification information.

3. Replace the outside plate and spring clip. The open end of the clip must face rearward when it is on top of the chain.
4. Remove the vice-grips securing the cam assembly in its lowest position.
5. Repeat steps 1 to 4 until all chains are replaced.

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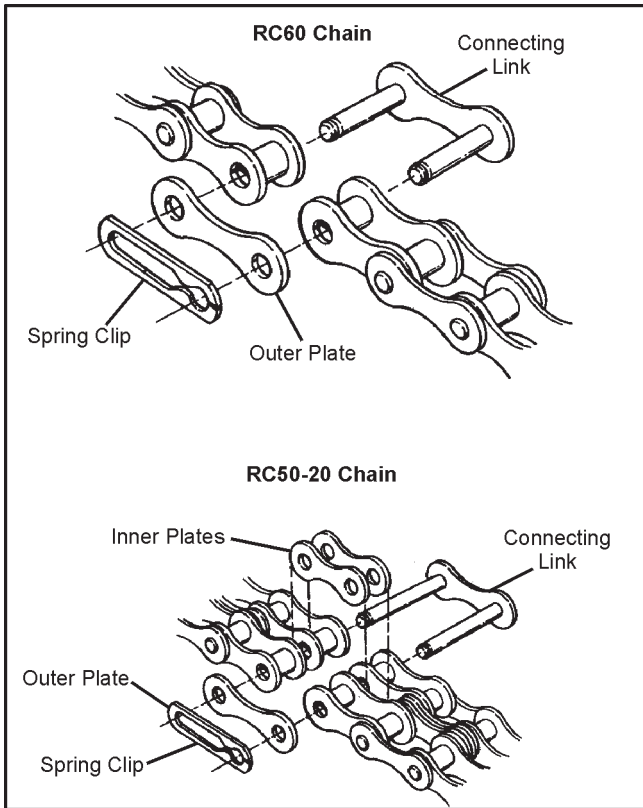


Figure 7-10. Chain connection link components.

7.2.4 DRIVE CHAIN TAKE-UP SYSTEM

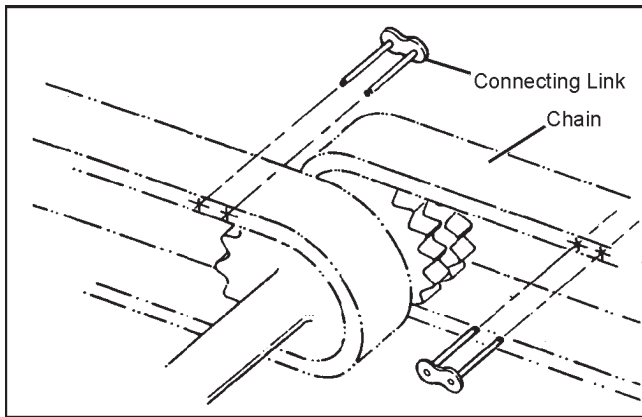


Figure 7-11. Installing the connecting link.

The chain tensioning system consists of a torsion spring loaded cam assembly with a slider block which takes up the slack on the bottom side of all but the front final drive chains. As the chain wears, the chain tensioning mechanism adjusts semi-automatically. Under most conditions, the tensioner cam assembly will move to the next step of adjustment simply due to normal drive system dynamics. Sometimes, however, the cam assembly can bind due to debris caught in the area. IT IS VERY IMPORTANT TO CHECK THAT THE CAM AS-

SEMBLY IS PROGRESSING PROPERLY. CHECK FOR PROPER CHAIN TENSIONER OPERATION EVERY 10 HOURS OF VEHICLE OPERATION, WHEN THE DRIVE CHAINS ARE BEING LUBRICATED. Each step of the cam takes up about 3 inches of chain slack (see Fig. 7-12).

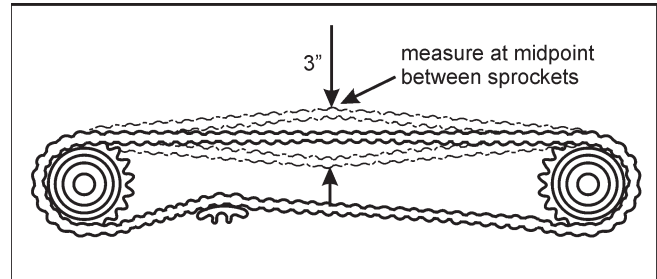


Figure 7-12. Chain slack required before the tensioner will progress to the next step.

The tensioner cannot progress to the next step until there is enough slack in the chain. With the wheels raised off the ground, check if the chain slack exceeds 3 inches. If it does, then reach under the slider block assembly and pull up. Remove any debris that may be present in the adjuster guides.

⚠ CAUTION

Check for proper chain tensioner operation every 10 hours of vehicle operation.

Each chain tensioner has a single UHMW slider block. Inspect the UHMW slider blocks for wear every 50 hours. Replace the blocks (ARGO Part No. 606-44) when the wear groove, as shown in Figure 7-13, measures 1/4" (6mm).

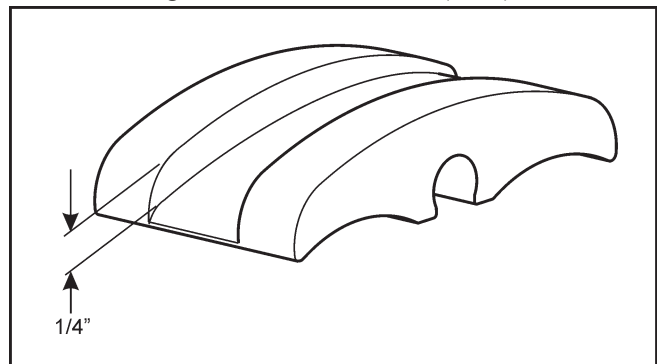


Figure 7-13. Wear groove on the slider block.

To Replace a Slider Block:

1. Remove the floor pans.
2. Turn the tensioner cam assembly in the direction which winds up the torsion spring and push the assembly down as close as possible to the cam follower block across the bottom of the frame channels. Clamp it in this position with

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a Vice-Grip 10CR or similar plier as illustrated in Figure 7-14 and remove the drive chain.

3. With pliers, pry the slider block off the cam assembly as illustrated in Figure 7-14.
4. Place a new slider block over the shaft of the cam assembly.
5. Using a piece of wood (or similar material) pressed against the top of the slider block, carefully hammer the piece of wood so the slider block snaps onto the cam assembly shaft as shown in Figure 7-15.
6. Re-install the drive chain and remove the locking pliers securing the cam assembly in its lowest position.
7. Pull up on the cam assembly to allow it to take up as much chain slack as possible.
8. Replace the floor pans.

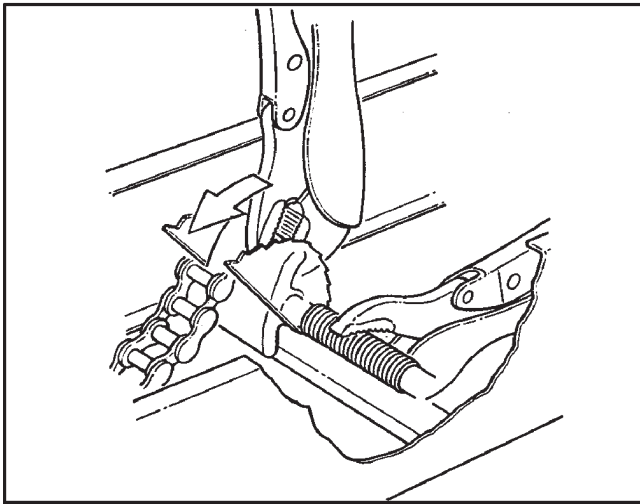


Figure 7-14. Prying the Slider Block off the Cam Assembly.

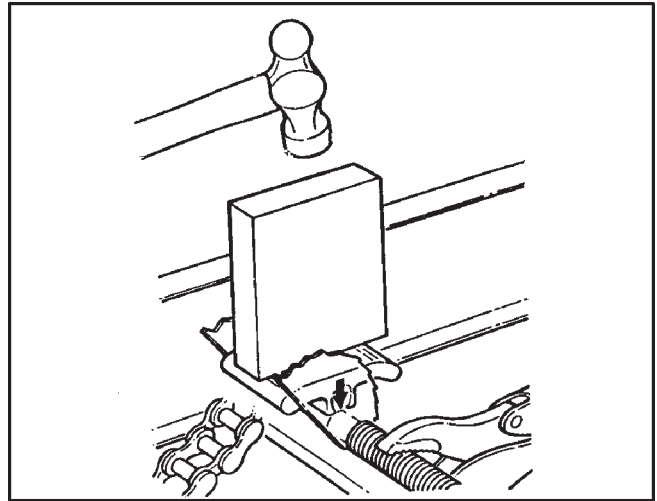


Figure 7-15. Hammering Slider Block into place.

7.2.5 TIRE INFLATION (without track system)

Improperly inflated tires can cause the vehicle to pull to one side, requiring constant steering correction. Suggested inflation is based on the type of rim in the wheel, and are listed below.

Standard 8" Steel Rim	2.5 to 3.5 psi (17 to 24 kPa)
Standard 9" Steel Rim	2.5 to 3.5 psi (17 to 24 kPa)
Offset 9" Steel Rim	2.5 to 3.5 psi (17 to 24 kPa)
Offset 9" Aluminum Beadlock Rim	1.5 to 3.5 psi (10 to 24 kPa)

The maximum operating pressure for all tires is 7.0 psi (48 kPa).

A special low pressure tire gauge (ARGO Part No. 619-10) is available from your ARGO dealer.

CHANGING TIRE PRESSURE FOR DIFFERENT TERRAIN CONDITIONS

The tire pressure should be adjusted according to differences in terrain. Observance of these guidelines will lead to less wear & tear on both vehicle and tires. The operator should equip the vehicle with a low pressure tire gauge (Part No. 619-10) and with a hand pump.

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RECOMMENDED GUIDELINES for TERRAIN

Soft Ground:

- Low Pressure** • On soft terrain, use lower pressure.

Hard Ground:

- Higher Pressure** • On hard terrain and water, use higher pressure.

Rocky Ground:

- Highest Pressure** • On rough or rocky terrain, fill to, but not more than the recommended range indicated on the tire sidewall.

This will reduce the possibility of tires and rims being damaged during heavy duty applications.

It is also important to observe the recommended load capacities of your vehicle when travelling on different kinds of terrain. For load capacities of your particular vehicle, see Section 1 of General Information in this operators guide.

IMPORTANT

It is **ultimately the responsibility** of the operator to determine a **SAFE MAXIMUM load capacity in accordance with the driving terrain, conditions and vehicle specifications.**

7.2.6 TIRE REPAIR AND REPLACEMENT

Standard Tire:

Repair a flat tire by removing the tire completely from the rim. Proper tire changing equipment is necessary to remove and remount the tire. Your authorized ARGO dealer will have the necessary tools.

Apply a radial tire patch on the inside of the tire over the puncture or hole.

Remount the tire on the rim using a bead lubricant such as Murphy's Tire & Tube Mounting Compound. Spoon the tire onto the rim to prevent tire bead area damage. **THE TIRE MAY EXPLODE IF OVER-INFLATED.** Place the tire and rim assembly in a protective cage to inflate and to seat the beads. Never inflate over 32 psi (220 kPa) to seat the bead. Once both beads are seated, deflate to 2.5 to 3.5 psi (17 to 24 kPa), 7 psi (48 kPa) maximum operating pressure. A special, low pressure tire gauge (ARGO Part No. 619-10) is available from your ARGO dealer.

Replace badly worn or damaged tires with original equipment ARGO tires. Consult your ARGO dealer if in doubt. Any other tires (size, type or tread pattern), will affect the skid steering characteristics of the vehicle and may cause vehicle damage.

ARGO track systems are designed for use **ONLY** with original equipment Goodyear, Carlisle or ARGO tires.

Bead Lock Tire and Rim Assembly

Before assembling a new tire to the bead lock rim, check both valve stems for any damage. Ensure rim beads are free and clean of any dirt/debris that might cause leakage due to poor seating. Secure the rim tightly before proceeding with tire installation. Figure 7-16.



Figure 7-16. Bead lock rim.

Apply tire bead lube around the perimeter of both tire beads Figure 7-17.



Figure 7-17. Apply tire bead lube.

