# Egimotons

## 2025 Owner's Manual

## RANGER 1000

## **QUADRICYCLE**

Owner's manual part Number - OM25QRNG1000

Read this manual carefully. It contains important safety information. This is an adult vehicle only.

Operation is prohibited for those under 18 years of age.



# This Owner Manual refers to EGIMOTORS QUADRICICLES (To be filled in by your Dealer)

This Owner's Manual must always remain inside you Quadricycle (Legal requirement)

A digital/printable copy is available on www.egimotors.com

Year
Model Type
Code number (spare parts use only)
VIN Number
Engine Serial Number
Key Number
Registration Plate Number

Thank you for purchasing an EGIMOTORS Quadricycle, and welcome to our world-wide family of enthusiasts.

We have done This manual to inform you on how to use and maintain the best condition of operation for your Quadricycle.

If after reading this manual, you still have some questions please do not hesitate to contact your dealer that will be available to help you.

Be sure to visit us online at www.Egimotors.it for the latest news and for product and Safety information.

We believe we sets a standard of excellence for all utility and Quadricycle manufactured in the world today.

Many years of experience have gone into the engineering, design, and development of your Quadricycle, making it the finest machine we've ever produced.

For safe and enjoyable operation of your vehicle, be sure to follow the instructions and recommendations in this owner's manual.

Your manual contains instructions for the maintenance of the Quadricycle and information about repairs.

Service Manual are available from Dealers, only them can perform major repair and install accessory.

Your dealer knows your Quadricycle better than anyone and is interested in your total satisfaction, he can perform your service needs during and after the warranty period.

For the most up-to-date owner's manual visit: http://egimotors.it/libretto-uso-manutenzione/

#### WELCOME

Read and understand this Owner's Manual is extremely important for your safety and for all the operators, so please take your time to read all the pages and be sure that is someone else will use the Quadricycle before will take this manual and read and understand all, this will give you the best knowledge and skills on how to ride in security.

Copyright 2025 EGIMOTORS.

All the information contained within this publication is based on the latest product information at the time of publication.

Due to constant improvement in the design and quality of product components, some minor discrepancies may result between the actual unit and the information presented in this publication.

Descriptions and or procedure in this publication are intended for reference use only. No Liability can be accepted for omission or inaccuracies. Any reprinting or reuse of the depictions and or procedures contained within this publication are intended for reference use only. The original instruction is in English.

Other languages are provided as translation of the original Instruction see the EGIMOTORS website for more details and procedure.

INTRODUCTION	7
<b>CERTIFICATE OF PRE-DELIVERY INSPECTION</b>	10
SAFETY	14
FEATURES AND CONTROLS	37
OPERATION	75
EMISSION CONTROL SYSTEMS	83
MAINTENANCE	84
SPECIFICATIONS	128
PRODUCTS	131
TROUBLESHOOTING	133
WARRANTY	137
MAINTENANCE LOG	142

## INTRODUCTION

## IMPORTANT INFORMATION

## **A** WARNING

Failure to follow the warnings contained in this manual can result in severe injury or death.

This vehicle is not a toy and can be hazardous to operate. This vehicle handles differently than other vehicles. A collision or rollover can occur quickly, even during routine maneuvers, if you fail to take proper precautions.

- Read this owner's manual. Understand all safety warnings, precautions and operating procedures before operating the vehicle. Keep this manual with the vehicle at all times.
- This vehicle is an ADULT VEHICLE ONLY. You MUST be at least 18 years
  of age and have a valid driver's license to operate this vehicle.
- No person under the age of 12 may ride as a passenger in this vehicle.
- Never permit a guest to operate this vehicle unless the guest has read this manual and all product labels.
- Always keep hands, feet, and all other body parts inside the vehicle at all times.
- Always wear the proper clothing when operating or riding in this vehicle. All
  riders should wear substantial footwear, long pants, and a close-fitting shirt.
  A hard hat or helmet and approved eye protection are recommended when
  appropriate for riding or working conditions.
- Never operate this vehicle under the influence of drugs or alcohol, as these conditions impair judgement and the operator's ability to react.

## **TOOLS FOR SAFE RIDING**

To safely operate this vehicle, it is important to become familiar with its features, controls, and characteristics. Review the Safety Briefings for this vehicle that apply to you:

- Operators
- Riders
- Owners
- Trailering the Vehicle
- Maintaining the Vehicle

Additionally, read the product safety labels on the vehicle and follow all rules and regulations concerning the operation of this vehicle in your area.

## SAFETY SYMBOLS AND SIGNAL WORDS

The following signal words and symbols appear throughout this manual and on your vehicle. Your safety is involved when these words and symbols are used. Become familiar with their meanings before reading the manual.

## **DANGER**

DANGER indicates a hazardous situation which, if not avoided, WILL result in death or serious injury.

## **A** WARNING

WARNING indicates a hazardous situation which, if not avoided, COULD result in death or serious injury.

## **A** CAUTION

CAUTION indicates a hazardous situation which, if not avoided, COULD result in minor to moderate injury.

#### NOTICE

NOTICE provides key information by clarifying instructions.

#### **IMPORTANT**

IMPORTANT provides key reminders during disassembly, assembly, and inspection of components.

The Prohibition Safety Sign indicates an action NOT to take in order to avoid a hazard.



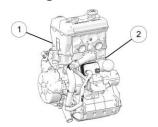
The Mandatory Action Sign indicates an action that NEEDS to be taken to avoid a hazard.

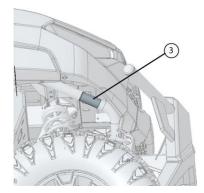


### VEHICLE IDENTIFICATION NUMBERS

Record your vehicle's identification numbers and key number in the spaces provided. Remove the spare key and store it in a safe place. An ignition key can be duplicated only by ordering a EGIMOTORS key blank (using your key number) and mating it with one of your existing keys. The ignition switch must be replaced if all keys are lost.

The engine serial number can be found on a decal applied to the front of the engine crankcase  $\widehat{1}$  or stamped into the crankcase on the PTO side of the engine  $\widehat{2}$ . The VIN can be found on the vehicle's frame, just above the right front wheel  $\widehat{3}$ .





The key number can be found on the key (4).



Vehicle Model Number:	
Vehicle Identification Number (VIN):	
Engine Serial Number:	
Key Number:	

# CERTIFICATE OF PRE-DELIVERY INSPECTION

## **Quadricycle Certificate of Pre-Delivery**

Year Model
VIN
Engine Serial Number
Key Number Km / Hours
Registration Plate Number
ASSEMBLY / SERVICE / INSPECTION
<ul> <li>SEALED BATTERY – Apply dielectric grease to terminal bolts and install cable. Check Voltage and charge if below 12,8 Volts.</li> <li>BATTERY VOLTAGE – Misuse and record the battery voltage after 30 minutes after charger has been removed DCV</li> <li>TIRE PRESSURE – Verify Pressure if set to Specification</li> <li>WHEEL NUT – Torque to specification</li> <li>HANDLEBAR CLAMPS - Torque bolts to specification</li> <li>MASTER CYLINDER – Torque bolts to specification</li> <li>FRONT TOE ALIGMENT – Verify proper toe setting</li> <li>BALL JOINT – Inspect bolts and/or cotter pin</li> <li>STEERING POST – Inspect cotter pin</li> <li>TIE ROD – Inspect jam nuts and cotter pin</li> <li>TRANSMISSION – Add oil if needed</li> <li>GREASE FITTING – Check and Grease all the Fitting if needed</li> <li>ENGINE OIL – Check level of oil, add if needed</li> <li>BRAKE FLUID – Check level of fluid, add if needed in brake master cylinder(s)</li> <li>ENGINE COOLANT – Inspect coolant in recovery bottle. Add if needed.</li> <li>PARK BRAKE – Verify proper operation</li> <li>INTAKE AIRBOX – Inspect hose connection and clamps. Inspect filter condition.</li> <li>LIGHTS – Verify operation of all lights</li> <li>FUEL – Check level of fuel and add if needed</li> <li>WIRE HARNESS / HOSE/ LINES – Inspect wire, hoses, and line from kinks, pinching and sign of abrasion.</li> <li>UNIT INQUIRY – Check in the system and complete applicable Service Bulletins Recalls or factory direct modification(s)</li> <li>COSMETIC INSPECTION – Inspect the quadricycle for damage and proper fit and finish.</li> </ul>
DEALERSHIP NAME#
ASSEMBLED BY
DATE/
SIGNATURE

**STAMP** 

## **Quadricycle Certificate of Pre-Delivery**

Year Model
VIN
Engine Serial Number
Key Number Km / Hours
Registration Plate Number
TEST RIDE
<ul> <li>- ENGINE – Starting acceleration and smoothness.</li> <li>- IDLE SPEED – Verify when cold and hot the engine idle properly.</li> <li>- TROTTLE – With engine idling and transmission in Neutral, swing the handlebar through entire travel range and verify proper and smooth operation.</li> <li>- ETC - Verify proper operation and throttle free play.</li> <li>- AUXILIARY SHUT OFF SWITCH - Verify proper operation.</li> <li>- BRAKES - Verify proper operation. Torque bolts to specification</li> <li>- DRIVELINE – Verify smooth operation</li> <li>- CLUTCH / TRANSMISSION – Verify proper shifting and transmission engagement/ indicator lights must correspond with gears.</li> <li>- AWD ADC – Verify proper operation.</li> <li>- REVERSE SPEED LIMITER – Verify operation and override control.</li> <li>- INSTRUMENTATION – Verify operational reading.</li> <li>- WHINCH (If equipped) – Verify proper operation.</li> <li>- SUSPENSION / STEERING – Verify adjustment, stability and operation.</li> <li>- ENGINE COOLANT Inspect coolant in recovery bottle between Min and Max after test ride, add if necessary.</li> <li>- DIAGNOSTIC SYSTEM – Run Engine up to full operating temperature. Use digital Wrench to generate and submit a "Service Report" recommended Process.</li> <li>- LEAKEAGE – After completing "Diagnostic System "check for leakage and verify proper connection of oil / exhaust / fuel / Coolant / Brake fluid fitting, inspect hoses for sign and abrasion.</li> <li>- CLEAN – Wash and clean the quadricycle before delivery.</li> </ul>
TEST RIDDEN BY
DATE
SIGNATURE
STAMP

## **Quadricycle Certificate of Pre-Delivery**

	Model	
	Number	-
-	Number Km / Hours	
•	Plate Number	
rtegistration	ate Namber	_
DELIVERY	TO CUSTOMER	
- OWNERS M/ Quadricycle/ Exp - WARRANTY - KEYS - Reco - Controls - S - BELT LIFE - Range BREAK IN PI - STORAGE / I - TOOL KIT - S - Safety Video - SAFETY FEA - DRIVING PR - SVIA TRAINI - SAFETY TRAINI -	how location and function.  Discuss proper operation procedure operating and proper acceptance of the proper operation procedure operating and proper acceptance of the proper operation of the procedure operation.  Review with Customer.  ATURES – Review all safety features of quadricycle oper occedure.  Procedure – Review operator driving procedure outliners of the procedure outliners of the procedure outliners.  NINING COURSE SVIA – I have instructed the owner on	er use of High and Low Gear ne owner's manual. ation for new operation. d in the Owner's Manual. the authorized SVIA Safety on and service have been perform
DEALERSHII	P NAME	#
DELIVERED	BY	
DATE	1 1	
SIGNATURE		

**STAMP** 

## **Quadricycle Certificate of Pre-Delivery**

Year Model
VIN
Engine Serial Number
Key Number Km / Hours
Registration Plate Number
CUSTOMER ACCEPTANCE
<ul> <li>- I have reviewed the EGIMOTORS warranty Policy / Policies</li> <li>- I have inspected the Quadricycle and it meets my satisfaction.</li> <li>- I understand the importance of following the Owner's Manual and instructions.</li> <li>- I understand the importance of using all safety features.</li> </ul>
Review with customer.  I understand the importance of all operation following the operator driving procedures in the Owner's Manual.
<ul> <li>- I have been instructed on the authorized online SVIA training course by my Dealer</li> </ul>
(Name of dealership and person who inform the Customer)
CUSTOMER NAME
CUSTOMER SIGNATURE
DATE/

## **SAFETY**

## **OWNER REQUIREMENTS**

Improper use, maintenance, or modification of this vehicle can lead to serious injury or death.

Require proper use of your vehicle. Do not allow anyone to operate your vehicle or ride as a passenger unless they are properly instructed and you are sure they are willing to ride responsibly. To prevent unauthorized use, always remove the ignition key when the vehicle is not in use.



Any modifications or installation of non-EGIMOTORS-approved accessories could increase the risk of injury. While you may find aftermarket products similar in design and quality to EGIMOTORS accessories, recognize that some aftermarket accessories or modifications are not suitable because of potential safety hazards to you or others. It is never appropriate to install any additional seating.

