

## 

# **Owner's Guide**



# 623527

ISSUED JULY 2011 **REVISED SEPTEMBER 2013** 

### WELCOME

Thank you for purchasing this vehicle. Before driving the vehicle, we ask you to spend some time reading this Owner's Guide. This guide contains the information that will assist you in maintaining this highly reliable vehicle. Some illustrations may show items that are optional for your vehicle. This guide covers the operation of several vehicles; therefore, some illustrations may not represent your vehicle. Physical differences in controls will be illustrated.

Most of the service procedures in this guide can be accomplished using common, automotive hand tools. Contact your service representative on servicing the vehicle in accordance with the Periodic Service Schedule.

Repair or replacement parts are available through your E-Z-GO retailer or E-Z-GO Genuine Service Parts.

The following information is needed when contacting E-Z-GO concerning service or parts for your vehicle:

Vehicle Model

SERIAL Number / PIN Number / VIN Number \_\_\_\_\_



Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers

### OWNER'S GUIDE GASOLINE POWERED VEHICLE

#### **SHUTTLE 4X**

#### **STARTING MODEL YEAR 2012**

Never modify the vehicle in any way that will alter the weight distribution of the vehicle, decrease its stability or increase the speed beyond the factory specifications. Such modifications can cause serious personal injury or death. E-Z-GO Division of Textron, Inc. prohibits and disclaims responsibility for any such modifications or any other alteration which would adversely affect the safety of the vehicle.

E-Z-GO Division of Textron, Inc. reserves the right to incorporate engineering and design changes to products in this manual, without obligation to include these changes on units sold previously.

The information contained in this manual may be revised periodically by E-Z-GO Division of Textron, Inc., and therefore is subject to change without notice.

E-Z-GO Division of Textron, Inc. DISCLAIMS LIABILITY FOR ERRORS IN THIS MANUAL, and SPECIFICALLY DISCLAIMS LIABILITY FOR INCIDENTAL AND CONSEQUENTIAL DAMAGES resulting from the use of the information and materials in this Manual.

These are the original instructions as defined by 2006/42/EC.

#### TO CONTACT US

E-Z-GO Division of Textron Inc. 1451 Marvin Griffin Road. Augusta, Georgia, USA 30906-3852

North America:

Technical Assistance & Warranty PHONE: 1-800-774-3946 FAX: 1-800-448-8124 Service Parts PHONE: 1-888-GET-EZGO (1-888-438-3946) FAX: 1-800-752-6175 International PHONE: 001-706-798-4311 FAX: 001-706-771-4609 Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

This vehicle has been designed and manufactured in the United States of America (USA) as a 'World Vehicle'. The Standards and Specifications listed in the following text originate in the USA unless otherwise indicated.

The use of non Original Equipment Manufacturer (OEM) approved parts may void the warranty.

Overfilling battery may void the warranty.

Tampering with or adjusting the governor to permit vehicle to operate at above factory specifications will void the vehicle warranty.

When servicing engines, all adjustments and replacement components must be per original vehicle specifications in order to maintain the United States of America Federal and State emission certification applicable at the time of manufacture.

#### BATTERY PROLONGED STORAGE

All batteries will self discharge over time. The rate of self discharge varies depending on the ambient temperature and the age and condition of the batteries.

A fully charged battery will not freeze in winter temperatures unless the temperature falls below -75°F (-60°C).

#### **BATTERY DISPOSAL**

Lead-acid batteries are recyclable. Return whole scrap batteries to distributor, manufacturer or lead smelter for recycling. For neutralized spills, place residue in acid-resistant containers with absorbent material, sand or earth and dispose of in accordance with local, state and federal regulations for acid and lead compounds. Contact local and/or state environmental officials regarding disposal information.

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### SAFETY

For any questions on material contained in this manual, contact an authorized representative for clarification.

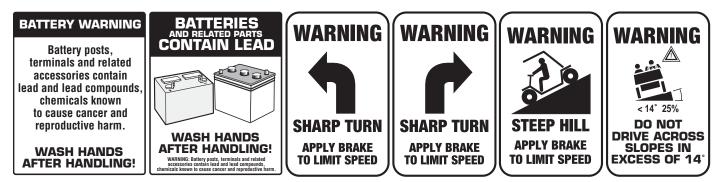
Read and understand all labels located on the vehicle. Always replace any damaged or missing labels.

On steep hills it is possible for vehicles to coast at greater than normal speeds encountered on a flat surface. To prevent loss of vehicle control and possible serious injury, speeds should be limited to no more than the maximum speed on level ground. See GENERAL SPECIFICATIONS. Limit speed by applying the service brake.

Catastrophic damage to the drivetrain components due to excessive speed may result from driving the vehicle above specified speed. Damage caused by excessive speed may cause a loss of vehicle control, is costly, is considered abuse and will not be covered under warranty.

Use extra caution when towing the vehicle(s). Do not tow a single vehicle at speeds in excess of 12 mph (19 kph). Do not tow more than three vehicles at a time. Do not exceed 5 mph (8 kph) while towing multiple vehicles. Towing the vehicle at above the recommended speed may result in personal injury and/or damage to the vehicle and other property. Vehicles equipped with the AC Drive motor must be towed with the Run-Tow switch, located under the passenger seat, in the 'Tow' position.

If the vehicle is to be used in a commercial environment, signs similar to the ones illustrated should be used to warn of situations that could result in an unsafe condition.



Observe these **NOTICES**, **CAUTIONS**, **WARNINGS** and **DANGERS**; be aware that servicing a vehicle requires mechanical skill and a regard for conditions that could be hazardous. Improper service or repair may damage the vehicle or render it unsafe.

#### NOTICES, CAUTIONS, WARNINGS, AND DANGERS

Throughout this guide **NOTICE**, **CAUTION**, **WARNING**, and **DANGER** will be used. Please observe these **NOTICES**, **CAUTIONS**, **WARNINGS**, and **DANGERS**; be aware that servicing a vehicle requires mechanical skill and a regard for conditions that could be hazardous. Improper service or repair may damage the vehicle or render it unsafe.

NOTICE

Address practices not related to personal injury.



Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Indicates a hazardous situation which, if not avoided, will result in death or serious injury.



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Engine exhaust from this product contains chemicals known, in certain quantities, to cause cancer, birth defects, or other reproductive harm.

NOTICE

The exhaust emissions of this vehicles' engine complies with regulations set forth by the Environmental Protection Agency (EPA) of the United States of America (USA) at time of manufacture. Significant fines could result from modifications or tampering with the engine, fuel, ignition or air intake systems



Battery posts, terminals and related accessories contain lead and lead compounds. Wash hands after handling.

NOTICE

This spark ignition system meets all requirements of the Canadian Interference-Causing Equipment Regulations.

This manual has been designed to assist in maintaining the vehicle in accordance with procedures developed by the manufacturer. Adherence to these procedures and troubleshooting tips will ensure the best possible service from the product. To reduce the chance of personal injury or property damage, the following must be carefully observed:



Certain replacement parts can be used independently and/or in combination with other accessories to modify an E-Z-GO-manufactured vehicle to permit the vehicle to operate at or in excess of 20mph. When an E-Z-GO-manufactured vehicle is modified in any way by the Distributor, Dealer or customer to operate at or in excess of 20mph, UNDER FEDERAL LAW the modified product will be a Low Speed Vehicle (LSV) subject to the strictures and requirements of Federal Motor Vehicle Safety Standard 571.500. In these instances, pursuant to Federal law the Distributor or Dealer MUST equip the product with headlights, rear lights, turn signals, seat belts, top, horn and all other modifications for LSV's mandated in FMVSS 571.500, and affix a Vehicle Identification Number to the product in accordance with the requirements of FMVSS 571.565. Pursuant to FMVSS 571.500, and in accordance with the State laws applicable in the places of sale and use of the product, the Distributor, Dealer or customer modifying the vehicle also will be the Final Vehicle Manufacturer for the LSV, and required to title or register the vehicle as mandated by State law.

E-Z-GO will NOT approve Distributor, Dealer or customer modifications converting E-Z-GO products into LSV's.

The Company recommends that all E-Z-GO products sold as personal transportation vehicles BE OPERATED ONLY BY PERSONS WITH VALID DRIVERS LICENSES, AND IN ACCORDANCE WITH APPLICABLE STATE REQUIRE-MENTS. This restriction is important to the SAFE USE AND OPERATION of the product.

All customers should adhere to this SAFETY RESTRICTION, in connection with the use of all E-Z-GO products, new and used, the Distributor or Dealer has reason to believe may be operated in personal transportation applications.

Information on FMVSS 571.500 can be obtained at Title 49 of the Code of Federal Regulations, section 571.500, or through the Internet at the web site for the U.S. Department of Transportation - at Dockets and Regulation, then to Title 49 of the Code of Federal Regulations (Transportation)



### GENERAL

All vehicles can be used for a variety of tasks beyond the original intended use of the vehicle; therefore, it is impossible to anticipate and warn against every possible combination of circumstances that may occur. No warning can take replace good common sense and prudent driving practices.

Good common sense and prudent driving practices do more to prevent accidents and injury than all of the warnings and instructions combined. E-Z-GO strongly suggests that all users and maintenance personnel read this entire manual paying particular attention to the CAUTIONS, WARNINGS and DANGERS contained therein.

If you have any questions regarding this vehicle, contact your E-Z-GO dealer or write to the address on the back cover of this publication, Attention: Customer Care Department.

E-Z-GO reserves the right to make design changes without obligation to make these changes on units previously sold. The information contained in this manual is subject to change without notice.

E-Z-GO IS NOT LIABLE FOR ERRORS IN THIS MANUAL. E-Z-GO IS NOT LIABLE FOR INCIDENTAL OR CONSE-QUENTIAL DAMAGES THAT RESULT FROM THE USE OF THE MATERIAL IN THIS MANUAL.

This vehicle conforms to the current applicable standard(s) for safety and performance requirements.

These vehicles are designed and manufactured for off-road use. They DO NOT conform to Federal Motor Vehicle Safety Standards of the United States of America (USA) and are not equipped for operation on public streets. Some communities may permit these vehicles to be operated on their streets on a limited basis and in accordance with local ordinances.

With electric powered vehicles, be sure that all electrical accessories are grounded directly to the battery (-) post. **Never use the chassis or body as a ground connection.** 

Refer to GENERAL SPECIFICATIONS for vehicle seating capacity.

Never modify the vehicle in any way that will alter the weight distribution of the vehicle, decrease its stability or increase the speed or extend the stopping distance beyond the factory specification. Such modifications can result in serious personal injury or death.

Do not make any such modifications or changes. E-Z-GO prohibits and disclaims responsibility for all such modifications or and alterations which would adversely affect the safety of the vehicle.

Vehicles that are capable of higher speeds must limit their speed to no more than the speed of other vehicles when used in a golf course environment. Additionally, speed should be further moderated by the environmental conditions, terrain and common sense.

Operation of the vehicle is limited to persons above the height of 59 inches (150 cm).

#### **GENERAL OPERATION**

#### ALWAYS:

- use the vehicle in a responsible manner and maintain the vehicle in safe operating condition
- · read and observe all warnings and operation instruction labels affixed to the vehicle
- follow all safety rules established in the area where the vehicle is being operated
- · Leave the vehicle when there is a risk of lightning
- reduce speed to compensate for poor terrain or conditions

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

- · apply service brake to control speed on steep grades
- maintain adequate distance between vehicles.
- reduce speed in wet areas
- · use extreme caution when approaching sharp or blind turns
- · use extreme caution when driving over loose terrain
- · use extreme caution in areas where pedestrians are present

### MAINTENANCE

#### ALWAYS:

- · replace damaged or missing warning, caution or information labels
- maintain the vehicle in accordance with the manufacturer's periodic service schedule
- · ensure that repairs are performed by trained and qualified personnel
- · follow the manufacturer's maintenance procedures
- insulate any tools used within the battery area in order to prevent sparks or battery explosion
- · check the polarity of each battery terminal and be sure to rewire the batteries correctly
- use specified replacement parts, NEVER use replacement parts of lesser quality
- use recommended tools
- determine that tools and procedures not specifically recommended by the manufacturer will not compromise the safety of personnel nor jeopardize the safe operation of the vehicle
- support the vehicle using wheel chocks and jack stands, NEVER get under a vehicle that is supported by a jack, lift the vehicle in accordance with the manufacturer's instructions
- · maintain the vehicle in an area away from exposed flame or persons who are smoking
- be aware that a vehicle that is not performing as designed is a potential hazard and must not be operated
- test drive the vehicle after any repairs or maintenance in a safe area that is free of both vehicular and pedestrian traffic
- · keep complete records of the maintenance history of the vehicle

The manufacturer cannot anticipate all situations, therefore people attempting to maintain or repair the vehicle must have the skill and experience to recognize and protect themselves from potential situations that could result in severe personal injury or death and damage to the vehicle. Use extreme caution and, if unsure as to the potential for injury, refer the repair or maintenance to a qualified mechanic.

### VENTILATION

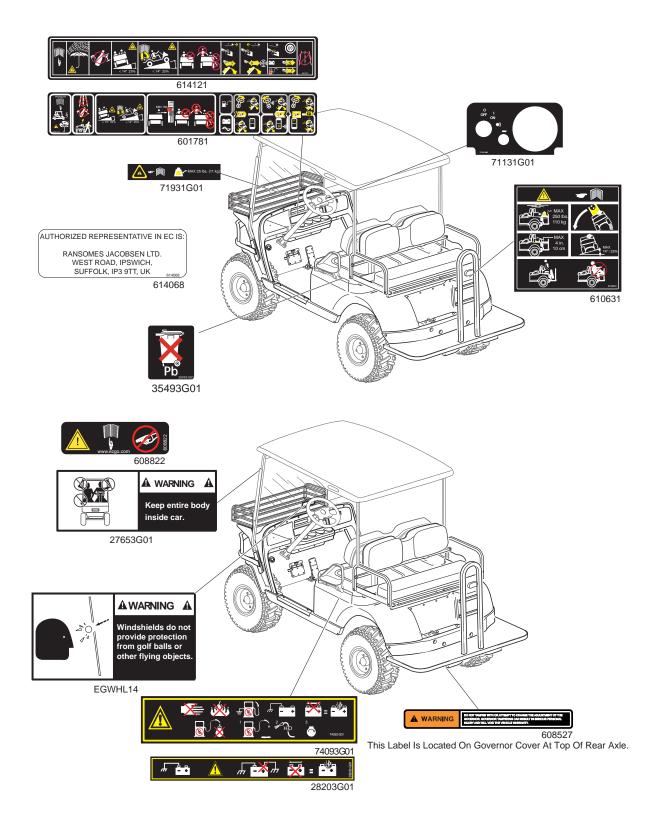
Always store gasoline vehicles in a well ventilated area. Ventilation prevents gasoline fumes from accumulating.