Install tire to rim, pushing bead over rim lip. Figure 7-18.



Figure 7-18. Install tire to rim.

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Ensure the tire bead is seated properly into the rim lip around the entire perimeter of the rim (see Figure 7-19), before placing the rim ring into position to the top of the tire bead. Align machined edges of rim ring with machined edges of rim. Figure 7-19.

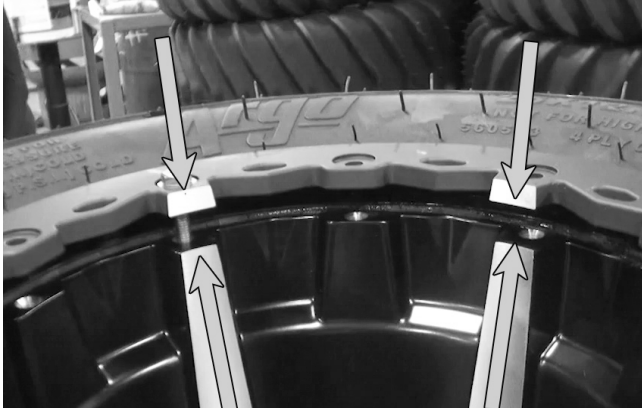


Figure 7-19 Align rim ring with rim.

Install (10) fasteners to all locations around tire/rim assembly and torque to 7.2 ft.lbs (10 Nm). Torque in a cross pattern sequence. Do NOT over-torque. Figure 7-20.



Figure 7-20 Install fasteners.

Turn rim over and spoon tire onto lip of opposite side. Figure 7-21. Place second rim ring into position as described in previous steps and install fasteners. Torque to 7.2 ft.lbs. (10Nm). Fill to 10 psi and check for leaks. Set final air pressure to 1.5 - 2.0 psi.



Figure 7-21

7.2.7 AXLE BEARING MOUNTING

The axles are mounted to your Aurora using special cork gaskets between the flanged bearings and the outside surface of the lower body (see Figure 7-22). During the initial run-in period, the gasket material may relax causing the nuts to loosen slightly. These should be checked and re-tightened after initial 8 hours of use and then after every 100 hours.

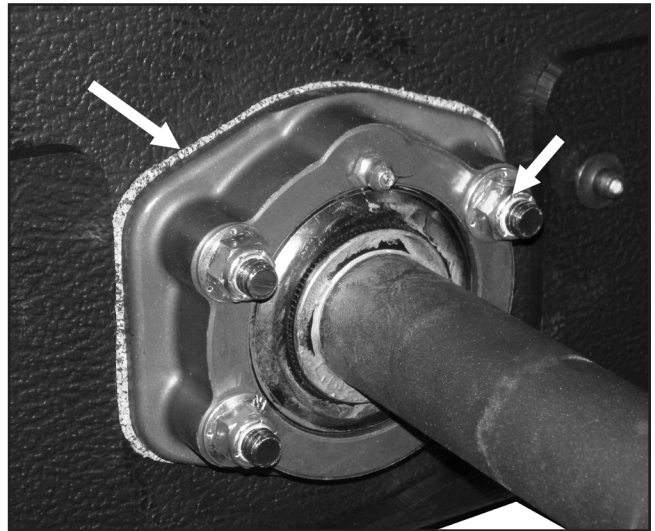


Figure 7-22. Re-tightening bolts (mid axles).

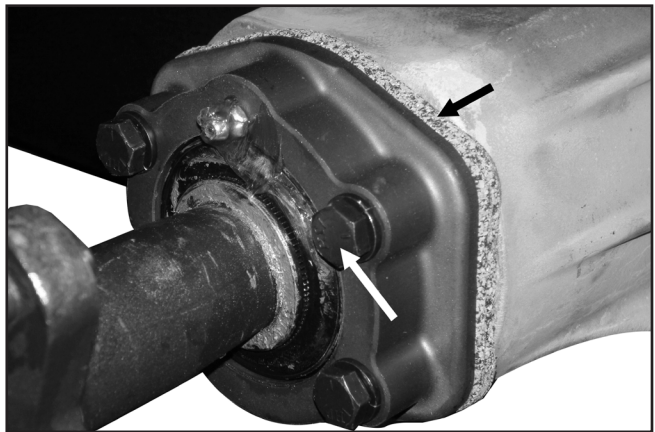


Figure 7-22. Re-tightening bolts (front/rear axles).

7.3 HYDRAULIC BRAKES

7.3.1 GENERAL

Although the hydraulic brake system is self adjusting, the following require periodic attention:

7.3.2 BRAKE FLUID LEVEL

After every 50 hours of operation, check the brake fluid level by removing the master cylinder covers.

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IMPORTANT

Thoroughly clean the master cylinder cover and surrounding area before removal.

Locate the master cylinders in the engine compartment near firewall at the steering column. When adding fluid, fill to mark on reservoir. Figure 7-23

If the brake fluid is below this level:

1. Add only fresh clean Argo Brand Brake Fluid - DOT 4 (Argo Part No.130-108) to the correct level.
2. Replace the cover on each master cylinder, making sure the rubber gaskets are properly seated before tightening. Tighten snug by hand only.

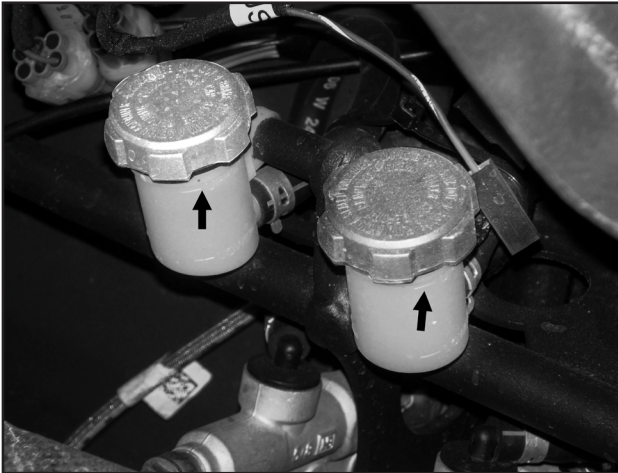


Figure 7-23. Hydraulic brake cylinder and fluid level.

CAUTION

Do not overfill the brake master cylinders. Overfilling can cause seal damage.

7.3.3 CHANGING BRAKE FLUID

Inspect the fluid for degradation (discolouration or particles) during normal fluid level inspections. If discolouration has occurred, the brake fluid system should be drained, flushed and refilled with fresh brake fluid. If particles are evident in the fluid, drain the system, overhaul the master cylinder and the brake caliper before flushing and refilling. An ARGO dealer will perform these operations for you.

NOTE

Spilled brake fluid is environmentally damaging. Proper disposal is required.

7.3.4 HYDRAULIC BRAKE PAD INSPECTION

Inspect the steering brake pads after every 25 hours of operation. Worn, glazed or contaminated brake pads affect the efficiency of the brake system. To inspect the pads, first remove the firewall.

To remove the firewall: 

1. Remove the six (6) fasteners securing the firewall using a socket and ratchet wrench.
2. Pull the firewall rear-ward moving the throttle cable clear of the area at the steering column that it is routed through.
3. Lift the firewall clear of the driving compartment.

Steering Brake Pad Inspection Procedure

With the firewall removed, both hydraulic brake calipers are visible. Each caliper has 2 brake pads which are secured by a single bolt fastener. Inspect all 4 brake pads.

Replace the pads when:

- the brake lining material molded to each metal backing plate is worn to 0.10" thickness. (Figure 7-24).
- the pads are glazed and brake performance is affected.
- the pads are contaminated with lubricant, and brake performance is affected.

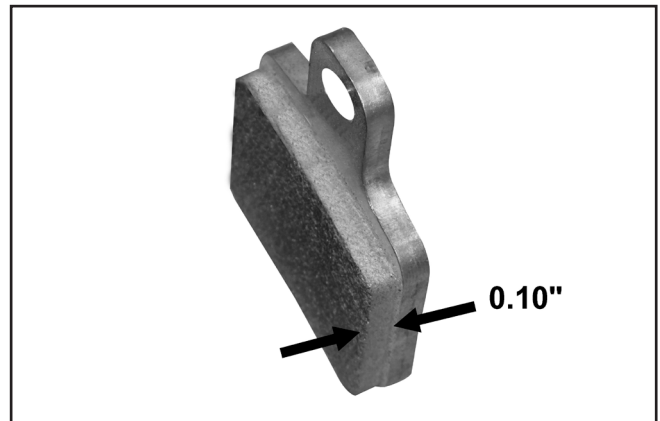


Figure 7-24. Brake pad wear, hydraulic brakes

To replace the steering brake pads:

Brake pads are easily replaced by removing the single bolt securing them within the brake caliper assembly and pulling each pad up and out of the caliper. See Figure 7-25. Pistons have to be pushed back in first, to allow clearance for the new pads. Slip the new pads into the caliper and install the single bolt fastener to secure the pads in position. Pump the steering handle bar a few times to the left and to the right to build up proper pressure and to locate the pads in the caliper assembly.

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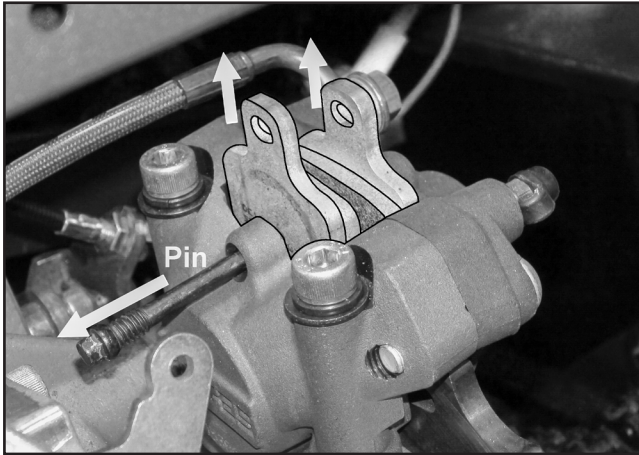


Figure 7-25. Removing the brake pads from the brake caliper

To replace the firewall:

1. Position the firewall in the driving compartment.
2. Slide in the bottom of the firewall first and route the throttle cable through the open area at the steering column.
3. Push in the top of firewall up against the tabs located on the left and right hand side of the dash support.
4. Reinstall the six (6) socket head fasteners that secure the firewall.

Handbrake Inspection



Aurora models are equipped with a hydraulic hand brake system. This consists of an independent set of hydraulic brake calipers and brake discs. The master cylinder is mounted on the left side steering bar with a fluid level viewing window. Figure 7-26a

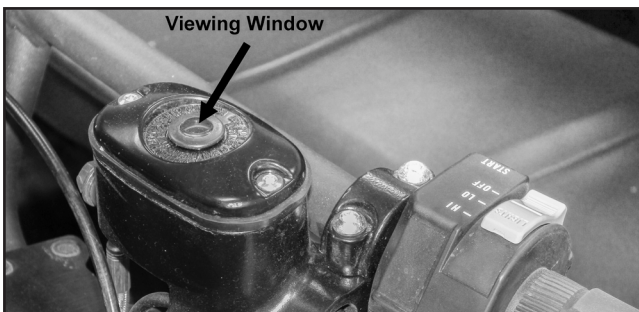


Figure 7-26a. Hydraulic handbrake levels

Monitor the hand brake fluid on a regular basis. If fluid level needs replenishing, remove the cover and ensure the level is to the “top” level mark. Figure 7-26b



Figure 7-26b. Hydraulic handbrake levels

Inspect all brake hoses and brake fittings at both hand brake and hydraulic calipers for any signs of brake fluid leaks.

IMPORTANT: If the cover needs to be removed to replenish or service the system, thoroughly clean the cover and surrounding area before removing to avoid any contamination to the brake system.

Hand Brake Pad Inspection Procedure

Inspect the brake pads after every 25 hours of operation. Worn, glazed or contaminated brake pads affect the efficiency of the brake system. To inspect the pads, first remove the firewall.

To remove the firewall:

1. Remove the six (6) fasteners securing the firewall using a socket wrench.
2. Pull the firewall rear-ward moving the throttle cable clear of the area at the steering column that it is routed through.
3. Lift the firewall clear of the driving compartment.

With the firewall removed, both hand brake hydraulic brake calipers are visible. Each caliper has 2 brake pads which are secured by (2) 3/8” Socket Head bolts. Inspect all 4 brake pads.