Check with the manufacturer to determine any potential effect of a modification or accessory on the safe use of your vehicle. You are responsible for injuries related to modifications to the vehicle. Modifications or accessories may:

- Damage machine components especially modifications that increase speed or power.
- · Make the vehicle less stable at higher speeds.
- Add weight, reducing the amount of cargo and total weight you can carry, and raise the vehicle's center of gravity.
- Overload the vehicle's electrical system capacity. Blowing a fuse may cause a loss of lights or engine power.
- Reduce the effectiveness of occupant protection systems, including the seatbelts and the Rollover Protective Structure (ROPS).
- Make it illegal to own or operate your vehicle. EGIMOTORS-authorized spark arresters, mufflers, and emissions control components are mandatory for ownership or operation in many areas.
- Void your warranty.

The vehicle ROPS, when used with the seat belts and doors, provides a structure to help protect occupants. The structure will not protect occupants in all rollovers or accidents.

For more information about safety, contact an authorized dealer or visit the EGIMOTORS website at <a href="https://www.egimotors.it">www.egimotors.it</a>

## DRIVER AND PASSENGER QUALIFICATIONS

Make sure operators are 18 or older with a valid driver's license. Just because a teenager has a license does not mean that they will make good judgments about driving and avoid risk taking.





EGIMOTORS recommends that you supervise younger drivers. Set rules and put limits on how, when, and where they are allowed to use this vehicle. For example, young drivers may need to have an adult in the vehicle with them and not be allowed to drive with their friends in the vehicle.

**Make sure all riders fit the vehicle.** Be sure that the driver and all passengers are able to:

- · sit with their backs against their seat,
- adjust the seat belt to fit properly.
- · have both feet flat on the floor, and
- have both hands on the steering wheel or on a passenger hand hold.

Do not allow children who need child safety seats or booster seats to ride in the vehicle. The vehicle is not designed to restrain automotive child safety seats.

**You are responsible for your passengers.** Be sure passengers are seated properly, belted, holding the passenger hand hold, and ready to brace. Unrestrained riders can fall out or be thrown around and from a moving vehicle.

Every person must be properly seated and belted in their own seat. Two people should never be belted into a single seat belt. People belted together can crash into one another in a collision and be seriously injured. Never carry passengers in the cargo bed as they could be thrown against or out of the vehicle or come into contact with moving parts.

Do not let people drive or ride after using alcohol or drugs.

## PREPARE VEHICLE FOR THE RIDE

Before starting off, always perform the Pre-Ride Inspection. Failure to inspect and verify that the vehicle is in safe operating condition increases the risk of an accident, which can lead to serious injury or death.



ITEM	REMARK	REFERENCE
Brake Fluid	Ensure proper level and condition	page 109
Front and rear suspension	Inspect	_
Steering	Ensure free operation	page 112
Tires	Inspect condition and pressure	page 112
Wheels/Lug Nuts	Inspect, ensure fastener tightness	page 113
Fuel and oil	Ensure proper levels and condition	page 90
Coolant	Ensure proper level and condition	page 100
Indicator lights/switches	Ensure proper operation	page 42 page 58
Air Filter	Inspect, replace as needed	page 107
Engine intake pre-filter	Inspect, clean	_
PVT intake pre-filter	Inspect, clean	-
Headlights	Check operation	-
Brake lights/taillights	Check operation	-
Seat Belts	Check length of belt for damage, check latches for proper operation	page 50
Exhaust	Inspect spark arrester and clean if needed.	page 108
Vehicle Debris	Remove grass, leaves, and other flammable material or debris, especially near the exhaust system.	_

**Improper tire maintenance** can lead to loss of control and an accident, which could result in serious injury or death. To reduce your risk of injury:

- Maintain EGIMOTORS recommended tire pressure. Check pressure before operating. Even if your vehicle has only been driven a short distance, the tire pressure readings can become higher.
- Make sure tire pressures match the specifications listed in the table below.
- Only use the size and type of tires specified for this vehicle.
- · Do not operate your vehicle with worn or damaged tires.
- Always follow your tire manufacturer's instructions for maintenance.

MEASUREMENT	SPECIFICATION
Maximum Cargo Box Load	430 kg
Tire Pressure in Bar	Front: 1 Bar Rear: 1 Bar
Maximum Weight Capacity, includes weight of operator, passenger, cargo, and accessories	449 kg

# PREPARE YOURSELF, PASSENGERS, AND CARGO FOR THE RIDE

**Wear an approved helmet.** Riding in this vehicle without wearing an approved helmet increases the risk of serious injury. For example, a helmet reduces your risk of injury from head strikes with the vehicle or other objects even if there is no crash.

Approved helmets in Europe bear the ECE 22.05 (or newer) label. The ECE mark consists of a circle surrounding the letter E, followed by the distinguishing number of the country which has granted approval. The approval number and serial number will also be displayed on the label.



**Use shatterproof goggles or a shatterproof helmet face shield.** Such protective eyewear may reduce the risk of foreign material getting in your eyes and help prevent loss of vision. Whenever riding the Quadricycle, always wear googles.

EGIMOTORS recommends wearing approved Personal Protective Equipment (PPE) that have markings indicating they are designed to standards CE.



**Additional protective clothing and gear** that may be appropriate for your riding conditions includes:

- Always wear shoes when operating. Consider wearing sturdy over-the-ankle boots suitable for the terrain you will be riding in.
- Full-finger gloves can protect against wind, sun, cold, and objects. Choose gloves that fit snugly and allow fingers to move freely and grip on the steering wheel or hand holds.
- Consider long sleeves and long pants to help protect arms and legs.
- Long-term exposure to wind and engine noise can cause permanent hearing loss. Properly worn hearing protective devices such as earplugs can help prevent hearing loss. Check local laws or the rules of the riding area you are in before wearing hearing protection to make sure its use is permitted.

Always stay completely inside the vehicle and hold the steering wheel or hand holds. Body parts outside of the vehicle can be struck by passing objects or crushed during a rollover. Do not put any part of your body outside of the vehicle for any reason. Do not hold onto the ROPS frame or put any part of your body on the door.

Riding in this vehicle without closed and latched cab doors increases the risk of serious injury or death in the event of an accident or rollover. Always make sure all cab doors are closed and latched while riding in this vehicle.

**Be sure riders pay attention and plan ahead.** If you think or feel the vehicle may tip or roll, reduce your risk of injury:

- · Keep a firm grip on the steering wheel or hand holds and brace yourself.
- Do not put any part of your body outside of the vehicle for any reason.

This vehicle is not designed to carry unrestrained pets. An unrestrained pet can be thrown about and injure riders, even during normal operation. When transporting pets, use a pet crate suitable for off-road use that is secured to the vehicle.

**Fuels such as gasoline can be extremely flammable**. To reduce the risk of serious injury or death, never carry fuel or other flammable liquids on this vehicle. Rollovers, crashes, rough riding, or changes in elevation or temperature may lead to fuel spilling or vapor release from portable containers. Hot vehicle parts can cause fires, even after the engine has been turned off.

**Never exceed vehicle weight capacities.** The vehicle's maximum weight capacity varies depending on model. The cargo box can support up to 450 kg of that total. When more rider weight is added, cargo weight may need to be eliminated to stay under the limit. Overloading the vehicle or carrying cargo improperly will cause changes in stability and handling, which could cause loss of control or an accident.

Secure cargo in the cargo box as far forward, centered and as low as possible. When cargo cannot be positioned and secured in this way, operate with extra caution. Unsecured cargo can strike and injure riders, affect vehicle handling, and result in loss of control.

The weight of riders and cargo changes vehicle braking, handling, and stability. To avoid loss of control, turn gradually, operate at slower speeds, and avoid rougher or steeper terrain.

#### DRIVING GUIDELINES

Drive responsibly. This vehicle is not a toy and can be hazardous to operate. This vehicle has higher ground clearance and other features to handle rugged terrain. It can be overturned in situations where some other vehicles may not. Abrupt maneuvers or aggressive driving, even on flat, open areas, can cause loss of control, rollovers, severe injury or death. To avoid loss of control and rollovers:



- Avoid abrupt maneuvers, sideways sliding, skidding, or fishtailing, and never do donuts.
- · Slow down before entering turn.
- · Avoid hard acceleration when turning, even from a stop.

#### High speed off-road operation

Driving off-road vehicles to test the limits of your skills or abilities can be very dangerous to you, passengers, and bystanders. Basic skills for driving a car, ATV, or other off-road vehicles do not equip drivers to safely attempt high speed off-road operation. Develop your skill gradually through training, practice, and experience with the various driving modes of this vehicle and the terrain in which you are operating. Always do a low speed reconnaissance run (pre-run) to become aware of anything you may encounter.

High speed off-road operation can lead to loss of control, crashes, or hard landings that can seriously injure occupants (even without rolling the vehicle or damaging it).

If you plan on using the vehicle for high speed, off-road competition, additional safety equipment may be necessary. Check the rules that apply to your competition.

Do not go over jumps — going airborne can lead to serious injury or death. Going airborne can cause loss of control, rollovers, or crashing into the ground and may damage the vehicle. Even without crashing, landings can be hard enough to cause any vehicle suspension to fully compress (e.g., bottom out). Serious injuries, including spinal injuries, can occur even if riders are properly harnessed, wearing helmets and the vehicle is not damaged and remains upright.

You may encounter slopes, "jumps", or other terrain features that could send the vehicle airborne, depending on your speed. These may be defectively designed, poorly maintained, or not suitable for this vehicle. Slow down, use extra care, and avoid going airborne. Never take this vehicle over jumps.

Watching someone else go over a jump or go airborne does not mean you can safely do so. EGIMOTORS cannot determine whether any jump you may encounter is appropriate for this vehicle. Any jump, even a small one, could be poorly maintained, designed, or not suitable for this vehicle and may cause serious injury or death.



Plan for hills, rough terrain, ruts, and other changes in traction and terrain. Proceed slowly and with extra care on unfamiliar terrain. Avoid paved surfaces. Sudden changes in terrain such as holes, depressions, banks, softer or harder ground, or other irregularities may cause loss of control or rollover. Give yourself time to react to rocks, bumps, or holes that may be hard to see. Operating in deep snow or tall grass may make it harder to see obstacles.

If you cannot go around an obstacle, such as a fallen tree or a ditch, stop the vehicle in a safe place. Get out to inspect the area thoroughly. Look from both your approach side and exit side. If you are reasonably confident you can continue safely, choose the path that will allow you to go straight over the obstacle to minimize the vehicle tipping sideways. Go only fast enough to maintain your momentum, but still give yourself plenty of time to react to changes in conditions. If there is any question about your ability to maneuver safely over the obstacle, you should turn around if the ground is flat and you have the room, or back up until you find a less difficult path.

Abrupt application of the accelerator pedal can cause the tires to lose traction, reducing control of the vehicle and increasing the possibility of an accident, especially while on sloped terrain or while crossing obstacles such as rocks or logs.

This Quadricycle is approved for on-road use.

Improperly operating on hills can cause loss of control, rollover, or accident, which can lead to serious injury or death. Use extra care when operating on hills. Plan for rough terrain, ruts, and other changes in traction and terrain.

#### **Driving up hills**

Check the terrain before ascending a hill and make sure it is not too slippery or loose. Engage all-wheel drive for hills. Drive straight uphill, keeping speed and throttle steady. Avoid steep hills which can cause the vehicle to overturn.

#### Recovering from stalling on a hill

If the vehicle loses forward speed, apply the brakes gradually and stop. Do not attempt to turn the vehicle around. Instead, shift to reverse and allow the vehicle to slowly roll straight downhill. Apply light brake pressure to control speed.

#### Overtopping a hill

Slow down when you reach the crest of a hill. Never blindly go over the crest of a hill or a drop off at high speed. An obstacle, a sharp drop, or another vehicle or person could be on the other side of the hill.

#### **Driving down hills**

Check the terrain before descending a hill and make sure it is not too slippery or loose. Engage all-wheel drive and proceed slowly, applying the brakes lightly. Never descend a hill with the transmission in neutral or if the engine is turned off.

#### Avoid side hilling (riding across slopes)

If unavoidable, proceed slowly and with extra caution. Avoid obstacles and changes in terrain that could cause the vehicle to tip or slide. If it feels like the vehicle begins to tip or slide, immediately turn downhill.

#### Riding near wooded areas or brush

Use extra caution when operating near trees, particularly when operating on narrow trails. Tree branches or brush can be driven into the cab striking or stabbing occupants.



#### Riding in snow

Always keep the brake and accelerator pedals free of snow and ice. Apply the brakes frequently to prevent ice or snow accumulation on the brake pads which can reduce brake performance.

#### Riding on ice

Never operate the vehicle on a frozen body of water unless you have verified that the ice can support the weight of the vehicle. Severe injury or death can result if the vehicle falls through the ice.

#### Riding in water / Falling into water

Operating through deep or fast-flowing water can cause loss of traction, loss of control, overturning, or being swept away in water. You can be seriously injured or killed from entrapment and drowning. Never operate the vehicle in fast-flowing water or in water that exceeds the floor level of the vehicle. Avoid sharp drop-offs and large rocks. Choose a path that provides an entrance and exit point with gradual inclines. Wet brakes may have reduced stopping ability. After leaving water, test the brakes. Apply them lightly several times while driving slowly. The friction will help dry out the pads.