Never fuel a vehicle in an area that is subject to flame or spark. Pay particular attention to natural gas or propane water heaters and furnaces.

Never work around or operate a vehicle in an environment that does not ventilate exhaust gases from the area. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal.

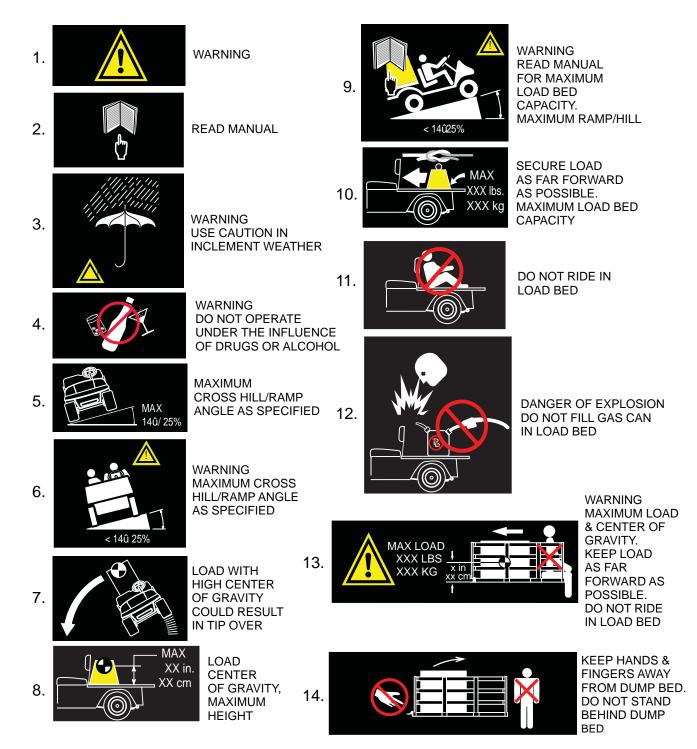
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#### LABELS AND PICTOGRAMS



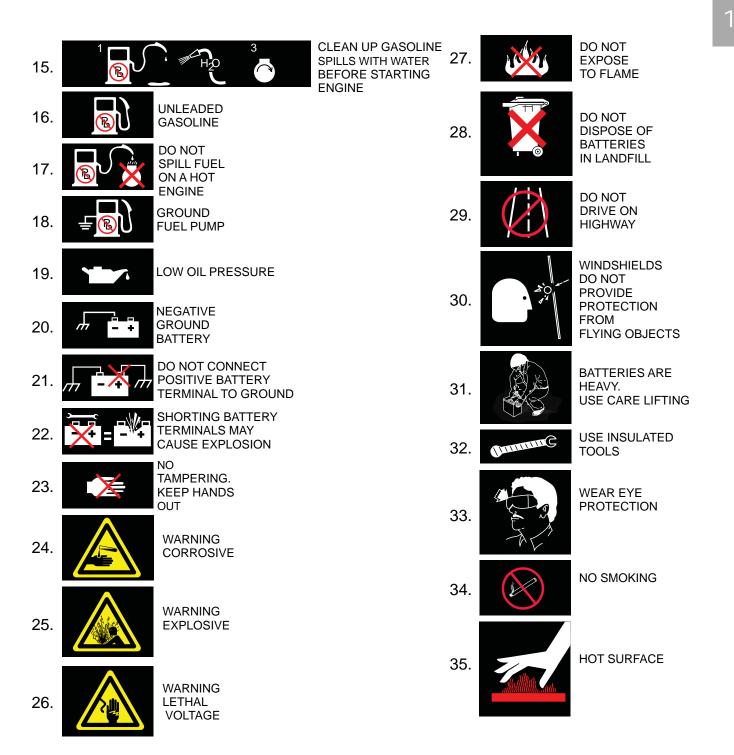
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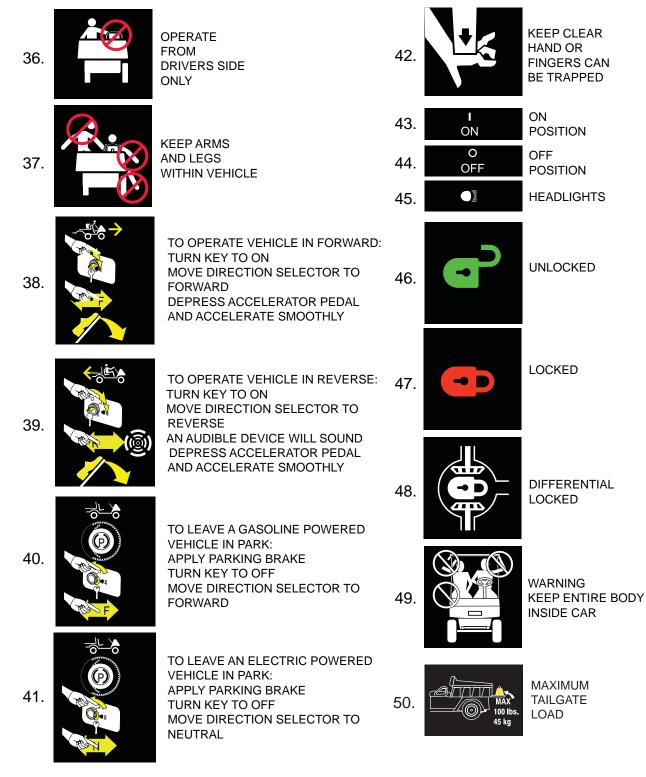
NOTE: All Pictograms may not apply to your product

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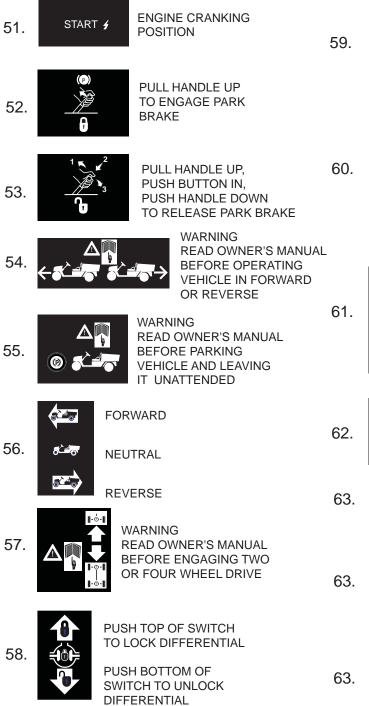
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REAR DIFFERENTIAL LOCK SWITCH



FRONT DIFFERENTIAL LOCK SWITCH. WARNING READ OWNER'S MANUAL BEFORE ENGAGING FRONT DIFFERENTIAL LOCK.

DO NOT ENGAGE LOCK WHILE FRONT WHEELS ARE TURNED AND VEHICLE IS AT SPEED.



PUSH TOP PART OF SWITCH TO RAISE LOAD BED

PUSH BOTTOM PART OF SWITCH TO LOWER LOAD BED



AUXILIARY LIGHTS

HORN BUTTON



MINIMUM HEIGHT TO **OPERATE VEHICLE IS** 59 INCHES (150 CM)



DO NOT OPERATE VEHICLE WHEN LIGHTNING IS IN THE AREA

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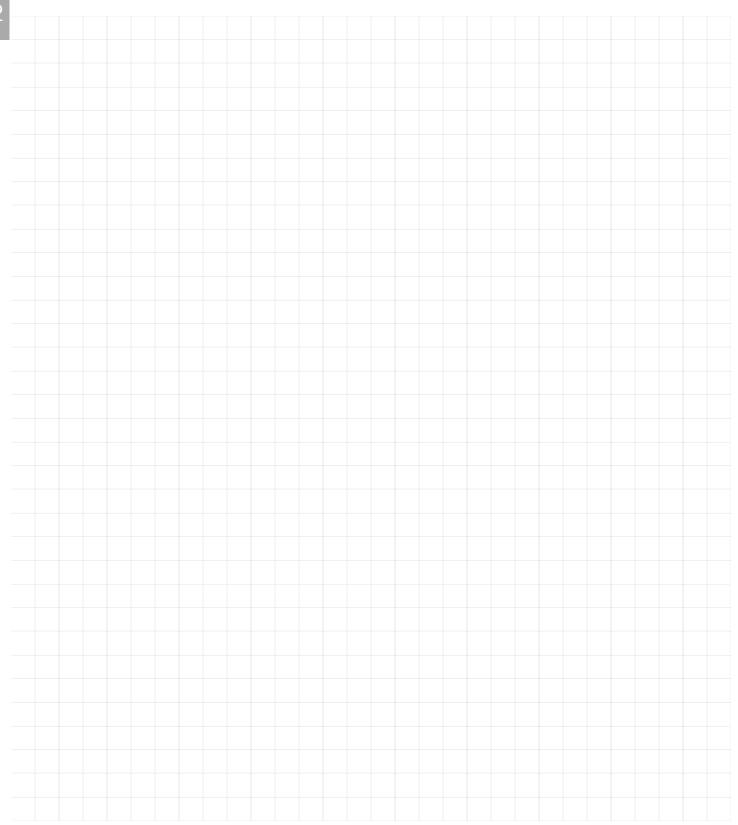
TITLE

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### Notes:

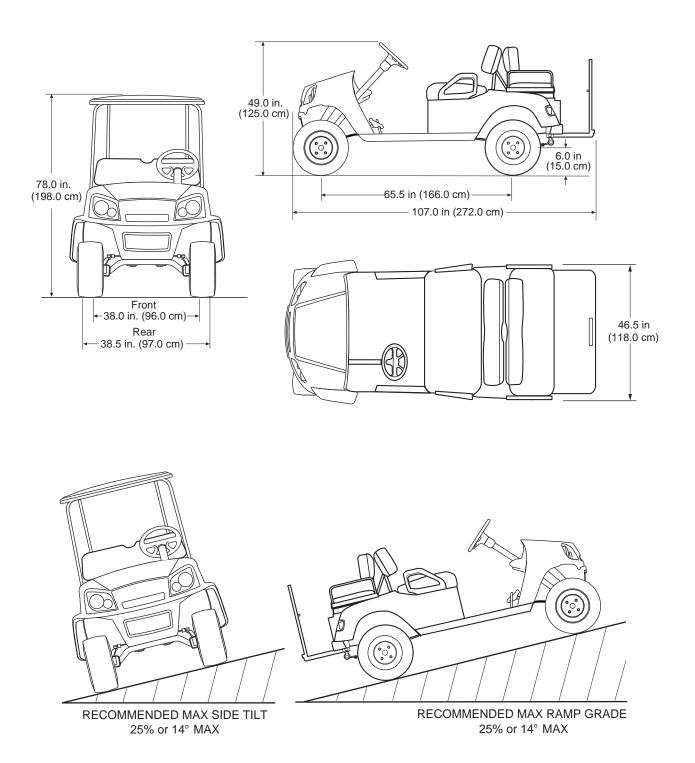


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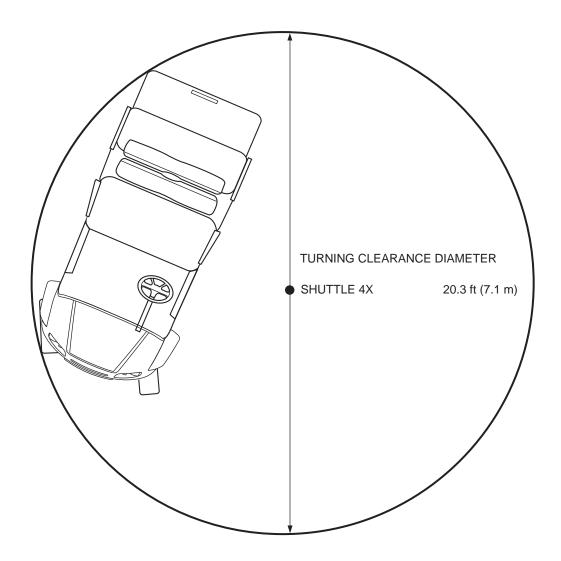
MODEL: SHUTTLE TYPE: GAS POWE MODEL YEAR: 201 Part No: 619213	RED PERSONNEL CARRIER	2	
		SPECIFICATIO	
<ul> <li>Valve Train: Overh</li> <li>Lubrication: Press</li> <li>Balancer: Intern</li> <li>Electrical: Starter</li> <li>Drive Train: Autom</li> <li>Transaxle: Differe</li> <li>Brakes: Dual re</li> </ul>	CONFIGURA eeds SAE J1940 Standard, 4 cycle, 24.5 c lead valve urized oil system, spin-on oil filter al counter rotating balance shaft r/Generator, solid-state regulator, 12 Volt n atic, continuously variable transmission (C ntial with helical gears, ground speed gove ear wheel mechanical self-adjusting drum I elf-compensating system g for 4 persons. Rear Seat converts to Car	<ul> <li>Fuel System</li> <li>Ignition:</li> <li>Air Cleaner:</li> </ul> naintenance free bat VT) ernor, forward/reversionakes. Automatic single-particular single-particu	nder, air-cooled by Kawasaki Fixed float bowl with remote pulse fuel pump Electronic spark/magneto Replaceable dry cartridge ttery (425 CCA, 60 minute reserve)
Dimensions	Порос	Performance	
Dverall Length Dverall Width Dverall Height (No Canopy) Dverall Height (With Canopy) Wheel Base Front Wheel Track Rear Wheel Track Gnd Clearance @ Differentia Load Bed Width (inside) Load Bed Length (inside) /ehicle Power Power Source	65.5 in (166.0 cm) 38.0 in (97.0 cm) 38.5 in (98.0 cm) al 6.0 in (15.0 cm) 40.0 in (102.0 cm) 32.0 in (81.0 cm) 4 Cycle 24.5 cu in (401.0 cc)	Load Bed Load cap Vehicle load capac	Circle 20.3 ft (7.1 m) Ernce N/A nd) Fwd - 17.0 mph ± 0.5 mph (27.4 kph ± 0.8 kph Rev - 13.0 mph ± 0.5 mph (20.9 kph ± 0.8 kph N/A
'alve Train lorsepower (kW) lectrical System atteries (Qty, Type) ey or Pedal Start ir Cleaner ubrication Dil Filter cooling System	Single Cylinder OHV 13 hp (9.7 kW) Exceeds SAE J1940 Std. Starter/Generator. Solid State Regulator One, 12 Volt Maintenance Free Pedal Replaceable Dry Cartridge Pressurized Oil System Spin-On Air Cooled 5.3 Gallons (20.0 L) tank	Service Brake Parking Brake Front Tires Rear Tires Body & Chassis Frame Front Body & Finish Rear Body & Finish Standard Color	Rear wheel mechanical self-adjusting drum Self-compensating, single point engagement Trail Wolf 20 x 11 - 10 Uni-directional Trail Wolf 20 x 11 - 10 Uni-directional Welded steel with DuraShield™ powder coat Injection molded TPO Injection molded TPO Forest Green
Tuel Capacity Drive Train Transaxle Gear Selection Rear Axle Ratio	2.5 Galioris (20.0 L) talk Continuously variable transmission (CVT) Differential with helical gears Forward - Reverse 11.42:1 (Forward) 15.78:1 (Reverse)	ti Vibration, WBV F k Vibration, HAV F k T	n Sound pressure; continued A-weighted equal to or less han 70 db(A) lighest RMS value of weighted acceleration is ess than 2.5 m/s <sup>2</sup> lighest RMS value of weighted acceleration is ess than 2.5 m/s <sup>2</sup> The uncertainty of measurement is 0.39 m/s <sup>2</sup> ds were applied per the ISO 2631 and ISO 5349 standards

