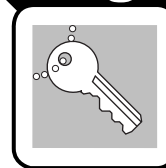




a **TEXTRON** Company

28547-G01
English



OWNER'S MANUAL AND SERVICE GUIDE

**ELECTRIC AND GASOLINE
UTILITY VEHICLES**

STARTING MODEL YEAR: 1999

SAFETY

Read and understand all labels located on the vehicle. For any questions on any of the information, contact an E-Z-GO representative for clarification.

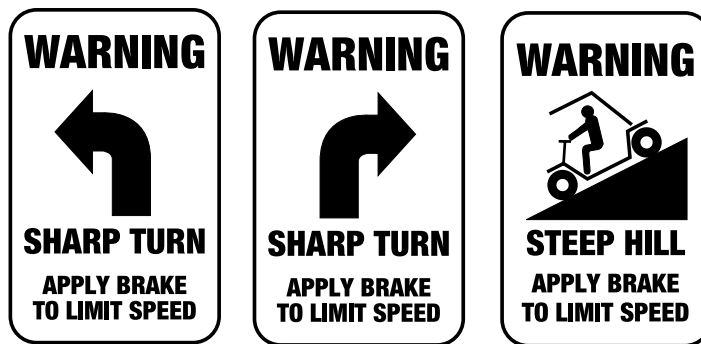
Always replace any damaged or missing labels.

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 vehicle specification.) Limit speed by applying the service brake.

Catastrophic damage to the drive train 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. Do not tow vehicle at speeds in excess of 19 kph. Towing the vehicle at above the recommended speed may result in personal injury and/or damage to the vehicle and other property.

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 coasting condition.



Be sure that this manual remains as part of the permanent service record should the vehicle be re-sold.

NOTES, CAUTIONS AND WARNINGS

Throughout this guide **NOTE**, **CAUTION** and **WARNING** will be used.

NOTE A **NOTE** indicates a condition that should be observed.

CAUTION A **CAUTION** indicates a condition that may result in damage to the vehicle.

! WARNING ! A **WARNING** indicates a hazardous condition which could result in severe injury or death.



Please observe these **NOTES**, **CAUTIONS** and **WARNINGS**; 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.

NOTE

Read and understand the following warnings before attempting to operate the vehicle:

⚠ WARNING ⚠

To prevent personal injury or death, observe the following:

When vehicle is to be left unattended, engage parking (PARK) brake, move direction selector to neutral (electric vehicles) forward (gasoline vehicles), turn key to 'OFF' position and remove key.

Drive vehicle only as fast as terrain and safety considerations allow. Consider the terrain and traffic conditions. Consider environmental factors which effect the terrain and the ability to control the vehicle.

Avoid driving fast down hill. Sudden stops or change of direction may result in a loss of control. Use service brake to control speed when traveling down an incline.

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

All travel should be directly up or down hills.

Use extra care when driving the vehicle across an incline.

Stay in designated areas and avoid steep slopes. Use the parking brake (PARK) whenever the vehicle is parked.

Keep feet, legs, hands and arms inside vehicle at all times.

Avoid extremely rough terrain.

Check area behind the vehicle before operating in reverse.

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

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

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

See GENERAL SPECIFICATIONS for standard vehicle load and seating capacity.

NOTE

Read and understand the following text and warnings before attempting to service vehicle:

In any product, components will eventually fail to perform properly as the result of normal use, age, wear or abuse.

It is virtually impossible to anticipate all possible component failures or the manner in which each component may fail.

Be aware that a vehicle requiring repair indicates that the vehicle is no longer functioning as designed and there-

fore should be considered potentially hazardous. Use extreme care when working on any vehicle. When diagnosing, removing or replacing any components that are not operating correctly, take time to consider the safety of yourself and others around you should the component move unexpectedly.

Some components are heavy, spring loaded, highly corrosive, explosive or may produce high amperage or reach high temperatures. Battery acid and hydrogen gas could result in serious bodily injury to the technician/mechanic and bystanders if not treated with the utmost caution. Be careful not to place hands, face, feet or body in a location that could expose them to injury should an unforeseen situation occur.

⚠ WARNING ⚠

Before working on the vehicle, remove all jewelry (rings, watch, necklaces, etc.).

Be sure no loose clothing or hair can contact moving parts.

Use care not to touch hot objects.

Raise rear of vehicle and support on jack stands before attempting to run or adjust powertrain.

Wear eye protection when working on or around the vehicle. In particular, use care when working around batteries, using solvents or compressed air.

Hydrogen gas is formed when charging batteries. Do not charge batteries without adequate ventilation.

Do not permit open flame or anyone to smoke in an area that is being used for charging batteries. A concentration of 4% hydrogen gas or more is explosive.

Engine exhaust gas (carbon monoxide) is deadly. Carbon monoxide is an odorless, colorless gas that is formed as a natural part of incomplete combustion of hydrocarbon fuels. Carbon monoxide is a dangerous gas that can cause unconsciousness and is potentially lethal.

The following are symptoms of carbon monoxide inhalation:

- Dizziness
- Vomiting
- Intense Headache
- Muscular Twitching
- Weakness and Sleepiness
- Throbbing in Temples

If any of these symptoms are experienced, get fresh air immediately. Never work around or operate a vehicle in an environment that does not ventilate exhaust gases from the area.

OWNER'S MANUAL AND SERVICE GUIDE

ELECTRIC AND GASOLINE UTILITY TRUCKS

VEHICLES

**INDUSTRIAL 800E
WORKHORSE® 800E
WORKHORSE® 800LX E
WORKHORSE® 1000E
WORKHORSE® 1000LX
INDUSTRIAL 800G
WORKHORSE® 800G
WORKHORSE® 800LX G
WORKHORSE® 1200G
WORKHORSE® 1200LX
OASIS™**

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CUSTOMER SERVICE DEPARTMENT

OUTSIDE USA PHONE: 010-1-706-798-4311, FAX: 010-1-706-771-4609

E-Z-GO DIVISION OF TEXTRON, INC., P.O. BOX 388, AUGUSTA, GEORGIA USA 30903-0388



NOTES

A copy of the International Limited Warranty is located at the end of this manual.

The use of non E-Z-GO parts may void the warranty.

Overfilling batteries may void the warranty.

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

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 -60° C.

For winter storage, the batteries must be clean, fully charged and disconnected from any source of electrical drain. With electric vehicles, the battery charger and the controller are both sources of electrical drain. For electric vehicles with portable chargers, unplug the battery charger DC plug from the vehicle receptacle.

As with all electric vehicles, the batteries must be checked and recharged as required or at a minimum of 30 day intervals.

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Notes:

SAFETY INFORMATION

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

GENERAL

Many vehicles are 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 warnings can take the place of 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 the owner-operator read this entire manual paying particular attention to the CAUTIONS and WARNINGS contained therein. It is further recommended that employees and other operators be encouraged to do the same.

If you have any questions, contact your closest E-Z-GO representative or write to the address on the back cover of this publication, Attention: Product Service Department.

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

These vehicles are designed and manufactured for off-road use 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 beyond the factory specification. Such modifications can cause serious personal injury or death. Modifications that increase the speed and/or weight of the vehicle will extend the stopping distance and may reduce the stability of the vehicle. Do not make any such modifications or changes. E-Z-GO prohibits and disclaims responsibility for any such modifications or any other alteration 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.

GENERAL OPERATION

Always use the vehicle in a responsible manner and maintain the vehicle in safe operating condition.

Always read and observe all warnings and operation instruction labels affixed to the vehicle.

Always follow all safety rules established in the area where the vehicle is being operated.

Always reduce speed to compensate for poor terrain or conditions.



SAFETY INFORMATION

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

MAINTENANCE

- Always maintain your vehicle in accordance with the manufacturer's periodic service schedule.
- Always ensure that mechanics performing repairs are trained and qualified to do so.
- Always follow the manufacturer's directions if you do any maintenance on your vehicle. Be sure to disable the vehicle before performing any maintenance. Disabling includes removing the key from the key switch and removal of a battery wire. When reconnecting battery wire, be sure to reinstall rubber boot.
- Always insulate any tools used within the battery area in order to prevent sparks or battery explosion caused by shorting the battery terminals or associated wiring. Remove the battery(s) or cover exposed terminals with an insulating material.
- Always check the polarity of each battery terminal and be sure to rewire the batteries correctly and reinstall the rubber boots.
- Always use specified replacement parts. Never use replacement parts of lesser quality.
- Always use recommended tools.
- Always 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.
- Always support the vehicle using wheel chocks and safety stands. Never get under a vehicle that is supported by a jack. Lift the vehicle in accordance with the manufacturer's instructions.
- Always empty the fuel tank or plug fuel hoses to prevent fuel leakage.
- Never attempt to maintain a vehicle in an area where exposed flame is present or persons are smoking.
- Always be aware that a vehicle that is not performing as designed is a potential hazard and must not be operated.
- 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.
- Always test drive the vehicle after any repairs or maintenance. All tests must be conducted in a safe area that is free of both vehicular and pedestrian traffic.
- Always replace damaged or missing warning, caution or information labels.
- Always keep complete records of the maintenance history of the vehicle.

SAFETY INFORMATION

VENTILATION

Hydrogen gas is generated in the charging cycle of batteries and is explosive in concentrations as low as 4%. Because hydrogen gas is lighter than air, it will collect in the ceiling of buildings necessitating proper ventilation. Five air exchanges per hour is considered the minimum requirement, or conform to local codes.

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

Always use a dedicated circuit for each battery charger. Refer to the battery charger for fusing/circuit breaker requirements. Do not permit other appliances to be plugged into the receptacle when the charger is in operation.

Chargers must be installed and operated in accordance with charger manufacturers recommendations or applicable electrical code (whichever is higher).

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

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.



SAFETY INFORMATION

Notes:

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Thank you for purchasing an E-Z-GO vehicle. Before driving the vehicle, we ask you to spend some time reading this Owner's Manual and Service Guide. This guide contains information that will assist you in maintaining your highly reliable vehicle. This guide covers the operation of several models including electric and gasoline vehicles, therefore some information may not be applicable to your vehicle.

Most of the service procedures in this guide can be accomplished by the individual owner using common automotive hand tools. Refer to an E-Z-GO service representative for information on servicing the vehicle in accordance with the Periodic Service Schedule.

To facilitate maintenance, a Service Parts Manual and a Technician's Repair and Service Manual is available from a local Distributor, an E-Z-GO Branch or the E-Z-GO Service Parts Department. Provide vehicle model, serial number and manufacturing date code when ordering service parts.

BEFORE INITIAL USE

Be sure you understand the vehicle, its equipment and how to use it safely. Although E-Z-GO vehicles have been designed to provide safe and reliable operation, maintaining good performance depends to a large extent on the operator.

⚠ WARNING ⚠ *Hydrogen gas is generated as a natural part of the charging process. A 4% concentration of hydrogen gas is explosive. Charging must take place in an area that is adequately ventilated (minimum of 5 air exchanges per hour or conform to local codes).*

Never charge battery(s) in an area that has open flame or electrical equipment that could cause an electrical arc.

Never smoke around battery(s).

Never smoke in an area where vehicles are being fueled.

Before a new vehicle is put into operation, it is recommended that the items shown in the INITIAL SERVICE CHART be performed (Ref Fig. 1 on page 1).

Vehicle battery(s) must be fully charged before initial use.

Preparation of Seats for Service

Remove the protective plastic coverings from the seats before placing the vehicle in service. The only function of

ITEM	SERVICE OPERATION
Battery(s)	Charge battery(s)
Seats	Remove protective plastic covering
Brakes	Check operation and adjust if necessary
Tires	Check pressure
Fuel	Fill tank with correct fuel
Engine	Check oil level

Fig. 1 Initial Service Chart

the plastic covering is to protect the seat bottom and back rest during shipping. If the plastic covering is left on the seat and becomes torn, dirt may get under the plastic covering and be ground into the cover material. Water getting under the plastic covering can become trapped and eventually damage the seat assembly.

Portable Charger Installation for Electric Vehicles

⚠ WARNING ⚠ *Portable chargers should be mounted on a platform above the ground or in such a manner as to permit the maximum air flow underneath and around the charger. Do not block or obstruct the louvers as overheating may result which could cause serious damage to the charger and create the potential for fire.*

If the charger is operated in an outdoor location, rain and sun protection must be provided (Ref Fig. 2 on page 1).

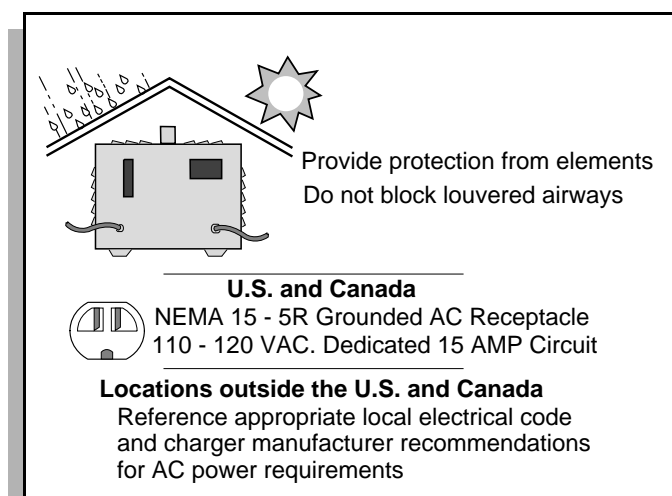


Fig. 2 Charger Installation

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Refer to charger manufacturer's instructions for installation, operation and maintenance of charger. The charger receptacle is located on the vertical seat panel below the driver seat (Ref Fig. 3 on page 2).

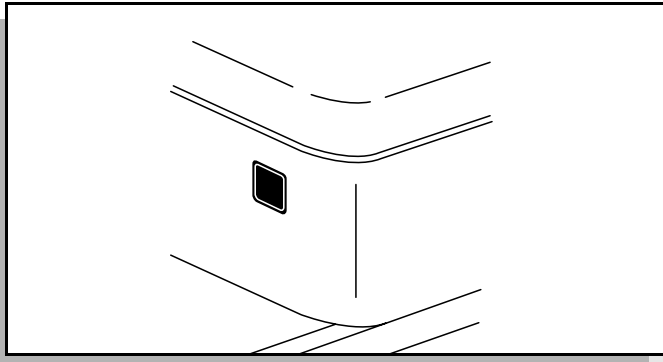


Fig. 3 Charger Receptacle

NOTE Looping the DC cord through the steering wheel when charging serves as a good reminder to store the cord out of the way when finished with charging. The DC plug can be damaged by driving over or catching the cord on the vehicle when driving away.

WARNING An ungrounded electrical device may become a physical hazard that could result in an electrical shock or electrocution.

The power (AC) cord is equipped with a grounded plug. Do not attempt to pull out, cut or bend the ground post.

SERIAL NUMBER PLATE LOCATION

The serial and manufacturing numbers are located on a plate on the passenger side of the dash panel (Ref Fig. 4 on page 2).

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

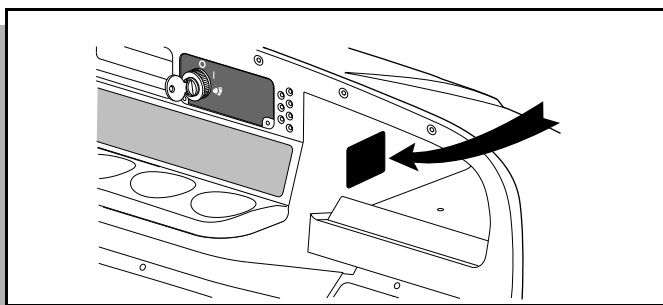


Fig. 4 Serial Number Plate Location

CONTROLS

The controls on the vehicle consist of:

- key/light switch
- direction selector
- accelerator pedal
- combination service and parking (PARK) brake pedal (excludes 1200)
- hand released parking brake (1200 only)
- horn
- choke (gasoline models only)
- electric lift switch

Key/Light Switch

The vehicle is equipped with a combination key/light 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. This switch also has a position for operating the lights. The lights will illuminate only when the key is turned to the light icon position (Ref Fig. 5 on page 2).

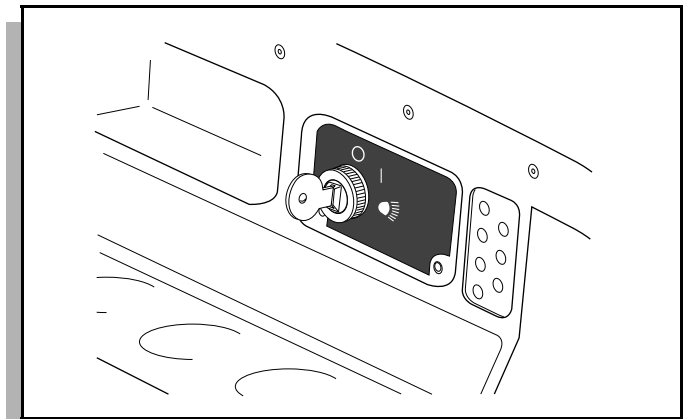


Fig. 5 Key/Light Switch

To prevent inadvertent operation of the vehicle when left unattended, the key should be turned to the 'OFF' position and removed.

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

Direction Selector

Located on the seat support panel, this lever permits the selection of either 'F' (forward), 'R' (reverse) or neutral (the position between forward and reverse) (Ref Fig. 6 on page 3).

On electric models, the direction selector should be left in **neutral** when the vehicle is left unattended.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

On gasoline models, the direction selector should be left in 'F' (forward) when the vehicle is left unattended.

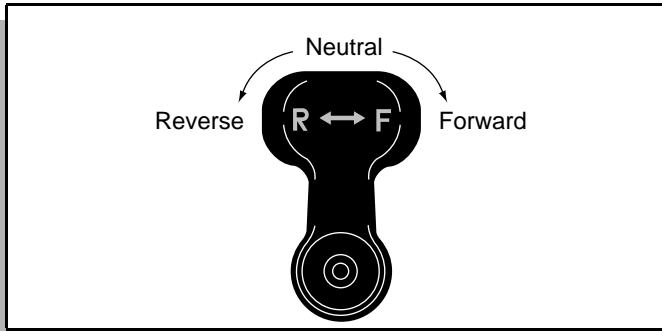


Fig. 6 Direction Selector

CAUTION To prevent component damage, the vehicle must be completely stopped before moving the direction selector.

Accelerator Pedal

Depressing the accelerator pedal starts the motor/engine. When the pedal is released, the motor/engine will stop (Ref Fig. 7 on page 3). To stop the vehicle more quickly, depress the service brake.

WARNING *If the key switch is 'ON' and the parking (PARK) brake is set, depressing the accelerator inadvertently will release the parking (PARK) brake and cause the vehicle to move which could cause severe personal injury or death.*

Depressing the accelerator pedal will release the parking (PARK) brake if it is engaged on all models except the 1200. This is a feature to assure that the vehicle is not driven with the parking (PARK) brake engaged. This is **not** the preferred method of releasing the parking (PARK) brake.

NOTE *Depressing the **bottom of the brake pedal** is the preferred method of releasing the parking (PARK) brake to assure the longest service life of brake components.*

Combination Service and Parking (PARK) Brake Pedal (Excludes 1200)

The brake pedal incorporates a parking (PARK) brake feature. When leaving the vehicle unattended, engage the parking brake by pushing down on the TOP section of the pedal until it locks in place. The parking (PARK) brake will release when the lower section of the brake pedal (service brake) is depressed. Use the BOTTOM section of the brake pedal to operate the service brake system

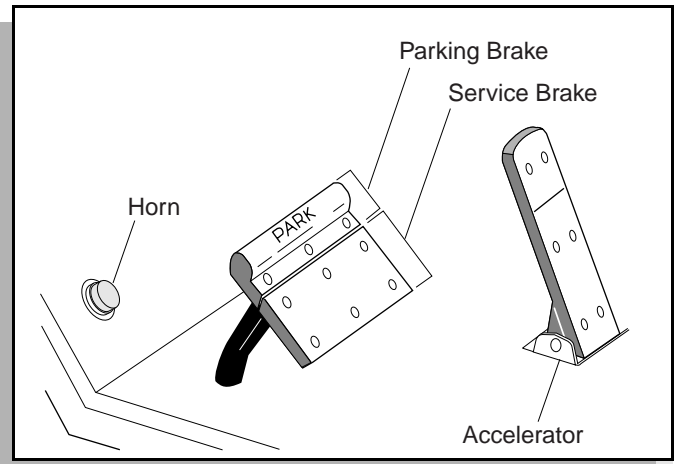


Fig. 7 Accelerator, Brake and Horn

Hand Released Parking Brake (1200 Only)

The 1200 models are equipped with a hand released parking brake that is located under the dash to the left side of the operator (Ref Fig. 8 on page 3). Engage parking brake by pressing down on parking brake pedal until brake locks into place. Disengage parking brake by pulling up on release handle. Unlike the combination brake and parking (PARK) brake found on other models, this parking brake will not automatically release when the accelerator pedal is pressed. To avoid excessive wear to brake components, be sure to release parking brake before operating vehicle.