#### Riding on sand dunes

Use extra caution when operating on or near dunes. Be alert for changes in terrain. Never blindly go over the crest of a hill or a drop-off at high speed. An obstacle, a sharp drop, or another vehicle or a person could be on the other side of the hill.

#### Riding in low-visibility conditions

Use extra caution and drive slowly in conditions of reduced visibility such as fog, rain, and darkness.

Plan ahead to avoid the need for evasive maneuvers, such as swerving. Hitting an obstacle — including wildlife — you are not ready for can be dangerous. Choosing to swerve instead can be even more dangerous because it can lead to loss of control, rollover, or collisions.

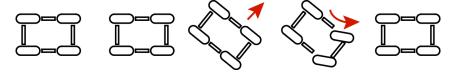
When operating in areas with possibility of wildlife appearing in your path, plan ahead to avoid swerving for animals if doing so could result in collisions or rollovers. Go slowly or avoid driving during seasons or times of day when animals such as deer are more likely to cross your path without warning.

#### **Avoid Collisions With Other Vehicles**

When following another vehicle or operating in the same area as others, keep a safe distance to avoid collisions. Allow extra space when sight distances are limited by dust, snow, curves, hills, or other conditions. Plan ahead to avoid having to swerve or leave the trail to avoid a collision.

On trails, be prepared to make space for other vehicles to pass. If you need to stop on a trail, move your vehicle to the edge of the path to allow others to pass safely.

Correct a skid by turning the steering wheel in the direction of the skid. Never apply the brakes during a skid.



If the vehicle begins to slide downhill or you feel it may tip, turn downhill immediately and stop. Maneuver slowly and carefully until you can drive straight downhill.

## Do not continue driving if your vehicle may be damaged or if you were in a crash or rollover.

Operating the vehicle while damaged or after a crash or rollover can cause loss of control, rollover, or accident, which can lead to serious injury or death. If you cannot safely transport the vehicle on your own, contact a recovery and towing service.

After any crash, rollover, or other accident, have a EGIMOTORS dealer inspect the vehicle for possible damage, including seat belts, ROPS, brakes, suspension, and steering systems.

#### SAFETY

Be prepared in case your vehicle becomes damaged or disabled, especially in remote areas. Consider in advance how to get help and stay safe until it arrives whenever you ride.

## There is a recovery tow loop at the front and back of the vehicle to attach a winch or strap.

Use these loops to recover this vehicle if it is stuck, to pull it onto a tow truck, trailer, or to use this vehicle to recover another vehicle. These loops are for emergency recovery only and are not for towing vehicles to another location.

Improper recovery may lead to loss of control or vehicle damage. Only attach straps to specified locations. Do not attach to any other point on the vehicle. Only recover a vehicle of equal or lesser size and weight. When recovering a disabled vehicle, place the disabled vehicle's transmission in neutral. Do not move a disabled vehicle faster than 16 km/h.

#### Operating, Idling, Or Parking Near Combustible Materials

Engine, exhaust, and other vehicle components can be very hot during and after use. Do not idle or park the vehicle over anything that could contact the exhaust system and catch on fire, such as tall grass, weeds, brush, leaves, debris, or other tall ground cover. Do not let mud, grass, or other debris accumulate on the engine or exhaust system. Inspect and remove as needed.

**Vehicle rollaway can cause serious injury or death.** This vehicle can roll whenever the gear selector is not in the PARK (P) position. Always shift to PARK (P) when stopping the engine or leaving the vehicle. When leaving the vehicle on an incline is unavoidable, use extra care. If leaving the vehicle unattended, block the rear wheels on the downhill side and keep children, pets, and others away from the gear selector.

Before shifting into reverse, use extra care to make sure the area is clear of people or obstacles. When it's safe to proceed, back slowly.

**After operation, inspect the vehicle for damage and debris** to make sure the vehicle can be safely stored and operated again. Some things to inspect include:

- Debris that could catch fire, such as mud/grass near the engine or exhaust system
- Damage to the suspension, steering, or any other part of the vehicle
- Tire condition, such as tread and sidewall damage
- · Shock absorber assembly condition

Be sure to have any issues checked and problems fixed before operating again.

All engine exhaust contains carbon monoxide, a deadly gas. Breathing carbon monoxide can cause headaches, dizziness, drowsiness, nausea, confusion, and eventually death. Carbon monoxide is a colorless, odorless, tasteless gas which may be present even if you do not see or smell any engine exhaust. Deadly levels of carbon monoxide can collect rapidly, and you can quickly be overcome and unable to save yourself. Also, deadly levels of carbon monoxide can linger for hours or days in enclosed or poorly ventilated areas. If you experience any symptoms of carbon monoxide poisoning, leave the area immediately, get fresh air, and SEEK MEDICAL TREATMENT.

- Do not run engine indoors. Even if you try to ventilate engine exhaust with fans or open windows and doors, carbon monoxide can rapidly reach dangerous levels.
- Do not run engine in poorly ventilated or partially enclosed areas such as barns, garages, or carports. If you start a vehicle in one of these, drive it out and close the door as soon as possible. If you drive it into one of these, turn it off as soon as possible.
- Do not run engine outdoors where engine exhaust can be drawn into a building through openings such as windows and doors.

The above list of hazards and overturning risk is not exhaustive.

## LOADING AND UNLOADING

The weight distribution of the cargo loaded onto the trailer is important and will have an impact on how the vehicle handles on the road. Ensure the weight of the cargo is distributed properly and the trailer is not rear, front, or side heavy.

Always use a spotter if you are uncomfortable loading the vehicle on your own. A wheel chock or marker can also be used as an indication of how close you will park the vehicle from the front of the trailer.

## **MARNING**

When loading or unloading a vehicle onto a trailer, always wear the appropriate safety gear, including an approved helmet.

## MINIMUM WORKING LOAD LIMIT

### **A** WARNING

Always secure cargo properly. Improperly securing a load can result in severe injury or death.

Securing devices, such as tie-down straps, are manufactured to support a load that can be applied during normal service. This is known as the Working Load Limit (WLL).

VEHICLE TYPE	TIE-DOWN MINIMUM WLL
All Vehicles	1497 kg

## TRANSPORTING THE VEHICLE

Follow these procedures when transporting the vehicle.

- 1. Apply the brakes.
- 2. Place the transmission in PARK. Stop the engine.
- Slowly release the brake pedal and make sure the transmission is in PARK before exiting the vehicle.
- 4. Remove the key to prevent loss during transporting.
- Secure the fuel cap and seat. Ensure that the seat is attached correctly and is not loose.

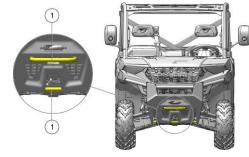
## **MARNING**

Cargo and other loose vehicle parts may fly off while transporting this vehicle. Secure or remove all cargo, and inspect the unit for loose parts prior to transport.

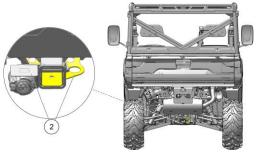
If transporting the vehicle in a non-enclosed trailer, then the vehicle must FACE FORWARD, or roof must be removed.

Failure to comply may allow airflow, vibration, or other factors to separate the roof from the vehicle and cause an accident, resulting in serious personal injury or death.

- 6. Using suitable straps or rope, always secure the vehicle to the trailer using the designated tie down points (front and rear).
- (1) Front tie-down points



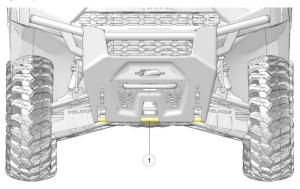
(2) Rear tie-down points



#### **TOWING A RANGER**

Towing this vehicle is not recommended. Always transport the vehicle on a trailer or flatbed with all four wheels off the ground.

If towing a disabled vehicle is unavoidable, place the disabled vehicle's transmission in neutral. Tow the shortest distance possible. Do not operate faster than 16 km/h.



1 Towing Point

#### LIGHTNING AND POWERLINES

Avoid operating this vehicle when lightning could occur and when near powerlines. Rubber tires, rubber handgrips, and a foam seat will not protect a rider from lightning strikes or electrical surges. Always seek safe shelter when lightning is imminent, and keep a safe distance from powerlines at all times.

## **HOT EXHAUST SYSTEMS**

## **A** WARNING

Exhaust system components are very hot during and after use of the vehicle. Hot components can cause burns and fire. Do not touch hot exhaust system components. Always keep combustible materials away from the exhaust system.

Use caution when traveling through tall grass, especially dry grass and when traveling through muddy conditions. Always inspect the underside of the vehicle and areas near the exhaust system after driving through tall grass, weeds, brush, other tall ground cover, and muddy conditions. Promptly remove any grass, debris or foreign matter clinging to the vehicle and pay particular attention to the exhaust system area.



# FORESTRY APPLICATION AND CROP SPRAYING

This vehicle does not have a Falling Objects Protective Structure (FOPS). Do not use the vehicle in forestry application situations where the risk of falling objects may be present.

This vehicle is not equipped for protection against hazardous substances. It does not offer any protection against substances which are harmful to health. Always wear proper personal protective equipment if this vehicle is used for crop spraying or other applications requiring the use of hazardous substances.

### **FUEL**

## **A** WARNING

Gasoline and gasoline vapor is highly flammable and explosive. Refuel outdoors or in a well-ventilated area free of any source of flame or sparks, including pilot lights from water heaters, furnaces, or clothes dryers. To avoid fires and explosions, follow these precautions when refueling.

- Do not smoke.
- Wipe up any spilled fuel.

## **MARNING**

**Gasoline is poisonous.** To avoid injury or death, avoid contact with gasoline and follow these precautions:

- Never attempt to siphon gasoline by mouth.
- If gasoline is ingested, contacts eyes, or gasoline vapor is inhaled, immediately seek medical attention.
- · If gasoline contacts skin, wash with soap and water.
- · If gasoline contacts clothes, change out of them.

#### REFUELING

The fuel tank filler cap is located on the left side of the vehicle near the driver seat.

The fuel symbol and the last fuel bar on the Instrument Cluster will blink when the fuel level reaches 1/8th tank. There will be approximately 8 L of fuel remaining. Refuel as soon as possible. *Do not allow the vehicle to run out of fuel*.

#### To refuel:

- Place the transmission into PARK on a level surface.
- 2. Turn off the engine.
- 3. Make sure no one is inside the vehicle.
- Fill with fuel, leaving the tank neck empty.
- 5. Securely close fuel cap.

## **A** WARNING

**Gasoline can expand while inside the tank.** To avoid fires and explosions, do not overfill the tank. Allow room for gasoline to expand inside the tank by leaving the tank neck empty.

- Use only 87 octane (or higher) unleaded fuel (minimum pump octane number of 87 R+M/2)
- · Do not use any fuel lower than 87 octane.
- Do not fuel containing more than 10% ethanol (including E85)

#### NOTICE

Damage to the fuel pump will occur if the vehicle is operated with an empty fuel tank. Do not allow the vehicle to run out of fuel. Always refuel when the level is low.

#### NOTICE

Operating with obstructed fuel systems will result in serious engine damage.

Perform maintenance as recommended.

#### NOTICE

Prolonged exposure to petroleum based products may damage paint. Always protect painted surfaces when handling fuel.

## HANDLING GASOLINE

Gasoline is highly flammable and explosive under certain conditions.

- Always exercise extreme caution whenever handling gasoline.
- Always turn off the engine when refueling.
- Always refuel outdoors or in a well-ventilated area free of any source of flame or sparks.
- Always use an approved gasoline container to store fuel and remove the container from the vehicle before filling to avoid fuel ignition due to electrical static discharge.
- Do not smoke or allow open flames or sparks in or near the area where refueling is performed or where gasoline is stored.
- · Do not overfill the tank. Do not fill the tank neck.
- If gasoline spills on your skin or clothing, immediately wash it off with soap and water and change clothing.

## SAFETY LABELS AND LOCATIONS

## **RANGER 1000 Quadricycle**

Warning labels have been placed on the vehicle for your protection. Read and follow the instructions of the labels on the vehicle carefully. If any of the labels depicted in this manual differ from the labels on your vehicle, always read and follow the instructions of the labels on the vehicle.

If any label becomes illegible or comes off, contact your EGIMOTORS dealer to purchase a replacement. Replacement *safety* labels are provided by EGIMOTORS at no charge.



Never carry passengers in cargo box. Passengers can be thrown off. This can cause serious injury or death. Read owner's manual. NEVER carry fuel or other flammable liquids on this vehicle. Failure to follow this instruction could lead to serious burn injuries or death.