Specifications are subject to change without notice \* Field installed accessories may require installation charges

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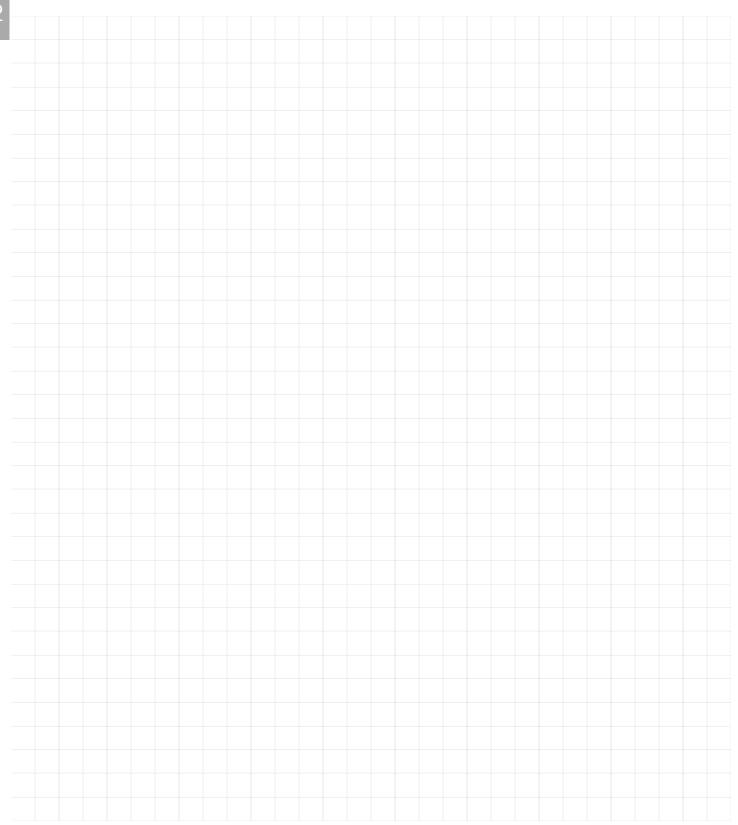


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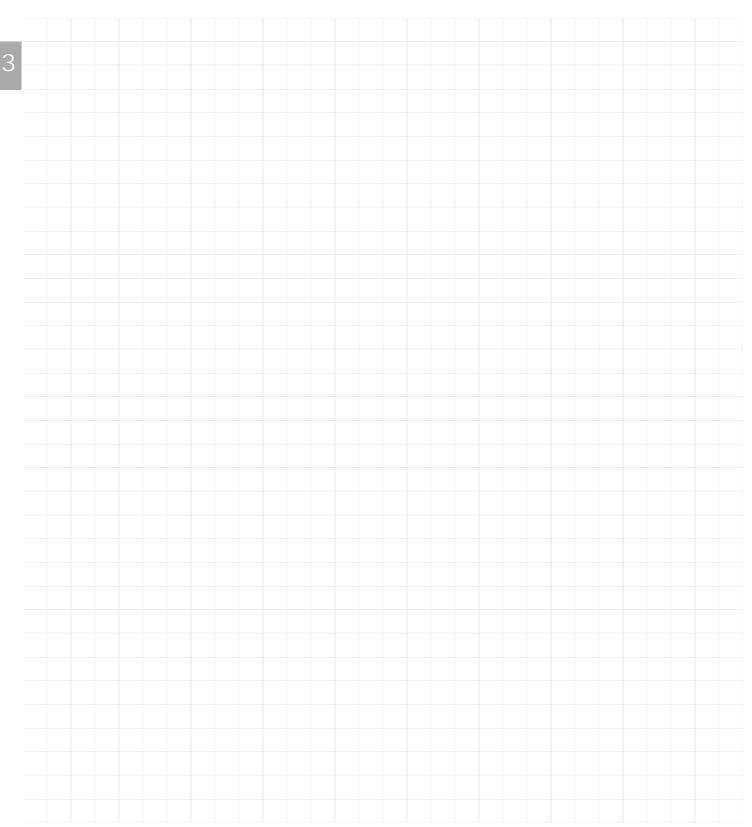
### Notes:



		INTRODUCTION
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	Glove Box	
	Cup Holder	
	Steering Wheel	

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### Notes:



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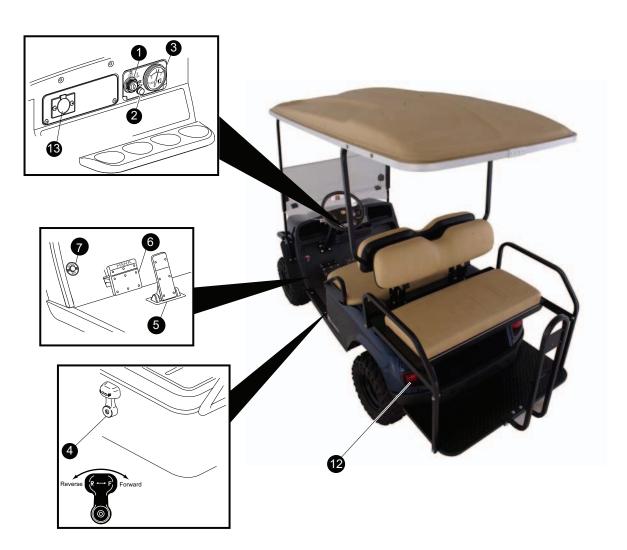
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#### FEATURES

#### **General Information**

#### NOTICE

If the vehicle is equipped with factory installed custom accessories, some accessories remain operational with the key switch in the 'OFF' position.



#### 1. Key Switch / Headlight Switch

Located on the dash panel, this switch enables the basic electrical system of the vehicle to be turned on and off by turning the key. To prevent inadvertent operation of the vehicle when left unattended, the key should be turned to the 'OFF' position and removed.

#### 2. Low Oil Pressure Indicator Light

A low oil pressure indicator light is located on the dash panel. The light illuminates when the oil pressure is low. Check oil level. If oil level is between ADD and FULL mark on dipstick, a mechanical problem exists within the engine and the vehicle **must not be driven**. Contact a local distributor or authorized branch

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### 3. Fuel Gauge

3

The fuel gauge (if equipped) will either be located on the dash panel (electric) or directly on the fuel tank (mechanical).

#### 4. Direction Selector



To reduce the possibility of component damage, the vehicle must be completely stopped before moving the direction selector.

Located on the seat support panel, this lever permits the selection of either 'F' (forward) or 'R' (reverse). Vehicle should be left in 'F' when unattended.

#### 5. Accelerator Pedal



Unintentional movement of the accelerator pedal will release the park brake and may cause the vehicle to move which could result in severe injury or death.

With the key switch 'ON', depressing the accelerator pedal starts the engine. When the pedal is released, the engine will stop. To stop the vehicle more quickly, depress the service brake.

If key switch is 'ON' and park brake is set, depressing the accelerator inadvertently will release the park brake and will cause the vehicle to move which could cause severe injury or death.

Depressing the accelerator pedal will release the park brake if it is engaged. This is a feature to assure the vehicle is not driven with the park brake engaged. Depressing the accelerator pedal is **not** the preferred method of releasing the park brake.

#### NOTICE

Depressing the **lower section of the brake pedal** is the preferred method of releasing the park brake to assure the longest service life of brake components.

#### 6. Brake and Park Brake

The brake pedal incorporates a park brake feature. To engage, push down on the upper section of the pedal until it locks in place. The park brake will release when the service brake pedal is depressed. Use the lower section of the brake pedal to operate the service brake system.

#### 7. Horn

The horn is operated by pushing the horn button located on the floor to the left of the brake pedal.

#### 8. Rear View Mirror

The rear view mirror is a two-position mirror manually adjusted for day and nighttime conditions. Sun Top kit is required to install rear view mirror.

#### 9. Front Seats

The split bench front seat is designed for one occupant on each side of the center console.

#### 10. Hip Restraint - Front

The front hip restraints are designed to help keep the occupants properly positioned in the event of sudden vehicle position changes.

#### 11. Front Lights

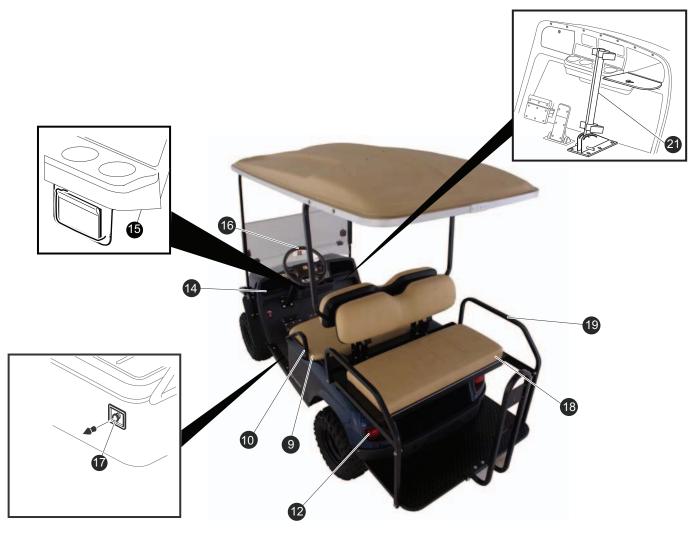
If the vehicle is equipped with lights, the key switch has a position to operate them, indicated by the light icon.

#### 12. Brake Light/Turn Signal

The combination brake light/turn signal assemblies are located on the rear fenders.

#### 13. 12 Volt Power Outlet

A 12 volt power outlet, rated at 15 amps, is located to the left side of the key/light switch. It provides constant power for accessories equipped with a 12 volt plug.



#### 14. Glove Box

A lockable glove compartment is located on each side of the instrument panel.

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#### 15. Cup Holder

A cup holder is provided for convenience of both the driver and passenger.

#### 16. Steering Wheel

The steering wheel located in front of the driver seat is used to steer the vehicle. The steering wheel is also installed with scorecard holder assembly.

#### 17. Choke

The choke is used to aid cold starting. See COLD STARTING section for operating instructions.

#### 18. Rear Seat

The rear seats is designed for two occupant on each side of the seat.



To prevent severe injury or death, rear seat passengers should hold on to both the hip restraints and the rear hand hold when the vehicle is in motion. Always be sure that all passengers are seated and holding on before operating vehicle.

#### 19. Hip Restraint - Rear

The rear hip restraints are designed to help keep the occupants properly positioned in the event of sudden vehicle position changes. Be sure that all passengers are seated and holding onto both the hip restraint and the rear hand hold (rear facing passengers) before operating the vehicle.

#### 20. Cargo Basket - If Equipped

Do not overload basket. The basket is limited to a maximum load of 25 lbs. (11 kg). Failure to follow these instructions could cause personal injury, damage to the vehicle and/or cause the vehicle to tip over. Be aware that increased loads may effect driving characteristics.



Never overload the basket. An overloaded basket could negatively affect vehicle handling characteristics and cause the vehicle to tip over or cause structural damage to the vehicle.

#### 21. Gun Holder - If Equipped

Check that firearms are unloaded with the safety engaged before securing to holder. A maximum of two firearms can be secured in the gun holder.



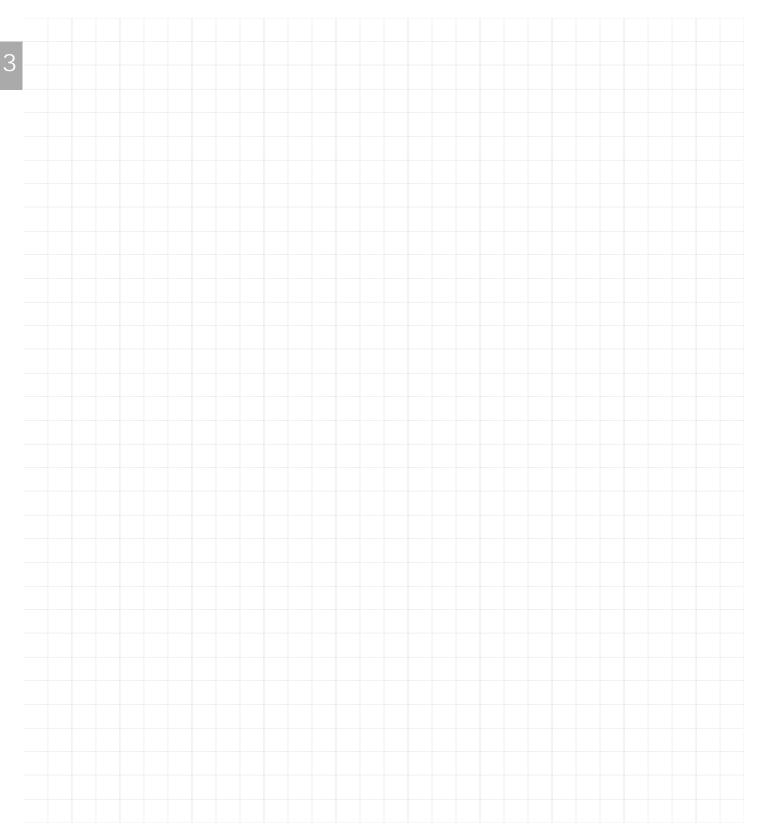
To prevent severe injury or death, never transport loaded firearms on or in vehicle. Check that firearms are unloaded with the safety engaged and are properly secured with muzzle pointing in a safe direction before operating vehicle.