Replace the pads when:

- the brake lining material molded to each metal backing plate is worn to 0.035" (1/32”) thickness. (Figure 7-27).
- the pads are glazed and brake performance is affected.
- the pads are contaminated with lubricant, and brake performance is affected.

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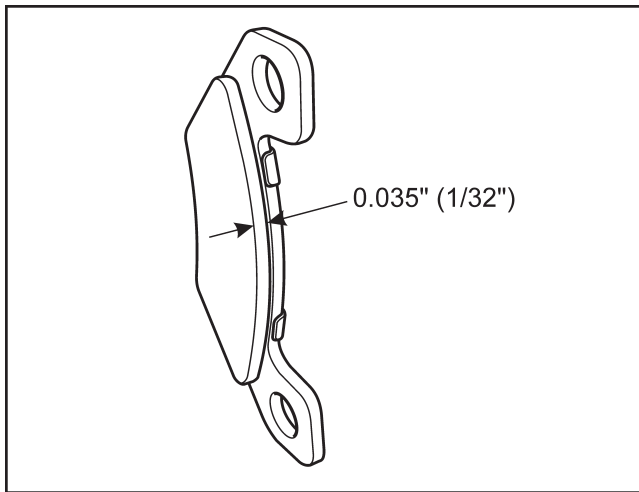


Figure 7-27. Brake pad wear, hydraulic handbrake pads

To replace the firewall:

1. Position the firewall in the driving compartment.
2. Slide in the bottom of the firewall first and route the throttle cable through the open area at the steering column.
3. Push in the top of firewall up against the tabs located on the left and right hand side of the dash support.
4. Reinstall six (6) socket head fasteners that secure the firewall.

⚠ WARNING

Do NOT operate the ARGO with the firewall removed.

Service Brake Bedding in Procedure

Bedding in of the service brakes is recommended by the brake pad manufacturer to obtain maximum performance and wear from the brake pads. When new service brake pads have been installed, the following procedure will need to be completed. Please include this procedure immediately after service pads have been replaced.

1. Ensure that the service brake system has been bled to provide maximum braking.
2. For this procedure select an area that is open and flat, such as an empty parking lot.
3. Drive the Argo at a speed of approximately 20kph. While continuing to apply throttle, gradually apply the service brake, slowing your speed down to 10kph, then release the brake and accelerate back to 20kph. Do not bring the

Argo to a full stop (unless required for safety reasons). **Bringing the ARGO to a full stop when the brakes are hot may cause the brake pad to imprint itself on the rotor. If this happens it will cause vibration and poor brake performance.**

4. Repeat step 3 a total of 10 times. Do not wait between cycles to let brakes cool.

⚠ CAUTION

Brake components will be extremely hot at this point.

After the 10 cycles are complete, shut down the ARGO and allow the brakes to cool down. When brakes have cooled, repeat steps 3 and 4. The bedding procedure is now complete. The brakes may smell, and some smoke could be present.

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7.3.5 EMERGENCY/PARKING BRAKE ADJUSTMENT

Adjusting the Emergency/Parking Brake



There are 8 positions on the hand brake lever. The cable should be adjusted to have the 5th position (click) as fully engaged with normal firm effort (extra effort required for 6th). A properly adjusted cable with the hand lever fully down should allow the parking brake disk to turn easily between the pads while rocking the vehicle slightly back and forth. If the cable is too tight the brake will be engaged and the operator may experience a sluggish vehicle and cause the pads to wear prematurely. If the 5th position (click) does not provide full engagement with normal firm effort (extra effort for the 6th) adjust the cable accordingly. Loosen the jam nut at the caliper and adjust as needed. Reduce distance "A" to provide more braking force or increase distance "A" if brake does not turn freely. Figure 7-28.

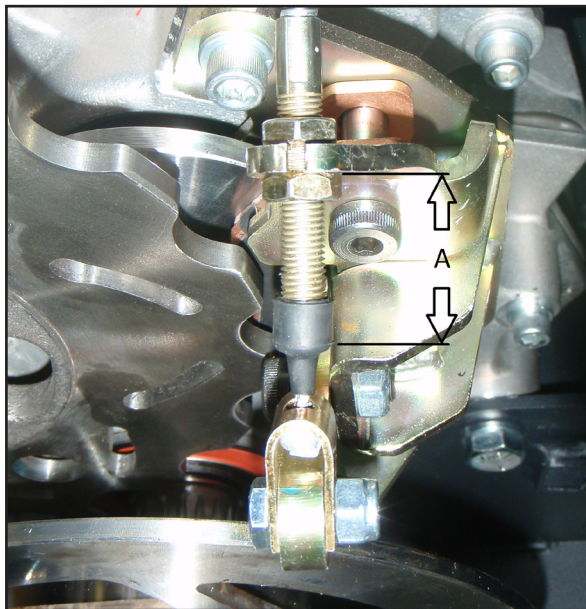


Figure 7-28. Adjusting the parking brake.

The emergency/parking brake system has been factory adjusted to ensure proper braking effectiveness. However, **before the vehicle is used for the first time**, and after every 25 hours of operation, the adjustment of the brake **must** be inspected.

⚠ WARNING

The use of an improperly adjusted emergency/parking brake is a serious hazard, and could lead to vehicle damage or personal injury.

The hand brake lever should be adjusted such that when pulled up firmly it is capable of holding the vehicle from rolling on a grade. It should also ensure a good braking response when

applied to stop the vehicle during normal operation.

⚠ CAUTION

If the emergency/parking brake system is adjusted too tight when the lever is in the down position, overheating of the brake system will occur due to drag between brake pads and brake discs.

7.3.6 BRAKE PLUNGER ADJUSTMENT

IMPORTANT

It is critical that the master cylinder pistons are adjusted properly when the steering handlebars are in the centered position. Overheating of the brake system could occur due to an improperly adjusted brake system. Any suspected issues related to the steering performance of your vehicle should be immediately addressed by a local authorized ARGO dealer.

7.3.7 BRAKE COOLING SYSTEM

Some vehicles with hydraulic brakes may have a 12 volt fan forcing cool air from outside the engine compartment onto the brake components to protect the system from overheating. Overheating can damage the hydraulic brake components. Make sure the brake cooling fan is operating when the vehicle is being driven. The fan operates when the ignition switch is in the "run" position. Keep the brake cooling system in good working order by:

- cleaning debris from the air intake screen and ducts.
- keeping electrical connections tight and components securely mounted.

7.3.8 ENGINE COOLING & EXHAUST SYSTEM

Engine cooling air is drawn in on the right side of the engine compartment and expelled with the exhaust on the left side. Keep all ducting and screening in place.

Coolant Recommendations - Kohler Aegis

Use equal parts of ethylene glycol (anti-freeze) and water only. Distilled or deionized water is recommended, especially in areas where the water contains a high mineral content. Propylene glycol based anti-freeze is **not** recommended.

This mixture will provide protection from -37° C (-34° F) to 108° C (226° F). For protection and use outside the indicated temperature limits, follow the anti-freeze manufacturers instructions on the container, but do not exceed 70% anti-freeze.

SECTION 7

MAINTENANCE INFORMATION

DO NOT use anti-freeze with stop-leak additive(s), or put any other additives in the cooling system.

Type: Permanent type of anti-freeze; green coloured

Mixed Ratio: 50% mixed

Freezing Point: -35° C (-31° F)

Coolant Capacity

ELH775 2 L (2.18 U.S. qt)

WARNING

If the vehicle is equipped with an enclosed cab of any sort, make sure there is plenty of ventilation to avoid exposure to exhaust and engine fumes. Engine exhaust contains carbon monoxide; an odourless, colourless toxic gas that will cause serious personal injury or death. Inspect the exhaust system periodically for worn or damaged components. Listen for a change in exhaust or engine noise that may indicate a dangerous exhaust leak. If a leak is detected, have the exhaust system repaired immediately before further use.

Check the area around the exhaust system periodically for accumulated debris, particularly when travelling through dry vegetation. Failure to inspect and clean the exhaust system on a regular basis may create a fire hazard.

The tail pipe exiting through the left side of the upper body becomes very hot when the vehicle is operated. DO NOT ALLOW ANYONE TO TOUCH THE EXHAUST COMPONENTS. A SEVERE BURN CAN RESULT.

NOTE

An annual complete check over of your ARGO vehicle is recommended. This will reduce maintenance costs over the life of your vehicle and ensure it will function properly during use periods.

**SECTION 7
MAINTENANCE INFORMATION**

7.4 DAILY CHECKLIST - Minimum Recommendation

Inspect The Following
◆ Check/Clean Air Intake Screen
◆ Check/Clean Exhaust Screen
◆ Check/Clean Hood Screen
◆ Check/Hi-Lo Shifter (Cable Inspection)
◆ Check Forward/Reverse Shifter (Cable Inspection)
◆ Check Parking/Emergency Brake (Cable Inspection)
◆ Check Handbrake (Fluid Level)
◆ Check Coolant Level
◆ Check Fuel Level
◆ Check Tire Inflation
◆ Check Oils (Engine & Transmission)
◆ Check Throttle Cable Operation
◆ Check Drain Plug Installation
◆ Check Lower Body For Damage Or Punctures
◆ Check Electrical, Lights, Wiring, Horn (if equipped)

All Aurora models: Check and inspect all accessories for proper fit and performance.

SECTION 7 MAINTENANCE INFORMATION

20/20 SERVICE CHART 20-POINT INSPECTION AFTER 20 HOURS OF OPERATION	
<ul style="list-style-type: none"> √ Change engine oil and filter √ Inspect air filter √ Change transmission oil √ Inspect and adjust chain tensioners √ Inspect steering and stopping brake operation √ Check tightness of all bearing and sprocket set screws √ Grease inner, outer & output shaft bearings √ Lubricate drive chains √ Inspect and clean air intake √ Inspect electrical system √ Inspect lower body and skid plate √ Adjust and set tire pressures 	<ul style="list-style-type: none"> √ Clean battery posts/check charging system operation √ Check engine idle speed & top no load RPM, adjust as required √ Adjust parking brake cable √ Inspect fuel system and filter √ Inspect CVT's & belt. Adjust secondary clutch as required √ Re-torque axle bearing and extension bolts √ Adjust steering plunger pins if required √ Operational check of all Argo Accessories

100/12 SERVICE CHART 100 HOURS OR ONCE-A-YEAR SERVICE	
<ul style="list-style-type: none"> √ Change engine oil and filter √ Inspect air filter √ Change transmission oil √ Inspect and adjust chain tensioners √ Inspect steering and stopping brake operation √ Check tightness of all bearing and sprocket set screws √ Grease inner, outer & output shaft bearings √ Lubricate drive chains √ Inspect and clean air intake √ Inspect electrical system √ Inspect lower body and skid plate √ Adjust and set tire pressures √ Clean battery posts/check charging system operation √ Check engine idle speed & top no load RPM, adjust as required √ Adjust parking brake cable √ Inspect fuel system and filter 	<ul style="list-style-type: none"> √ Inspect CVT's & belt. Adjust secondary clutch as required √ Re-torque axle bearing and extension bolts √ Adjust steering plunger pins if required √ Operational check of all Argo Accessories √ Change primary air filter √ Inspect secondary air filter √ Degrease/clean drive chains and re-lubricate √ Inspect all bearings for wear √ Inspect lower body / skid plate for damage √ Inspect drain plug seal √ De-grease and power wash vehicle √ Replace fuel filter √ Replace spark plugs √ Inspect chain slider blocks √ Clean and inspect spark arrester √ Inspect sprockets for wear √ Check fan belt for wear

SECTION 7 MAINTENANCE INFORMATION

	BEFORE EACH USE	AFTER INITIAL			EVERY				
		2hrs.	8hrs.	20hrs.	10hrs.	25hrs.	50hrs.	100hrs.	250hrs.
Check coolant level	X								
Check fan belt tension	X								
Check fuel level	X								
Check tire inflation	X								
Check finger throttle operation	X								
Check handlebar travel	X								
Check engine intake/exhaust for obstructions	X								
Check that drain plugs are in place	X								
Check engine oil level	X								
Change engine oil & oil filter				X				X	
Check transmission oil level		X					X		
Change transmission oil				X				X	
Check clean/replace air filter							X		
Replace fuel filter (Kohler high pressure every 1000 hrs.)									X
Service driver & driven clutch									X
Lubricate drive chains					X				
Remove, clean & lube drive chains						X		X	
Lubricate outer axle bearings						X			
Lubricate inner axle bearings							X		
Lubricate output shafts						X			
Lubricate idler bearings							X		
Clean battery terminals & connections								X	
Clean battery									X
Clean, adjust/replace spark plugs								X	
Check the drive belt						X			
Check nylon sliders - driven clutch								X	
Check sliders - chain take-up system					X				
Inspect brake pads						X			
Inspect/adjust emergency/parking brake						X			
Check hydraulic brake fluid level/condition							X		
Check fuel tank connections/lines								X	
Inspect wiring harness								X	
Tighten bearing extension bolts			X			X		X	
Clean out spark arrester							X		

The intervals shown on the schedule are based on average operating conditions. Vehicles which are subjected to severe use and wet or dusty conditions will require more frequent servicing. Use only Argo replacement parts to ensure safe operation of the vehicle and to comply with the warranty coverage.