## RADIATOR CAP WARNING

#### **A** WARNING

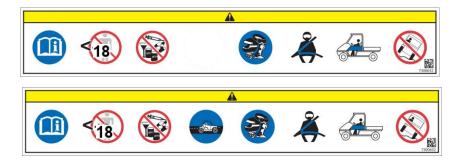
Hot pressurized fluid can cause serious burns. Do not touch radiator cap when hot. Open slowly.

Part Number: 7300767



#### GENERAL ALERT

The General Alert is located on the console (two variants possible).



## **A** WARNING

Read the owner's manual. Never allow anyone under 18 years of age to operate this vehicle. Never use alcohol or drugs before or while driving or riding. This vehicle is approved for on-road operation. Wear approved helmet, goggles, and protective clothing. Always wear seat belts. Always use the cab nets or doors. Avoid aggressive driving maneuvers that may cause vehicle tipping or rollover.

#### OWNER'S MANUAL ALERT

The Owner's Manual Alert is located on the console.

Read the owner's manual. Part number: 7185807 Note: not on all models



#### GREASING POINTS ALERT

Lubricate as recommended. Read owner's manual.

Part number: 7185156

Note: not on all models



## JACKING POINTS ALERT

Jacking positions are located beneath the vehicle's center points. Read the owner's manual.

Part number: 7184992 Note: not on all models



#### HOT EXHAUST WARNING

Do not touch hot exhaust system components. Always keep combustible materials away from the exhaust system.

Part number: 7185151

Note: not on all models



#### **FUEL ALERT**

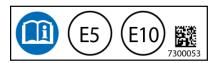
The fuel alert is located in front of the fuel cap.



Compatible Fuel Types E5 and E10

Part number: 7300053

Note: not on all models



#### **CLUTCH COVER ALERT**

The Clutch Cover Alert decal is located on the clutch cover



Read your owner's manual. Keep body parts away from belt.

Part number: 7181427



## INTAKE ALERT

The Intake Alert Caution label is located on the air intake.

#### **A** WARNING

Use a EGIMOTORS approved air filter. The use of a non-EGIMOTORS approved air filter may cause engine damage. Before installing filter ensure there is no dirt or debris in the clean side of the intake tube. The air filter must be properly seated and the hinges fully inserted when the lid is reinstalled. Please reference your owner's manual for additional information regarding the air filter service.

Part number: 7185975



#### SHIFT ALERT

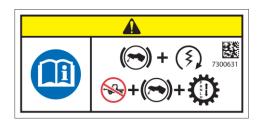
The Shift Alert is located on the console.

## **A** WARNING

To avoid transmission damage, shift only when vehicle is stationary and at idle.

APPLY BRAKE TO START. When this vehicle is not in operation, or unattended, place shift in the park position.

Part number: 7300631



#### **SAFETY ALERT**

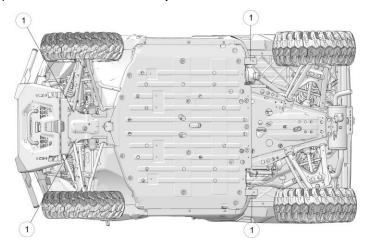
The Safety Alert are located on both side of the vehicle and on the dash.

## **JACKING POINTS**

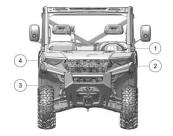
#### **MARNING**

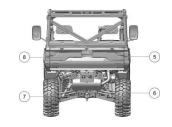
Make sure the vehicle is in park with the parking brake set (if applicable). Use wheel chocks to prevent the vehicle from rolling when the vehicle is raised on a jack. Make sure to use appropriate jack stands, and never work under or around a vehicle that is unsupported. Serious injury may occur.

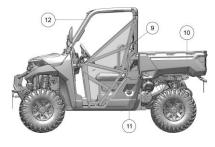
The vehicle can be lifted from specific points on the vehicle's chassis. Place a suitable jack under the points  $\widehat{\ \ }$  to raise the vehicle. After the vehicle is raised, support the vehicle with a suitable jack stand.



## **COMPONENT LOCATIONS**





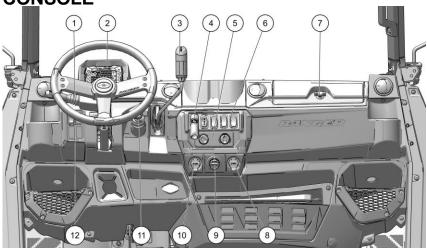




- (1) Console
- (2) Radiator
- (3) Bumper
- (4) Headlight
- (5) Taillights
- 6 CV Boot/Rear Caliper
- 7 Receiver Hitch

- (8) Tailgate
- 9 Hip Bar
- ① Cargo Box
- ${\bf \widehat{11}} \, \mathsf{Fuel} \, \mathsf{Cap}$
- (12) ROPS Cab Frame
- (13) Fuse Block (underneath seat)
- (4) Battery (underneath seat)

## **CONSOLE**



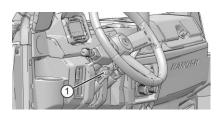
- 1 Turn Signal Lever
- (2) Instrument Cluster
- (3) Gear Selector (Shifter)
- (4) Park Brake Lever
- (5) Heater Control Panel (if equipped)
- 6 Right-side Switch Panel

- 7 Storage Compartment
- (8) 12V Auxiliary Outlet
- Battery Trickle-Charging Outlet
- 10 12V Auxiliary Outlet
- (11) Ignition Switch
- (12) Left-side Switch Panel

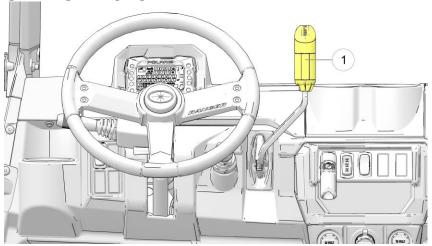
#### STEERING WHEEL

The steering wheel can be tilted upward or downward for rider preference. Lift and hold the steering wheel adjustment Lever ① while moving the steering wheel upward or downward. Release the lever when the steering wheel is at the desired position. Always make sure the

steering wheel position does not impede proper operation of the brake pedal, throttle pedal and all other controls.



## **GEAR SELECTOR**



To change gears, stop the vehicle, and with the engine idling, move the lever ① to the desired gear. Do not attempt to shift gears with engine speed above idle or while the vehicle is moving.

- · H: High Gear
- · L: Low Gear
- N: Neutral
- · R: Reverse
- P: Park

Low gear is the primary driving range for the RANGER. High gear is intended for use on hard-packed surfaces with light loads. Whenever the vehicle is left unattended, always place the transmission in PARK.

#### TIP

Maintaining shift linkage adjustment is important to assure proper transmission function. Your EGIMOTORS dealer can assist in resolving any shifting problems.

#### NOTICE

Do not attempt to shift the transmission while the vehicle is moving or damage to the transmission could result. Always shift when the vehicle is stationary and the engine is at idle.

#### **USING LOW GEAR**

Low gear is the primary driving range for the *RANGER*. High gear is intended for use on hard-packed surfaces with light loads. Whenever the vehicle is left unattended, always place the transmission in PARK.

Always shift into low gear for any of the following conditions.

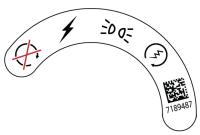
- Operating in rough terrain or over obstacles
- · Loading the vehicle onto a trailer
- Climbing hills
- · Towing heavy loads
- Driving slowly under 16 km/h
- · Operating with mud

## **SWITCHES**

Not all switches are present on every model.

## **IGNITION SWITCH**

The ignition switch is a four-position, key-operated switch. The key can be removed from the switch when it is in the OFF position.



Ignition Switch Label

×	OFF	The engine is off. Electrical circuits are off.
1	ACCESSO- RY	The engine is OFF. Power is supplied to the USB charger, 12V Auxiliary Outlets, Front Pulse Bar, CAB Harness, Rear Accessory Switch, and Ride Command Display (if equipped).
÷0 0÷	SYSTEM ON	All lights are ON. Electrical circuits are ON. Electrical equipment can be used.
(3)	START	Turn the key to the START position to engage the electric starter. The key returns to the ON position when released.

#### **TURN SIGNAL LEVER**

Before turning, activate a turn signal to alert others of your intentions. Check turn signal lamps before each ride.

Move the lever upward ① to signal a right turn. The right signal lamps and indicator will flash.

Move the turn signal lever downward ② to signal a left turn. The left turn signal lamps in the taillight and below the front headlight will flash. The turn signal indicator in the gauge (or if located on the dash) will also flash.

Return the lever to the center position to end the signal.



#### **HEADLIGHT SWITCH**

#### LOW BEAM HEADLIGHTS

Key ignition switch to SYSTEM ON position to activate low beams headlights. Key ignition switch to accessory position or OFF position to turn the low beams off.

#### HIGH BEAM HEADLIGHTS

Key ignition switch to SYSTEM ON position. Push the headlight switch towards the driver to switch from the low beam headlights to high beam headlights. Pull the headlight switch again to switch from high beam headlights to low beam headlights.



#### **HORN SWITCH**

The horn switch is located on the turn signal lever. Press the tip of the turn signal lever inward to sound the horn.

## **HAZARD SWITCH**

Push the hazard warning switch to cause all turn signal lights to flash simultaneously. Both turn signal indicators on the gauge or on console will also flash. Use this feature to alert others of an emergency or other situation requiring caution.



## **ALL WHEEL DRIVE (AWD) SYSTEM**

The All Wheel Drive system is controlled by the AWD switch. The switch has three positions, AWD (4x4), 2WD (2x4) and Turf Mode (1x4).

When in AWD, the demand drive unit will automatically engage any time the rear wheels lose traction. When the rear wheels regain traction, the demand drive unit will automatically disengage.

To change mode push the button until you reach the mode of traction preferred.

RED – Wheel Drive (AWD)

NO LIGHT – Two Wheel Drive (2WD)

GREEN – Turf Mode / Differential Unlocked (1WD)



## All Wheel Drive (AWD)

When the switch is on AWD, the quadricycle is in all wheel drive and the 4X4 indicator in the instrument cluster will be on.

There is no limit to the length of time the quadricycle may remain in AWD, and the light will be RED.



#### Two Wheel Drive (2WD)

When the switch is on 2X4, the quadricycle is in two-wheel drive at all times, only the rears wheels will have traction and the light will be OFF



## Turf Mode / Differential Unlocked (1WD)

When the key is turned on automatically the light GREEN will appear, and the quadricycle will be positioned to one wheel drive mode.



#### **ENGAGING AWD**

The AWD switch may be turned on or off while the vehicle is moving. Initially, the vehicle's electronic system will not enable the AWD until the engine RPM is below 3100. Once enabled, the AWD remains enabled until the AWD switch is turned off. If the switch is turned off while the demand drive unit is moving, it will not disengage until the rear wheels regain traction.

Engage the AWD switch before getting into conditions where front wheel drive may be needed. If the rear wheels are spinning, release the throttle before switching to AWD.

#### NOTICE

Switching to AWD while the rear wheels are spinning or slipping may cause severe drive shaft and gearcase damage. Always switch to AWD while the rear wheels have traction or are at rest.

#### **DISENGAGING AWD**

Push the switch to disengage AWD, when the Red light will be off your quadricycle will be in the 2 wheel drive mode.

If the switch pushed off while the front hubs are driving, they will not release until the rear wheels regain traction.

In some situations, the front gearcase may remain locked after turning the AWD switch off. If this occurs, you may notice increased steering effort and some vehicle speed restriction. Perform the following procedure to unlock the front gearcase.

- 1. Stop the vehicle.
- 2. Operate in reverse for at least 3 m.
- 3. Stop completely.
- 4. Shift into low gear and drive forward.
- 5. If the front gearcase remains locked after following these instructions, see your dealer for service.

# LOCKING/UNLOCKING THE REAR DIFFERENTIAL

#### NOTICE

Damage to the differential can occur if it is engaged while the vehicle is traveling at high speeds or while the rear wheels are spinning. Slow the vehicle to nearly stopped before engaging the differential.

Locking the differential in slippery or low traction conditions helps improve traction. Push the switch to 2WD (light off position) to lock the differential and operate in rear wheel drive.

## **TEMPERATURE CONTROLS (IF EQUIPPED)**

Certain vehicles are equipped with temperature controls on the console.

Rotating the right-side knob will adjust the temperature of the airflow in the vehicle interior. Rotating the left-side knob will adjust the rate of airflow in the vehicle interior.



# ACTIVE DESCENT CONTROL (ADC) SWITCH (IF EQUIPPED)

The ADC system allows engine braking to all four wheels when the vehicle descends a hill or incline. Press the top of the switch to engage ADC. Press the bottom of the switch to turn off ADC. Always operate in low gear and engage ADC before ascending or descending a hill.

#### **BATTERY TRICKLE-CHARGING OUTLET**

The vehicle is equipped with a dedicated outlet for trickle-charging the battery during periods of extended inactivity.

If you do not drive the vehicle for more than TWO WEEKS, EGIMOTORS recommends using a BatteryMINDer® 2012 AGM - 2 AMP charger, which can be ordered through your dealer.