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### Notes:



Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, War	nings, and Dangers.
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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

### Notes:

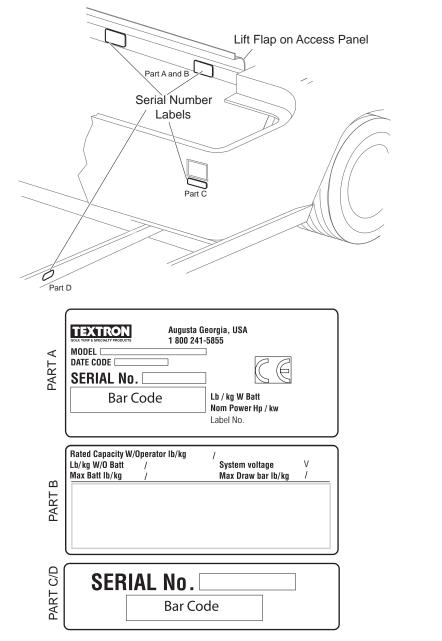
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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### SERIAL NUMBER LOCATION

Two serial number and manufacture date code plates are on the vehicle. One is placed on the body below the front, driver side of the seat. The other is located on the chassis between the seat back supports. To access it, raise the seat and lift up the flap on the access panel.

Design changes take place on an ongoing basis. In order to obtain correct components for the vehicle, the manufacture date code, serial number and vehicle model mustacture date code, serial number and vehicle model must be provided when ordering service parts.



**Serial Number & Location** 

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### **BEFORE INITIAL USE**

Read and follow the safety label on the instrument panel. Be sure you understand how to operate the vehicle and its equipment as well as how to use it safely. Maintaining good performance depends to a large extent on the operator.

Before a new vehicle is put into operation, the items shown in the *INITIAL SERVICE CHART* must be performed.

Vehicle battery must be fully charged before initial use.

Check for correct tire inflation. See GENERAL SPECIFICATIONS.

Check for oil or fuel leaks that could have developed in shipment from the factory.

Determine and record braking distance required to stop vehicle for future brake performance tests.

Remove the protective clear plastic, that protect the seat bottom and back rest during shipping, before placing the vehicle in service.

ITEM	SERVICE OPERATION
Battery	Charge battery
Seats	Remove protective plastic covering
Brakes	Check operation and adjust if necessary
	Check hydraulic brake fluid level if equipped
	Establish acceptable stopping distance
Tires	Check air pressure (see SPECIFICATIONS)
Fuel	Fill tank with correct fuel
Engine	Check oil level

#### **Initial Service Chart**

#### **OPERATING THE VEHICLE**



*Improper use of the vehicle or the lack of proper maintenance may result in damage or decreased performance.* Read and understand the following warnings before attempting to operate the vehicle.



To reduce the possibility of severe injury or death resulting from loss of vehicle control, the following warnings must be observed:

When driving vehicle, consider the terrain, traffic conditions and the environmental factors which effect the terrain and the ability to control the vehicle.

Use extra care and reduced speed when driving on poor surfaces, such as loose dirt, wet grass, gravel, etc.

Stay in designated areas and avoid extremely rough terrain.

Maintain a safe speed when driving down hill. Use service brake to control speed when traveling down an incline. A sudden stop or change of direction may result in loss of control.

Slow down before and during turns. All turns should be made at reduced speed.

Never drive vehicle up, down, or across an incline that exceeds 14° (25% grade).

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.



To reduce the possibility of severe injury or death resulting from improper vehicle operation, the following warnings must be observed:

Refer to GENERAL SPECIFICATIONS for seating capacity.

Depressing accelerator pedal will release foot operated park brake and may cause inadvertent vehicle movement. Turn the key to the 'OFF' position whenever the vehicle is parked.

To prevent inadvertent movement when the vehicle is to be left unattended, engage the park brake, move direction selector to forward position, turn key to 'OFF' position and remove key.

Make sure that the direction selector is in correct position before attempting to start the vehicle.

Always bring the vehicle to a complete stop before shifting the direction selector.



Improper use of the vehicle or the lack of proper maintenance may result in damage or decreased performance.

Do not take vehicle out of 'gear' while in motion (coast).

Check the area behind the vehicle before operating in reverse.

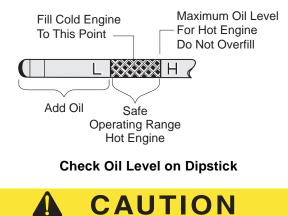
All occupants must be seated. Keep entire body inside vehicle and hold on while vehicle is in motion.

#### RUN-IN

Check for oil or fuel leaks that could have developed in shipment from the factory. Avoid full throttle starts and rapid acceleration until the engine has achieved operating temperature.

All engines consume more oil than normal during the first hours of operation. As internal moving parts are run-in, oil consumption should gradually decrease until the rate of consumption stabilizes.

Check the oil level per the Periodic Service Schedule. Add oil if the level on the dipstick indicates that oil is in the add oil range.



Do not overfill engine. Too much oil may cause smoking or allow oil to enter the air filter enclosure.

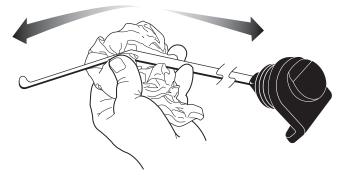
### NOTICE

The oil dipstick/fill cap must be in place before operating the engine. Failure to install the dipstick/fill cap will result in oil becoming contaminated and/or being discharged into the engine compartment.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

Oil dipsticks are unique to this model vehicle. Do not interchange oil dipsticks between models.

The oil should be changed in accordance with the Periodic Service Schedule while the engine is warm. See SERVICE AND MAINTENANCE for checking oil level and changing oil procedures.



**Clean Entire Dipstick** 

#### **COLD STARTING**

Starting a cold engine **may** require use of the choke. Depress the accelerator approximately 1" (2.5 cm) or until the starter just begins to operate. Pull the choke out if required. Accelerate slowly and push the choke in completely when the engine runs smoothly.



Do not allow the starter to operate continuously for more than 10 seconds. Allow 30 seconds between starting attempts. If the vehicle does not start on the third attempt, turn the key switch off, set the park brake and determine the cause of the problem.

If the vehicle had been running and the engine does not start within 10 seconds, use the choke.

#### **STARTING AND DRIVING**



To reduce the possibility of roll-back which could result in severe injury or vehicle damage, do not release service brake until engine has started.

To operate vehicle:

- Apply the service brake, place the key in the key switch and turn it to the 'ON' position.
- Move the direction selector to the direction desired.
- Release the park brake by depressing the service brake pedal until the park brake releases.
- Slowly depress the accelerator pedal to start the engine. Release service brake when engine starts.
- When the accelerator pedal is released, the ignition circuit is de-energized and the engine stops. To stop the vehicle more quickly, depress the **service brake pedal**



When the direction selector is in the reverse position, a warning signal will sound to indicate that the vehicle is ready turn in reverse.

#### STARTING THE VEHICLE ON A HILL



To reduce the possibility of roll-back which could result in severe injury or vehicle damage, do not release service brake until engine has started.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.



Do not hold vehicle on hill by using accelerator and engine. This will cause premature and excessive wear to drive train components.

To reduce the possibility of permanent damage to the drive system, it is important to prevent excessive roll-back when starting the vehicle on a hill.

Place left foot on service brake and release the park brake. Depress accelerator with right foot and release the service brake by lifting left foot.

#### COASTING



To reduce the possibility of severe injury or death from coasting at above recommended speeds, limit speed with service brake.

On steep hills, it is possible for the vehicle to coast at greater than normal speeds encountered on a flat surface. To reduce the possible loss of vehicle control and severe drivetrain damage, speeds should be limited to no more than the maximum governed speed on level ground (see GENERAL SPECIFICATIONS). Limit speed by applying service brake.

#### FUEL

### **WARNING**

To reduce the possibility of severe injury or death from improper fuel handling:

Do not smoke near the fuel tank.

Do not refuel near open flame or electrical items which could produce a spark.

Always handle gasoline in a well ventilated area.

Always wear eye protection to protect against splashed fuel and fuel vapors.

Always allow adequate space for the expansion of gasoline. Leave at least 1" (2.5 cm) space below bottom of filler neck.

Inspect fuel cap, tank and other components for leaks or deterioration that could cause a hazardous condition.

The fuel tank is located under the seat on the passenger side of the vehicle. Fill the tank with fresh, clean, automotive grade gasoline. High altitude or heavy use/load applications may benefit from higher octane gasoline.

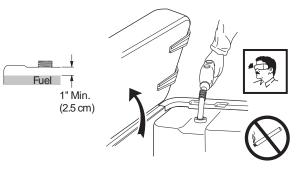
Do not use gasoline which contains Methanol.



Some fuels, called oxygenated or reformulated gasoline, are gasoline blended with alcohols or ethers. Excessive amounts of these blends can damage the fuel system or cause performance problems. If any undesirable operating symptoms occur, use gasoline with a lower percentage of alcohol or ether.

Use fresh regular grade unleaded fuel. Ethanol blend fuel up to 10% is permissible.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.



Fueling

#### BATTERY



Excessive use of accessories may drain the battery and leave insufficient reserve to start the vehicle.

The vehicle uses a combination starter/generator to both start the engine and charge the battery. The engine will not idle; therefore, the battery cannot be charged while the vehicle is stopped. Do not operate accessory items (such as lights) excessively while the vehicle is stopped.

The generator is capable of supplying 35 amps; therefore, operation of all accessories could result in the discharge of the battery even though the engine is running and the generator operating. Discharging the battery is known as deep cycling. The battery is not a deep cycle model, but is a starting battery. Multiple deep cycling will result in the premature failure of the battery.

If the vehicle battery has become discharged, it must be charged using a 12 volt charger that is rated at 10 amps or less and in accordance with all instructions provided by the manufacturer of the charger.

#### SUN TOP AND WINDSHIELD (If Equipped)



The sun top does not provide protection from roll over or falling objects.

The windshield does not provide protection from tree limbs or flying objects.

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To prevent damage to the vehicle, do not hold on to sun top struts and stand on body panels.

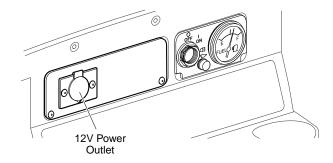
The sun top and windshield provide some protection from the elements; however, they will not keep the operator and passenger dry in a downpour. This vehicle is not equipped with seat belts and the sun top has not been designed to provide roll over protection. In addition, the sun top does not protect against falling objects nor does the windshield protect against flying objects and tree limbs. Keep arms and legs inside of vehicle while it is moving.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### **12 VOLT POWER OUTLET**



Overuse of accessories may drain the battery and leave insufficient reserve to start the vehicle. A 12 volt power outlet, rated at 15 amps, is located left side of the key/light switch



**12 Volt Power Outlet** 

#### TERRAIN

The vehicle is designed for use on improved roads (but not on public highways). The vehicle may also be used on established trails or open terrain that is free from stumps, large rocks or holes. The vehicle should not be used to cross water.

#### **MODIFICATIONS TO VEHICLE**

Changes to the weight distribution or the center of gravity may make vehicle unstable or prone to roll over which could result in severe injury or death to the operator or passengers.

WARNING

Do not modify the vehicle in any manner that will change the weight distribution of the vehicle. Changes to the weight distribution or the center of gravity may make it unstable or prone to roll over which could result in severe injury or death to the operator or passengers.

#### LOAD BED

### A WARNING

To reduce the possibility of severe injury or death, read, understand and follow the Warning label affixed to the front of the load bed. An electric lift bed is the standard bed for the ST 400. Lower capacity vehicles have a manual dump feature. A load bed warning label is affixed to the front of the bed. See Appendix A. For safe operation of the vehicle, this label must be understood. See the load bed warning label for maximum load. The load must be positioned in the bed as far forward as possible, distributed in such a way that its center of gravity must not be higher than height noted on label, and secured. Failure to follow these instructions may result in severe injury, damage the

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

vehicle and/or cause the vehicle to tip over. Use extra care when operating loaded vehicle.

Do not permit any one to ride in the load bed.

Do not drive the vehicle with the load bed raised or with the tailgate unsupported.

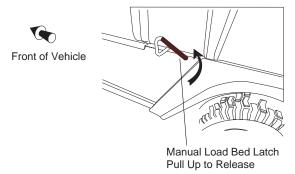
When using a load bed, be sure to avoid backing up to the edge of a drop off, such as a loading dock or ravine. A misjudgment of distance or an unstable surface could result in the vehicle falling backwards.

#### MANUAL LIFT BED



Exercise caution while operating the manual lift bed to ensure the bed is not released during lifting or lowering procedure. Severe injury could result if bed is released and traps fingers or other body parts.

To lift the manual lift bed, pull back on the latch release handle immediately behind the driver seat. Raise the bed using the handle on the side of the bed.



#### Manual Bed Latch

On the ST 400, the gas strut will assist in raising the empty load bed and will keep the bed raised. Over time, the gas strut may allow the load bed to slowly lower. If this condition is evident, replacement of gas strut is

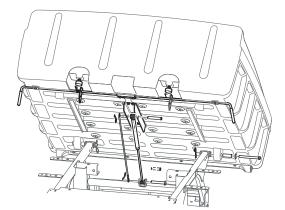


required. To lower the manual lift bed, grasp the bed handle and lower the bed to the rest position. **Be sure hands are not trapped by the bed.** 

#### TAIL GATE OPERATION

To open the tail gate, lift tail gate straight up with a sharp upward pull to lift out of the closed position and pivot out for open position. To remove the tail gate, remove the side cables from the load bed and open tail gate until it is straight down, move tail gate panel straight up to remove from pins and remove from the load bed. Reassemble in reverse order.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.



**Gas Strut with Tether Cable** 



Never fill a gas can in the bed of a vehicle. Static discharge could ignite gasoline vapor and cause an explosion.