NOTE *This is a parking brake feature only. For normal braking during operation, depress the service brake portion of the combination brake pedal to decrease speed and stop vehicle.*

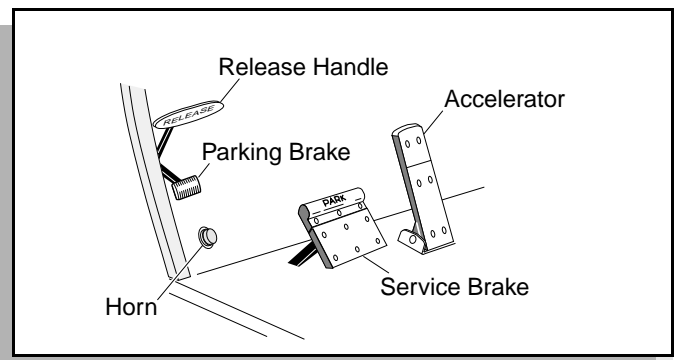


Fig. 8 Hand Released Parking Brake

Horn

The horn can be activated by depressing the horn button located on the floor to the left of the brake pedal (Ref Fig. 7 on page 3) (Ref Fig. 8 on page 3).

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Choke (Gasoline Models Only)

Located on the seat support panel, the choke is used to aid cold starting (Ref Fig. 9 on page 4). Pull the choke knob out for the first start of the day, or if the vehicle does not start within ten seconds after partially depressing the accelerator pedal. Do not operate at full throttle until engine has reached operating temperature.

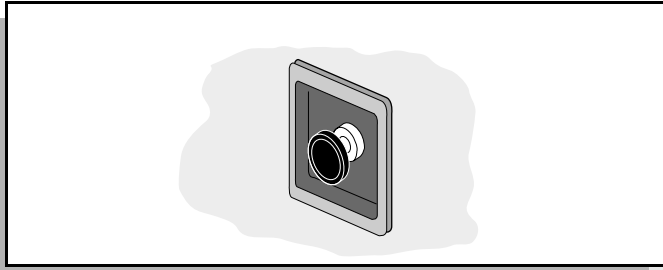


Fig. 9 Choke

Electric Lift Switch

The electric lift switch is located on the seat support panel (Ref Fig. 10 on page 4). See "Electric Lift Load Bed Operation" for operating information.

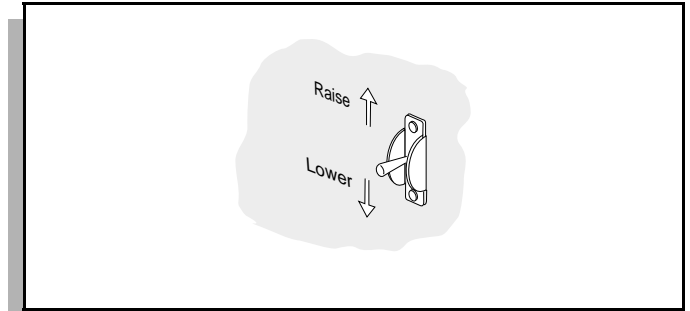


Fig. 10 Electric Lift Switch

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

LOAD BED

⚠ WARNING ⚠ *Never fill a gas can in the load bed of a vehicle equipped with a bed liner. Static discharge could ignite gasoline vapor and cause an explosion.*

The manual lift bed is the standard load bed for the vehicle. The bed may be equipped with an optional electric lift switch.

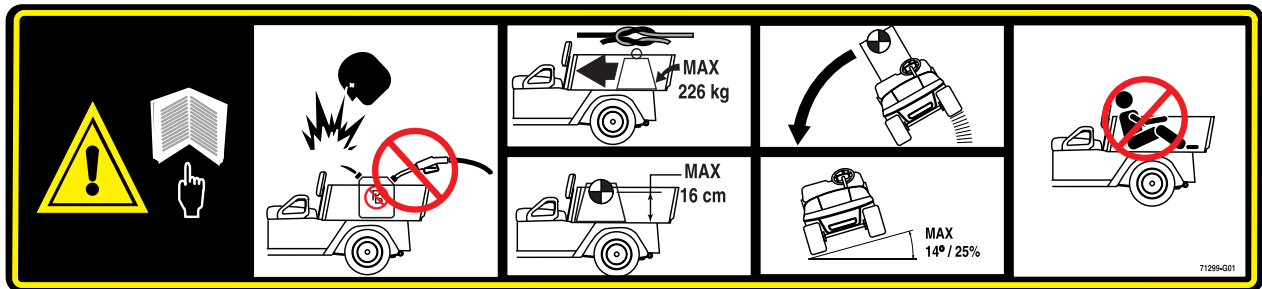
A load bed warning label is affixed to the front of the bed liner (Ref Fig. 11 on page 5). This label must be under-

stood and observed at all times for safe operation of vehicle. 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 securely fastened down. Failure to follow these instructions may result in personal injury, damage the vehicle and/or cause the vehicle to roll over. Operate the vehicle with awareness of load.

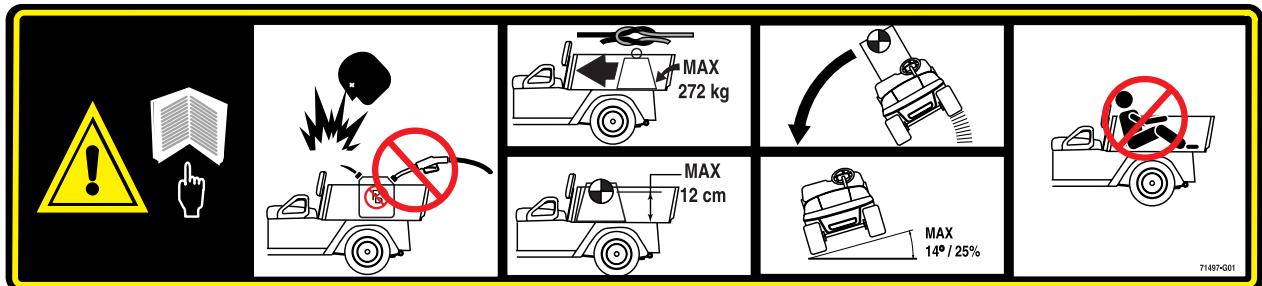
Do not permit anyone to ride in the load bed.

Before operating, check to ensure no one is standing behind vehicle.

Label on 800E and 800G models



Label on 1000E models



Label on 1200G models

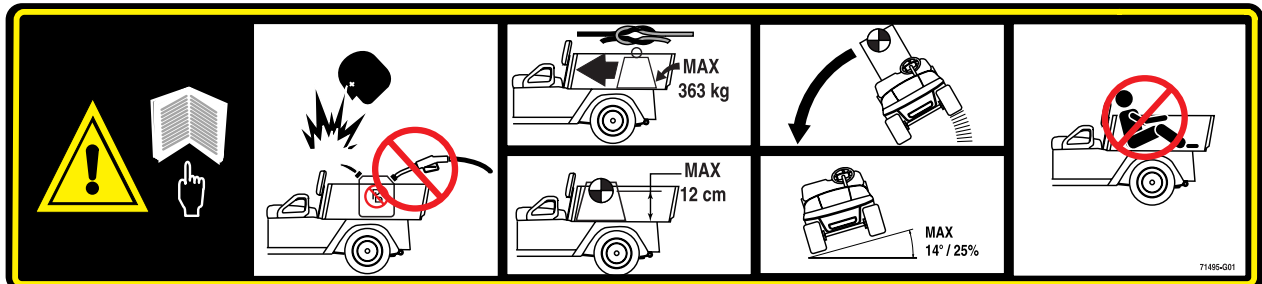


Fig. 11 Load Bed Warning Label

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Manual Lift Load Bed Operation

⚠ WARNING ⚠ *Exercise caution while operating the manual lift load bed to ensure the bed is not accidentally dropped during lifting or lowering process. Severe injury could result if bed is released and traps fingers or other body parts.*

To raise the manual lift bed, pull back on the latch release handle directly behind the driver seat (Ref Fig. 12 on page 6). Raise the bed using the handle on the side of the bed.

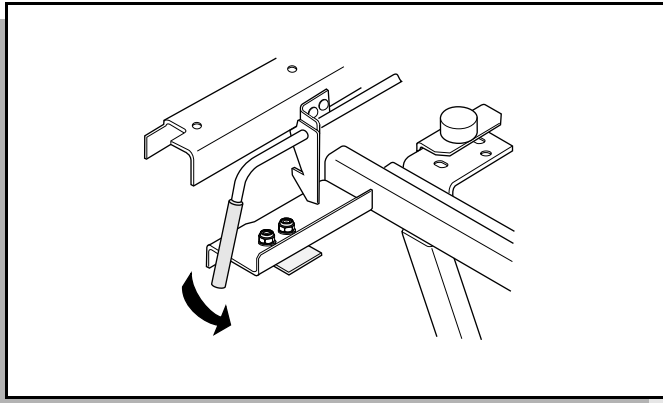


Fig. 12 Manual Lift Latch

Ensure the bed prop rod is securely seated in one of the slots of the prop bracket before releasing the bed handle (Ref Fig. 13 on page 6).

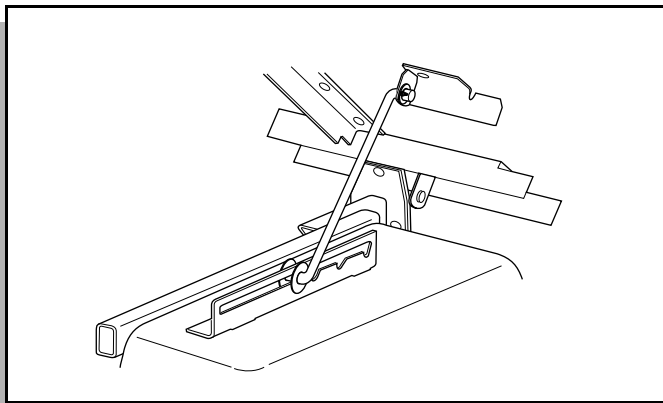


Fig. 13 Manual Lift Prop

To lower the manual lift bed, grasp the bed handle and raise the bed sufficiently to release the prop rod from the prop bracket slot and slide the prop rod forward in the bracket track while lowering the bed to the rest position. **Be sure hands can not be trapped by bed.**

Electric Lift Load Bed Operation

⚠ WARNING ⚠ *Exercise caution while operating the electric lift load bed to ensure clothing is not snagged during lifting or lowering process. Severe injury could result if bed is accidentally dropped and traps fingers or other body parts.*

Move the toggle switch upward to raise and downward to lower the load bed (Ref Fig. 10 on page 4).

BEFORE ENTERING VEHICLE

1. Check for correct tire inflation.
2. Inspect for fluid leaks.
3. Be certain everything is properly stored and secured.

All electric vehicles are equipped with an interlock system that disables the controller and prevents the vehicle from being operated while the portable charger is connected. The interlock functions even if the DC plug is not fully connected in the vehicle receptacle. Remove charger plug from vehicle receptacle and properly store cable prior to moving vehicle.

OPERATING THE VEHICLE

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

NOTE Read and understand the following warnings before attempting to operate the vehicle.

⚠ WARNING ⚠ *Drive the vehicle only as fast as terrain and safety considerations allow.*

Consider the terrain and traffic conditions. Also consider the environmental factors which effect the terrain and the ability to control the vehicle.

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

Keep feet, legs, hands and arms inside the vehicle perimeter at all times.

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 steep slopes. Use

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

the parking (PARK) brake whenever the vehicle is parked.

Avoid extremely rough terrain.

Check area behind the vehicle before operating in reverse.

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

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

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

Refer to GENERAL SPECIFICATIONS for vehicle seating capacity.

Always remain seated and hold on while vehicle is in motion.

Do not allow vehicle to coast.

All travel should be directly up or down hills.

Use extra care when driving the vehicle across any incline.

When vehicle is to be left unattended, engage parking (PARK) brake, move direction selector to neutral (electric vehicles) forward (gasoline vehicles), turn key to 'OFF' position and remove key.

Starting the Electric Vehicle

Apply the service brake, place the key in the key switch and turn to the 'ON' position. Move the direction selector to the direction desired, release the service brake pedal and depress the accelerator pedal to start the motor.

NOTE *When the direction selector is in the reverse position, a warning signal will sound. This is a device to indicate the vehicle is ready to run in reverse.*

The motor stops when the accelerator pedal is released. To stop the vehicle more quickly, depress the **bottom of the brake pedal**.

Starting the Gasoline Vehicle

Depressing the accelerator pedal energizes the starter and ignition circuits which cause the engine to run. To start the gasoline 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. Slowly depress the accelerator pedal to start the engine. Release service brake when engine starts.

NOTE *When the direction selector is in the reverse position, a warning signal will sound. This is a device to indicate the vehicle is ready to run in reverse.*

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**.

Cold Starting the Gasoline Vehicle

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

CAUTION Do not allow the starter to operate continuously for more than 30 seconds. Allow 10 seconds before attempting a second time. If the vehicle does not start on the third attempt, turn the key switch off, lock the parking (PARK) brake and determine the cause of the problem.

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

Starting the Vehicle on a Hill

NOTE *To start a vehicle on a hill, use the service brake to hold the vehicle in position. When the motor/engine starts, accelerate smoothly while releasing service brake.*

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

When starting the vehicle on a hill, it is important to follow this procedure to prevent excessive roll-back or permanent damage to the drive system.

Place left foot on service brake and release the parking (PARK) brake. Place right foot on accelerator. As accelerator is depressed with the right foot, release the service brake by removing left foot.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Starting a Gasoline Vehicle with a Discharged Battery



Do not attempt to 'jump start' a vehicle using another vehicle.

The vehicle is equipped with a starter/generator. 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.

Since the engine stops when the accelerator is released, **jump starting should not be attempted.**

If the vehicle battery has become discharged, it must be charged using a 12V charger that is rated at 10 amps or less.

Observe all instructions provided by the manufacturer of the charger.

COASTING

On steep hills, it is possible for vehicles to coast at faster than normal speeds that may be encountered on a flat surface. To prevent loss of vehicle control, speeds should be limited to no more than the maximum speed on level ground (see vehicle specification for speed). Limit speed by releasing the accelerator and applying service brake. Severe damage to the drive train components due to excessive speed may result from driving the vehicle above specified speed. Damage caused by excessive speed may cause a loss of control, is costly, is considered abuse and will not be covered under warranty.

FUEL

The fuel tank is located under the seat on the passenger side of the vehicle (Ref Fig. 14 on page 8). Fill the tank with fresh, clean, automotive grade, unleaded, 87 octane (minimum) gasoline. High altitude or heavy use/load applications may benefit from higher octane gasoline.

CAUTION Do not overfill the fuel tank. Allow adequate space for the expansion of gasoline. Leave at least 2.5 cm space below bottom of filler neck.



To prevent a possible explosion, do not smoke near the fuel tank or refuel near open flame or electrical items which could produce a spark.

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

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

Do not handle fuel in an area that is not adequately ventilated. Do not permit anyone to smoke in an area where vehicles are being fueled.

Do not handle fuel in an area that is not adequately ventilated. Do not permit anyone to smoke in an area where vehicles are being fueled.

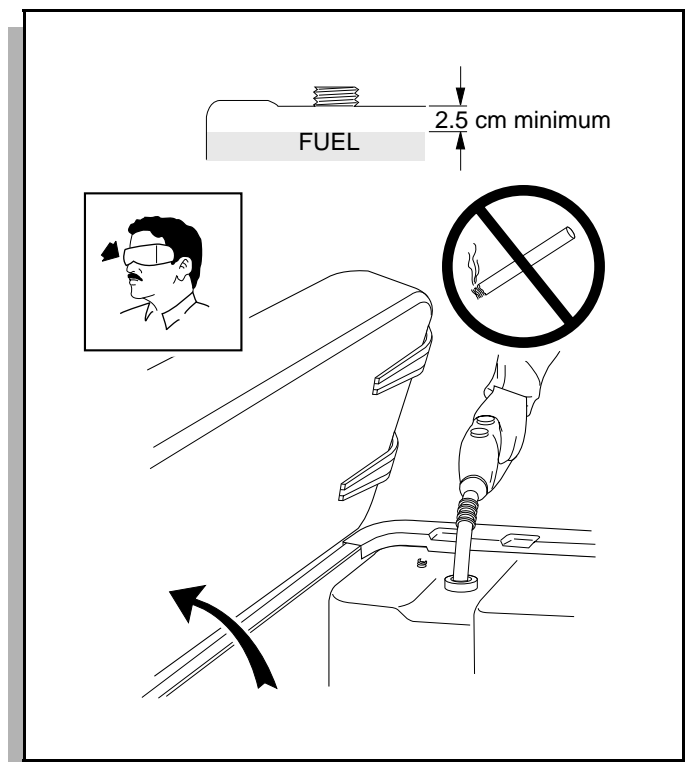


Fig. 14 Fuel Tank Location

Fuel Gauge and Indicator Lights

Some gasoline vehicles may be equipped with an optional electric fuel gauge that is located to the right of the key switch.

An optional dash mounted low fuel indicator light may be on some vehicles. It illuminates indicating the fuel level in the tank is low.

An optional dash mounted low oil pressure indicator light may be on some vehicles. It illuminates indicating the oil pressure is low.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

TOWING

Tow bars are available from the E-Z-GO Service Parts Department.

⚠ WARNING ⚠

To prevent personal injury or damage to towing components, do not ride

on vehicle(s) being towed.

CAUTION

Use extra caution when towing vehicle. Do not tow vehicle at speeds in excess of 19 kph. Towing vehicle at above recommended speed may result in damage to vehicle and other property.

Tow bars are not intended for road use.

For electric vehicles, place direction selector in neutral position prior to towing to prevent possible damage to electric motor.

For gasoline vehicles, the direction selector should be put in neutral. The neutral lock, located on the rear axle, should be used to lock the direction selector in position. This will prevent it from moving into 'F' (forward) or 'R' (reverse) while being towed, causing damage to the rear axle.

Neutral Lock (Gasoline Vehicles Only)

To prevent the rear axle from turning the driven clutch while being towed, and causing wear to the belt, a neutral lock is located on the rear axle (Ref Fig. 15 on page 9).

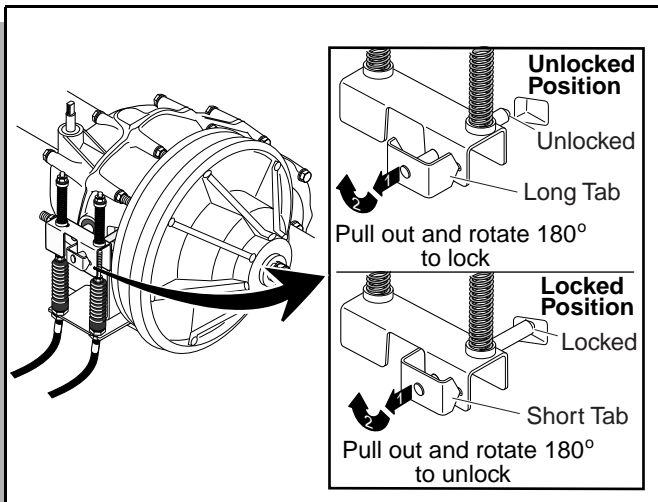


Fig. 15 Neutral Lock

SERVICING THE VEHICLE

⚠ WARNING ⚠

Before attempting any type of servicing operations, read and understand all notes, cautions and warnings in this manual.