EGIMOTORS provides a charging accessory with your vehicle that allows easy connection to the battery through the Battery Trickle-Charging Outlet, located on the dash. While charging, place the charger outside of the vehicle and protect it from moisture.

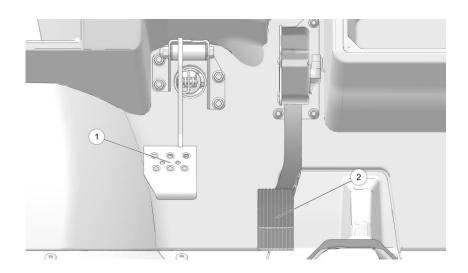


#### **AUXILIARY OUTLET**

The vehicle is equipped with 12–volt accessory outlets on the dash. Use the outlets to power an auxiliary light or other optional accessories or lights. For service, the dash outlet connection is under the dash.



## **FOOT PEDALS**



#### **BRAKE PEDAL**

Depress the brake pedal 1 to slow or stop the vehicle. Apply the brakes while starting the engine.

When the brake pedal is depressed, the brake light comes on. Check the brake light before each ride.

- 1. Turn the ignition switch to the ON position.
- Apply the brakes. The brake light should come on after a small amount of pedal travel.

## THROTTLE PEDAL

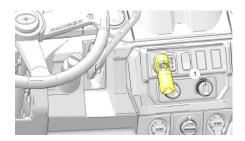
Push the throttle pedal down 2 to increase engine speed. Spring pressure returns the pedal to the rest position when released. Always check that the throttle pedal returns normally before starting the engine.

TIP

If the throttle pedal and brake pedal are applied simultaneously, engine power may be limited.

#### PARK BRAKE LEVER

Always apply the service brakes before engaging or releasing the park brake. To help prevent the vehicle from rolling, set the park brake when parking the vehicle. When the park brake is set and the park brake indicator is illuminated, engine speed is limited. If the accelerator is applied, this limiting feature prevents operation, which protects the park brake pads from excessive wear.



#### TIP

This feature will not operate properly if the park brake connector or switch (under the hood) malfunctions or becomes disconnected, or if the switch has moved. Check for disconnection, then see your dealer or other qualified service person promptly if this feature fails to operate properly.

- 1. To set the park brake, apply the brakes. Pull the park brake lever ① towards yourself as far as possible.
- 2. To release the park brake, apply the brakes. Turn the park brake lever counterclockwise and push it in as far as possible.

#### NOTICE

When the parking brake is engaged, the word "BRAKE" will appear in Display Area 2 of the Instrument Cluster.

#### **SEATS**

#### **A** CAUTION

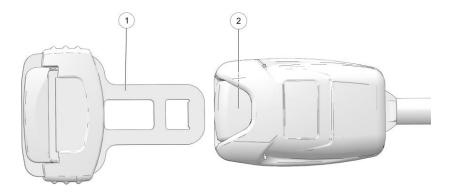
Prolonged sun exposure can cause excessive heating of the steering wheel and seats. Use caution when handling hot surfaces to avoid burns.

#### NOTE

These seats are designed for this quadricycle model. Replacement with different seats is not possible.

Before operating the vehicle, always push down on all seat backs to ensure the latches are secure.

#### **SEAT BELTS**



This vehicle is equipped with three-point lap and diagonal seat belts for the operator and passenger. Always make sure the seat belts are secured for all riders before operating. The driver's seat belt is equipped with a seat belt interlock. Vehicle speed will be limited to 24 km/h if the seat belt is not secured.

The center of the seat is NOT equipped with a seat belt. Never allow a passenger to ride between the operator and passenger seats.

## **A** WARNING

Falling from a moving vehicle could result in serious injury or death. Always fasten your seat belt securely before operating or riding in the vehicle.

To wear the seat belt properly, follow this procedure:

- For 3-point belts, pull the seat belt latch 1 downward and across your
  chest toward the buckle at the inner edge of the seat. The belt should fit
  snugly across your hips and diagonally across your chest. Make sure the
  belt is not twisted.
- 2. Push the latch plate (1) into the buckle (2) until it clicks.
- 3. Release the strap, and pull to tighten.
- 4. To release the seat belt, press the square red button in the buckle's center.

#### SEAT BELT INSPECTION

## **MARNING**

Failure to perform regular inspection can reduce the effectiveness of the seat belt during a crash and could result in serious injury or death.

Inspect all seat belts for proper operation before each use of the vehicle.

- Push the latch plate into the buckle until it clicks. The latch plate must slide smoothly into the buckle. A click indicates that it's securely latched.
- Push the red release latch in the middle of the buckle to make sure it releases freely.
- Pull each seat belt completely out and inspect the full length for any damage, including cuts, wear, fraying or stiffness. If any damage is found, or if the seat belt does not operate properly, have the seat belt system checked and/or replaced by an authorized dealer.
- 4. To clean dirt or debris from the seat belts, sponge the straps with mild soap and water. Do not use bleach, dye or household detergents. Rinse the entire length of the belt webbing. Use a garden hose to flush out the retractor and latch housings regularly.

## **SEAT AND STORAGE COMPARTMENTS**

The electrical compartment is located under the center rear-most seat. Never use this area for storage. Storage compartments are located under all other seats. Remove the storage bin under the right rear-most passenger seat to access the battery.

If your model is equipped with a storage console and cup holders located between the front seats, lift the console lid to access the storage compartment.

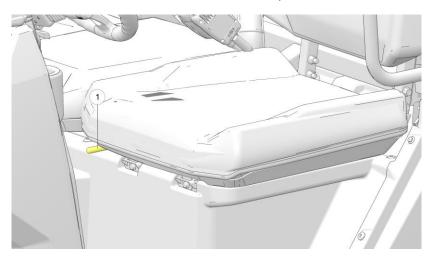
Pull the rear edge of a seat upward to release the latch pins from the grommets. Roll the seat forward to access the under-seat area. To completely remove a seat, roll the seat forward and lift the seat tabs from the seat base mounts.

Always make sure all seats are properly installed and securely latched before operating. Push down firmly on the rear of each seat until the latch pins are fully seated into the grommets.

#### **SEAT ADJUSTMENTS**

The driver's seat is equipped with an adjustment lever. Vertical adjustment of the seat is compensated by adjustment of the steering wheel.

- Pull the adjustment lever 1 to the right to move the seat forward or rearward (150 mm travel distance). The seat back will move together with the seat bottom.
- · Once the lever is released, the seat will lock into place.



#### **SEAT REMOVAL**

The driver's seat is securely fastened to the seat adjustment mechanism, and is not removable.

To remove the passenger seat:

- Lift up on the back of the seat.
- 2. Detach the seat assembly from the seat hinges.
- 3. Remove the seat from the vehicle.

## **ELECTRONIC POWER STEERING**

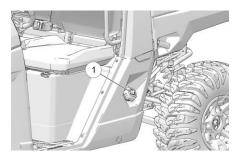
Electronic power steering (EPS) engages when the ignition key is turned to the ON position. EPS remains engaged whether the vehicle is moving or idle. To conserve battery power, the EPS will shut down 5 minutes after the engine is stopped if the key remains in the ON position. The EPS warning indicator will illuminate to indicate the EPS has shut down. Turn the key off and on to reset the unit. If the light remains on after starting the engine, the EPS system is inoperative. See your EGIMOTORS dealer, or other qualified person, as soon as possible for repair. Continued operation could result in permanent damage to the EPS unit and increased steering effort.

## **FUEL CAP**

The fuel tank filler cap ① is located on the left-hand side of the vehicle near the driver's seat. To close, tighten the fuel cap until it clicks twice. When refueling, always use unleaded gasoline with a minimum pump octane number of 87 R+M/2 octane or 91 RON. Do not use fuel with ethanol content greater than 10 percent, such as E-85 fuel. Compatible fuels: E5 and E10.

Always ensure that the fuel tank filler cap is fully tightened and secure before operating or transporting the vehicle.

Quadricycle Model: 91 RON E5 and E10 Compatible





## **CAB NETS (IF EQUIPPED)**

#### **A** WARNING

Riding in this vehicle without using the cab nets (or doors, if equipped) increases the risk of serious injury or death in the event of an accident or rollover. Cab nets (or doors) must be used by both operator and passengers at all times. Make sure all latches are secure before operating the vehicle

Always inspect cab nets and latches for tightness, wear and damage before each use of the vehicle. Use the strap adjusters to tighten any loose straps. Promptly replace worn or damaged cab nets and latches with new cab nets and latches. Your EGIMOTORS dealer or qualified technician can assist.

#### **SECURING THE NET**

 Connect the latch at the top edge of the net to the receiver latch mounted on the front frame.

#### **OPENING THE NET**

- 1. To exit the vehicle, release the top front latch.
- 2. Allow the net to hang freely outside the vehicle while dismounting.

## **ROLLOVER PROTECTIVE STRUCTURE (ROPS)**

The Rollover Protective Structure (ROPS) on this vehicle meets OSHA® 1928.53 rollover performance requirements. Always have your authorized dealer thoroughly inspect the ROPS if it ever becomes damaged in any way.

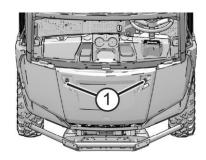
No device can assure occupant protection in the event of a rollover. Always follow all safe operating practices outlined in this manual to avoid vehicle rollover.

## **A** WARNING

Vehicle rollover could cause severe injury or death. Always avoid operating in a manner that could result in vehicle rollover.

## **HOOD LATCHES**

To remove the hood, rotate the hood latches ① 1/4-turn and lift the hood away from the vehicle.



## TRAILER HITCH

This vehicle is equipped with a receiver hitch bracket for a trailer hitch and trailer towing equipment (for off road use only).

#### NOTICE

To avoid injury and property damage, always heed the warnings and towing capacities outlined in the specification table.

#### **A** WARNING

Whenever the vehicle is towing, always stay clear of the area between the vehicle and the towed object. Failure to do so may result in serious injury or death.

#### NOTICE

After 1000 km of use, tighten the bolt holding the trailer ball to the hitch to 445  $N \cdot m$ .

#### **A** WARNING

Strictly follow the instructions outlined in the operator's manual of the mounted or trailed machinery or trailer, and not to operate the combination quadricycle — machine or quadricycle — trailer unless all instructions have been followed.

#### **REAR HITCH**

Use the rear hitch for towing a trailer. See the Hauling Cargo section for details and procedures.

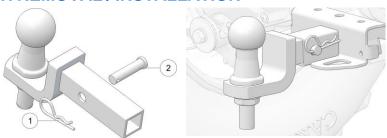
The values given below pertain to factory-installed hitches and are provided for informational purposes only.

#### **IMPORTANT**

For vehicle-specific trailering values, see the Specifications chapter. The vehicle-specific values take precedent if they are lower than the component values shown below.

REAR HITCH COMPONENT SPECIFICATIONS			
Maximum Vertical Load(s) 150 kg			
Maximum Dynamic Force (D)	23,0 kN		
Approval#	E20 55R-01 3487		

#### HITCH REMOVAL / INSTALLATION



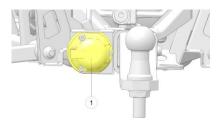
- 1. To remove the hitch (if equipped), remove the cotter pin (1) and hitch pin w. Remove the hitch, then reinstall the hitch pin w and secure the cotter pin (1).
- 2. To install the hitch, remove the cotter pin  $\bigcirc{1}$  from the hitch pin and remove the hitch pin  $\bigcirc{2}$ .
- Install the hitch to the receiver.
- 4. Reinstall the hitch pin (from the left side of the hitch) through the bore of both the receiver and the hitch.
- 5. Reinstall the cotter pin. Make sure the hitch assembly is secure at that the cotter pin is properly engaged over the hitch pin.

## 7-WAY TRAILER CONNECTOR

The 7-way trailer connector installed on your vehicle meets the requirements of European standard ISO 1724.

This connector uses all 7 pins on newer model trailers. An older model trailer may not be compatible with this connector.

Improper electrical wiring changes can result in damage to both vehicle and trailer components. When in doubt about your trailer connection, please contact a qualified towbar specialist for assistance.



## **INSTRUMENT CLUSTER**

## **OVERVIEW**

#### NOTICE

Features and telltales vary by model.



DISPLAY AREA	FUNCTION
① Gear Indicator	H = High Gear L = Low Gear N = Neutral R = Reverse Gear P = Park - = Gear Signal Error (or shifter between gears)
② Display Area 2	This area displays odometer, trip meter, trip meter 2, voltage, engine temperature, engine hour meter, programmable service hour interval, ground speed, or engine RPM.
③ Display Area 1	This area displays engine RPM, ground speed, or coolant temperature.
4 Fuel Gauge	The segments of the fuel gauge show the level of fuel in the fuel tank. When the last segment clears, a low fuel warning is activated. All segments including the fuel icon will flash. Refuel immediately.