Always place a gas can on the ground before filling. Never fill a gas can in the bed of the vehicle. Static electricity is built up during the fueling process and could discharge causing the gasoline vapor to ignite.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

# Notes:

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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all N	otices, Cautions, Warnings, and Dangers.
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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

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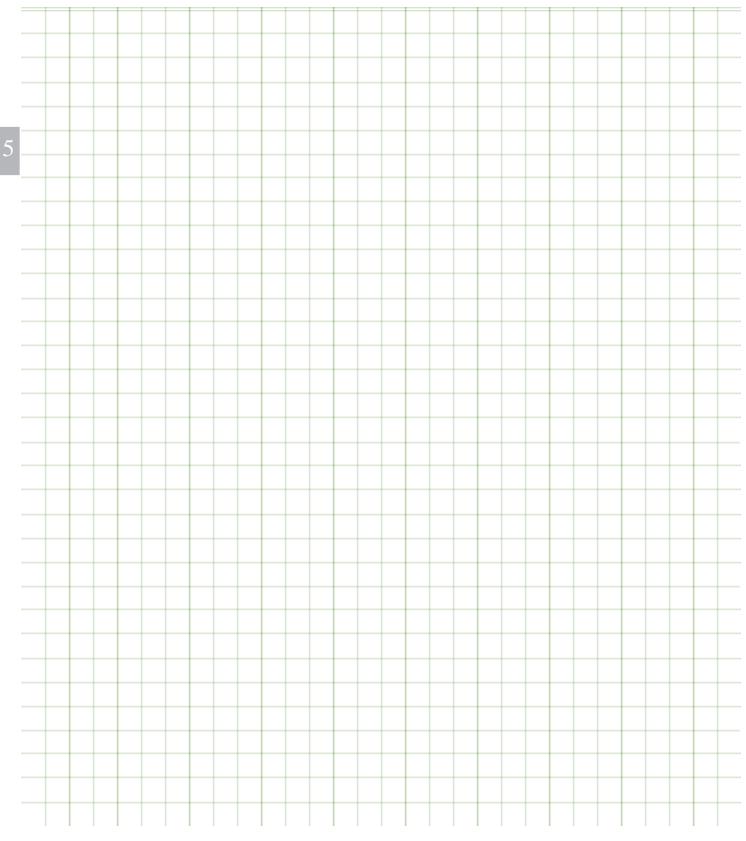
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### Notes:



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### VEHICLE CLEANING AND CARE

#### Vehicle Cleaning



To reduce the possibility of severe injury or vehicle damage, read and understand all instructions supplied by manufacturer of pressure washer.



When pressure washing exterior of vehicle, do not use pressure in excess of 700 psi. To reduce the possibility of cosmetic damage, do not use any abrasive or reactive solvents to clean plastic parts.

It is important that proper techniques and cleaning materials be used. Using excessive water pressure may cause severe injury to operator or bystander, damage to seals, plastics, seat material, body finish or electrical system. Do not use pressure in excess of 700 psi to wash exterior of vehicle.

Clean windshield with lots of water and a clean cloth. Minor scratches may be removed using a commercial plastic polish or Plexus<sup>®</sup> plastic cleaner available from the service parts department.

Normal cleaning of vinyl seats and plastic or rubber trim requires the use of a mild soap solution applied with a sponge or soft brush and wipe with a damp cloth.

Removal of oil, tar, asphalt, shoe polish, etc. will require the use of a commercially available vinyl/rubber cleaner.

The painted surfaces of the vehicle provide attractive appearance and durable protection. Frequent washing with lukewarm or cold water and mild detergent is required to preserve the painted surfaces.

Occasional cleaning and waxing with non-abrasive products designed for 'clear coat' automotive finishes will enhance the appearance and durability of the painted surfaces.

Corrosive materials used as fertilizers or for dust control can collect on the underbody of the vehicle. These materials will cause corrosion of underbody parts unless flushed occasionally with plain water. Thoroughly clean any areas where mud or other debris can collect. Sediment packed in closed areas should be loosened to ease it's removal, taking care not to chip or otherwise damage paint.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

### **COMMON SENSE OPERATION**



To prevent severe injury or death, observe the following:

Never transport loaded firearms on or in vehicle

Check that firearms are unloaded with the safety engaged and are properly secured with muzzle pointing in a safe direction before operating vehicle.

Be aware of other firearms in proximity to operator and passengers.

**This vehicle is not a toy.** If not operated properly and responsibly, it can cause severe injury or death to the operator, passengers or bystanders. All operators should possess a valid driver's license. Children should not be permitted to operate the vehicle. Children may not have the skill, judgement or strength to operate this or similar vehicles.

Alcohol, drugs and many over the counter medications reduce the ability of the driver to operate the vehicle safely. Always review side effects of any medication with a doctor or pharmacist before operating vehicle.

Protective clothing and an approved motorcycle helmet are recommended for operator and passengers when operating vehicle in rough or densely wooded terrain.

When driving at full speed on a dirt road, loose surfaces or wet grass, vehicle stopping distance will increase. If the vehicle is fully loaded, it will take longer to stop than with no load. When operating vehicle in wet weather conditions, remember that the brakes may need to be **lightly** applied in order to provide enough friction to dry the brake unit. If wet, the brakes will lose much of their effect.

Slow down when in unfamiliar terrain. Slow down when cresting a hill in an area that you are unfamiliar with.

Some hills are too steep to climb. If you attempt to climb a hill that is too steep or if you are unable to achieve adequate traction, do not attempt to turn around on the hill. Slowly back straight down the hill using the service brake to control speed.

### **ENVIRONMENTAL CONCERNS**

## A WARNING

As a responsible user, practice respect for all wildlife and their habitat. Respect private property and comply with all local laws and regulations governing the use of light duty utility vehicles. To prevent severe injury or death while driving, be aware of the following:

Environmental hazards such as steep slopes, overhanging limbs, etc.

Danger of fire when vehicle is operated over dry combustible organic material.

When driving, be aware of environmental hazards such as steep slopes, overhanging limbs, etc. Be aware of the danger of fire when the gasoline powered vehicle is operated over dry combustible organic material.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

### REPAIR

Some servicing operations may require the front wheels, the rear wheels, or the entire vehicle to be raised.

### A WARNING

To reduce the possibility of severe injury or death from a vehicle falling from a jack:

Be sure the vehicle is on a firm and level surface.

Never get under a vehicle while it is supported by a jack.

Use jack stands and test the stability of the vehicle on the stands.

Always place chocks in front and behind the wheels not being raised.

Use extreme care since the vehicle is extremely unstable during the lifting process.

#### When lifting the vehicle, position the jacks and jack stands at the areas indicated only.

#### Lifting The Vehicle

Tool List	Qty.	Tool List	Qty.
Floor jack	1	Jack stands	4
Wheel Chocks	4		

CAUTION

Remove payload from vehicle before lifting. No person(s) should be in or on the vehicle while lifting.

To raise the entire vehicle, install chocks in front and behind each front wheel. Center the jack under the rear frame crossmember. Raise the vehicle enough to place a jack stand under the outer ends of the rear axle.

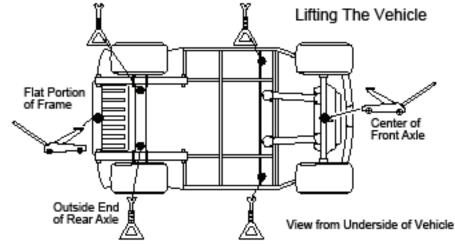
Lower the jack and test the stability of the vehicle on the two jack stands.

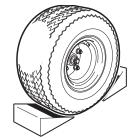
Place the jack at the center of the front axle. Raise the vehicle enough to place jack stands under the frame crossmember as indicated.

Lower the jack and test the stability of the vehicle on all four jack stands.

If only the front or rear of the vehicle is to be raised, place the chocks in front and behind each wheel not being raised to stabilize the vehicle.

Lower the vehicle by reversing the lifting sequence.







Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

### WHEELS AND TIRES



A tire explosion can cause severe injury or death. Never exceed the inflation pressure rating on the tire sidewall.

To reduce the possibility of tire explosion, pressurize tire with small amounts of air applied intermittently to seat beads. Due to the low volume of the small tires, overinflation can occur in seconds. Never exceed the tire manufacturer's recommendation when seating a bead. Protect face and eyes from escaping air when removing a valve core.

To reduce the possibility of severe injury caused by a broken socket when removing wheels, use only sockets designed for impact wrench use.

DO NOT use low inflation tires on any E-Z-GO vehicle. DO NOT use any tire which has a recommended inflation pressure less than the inflation pressure recommended in the owner's guide.

Use caution when inflating tires. Overinflation could cause the tire to separate from the wheel or cause the tire to explode, either of which could cause severe injury.

#### **Tire Repair**

Tool List	Qty.	Tool List	Qty.
Lug wrench, 3/4" Impact wrench, 1/2" drive		Impact socket, 3/4", 1/2" drive Torque wrench, 1/2" drive	
	1		I

Use caution when inflating tires. Due to the low volume of the small tires, overinflation can occur in seconds. Overinflation could cause the tire to separate from the wheel or cause the tire to explode.

Tire inflation should be determined by the condition of the terrain. See GENERAL SPECIFICATIONS section for recommended tire inflation pressure. For outdoor applications with major use on grassy areas, the following should be considered. On hard turf, it is desirable to have a **slightly** higher inflation pressure. On very soft turf, a lower pressure reduces the possibility of tires cutting into the turf. For vehicles being used on paved or hard surfaces, tire inflation pressure should be in the higher allowable range, but under no condition should inflation pressure be higher than recommended on tire sidewall. **All four tires** should have the same pressure for optimum handling characteristics. Be sure to install the valve stem dust cap after checking or inflating.

The vehicle is fitted with low pressure tubeless tires mounted on one piece rims; therefore, the most cost effective way to repair a puncture in the tread is to use a commercial tire plug.

#### NOTICE

Tire plug tools and plugs are available at most automotive parts outlets and have the advantage of not requiring the tire be removed from the wheel.

If the tire is flat, remove the wheel and inflate the tire to the maximum recommended pressure for the tire. Immerse the tire in water to locate the leak and mark with chalk. Insert tire plug in accordance with manufacturer's instructions.



To reduce the possibility of severe injury, be sure the mounting/demounting machine is anchored to floor. Wear OSHA approved safety equipment when mounting/demounting tires.

If the tire is to be removed or mounted, the tire changing machine manufacturer's recommendations must be followed in order to reduce possibility of severe injury.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### Wheel Installation



To reduce the possibility of component damage, do not tighten lug nuts to more than 85 ft. lbs. (115 Nm) torque.

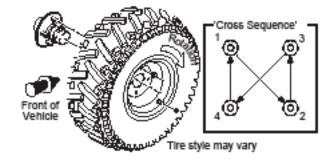
NOTICE

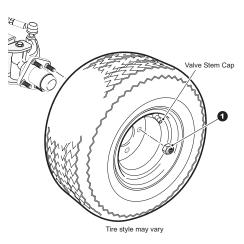
It is important to follow the 'cross sequence' pattern when installing lug nuts. This will assure even seating of the wheel against the hub.

With the valve stem to the outside, mount the wheel onto the hub with lug nuts. Finger tighten the lug nuts (1) in a 'cross sequence' pattern. Tighten the lug nuts to 50 to 85 ft. lbs. (68 to 115 Nm) torque in 20 ft. lbs. (27 Nm) increments following the 'cross sequence' pattern.

#### **Unidirectional Tires**

Some vehicles may be fitted with unidirectional tires. These tires may be identified by a directional arrow on the sidewall. Be sure to position the wheel on hub correctly with arrow indicating direction of rotation when moving forward.







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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

### LIGHT BULB REPLACEMENT



To reduce the possibility of premature bulb failure, do not touch new bulbs with bare fingers. Use clean, dry tissue or paper towel to handle the glass portion of the bulb.

For vehicles equipped with lights mounted in the cowl, locate bulb socket

on backside of light and turn bulb socket a quarter turn counterclockwise to unlock and pull out bulb and socket. Insert new bulb and rotate socket a quarter turn clockwise to secure.

Similarly replace the turn signal light bulb, locate bulb socket on backside of light bar and turn bulb socket a quarter turn counterclockwise to unlock and pull out bulb and socket. Insert new bulb and rotate socket a quarter turn clockwise to secure.

To replace the tail and brake light bulb, roll the rubber bezel from around the edge of the taillight and remove lens. Install replacement bulb and replace lens.

### **FUSE REPLACEMENT**

To replace fuses, locate the fuse block under the driver side seat. Pull out old fuse and replace with a new automotive type fuse. Headlight and taillight bulbs and fuses are available from a local Distributor, an authorized Branch or the Service Parts Department.

### VEHICLE WITH A DISCHARGED BATTERY

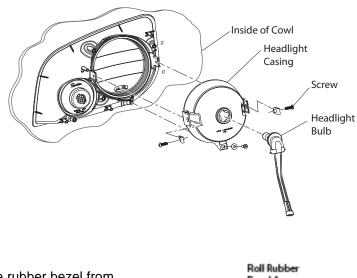
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### To reduce the possibility of severe injury or death from inadvertent motion, do not attempt to 'jump start' a vehicle.

The vehicle is equipped with a starter/generator and does not idle. When starting the engine, the starter/generator functions as a starter and with the engine running, it functions as a generator.

With the short running times associated with this kind of vehicle, the generator is more than adequate to maintain the battery charge level. The generator is not designed to charge a discharged battery.

When engine starts, the clutches engage and cause vehicle to move making 'jump starting' both dangerous and impractical.





#### Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers

If the vehicle battery has become discharged, it must be charged using a 12 volt charger that is rated at 10 amps or less. Read and understand all instructions provided by the manufacturer of the charger.

### **TRANSPORTING VEHICLE**

#### TOWING



#### This vehicle is not designed to be towed

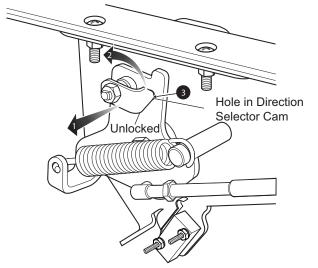
It is recommended that the vehicle be moved by placing the entire vehicle on a trailer, flatbed truck or other suitable transport.

#### **NEUTRAL LOCK**

To prevent the driven clutch from turning the rear wheels during service operations, a neutral lock is located on the direction selector

To operate:

Turn key switch to 'OFF' and lift seat. Pull out and rotate the neutral lock pin handle so that the pointed portion of the handle is to the side of the direction selector cam. Move direction selector towards the area between 'F' and 'R'. During that motion the pin will snap into the hole in the direction selector mounting bracket preventing any movement.



When in this position, the direction selector remains locked in the neutral position. To unlock the direction selector, pull the neutral lock pin handle out and rotate until the pointed portion of the handle fits into the hole in the direction selector cam.