It is in the best interest of both vehicle owner and servicing dealer to carefully follow the procedures recommended in this manual. Adequate preventative maintenance, applied at regular intervals, is the best guarantee for keeping the E-Z-GO vehicle both dependable and economical.

⚠ WARNING ⚠

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



Wear eye protection when working on or around vehicle. In particular, use care when working around batteries, or when using solvents or compressed air.

Servicing requiring adjustments to be made to the powertrain while the motor or engine is running, must be made with both drive wheels raised.

Never operate vehicle at full throttle for more than 4-5 seconds while vehicle is in a "no load" condition.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Break-In (Gasoline Vehicles Only)

An initial oil change is required at 100 hours. Check for any oil or fuel leaks that could have developed in shipment from the factory. As in normal driving, 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. All engines use some oil even when in perfect condition and properly broken in. During the initial period, check the oil level at least every 8 operational hours. Add oil if the level on the dipstick indicates that oil is in the lower portion of the safe operating range (Ref Fig. 16 on page 10).

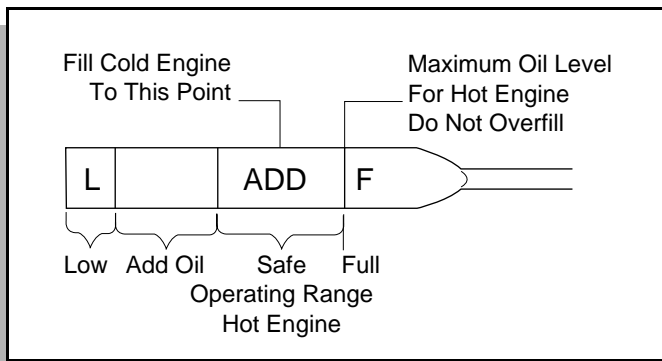


Fig. 16 Check Oil Level on Dipstick

CAUTION Never overfill the engine with oil, foaming may result and enter the breather system.

NOTE 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.

The oil should be changed after the first 100 hours of operation and should be drained while the engine is warm. See POWERTRAIN MAINTENANCE for checking oil level and changing oil procedures.

LIFTING THE VEHICLE

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

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

WARNING To prevent possible injury or death, 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 before getting under the vehicle. 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.

CAUTION When lifting vehicle, position jacks and jack stands only on areas indicated.

To raise the entire vehicle, install chocks in front and behind each front wheel (Ref Fig. 17 on page 10). Center the jack under the rear frame crossmember. Raise the vehicle and locate a jack stand under the outer ends of the rear axle.

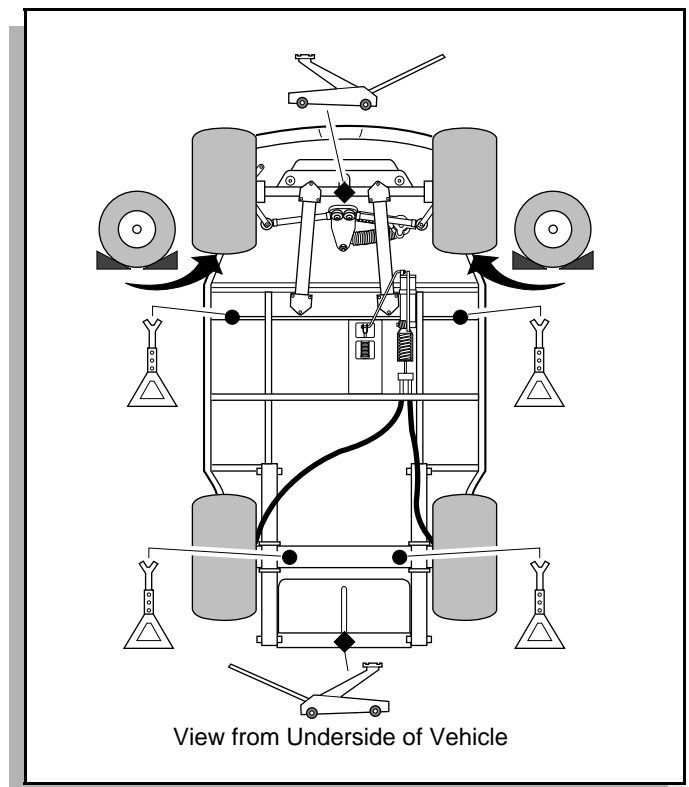


Fig. 17 Lifting the Vehicle

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 and position jack stands under the frame crossmember as indicated.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

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 in order to stabilize the vehicle.

Lower the vehicle by reversing the lifting sequence.

ROUTINE MAINTENANCE

This vehicle will give years of satisfactory service providing it receives regular maintenance. Refer to the Periodic Service Schedule (Ref Fig. 46 on page 24) for appropriate service intervals. Refer to Lubrication Points (Ref Fig. 18 on page 11) for lubrication locations.

NOTE Some maintenance items must be serviced more frequently on vehicles used under severe driving conditions.

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

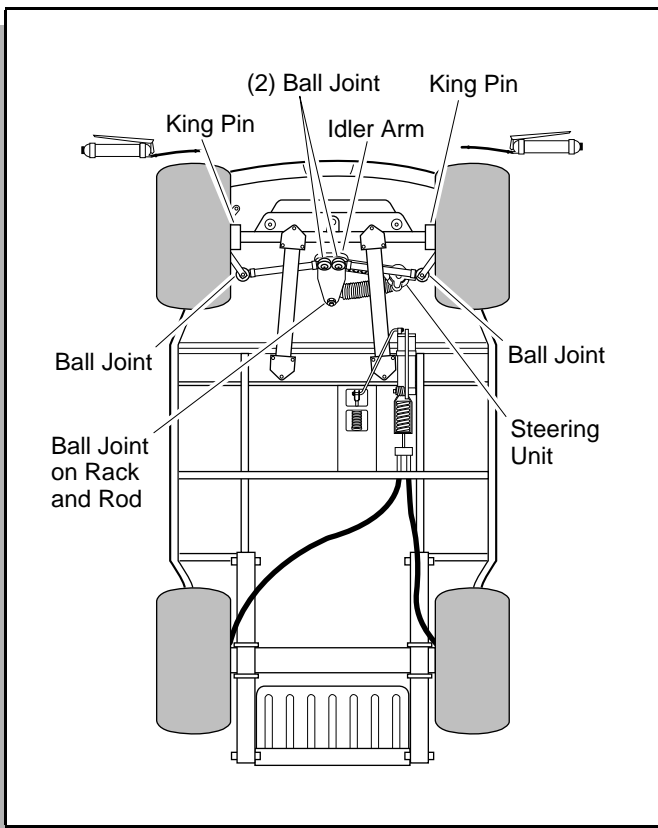


Fig. 18 Lubrication Points

REAR AXLE (ELECTRIC VEHICLES)

The only maintenance required for the first five years is the periodic inspection of the lubricant level. The electric rear axle is provided with a lubricant level check/fill plug located on the bottom of the differential. Unless leakage is evident, the lubricant need only be replaced after five years.

Checking the Lubricant Level

Tool List	Qty. Required
Socket, 13 mm, 3/8" drive	1
Ratchet, 3/8" drive	1
Funnel	1
Shop cloth	1

Clean the area around the check/fill plug and remove plug. The correct lubricant level is just below the bottom of the threaded hole. If lubricant is low, add as required. Add lubricant slowly until lubricant starts to seep from the hole. Install the check/fill plug. In the event that the lubricant is to be replaced, the vehicle must be elevated and the oil pan removed or the oil siphoned out through the check/fill hole (Ref Fig. 19 on page 11).

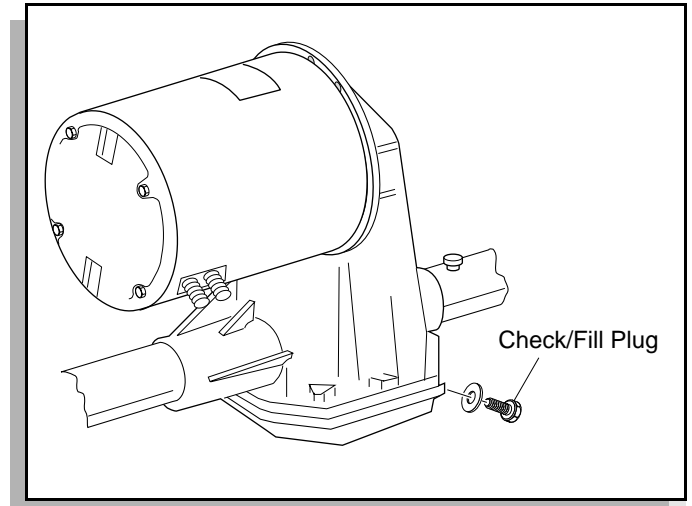


Fig. 19 Add, Check and Drain Rear Axle Lubricant on Electric Vehicles

REAR AXLE (GASOLINE VEHICLES)

The gasoline rear axle is provided with a lubricant level check plug located on the driver's side at the rear of the housing (Ref Fig. 20 on page 12). Unless leakage of rear axle lubricant is evident, an annual lubricant check is sufficient.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

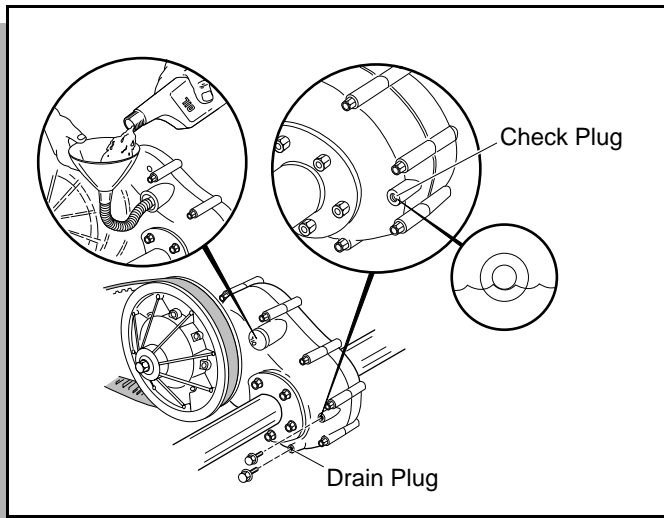


Fig. 20 Add, Check and Drain Rear Axle Lubricant on Gasoline Vehicles

Checking the Lubricant Level

Tool List	Qty. Required
Socket, 13 mm, 3/8" drive	1
Ratchet, 3/8" drive	1
Funnel	1
Shop cloth	1

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. Capacity of axle is 1.2 liters.

POWERTRAIN MAINTENANCE FOR GASOLINE VEHICLES

Access the powertrain by raising/removing seat. Additional access may be obtained by raising or removing the load bed. Some service procedures may require the vehicle to be lifted. Refer to LIFTING THE VEHICLE for proper lifting procedure and safety information.

⚠ WARNING ⚠ *When raising the load bed, always install a positive stop to prevent severe injury that could occur if the load bed should fall.*

Direction Selector

The direction selector is a mechanical device that operates cables connected to the transmission. The cables are sealed and do not require lubrication, but may require occasional adjustment (Ref Fig. 21 on page 12). The only other maintenance required is periodic lubrication of the linkage and related moving parts.

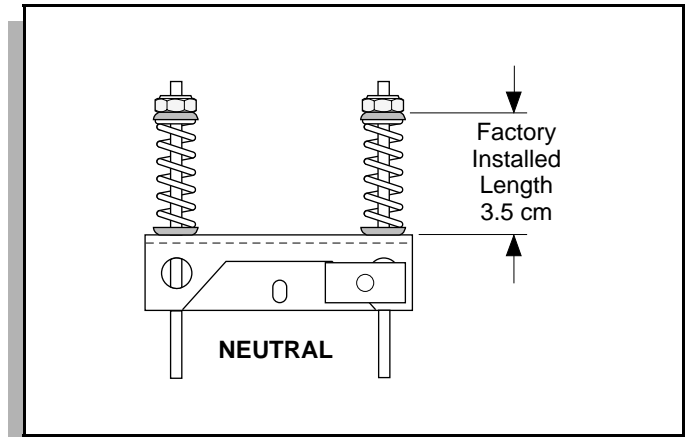


Fig. 21 Shift Cable Adjustment

Checking the Oil Level

CAUTION 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 locked. Allow adequate time for oil to drain into the crankcase before checking.

Remove the dipstick and wipe off the entire area indicated with a lint free cloth (Ref Fig. 22 on page 12).

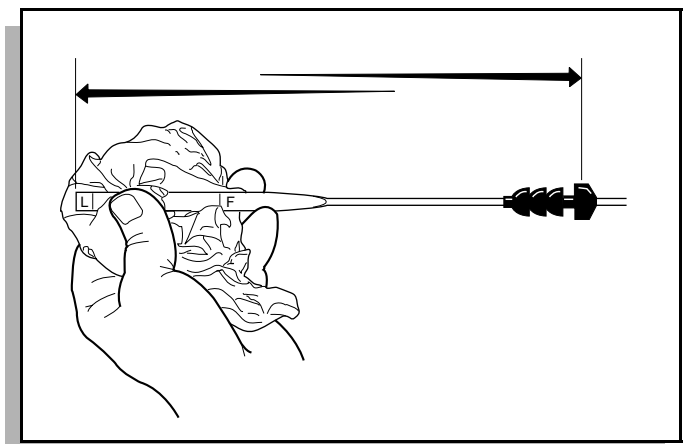


Fig. 22 Clean Entire Dipstick

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

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

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** (Ref Fig. 23 on page 13).

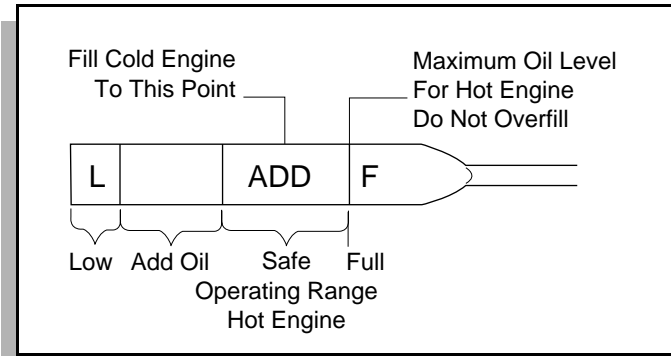


Fig. 23 Check Oil Level on Dipstick

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 fill cap is firmly in place.

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

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.

Changing the Oil

Tool List	Qty. Required
Socket, 3/8" drive, 10 mm	1
Ratchet, 3/8" drive.....	1
Extension, 3/8" drive	1
Oil drain pan.....	1

For maximum performance and longevity, the engine oil should be replaced after the first 100 hours of operation. After the initial oil change, it should be changed every 200-250 hours of operation or yearly, whichever comes first. Vehicles used under harsh or dirty conditions should have the oil changed every 100-150 hours of operation. **Never** exceed 300 hours of operation before an oil change.

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 require 10W-40 oil after a break-in period of 100 hours (Ref Fig. 24 on page 13).

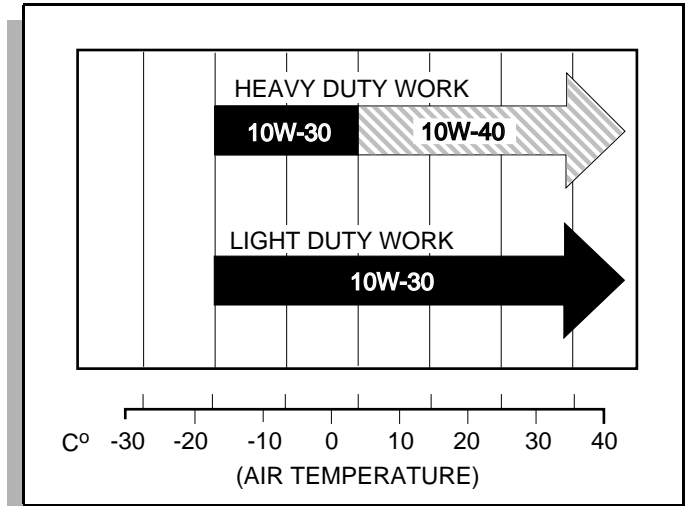


Fig. 24 Oil Viscosity Chart

NOTE If the vehicle is to be stored over the winter months, it can be stored with the old oil left in the 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 the engine warm. Park the vehicle on a level surface, engage the parking (PARK) brake and remove the key. Place a drain pan under the engine. Wipe the top of the engine clean with a cloth (Ref Fig. 25 on page 13). Remove the oil fill cap.

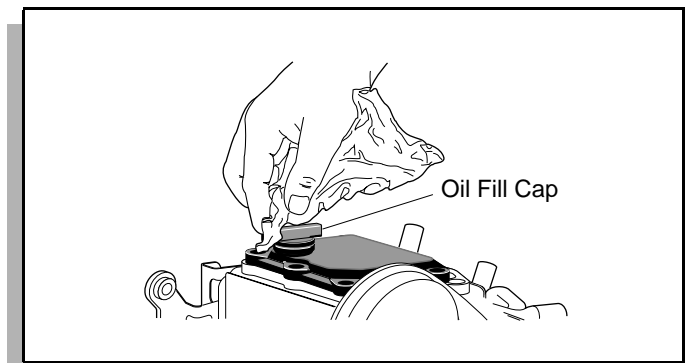


Fig. 25 Clean Top of Engine

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Clean the area around the filter. Remove the three bolts securing the oil filter to the engine. Remove the filter by pulling it from the engine and allow the oil to drain. (The 'O' rings may remain on the engine or the filter) (Ref Fig. 26 on page 14).

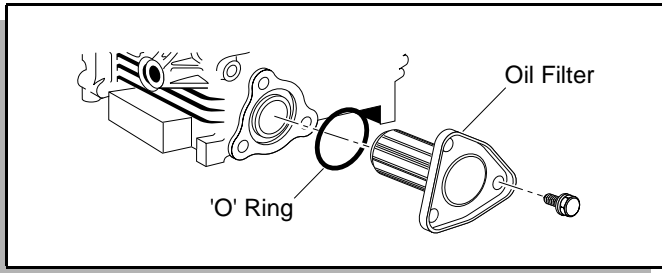


Fig. 26 Remove Oil Filter

Inspect the filter. 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.



Wear eye protection to prevent splashed solvent from contacting the eyes

when cleaning oil filter.

Clean the filter by washing in any shop degreaser and brushing the metal screen clean with a soft brush (Ref Fig. 27 on page 14).

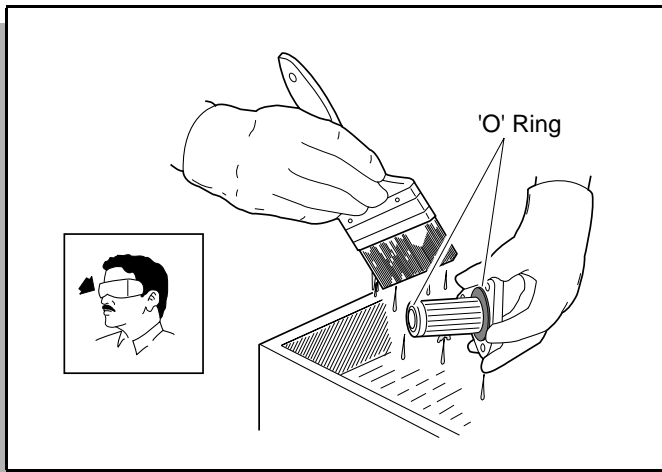


Fig. 27 Clean Oil Filter

Blow out the filter with low pressure air 210 kPa or less from no closer than 8 cm and allow to air dry (Ref Fig. 28 on page 14).

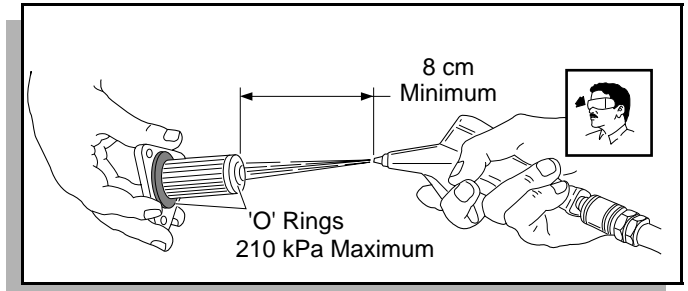


Fig. 28 Blow Out Oil Filter

Wipe the area around the filter mount with a clean, lint free cloth and inspect both filter 'O' rings for damage; replace if necessary. Install the filter into the engine. The filter engages over a short nipple in the engine. The filter should slide easily onto the nipple and seat against the engine using light hand pressure only. Align the holes in the filter mounting plate with the holes in the engine. Install and snug the bolts before tightening them firmly.