DISPLAY AREA	FUNCTION
5 Brake Warning Light	Lamp illuminates when Brake System (if Brake Failure Alarm is equipped) detects low fluid level in brake hydraulic system. Verify brake fluid in reservoir. Note: that in some variants this light might be as separate light added on console.
6 Trailer Indicator	Lamp illuminates when trailer turn signals are active.
7 Turn Signal Indicator	One arrow flashes when the corresponding turn signal is activated. Both arrows flash when the hazard signal is activated. If there is a problem in the signal system, the lamps will flash at twice the normal rate.
8 Service Indicator	A flashing wrench symbol alerts the operator that the preset service interval has been reached. Your EGIMOTORS dealer can provide scheduled maintenance.
Clock	The clock displays time in a 12-hour or 24-hour format.
10 Driveline Mode Indicator	Segments of the indicator illuminate based on driveline mode engaged.

## **INDICATOR LAMPS**

INDICATOR	ICON	FUNCTION
Check Engine	<b>(</b>	This indicator appears if a fault occurs. Do not operate the vehicle if this warning appears. Serious engine damage could result. Your authorized EGIMOTORS dealer can assist.
EPS Warning (if equipped)	\times	This indicator illuminates when a fault has occurred in the EPS system. Your authorized EGIMOTORS dealer can assist. EPS operation is possible with key on/engine off for up to 5 minutes.
Engine Hot	<b>₹</b>	This lamp illuminates to indicate an overheated engine. If the indicator flashes, a severe overheating condition exists.

INDICATOR	ICON	FUNCTION
Neutral	N	This lamp illuminates when the transmission is in neutral and the ignition key is in the ON position.
Helmet/Seat Belt	*	This lamp is a reminder to the operator to ensure all riders are wearing helmets and seat belts before operating. The driver's seat belt is equipped with a seat belt interlock. Vehicle speed will be limited to 24 km/h if the seat belt is not secured.
High Beam	<b>≣</b> D	This lamp illuminates when the headlamp switch is set to high beam.
Brake Failure (if equipped)		Lamp illuminates when Brake System (if Brake Failure Alarm is equipped) detects low fluid level in brake hydraulic system. Verify brake fluid in reservoir.
Turn Signals	<b>++</b>	One arrow flashes when the corresponding turn signal is activated. Both arrows flash when the hazard signal is activated. If there is a problem in the signal system, the lamps will flash at twice the normal rate.
Trailer Indicator (if equipped)	<b>⟨¹ ¢⟩</b>	Lamp illuminates when trailer turn signals are active.

## **DISPLAY AREA 1**

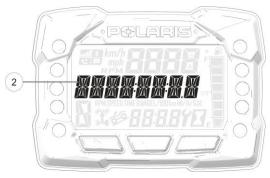
Pressing the MODE button will change the information displayed in Area 1 ①.



DISPLAY AREA 1	FUNCTION
Speed	The vehicle's speed will be displayed in mph, or km/h.
Engine Temperature	The vehicle's current engine temperature will be displayed.
RPM	The vehicle's RPM will be displayed.

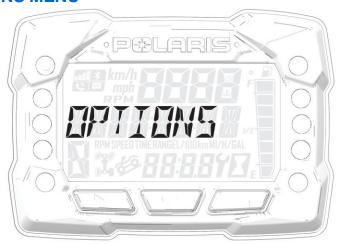
## **DISPLAY AREA 2**

Toggle the Up/Down buttons to change the information displayed in Area 2 ②.



DISPLAY AREA 2	FUNCTION
Odometer	The vehicle's odometer reading will be displayed.
Engine Temperature	The vehicle Engine Temperature will be displayed.
Trip 1	The vehicle Trip 1 mileage will be displayed.
Trip 2	The vehicle Trip 2 mileage will be displayed.
RPM	The vehicle RPM will be displayed.
Voltage	The vehicle's current battery voltage will be displayed.
Speed	The vehicle's current speed will be displayed.
Engine Hours	The vehicle's engine hours will be displayed.
Service Hours	The vehicle's service hours will be displayed.

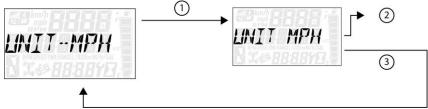
## **OPTIONS MENU**



Press and hold the MODE button to enter the Options Menu.

OPTIONS MENU	NOTES
Diagnostic Codes	Only displays if fault codes are present or stored
Units - Distance	Select MPH or KPH
Units - Temp	Select between °F and °C
Clock	Select between 12H or 24H, and set time
Backlight Color	Select between Blue or Red
Backlight Level	Set backlight brightness level
Service Hours	View/Set Service hours
Exit Menu	Exit

#### **UNIT SELECTION DISTANCE**



1. Press and hold the MODE button to enter the Options Menu.

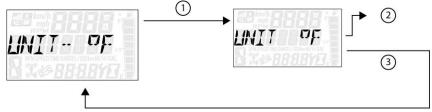
#### NOTICE

"OPTIONS" will display on the screen for 3 seconds before showing first menu item.

Select "Units-Distance" from the Options Menu by pressing the MODE button.

- 1 Press the MODE button.
- (2) Toggle the Up/Down Buttons to change the units (MPH or KPH)
- ③ With the correct unit displayed, press the MODE button which will set the unit and return to the Options Menu.
- 3. To exit the Options Menu the user can select Exit Menu function from Options Menu, can hold MODE Button and exit out of Options Menu, or not press any button for 10 seconds, which will exit out of the Options Menu.

#### **UNIT SELECTION TEMPERATURE**

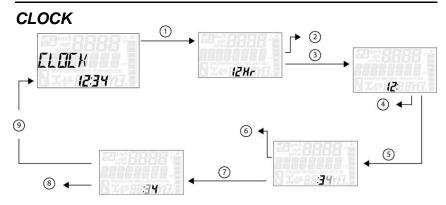


1. Press and hold the MODE button to enter the Options Menu.

#### **NOTICE**

"OPTIONS" will display on the screen for 3 seconds before showing first menu item.

- 2. Select "Units Temp" from the Options Menu by pressing the MODE button.
  - Reference the image shown above:
  - Press the MODE button.
  - (2) Toggle the Up/Down Buttons to change the units (°F or °C)
  - ③ With the correct unit displayed, press the MODE button which will set the unit and return to the Options Menu.
- To exit the Options Menu the user can select Exit Menu function from Options Menu, can hold MODE Button and exit out of Options Menu, or not press any button for 10 seconds, which will exit out of the Options Menu.



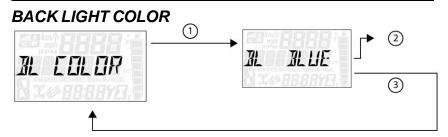
1. Press and hold the MODE button to enter the Options Menu.

#### NOTICE

"OPTIONS" will display on the screen for 3 seconds before showing first menu item.

2. Select "Clock" from the Options Menu by pressing the MODE button.

- 1 Press the MODE button.
- (2) Toggle the Up/Down Buttons to change the units (12H or 24H)
- $\ensuremath{ \mathfrak{J}}$  With the correct unit displayed, Press the mode button which will set the unit.
- 4 Toggle the Up/Down Buttons to change the units (Cycles Hours)
- ⑤ With the correct unit displayed, Press the mode button which will set the unit.
- (6) Toggle the Up/Down Buttons to change the units (Cycles 10s of Minutes)
- ⑦ With the correct unit displayed, Press the mode button which will set the unit.
- 8 Toggle the Up/Down Buttons to change the units (Cycles 1s of Minutes)
- 9 With the correct unit displayed. Press the mode button which will set the unit and return to the Options menu.
- 3. To exit the Options Menu the user can select Exit Menu function from Options Menu, can hold Mode Button and exit out of Options Menu, or not press any button for 10 seconds, which will exit out of the Options Menu.



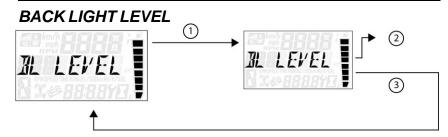
1. Press and hold the MODE button to enter the Options Menu.

#### **NOTICE**

"OPTIONS" will display on the screen for 3 seconds before showing first menu item.

Select "Backlight Color" from the Options Menu by pressing the MODE button.

- 1 Press the MODE button.
- (2) Toggle the Up/Down Buttons to change the units (Blue or Red)
- ③ With the correct unit displayed, Press the MODE button which will set the unit and return to the Options Menu.
- To exit the Options Menu the user can select Exit Menu function from Options Menu, can hold MODE Button and exit out of Options Menu, or not press any button for 10 seconds, which will exit out of the Options Menu.



1. Press and hold the MODE button to enter the Options Menu.

#### NOTICE

"OPTIONS" will display on the screen for 3 seconds before showing first menu item.

Select "Backlight Level" from the Options Menu by pressing the MODE button.

- 1 Press the MODE button.
- Toggle the Up/Down Buttons to change the units (Increase or De-crease Level)
- ③ With the correct unit displayed, Press the MODE button which will set the unit and return to the Options Menu.
- 3. To exit the Options Menu the user can select Exit Menu function from Options Menu, can hold MODE Button and exit out of Options Menu, or not press any button for 10 seconds, which will exit out of the Options Menu.

# SERVICE HOURS 1 57/ HR5 350 3 Blinks

1. Press and hold the MODE button to enter the Options Menu.

#### NOTICE

"OPTIONS" will display on the screen for 3 seconds before showing first menu item.

- 2. Select "Service Hours" from the Options Menu by pressing the MODE button.
  Reference the image shown above:
  - 1 Press the MODE button.
  - 2 Toggle the Up/Down Buttons to change the units (0, 5, 10 95, 100)
  - ③ With the correct unit displayed, press the MODE button, which will set the unit and return you to the Options Menu.

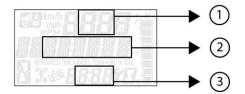
#### NOTICE

To reset service hours after they have counted down to "0.0", reselect the existing setpoint or select a new service hour value.

 To exit the Options Menu the user can select Exit Menu function from Options Menu, can hold MODE Button and exit out of Options Menu, or not press any button for 10 seconds, which will exit out of the Options Menu.

## DIAGNOSTIC CODE





#### NOTICE

Diagnostic Code Screen will show available MIL that has come on during that ignition cycle.

1. Press and hold the MODE button to enter the Options Menu.

#### NOTICE

"OPTIONS" will display on the screen for 3 seconds before showing first menu item.

Select "Diagnostic Codes" from the Options Menu by pressing the MODE button.

Toggle the Up/Down Buttons to cycle through Code(s).

#### NOTICE

This option will only be available if a fault code was set or is active during the current ignition key 'on' cycle. Turning off the ignition will clear any saved fault codes from the gauge.

- 1 Area A will Display FMI (XX)
- 2 Area B will Display SPN (XXXXXX)
- 3 Clock Area will Display Count (XXX)
- 3. To exit the Options Menu the user can select Exit Menu function from Options Menu, can hold MODE Button and exit out of Options Menu, or not press any button for 10 seconds, which will exit out of the Options Menu.

#### DIAGNOSTIC DISPLAY CODE DEFINITIONS

<u>Open Load</u>: There is a break in the wires that lead to the item listed in the chart (injector, fuel pump, etc.), or the item has failed.

<u>Short-to-Ground</u>: The wire is shorted to ground between the electronic control unit and the item listed in the chart.

<u>Shorted Load</u>: The wires leading to the item listed in the chart are shorted together, or the item has shorted internally.

<u>Short-to-Battery:</u>The wire leading from the item listed in the chart to the electronic control unit is shorted to a wire at battery voltage.