We strongly recommend that an Argo Dealer perform a complete check-over of your vehicle after the initial 20 hours of operation, then once each year. This will reduce maintenance costs over the life of your vehicle.

SECTION 8 TROUBLE SHOOTING

MALFUNCTION (SYMPTOM)	PROBABLE CAUSE	CORRECTIVE ACTION
Electric starter inoperative	<ol style="list-style-type: none"> 1. Loose electrical connections 2. Battery charge low or dead 3. Faulty starter motor 	<ol style="list-style-type: none"> 1. Clean and re-tighten electrical connections 2. Recharge battery or replace as necessary 3. Return the vehicle to an Argo dealer for servicing
Engine turns over but will not start	<ol style="list-style-type: none"> 1. Fuel tank is empty 2. Blocked fuel or air filter 3. Spark plugs defective or fouled 4. Ignition system inoperative 5. Insufficient compression 	<ol style="list-style-type: none"> 1. Refill tank 2. Remove obstruction or replace filter as necessary 3. Clean and re-gap or replace 4. Have unit serviced by a properly trained and equipped mechanic 5. Take the vehicle to a factory authorized engine repair outlet
Engine will not run		<ol style="list-style-type: none"> 1. Refer to engine manual
Vehicle will not move or turn	<ol style="list-style-type: none"> 1. Transmission in neutral or not properly engaged in gear 2. Drive belt worn (see Section 7.2.1) 3. Clutch not engaging 4. Transmission failure 5. Brakes not functioning 6. Idler sprocket weld broken 	<ol style="list-style-type: none"> 1. Place gear shift properly in gear 2. Replace belt if worn excessively 3. Return the vehicle to an Argo dealer for servicing 4. Same as 3. above 5. Adjust caliper or replace brake pads 6. Repair or replace 7. Have vehicle serviced by an Argo dealer
Vehicle pulls to right	<ol style="list-style-type: none"> 1. Right tire pressure too low 2. Left tire pressure too high 3. Right brake engaged 4. Right side drive chain broken 	<ol style="list-style-type: none"> 1. Inflate all tires to the correct pressure 2. Same as above 3. Make sure the handlebar is held parallel to the dash. Adjust brake assembly if required. 4. Repair or replace
Vehicle pulls to left	<ol style="list-style-type: none"> 1. See "Vehicle pulls to right" - substitute right with left 	
Vehicle does not shift into Hi from Low or Low from Hi	<ol style="list-style-type: none"> 1. Hi/Low shift cable adjustment 	<ol style="list-style-type: none"> 1. Take the vehicle to an Argo dealer for servicing
Handbrake failure	<ol style="list-style-type: none"> 1. Worn brake pads, brake cable adjustment 2. Worn brake pads 3. Leaking caliper or brake lines or air in system 	<ol style="list-style-type: none"> 1. Change pads or adjust brake cable 2. Change pads 3. Take the vehicle to an Argo dealer for servicing

SECTION 8 TROUBLE SHOOTING

MALFUNCTION (SYMPTOM)	PROBABLE CAUSE	CORRECTIVE ACTION
Severe vibration when vehicle is operated	<ol style="list-style-type: none"> 1. Engine loose on mounts 2. Driver or driven clutch or engine defective 3. Axle bent 4. Wheel rim bent 5. Worn or damaged drive belt 	<ol style="list-style-type: none"> 1. Take vehicle to an Argo dealer for service. 2. Same as above. 3. Remove and straighten or replace. 4. Replace. 5. Replace. Clutch service may be required.
Water leaks into lower body	<ol style="list-style-type: none"> 1. Leak has developed at the axle bearing flange 2. Bearing flange seal has been damaged 3. Water is leaking in around the outer bearing flange bolts 4. Lower body is cut or punctured 5. Drain plugs not in place 	<ol style="list-style-type: none"> 1. Replace the bearing flange gaskets. 2. Replace the bearing flange seal. 3. Caulk under 103-81 bolt heads with silicone sealer. 4. Repair or replace vehicle lower body 5. Secure drain plugs.
Tire leaks air	<ol style="list-style-type: none"> 1. Tire is punctured 2. Tire is not properly seated on bead 3. Position of air leak is not obvious 4. Defective valve 	<ol style="list-style-type: none"> 1. Remove tire from rim and repair the hole with a radial tire patch or install a tube in the tire. 2. Deflate tire and carefully push tire bead off the rim. Clean the rim bead area to remove dirt and foreign matter. Re-inflate tire. 3. Submerge tire and rim in a water tank. Air may be escaping through the rim halves or the valve stem. Repair as required. 4. Replace defective valve.
Vehicle does not respond well to steering input (left or right)	<ol style="list-style-type: none"> 1. Air in hydraulic system 2. Leak in system 3. Loose brakes 	<ol style="list-style-type: none"> 1. Have an Argo dealer bleed the brake 2. Have an Argo dealer check all fittings, hoses, calipers and seals for loose connections or leakage. Refill as needed. 3. Adjust or tighten.
Brakes ineffective	<ol style="list-style-type: none"> 1. Pads have overheated and glazed 2. Pads worn beyond 0.10" 3. Pads are contaminated with lubricant 	<ol style="list-style-type: none"> 1. Have the pads cleaned by an Argo dealer or replace pads. 2. Replace. 3. Have the pads cleaned by an Argo dealer or replace pads.
There is a loud bang when the vehicle is turned right or left	<ol style="list-style-type: none"> 1. Idler chains worn/loose 2. Drive chains worn/loose 	<ol style="list-style-type: none"> 1. Adjust/replace idler chains as required. 2. Adjust/replace drive chains as required.
Vehicle does not steer left or right	<ol style="list-style-type: none"> 1. Worn or contaminated brake pads 2. Leaking caliper or brake lines or air in system 	<ol style="list-style-type: none"> 1. Change pads 2. Take the vehicle to an Argo dealer for servicing

SECTION 9 CLEANING AND STORAGE

9.1 CLEANING THE VEHICLE

Wash the vehicle body with a household detergent and rinse with water. Flush dirt out of the lower body by using a high pressure sprayer or garden hose after removing the drain plugs. After the bottom of the vehicle is dry, lubricate the drive chains with ARGO chain Lube. Make sure the drain plugs are replaced.

9.2 STORING THE VEHICLE

When the vehicle is stored for an extended period, the following preparation is required:

Clean the Vehicle

Remove all dirt and water from the vehicle body as directed above.

Remove the drain plugs if the vehicle is not fully sheltered from the elements.

! CAUTION

Any water accumulation in the vehicle will, over time, destroy chains, sprockets and bearings. Grease all bearings and flanges (refer to Section 6.4.5).

NOTE

Bearing corrosion due to inadequate preparation and lubrication for storage is the leading cause of premature bearing failure.

Drain the Fuel System

Insert a siphon hose into the gas tank through the filler neck and drain the gasoline. Start the engine and run it until all fuel in the system is consumed.

OR

Add fuel stabilizer (ARGO Part No. 127-77) to the fuel tank and fill with fresh gasoline. Run the engine for a few minutes to allow the treated fuel to reach the carburetor.

Prepare the Battery for Storage

Remove the battery from the vehicle. Clean it and charge it with a battery charger. Coat the battery terminals with a multi-purpose grease to prevent corrosion. Store the battery in a cool dry place.

! WARNING

Do not store the battery near flames, sparks or any source of fire. Batteries can explode if exposed to flames or sparks, causing serious personal injury.

Recharge the battery monthly.

Protect the Electrical System

Spray the wiring harnesses and all the electrical connections with a silicone based lubricant (WD40 or equivalent) to prevent corrosion.

Carefully inspect the wiring for loose connections, bare wires or corrosion. Repair as necessary.

Raise the Vehicle

Place blocks under the front and rear of the vehicle to raise the tires off the ground. The blocks must be placed under the frame members to prevent body damage (Figure 9-1).

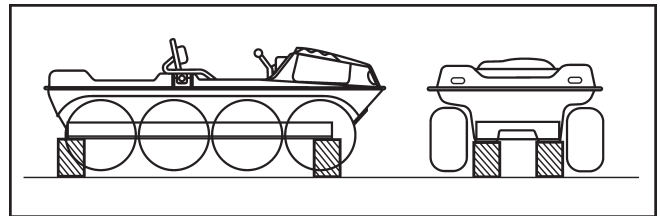












Figure 9-1 Correct placement of blocks











Preparing the Engine for Storage

Read the engine operator's manual and carry out all recommended storage procedures.












SECTION 10 POTENTIAL HAZARDS

	POTENTIAL HAZARD	WHAT CAN HAPPEN	HOW TO AVOID THE HAZARD
	Operating the Argo without reading and understanding the Operator's Manual	The risk of accident is greatly increased if the operator does not know how to operate the Argo properly in different situations and on different types of terrain.	New or inexperienced operators should read and understand the Operator's Manual. They should then regularly practice the operating techniques described in this Operator's Manual.
	Allowing anyone under age 16 to operate this vehicle.	Children under the age of 16 may not have the skills, abilities, or judgement needed to operate the Argo safely and may be involved in an accident causing severe injury or death.	No one under the age of 16 should be allowed to operate the Argo.
	Operating or riding as a passenger in the Argo without wearing an approved motorcycle helmet, eye protection, and protective clothing.	Operating or driving without an approved motorcycle helmet increases the chance of severe head injury or death in the event of an accident. Operating or driving without eye protection can result in an accident and increases your chances of a severe injury in the event of an accident.	Wear an approved safety helmet and eye protection when driving or riding in the vehicle.
	Operating the Argo after or while consuming alcohol or drugs.	Could seriously affect your judgement, cause you to react more slowly, and affect your balance and perception. This could result in an accident.	Never allow anyone under the influence of alcohol or any other intoxicating substance to drive or ride in the vehicle. Never use with drugs or alcohol.
	Carrying passengers in the dump box.	Riders can fall off and be killed.	No riders in the dump box.
	Carrying cargo when using the Argo in water.	Argo vehicles may sink if they fill with water, resulting in injury or drowning to driver and passengers. If the vehicle upsets or swamps, exposure in cold water significantly reduces the chance of survival.	Be especially cautious when operating a loaded vehicle (cargo and/or passengers) in water. Observe the capacity limits. Do not enter water if the vehicle is overloaded. Use extra caution when operating the Argo in cold water.
	Carrying cargo in the dump box when used in water.	Greatly reduces your ability to balance and control the Argo in the water. Could cause an accident, including capsizing and sinking, resulting in injury or drowning to driver and passengers.	Do not use the dump box equipped Argo in water.
	Operating the Argo in water without drain plugs properly installed.	Will cause the vehicle to fill with water and cause it to capsize or sink, which could result in injury or drowning to driver and passengers.	Always make sure the drain plugs are properly installed in the Argo as described in the Operator's Manual.
	Using the Argo to tow anything in the water other than an Argo amphibious trailer.	Greatly reduces your ability to balance and control the Argo in the water. Could cause an accident, including capsizing and sinking, which could result in injury or drowning to driver and passengers.	Never tow anything other than an Argo amphibious trailer when the Argo is used in water. Keep cargo low and centered in the trailer, especially if used in water.
	Operating the Argo in rough water.	Greatly reduces your ability to balance and control the Argo in the water. Could cause an accident, including capsizing and sinking, which could result in injury or drowning to driver and passengers.	Do not attempt to navigate any body of water with a strong current. Avoid water operation under windy conditions. Do not attempt to cross large bodies of water. Stay close to shore in case of emergency and you have to leave the water.