#### HAULING



To reduce the possibility of severe injury or death while transporting the vehicle:

Secure the vehicle and contents.

Never ride on the vehicle being transported.

Always remove the windshield before transporting.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

If the vehicle is to be transported at highway speeds, the sun top must be removed and the seat bottom secured. When transporting vehicle below highway speeds, check for tightness of hardware and cracks in sun top at mounting points. Always remove windshield when transporting. Always check that the vehicle and contents are adequately secured before transporting. The rated capacity of the trailer or truck must exceed the weight of the vehicle (see GENERAL SPECIFICATIONS for vehicle weight) and load plus 1000 lbs. (454 kg). Secure the vehicle using ratchet tie downs.

### SERVICE AND MAINTENANCE



To reduce the possibility of severe injury or death from improper servicing techniques:

DO NOT attempt any type of servicing operations before reading all notes, cautions and warnings in this manual.

Any servicing requiring adjustments to be made to the powertrain while the motor is running must be made with both drive wheels raised and vehicle properly supported on jack stands.

To reduce the possibility of motor damage, never operate vehicle at full throttle for more than *4* - 5 seconds while vehicle is in a 'no load' condition.

Reduce the possibility of accidental starting by disconnecting battery at negative terminal before servicing.



Wear eye protection when working on the vehicle. Use extra care when working around batteries, or using solvents or compressed air.

To reduce the possibility of causing an electrical arc, which could result in a battery explosion, turn off all electrical loads from the battery before removing battery wires.



Wrap wrenches with vinyl tape to reduce the possibility of a dropped wrench 'shorting out' a battery, which could result in an explosion.

The electrolyte in a battery is an acid solution which can cause severe burns to the skin and eyes. Treat all electrolyte spills to the body and eyes with extended flushing with clear water. Contact a physician immediately.

Any electrolyte spills should be neutralized with a solution of 2 teaspoons (10 ml) sodium bicarbonate (baking soda) dissolved in 1 quart (1 liters) of water and flushed with water.

Aerosol containers of battery terminal protectant must be used with extreme care. Insulate metal container to reduce the possibility of can contacting battery terminals which could result in an explosion.

It is in the best interest of both vehicle owner and service technician to carefully follow the procedures recommended in this manual. Preventative maintenance, applied at recommended intervals, is the best guarantee for keeping the vehicle both dependable and economical.

This vehicle will give years of satisfactory service, providing it receives regular maintenance. Refer to the Periodic Service Schedule for appropriate service intervals.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

### **ROUTINE MAINTENANCE**



To prolong vehicle life, some maintenance items must be serviced more frequently on vehicles used under severe driving conditions such as extreme temperatures, extreme dust/debris conditions, or frequent use with maximum load.

To access the powertrain for routine maintenance, lift or remove the seat and remove the rear access panel. For major repair, refer to the appropriate Technician's Repair and Service Manual.

Some service procedures may require the vehicle to be lifted. Refer to LIFTING THE VEHICLE for proper lifting procedure and safety information.

#### **Tire Inspection**

Tire condition should be inspected per the Periodic Service Schedule. Inflation pressures should be checked when the tires are cool. Be sure to install the valve dust cap after checking or inflating.

#### **Rear Axle**

The only maintenance required for the first five years is the periodic inspection of the rear axle for lubricant leakage. Unless leakage is evident, the lubricant need only be replaced after five years. Refer to the Service and Repair Manual for the fluid replacement procedure.

#### FOUR CYCLE ENGINE

#### **Engine Specifications**

Engine model	
Туре	
Number of cylinders	
Displacement	
Rated horsepower	13 hp
Spark plug type	NGK BPR2ES
Spark plug gap	
Cooling	Forced air cooled
Oil Filter	Cartridge type full flow filter
Oil Pump	Positive displacement pump

#### **Engine Description**

The engine is an air cooled, 4-stroke, OHV, single cylinder gasoline engine. It incorporates a pressure fed lubrication positive displacement oil pump with a cartridge type full flow oil filter and a counter rotating balance shaft.

#### **CHECKING THE OIL LEVEL**



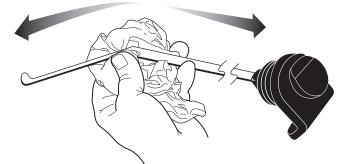
Do not overfill engine. Too much oil may cause engine to smoke or cause spark plug fouling.

Do not overfill engine. Too much oil may cause smoking or allow oil to enter the air filter enclosure.

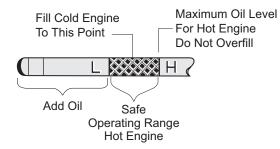
The oil should be checked with the engine warm. The vehicle should be on a level surface with the parking (PARK) brake engaged. Allow adequate time for oil to drain into the crankcase before checking.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

Remove the dipstick and wipe off the entire area with a lint free cloth.



Insert the dipstick fully into the dipstick hole and remove. Examine the level of the oil on the dipstick.



The engine can be operated safely as long as oil is within the safe operating range as indicated on the dip stick. Do not operate vehicle if oil level is below the safe area indicated on the dipstick.

Oil should be added to bring the level into the safe operating range. Remember that oil expands as it gets hot, **Do not overfill**. Check that the oil cap is firmly in place.

When adding oil between oil changes, do not mix brands and viscosity grades of oil

The oil dipstick/fill cap must be in place before operating the engine. Failure to install the dipstick/fill cap will result in oil becoming contaminated and/or oil being discharged into the engine compartment.

Qty.

NOTICE

#### Changing the Oil

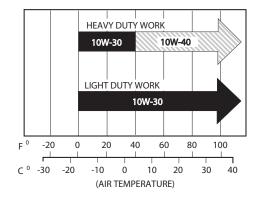
#### **Tool List**

Socket, 3/8" drive	. 1
Ratchet, 3/8" drive	
Extension, 3/8" drive, 8"	. 1
Oil drain pan	.1
	. 1

For maximum performance and longevity, the engine oil should be replaced after the first 8 hours of operation. After the initial oil change, it should be changed every 125 hours of operation or semi-annually, whichever comes first.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

The selection of oil is dependent upon the service that the vehicle will perform. Most vehicles require 10W-30 oil, whereas vehicles used at capacity or near capacity load applications will utilize 10W-40 oil after a break-in period of 100 hours.



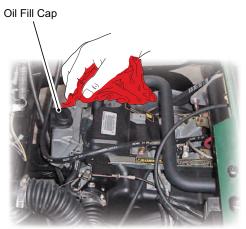
### NOTICE

If vehicle is to be stored over winter months, it can be stored with old oil left in engine. The oil should be changed as part of spring maintenance. This will remove any moisture that has accumulated during storage.

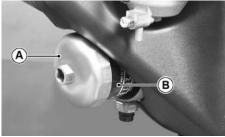
### **WARNING**

Be aware that engine fluids may be hot and contact to the skin may cause severe burns. Wear rubber gloves to protect skin from exposure to the old oil and degreaser.

The oil should be changed with engine warm. Park vehicle on a level surface, engage parking brake and remove key. Place a drain pan under engine. Wipe top of the engine clean with a cloth. Remove the oil fill cap.

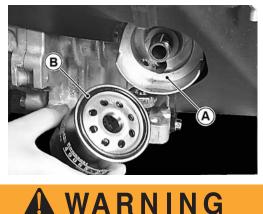


Clean the area around filter. Using a filter wrench, strap wrench or other suitable wrench, remove the filter (B) from the engine and allow the oil to drain. The 'O' rings may remain on engine (A) or filter (B)



Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

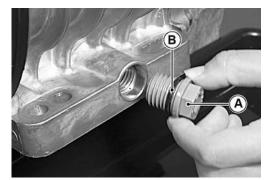
Inspect the filter. Make sure the 'O' ring is not left on the engine surface.



#### 5

#### Be careful of hot oil when drained. It may be hot enough to burn you severely

Drain the oil by removing the drain plug found at the rear of the engine base. Remove using a 3/4" wrench. At the first oil change, **small** metal chips and lint may be found. This is normal, resulting from the break-in period. Inspect the filter at every oil change. The presence of large metal chips could indicate possible damage to the engine.



Wipe the area around the drain plug mount with a lint free cloth and inspect the drain plug (A) for damage; replace if necessary. Replace the "O"-ring (B) with a new one and tighten to 61 in. lbs. (7.0 Nm) torque. Apply engine oil to the oil filter seal and install oil filter onto the engine until the seal contacts mounting surface of the engine. Then turn the filter 2/3 to 3/4 rotations by HAND(S). Pour in the specified type and amount of oil See "Capacity and Replacement Parts" chart on page 55.

Oil capacity is 1 1/3 quarts (1.3 liters). Add slightly less than 1 1/3 quarts (1.3 liters) to allow for possible residual oil left in engine. The oil must be high quality oil that meets or exceeds API SF, SG, CC standards. Check oil level on dipstick. Oil should be slightly below 'H' to allow for expansion. If necessary, continue to add oil slowly and allow time for oil to flow down into engine. Check oil level on dipstick. **Do not overfill.** 



Do not overfill engine. Too much oil may cause smoking or allow oil to enter the air filter enclosure.

#### NOTICE

Both the oil dipstick and fill cap must be in place before operating the engine. Failure to install the dipstick and fill cap will result in oil being discharged into the engine compartment



Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

As a final check, check the oil level again with the vehicle on level ground. Like all liquids, oil increases in volume when warm. The full 'H' mark on the dipstick is calibrated for an engine at operating temperature. When the engine is cold, the oil will be below the full mark. The engine can be operated safely as long as the oil is within the safe operating range as indicated on the dipstick. **Do not operate vehicle if oil level is below the safe area indicated on the dipstick**.

#### STARTER/GENERATOR BELT TENSION

	œty.
Belt tension gauge	1
Wrench, 3/4"	
Wrench, 9/16"	
Ratchet, 3/8" drive	
Socket, 3/4", 3/8" drive	

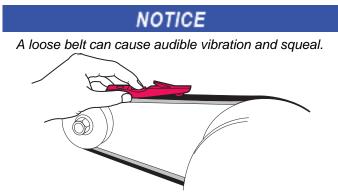
The starter/generator belt tension should be checked after the first 15 - 20 hours and set to 75 - 80 lbs. (34 - 36 kg).



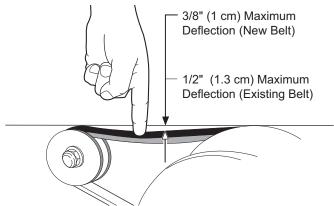
At no time during installation of belt, should the belt tension exceed 160 lbs (73 kg).

A CAUTION

At the time of installation, the belt must not be rolled over the installed edges of the starter/generator or drive clutch pulleys. Excessive stretch in belt may cause cord failure.



Tighten a **new** starter/generator belt to 110 - 130 lbs. (50 - 59 kg) tension when a gauge is applied half way between the two pulleys.



A **new** belt may be checked manually. A maximum deflection of 3/8" (10 mm) is acceptable. Tighten an **existing** belt to 75 - 80 lbs. (34 - 36 kg) tension using the same technique and inspect for cracking or wear. A maximum deflection of 1/2" (13 mm) is acceptable.

Qtv

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### **Adjusting The Belt**

Loosen the starter/generator pivot bolt. While holding the lower adjusting nut with a wrench, loosen the upper jam nut with another wrench. Move the lower nut up or down the adjustment bolt until proper belt tension is achieved. Hold the lower nut in place and tighten the upper jam nut against it.

Tighten the starter/generator pivot bolt.



#### **BATTERY CLEANING**



To reduce the possibility of damage to vehicle or floor, neutralize acid before rinsing battery.

To reduce the possibility of damage to electrical components while cleaning, do not use a pressure washer.

Cleaning should take place per the Periodic Service Schedule.

When cleaning the outside of the battery and terminals, first spray with a solution of sodium bicarbonate (baking soda) and water to neutralize any acid deposits before rinsing with clear water.

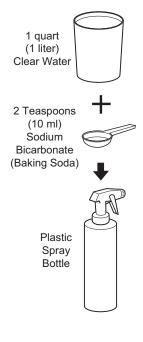
Use of a water hose without first neutralizing any acid, will move acid from the top of the battery to another area of the vehicle or storage facility where it will attack the metal structure or the concrete/asphalt floor. Additionally, a residue will be left on the battery which is conductive and will contribute to the discharge of the battery.



# To reduce the possibility of battery explosion that could result in severe injury or death, do not use metallic spray wand to clean battery and keep all smoking materials, open flame or sparks away from the battery.

The correct cleaning technique is to spray the top and sides of the battery with a solution of sodium bicarbonate (baking soda) and water. The solution should consist of 2 teaspoons (10 ml) of sodium bicarbonate (baking soda) and 1 quart (1 liter) clear water as shown. In addition to the battery, special attention should be paid to metal components adjacent to the battery which should also be sprayed with the sodium bicarbonate (baking soda) solution.

Allow the solution to sit for at least three minutes; use a soft bristle brush or cloth to wipe the tops of the battery to remove any residue that could contribute to the self discharge of the battery. Rinse the entire area with low pressure clear water. Do not use a pressure washer.



Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### BRAKES



To reduce the possibility of severe injury or death, always evaluate pedal travel before operating a vehicle to verify some braking function is present.

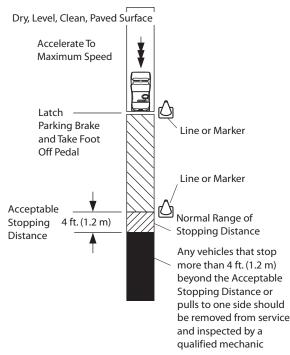
All driving brake tests must be done in a safe location with regard for the safety of all personnel.

NOTICE

Over time, a subtle loss of performance may take place; therefore, it is important to establish the standard with a new vehicle.

The Periodic Brake Performance Test should be performed regularly as an evaluation of braking system performance. It is useful as a method of identifying subtle loss of performance over time.

#### **Periodic Brake Test For Mechanical Brakes**



The purpose of this test is to compare the braking performance of the vehicle to the braking performance of new or 'known to be good' vehicles or to an established acceptable stopping distance. Actual stopping distances will be influenced by weather conditions, terrain, road surface condition, actual vehicle weight (accessories installed) and vehicle speed. No specific braking distance can be reliably specified. The test is conducted by latching the park brake to eliminate different pedal pressures and to include the affects of linkage mis-adjustment.

Establish the acceptable stopping distance by testing a new or 'known to be good' vehicle and recording the stopping location or stopping distance. For fleets of vehicles, several vehicles should be tested when new and the range of stopping locations or distances recorded.