Oil capacity is 1.4 liters. Add slightly less than 1.4 liters to allow for possible residual oil left in engine (Ref Fig. 29 on page 14). 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 'F' 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.

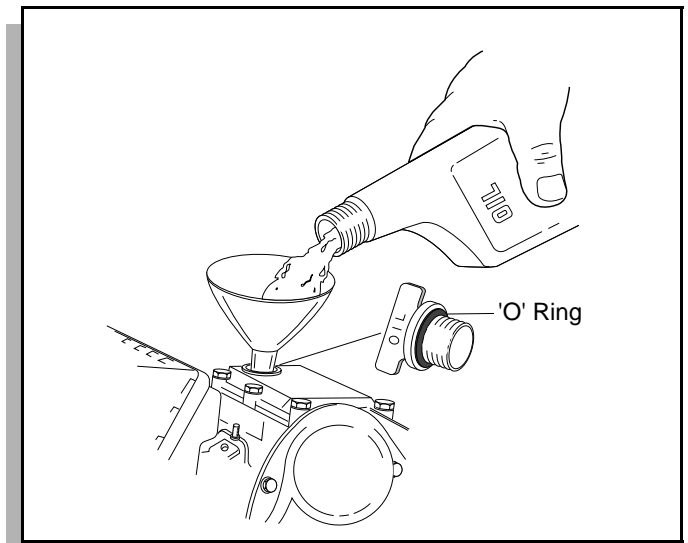


Fig. 29 Add Engine Oil

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Inspect 'O' ring and replace if necessary. Install the oil fill cap. Run the vehicle for one or two minutes and check the filter for oil leaks.

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 'F' 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.

AIR CLEANER INSPECTION/REPLACEMENT

The air cleaner element is accessible by unsnapping the top clips from the air box and swinging the cover open. **Remove the cover and the air filter element** (Ref Fig. 30 on page 15). Clean inside of cover and enclosure.

If the element is in acceptable condition, loose dirt may be removed by tapping the filter **lightly**. The air cleaner element may be washed if required up to two times but replacement is recommended for optimum performance. Replacement is mandatory at the first signs of filter paper deterioration or if the element has holes in it. After the initial cleaning, the second cleaning may be required sooner than the first due to the deterioration of the filter material.

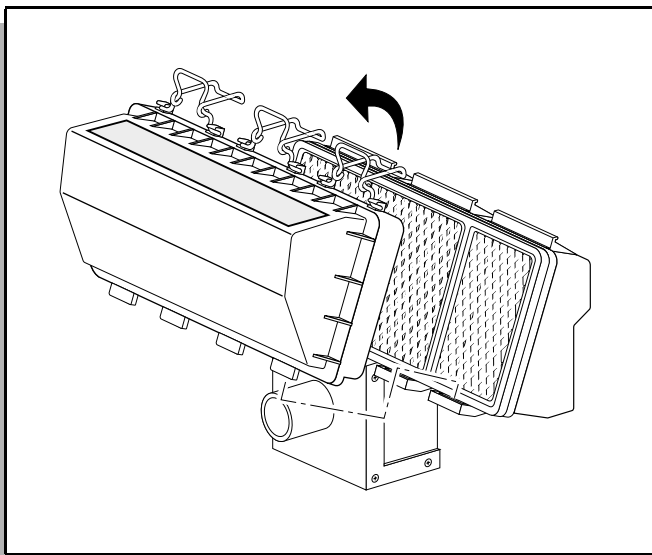


Fig. 30 Air Cleaner

NOTE The air cleaner unit on the vehicle is a washable dry unit. **Do not** use oil on the filter element or any part of the unit.

To wash the element, gently clean the element in a mixture of non-sudsing cleaner (automatic liquid dishwasher detergent) and water. Rinse in 'non-pressurized' clear water. Allow to air dry completely before reinstalling. Do not force dry the filter.

CAUTION Do not use pressurized water or compressed air to clean the air filter. Doing so will damage the filter and may damage the engine.

Install the element in the same way it was removed, being sure that the filter seal is correctly installed. Attach cover to the lower portion of the enclosure and swing it up into place. Squeeze housing together and secure with top clips. Be sure all clips are fastened securely.

STARTER/GENERATOR BELT TENSION

Tool List	Qty. Required
Belt tension gauge.....	1
Wrench, 3/4".....	1
Wrench, 9/16".....	2
Ratchet, 3/8" drive.....	1
Socket, 3/4", 3/8" drive.....	1

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

NOTE A loose belt can cause audible vibration and squeal.

Tighten a **new** starter/generator belt to 41-50 kg tension when a gauge is applied half way between the two pulleys (Ref Fig. 31 on page 15).

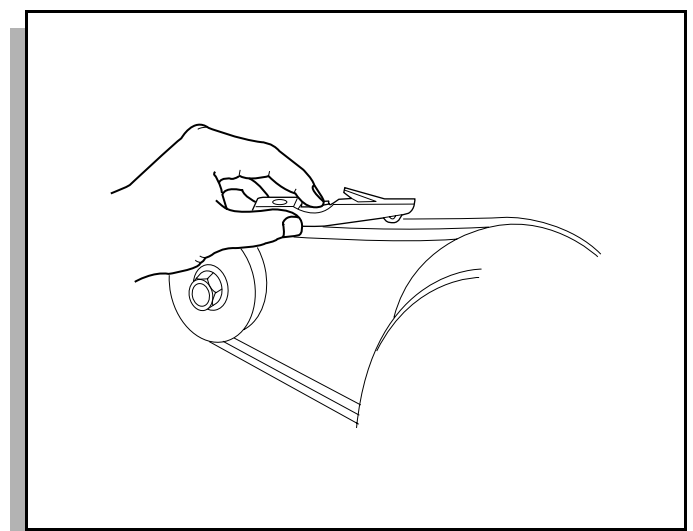


Fig. 31 Checking Belt Tension with Gauge

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Although not as accurate, the belt may be depressed with a finger. A maximum deflection of 10 mm is acceptable (Ref Fig. 32 on page 16).

Using a 3/4" socket and open end wrench, tighten the starter/generator pivot bolt.

AIR INTAKE AND COOLING FINS

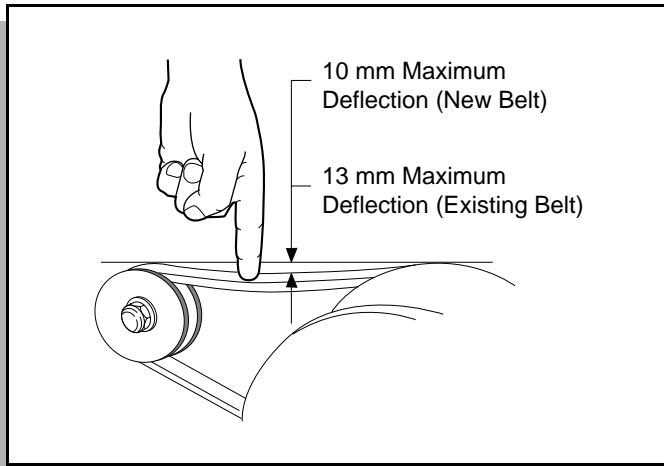


Fig. 32 Checking Belt Tension with Finger

Re-tighten an **existing** belt to 34-36 kg tension using the same technique. A maximum deflection of 13 mm is acceptable.

Adjusting the Belt

Using a 3/4" socket and open end wrench, loosen the starter/generator pivot bolt.

While holding the lower adjusting nut with a 9/16" wrench, loosen the upper jam nut with another 9/16" 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 (Ref Fig. 33 on page 16).

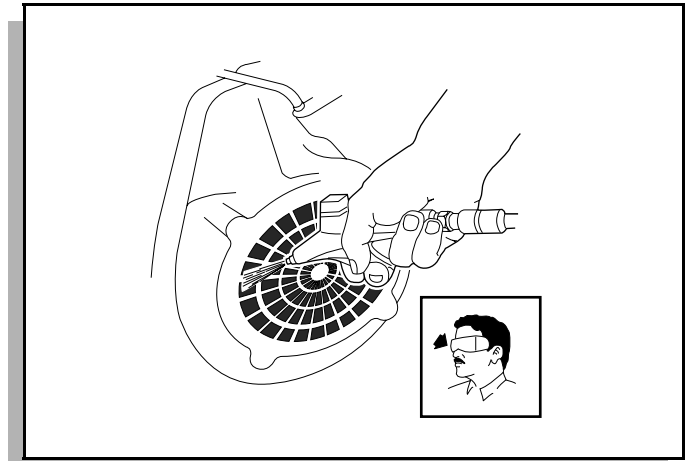


Fig. 34 Cleaning Air Intake

Every 20 hours, check for a build up of debris in the air intake and cooling fins (Ref Fig. 34 on page 16) (Ref Fig. 35 on page 16). Blow or brush out debris from these areas.

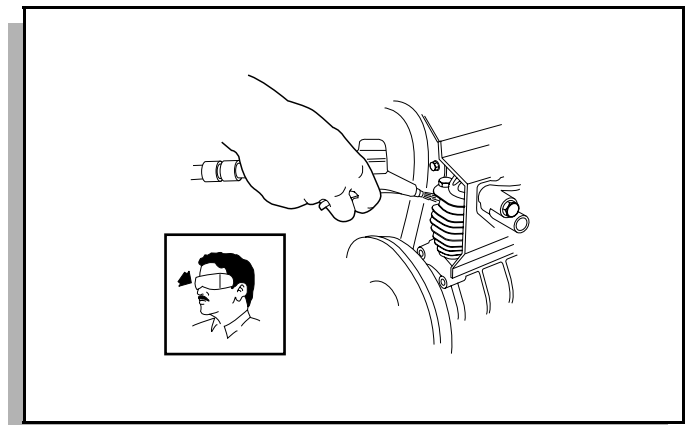


Fig. 35 Cleaning the Cooling Fins

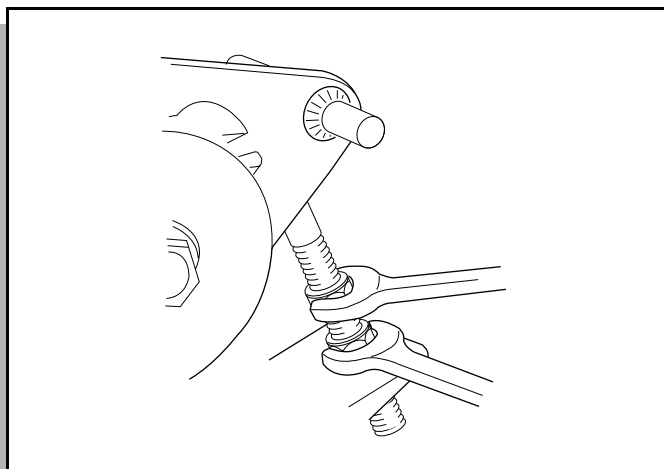


Fig. 33 Adjusting Belt Tension

SPARK PLUGS

Tool List	Qty. Required
Spark plug wrench, 13/16"	1
Plug gauge, wire type	1

Using a 13/16" spark plug wrench, remove the spark plugs at 250-300 hours or annually and inspect. Clean and gap to .71-.76 mm (Ref Fig. 36 on page 17). If a plug has been burned beyond .89 mm, it should be replaced.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

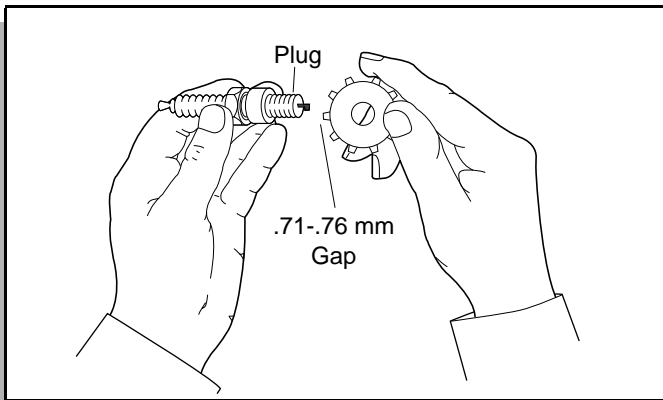


Fig. 36 Gapping the Spark Plug

Fouled spark plugs are 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 wires which are in poor condition or poor quality fuel could also contribute to the problem. All new spark plugs should be properly gapped to .71-.76 mm. Use NGK BPR4ES for replacement plugs. Tighten to 24 Nm torque.

CAUTION Use care not to over tighten the plug. Overtightening can cause damage to the aluminum cylinder head threads.

BRAKES

After the vehicle has been put into service, it is recommended that the brakes be checked daily by performing the following test:

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

Daily Brake Test

Determine the braking performance of the vehicle by latching the parking brake at a **common point** on a flat, dry, clean paved surface while traveling at maximum speed. Observe the vehicle stopping location.

If the vehicle stops in a significantly greater distance than normal or pulls to one side, it should be tested again.

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

TIRES

Tool List

Qty. Required

Lug wrench, 3/4"	1
Impact socket, 3/4", 1/2" drive	1
Impact wrench, 1/2" drive	1
Torque wrench, 1/2" drive	1

Tire condition should be inspected on a daily basis. Inflation pressures should be checked on a weekly basis when the tires are cool.

WARNING Never exceed inflation pressure rating on tire sidewall.

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

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 prevents tires from 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 careful not to overinflate. Due to the low volume of these small tires, overinflation can occur in a matter of seconds. Be sure to install the valve dust cap after checking or inflating.

Tire Repair

WARNING To prevent injury caused by a broken socket, use only sockets designed for impact wrench use. Never use a conventional socket.

The vehicle is fitted with low pressure tubeless tires mounted on one piece rims.

Generally, the most cost effective way to repair a flat tire resulting from a puncture in the tread portion of the tire is to use a commercial tire plug.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

NOTE 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 specifications.

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



WARNING Pressurize tire with small amount of air applied intermittently to seat

beads. Never exceed the tire manufacturer's recommendation.

Protect face and eyes from escaping air when removing valve core.

Be sure mounting/demounting machine is anchored to floor.

Wear safety equipment when mounting/demounting tires.

Follow all instructions and safety warnings provided by the mounting/demounting machine manufacturer.

Wheel Installation

With the valve stem to the outside, mount the wheel onto the hub with lug nuts. Finger tighten lug nuts in a 'cross sequence' pattern (Ref Fig. 37 on page 18). Then, tighten lug nuts to 73 - 115 Nm torque in 30 Nm increments following the same 'cross sequence' pattern.

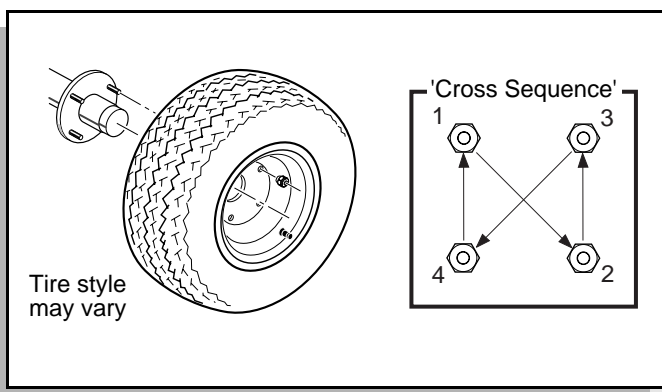


Fig. 37 Wheel Installation

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

CAUTION Do not tighten lug nuts to more than 115 Nm torque.

PREPARING THE GASOLINE VEHICLE FOR WINTER OR PROLONGED STORAGE



WARNING 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 winter or a prolonged storage calls for a few simple steps to prevent a build up of varnish or gum in the carburetor and corrosion in the engine.

Raise the rear of the vehicle and support on jack stands. Refer to LIFTING THE VEHICLE for lifting procedure and safety information. Add fuel stabilizer to the tank in accordance with the manufacturer's recommendations. Disconnect the fuel line from the engine **at the fuel tank**. With proper ventilation, start the engine and allow to run until the engine stops due to lack of fuel. Drain carburetor bowl using drain screw and re-tighten the drain screw. Remove the air filter and spray a commercial fogging or cylinder oil into the carburetor while operating the starter for 2-3 seconds. Reinstall the air filter and reattach the fuel line to the tank.

LIGHT BULB REPLACEMENT

CAUTION To prevent 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.

Determine which bulb needs to be replaced. Reach underneath light bar to access bulb from rear. Turn the bulb socket a quarter turn counterclockwise to unlock and pull out bulb. Insert new bulb and rotate quarter turn clockwise to secure.

To replace the taillight bulb, remove hardware securing lens and remove lens. Install replacement bulb.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

CARE AND CLEANING OF THE VEHICLE

CAUTION To prevent 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.

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 is the best method of preserving painted surface.

Do not use hot water, strong soap or harsh chemical detergents.

Rubber parts should be cleaned with non-abrasive household cleaner.

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 accelerate corrosion of underbody parts. It is recommended that the underbody be 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 its removal, taking care not to chip or otherwise damage paint.

NOTE *If the gasoline engine does not start or runs improperly after washing, remove the spark plug wires (by pulling the spark plug boots, **never** the wires) and blow them dry. Reinstall the wires. Remove moisture from coil by blowing across top.*



ELECTRIC AND GASOLINE UTILITY VEHICLES

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

VENDING UNIT (OASIS™)

The vending unit is equipped with a thermostatically controlled warming unit, cold bins, a food display cabinet and cup dispensers on each side.

Warming Unit

A lighted rocker switch is located on the panel behind the warming unit which turns the warmer on and off.

The temperature control for the warming unit is located at the rear of the vending unit, behind the door (Ref Fig. 38 on page 20).

The thermostat setting should be no more than 1/4 turn from the OFF position.

Ensure the warming unit is turned off and has cooled down before attempting to clean the unit. Always turn the warming unit off when not in use.

The warming unit is powered by a separate battery and is charged by the vehicle charging unit. Extensive use of the warming unit and/or insufficient operation of the vehicle may result in the battery becoming discharged. If recharge is necessary, use an automotive type 12V charger rated at 10 amps or less. Follow all directions and observe all manufacturers warnings provided with charger.

To drain the rear bins, open the door at the rear of the unit and attach a section of plastic hose to the left side valve and open the valve (Ref Fig. 38 on page 20). The front bin can be drained through the right side valve.

Cleaning the Vending Unit

The entire unit should be cleaned using warm soapy water. Wipe all surfaces with clean warm water.

To empty water from the cold bins, open lower door at rear of vending unit and connect the clear hose to the end of the PVC pipe on side wall (Ref Fig. 39 on page 20). (The valve on the left side empties rear bins, while the valve on the right side empties the front bin.)

Turn release valve as shown to open and keep open until all waste water has emptied.

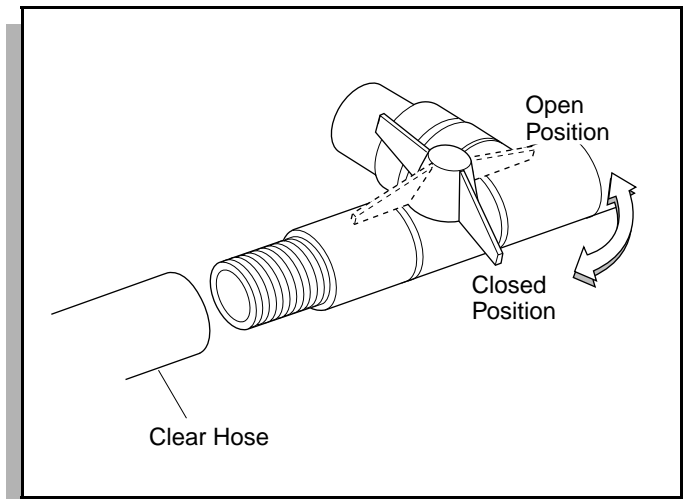


Fig. 39 Empty Water from Bins

Moving the Vending Unit

Tool List

Qty. Required

Wrench, 1/2" 2

⚠ WARNING ⚠ Use caution when moving the vending unit to ensure the unit does not trap fingers or other body parts that may cause severe injury.