SECTION 10 POTENTIAL HAZARDS

	POTENTIAL HAZARD	WHAT CAN HAPPEN	HOW TO AVOID THE HAZARD
	Operating or driving the Argo in water without the occupants wearing an approved personal flotation device (PFD).	If you lose control of the Argo in water and it capsizes and sinks, the driver and passengers may be injured or drown.	All occupants must wear an approved personal flotation device (PFD) or life jacket while travelling in water.
	Operating the Argo in water without taking along a paddle.	If you run out of gas or have an engine failure the Argo will not be able to move under its own power and you may be stranded.	Equip the vehicle with a paddle and bailing can.
	Failure of driver and passengers to adjust positions so that the vehicle is floating level when operating the Argo in water.	Water may enter the vehicle and cause it to capsize or sink, which could result in injury or drowning to driver and passengers.	When using the Argo in water, adjust the position of cargo and passengers so the vehicle floats level.
	Failure to enter the water correctly.	You may cause waves, which will enter the Argo and cause it to capsize or sink, which could result in injury or drowning to driver and passengers.	The point of entry should be free of rocks, stumps and other obstacles. Enter the water from a firm, gradual slope whenever possible. Be careful not to submerge the bumper as you enter the water.
	Carrying more than specified number of people in an Argo, either on land or in water.	Greatly reduces ability to balance and control the Argo on both land and in the water and could cause an accident, resulting in injury or death to driver and passengers.	Never exceed the load capacity of the Argo as detailed in Section 1.4 of this manual.
	Overloading the vehicle.	Heavy loads and high loads decrease the stability of the vehicle and may cause it to roll. Trying to steer an overloaded vehicle can overheat the brakes. This will lead to brake fade which means loss of steering control and the ability to stop the vehicle. Overloading your vehicle can lead to premature brake system failures and costly damage to drive chains, axles or bearings.	Follow the recommended load capacity for your vehicle listed in Section 1.
	Overloading cargo area in 6x6.	Exceeding the weight limitation will decrease the stability of the vehicle on inclines and increase the possibility of rolling over backwards when climbing a grade.	The rear compartment capacity of all 6 wheel Argo vehicles is 65 kg (140 lbs). Do not exceed this weight in the rear compartment.
	Failure to fasten seat belts if the Argo is equipped with rollover protection.	If the Argo overturns, the driver and passengers may be thrown from the vehicle and the roll bar or roll cage could strike them.	Seat belts must be properly adjusted and worn by all occupants at all times EXCEPT when operating in water.
	Failure to unfasten seat belts (if the Argo is so equipped) when the vehicle is in water.	If the Argo capsizes or sinks the driver and passengers may be unable to unfasten their seat belts and may drown.	Do not use seat belts or any passenger restraining device while operating an Argo in water.
	Failure to inspect the Argo before operating. Failure to properly maintain the Argo.	Increases the possibility of an accident or equipment damage.	Always inspect your Argo each time you use it to make sure it is in safe operating condition. Always follow the inspection and maintenance procedures and schedules described in this Operator's Manual.

SECTION 10 POTENTIAL HAZARDS

	POTENTIAL HAZARD	WHAT CAN HAPPEN	HOW TO AVOID THE HAZARD
	Operating the Argo with improper tires or with improper or uneven tire pressure.	Use of improper tires on the Argo, or operation of the Argo with improper or uneven tire pressure may cause loss of control increasing your risk of an accident.	Always use the size and type tires specified in this Operator's Manual for this Argo. Always maintain proper tire pressure as described in this Operator's Manual.
	Operating the Argo with improper modifications.	Improper installation of accessories or modification of the Argo may cause changes in handling which in some situations could lead to an accident.	Never modify the Argo through improper installation or improper use of accessories. All parts and accessories added to this Argo should be genuine Argo components designed for use on the Argo and should be installed and used according to instructions. If you have questions, consult an authorized Argo dealer or contact Ontario Drive & Gear Limited at 1-519-662-4000
	Applying brakes suddenly when going downhill.	Sudden braking can cause the vehicle to roll over forward.	Gently apply the brakes to control downward vehicle speed. Do not jam on the brakes while travelling downhill.
	Operating the Argo on paved surfaces.	Pavement may seriously affect handling and control.	Do not drive your vehicle on asphalt or concrete roadways.
	Operating Argo on public streets, roads or highways.	A collision can occur with another vehicle.	Never drive on public roads.
	Operating at excessive speeds.	Personal injury or vehicle damage may result.	Do not drive the vehicle at high speeds over unfamiliar or rough terrain. Never operate at speeds too fast for your skills or the conditions.
	Failure to use extra care when operating the Argo on unfamiliar terrain.	Personal injury or vehicle damage may result.	Do not drive the vehicle at high speeds over unfamiliar or rough terrain.
	Failure to use extra care when operating on rough, slippery or loose terrain.	Could cause loss of traction or vehicle control, which could result in an accident, including an overturn.	Do not operate on rough, slippery or loose terrain until you have learned and practised the skills necessary to control the Argo on such terrain.
	Turning improperly.	When turning, the back of the vehicle swings to the opposite direction of the turn, creating a risk of hitting persons or objects. Sharp turns, especially at high speeds or when heavily loaded, may cause the vehicle to roll over.	Always take precautions when making turns to avoid rolling the vehicle or hitting persons or objects. Slow the vehicle down before making a turn. Do not apply the brakes too suddenly.
	Driving on inclines with a loaded vehicle.	Heavy loads and high loads decrease the stability of the vehicle and may cause it to roll.	Use extreme CAUTION when negotiating inclines with a loaded vehicle. Be prepared to shift occupant weight and load forward or have passengers get out of the vehicle to walk up an incline.
	Going downhill improperly.	Sudden braking can cause the vehicle to roll over forwards.	Avoid steep declines when possible. When a steep decline cannot be avoided, shift occupant weight to the rear of the vehicle to prevent the vehicle from rolling over.

SECTION 10 POTENTIAL HAZARDS

	POTENTIAL HAZARD	WHAT CAN HAPPEN	HOW TO AVOID THE HAZARD
	Improperly crossing hills or turning on hills.	Side slope operation greatly increases the risk of rolling the vehicle over sideways. Prolonged side slope operation may cause engine damage.	Do not drive your vehicle across the side of a hill. Observe the engine angle of operation limitations in Section 5.2.
	Stalling or rolling backwards while climbing a hill.	Could cause loss of control which could lead to an accident including an overturn.	Try to avoid steep hills. Maintain steady speed when climbing a hill. If you lose all forward speed: - keep weight uphill - lean toward the hill - slowly coast backwards down the hill using the handlebar brake
	Improperly operating over obstacles.	Personal injury or vehicle damage may result.	Before operating in a new area, check for obstacles. Never attempt to drive over large obstacles such as large rocks or fallen trees. When you go over obstacles always follow proper procedures as described in this Operator's Manual.
	Skidding or sliding.	You may lose control of the Argo. You may also regain traction unexpectedly which may cause the Argo to overturn.	Learn to safely control skidding or sliding by practising at slow speeds and on level, smooth terrain. On extremely slippery surfaces, such as ice, go slowly and be very cautious in order to reduce the chance of skidding or sliding out of control.
	Improperly operating in reverse.	You could hit an obstacle or person behind you resulting in serious injury.	Carefully practice backing up and turning in an open area until you become accustomed to this procedure. Take precautions to avoid hitting persons or objects.
	Use of the holding brake as a parking brake.	The holding brake system is not a parking brake, and therefore is not designed to hold the vehicle in place for long periods of time. The holding brake is for short term use only. The hydraulic brake pressure could drop over time, releasing the brakes, allowing the vehicle to roll into persons or objects, causing serious injury.	When parking on an incline, apply the emergency/parking brake, leave the vehicle in gear, turn the engine off and block the vehicle's wheels.
	Using the firewall to brace your knees.	Damage to the firewall and serious personal injury can result from the driven clutch wearing through the firewall.	Do not push against the firewall with your knees.
	Running the engine in a closed building or confined area.	Engine exhaust gases contain poisonous carbon monoxide. Carbon monoxide is odourless, colourless and can cause serious injury or death.	Never start or run the engine in a closed building or confined area.
	Adding fuel while the engine is running or hot.	Gasoline is extremely flammable and can explode under certain conditions, causing serious injury or death.	Do not add fuel while the engine is running or hot.
	Filling outboard motor fuel tanks while they are in the Argo.	Gasoline is extremely flammable and can explode if ignited, causing serious injury or death.	Fill outboard motor fuel tanks outside of the vehicle. Wipe up any spilled fuel immediately. Do not carry or store fuel tanks in a vehicle equipped with a cab or convertible top unless adequate ventilation is provided.

SECTION 11 ACCESSORY INFORMATION

11.1 GENERAL

This section deals with accessories that have been specifically designed for your AURORA and can be purchased separately from your dealer. Special operating procedures and safety precautions must be observed before operating or using certain accessories.

11.2 CARGO TIE DOWNS

Cargo tie downs are intended to assist in securing a load in the rear compartment of any Argo. Use rope or elastic cords, laced over the load and through the tie down rings, to hold the load in place.

⚠ CAUTION

Never attempt to raise the vehicle by using the tie down rings as lifting points.

11.3 ARGO TRACK SYSTEM - Rubber Track - Part No 825-50-1)

The 825-50-1 Rubber Track System is installed over the existing 25" Argo tires and is hinged in one location.

The track system spreads the weight of the vehicle over a larger area than the tires, thereby reducing the ground pressure and allowing the vehicle to stay on top of, rather than sinking into, soft terrain.

Your Aurora is manufactured with either Beadlock or Steel Offset Wheels

Beadlock or steel offset rim wheels have rim mounting discs that are offset from the centre of the rim and are mounted on longer axles. The rims can be turned around 180 degrees to increase the distance between the tires and vehicle body allowing clearance for the 18" width track. Tires still require sizing and correct tire pressure to be used with tracks. Carefully follow the next steps to ensure optimal performance of tracks on your Argo.

IMPORTANT

BEFORE INSTALLING THE RUBBER TRACK SYSTEM, IT IS CRITICAL THAT TIRE SIZING IS PERFORMED AND THE TIRES INSTALLED AS SHOWN IN THE CHART (Figure 11-7).

Track Installation:

Tires must be checked for size and installed in a specific order as shown in the charts, Figure 11-1. If this is not done, chain windup will happen causing damage to the chain tensioning system and possibly, to other drive system components. Tires should be sized this way:

- a. With the tires still off the machine, inflate them all to 5.0 psi.
- b. Measure the circumference of each tire using a suitable tape measure, being sure to measure around the center line of the tire. Figure 11-5. Write down the measurement on each tire with a grease pencil.
- c. Flip and install tires 180 degrees in the track running position (tires are placed out farther from the vehicle lower body). Install the tires as shown in the chart (Figure 11-2).



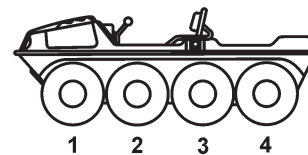
Figure 11-1. Measuring the tire.

NOTE

Two tires that measure a certain difference in circumference when at 5 psi, will always be the same difference in circumference when at equal pressure. Check tire pressure every 10 hours and adjust to the pressures shown in the chart.

- d. Remove the air from the end tires.

Wheel Position - 8x8



	Wheel #1	Wheel #2	Wheel #3	Wheel #4
Measured Size	Smallest	Largest	Second Largest	Second Smallest
Tire Pressure	5 psi	7 psi	7 psi	6 psi

Figure 11-2. Tire Sizing Chart.

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IMPORTANT

PLEASE NOTE THE ABOVE TIRE PRESSURES ARE RATIOS AND NOT NECESSARILY THE FINAL PRESSURES USED. TIRE PRESSURE MAY NEED TO BE ADJUSTED HIGHER OR LOWER TO ACHIEVE CORRECT TRACK DEFLECTION. E.G. TIRE PRESSURE MIGHT END UP AT (4,6,6,5) OR (3,5,5,4) ETC. HOWEVER, DO NOT EXCEED THE MAXIMUM TIRE PRESSURE OF 7PSI ON ANY GIVEN TIRE AS INDICATED ON THE SIDEWALL OF EACH TIRE.

- e. Using a 3/4" socket, install the wheel nuts. Torque the wheel nuts to 55 ft. lbs.(75 N.m).