DIAGNOSTIC CODES				
COMPONENT	CONDITION	SPN	FMI	
Throttle Position Sensor	Voltage Too High	51	3	
	Voltage Too Low	51	4	
Engine Temperature Sensor	Voltage Too High	110	3	
CONSO	Voltage Too Low	110	4	
	Temperature Too High	110	16	
	Engine Overheat Shutdown	110	0	
Intake Air Temperature Sensor	Voltage Too High	105	3	
CONSO	Voltage Too Low	105	4	
Manifold Absolute Pressure Sensor	Voltage Too High	102	3	
Consor	Voltage Too Low	102	4	
	Signal Out of Range	102	2	
Crankshaft Position Sensor	Circuit Fault	636	8	
	Plausibility Fault	636	2	
Vehicle Speed Signal	Speed Too High	84	8	
	Plausibility Fault	84	2	
Gear Sensor Signal	Voltage Too Low	523	4	
	Voltage Too High	523	3	
	Signal Fault	523	2	

DIAGNOSTIC CODES			
COMPONENT	CONDITION	SPN	FMI
Injector 1 (MAG) (SDI Part Load)	Driver Circuit Open/Grounded	651	5
	Driver Circuit Short to B+	651	3
	Driver Circuit Grounded	651	4
Injector 2 (PTO) (SDI Part Load)	Driver Circuit Open/Grounded	652	5
	Driver Circuit Short to B+	652	3
	Driver Circuit Grounded	652	4
Ignition Coil Primary Driver 1 (MAG)	Driver Circuit Short to B+	1268	3
Ignition Coil Primary Driver 2 (PTO)	Driver Circuit Short to B+	1269	3
Fuel Pump Driver Circuit	Driver Circuit Open/Grounded	1347	5
	Driver Circuit Short to B+	1347	3
	Driver Circuit Grounded	1347	4
Fan Relay Driver Circuit	Driver Circuit Open/Grounded	1071	5
	Driver Circuit Short to B+	1071	3
	Driver Circuit Grounded	1071	4
Idle Air Control	Driver Circuit Open/Grounded	634	5
	Driver Circuit Short to B+	634	3
	Driver Circuit Grounded	634	4
	Position Out of Range	634	7

DIAGNOSTIC CODES			
COMPONENT	CONDITION	SPN	FMI
Starter Enable Circuit	Driver Circuit Open/Grounded	1321	5
	Driver Circuit Short to B+	1321	3
	Driver Circuit Grounded	1321	4
Chassis Relay	Driver Circuit Open/Grounded	520208	5
	Driver Circuit Short to B+	520208	3
	Driver Circuit Grounded	520208	4
All Wheel Drive Control	Driver Circuit Open/Grounded	520207	5
	Driver Circuit Short to B+	520207	3
	Driver Circuit Grounded	520207	4
System Power	Voltage Too High	168	3
	Voltage Too Low	168	4
Throttle Safety Signal	Voltage Too High	520194	3
	Voltage Too Low	520194	4
	Signal Out of Range	520194	2
	Throttle Stuck	520194	7
Active Descent Control System	Driver Circuit Open/Grounded	520203	5
	Driver Circuit Short to B+	520203	3
	Driver Circuit Grounded	520203	4
Idle Speed	Speed Too High	520211	3
	Speed Too Low	520211	4
Right Hand Control	Momentary Driveline Mode Switch Press	520468	31

DIAGNOSTIC CODES			
COMPONENT CONDITION		SPN	FMI
	EPS MOD	ELS ONLY	
Vehicle Speed Sensor	Data Valid But Above Normal Operational Range - Most Severe Level	84	0
	Data Erratic, Intermittent Or Incorrect	84	2
	Abnormal Rate Of Change	84	10
	Received Network Data In Error	84	19
System Power	Data Valid But Above Normal Operational Range - Most Severe Level	168	0
	Voltage Above Normal, Or Shorted To High Source	168	3
	Voltage Below Normal, Or Shorted To Low Source	168	4
Engine Speed	Data Valid But Above Normal Operational Range - Most Severe Level	190	0
	Data Erratic, Intermittent Or Incorrect	190	2
	Received Network Data In Error	190	19
ECU Memory	Bad Intelligent Device Or Component	628	12
	Out Of Calibration	628	13
Calibration	Out Of Calibration	630	13
Steering Over Current Shut Down	Current Above Normal Or Grounded Circuit	520221	6
Steering Excessive Current Error	Current Above Normal Or Grounded Circuit	520222	6

# FEATURES AND CONTROLS

DIAGNOSTIC CODES				
COMPONENT	CONDITION	SPN	FMI	
	EPS MOD	ELS ONLY		
Steering Torque Partial Failure	Condition Exists	520223	31	
Steering Torque Full Failure	Condition Exists	520224	31	
EPAS Inverter Temperature	Data Valid But Above Normal Operational Range - Most Severe Level	520225	0	
	Data Valid But Above Normal Operating Range - Moderately Severe Level	520225	16	
EPAS Communications Receive Data Error	Data Erratic, Intermittent Or Incorrect	520226	2	
	Condition Exists	520226	31	
Position Encoder Error	Root Cause Not Known	520228	11	
	Bad Intelligent Device Or Component	520228	12	
	Condition Exists	520228	31	
EPAS Software Error	Bad Intelligent Device Or Component	520229	12	
	Condition Exists	520229	31	
EPAS Power Save Condition	Condition Exists	520231	31	
EPS SEPIC Voltage Error	Voltage Above Normal, Or Shorted To High Source	524086	3	
	Voltage Below Normal, Or Shorted To Low Source	524086	4	

# **OPERATION**

# VEHICLE BREAK-IN

# IMPORTANT INFORMATION

# ⚠ WARNING

Failure to operate the vehicle properly can result in a collision, loss of control, accident or rollover, which may result in serious injury or death. Read and understand all safety warnings outlined in the safety section of this owner's manual.

# **ENGINE AND DRIVETRAIN BREAK-IN**

The break-in period for your new vehicle is the first 25 hours of operation, or the time it takes to use the first two full tanks of gasoline. No single action on your part is as important as a proper break-in period. Careful treatment of a new engine will result in more efficient performance and longer life for the engine. Perform the following procedures carefully.

#### NOTICE

Excessive heat build-up during the first three hours of operation will damage close-fitted engine parts and drive components. Do not operate at full throttle or high speeds during the first 3 hours of use.

- 1. Fill the fuel tank with clean, fresh fuel. See the Refueling section for details. Always exercise extreme caution whenever handling gasoline.
- Check the oil level. See the Oil Check section for details. Add the recommended oil as needed to maintain the oil level in the safe operating range.
- 3. Complete the New Operator driving procedures..
- Avoid aggressive use of the brakes.
- 5. Vary throttle positions. Do not operate at sustained idle.
- 6. Carry only light loads.
- Perform regular checks on fluid levels, controls and areas outlined on the daily pre-ride inspection checklist.
- 8. During the break-in period, change both the oil and the filter at 25 hours.
- 9. Check fluid levels of transmission and all gearcases after the first 25 hours of operation and every 200 hours thereafter.

# **BRAKE BURNISHING**

It is recommended that a burnishing procedure be performed on new vehicles or after installation of new brake pads or rotors. This helps to conform the pads to the rotor surface and achieve optimum braking performance.

Test drive the machine and gradually accelerate to more than 30km/h. Apply light to moderate pressure to the brake pedal to slow the vehicle to roughly 5 mph. Repeat this process 10–30 times, allowing 30 seconds between brake applications for the system to cool down.

#### **IMPORTANT**

Do not stop aggressively and do not slow to a complete stop during the burnishing process. After brake burnishing is complete, drive the vehicle to cool the brake pads and rotors.

#### NOTICE

The burnishing process may cause there to be brake dust on the wheels and calipers. This is normal. When the system has cooled, use a rag and soapy water (no harsh chemicals) to clean off the dust.

# **PVT BREAK-IN (CLUTCHES / BELT)**

Always break in clutches and drive belt or new vehicles, as well as after belt replacement. A proper break-in of the clutches and drive belt will ensure a longer life and better performance. Break in the clutched and belt by operating at slower speeds during the break-in period as recommended. Pull only light loads. Avoid aggressive acceleration and high speed operation during the break-in period. If a belt fails, always clean any debris from the duct and from the PVT intake, outlet duct, and the clutch/engine compartments when replacing the belt.

# STANDARD BREAK-IN

Drive at slower speeds for the first 80 km of operation. Carry only light loads. Avoid aggressive acceleration, high-speed operation and prolonged operation at a specific RPM during this period.

# SAND/DUNE BREAK-IN

Drive in low gear for the first 8 km of operation. Avoid prolonged low speed operation at high throttle. Avoid aggressive acceleration, high-speed operation and prolonged operation at a specific RPM during this period.

# **BELT LIFE**

To extend belt life, use low gear in the following conditions:

- · When hauling or towing heavy cargo
- When consistently operating at speeds less than 56 km/h in hardpulling terrain, such as mud, rocks or sand/dune environments.

# **OPERATING GUIDELINES**

# **BOARDING AND EXITING THE VEHICLE**

- · Never try to climb onto or exit the vehicle while it is moving.
- · Do not exit the vehicle by jumping off.
- · Always face the vehicle when boarding or exiting.
- Do not grab controls as hand supports. This may cause inadvertent machine movements.
- Always keep vehicle steps and flooring clean to prevent slippery conditions.

# **COLD WEATHER OPERATION**

If the vehicle is used year-round, check the oil level frequently. A rising oil level could indicate the accumulation of contaminates such as water or excess fuel in the bottom of the crankcase. Water in the bottom of the crankcase can lead to engine damage and must be drained. Water accumulation increases as outside temperature decreases.

# STARTING THE ENGINE

#### NOTICE

Operating the vehicle immediately after starting could cause engine damage. Allow the engine to warm up for several minutes before operating the vehicle.

- 1. Position the vehicle on a level surface outdoors or in a well-ventilated area.
- Sit in the driver's seat and fasten the seat belt. Always make sure all cab doors are closed and latched when riding in this vehicle.
- 3. Place the transmission in PARK.
- 4. Apply the brakes. Do not press the throttle pedal while starting the engine.
- 5. Turn the ignition key past the ON/RUN position to START. Engage the starter for a maximum of five seconds. Release the key when the engine starts.
- If the engine does not start within five seconds, return the ignition switch to the OFF position and wait five seconds. Repeat steps 5 and 6 until the engine starts.
- 7. After starting the engine, wait 10 seconds before applying throttle.
- 8. Vary the engine RPM slightly with the throttle to aid in warm up until the engine idles smoothly.

# **FUEL RECOMMENDATION**

Compatible fuel types: E5, E10

#### **Octane Rating**

EGIMOTORS recommends a minimum of 87

Octane (R+M/2) rated gasoline. Using lower octane gasoline could result in engine damage.



EGIMOTORS recommends gasoline containing up to 10% ethanol (E10). Higher levels of ethanol (ex. E15 and E85) may result in engine damage.

#### Seasonal Blends

EGIMOTORS recommends using gasoline that is purchased during the season the vehicle is being used, especially summer vs. winter. Between seasons, refineries typically change the gasoline blend to avoid temperature induced engine performance issues. Winter blend gasoline improves engine starting in cold weather and summer blend gasoline helps prevent vapor lock issues in hot weather.

## **BRAKING**

Release the throttle pedal completely.

#### TIP

When the throttle pedal is released completely and engine speed slows to near idle, the vehicle has no engine braking.

- 2. Press on the brake pedal evenly and firmly.
- Practice starting and stopping (using the brakes) until you're familiar with the controls.

# **DRIVING IN REVERSE**

# **MARNING**

Before shifting into reverse, use extra care to make sure the area is clear of people or obstacles. When it's safe to proceed, back slowly.

Follow these precautions when operating in reverse:

- 1. Always check for obstacles or people behind the vehicle.
- 2. Always inspect left and right fields of vision before backing.
- 3. Apply the throttle *lightly*. Never open the throttle suddenly.
- 4. Back slowly.
- 5. Apply the brakes *lightly* for stopping.
- 6. Avoid making sharp turns.

# STOPPING THE ENGINE AND PARKING THE VEHICLE

# **A** WARNING

When leaving the vehicle on an incline is unavoidable, use extra care. Vehicle rollaway can cause serious injury or death. This vehicle can roll whenever the gear selector is not in the PARK (P) position. Always shift to PARK (P) when stopping the engine or leaving the vehicle. If leaving the vehicle unattended, block the rear wheels on the downhill side and keep children, pets, and others away from the gear selector.

#### To park the vehicle:

- Stop the vehicle on a level surface. When parking inside a garage or other structure, be sure that the structure is well ventilated and that the vehicle is not close to any source of flame or sparks, including any appliance with a pilot light.
- 2. Place the transmission in PARK (P).
- Turn the engine off.
- 4. Engage the park brake (if equipped).
- Slowly release the brake pedal and make sure the transmission is in PARK before exiting the vehicle.
- 6. Remove the ignition key to prevent unauthorized use.

# **HAULING CARGO**

# **MARNING**

Overloading the vehicle or carrying or towing cargo improperly can alter vehicle handling and may cause loss of control or brake instability. Always follow these precautions when hauling cargo:

Never exceed the stated load capacity for this vehicle.

REDUCE SPEED AND ALLOW GREATER DISTANCES FOR BRAKING WHEN HAULING CARGO.

NEVER EXCEED THE MAXIMUM WEIGHT CAPACITY of the vehicle. When determining the weight you are adding to the vehicle, include the weight of the operator, passenger, accessories, loads in the rack or box and the load on the trailer tongue. The combined weight of these items must not exceed the maximum weight capacity.

Always load the cargo box with the load as far forward and as low as possible. When operating over rough or hilly terrain, reduce speed and cargo to maintain stable driving conditions.

Always operate the vehicle with extreme care when hauling or towing loads. Slow down and drive in the lowest gear available.

SECURE ALL LOADS BEFORE OPERATING. Unsecured loads can create unstable operating conditions, which could result in loss of control of the vehicle.

OPERATE ONLY WITH STABLE AND SAFELY ARRANGED LOADS. When handling off-centered loads that cannot be centered, securely fasten the load and operate with extra caution.

Always attach the tow load to the hitch point designated for your vehicle. HEAVY LOADS CAN CAUSE BRAKING AND CONTROL PROBLEMS. Use extreme caution when applying brakes with a loaded vehicle. Avoid terrain or situations that may require backing downhill.