The vending unit may be moved to the rear for access to the powertrain for maintenance and service.

To move the vending unit to the rear for powertrain maintenance and service, release the swell latch securing the canopy frame to the top support strut (Ref Fig. 40 on page 21).

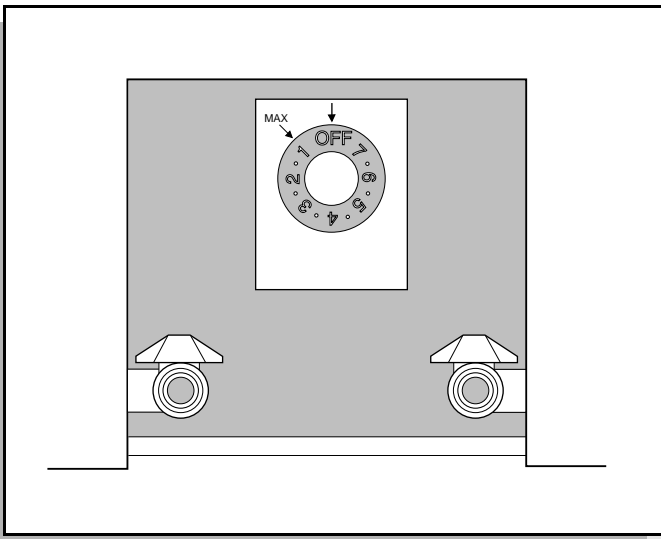


Fig. 38 Thermostat and Bin Drains

Cold Bins

The rear cold bin on each side of the vending unit are shared bins with a perforated wall. The front bin on each side is a separate bin.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

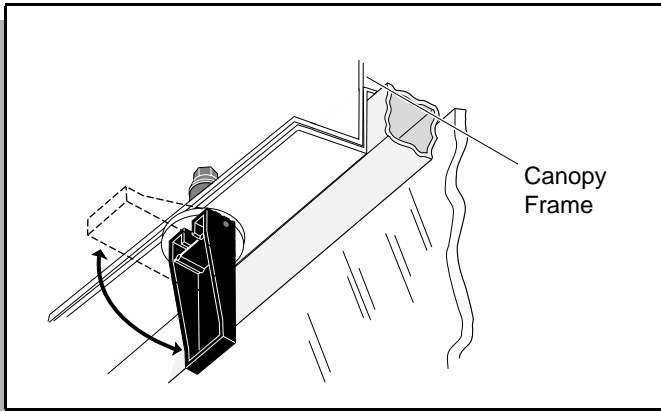


Fig. 40 Releasing Canopy Frame

Using a 1/2" wrench, remove the hardware securing the vending unit mounting frame tab to the rear cross frame (Ref Fig. 41 on page 21).

While lifting the canopy frame at the front slightly to relieve the weight of the canopy frame on the front strut, slide the unit to the rear (approximately 11 cm). Be sure that canopy frame does not distort front support during movement.

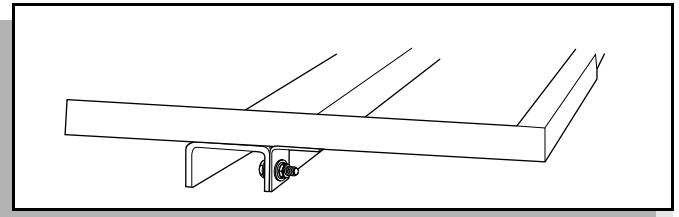


Fig. 41 Releasing Mounting Frame

To return vehicle to operation, move vending unit to forward location and secure in reverse order of release.

Rear bolts must be installed before operating the vehicle. The vending unit could inadvertently move during vehicle operation and cause a loss of driver control if mounting frame is not securely attached to vehicle chassis.

Removing the Vending Unit

Tool List

Qty. Required

Wrench, 9/16" 2

Should the vending unit need to be removed completely, use a 9/16" wrench and remove the hardware around the perimeter of the vending unit securing unit to the mounting frame and lift the unit off the mounting frame.

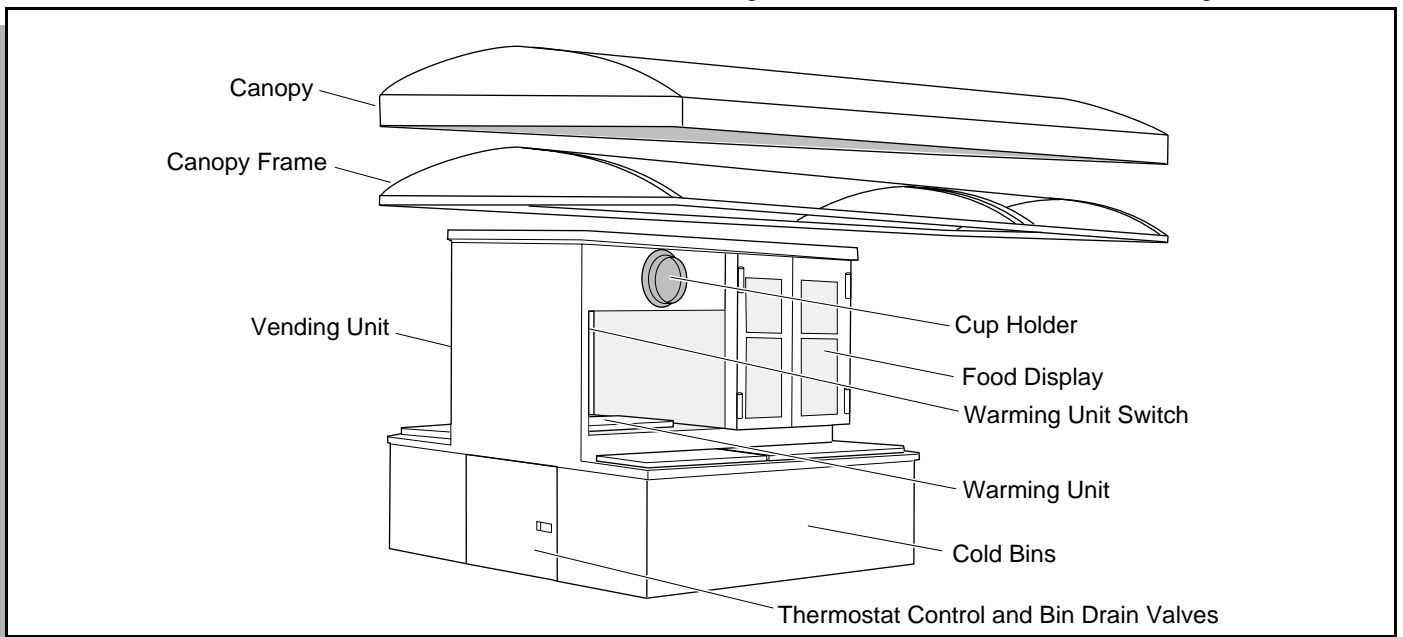


Fig. 42 Vending Unit

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

TOP AND WINDSHIELD



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

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

Clean with lots of water and a clean cloth. Minor scratches may be removed using a commercial plastic polish or Plexus plastic cleaner available from E-Z-GO.

TRAILERING



Personal injury to occupants of other highway vehicles may occur if vehicle and contents are not adequately secured to trailer.

Do not ride on vehicle being trailered.

Remove windshield before trailering. Maximum speed with top is 80 kph.

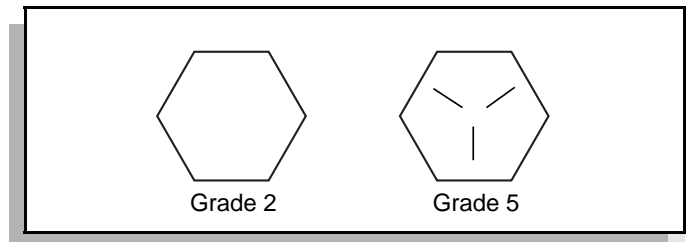
If the vehicle is to be transported on a trailer at highway speeds, the windshield must be removed and the seat bottom secured. Always check that the vehicle and contents are adequately secured before trailering the vehi-

cle. The rated capacity of the trailer towing a gasoline vehicle must exceed the weight of the vehicle and load (see GENERAL SPECIFICATIONS for vehicle weight). For electric vehicles, add 178 kg for weight of batteries. Lock the parking brake and secure the vehicle to the trailer using ratchet tie downs.

HARDWARE

Periodically, the vehicle should be inspected for loose fasteners. Fasteners should be tightened in accordance with the Torque Specifications table (Ref Fig. 44 on page 22). Use care when tightening fasteners and refer to the Technician's Repair and Service Manual for specific torque values.

Generally, two grades of hardware are used in the vehicle. Grade 5 hardware can be identified by the three marks on the hexagonal head. Unmarked hardware is Grade 2 (Ref Fig. 43 on page 22).



TORQUE SPECIFICATIONS

ALL TORQUE FIGURES ARE IN Nm

Unless otherwise noted in text, tighten all hardware in accordance with this chart. The table below specifies 'lubricated' torque figures. Fasteners that are plated or lubricated when installed are considered 'wet' and require approximately 80% of the torque required for 'dry' fasteners.

BOLT SIZE	1/4"	5/16"	3/8"	7/16"	1/2"	9/16"	5/8"	3/4"	7/8"	1"
Grade 2	5	11	20	33	47	75	102	176	169	258
Grade 5	8	18	31	47	75	108	149	271	434	651

Fig. 44 Torque Specifications

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

LABELS USED ON VEHICLE

It is important to understand the labels/pictograms located on the vehicle. A breakdown of the pictograms with an explanation of each is provided (Ref Fig. 45 on

page 23). Cross reference these with the pictorial representation of each label and be sure each label/pictogram is fully understood.

The following table lists the labels and pictograms shown in Fig. 45:

Fig. 45 Labels/Pictograms

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

PERIODIC SERVICE SCHEDULE

Always ensure that mechanics performing repairs are trained and qualified to do so.

✓ Check	◆ Clean, Adjust, etc.	▲ Replace
NOTE: Some maintenance items must be serviced more frequently on vehicles used under severe driving conditions		
DAILY		
BODY	◆ Clean body components as required	
BRAKE PEDAL	✓ Check for smooth operation	
SERVICE BRAKE	✓ Check brake performance and adjust if required	
PARKING BRAKE	✓ Check brake performance and adjust if required	
REVERSE WARNING DEVICE	✓ Check operation when direction selector is in reverse	
TIRES	✓ Examine for cuts, excessive wear and pressure (See GENERAL SPECIFICATIONS)	
WHEELS	✓ Check for bent rims, missing or loose lug nuts	
BATTERIES (ELECTRIC VEHICLES)	✓ Recharge to full state of charge after each day's use	
CHARGER / RECEPTACLE	✓ Inspect connector system at each charge	
FUEL GAUGE	✓ Check for proper operation (at fueling), and fuel cap vent is free of dirt	
MONTHLY - 20 HOURS (includes items listed in previous table & the following)		
BATTERY(S)	◆ Clean battery(s) & terminals with 60 ml baking soda to 6 liters water solution, rinse with clear water ✓ Check charge condition and all connections	
WIRING	✓ Check all wiring for loose connections and broken/missing insulation	
CHARGER / RECEPTACLE	◆ Clean connections, keep receptacles free of dirt and foreign matter	
ACCELERATOR	✓ Check for smooth movement	
DIRECTION SELECTOR	✓ Check attachment, tighten if required	
STEERING ASSEMBLY	✓ Check for abnormal play, tightness of all hardware	
TIE RODS/LINKAGES	✓ Check for excessive play, bent components or loose connections	
PDS SYSTEM	✓ Check for proper operation of system	
REAR AXLE	✓ Check for leakage, add SAE 30 oil as required	
CHOKE CABLE	✓ Check for smooth movement and adjustment - DO NOT LUBRICATE CABLE	
CARBURETOR LINKAGE	✓ Check attachment, adjust as required	
ENGINE	✓ Check for unusual noise, vibration, acceleration, oil leaks	
STARTER/GENERATOR BELT	✓ Check for tension, wear, cracks	
COOLING FAN	✓ Check for build-up of foreign matter inside blower housing and fins, clean if required	
QUARTERLY - 50 HOURS (includes items listed in previous tables & the following)		
FRONT AXLE	✓ Check for damage to axle and loose or missing hardware	

Fig. 46 Periodic Service Schedule

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

FRONT SHOCK ABSORBERS	✓ Check for oil leakage and loose mounting hardware
FRONT SPRINGS	✓ Check for loose hardware, cracks at attachments
FRONT WHEEL ALIGNMENT	✓ Check for unusual tire wear, align if required
PARKING (PARK) BRAKE	✓ Check for bent/binding linkage rod ✓ Check for damage or wear to latch arm or catch bracket ♦ Lubricate, use light oil. DO NOT LUBRICATE CABLES OR BRAKE LATCH
REAR SHOCK ABSORBERS	✓ Check for oil leakage, loose mounting hardware
ENGINE ELECTRICAL SYSTEM	✓ Check coil/spark plug wires for cracks/loose connections
FUEL SYSTEM	✓ Check for leaks at tank cap, lines, filters, pump, carburetor ✓ Check fuel lines for cracks/deterioration
THROTTLE/GOVERNOR LINKAGE	✓ Check operation and governed speed
CHARGER PLUG	♦ Clean auxiliary contact (see BATTERY CHARGER MAINTENANCE)
SEMI-ANNUAL - 125 HOURS (includes items listed in previous tables & the following)	
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 ♦ Lubricate, use wheel bearing grease
STEERING ASSEMBLY	♦ Lubricate linkage, use wheel bearing grease
TIE RODS/LINKAGES	♦ Lubricate, use wheel bearing grease
REAR AXLE	✓ Check for unusual noise and loose or missing mounting hardware
AIR CLEANER	✓ Check filter element, clean/replace as required
ANNUAL - 250-300 HOURS (includes items listed in previous tables & the following)	
FRONT WHEEL BEARINGS	♦ Adjust, see Technician's Repair and Service Manual ♦ Pack, use wheel bearing grease, see Technician's Repair and Service Manual
REAR AXLE	✓ Check lubricant, add lubricant (SAE 30 oil) as required ▲ Replace lubricant after 5 years
SERVICE BRAKES	♦ Clean and adjust, see Technician's Repair and Service Manual ✓ Check brake shoe linings, see Technician's Repair and Service Manual
ENGINE OIL	▲ Replace with SAE 10W-30 or 10W-40 that meets or exceeds SF, SG, CC oil - DO NOT OVERFILL
FUEL FILTER	✓ Check for dirt build-up
OIL FILTER	♦ Clean in solvent (at oil change), replace 'O' ring if required
SPARK PLUGS	▲ Gap .71 - .76 mm (replace if required)
MUFFLER/EXHAUST	✓ Check mounting hardware; check for leaks at head and muffler gaskets
VALVES	✓ Check cold at cam (intake/exhaust) per Technician's Repair and Service Manual
TIMING BELT	✓ Check tension, and for signs of wear/damage, see Technician's Repair and Service Manual

Fig. 46 Periodic Service Schedule



ELECTRIC AND GASOLINE UTILITY VEHICLES

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

BATTERIES AND CHARGING FOR ELECTRIC VEHICLES

Safety

NOTE

Always observe the following warnings when working on or near batteries:

WARNING

Keep all smoking materials, open flame or sparks away from the batteries.

Hydrogen gas is formed when charging batteries. Do not charge batteries without adequate ventilation. A 4% concentration of hydrogen gas is explosive.

Be sure that the key switch is off and all electrical accessories are turned off before starting work on vehicle.

Never disconnect a circuit under load at a battery terminal.



Batteries are heavy. Use proper lifting techniques when moving them. Always lift the battery with a commercially available battery lifting device. Use care not to tip batteries when removing or installing them; spilled electrolyte can cause burns and damage.

The electrolyte in a storage 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.



Always wear a safety shield or approved safety goggles when adding water or charging batteries.

Any electrolyte spills should be neutralized with a solution of 60 ml sodium bicarbonate (baking soda) dissolved in 6 liters of water and flushed with water.

Overfilling batteries may result in electrolyte being expelled from the battery during the charge cycle. Expelled electrolyte may cause damage to the vehicle and storage facility.

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



Wrap wrenches with vinyl tape to prevent the possibility of a dropped wrench from 'shorting out' a battery,

which could result in an explosion and severe personal injury or death.

BATTERY

A battery is defined as two dissimilar metals immersed in an acid. If the acid is absent or if the metals are not dissimilar, a battery has not been created. The batteries most commonly used in these vehicles are lead acid.

A battery does not store electricity, but is able to produce electricity as the result of a chemical reaction which releases stored chemical energy in the form of electrical energy. The chemical reaction takes place faster in warm conditions and slower in cold conditions. Temperature is important when conducting tests on a battery and test results must be corrected to compensate for temperature differences.

As a battery ages, it still performs adequately except that its **capacity** is diminished. Capacity describes the time that a battery can continue to provide its design amperes from a full charge.

A battery has a maximum life, therefore good maintenance is designed to maximize the **available** life and reduce the factors that can reduce the life of the battery.

BATTERY MAINTENANCE

Tool List

Qty. Required

Insulated wrench, 9/16"	1
Battery carrier	1
Hydrometer	1
Battery maintenance kit P/N 25587-G01	1

At Each Charging Cycle

WARNING

Never attach a battery charger to a vehicle that is to be unattended beyond the normal charging cycle. Overcharging could cause damage to the vehicle batteries and result in extreme overheating. The charger should be checked after 24 hours and unplugged after the charge cycle is complete.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

Before charging the batteries, inspect the plug of the battery charger and vehicle receptacle housing for dirt or debris.

Charge the batteries after each days use.

Monthly

- Inspect all wiring for fraying, loose terminations, corrosion or deterioration of insulation.
- Check that the electrolyte level is correct and add suitable water as required.
- Clean the batteries and wire terminations.

Electrolyte Level and Water

The correct level of the electrolyte is 13 mm above the plates in each cell (Ref Fig. 47 on page 27).

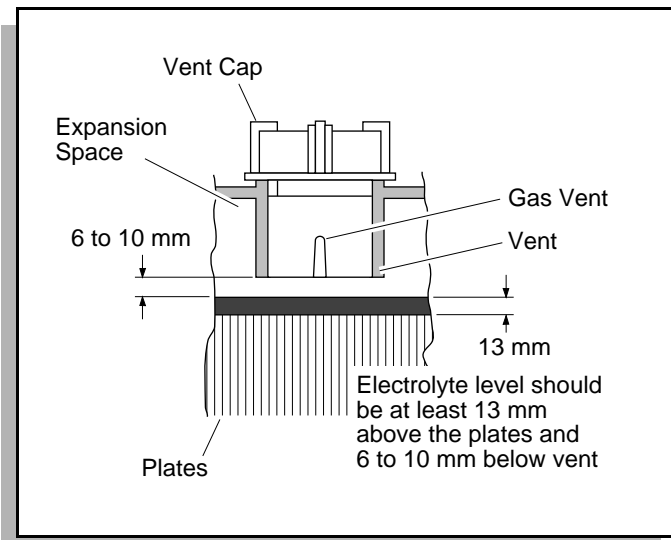


Fig. 47 Correct Electrolyte Level

This level will leave approximately 6 - 10 mm of space between the electrolyte and the vent tube. The electrolyte level is important since **any portion** of the plates exposed to air will be ruined beyond repair. Of equal importance is too much water which will result in electrolyte being forced out of the battery due to gassing and the increase in volume of the electrolyte that results from the charging cycle.

CAUTION Do not overfill batteries. The charging cycle will expel electrolyte and result in component damage.

Unless the electrolyte is at or below the plates, all watering should be done after charging.

A battery being charged will 'gas' with the majority of the gassing taking place at the end of the charging cycle.

This gas is hydrogen which is lighter than air. Water and sulfuric acid droplets will be carried out of the battery vents by the hydrogen gas; however, this loss is minimal. If the battery electrolyte level is too high, the electrolyte will block the vent tube and the gas will **force** it out of the vent tube and battery cap. The water will evaporate but the sulfuric acid will remain where it can damage vehicle components and the storage facility floor. Sulfuric acid loss will weaken the concentration of acid within the electrolyte and reduce the life of the battery.