11.4 Installation (825-50-1 Rubber Track System)

1. Install the Hinge Assembly as described in the 825-50-1 of the Rubber Track Kit instructions.
2. Lay the two assembled tracks on the floor.
3. Drive the vehicle forward onto the tracks leaving approximately 8" extending past the front tires.
4. Pull the remaining track around the rear tire and forward to the front of the vehicle.
5. Deflate the front and rear (or all tires) for easier installation of the final track pin.
6. Join the two ends of the track and secure them in place with C-Clamps as shown in Figure 11-3, so that the holes of the hinge lacing line up.

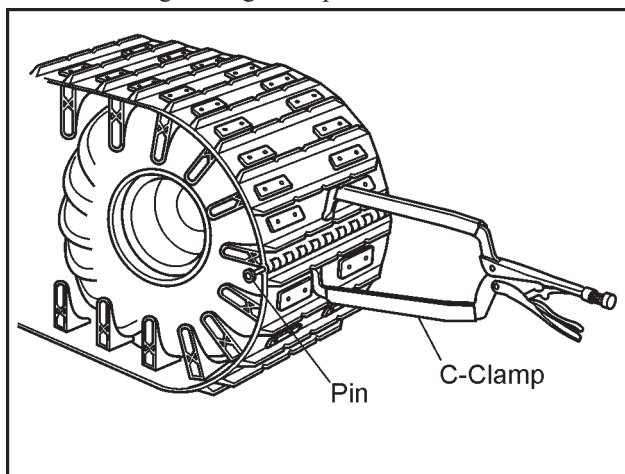


Figure 11-3. Securing with C-clamps.

10. Insert the 825-56 Track Pin through one of the 108-23 washers and then through the hinge lacing. **Be sure to install the pin from the outside edge of the track so the end with the cotter pin hole ends up nearest the vehicle lower body.**
11. Secure the Track Pin in the hinge with a 108-23 washer and 100-100 cotter pin at end closest to the vehicle body.
12. Re-inflate the tires as shown in the chart. With the tires installed and inflated as shown in the chart, there should be 2 to 3 inches between the bottom of the second (or third) tire and the inside surface of the track when the vehicle is elevated. Figure 11-4 & 11-5. This may require the installation of a track extension or additional hinge kit. On Average tires with typical 79-80" tires, the total track length should be 235" (including hinges and track extensions). The extension can be easily removed if the wheels slip within the track during winter use. **NOTE: Putting too much tension in the track will severely stress the axles, bearings and frame.**

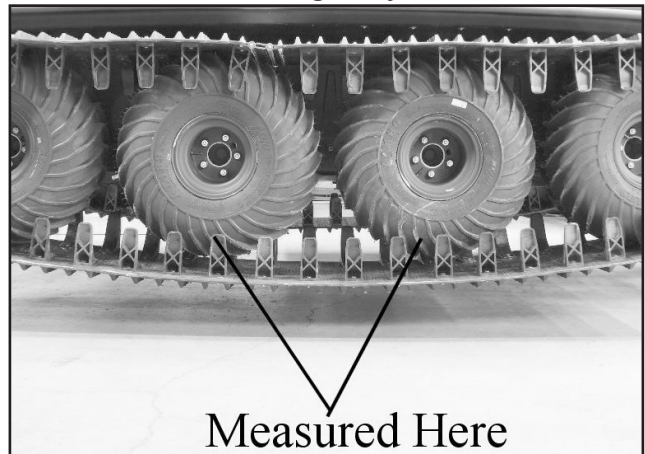


Figure 11-4 Measuring the gap of the mid tires - Avenger.



Figure 11-5. Measuring the gap of the mid tires - Avenger.

SECTION 11 ACCESSORY INFORMATION

⚠ CAUTION

Rubber tracks over 25" tires work best in snow or marsh conditions. Care must be taken when turning to prevent the inside edge of the tracks from rubbing the lower body. Do not make sharp turns on terrain that has high traction with the rubber tracks tread.

11.4.1 Removal of 825-50-1 Argo Rubber Track System

1. Use a "C" clamp style vise grip to take the tension off the pin. Remove the flat washer and cotter pin. With a drift punch and hammer, tap the pin until it can be grabbed and pulled from the hinge lacing.

11.5 Operating Precautions (Track System)

An Argo equipped with tracks has a reduced carrying capacity in water (See Section 1.4.1). Refer to Section 5.6 of this manual for additional information on safe operation in water.

Do not use the Argo in water when equipped with tracks unless it is also equipped with an outboard motor. The tracks do not propel the Argo in water.

⚠ CAUTION

CAUTION should be observed when operating in winter conditions and a drop in temperature occurs. Snow and slush accumulation in the track could freeze, resulting in damage to the track system. Slush, snow and ice accumulation should be cleared from the axles and track periodically to prevent build-up.

CAUTION should be observed when using any track system on an Argo. Make sure the steel connecting pins are properly secured at the hinged section of the track. Failure to secure the track pins or install the pins with the correct orientation can result in lower body damage if the track pin moves out of the segment toward the lower body.

⚠ WARNING

EXTREME CAUTION must be observed when using the track systems on icy surfaces. Steering and braking effectiveness will be reduced. Reduce speed.

EXTREME CAUTION must be observed when crossing ice-covered water. The vehicle may sink if it breaks through the ice surface and fills with water. Make sure drain plugs are securely in place and do not overload the vehicle. Should the vehicle break through the ice, attempt to back the vehicle out, taking care that water does not enter the engine compartment. Refer to section 5.7.1 of this manual for additional information on safe operation on ice-covered water.

If an Argo is taken outdoors into freezing temperatures after the track system has been installed indoors at normal room temperature, the tires will lose air pressure. After the tires have cooled down to the outdoor temperature where the vehicle is to be operated, the tire pressure should be rechecked and adjusted as required.

11.6 ICE CLEAT ASSEMBLY

ARGO ice cleats are stamped steel cleats that bolt to the outer edges of the Rubber Tracks to grip on hard pack snow and ice to improve traction and stopping.

⚠ WARNING

Make sure all passengers riding in an Argo equipped with ice cleats are informed to keep hands, feet and clothing inside the vehicle, well away from the tracks and ice cleats while the Argo is in motion. Serious injury or death could result from getting caught by the ice cleats.

⚠ CAUTION

Installing Argo ice cleats or any other traction device on the in-board side of the track segment, close to the lower body, may cause damage to the lower body if contact results while the vehicle is being driven.

11.7 OUTBOARD MOTOR BRACKET - SIDE MOUNT

The side mount outboard motor bracket attaches to the right rear of your ARGO. It allows the attachment of a gasoline or electric outboard motor of 9.9 horsepower maximum. When traveling on land it is recommended that the outboard motor be transported in the rear compartment of the Argo.

Use caution when turning in confined spaces or close to bystanders. Personal injury or damage may result. Figure 11-6.



Figure 11-6. Warning Label 618-21.

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11.8 ARGO STORAGE COVERS

The Argo storage covers prevent debris, rain water or snow from accumulating in the Argo. Secure the cover by pulling it down over the bumper and tying the cord tightly in place. A cord or tie strap through the side grommets and under the vehicle lower body securely holds the cover in place in windy conditions.

CAUTION

Damage may result to the cover if the vehicle is transported at highway speeds with the cover in place. If the cover must be used while transporting the vehicle, damage may be minimized by placing padding over sharp corners such as the tail pipe or the winch and tying the cover securely in place against the Argo body.

11.9 POWER WINCH

The power winch mounts to the front of the Argo and can be used for self-recovery and to raise and lower the snowplow blade. The winch has a free-wheeling feature that allows the cable to be pulled off the winch drum without using the 12 volt electric motor.

The electrical components and the wiring design of the winch kit prevents the use of the winch motor unless the ignition key is turned to the 'on' position. This is a safety feature that prevents the unauthorized use of the winch when the vehicle is parked.

After the installation of the winch kit is completed, test the electrical connections by moving the toggle switch control from side to side with the ignition switch removed. If the winch DOES NOT operate the connections are correct. If the winch starts during this test have the installer correct the wiring connections immediately.

CAUTION

11.9.1 Rules For Safe Operation

1. The winch is rated at 3,500 pounds (single-line) capacity. **DO NOT OVERLOAD. DO NOT ATTEMPT PROLONGED PULLS AT HEAVY LOADS. DO NOT MAINTAIN POWER TO THE WINCH IF THE MOTOR STALLS.** Overloads can damage the winch and/or the wire rope and create unsafe operating conditions. For heavy loads, we recommend the use of the optional pulley block and hook assembly (Warn Part No. 28881 or Superwinch Part No. 1503) to double line the wire rope (Figure 11-7). This reduces the load on the winch and the strain on the wire rope by approximately 50%.

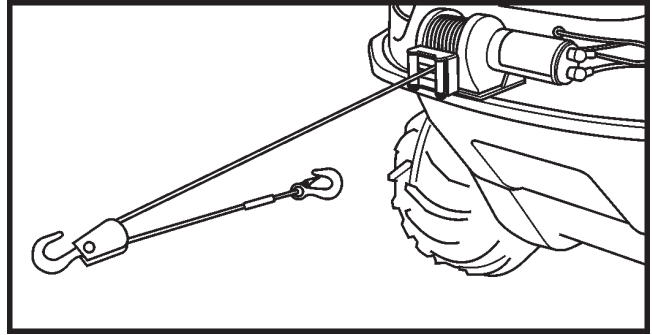


Figure 11-7 Double Line.

2. Periodically check the winch installation to assure that all bolts are tight.
3. **DO NOT “move” your vehicle to assist the winch in pulling a load.** The combination of the winch and vehicle pulling together could overload the wire rope and the winch itself.
4. **KEEP WINCHING AREA CLEAR.** Do not allow people to remain in the area during winching operations. Do not step over a taut wire rope or allow anyone else to do so. Do not stand between the winch and the load.
5. **INSPECT WIRE ROPE AND EQUIPMENT FREQUENTLY.** A frayed wire rope with broken strands should be replaced immediately. Always replace wire rope with the manufacturer’s identical replacement part, Warn Part No. 60076 or Superwinch Part No. 1513.
6. **USE HEAVY LEATHER GLOVES** when handling wire rope. Do not let wire rope slide through your hands. A broken strand could seriously injure your hands.
7. Keep clear of winch wire rope and hook when operating winch. Never put your fingers through the hook when reeling in the last few feet of line. If your finger should become trapped in the hook, you could lose your finger. Use the **HANSAVER STRAP** (Figure 11-8) to guide the hook within the last few feet. Never guide a wire rope onto the drum with your hand.

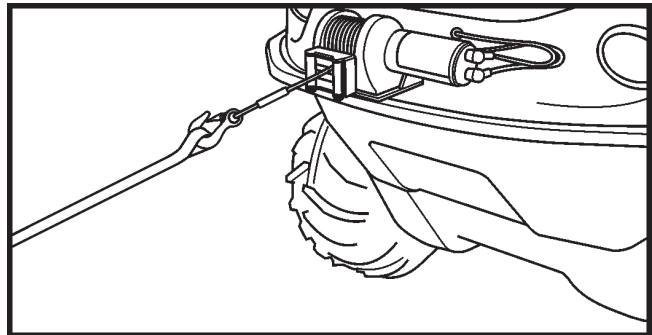


Figure 11-8. Using the Hand Saver Strap.

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8. NEVER HOOK THE WIRE ROPE BACK ONTO ITSELF. Use a nylon sling. (Figure 11-9.) Hooking the wire rope onto itself can damage the rope (Figure 11-10).

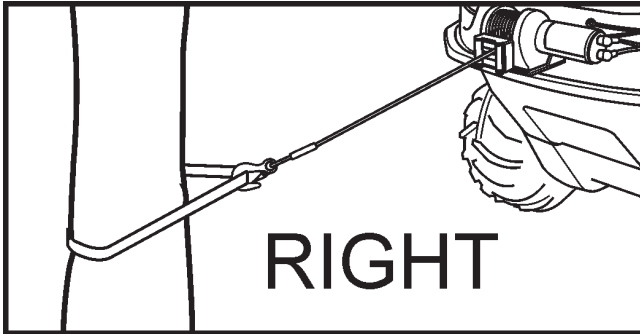


Figure 11-9. Correct hook-up.