#### NOTICE

Over time, a subtle loss of performance may take place; therefore, it is important to establish the standard with a new vehicle.

Drive the vehicle at maximum speed on a flat, dry, clean, paved surface. Quickly depress the brake pedal to latch the parking brake at the line or marker in the test area and remove foot from pedal.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

The vehicle should stop aggressively. The wheel brakes may or may not lock. Observe the vehicle stopping location or measure the vehicle stopping distance from the point at which the brakes were latched. The vehicle should stop within the 'normal' range of stopping distances. If the vehicle stops more than 4 ft. (1.2 m) beyond the acceptable stopping distance or pulls to one side, the vehicle has failed the test and should be tested again.

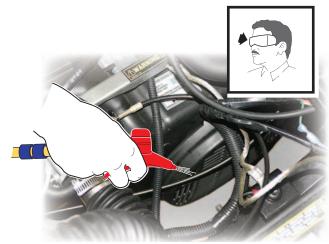
If the vehicle fails the second test, it should **immediately** be removed from service. The vehicle **must** be inspected by a qualified mechanic who should refer to the TROUBLESHOOTING section in the Technician's Repair and Service Manual.

#### **AIR INTAKE AND COOLING FINS**



To prevent possible burns, engine parts should be kept clean to reduce risk of overheating and ignition of accumulated debris. After every off road use, allow to cool and then check for a build up of dirt and debris in the air intake and cooling fins. Dirt and debris may clog the engine's air cooling system. Clean areas shown to prevent engine damage. Keep linkages, springs and controls clean. Keep area around muffler free of any combustible material.

At least once a year, (or more often under adverse conditions) the cooling system should be cleaned. Cleaning will assure an adequate supply of air to the cooling fins. Compressed air may be used for routine cooling system maintenance.



#### **REAR AXLE**

The rear axle is provided with a lubricant level check plug located on the driver side at the rear of the housing. Unless leakage of rear axle lubricant is evident, an annual lubricant check is sufficient.

#### **Checking The Lubricant Level**

Socket, 13 mm, 3/8" drive	1
Ratchet, 3/8" drive	1
Funnel	

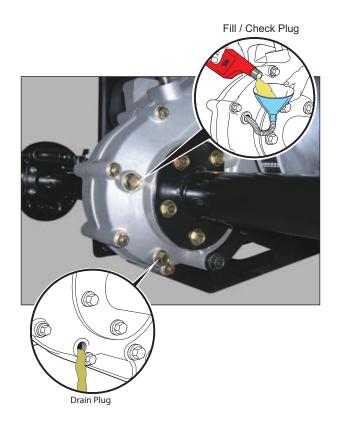
### NOTICE

Qtv.

For vehicles with LSD axle, add 2 ounces of friction modifier during refill.

Clean the area around the check and fill plugs. Remove the check plug. The correct lubricant level is **just** below the bottom of the threaded hole. If lubricant is to be added, remove the fill plug and add lubricant using a funnel. Add lubricant slowly until lubricant starts to seep from the check plug hole. Install the check plug and the fill plug. In the event that the lubricant is to be replaced, a drain plug is provided at the bottom of the differential housing.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.



#### AIR CLEANER INSPECTION AND REPLACEMENT

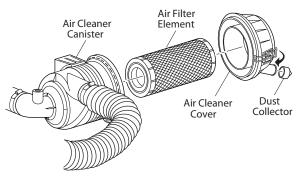
The air cleaner unit on the vehicle is a dry unit. **Do not** use oil on the filter element or any part of the unit. To aide installation and sealing, petroleum jelly may be applied to back side of cover tabs and each side of filter seal.

#### **Cleaning the Air Filter Element**



Do not use compressed air to clean the air filter; doing so will damage the filter which may result in damage to the engine.

The air cleaner element is accessible by unsnapping the clips on the air canister and removing the cover and air filter element. Clean inside of cover, canister and dust collector. Install the element and cover the same way they were removed. Be sure the positioning arrow on cover is pointing upward and all clips are fastened securely.



If the element is in acceptable condition, loose dirt may be removed by tapping the filter lightly. Do not use oil on the filter element or any part of the unit.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

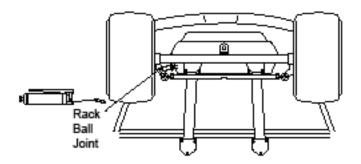
#### LUBRICATION



Do not use more than three (3) pumps of grease in any grease fitting at any one time. Excess grease may cause grease seals to fail or grease migration into areas that could damage components.

Putting more than three pumps of grease in a grease fitting could damage grease seals and cause premature bearing failure.

Lubrication Points



View from Underside of Vehicle

#### SPARK PLUGS

#### 



Use care not to over-tighten the plug. Over-tightening can cause damage to the aluminum cylinder head threads.

Remove and inspect the spark plug at intervals indicated in the Periodic Service Schedule. Spark plug should be properly gapped. Tighten to 16 ft. lbs. (22 Nm) torque

Remove and inspect the spark plug at intervals indicated in the Periodic Service Schedule. Spark plug should be properly gapped. Tighten to 16 ft. lbs. (22 Nm) torque.

Fouled spark plug is indicated by a wet, black appearance. This could be caused by a dirty air filter element or other restrictions in the air intake system. Incorrectly adjusted valves, spark plug wire which are in poor condition or poor quality fuel could also contribute to the problem

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### **PROLONGED STORAGE**



To reduce the possibility of severe injury or death resulting from a possible explosion:

Do not handle fuel in an area that is not adequately ventilated. Do not smoke near the fuel tank or refuel near open flame or electrical items which could produce a spark.

Store vehicle in a clean, dry area. Do not store in same area as a stove, furnace, water heater, or other appliance that uses a pilot light or has a device that can create a spark.

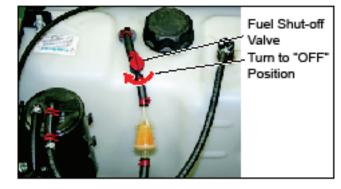
When refueling, inspect the fuel cap for leaks or breaks that could result in fuel spillage.

Always wear safety glasses while refueling to prevent possible eye injury from gasoline or gasoline vapor.

Keep hands, clothing and jewelry away from moving parts. Use care not to contact hot objects. Raise the rear of the vehicle and support on jack stands before attempting to run the engine.

Preparing the engine for a prolonged storage period (30 days or more) calls for a few simple steps to prevent a build up of varnish and gum in the carburetor and corrosion in the engine.

- Turn the Key Switch to OFF position, and leave the Forward/Reverse switch in the NEUTRAL position during storage.
- Perform all required routine maintenance per the Periodic Service Schedule.
- Properly inflate the tires to recommended pressure (psi) stated on sidewall of tires.
- Place the Forward/Reverse handle in the NEUTRAL position engage the neutral lock, see page 5 11.
- Turn the fuel shut-off valve to the closed (OFF) position.
- With proper ventilation, run engine until the remaining fuel in carburetor and fuel lines is depleted and the engine stalls.
- Return the neutral lock to the OPERATE position
- Loosen, but do not remove the carburetor drain screw. Drain any fuel remaining in bowl into an approved container and pour the fuel collected into the vehicle fuel tank. Add Sea Foam (4 oz. for a full tank of fuel) to stabilize fuel and install the tank cap securely.
- Tighten the carburetor drain screw.



- Remove spark plug and pour about 1/2 oz. (15 ml) of SAE 10 30 weight oil or Fogging oil into the cylinder. Rotate the crankshaft by hand several times, then install the spark plug.
- Do not engage the park brake, but secure the car from rolling
- While engine is still warm, change oil.
- Clean body, chassis and engine of debris, mud, chaff or grass.

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### PERIODIC SERVICE SCHEDULE

✓ Check ◆ Clean, Adjust, etc. ▲ Replace
 To perform service that is listed in this schedule but not described in this manual, contact a local Service Representative or see the Repair and Service Manual for this vehicle.
 **NOTE**: Some maintenance items must be serviced more frequently on vehicles used under severe driving conditions
 **DAILY** BEFORE USE:
 ✓ Check service brake general operation
 ✓ Check park brake operation - does it hold on a hill.
 ✓ Check tire pressure, condition of tires & rims.
 ✓ Check smooth operation of accelerator.

- ✓ Check for loose or missing hardware.
- Check Battery state of charge, condition, loose terminals, corrosion, hold down & hardware
- ✓ Check overall vehicle condition

#### WEEKLY (includes items listed in previous table & the following)

TIRES	✓ Examine for cuts, excessive wear and pressure (See GENERAL SPECIFICA- TIONS)
WHEELS	$\checkmark$ Check for bent rims, missing or loose lug nuts
COOLING FAN	$\checkmark$ Check for build-up of foreign matter inside blower housing and fins, clean if required
ENGINE OIL	Check and add if required - DO NOT OVERFILL
STARTER/GENERATOR BELT	Check for tension, wear, cracks

#### MONTHLY - 20 HOURS (includes items listed in previous table & the following)

WIRING	Check all wiring for loose connections and broken/missing insulation
ACCELERATOR	Check for smooth movement - DO NOT LUBRICATE CABLE
SERVICE BRAKE (MECHANICAL BRAKES)	✓ Conduct brake performance test
PARK BRAKE	Check brake performance and adjust if required
CHOKE CABLE	Check for smooth movement and adjustment - DO NOT LUBRICATE CABLE
CARBURETOR LINKAGE	✓ Check attachment, adjust as required
DIRECTION SELECTOR	✓ Check attachment, adjust as required
ENGINE	Check for unusual noise, vibration, acceleration, oil leaks
COOLING FAN	Check for build-up of foreign matter inside blower housing and fins, clean if required
STEERING ASSEMBLY	Check for abnormal play, tightness of all hardware
TIE ROD/LINKAGES	Check for excessive play, bent components or loose connections
REAR AXLE	Check for leakage, add SAE 30 oil as required

#### QUARTERLY - 60 HOURS (includes items listed in previous tables & the following)

FRONT AXLE	$\checkmark$ Check for damage to axle and loose or missing hardware
FRONT SHOCK ABSORBERS	✓ Check for oil leakage and loose fasteners
FRONT SPRINGS	Check for loose hardware, cracks at attachments
FRONT WHEEL ALIGNMENT	✓ Check for unusual tire wear, align if required
	✓ Check for bent/binding linkage rod
PARK BRAKE	Check for damage or wear to latch arm or catch bracket
	<ul> <li>Lubricate as required, use light oil. DO NOT LUBRICATE CABLES OR BRAKE LATCH</li> </ul>
REAR SHOCK ABSORBERS	Check for oil leakage, loose mounting hardware
ENGINE ELECTRICAL SYSTEM	Check coil/spark plug wires for cracks/loose connections

**Periodic Service Schedule** 

#### Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

FUEL SYSTEM	Check for leaks at tank, cap, system lines, filters, pump, carburetor								
	✓ Check system lines for cracks/deterioration								
THROTTLE/GOVERNOR LINKAGE	Check operation and governed speed								
HARDWARE AND FASTENERS	Check for loose or missing hardware and components								
HARDWARE AND FASTENERS	Tighten or replace missing hardware								
SEMI-ANNUAL -	125 HOURS (includes items listed in previous tables & the following)								
BATTERY	♦Clean battery & terminals								
DIRECTION SELECTOR	Check for wear and smooth movement (lubricate shaft with light oil if required)								
KING PINS	Check for excessive play and tightness of retaining nuts								
STEERING ASSEMBLY	✓ Check bellows and pinion seal for damage or grease leakage								
RACK END BALL JOINT	Lubricate, use wheel bearing grease								
REAR AXLE	Check for unusual noise and loose or missing mounting hardware								
AIR FILTER ELEMENT	✓ Check filter element, clean/replace as required								
OIL FILTER	▲Replace (at oil change)								
ENGINE OIL	▲ Replace with SAE 10W-30 or 10W-40 that meets or exceeds SF, SG, CC oil, DO NOT OVERFILL								
DRIVE BELT	✓ Check for cracks, fraying and excessive wear								
ANNUAL - 250-30	00 HOURS (includes items listed in previous tables & the following)								
FRONT WHEEL BEARINGS	✓ Check and adjust as required, see Technician's Repair and Service Manual								
REAR AXLE	Check lubricant, add lubricant as required								
	Clean and adjust, see Technician's Repair and Service Manual								
SERVICE BRAKES	✓ Check brake shoe linings, see Technician's Repair and Service Manual								
	$\checkmark$ Check level, add if required (DOT 3) and check for leakage								
FUEL FILTER	▲ Replace								
SPARK PLUG	▲ Replace, gap new plug								
MUFFLER/EXHAUST	Check mounting hardware; check for leaks at head and muffler gaskets								
VALVES	✓ Check cold (intake/exhaust) per Technician's Repair and Service Manual								
500 HOURS (inclu	des items listed in previous tables & the following)								
CARBURETOR	♦ Clean								
	Remove carbon from cylinder head and piston								
CYLINDER HEAD AND PISTON	$\checkmark$ Check valve seats for carbon buildup and clean as required								

**Periodic Service Schedule** 

Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

#### CAPACITIES AND REPLACEMENT PARTS

Fuel Tank / Fuel	5.3 gal (20.0 liters) / 87 Octane Min
Engine Oil	1.4 US qt (1.3 liters)
Oil Filter	P/N 607454
Air Filter	P/N 28463G01
Spark Plug	NGK BPR2ES (P/N 607462)
	.028"031" (.7 mm8 mm) Gap
Starter/Generator Belt	P/N 26414G1
Clutch Belt	P/N 618630
Rear Axle Oil	51 oz (1.5 liters) / SAE 30
Fuse	15 amp (P/N 18392G1)
LED Bulb	(P/N 619101)
Headlight Bulb	(P/N 619100)
Turn Signal Bulb	(P/N 619102)
Tail Light Bulb	#1157 (P/N 611242)
Friction Modifier (Rear Axle)	2 oz (60 mL) (P/N 625753)

#### HARDWARE

Periodically, the vehicle should be inspected for loose fasteners. Fasteners should be tightened in accordance with the Torque Specifications table.

Use care when tightening fasteners and refer to the Technician's Repair and Service Manual for specific torque values.