Over the life of the battery, a considerable amount of water is consumed. It is important that the water used be pure and free of contaminants that could reduce the life of the battery by reducing the chemical reaction. The water must be distilled or purified by an efficient filtration system. Water that is not distilled should be analyzed and if required, filtration installed to permit the water to meet the requirements of the water purity table (Ref Fig. 48 on page 27).

Impurity	Parts Per Million
Color.....	Clear
Suspended	Trace
Total Solids	100
Calcium & Magnesium Oxides	40
Iron	5
Ammonia	8
Organic & Volatile Matter	50
Nitrites	5
Nitrates	10
Chloride.....	5

Fig. 48 Water Purity Table

Even if the water is colorless, odorless, tasteless and fit for drinking, the water should be analyzed to see that it does not exceed the impurity levels specified in the table.

Automatic watering devices such as the one included in the E-Z-GO Battery Maintenance Kit (P/N 25587-G01) can be used with an approved water source (Ref Fig. 49 on page 28). These watering devices are **fast and accurate** to use and maintain the correct electrolyte level within the battery cells.

NOTE The watering device should only be used if the electrolyte level is less than 13 mm above top of plates.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

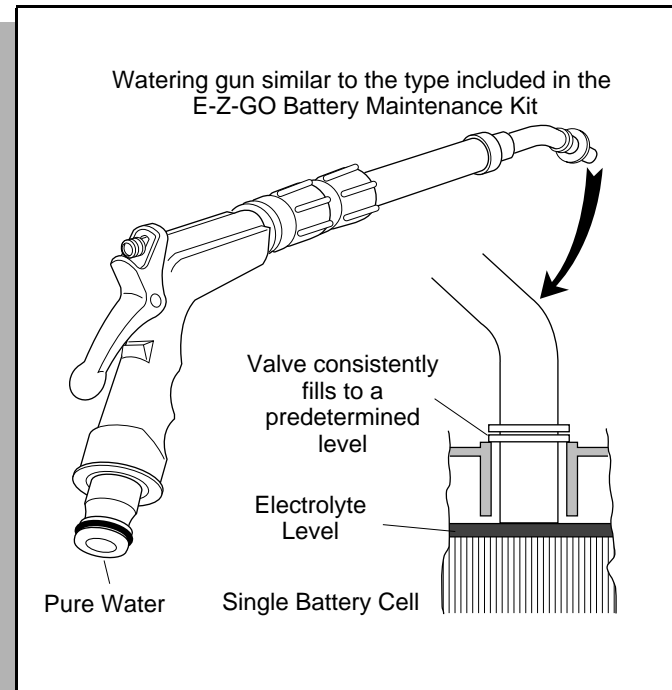


Fig. 49 Automatic Watering Gun

Cleaning Batteries

When cleaning the outside of the batteries and terminals, do not use a water hose without first spraying with a solution of sodium bicarbonate (baking soda) and water to neutralize any acid deposits.

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

CAUTION To prevent battery damage, be sure that all battery caps are tightly installed.

The correct cleaning technique is to spray the top and sides of the batteries with a solution of sodium bicarbonate (baking soda) and water. This solution is best applied with a garden type sprayer equipped with a **non metallic spray wand**. The solution should consist of 60 ml of sodium bicarbonate (baking soda) mixed with 6 liters of clear water (Ref Fig. 50 on page 28). In addition to the batteries, special attention should be paid to metallic components adjacent to the batteries which should also be sprayed with the sodium bicarbonate (baking soda) solution.

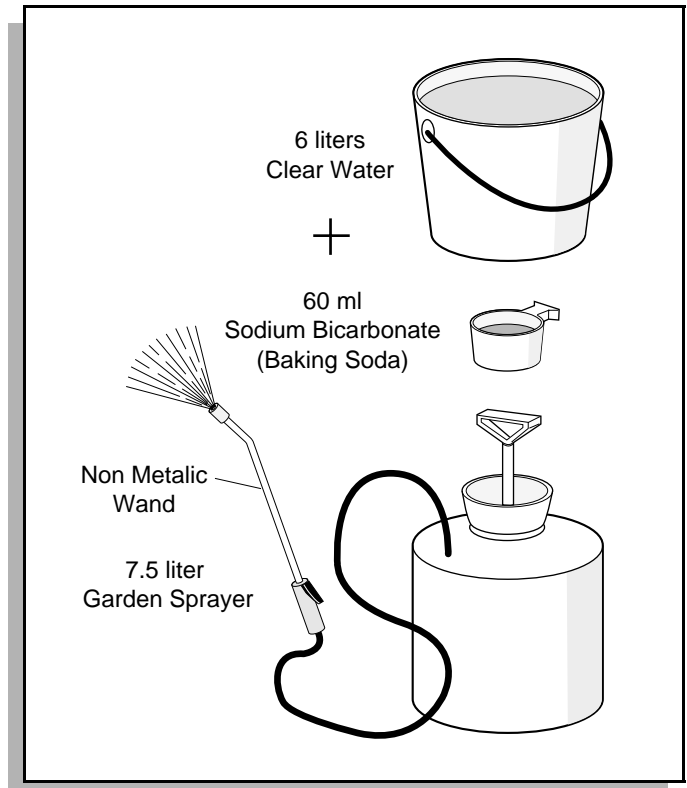


Fig. 50 Preparing Acid Neutralizing Solution

Allow the solution to sit for at least three minutes; use a soft bristle brush or cloth to wipe the tops of the batteries in order to remove any residue that could cause the self discharge of the battery. Rinse the entire area with low pressure clear water. All of the items required for complete battery cleaning and watering are contained in the E-Z-GO Battery Maintenance Kit (P/N 25587-G01).

Cleaning should take place once a month or more often under extreme conditions.

Battery Replacement

Remove battery hold downs and cables. Lift out batteries with a commercially available lifting device.

If the batteries have been cleaned and any acid in the battery rack area neutralized as recommended, no corrosion to the battery racks or surrounding area should be present. Any corrosion found should be immediately removed with a putty knife and a wire brush. The area should be washed with a solution of sodium bicarbonate (baking soda) and water and thoroughly dried before priming and painting with a corrosion resistant paint.

The batteries should be placed into the battery racks and the battery hold downs tightened to 5 - 6 Nm torque, to

ELECTRIC AND GASOLINE UTILITY VEHICLES

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prevent movement but not tight enough to cause distortion of the battery cases.

Inspect all wires and terminals. Clean any corrosion from the battery terminals or the wire terminals with a solution of sodium bicarbonate (baking soda) and brush clean if required.

Use care to connect the battery wires as shown (Ref Fig. 51 on page 29). Tighten the battery post hardware to 7 - 10 Nm torque.

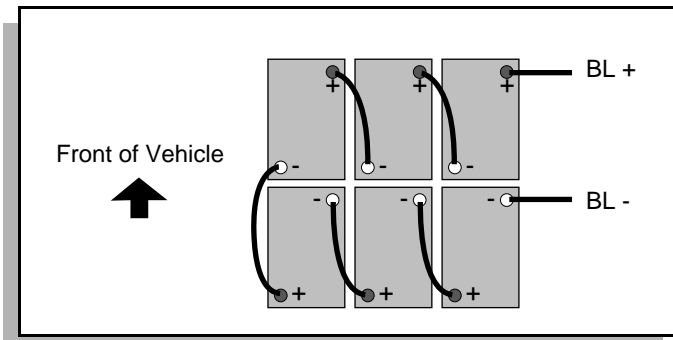


Fig. 51 Battery Connections

⚠ WARNING ⚠ *Aerosol containers of battery terminal protectant must be used with extreme care. Insulate the metal container to prevent the metal can from contacting battery terminals which could result in an explosion.*

Protect the battery terminals and battery wire terminals with a commercially available protective coating. Reinstall all rubber boots at each terminal.

Prolonged Storage

CAUTION Battery charger and controller must be disconnected since they will contribute to the premature discharge of batteries. Other electronic devices may need to be disconnected.

During periods of storage, the batteries will need attention to keep them maintained and prevent discharge.

In high temperatures the chemical reaction is faster, while low temperatures cause the chemical reaction to slow down. A vehicle that is stored at 32° C will lose .002 of specific gravity each day. If a fully charged battery has a specific gravity of 1.275, and the battery is allowed to sit unused, it will become partially discharged. When it reaches 1.240, which it will do in less than twenty days, it should be recharged. If a battery is left in a discharged state, sulfating takes place on and within the plates. This condition is not reversible and will cause permanent

damage to the battery. In order to prevent damage, the battery should be recharged. A hydrometer (E-Z-GO P/N 50900-G1) can be used to determine the specific gravity and therefore the state of charge of a battery.

In winter conditions, the battery must be fully charged to prevent the possibility of freezing (Ref Fig. 52 on page 29). A fully charged battery will not freeze in temperatures above -60° C. Although the chemical reaction is slowed in cold temperatures, the battery must be stored fully charged, and disconnected from any circuit that could discharge the battery. Disconnect the charging plug from the vehicle receptacle. The batteries must be cleaned and all deposits neutralized and removed from the battery case to prevent self discharge. The batteries should be tested or recharged at thirty day minimum intervals.

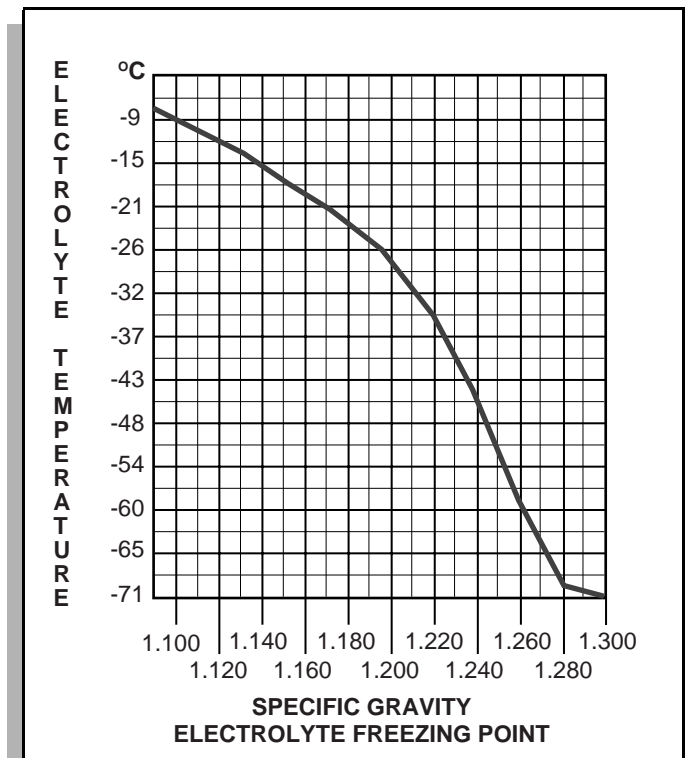


Fig. 52 Freezing Point of Electrolyte

Battery Charging

The battery charger is designed to fully charge the battery set. If the batteries are severely deep cycled, some automatic battery chargers contain an electronic module that may not activate and the battery charger will not function. Automatic chargers will determine the correct duration of charge to the battery set and will shut off



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

when the battery set is fully charged. Always refer to the instructions of the specific charger used.

Before charging, the following should be observed:

CAUTION Do not overfill batteries. The charging cycle will expel electrolyte and result in component damage.

- The electrolyte level in all cells must be at the recommended level and cover the plates.
- The charging must take place in an area that is well ventilated and capable of removing the hydrogen gas that is generated by the charging process. A **minimum** of five air exchanges per hour is recommended, or comply with local codes.
- The charging connector components are in good condition and free from dirt or debris.
- The charger connector is fully inserted into the vehicle receptacle.
- The charger connector/cord set is protected from damage and is located in an area to prevent injury that may result from personnel running over or tripping over the cord set.
- The charger is automatically turned off during the connect/disconnect cycle and therefore no electrical arc is generated at the DC plug/receptacle contacts.

NOTE In some portable chargers, there will be a rattle present in the body of the charger DC plug. This rattle is caused by an internal magnet contained within the charger plug. The magnet is part of the interlock system that prevents the vehicle from being driven when the charger plug is inserted in the vehicle charging receptacle.

AC Voltage

Battery charger output is directly related to the input voltage. If multiple vehicles are receiving an incomplete charge in a normally adequate time period, low AC voltage could be the cause and the power supplier should be consulted.

TROUBLESHOOTING

In general, troubleshooting will be done for two distinct reasons. First, a battery that performs poorly and is outside of the manufacturers specification should be identified in order to replace it under the terms of the manufacturer's warranty. Different manufacturers have different requirements. Consult the battery manufacturer or an E-Z-GO representative for specific requirements.

The second reason is to determine why a particular vehicle does not perform adequately. Performance problems may result in a vehicle that runs slowly or in a vehicle that is unable to operate for the time required.

A new battery must **mature** before it will develop its maximum capacity. Maturing may take up to 100 charge/discharge cycles. After the maturing phase, the older a battery gets, the lower the capacity. The only way to determine the capacity of a battery is to perform a load test using a discharge machine.

A cost effective way to identify a poorly performing battery is to use a hydrometer to identify a battery in a set with a lower than normal specific gravity. Once the particular cell or cells that are the problem are identified, the suspect battery can be removed and replaced. At this point there is nothing that can be done to salvage the battery; however, the individual battery should be replaced with a good battery of the same brand, type and approximate age.

Hydrometer

A hydrometer (E-Z-GO P/N 50900-G1) is used to test the state of charge of a battery cell (Ref Fig. 53 on page 31). This is performed by measuring the density of the electrolyte, which is accomplished by measuring the specific gravity of the electrolyte. The greater the concentration of sulfuric acid, the more dense the electrolyte becomes. The higher the density, the higher the state of charge.

WARNING To prevent a battery explosion, never insert a metal thermometer into a battery. Use a hydrometer with a built in thermometer that is designed for testing batteries.

Specific gravity is the measurement of a liquid that is compared to a baseline. The baseline is water which is assigned a base number of 1.000. The concentration of sulfuric acid to water in a new battery is 1.280 which means that the electrolyte weighs 1.280 times the weight of the same volume of water. A fully charged battery will test at 1.275 - 1.280 while a discharged battery will read in the 1.140 range.

NOTE Do not perform a hydrometer test on a battery that has just been watered. The battery must go through at least one charge and discharge cycle in order to permit the water to adequately mix with the electrolyte.

The temperature of the **electrolyte** is important since the hydrometer reading must be corrected to 27° C. High quality hydrometers are equipped with an internal ther-

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

momometer that will measure the temperature of the electrolyte and will include a conversion scale to correct the float reading. It is important to recognize that the electrolyte temperature is significantly different from the ambient temperature if the vehicle has been operated.

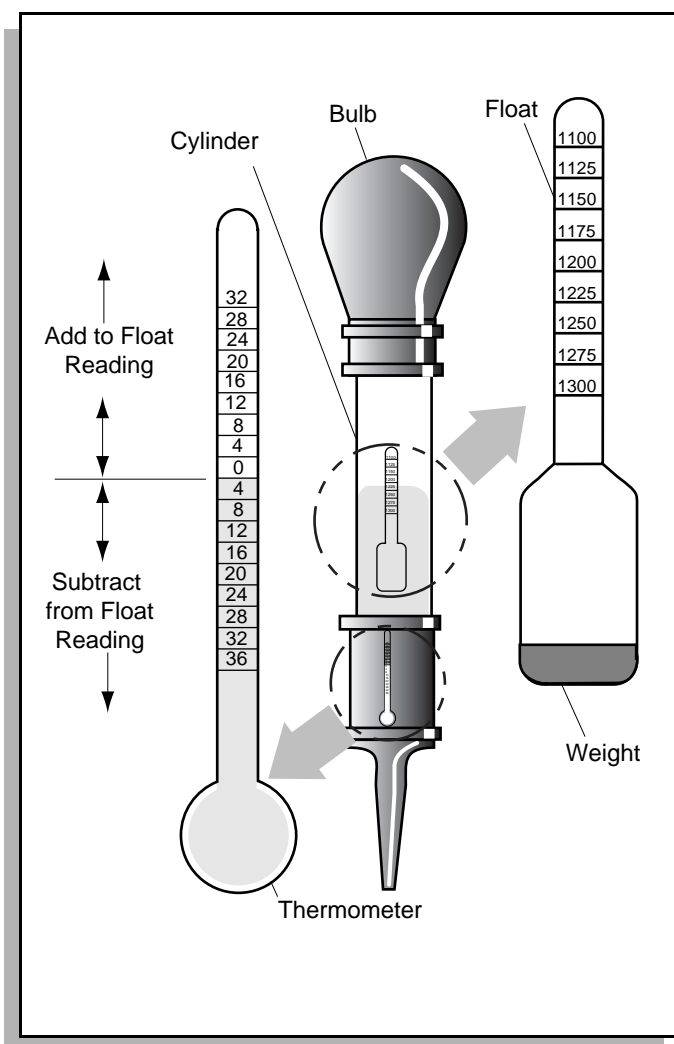


Fig. 53 Hydrometer

Using A Hydrometer

1. Draw electrolyte into the hydrometer several times to permit the thermometer to adjust to the electrolyte temperature and note the reading. Examine the color of the electrolyte. A brown or gray coloration indicates a problem with the battery and is a sign that the battery is nearing the end of its life.
2. Draw the minimum quantity of electrolyte into the hydrometer to permit the float to float freely without contacting the top or bottom of the cylinder.
3. Hold the hydrometer in a vertical position at eye level and note the reading where the electrolyte meets the scale on the float.
4. Add or subtract four points (.004) to the reading for every 6° C the electrolyte temperature is above or below 27° C. Adjust the reading to conform with the electrolyte temperature, e.g., if the reading indicates a specific gravity of 1.250 and the electrolyte temperature is 32° C, **add** four points (.004) to the 1.250 which gives a corrected reading of 1.254. Similarly if the temperature was 21° C, **subtract** four points (.004) from the 1.250 to give a corrected reading of 1.246 (Ref Fig. 54 on page 32).
5. Test each cell and note the readings (corrected to 27° C). A variation of fifty points between any two cell readings (example 1.250 - 1.200) indicates a problem with the low reading cell(s).

As a battery ages the specific gravity of the electrolyte will decrease at full charge. This is not a reason to replace the battery, providing all cells are within fifty points of each other.

Since the hydrometer test is in response to a vehicle exhibiting a performance problem, the vehicle should be recharged and the test repeated. If the results indicate a weak cell, the battery or batteries should be removed and replaced with a good battery of the same brand, type and approximate age.

ELECTRIC AND GASOLINE UTILITY VEHICLES

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

BATTERY CHARGER MAINTENANCE

The only maintenance required for the charger is the periodic cleaning of the DC connector auxiliary contact.

To clean the auxiliary contact, slide an emery board between the main contact and auxiliary contact located in the hole in the end of the charger plug with rounded corners (Ref Fig. 55 on page 32). Pressing emery board down to apply pressure to the auxiliary contact, slide in and out of plug approximately 10 to 20 times, keeping pressure applied to the scrub contact surface.