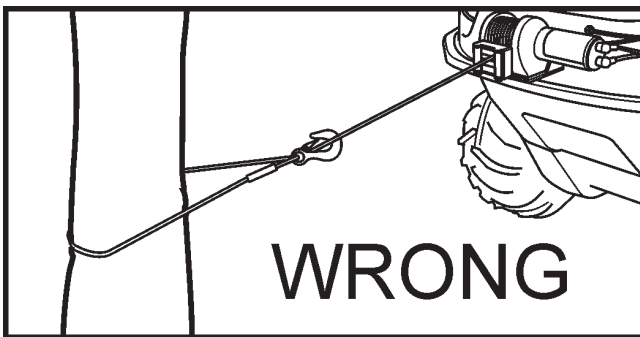


Figure 11-10. Incorrect hook-up.

9. It is a good idea to lay a heavy blanket or jacket over the wire rope near the hook end when pulling heavy loads (Figure 11-11). If a wire rope failure should occur, the cloth will act as a damper and help prevent the rope from whipping.

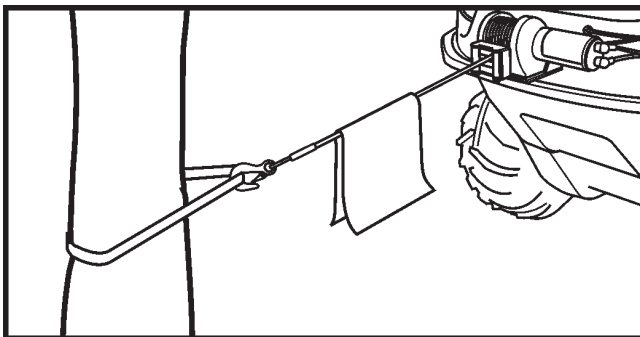


Figure 11-11. Using a cloth damper.

10. Your winch is not designed or intended for overhead hoisting operations. Never use your winch for lifting or moving people.
11. Avoid continuous pulls from extreme angles as this will cause the wire rope to pile up at one end of the drum (Figure 11-12 & Figure 11-13). This can jam the wire

rope in the winch causing damage to the wire rope or the winch itself.

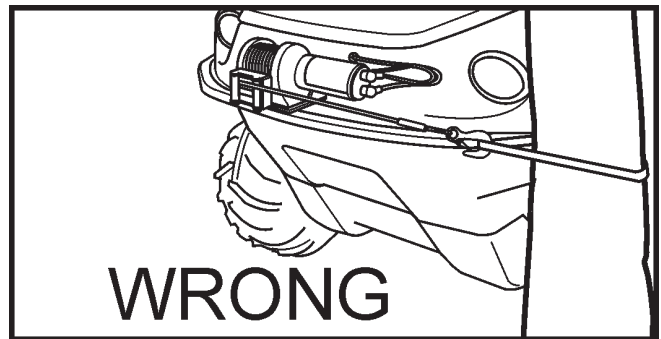


Figure 11-12. Incorrect positioning for continuous pulls.

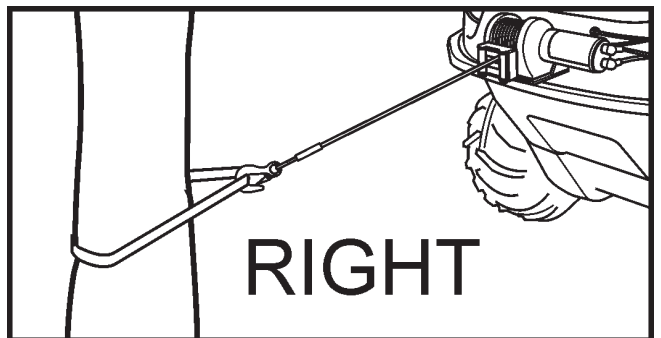


Figure 11-13. Correct positioning for continuous pulls.

12. Always operate the winch with an unobstructed view of the winching operation.
13. Do not operate the winch when under the influence of drugs, alcohol or medication.
14. Never work on or around the fairlead or winch drum when the winch is under load.
15. When using your winch to move a load, place the vehicle transmission in neutral, set vehicle parking brake, chock all wheels, and keep the engine running.
16. Do not use the winch to hold the Argo in place during transportation. Use tie-down straps.
17. Maintain at least five turns of wire rope around wire rope drum to prevent the wire rope from pulling off under load.

11.9.2 Tips for Extending the Life of Your Winch

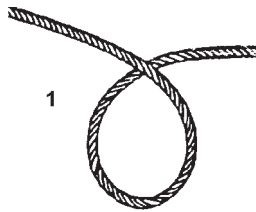
1. Keep a tightly and evenly wound wire rope drum. Do not allow the wire rope to become loosely wound. A loosely-wound spool allows a wire rope under load to work its way down into the layers of wire rope on the drum. When this happens, the wire rope may become wedged within the

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body of the windings damaging the wire rope. To prevent this problem, keep the wire rope tightly and evenly wound on the drum at all times. During winching, periodically check to see that the wire rope is winding on evenly. A good practice is to rewind the wire rope under tension after each use. One way to do this is to attach the hook to a stationary object at the top of a small hill or incline and winch your vehicle up the incline.

- Do not allow motor to overheat. Remember, the winch is only for intermittent use. During long or heavy pulls the motor will get hot. The internal parts will be hotter than the case. To check the motor temperature, stop winching and carefully touch the end of the motor. If the motor is uncomfortably warm, allow the motor to cool before continuing — keep the engine running to recharge the battery during this break.
- Use a pulley block for heavy loads. To maximize winch and wire rope life, use a pulley block (Warn Part No. 28881 or Superwinch Part No. 1503) to double line heavier loads.
- The pull required to start a load moving is often much greater than the pull required to keep it moving. Avoid frequent stopping and starting during a pull.
- Prevent kinks before they occur.
 - This is the start of a kink. At this time, the wire rope should be straightened.



- The wire rope was pulled and the loop has tightened to a kink. The wire rope is now permanently damaged and must be replaced.



- The result of kinking is that each strand pulls a different amount, causing the strands under greatest tension to break and reduce load capacity of the wire rope. The wire rope must be replaced.



11.10 REAR MUD FLAP ACCESSORY

Argo mud flaps are made of black polyethylene sheet cut to conform to the curve of the rear corners of the lower body. They are recommended for use with either track system to block the mud and snow thrown up during higher speed travel.

11.11 BILGE PUMP ACCESSORY

The bilge pump kit features a 12 volt, 500 gallon per hour pump to empty water from the lower body. Operated by a dash mounted push/pull switch, the bilge pump is recommended for any amphibious use of an Argo.

⚠ CAUTION

The pump is not designed to run dry. Use only when water has collected in the lower body.

11.12 HANDRAIL ACCESSORY

Handrails mount to the top of the upper body around the rear compartment, providing a convenient passenger hand hold or cargo tie down point.

⚠ CAUTION

Do not attempt to lift the vehicle by using the handrails.

11.13 TOW HOOK ACCESSORY

The tow hook kit is a steel fabrication that bolts securely through the bumper and both body halves at the front or rear of the vehicle.

⚠ CAUTION

The tow hook is not intended to secure an Argo to a trailer or truck bed. Body deformation could result from a downward pull.

11.14 WINDSHIELD

The windshield features an anodized aluminum frame with rubber mounted 24" high x 48" wide laminated safety glass. It mounts to the top of the dash area of any Argo model, folds down and secures in place over the hood and is required for the convertible top.

⚠ CAUTION

When the windshield is raised in the upright position, it must be supported by the two side support arms. Attach both support arms to the windshield frame brackets using the quick pins supplied. Do not attempt to fasten the front of a convertible top to the windshield until the support arms are in place. DO NOT transport the Argo at highway speeds with the windshield upright. For transportation at highway speeds, it is recommended

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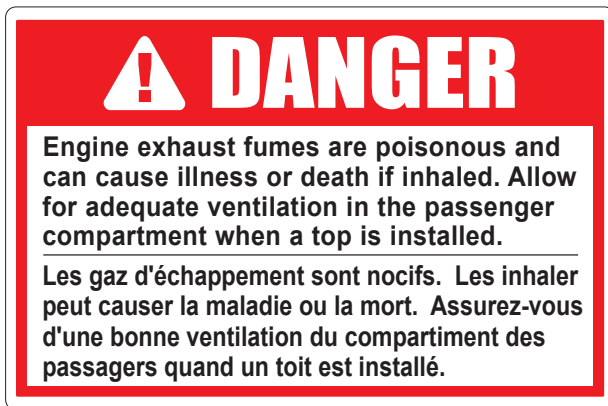
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that the vehicle be reversed on the truck or trailer so that the front of the Argo faces to the rear. The windshield should be folded down and secured in place using a rope or a tie down strap.

⚠ CAUTION

Operating the Argo for extended periods in high ambient temperatures with the windshield in the folded down position may restrict hot air flow from the engine compartment which could lead to engine overheating and heat build-up in the windshield frame and glass. Use caution when operating the vehicle with the windshield folded down to avoid overheating in warm temperatures.

The following decal should be attached to the inside of the windshield:



If this decal is not attached to the windshield, contact your Argo retailer for a free-of-charge replacement. The part number is 126-84.

11.15 CONVERTIBLE TOP

The convertible top provides protection from the elements for the occupants and offers the option of rolling up or removing the side doors, rear door and rear side panels while leaving the overhead portion in place.

⚠ CAUTION

Never fold the clear plastic windows; always roll them up to store them in place on the top assembly or remove them.

To fold the convertible top for storage, unzip the side and rear doors and the side panels, lay them aside and unsnap the domes along the front of the roof panel from the windshield frame. Fold the aluminum top frames together and roll the overhead panel around the frames loosely. Then, roll the window panels around the top material so the boot will cover the complete assembly for protection.

⚠ CAUTION

The convertible top assembly is not designed to withstand the turbulence created while transporting the vehicle with the top assembled in the 'up' position. Fold the top down and secure it properly to the vehicle body or remove it from the vehicle for high speed transportation.

⚠ WARNING

Hearing protection is strongly advised when operating the vehicle equipped with any convertible top assembly.

The following decal should be attached to the inside of the windshield:



If this decal is not attached to the windshield, contact your Argo retailer for a free-of-charge replacement. The part number is 126-84.

11.16 ALTERNATOR ACCESSORY - For Avenger (Part No. 850-54)

The externally mounted, belt driven, 40 amp alternator is recommended when electrical accessories such as a winch are added to the vehicle.

Check the V-belt tension frequently to be sure belt deflection is no more than 1/8" or 3 mm with approximately 6 lbs. or 3 kgs of force applied to the belt, halfway between the pulleys. Adjust the belt tension as necessary. Failure to do so will reduce the charge rate and lead to battery failure.

11.17 SNOW PLOW ACCESSORY

The snow plow assembly attaches to the front of the Argo at two mounting brackets that bolt to the front axle bearing extension housings. The plow blade is raised and lowered by operating the power winch in and out.

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WARNING

DO NOT STAND BETWEEN THE PLOW BLADE AND THE FRONT OF THE ARGO. Injury could result if the blade is raised.

The vehicle operator must observe caution when operating the vehicle and snow plow in the presence of others. Injury could result if a bystander is struck when the vehicle swings to turn or the blade is lowered onto someone's foot. Always be aware of the area being plowed. Although there is a blade trip mechanism feature of the blade, damage or operator injury could result from hitting rocks, stakes or curbs hidden under the snow being plowed.

To avoid serious injury or death:

- *Do NOT operate the vehicle on open or frozen bodies of water with the snow plow attached.*
- *Do not exceed 8 kph (5 mph) with blade installed.*
- *Plow cautiously. Impact with hidden or stationary objects may cause the vehicle to stop suddenly or go out of control.*
- *Operate with extreme caution on slopes. Do not operate the plow on steep grades and rough terrain.*
- *Keep bystanders away from the blade or vehicle while moving or stationary.*
- *Never put feet or hands under plow blade.*
- *Inspect plow mechanism, fasteners, cables, and adjustments before operating. Replace all worn or damaged components before operating.*
- *Lower the plow to the down position before leaving the vehicle unattended.*

11.18 AMPHIBIOUS TRAILER (4-Wheel & 8-Wheel)

The Argo amphibious trailers have been designed as an additional cargo carrier for any Argo model. The 4-wheel trailer can be used with any 6 and 8 wheeled Argo, while the 8-wheel trailer can be used with any 8 wheeled Argo. ***They are NOT intended for transporting people.***

Become familiar with the trailer's handling characteristics, especially in hilly conditions, BEFORE using it in unfamiliar terrain or fully loaded.