Generally, three grades of hardware are used in the vehicle. Grade 5 hardware can be identified by the three marks on the hexagonal head and grade 8 hardware is identified by 6 marks on the head. Unmarked hardware is Grade 2.

			his chart spe	herwise not	ed in text, tig ated' torque	RES ARE IN FT ghten all hard figures. Faste proximately	dware in acco	e plated or lu	bricated wh		
BOLT SIZ	Έ	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"	1"
Grade 2	$\bigcirc$	4 (5)	8 (11)	15 (20)	24 (33)	35 (47)	55 (75)	75 (102)	130 (176)	125 (169)	190 (258)
Grade 5	$\bigcirc$	6 (8)	13 (18)	23 (31)	35 (47)	55 (75)	80 (108)	110 (149)	200 (271)	320 (434)	480 (651)
Grade 8	$\langle \mathcal{D} \rangle$	6 (8)	18 (24)	35 (47)	55 (75)	80 (108)	110 (149)	170 (230)	280 (380)	460 (624)	680 (922)
BOLT SIZE		M4	M5	M6	M8	M10	M12	M14			
Class 5.8 (Grade 2)	5.8	1 (2)	2 (3)	4 (6)	10 (14)	20 (27)	35 (47)	55 (76.4)			
Class 8.8 (Grade 5)	8.8	2 (3)	4 (6)	7 (10)	18 (24)	35 (47)	61 (83)	97 (131)			
Class 10.9 (Grade 8)	(10.9)	3 (4)	6 (8)	10 (14)	25 (34)	49 (66)	86 (117)	136 (184)			

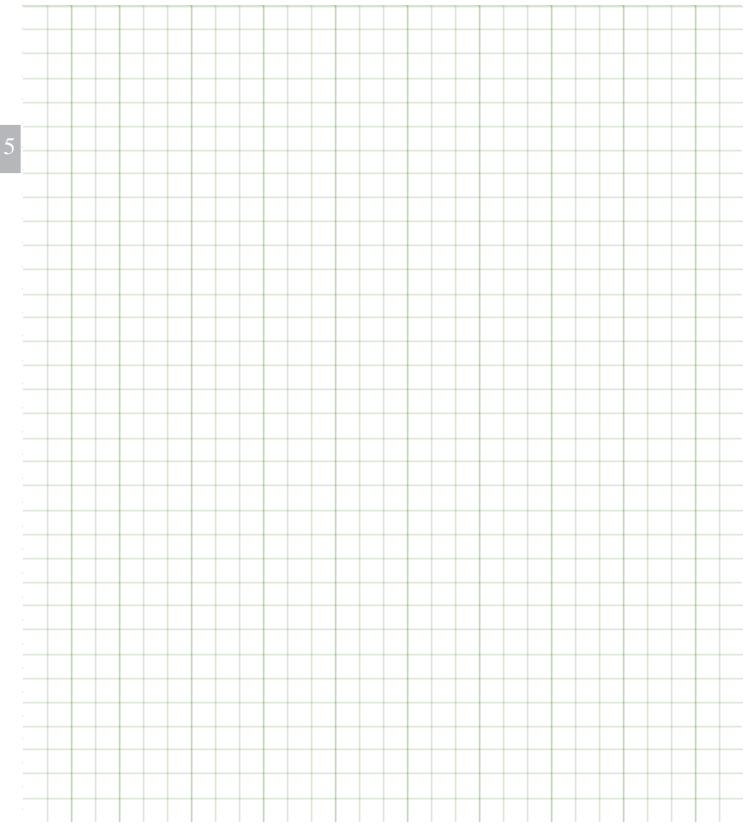
Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

## Notes:

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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

### Notes:





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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

# Notes:

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### **DECLARATION OF CONFORMITY**

DECLARATION OF CONFORMITY • ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ • PROHLÁŠENÍ O SHODĚ • OVERENSSTEMMELSESERKLÆRING • CONFORMITEITŠVERKLARING • VASTAVUSDEKLARATSIOON • VAATIMUSTENMUKAISUUSVAKUUTUS • DECLARATION DE CONFORMITE • KONFORMITÄTSERKLÄRUNG • ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ • MEGFELELŐSÉGI NYILATKOZAT • DICHIARAZIONE DI CONFORMITÀ • ATBILSTĪBAS DEKLARĀCIJA • ATITIKTIES DEKLARACIJA • DIKJARAZZJONI TAL-KONFORMITÀ • DEKLARACJA ZGODNOŚCI • DECLARAÇÃO DE CONFORMIDADE • DECLARAȚIE DE CONFORMITATE • VYHLÁSENIE O ZHODE • IZJAVA O SKLADNOSTI • DECLARACIÓN DE CONFORMIDAD • DEKLARATION OM ÖVERENSSTÄMMELSE • SAMRÆMISYFIRLÝSING • KONFORMITETSERKLÆRING

Business name and full address of the manufacturer • Търговско име и пълен адрес на производителя • Obchodni jméno a piná adresa výrobce • Producentens firmanavn og fulde adresse • Bedrijfsnaam en volledig adres van de fabrikant • Tootja årinimi ja täjelik aadress • Valmistajan toiminimi ja täydelinen osoite • Nom commercial et adresse compléte du fabricant • Firmename und vollstandige Adresse des Herstellers • Ertwvupio koi razväpa adrese • Versio pavadinimas ir pinas gamintojo adresas • Isem kummercijali u indirizz oshi Harbabrikant • Nazva firmy i pehry adres producenta • Nome da empresa e enderego compléto do fabricante • Demunirea comercială și adresa vompletă a producătorului • Obchodný názov a üpină adresa výrobcu • Naziv podjeția in polni naslov proizvajata = Nombre de la empresa y direccion completă de fabricante • Tiliverkarens foretagsnamn och kompletta adresa • Firintækisheti lo g fuilt heimiliisfang framleiðanda • Firintanavn og fuil adresse for produsenten	E-Z-GO Division of Textron Inc, 1451 Marvin Griffin Road Augusta, GA 30906 USA
Product Code • Kog на продукта • Kód výrobku • Produktkode • Productcode • Toote kood • Tuotekoodi • Code produit • Produktcode • Kωδικός προϊόντος • Termékkód • Codice produto • Produkta kods • Produkto kodas • Kodici tal-Prodott • Kod produktu • Código do Produto • Cod produs • Kód výrobku • Oznaka proizvoda • Código de producto • Produktkod • Vörunúmer • Produktkode	605785, 76211, 606697, 605815, 605811, 606688, 605782, 606588, 617791, 615793, 606695, 617795 and 617793, 617340, 618846, 618845, 618855, 618856, 618859, 618860, and 618866 when fitted with CE Kit 614168. 618862, 618864, 619213 and 617795 when fitted with CE KIT 625759.
Machine Name + Наименование на машината • Název stroje • Maskinnavn • Machinenaam • Masina nimi • Laitteen nimi • Nom de la machine • Maschinenbezeichnung • Оvоµооіо µлχоvήµотос • Gépnév • Denominazione della macchina • lekārtas nosaukums • Mašinos pavadinimas • Isem tal-Magna • Nazwa urządzenia • Nome da Máquina • Numeie echipamentului • Názov stroja • Naziv stroja • Nombre de la máquina • Maskinens namn • Heiti tækis • Maskinnavn	ST, Hauler, Terrain, Express Sx, Lx, and Shuttle 4X_G utility vehicle (gasoline models). E-Z-GO, Cushman or Bad Boy Buggies brands.
Designation - Предназначение - Оznačeni - Betegneise - Benaming - Nimetus - Tyyppimerkintā - Pažymėjimās - Bezeichnung - Характпріаµо́қ - Megnevezés - Funzione - Apzīmējums - Lithuanian - Denominazzjoni - Oznaczenie - Designação - Specificajie - Označenie - Namen stroja - Descripción - Beteckning - Merking - Konstruksjon	Utility Vehicle
Serial Number • Сержен номер • Sériové číslo • Serienummer • Serienummer • Seerianumber • Valmistusnumero • Numéro de série • Seriennummer • Στιριακός αριθμός • Sorozatszám • Numero di serie • Sérijas numurs • Serijos numeris • Numru Serjali • Numer seryjny • Número de Série • Numår de serie • Sériové číslo • Serijska številka • Número de serie • Serienummer • Raðnúmer • Serienummer	27400976 to 3200000 or 8003600-8009600.
Conforms to Directives • В съответствие с директивите • Spiňuje podminky směrnic • Er i overensstemmelse med direktiver • Voldoet aan de richtlijnen • Vastab direktiividele • Direktiivien mukainen • Conforme aux directives • Entspricht Richtlinien • Акоλουθήστε πιστά τις Οδηγίες • Megfelel az irányelveknek • Conforme alle Direttive • Atbilst direktivăm • Attinka direktyvų reikalavimus • Valutazzjoni tal-Konformitā • Dyrektywy związane • Cumpre as Directivas • Respectã Directivele • Je v súlade so smernicami • Skladnost z direktivami • Cumple con las Directivas • Uppfyller direktiv • Samræmist filskipunum • I samsvar med direktiv	2006/42/EC
Conformity Assessment • Оценка за съотаетствие • Hodnoceni piněni podminek • Overensstemmelsesvurdering • Conformiteitsbeoordeling • Vastavushindamine • Vaatimustenmukaisuuden arviointi • Evaluation de conformitě • Konformitätsbeurleilung • Jurtiriotuom Συμμόρφωσης • Megfelelőség-értékelés • Valutazione della conformitě • Atblistības noveřetijums • Atiklise jvertinimas • Livelt Ital-Qawa tal-Hoss timkejiel • Ocena zgodności • Avaliação de Conformidade • Evaluarea conformitěji • Vyhodnotenie zhodnosti • Ocena skladnosti • Evaluación de conformidad • Bedômning av överensstámmelse • Samræmismat • Konformitetsvurdering	2006/42/EC Annex II
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Technical standards and specifications used • Използвани технически стандарти и спецификации • Použité technické normy a specifikace • Brugte tekniske standarder og specifikationer • Gebruikte technische standards en specifications • Kasutatud tehnilised standardig ja spetsifikatsioonid • Käytetyt tekniset standardit ja eritelmät • Spécifications et normes techniques utilisées • Angewandte technische Normen und Spezifikationen • Tszynkä mpörutravoged¢ πou χρησιμοποιήθηκαν • Müszaki szabványok és specifikációk • Standard tecnici e specifiche applicati • Izmantotie tehniskie standardi un specifikácijas • Panaudoti techniniai standartia ir techninė informacija • Standards u specifikazojnijet teknici uzati • Normy i specyfikacje techniczne powiązane • Normas tecnicas e especifikazojnijet teknici uzati • Normy i specyfikacje techniczie elitizate • Použitė technické normy a specifikacie • Standardele tehnice si specificatijie • Estándards y especificaciones técnicas utilizadas • Tekniska standarder och specifikationer som används • Samræmdir staðlar sem notaðir eru • Benyttede harmoniserte standarder	ISO 2631-1:1997
The place and date of the declaration • Място и дата на декларацията • Misto a datum prohlâšeni • Sted og dato for erklæringen • Plaats en datum van de verklæring • Deklaratsiooni väljastamise koht ja kuupäev • Vakuutuksen paikka ja päivämäärä • Lieu et date de la declaration • On und Datum der Erklärung • Tömoç kon nyurkjo örjkuong • A nyuliskozat kelle fehel és idö) – Luogo e data della dichiaratzione = Deklaräcijas viata un datums • Deklaracijos teita i data • Injestu - data et date della dichiaratzione • Deklaracijos teita i data • Injest u - data tardikarazione • Deklaracijos • Deklaracijos teita i data • Injest u - data tardikarazione • Deklaracijos •	E-Z-GO Division of Textron Inc, 1451 Marvin Griffin Road Augusta, GA 30906 USA

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### **DECLARATION OF CONFORMITY (CONTINUED)**

Signature of the person empowered to draw up the declaration on behalf of the manufacturer, holds the technical documentation and is authorised to compile the technical file, and who is established in the community. Thospice are voessa, trans-indexequipes ja astrarts revencessa dayah are personspare a dogiupertas. Prodpic acody opravinet's estant prohibateri jinnerine vyioboc, dizit technicalo documentatica a acoby opravinet de statut prohibateri jinnerine vyioboc, dizit technicalo documentatica acoby opravinet de transition of the documentatica acoby opravinet de person di bovoged is de visitaling manne de fabritante is telenen, de elevinische documentatica documentation is telenen di de technicabe de generatica de provide di de visitaling manne de fabritante is telenen, de elevinische documentation is kelle on digua isociatad terhinische bestand same televinet. A deternit ad commentation is kelle on digua isociatad terhinische technicabe, di developie, al documentation is kelle on digua isociatad terhinische technicabe. di developie de digua de la documentation atomo di tatoricani. di deternit ad communatió. Unterchint de representabile de visita de la documentation atomo di tatoricani. di deternit documentation technicape, di celvisitage nu orno di tatoricani. di deternita documentation de discussionale de la documentation de la documentation. Distribute de la documentation atomo di tatoricani. A deternita documentation technicape autorizati a registratica technicabe, di de du du documentation. Technicape autorizati a registratica acoby environe de la documentation de la documentation de la documentation de la documentation, posses documentation de la documentation de la documentation registratica at communicati. Transport de particica at communicati de la documentation de la documentation de la documentatic	2006/42/EC Annex II 1A: 2 Tim Lansdell Technical Director O6th October 2011 Ransomes Jacobsen Ltd, West Road, Ransomes Europark, Ipswich, England, IP3 9TT 2006/42/EC Annex II 1A: 10 Christopher W. Spencer Vice President of Engineering E-2-GO Division of Textron Inc, 1451 Marvin Griffin Road Augusta, GA 30906 USA O6th October 2011
GB       GB       CH       CZ       DK       NL       EE       ES       FI       FR         United       Bulgaria       Switzerland       Czech       Denmark       Netherlands       Estonia       Spain       FI       FR       France	DE Germany Greece HU Hungary
Is italy Liechtenstein LV Lithuania MT Norway PL Poland Portugal Romania	SE SK SI Sweden Slovakia Slovenia



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# Notes:

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#### E-Z-GO Division of Textron Inc.,

1451 Marvin Griffin Road, Augusta, Georgia 30906 - 3852 USA

TO CONTACT US... North America: Technical Assistance & Warranty Phone: 1-800-774-3946, FAX: 1-800-448-8124 Service Parts Phone: 1-888-GET-E-Z-GO (1-888-438-3946), FAX: 1-800-752-6175

International:

Phone: 001-706-798-4311, FAX: 001-706-771-4609

Service Parts Manuals, as well as Repair and Service Manuals are available from a local Distributor, an authorized Branch, Genuine E-Z-GO Parts & Accessories Department or at www.shopezgo.com.

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