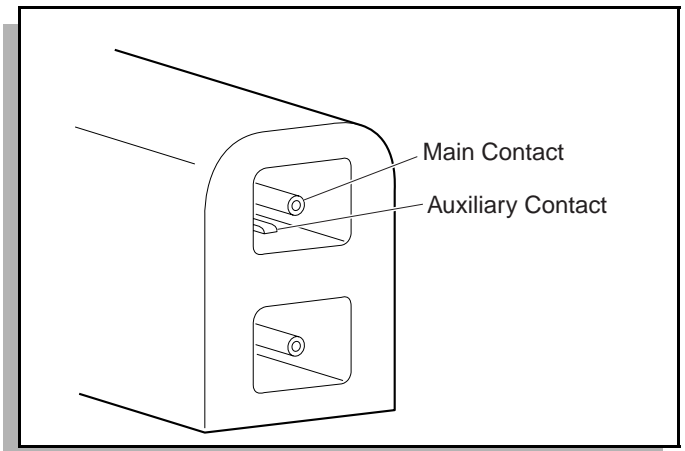


Fig. 55 Cleaning Auxiliary Contact in Charger Plug

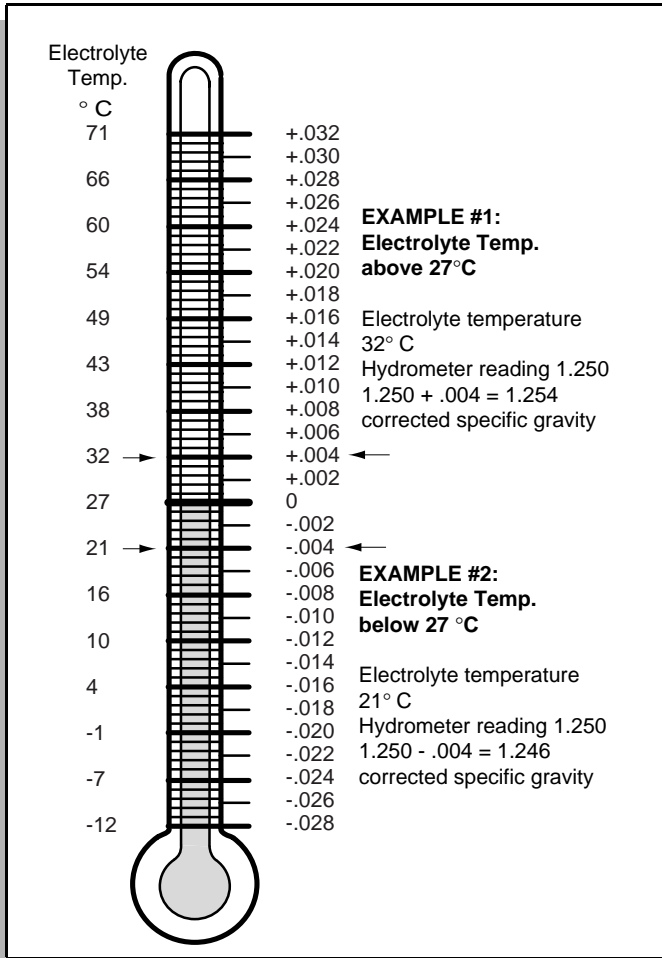


Fig. 54 Hydrometer Temperature Correction

GENERAL SPECIFICATIONS

GENERAL SPECIFICATIONS

INDUSTRIAL 800E

WEIGHT (without batteries)	308 kg
TIRES (4 ply rated)	18 x 5.70 x 8
TIRE PRESSURE	240 - 310 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	360 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Flexible, impact resistant panels. Color coat/clear coat finish and/or Heavy duty four way diamond pattern body panels, modified acrylic topcoat over polyester primer
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Automatic park brake release with self-compensating system
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION	Leaf springs with hydraulic shock absorbers
STEERING	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
SEATING	Formed fabric backed vinyl covers over cushion foam. Seating for operator and one passenger
MOTOR	36 volt DC high efficiency series wound, brazed armature, solid copper windings. 1.5 kw at 2800 rpm and 2.2 kw at 2350 rpm
DRIVE TRAIN	Direct motor shaft connected to transaxle pinion shaft
ELECTRICAL SYSTEM	36 volt DC, six, 6 volt deep cycle storage batteries
SPEED CONTROL	Solid State continuously variable speed controller
TRANSAXLE	High efficiency differential with helical gears, 12.44:1 ratio
SPEED	19 - 23 kph
CHARGER	Refer to specifications of charger supplied with vehicle

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

GENERAL SPECIFICATIONS

WORKHORSE® 800E

WEIGHT (without batteries)	308 kg
TIRES (4 ply rated)	18 x 8.50 x 8
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	360 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Automatic park brake release with self-compensating system
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION	Leaf springs with hydraulic shock absorbers
STEERING	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
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DRIVE TRAIN	Direct motor shaft connected to transaxle pinion shaft
ELECTRICAL SYSTEM	36 volt DC, six, 6 volt deep cycle storage batteries
SPEED CONTROL	Solid State continuously variable speed controller
TRANSAXLE	High efficiency differential with helical gears, 12.44:1 ratio
SPEED	19 - 23 kph
CHARGER	Refer to specifications of charger supplied with vehicle

Specifications subject to change without notice

WARNING

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GENERAL SPECIFICATIONS

WORKHORSE® 800LX E

WEIGHT (without batteries)	308 kg
TIRES (4 ply rated)	18 x 8.50 x 8
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	360 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Automatic park brake release with self-compensating system
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
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SPEED CONTROL	Solid State continuously variable speed controller
TRANSAXLE	High efficiency differential with helical gears, 12.44:1 ratio
SPEED	19 - 23 kph
CHARGER	Refer to specifications of charger supplied with vehicle

Specifications subject to change without notice

WARNING

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GENERAL SPECIFICATIONS

WORKHORSE® 1000

WEIGHT (without batteries)	374 kg
TIRES (4 ply rated)	18 x 8.50 x 8
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	450 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral' and electric horn
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FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION	Leaf springs with hydraulic shock absorbers
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MOTOR	36 volt DC high efficiency series wound, brazed armature, solid copper windings. 1.5 kw at 2800 rpm and 2.2 kw at 2350 rpm
DRIVE TRAIN	Direct motor shaft connected to transaxle pinion shaft
ELECTRICAL SYSTEM	36 volt DC, six, 6 volt deep cycle storage batteries
SPEED CONTROL	Solid State continuously variable speed controller
TRANSAXLE	High efficiency differential with helical gears, 12.44:1 ratio
SPEED	19 - 23 kph
CHARGER	Refer to specifications of charger supplied with vehicle

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



GENERAL SPECIFICATIONS

WORKHORSE® 1000LX

WEIGHT (without batteries)	374 kg
TIRES (4 ply rated)	18 x 8.50 x 8
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	450 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
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TRANSAXLE	High efficiency differential with helical gears, 12.44:1 ratio
SPEED	19 - 23 kph
CHARGER	Refer to specifications of charger supplied with vehicle

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

GENERAL SPECIFICATIONS

INDUSTRIAL 800G

WEIGHT (dry fuel tank)	354 kg
TIRES (4 ply rated)	18 x 5.70 x 8
TIRE PRESSURE	240 - 310 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	360 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Flexible, impact resistant panels. Color coat/clear coat finish and/or Heavy duty four way diamond pattern body panels, modified acrylic topcoat over polyester primer
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Automatic park brake release with self-compensating system
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION	Leaf springs with hydraulic shock absorbers
STEERING	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
SEATING	Formed fabric backed vinyl covers over cushion foam. Seating for operator and one passenger
ENGINE	6.7 kw rated, 4 cycle, 295cc twin cylinder air cooled
VALVE TRAIN	Overhead valve, overhead cam, belt drive
LUBRICATION	Pressurized oil system, washable permanent filter
BALANCER	Internal counter rotating balance shaft
IGNITION	Solid State, electronic timing advance and RPM limiter
CARBURETOR	Fixed jet float bowl with remote pulse fuel pump
AIR CLEANER	Engine mounted with replaceable dry cartridge element
DRIVE TRAIN	Automatic, continuously variable transmission (CVT) forward and reverse
ELECTRICAL SYSTEM	External starter/generator, solid state regulator, 12 volt maintenance free battery, 430 CCA, 60 minute reserve
TRANSAXLE	High efficiency differential with helical gears, 13.32:1 ratio, ground speed governed
FUEL SYSTEM	22.5 liter tank with electric, dash mounted fuel gauge, or optional dash mounted low fuel warning light
SPEED	24 kph governed speed

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



GENERAL SPECIFICATIONS

WORKHORSE® 800G

WEIGHT (dry fuel tank).....	354 kg
TIRES (4 ply rated)	18 x 8.50 x 8 (4 ply rated)
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	360 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Automatic park brake release with self-compensating system
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION.....	Leaf springs with hydraulic shock absorbers
STEERING.....	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
SEATING	Formed fabric backed vinyl covers over cushion foam. Seating for operator and one passenger
ENGINE	6.7 kw rated, 4 cycle, 295cc twin cylinder air cooled
VALVE TRAIN	Overhead valve, overhead cam, belt drive
LUBRICATION	Pressurized oil system, washable permanent filter
BALANCER.....	Internal counter rotating balance shaft
IGNITION	Solid State, electronic timing advance and RPM limiter
CARBURETOR	Fixed jet float bowl with remote pulse fuel pump
AIR CLEANER	Engine mounted with replaceable dry cartridge element
DRIVE TRAIN	Automatic, continuously variable transmission (CVT) forward and reverse
ELECTRICAL SYSTEM	External starter/generator, solid state regulator, 12 volt maintenance free battery, 430 CCA, 60 minute reserve
TRANSAXLE	High efficiency differential with helical gears, 13.32:1 ratio, ground speed governed
FUEL SYSTEM	22.5 liter tank with electric, dash mounted fuel gauge, or optional dash mounted low fuel warning light
SPEED.....	24 kph governed speed

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

GENERAL SPECIFICATIONS

WORKHORSE® 800LX G

WEIGHT (dry fuel tank)	354 kg
TIRES (4 ply rated)	18 x 8.50 x 8 (4 ply rated)
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	360 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Automatic park brake release with self-compensating system
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION	Leaf springs with hydraulic shock absorbers
STEERING	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
SEATING	Formed fabric backed vinyl covers over cushion foam. Seating for operator and one passenger
ENGINE	6.7 kw rated, 4 cycle, 295cc twin cylinder air cooled
VALVE TRAIN	Overhead valve, overhead cam, belt drive
LUBRICATION	Pressurized oil system, washable permanent filter
BALANCER	Internal counter rotating balance shaft
IGNITION	Solid State, electronic timing advance and RPM limiter
CARBURETOR	Fixed jet float bowl with remote pulse fuel pump
AIR CLEANER	Engine mounted with replaceable dry cartridge element
DRIVE TRAIN	Automatic, continuously variable transmission (CVT) forward and reverse
ELECTRICAL SYSTEM	External starter/generator, solid state regulator, 12 volt maintenance free battery, 430 CCA, 60 minute reserve
TRANSAXLE	High efficiency differential with helical gears, 13.32:1 ratio, ground speed governed
FUEL SYSTEM	22.5 liter tank with electric, dash mounted fuel gauge, or optional dash mounted low fuel warning light
SPEED	24 kph governed speed

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



GENERAL SPECIFICATIONS

WORKHORSE® 1200

WEIGHT (dry fuel tank) 102 cm bed.....	413 kg
WEIGHT (dry fuel tank) 122 cm bed.....	418 kg
TIRES (4 ply rated)	18 x 8.50 x 8
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	540 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Self-compensating foot operated park brake with hand release
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION.....	Leaf springs with hydraulic shock absorbers
STEERING.....	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
SEATING	Formed fabric backed vinyl covers over cushion foam. Seating for operator and one passenger
ENGINE	8.2 kw rated, 4 cycle, 350cc twin cylinder air cooled
VALVE TRAIN	Overhead valve, overhead cam, belt drive
LUBRICATION	Pressurized oil system, washable permanent filter
BALANCER.....	Internal counter rotating balance shaft
IGNITION	Solid State, electronic timing advance and RPM limiter
CARBURETOR	Fixed jet float bowl with remote pulse fuel pump
AIR CLEANER	Engine mounted with replaceable dry cartridge element
DRIVE TRAIN	Automatic, continuously variable transmission (CVT) forward and reverse
ELECTRICAL SYSTEM	External starter/generator, solid state regulator, 12 volt maintenance free battery, 360 CCA, 60 minute reserve
TRANSAXLE	High efficiency differential with helical gears, 13.32:1 ratio, ground speed governed
FUEL SYSTEM	22.5 liter tank with electric, dash mounted fuel gauge, or optional dash mounted low fuel warning light
SPEED.....	24 kph governed speed

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

GENERAL SPECIFICATIONS

WORKHORSE® 1200LX

WEIGHT (dry fuel tank) 102 cm bed.....	413 kg
WEIGHT (dry fuel tank) 122 cm bed.....	418 kg
TIRES (4 ply rated)	18 x 8.50 x 8
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	540 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Self-compensating foot operated park brake with hand release
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION	Leaf springs with hydraulic shock absorbers
STEERING	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
SEATING	Formed fabric backed vinyl covers over cushion foam. Seating for operator and one passenger
ENGINE	8.2 kw rated, 4 cycle, 350cc twin cylinder air cooled
VALVE TRAIN	Overhead valve, overhead cam, belt drive
LUBRICATION	Pressurized oil system, washable permanent filter
BALANCER	Internal counter rotating balance shaft
IGNITION	Solid State, electronic timing advance and RPM limiter
CARBURETOR	Fixed jet float bowl with remote pulse fuel pump
AIR CLEANER	Engine mounted with replaceable dry cartridge element
DRIVE TRAIN	Automatic, continuously variable transmission (CVT) forward and reverse
ELECTRICAL SYSTEM	External starter/generator, solid state regulator, 12 volt maintenance free battery, 360 CCA, 60 minute reserve
TRANSAXLE	High efficiency differential with helical gears, 13.32:1 ratio, ground speed governed
FUEL SYSTEM	22.5 liter tank with electric, dash mounted fuel gauge, or optional dash mounted low fuel warning light
SPEED	24 kph governed speed

Specifications subject to change without notice

WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



GENERAL SPECIFICATIONS

OASIS™

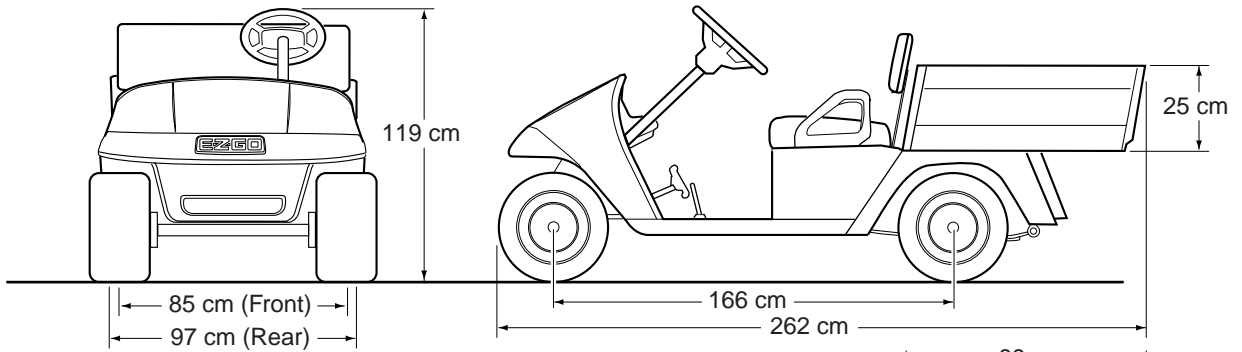
WEIGHT (dry fuel tank).....	640 kg
TIRES	18 x 8.50 x 8 (4-ply rated) (Front) 18 x 9.50 x 8 (6-ply rated) (Rear)
TIRE PRESSURE	120 - 150 kPa
CLEARANCE AT DIFFERENTIAL	10.8 cm
LOAD CAPACITY (including operator, passenger, cargo and accessories)	540 kg
LOAD BED	Heavy duty bed and tailgate liners, optional electric lift
CHASSIS	Welded high yield strength tubular steel with powder coat paint
BODY & FINISH	Front: Flexible, impact resistant panels. Color coat/clear coat finish Rear: Lightweight, replaceable steel panels
SAFETY	Dash mounted key switch, reverse warning indicator, 'deadman' accelerator control, integral handgrip on hip restraints, manual forward/ reverse selector with 'neutral', electric horn
LIGHTING PACKAGE	Headlights, optional taillights, brake lights
STEERING WHEEL	Dual handgrips and pencil holder integrated with clipboard
BRAKES	Dual rear wheel, self-adjusting mechanical drum brakes. Self-compensating foot operated park brake with hand release
FRONT SUSPENSION	Leaf springs with hydraulic shock absorbers
REAR SUSPENSION.....	Leaf springs with hydraulic shock absorbers
STEERING.....	Self-compensating single reduction rack and pinion
DASH PANEL	Scuff resistant with four drink holders
SEATING.....	Formed fabric backed vinyl covers over cushion foam. Seating for operator and one passenger
ENGINE	8.2 kw rated, 4 cycle, 350cc twin cylinder air cooled
VALVE TRAIN	Overhead valve, overhead cam, belt drive
LUBRICATION	Pressurized oil system, washable permanent filter
BALANCER.....	Internal counter rotating balance shaft
IGNITION	Solid State, electronic timing advance and RPM limiter
CARBURETOR	Fixed jet float bowl with remote pulse fuel pump
AIR CLEANER	Engine mounted with replaceable dry cartridge element
DRIVE TRAIN	Automatic, continuously variable transmission (CVT) forward and reverse
ELECTRICAL SYSTEM	External starter/generator, solid state regulator, 12 volt maintenance free battery, 360 CCA, 60 minute reserve
TRANSAXLE	High efficiency differential with helical gears, 13.32:1 ratio, ground speed governed
FUEL SYSTEM	22.5 liter tank with electric, dash mounted fuel gauge, or optional dash mounted low fuel warning light
SPEED.....	16 kph governed speed

Specifications subject to change without notice

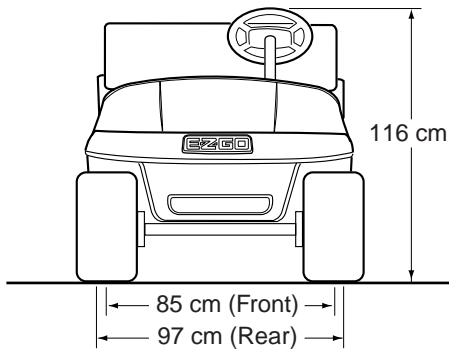
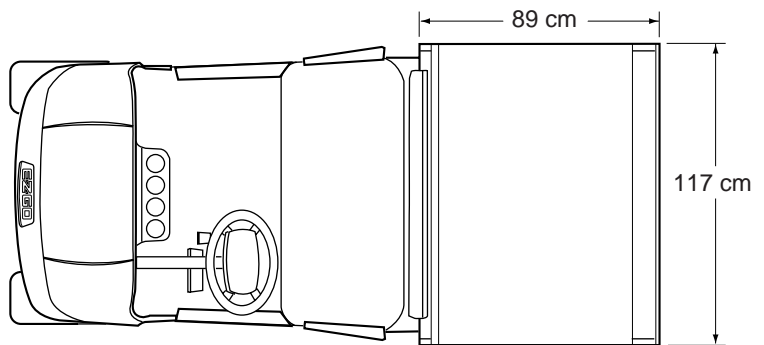
WARNING