The trailer tongue is designed to swivel, much like a universal joint, even in the roughest terrain.

WARNING

Keep fingers clear of tongue swiveling components.

CAUTION

DO NOT exceed maximum load capacity for your specific application.

Exceeding the load capacity could cause trailer or tow vehicle damage and personal injury could be incurred.

11.18.1 Operating Precautions

Observe the following recommendations for safe and trouble free operations:

- 4 wheel trailer load capacity - 600 lbs. (270 kg). Trailer weight is 400 lbs (181 kg) with 25" tires and 345 lbs (156 kg) with 24" tires.
- 8 wheel trailer load capacity is 1300 lbs (590 kg) with 25" tires and 1405 lbs (635 kg) with 24" tires. Trailer weight is 700 lbs (318 kg) with 25" tires and 595 lbs (270 kg) with 24" tires. Load capacity equals gross weight rating minus the weight of the trailer and accessories.
- 8 wheel trailer gross vehicle rating: 2000 lbs (907 kg) on land, 1800 lbs (817 kg) on water.
- Keep tire pressure at 4 psi.
- Cargo must be kept low and centered in the trailer at all times especially if used in the water. Be aware that loads may shift when trailer is operated in uneven terrain.
- Ensure drain plugs are installed in trailer and tow vehicle before entering water. Keep both drain plugs in place and tightly sealed. Drain plugs are accessible from the outside of the trailer. To install, thread in clockwise until snug. To remove, turn counter clockwise.
- Caution - Asphalt or concrete surfaces will cause excessive tire wear.
- Do not use in fast flowing or rough water. Operator discretion is advised.
- Do not stop suddenly when pulling a loaded trailer down hill as it may run ahead or into the back of the vehicle pulling it. Remember that the increased load and weight of the trailer will increase the braking distance of the tow vehicle.
- Do not exceed the tow vehicle's towing capacity. Avoid making sharp turns (where the trailer is less than 90 ° to the vehicle).

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- Do not park on hills. Avoid side hill operation, and going over sudden drop-offs greater than 12".
- Do not step on or place loads on the edge of the body over the trailer wheels. This area of the trailer body is intended only as a mud guard.
- Do not "train" multiple trailers together.

Follow the instructions listed in Section 6.4.5 of this manual to service the axle bearings. Do not allow water and debris to accumulate in the bottom of trailer body to avoid premature bearing failure.

11.19 HEATER ACCESSORY

The heater kit includes a conventional automotive style hot coolant heater core with 2 speed fan to circulate the warm air through the ducts to the right side of the driver's compartment and the windshield. In some operating conditions, ie. high humidity or full passenger load, defrosting the windshield and side panel windows may not be effective.

In extremely cold weather and operating at low load, the heater may perform like a second radiator and keep the engine from reaching proper operating temperature. Under these conditions, a piece of cardboard or similar material should be used to partially cover the engine radiator.

11.20 ROLL OVER PROTECTIVE STRUCTURES

The optional Roll Over Protective Structure also referred to as a ROPS, provides additional protection for the occupants in case the vehicle overturns, *provided all occupants wear seat belts.*

However, the ROPS also introduces additional hazards that have to be carefully weighed against the safety benefits of these devices:

- If your vehicle is equipped with a ROPS, always remember that your vehicle is now more top heavy. This reduces the vehicle's stability both on land and in the water. Therefore, *always* wear your seat belt when driving on land, but *never* when driving in the water. The increased instability and weight may mean that you will no longer be able to manoeuvre some slopes with either a ROPS installed. Follow all weight restrictions and, as always, drive slowly and carefully.
- Be particularly careful when driving under trees, as low-hanging branches can upset your vehicle.
- Never place or carry anything on top of the ROPS.

The Roll Over Protective Structure (ROPS) provides roll over protection and lap belts for the driver and front seat passenger or for driver and front seat passenger and two passengers with the optional rear bench seat.

The ROPS design provides reasonable protection from injury in the event of a rollover. **DO NOT** rely on it to protect the occupants from irresponsible driving.

The ROPS has been designed to meet the requirements of the Occupational Health and Safety Act - Regulation 856 'Roll-Over Protection Structures' for the Province of Ontario, Canada.

WARNING

Seat belts must be properly adjusted and worn by all occupants at all times EXCEPT when operating in water. Never carry more people in the vehicle than there are seat belts for.

Articles must not be placed on top of the ROPS.

Use caution when travelling on uneven ground; the ROPS reduces vehicle stability.

No part of the ROPS shall be drilled, welded or altered in any way without the manufacturer's authorization.

Do not exceed maximum gross vehicle weight.

Use caution when travelling tree-lined trails. Branches could be knocked down, causing injury to the vehicle occupants.

FAILURE TO COMPLY WITH THE ABOVE COULD RESULT IN PERSONAL INJURY OR DEATH.

CAUTION

DO NOT use the ROPS as an attachment point for towing or winching your Argo.

Check fastener tightness annually. Inspect for and replace any damaged or worn parts of the ROPS and the seat belts.

11.21 BRUSHGUARD ACCESSORY

The Brushguard Kit protects the winch and headlights from damage by the brush encountered along the trail. It features an integrated tow hook. Installation of mounting kit or power winch is required.



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ANYWHERE

LIMITED WARRANTY

ARGO warrants its vehicles, sold by authorized ARGO dealers, from defects in material or workmanship for the period and under the conditions described herein.

The ARGO must be purchased as new and unused by its first owner from an Authorized ARGO Dealer in the country in which the sale occurred.

If the ownership of a product is transferred during the warranty coverage period, this limited warranty, subject to its terms and conditions, shall also be transferred.

This warranty covers parts and labour charges for repair or replacement of defective parts. Parts must be genuine ARGO parts, and repairs must be performed by an authorized ARGO Dealer. Dealers must keep defective parts for 90 days following the repair, in the event that ARGO requires the part for further inspection.

WARRANTY COVERAGE PERIOD

The warranty period is limited to 12 months from the date of sale, for personal or commercial use. For emission-related components; please also refer to the US EPA Emission Related Warranty contained herein. The repair or replacement of parts or the performance of service under this warranty does not extend the life of this warranty beyond its original expiration date.

WARRANTY LIMITATIONS & EXCLUSIONS

This ARGO limited warranty will become null and void if:

- The ARGO was used for racing or any other competitive activity, at any point, even by a previous owner.
- The ARGO was operated in a manner inconsistent with the recommended operation described in the ARGO Operator's Manual.
- The ARGO has been altered or modified in such a way so as to affect its operation, performance or durability, or has been altered or modified to change its intended use.
- The scheduled maintenance per the ARGO Operator's Manual has not been followed.
- The mandatory Pre-Delivery Inspection (PDI) has not been completed and documented by an authorized ARGO dealer.

This ARGO limited warranty does not cover the following items:

- Failures that are not caused by a defect in material or workmanship.
- Claims of defective design.
- Damage caused by Acts of God
- Accidental damage
- Normal wear and tear
- Damages or failures resulting from improper lubrication and fluids; See the Operator's Manual for ARGO approved lubricants and procedures.



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ANYWHERE

- Damage caused by failure to provide proper maintenance and/or storage, as described in the ARGO Operator's Manual.
- Damage caused by abuse, abnormal use, neglect or operation of the product in a manner inconsistent with the recommended operation described in the ARGO Operator's Manual.
- Damage caused by use of aftermarket or unapproved components, accessories, or attachments
- Unauthorized repairs; or repairs made by an unauthorized repair center.
- Incidental or consequential damages, or damages of any kind including without limitation towing, storage, telephone, rental, taxi, inconvenience, insurance coverage, loan payments, loss of time, loss of income.

WHAT TO DO TO OBTAIN WARRANTY COVERAGE

The customer must cease using the ARGO upon the appearance of an anomaly. The customer must notify an authorized ARGO dealer within three (3) days of the appearance of a defect, and provide it with reasonable access to the product and reasonable opportunity to repair it.

Please contact an authorized ARGO dealer to resolve any warranty issues.



GO
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U.S. EPA & CARB EVAPORATIVE EMISSIONS WARRANTY COVERAGE

ARGO warrants to the purchaser and each subsequent purchaser that the ARGO emissions system is:

- Designed, built and equipped so as to conform with all applicable regulations
- Free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to that part as described in ARGO's application for certification. The warranty period is limited to 30 months from date of sale.

Subject to certain conditions and exclusions as stated below, the warranty on emission-related parts is as follows:

- Any warranted part that is not scheduled for replacement as required maintenance in the written instructions supplied, is warranted for the warranty period stated above. If the part fails during the period of warranty coverage, the part will be repaired or replaced by ARGO. Any such part repaired or replaced under warranty will be warranted for the remainder of the period.
- Any warranted part that is scheduled only for regular inspection in the written instructions supplied is warranted for the warranty period stated above. Any such part repaired or replaced under warranty will be warranted for the remaining warranty period.
- Any warranted part that is scheduled for replacement as required maintenance in the written instructions supplied is warranted for the period of time before the first scheduled replacement date for that part. If the part fails before the first scheduled replacement, the part will be repaired or replaced by. Any such part repaired or replaced under warranty will be warranted for the remainder of the period prior to the first scheduled replacement point for the part.
- Repair or replacement of any warranted part under the warranty provisions herein must be performed at a warranty station at no charge to the owner.
- The Argo owner will not be charged for diagnostic labor that is directly associated with diagnosis of a defective, emission-related warranted part, provided that such diagnostic work is performed at a warranty station.
- ARGO is liable for damages to other engine or equipment components proximately caused by a failure under warranty of any warranted part.
- Throughout the ARGO warranty period stated above, ARGO will maintain a supply of warranted parts sufficient to meet the expected demand for such parts.
- Any replacement part may be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of ARGO.
- Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts by the purchaser will be grounds for disallowing a warranty claims. ARGO will not be liable to warrant failures of warranted parts caused by the use of a non-exempted add-on or modified part.



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U.S. EPA & CARB EVAPORATIVE EMISSIONS WARRANTED PARTS:

The repair or replacement of any warranted part otherwise eligible for warranty coverage may be excluded from such warranty coverage if ARGO demonstrates that the vehicle has been abused, neglected, or improperly maintained, and that such abuse, neglect, or improper maintenance was the direct cause of the need for repair or replacement of the part. That notwithstanding, any adjustment of a component that has a factory installed, and properly operating, adjustment limiting device is still eligible for warranty coverage. The following emission warranty parts are covered:

For exhaust emissions, emission-related components include any engine parts related to the following systems:

1. Air-induction system
2. Fuel system
3. Ignition system
4. Exhaust gas recirculation systems

The following parts are also considered emission-related components for exhaust emissions:

1. Aftertreatment devices
2. Crankcase ventilation valves
3. Sensors
4. Electronic control units

The following parts are considered emission-related components for evaporative emissions:

1. Fuel Tank
2. Fuel Cap
3. Fuel Line
4. Fuel Line Fittings
5. Clamps*
6. Pressure Relief Valves*
7. Control Valves*
8. Control Solenoids*
9. Electronic Controls*
10. Vacuum Control Diaphragms*
11. Control Cables*
12. Control Linkages*
13. Purge Valves
14. Vapor Hoses†
15. Liquid/Vapor Separator
16. Carbon Canister†
17. Canister Mounting Brackets
18. Carburetor Purge Port Connector

*As related to the evaporative emission control system.

†Applicable to California models only.

ARGO RETAILER... Please complete this page at the time of sale to the new owner so your customer has all pertinent information that may be required.

ARGO MODEL _____

ARGO SERIAL NO. _____

ENGINE SERIAL NO. _____

TRANSMISSION SERIAL NO. _____

SOLD TO: _____

STREET ADDRESS: _____

CITY OR TOWN: _____ PROV/STATE: _____

POSTAL/ZIP: _____

DATE OF SALE: _____

WARRANTY PERIOD EXPIRES: _____

DEALER NAME: _____

PHONE: _____

ADDRESS: _____

CITY/TOWN: _____ PROV/STATE: _____

ARGO PRODUCTS MANUFACTURED BY:

**Ontario Drive & Gear Limited
220 Bergey Court
New Hamburg, Ontario
N3A 2J5 Canada
Phone: (519) 662-2840
Fax: (519) 662-2421
www.argoxtv.com**