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

GENERAL SPECIFICATIONS



WORKHORSE® 800E
INDUSTRIAL 800E
WORKHORSE® 800G
INDUSTRIAL 800G



WORKHORSE® 1000
WORKHORSE® 1200

Note: Long bed dimensions applicable to some 1200G models only

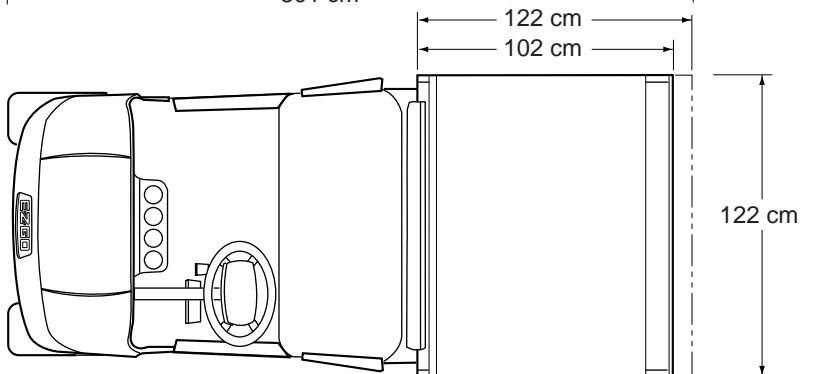
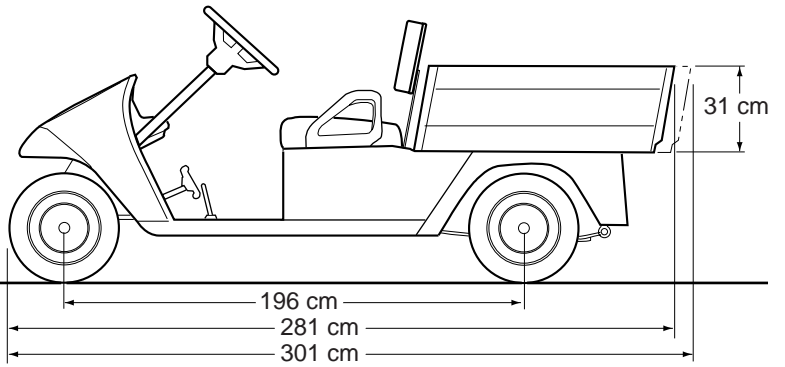
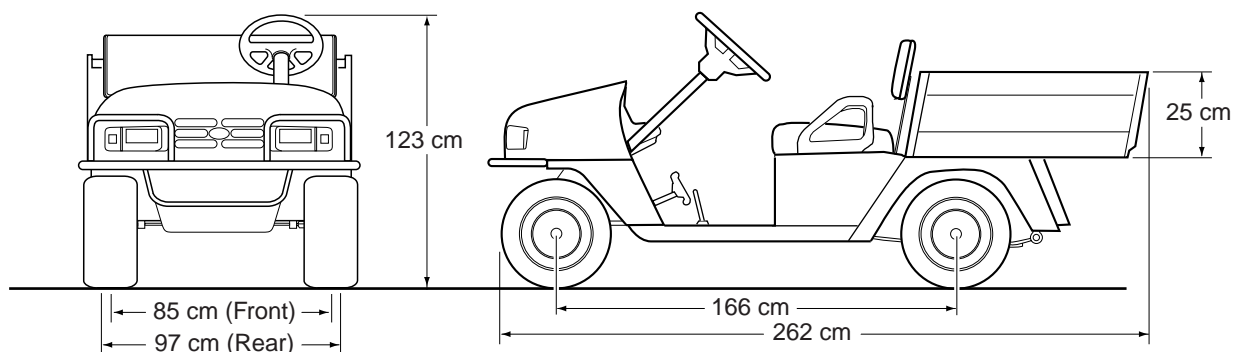
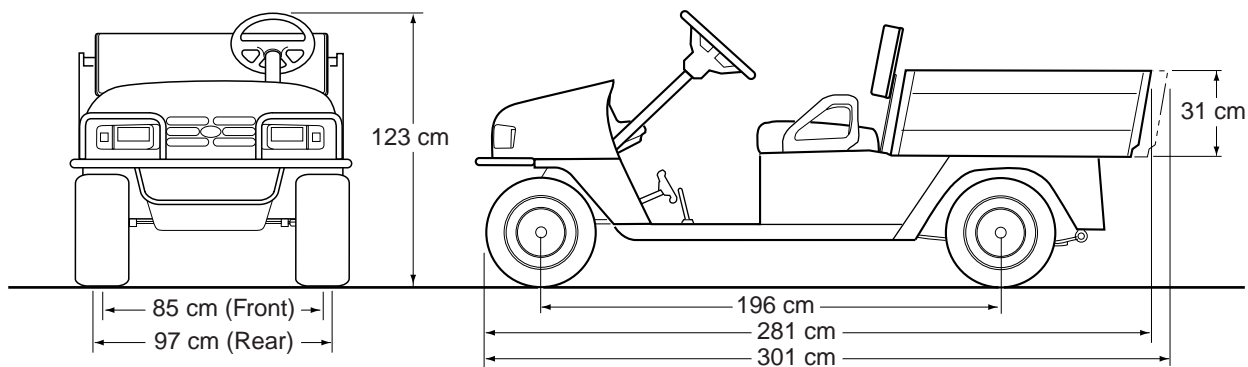
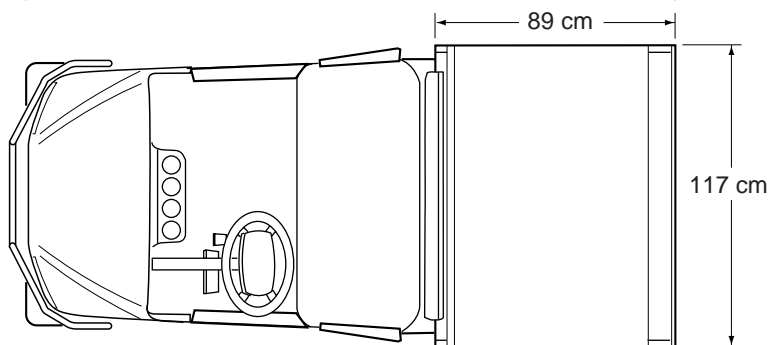


Fig. 56 Vehicle Dimensions

GENERAL SPECIFICATIONS



WORKHORSE® 800LX E
WORKHORSE® 800LX G



WORKHORSE® 1000LX
WORKHORSE® 1200LX

Note: Long bed dimensions applicable to some 1200LX models only

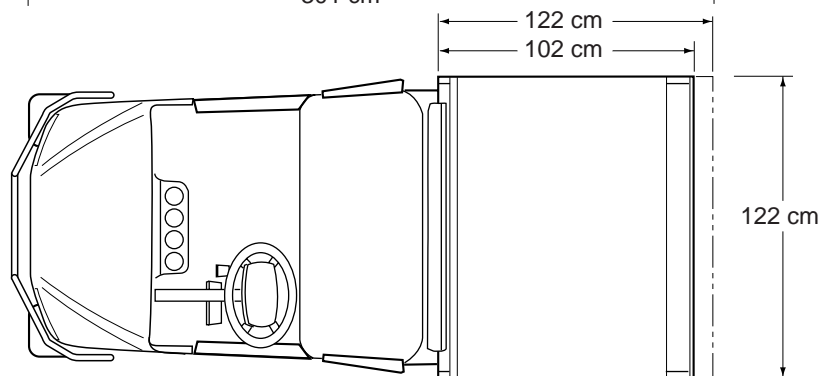


Fig. 57 Vehicle Dimensions (LX Models)

GENERAL SPECIFICATIONS

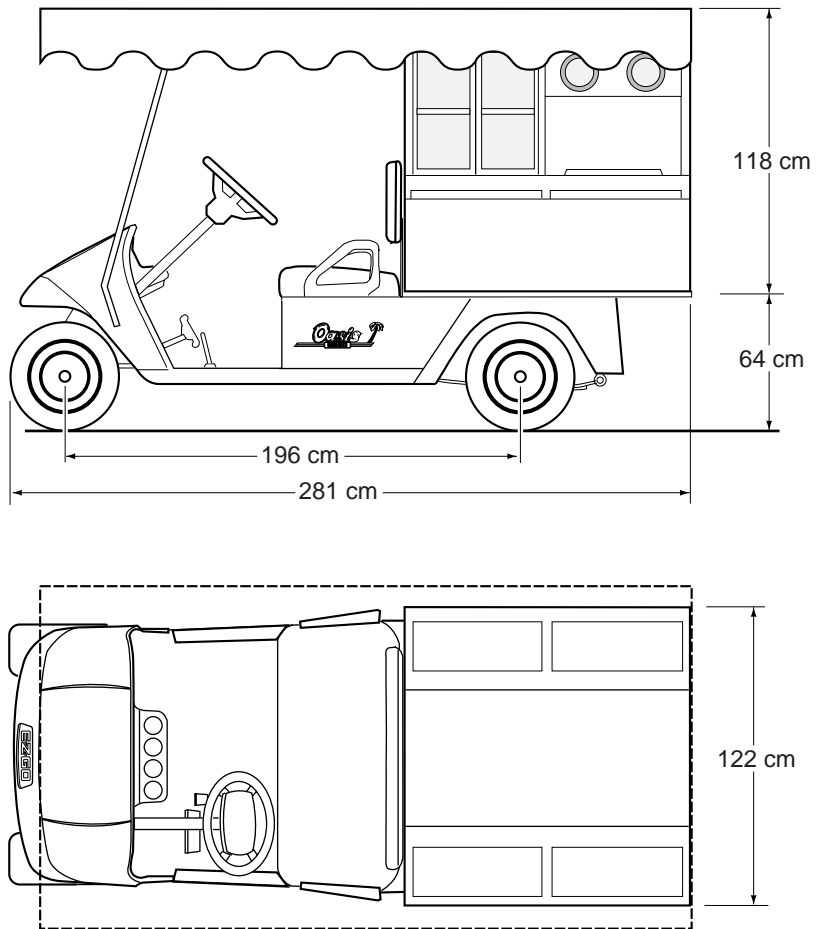
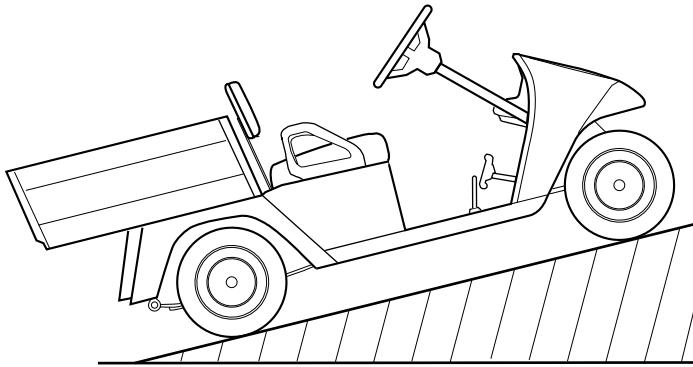
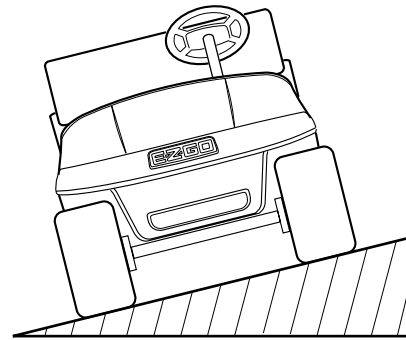


Fig. 58 Vehicle Dimensions (Oasis™)

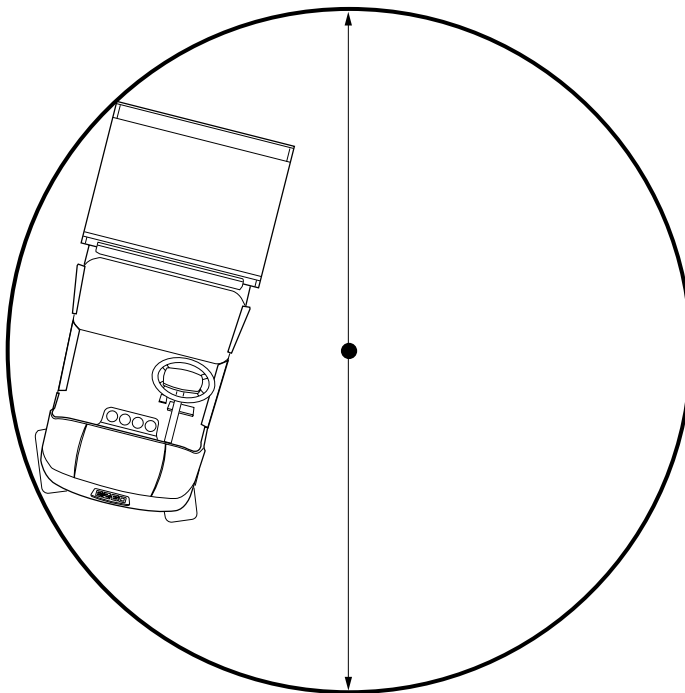
GENERAL SPECIFICATIONS



RECOMMENDED MAX RAMP
25% GRADE or 14° MAX



RECOMMENDED MAX SIDE TILT
25% GRADE or 14° MAX



TURNING CLEARANCE DIAMETER
800E and 800G models - 5.8 m
1000 and 1200 models - 6.4 m
Oasis™ - 6.4 m

Fig. 59 Incline Specifications and Turning Clearance Diameter

INTERNATIONAL LIMITED WARRANTY

**INTERNATIONAL
LIMITED WARRANTY**



INTERNATIONAL LIMITED WARRANTY

- 1. WARRANTY:** E-Z-GO DIVISION OF TEXTRON INC. ("E-Z-GO") hereby warrants to the Original Retail Purchaser or the Original Retail Lessee that any 1999 Model E-Z-GO vehicles and chargers shall be free from any defects in materials and workmanship for a period of ONE (1) YEAR with respect to parts and labor while in the possession of such Original Retail Purchaser or the Original Retail Lessee.
- 2. EXCLUSIONS:** Specifically excluded from any E-Z-GO warranty are fuses, belts, hoses, spark plugs, brake shoes, optional equipment and accessories, lubricants, adjustments made due to normal wear, as well as electrical components, such as semiconductors, diodes, etc., which are susceptible to electrical overloads or fluctuations in current beyond the control of E-Z-GO. Also excluded are routine maintenance items, and cosmetic deterioration other than rust through of body panels. E-Z-GO further makes no warranty with respect to batteries, tires, and ONAN engine components which are warranted by their respective manufacturers.

This warranty also does not apply to Acts of God or other events over which E-Z-GO has no control.

Transportation charges for warranty service, as well as freight charges to receive warranty parts are excluded from this warranty.

- 3. VOIDING OF WARRANTY:** THIS, AND ANY OTHER WARRANTY SHALL BE VOID IF THE VEHICLE: IS ABUSED OR OTHERWISE NOT USED IN ITS INTENDED MANNER; IS IN AN ACCIDENT OR COLLISION; SHOWS INDICATIONS THAT THE SPEED GOVERNOR WAS ADJUSTED OR MODIFIED ALLOWING THE VEHICLE TO OPERATE BEYOND E-Z-GO'S SPECIFICATIONS; SHOWS INDICATIONS THAT IT HAS BEEN ALTERED OR MODIFIED IN ANY WAY FROM E-Z-GO SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO ALTERATIONS TO THE SPEED, BRAKING SYSTEM, STEERING OR OTHER OPERATING SYSTEMS OF THE VEHICLE OR; SHOWS INDICATIONS THAT ROUTINE MAINTENANCE WAS NOT PERFORMED WHEN, AND IN THE MANNER SPECIFIED IN THE E-Z-GO MAINTENANCE MANUAL. THIS WARRANTY SHALL BE VOID WITH RESPECT TO ANY DEFECT OR DAMAGE CAUSED BY, OR AS A RESULT OF, OR RELATED TO, PARTS OR ACCESSORIES WHICH ARE NOT MANUFACTURED OR AUTHORIZED BY E-Z-GO, OR WERE NOT INSTALLED PER E-Z-GO'S INSTRUCTIONS, OR, FOR GASOLINE VEHICLES, THE USE OF NON-RECOMMENDED FUELS AND LUBRICANTS.
- 4. REMEDY:** The sole remedy under this warranty and E-Z-GO's only obligation in the event of a defect in the vehicle, is that E-Z-GO will, at its sole option, repair or replace any defective parts. This remedy precludes all other remedies including any lawsuits, claims or other proceedings alleging strict liability, negligence of contract or any cause of action. E-Z-GO reserves the right to improve or change the design of any E-Z-GO vehicle without assuming any responsibility to modify previously manufactured vehicles.
- 5. HOW TO MAKE A CLAIM:** In order to make a claim under this Warranty, you must take the vehicle or the defective part to an authorized E-Z-GO agent.

All replaced parts shall become the property of E-Z-GO.

- 6. DISCLAIMER:** THIS WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, IMPLIED OR EXPRESSED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. E-Z-GO FURTHER DISCLAIMS ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, TO INCLUDE BUT NOT BE LIMITED TO, PERSONAL INJURY OR PROPERTY DAMAGE ARISING FROM ANY DEFECT IN THE VEHICLE.

No agent, employee or representative of E-Z-GO, or any other person, has any authority to bind E-Z-GO to any other agreement, representation, or warranty concerning the goods sold under this warranty.

- 7. WARNING:** ANY MODIFICATION OR CHANGE TO THE VEHICLE WHICH ALTERS THE WEIGHT DISTRIBUTION OF THE VEHICLE, ITS STABILITY OR INCREASES THE SPEED BEYOND THE FACTORY SPECIFICATION, CAN CAUSE SERIOUS PERSONAL INJURY. DO NOT MAKE ANY SUCH MODIFICATION OR CHANGE.

E-Z-GO PROHIBITS, AND DISCLAIMS RESPONSIBILITY FOR, ANY SUCH MODIFICATIONS OR ANY OTHER ALTERATION WHICH WOULD ADVERSELY AFFECT THE SAFETY OF THE VEHICLE.

FOR THE PURPOSE OF THIS WARRANTY, "INTERNATIONAL" APPLIES TO ALL COUNTRIES OTHER THAN THE UNITED STATES AND CANADA.

FOR FURTHER INFORMATION, CALL 010-1-706-798-4311 OR WRITE TO:
E-Z-GO DIVISION OF TEXTRON INC.
ATTN: WARRANTY DEPARTMENT
P.O. BOX 388,
AUGUSTA, GEORGIA 30903-0388.
USA





E-Z-GO Division of Textron Inc.

P. O. Box 388
Augusta, GA 30903-0388
706/798-4311
Fax 706/796-4540 - Sales
Fax 706/796-4572 - Credit
Fax 706/771-4609 - Customer Service
Fax 706/796-4508 - Leasing

DECLARATION OF CONFORMITY

We hereby declare that:

Product Name	Product Number
Workhorse 800G	76045G01
Workhorse 800E	76046G01
Workhorse 1000E	76028G01
Workhorse 1200G	76037G01
Industrial 800E	76063G01
Industrial 800G	76064G01

Product description: 4 Wheel, off road utility truck

Serial number: A53900 - A99999

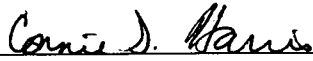
conforms with the essential health and safety requirements of the following Directives:

Machinery Directive 98/37/EC

Battery and Accumulator Directive 91/157/EEC

Location: Augusta, Georgia, U.S.A.

Date: 2/15/99



Connie Harris
V.P. Product Engineering
E-Z-GO Division of Textron Inc.
1451 Marvin Griffin Road
Augusta, Georgia 30906
U.S.A.



a **TEXTRON** Company

E-Z-GO Division of Textron Inc.
Product Engineering

P.O. Box 388
Augusta, GA 30903-0388
706/798-4311
FAX 706/771-4602

DECLARATION OF CONFORMITY

We hereby declare that:

Product Name	Product Number
Workhorse 800LXE	76065G01
Workhorse 800LXG	76066G01
Workhorse 1000LX	76068G01
Workhorse 1200LX	76067G01

Product description: 4 Wheel, off road utility truck

Serial number: A53900 - A99999

conforms with the essential health and safety requirements of the following Directives:

Machinery Directive 98/37/EC

Battery and Accumulator Directive 91/157/EEC

Location: Augusta, Georgia, U.S.A.

Date: 4/23/99

Connie Harris
V.P. Product Engineering
E-Z-GO Division of Textron Inc.
1451 Marvin Griffin Road
Augusta, Georgia 30906
U.S.A.



a **TEXTRON** Company

E-Z-GO Division of Textron Inc.
Product Engineering

P.O. Box 388
Augusta, GA 30903-0388
706/798-4311
FAX 706/771-4602

DECLARATION OF CONFORMITY

We hereby declare that:

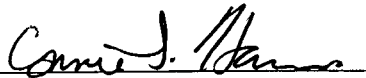
Product name: Oasis
Product description: 4 Wheel, gasoline powered, off road beverage/snack serving unit. (Note: Customer is responsible for providing battery charger.)
Product number(s): 76049G01
Serial number: A53900 - A99999

conforms with the essential health and safety requirements of the following Directives:

Machinery Directive 98/37/EEC
Battery and Accumulator Directive 91/157/EEC

Location: Augusta, Georgia, U.S.A.

Date: 2/23/99



Connie Harris
V.P. Product Engineering
E-Z-GO Division of Textron Inc.
1451 Marvin Griffin Road
Augusta, Georgia 30906
U.S.A.



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E-Z-GO Division of Textron Inc.
P.O. Box 388 Augusta, Georgia 30903-0388 USA
Outside USA Phone: 010-1-706-798-4311, FAX: 010-1-706-771-4609

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