USE EXTREME CAUTION when operating with loads that extend over the rack sides. Stability and maneuverability may be adversely affected, causing vehicle rollover.

DO NOT TRAVEL FASTER THAN THE RECOMMENDED SPEEDS. Vehicle should never exceed 16 km/h while towing a load on a level grass surface.

Vehicle speed should never exceed 8 km/h when towing loads in rough terrain, while cornering, or while ascending or descending a hill.

Carrying a passenger in the cargo box could result in a fall from the vehicle or contact with moving components. Never allow a passenger to ride in the cargo box.

# WARNING If the vehicle is capable, never exceed: RANGER 1000 64 km/h if total payload exceeds 250 kg

Your vehicle has been designed to carry or tow specific capacities. Reduce speed and allow a greater distance for braking when carrying cargo.

Loads should be centered on the vehicle and carried as low as possible in the box. For stability on rough or hilly terrain, reduce both speed and cargo. Exercise caution if the cargo load extends over the side of the box.

Always read and understand the load distribution warnings listed on warning labels and in this manual. Never exceed the maximum capacities specified for your vehicle.

# **TOWING LOADS**

# **A** WARNING

Towing improperly can alter vehicle handling and may cause loss of control or brake instability.

Always follow these precautions when towing:

- 1. Never load more than 80 kg tongue weight on the towing bracket.
- When towing a disabled vehicle, place the disabled vehicle's transmission in neutral. Do not operate the vehicle faster than 16 km/h when towing.
- 3. Towing a trailer increases braking distance. Do not operate the vehicle faster than 16 km/h when towing.
- 4. Do not tow more than the recommended weight for the vehicle.
- Attach a trailer to the trailer hitch bracket only. Do not attach a trailer to any other location, which could result in loss of control of the vehicle.
- 6. The total load (operator, accessories, cargo and weight on hitch) must not exceed the maximum weight capacity of the vehicle.

TOTAL TOWED LOAD WEIGHT (LEVEL GROUND)	TOTAL TOWED LOAD WEIGHT (15° GRADE)	TOTAL HITCH VERTICAL WEIGHT	MAXIMUM TOWING SPEED
300 kg	300 kg	80kg	16 km/h

# **DUMPING THE CARGO BOX**

To dump the cargo box, do the following:

- Select a level site to dump the cargo box. Do not attempt to dump or unload the vehicle while parked on an incline.
- 2. Apply the brakes.
- 3. Shift the gear selector to the Park position.
- 4. Turn the key to the off position.
- Dismount vehicle.
- Ensure that the cargo is positioned evenly or toward the front of the cargo box.
- 7. Open the tailgate.
- 8. Stand clear and pull up on the cargo box release lever.
- 9. Lift the front of the cargo box to dump the cargo.
- 10. Lower the cargo box and push down securely to latch.
- 11. Close the tailgate.

# **A** WARNING

Operating the vehicle while the cargo box is raised could result in severe injury. The box could close unexpectedly and cause injury to the driver or passenger. The rear tires will also catch the rear of a raised box, damaging the vehicle and creating hazardous driving conditions. Never operate this vehicle with the cargo box in the raised position.

# **EMISSION CONTROL SYSTEMS**

# NOISE EMISSION CONTROL SYSTEM

Do not modify the engine, intake or exhaust components, as doing so may affect compliance with governmental noise level requirements.

# **SPARK ARRESTER**

Your EGIMOTORS vehicle has a spark arrester that was designed for on-road and off-road operation. It is required that this spark arrester remain installed and functional when the vehicle is operated.

# CRANKCASE EMISSION CONTROL SYSTEM

This engine is equipped with a closed crankcase system. Blow-by gases are forced back to the combustion chamber by the intake system. All exhaust gases exit through the exhaust system.

# EXHAUST EMISSION CONTROL SYSTEM

Exhaust emissions are controlled by engine design. An electronic fuel injection (EFI) system controls fuel delivery. The engine and EFI components are set at the factory for optimal performance and are not adjustable.

# **ELECTROMAGNETIC INTERFERENCE**

This vehicle complies with the EMC requirements of Regulation (EU) No. 2015/208 Annex XV.

Non-ionizing Radiation: This vehicle emits some electromagnetic energy. People with active or non-active implantable medical devices (such as heart monitoring or controlling devices) should review the limitations of their device and the applicable electromagnetic standards and directives that apply to this vehicle.

# **CARBON DIOXIDE EMISSIONS**

CO2 Emissions: 998 g/kWh\*

\*This CO2 measurement results from testing over a fixed test cycle under laboratory conditions a(n) (parent) engine representative of the engine type (engine family) and shall not imply or express any guarantee of the performance of a particular engine'

# **MAINTENANCE**

# **OVERVIEW**

Any qualified repair shop or person may maintain, replace or repair the emission control devices or systems on your vehicle. An authorized EGIMOTORS dealer can perform any service that may be necessary for your vehicle. EGIMOTORS also recommends EGIMOTORS parts for emissions-related service, however equivalent parts can be used.

It is a potential violation of the law if a part supplied by an aftermarket parts manufacturer reduces the effectiveness of the vehicle's emission controls. Tampering with emission controls is prohibited by law.

Owners are responsible for performing the scheduled maintenance identified in this owner's manual. Careful periodic maintenance will help keep your vehicle in safe, reliable condition. Inspect, clean, lubricate, adjust and replace parts as necessary. When inspection reveals the need for replacement parts, genuine EGIMOTORS parts are available from your EGIMOTORS dealer. Equivalent parts may be used for emissions-related service.

Record maintenance and service in the Maintenance Log beginning on page 142. Service and adjustments are important for proper vehicle operation. If you're not familiar with safe service and adjustment procedures, a qualified dealer can perform these operations. Maintenance intervals in the following chart are based upon average riding conditions and an average vehicle speed of approximately 16km/h. Vehicles subjected to severe use must be inspected and serviced more frequently.

# EGIMOTORS MAINTENANCE SCHEDULE

The intervals shown in this table are based on vehicles operated under normal conditions.

Each interval is given in hours and kilometers. Items should be serviced at whichever interval comes first.

Continue to reference the following maintenance schedules at the given intervals as hours and kilometers increase on the vehicle.

Vehicles subjected to severe use must be serviced at 50% of the stated interval. Examples of Severe Use: Frequent immersion in mud, water, or sand, constant high RPM use, prolonged low-speed heavy load operation, extended idle, and short trip cold weather operation.

#### INITIAL BREAK-IN SERVICE FIRST 25 HOURS / 800 KM

Brake System	Initial fluid level inspection; inspect for fluid leaks; add lubricant if needed. Inspect brake pad wear.
Engine Oil and Filter	Change the engine oil and filter.
Front Gearcase Fluid	Initial fluid level inspection.
Transmission Fluid	Initial fluid level inspection; inspect for fluid leaks; add lubricant if needed.

The break-in period consists of the first 25 hours of operation. Careful treatment of a new engine and drive components will result in more efficient performance and longer life for these components. The items outlined in this service interval only need to be performed at the first 25 hours of operation. They do not need to be performed every 25 hours.

# **MAINTENANCE**

Vehicles subjected to severe use must be serviced at 50% of the stated interval. Examples of Severe Use: Frequent immersion in mud, water, or sand, constant high RPM use, prolonged low-speed heavy load operation, extended idle, and short trip cold weather operation.

#### **EVERY 200 HOURS / 3200 KM OR YEARLY**

Air Filter	Replace air filter. Ensure proper installation of filter and airbox cover. Inspect ducts and screens; clean as necessary.	
Battery	Check terminals; terminals should be tight and free of corrosion. Clean, test, and replace as necessary.	
Brake Pad Wear	Inspect; replace as needed.	
Cooling System	Fluid level inspection; inspect for fluid leaks; add coolant if needed. Inspect coolant strength seasonally; pressure test system yearly.	
Drive Belt	Inspect; replace as needed.	
Engine Breather	Inspect; clean as needed.	
Engine Oil and Filter	Change the engine oil and filter.	
Exhaust Silencer / Pipe	Inspect for leaks or damage.	
Front Gearcase Fluid	Change fluid.	
Front / Rear Suspension	Lubricate (if applicable).	
Fuel System*	Cycle key to pressurize fuel pump; check for leaks at fuel system connections, check for leaks at fill cap.	
General Lubrication	Locate all applicable fittings and grease.	
Parking Brake (if applicable)*	Inspect and adjust as needed.	
Shock Absorbers*	Change shock oil or rebuild (if applicable). Inspect seals and replace as needed.	
Spark Arrestor	Clean out.	
Spark Plugs	Inspect; replace as needed.	

#### **EVERY 200 HOURS / 3200 KM OR YEARLY**

Suspension Components*	Inspect tie rods, wheel bearings, suspension bushings, and ball joints for loose or worn components; replace as needed. Inspect shock absorbers for leaks or damage.
Transmission Fluid	Change fluid.
Wiring	Inspect for wear, routing, and retention.
****	# : JEONACTORO

<sup>\*</sup> It is recommended to have an authorized EGIMOTORS dealer perform these services.

Vehicles subjected to severe use must be serviced at 50% of the stated interval. Examples of Severe Use: Frequent immersion in mud, water, or sand, constant high RPM use, prolonged low-speed heavy load operation, extended idle, and short trip cold weather operation.

#### ADDITIONAL MAINTENANCE INTERVALS

Every 400 hours / 6400km	Valve Clearance*	Inspect; adjust as needed.
Every 600 hours / 9700km	Clutches*	Inspect bushings, rollers, wearable parts; clean; replace worn parts. Inspect drive belt.
Every 24 months / 2 years	Brake Fluid	Change fluid.
Every 60 months / 5 years	Coolant	Change fluid.

<sup>\*</sup> It is recommended to have an authorized EGIMOTORS dealer perform these services.

# ELEVATING THE VEHICLE FOR SERVICE

# Λ

#### WARNING

Improperly jacking or supporting the vehicle can result in the vehicle falling or tipping, which can lead to serious injury or death. When elevating vehicle:

- · Move vehicle to a firm level surface.
- Shift to PARK (P).
- · Do not leave engine running.
- Prevent the vehicle from moving by chocking the wheels. A chock is a
  wedge or wheel stop that is designed to keep the vehicle from moving
  forward or backward and falling off the jack. If jacking the FRONT of the
  vehicle, then chock front and rear sides of both REAR tires. If jacking the
  REAR of the vehicle, then chock front and rear sides of both FRONT tires.
- Keep bystanders away and make sure no occupants or cargo are still in the vehicle.
- Use a jack designed for a high ground clearance off-road vehicle (such as the Off-Road Utility Jack).
- · Follow the jack manufacturer's instructions.
- Do not place any object above or under a jack.
- After lifting vehicle with a jack, never place any part of your body under the vehicle without first properly blocking vehicle using designated support points.

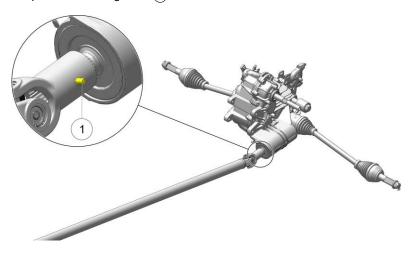
# LUBRICATION RECOMMENDATIONS

Check and lubricate all components at the intervals outlined in the Periodic Maintenance Chart, or more often under severe use, such as wet or dusty conditions. Items not listed in the chart should be lubricated at the general lubrication interval.

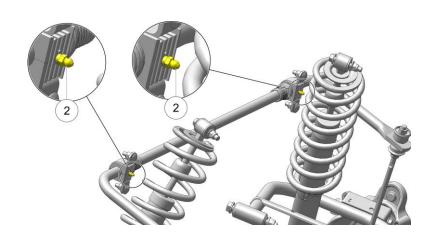
ITEM	LUBE	METHOD
Engine Oil	PS-45W-50 4-Cycle Oil	Add to proper level on dipstick. See page 91.
Brake Fluid	DOT 4 Brake Fluid	Maintain level between fill lines. See page 109.
Transmission Oil (Main Gearcase)	AGL Gearcase Lubricant & Transmission Fluid	See page 95.
Demand Drive Fluid (Front Gearcase)	Demand Drive Fluid	See page 95.
Prop Shaft	U-Joint Grease	Locate fittings and grease.

# **GREASING POINTS**

Prop Shaft Greasing Point (1)



Rear Suspension Greasing Points 2



# **ENGINE OIL**

Always check and change the oil at the intervals outlined in the Periodic Maintenance Chart. Always use the recommended engine oil. Always change the oil filter whenever changing oil.

Pay special attention to the oil level. A rise in oil level during cold weather can indicate contaminants collecting in the oil sump or crankcase. Change oil immediately if the oil level begins to rise. Monitor the oil level, and if it continues to rise, discontinue use and determine the cause. Your dealer can assist.

# **A** WARNING

Vehicle operation with insufficient, deteriorated, or contaminated engine oil will cause accelerated wear and may result in engine seizure, accident and injury. Always perform the maintenance procedures as outlined in the Periodic Maintenance Chart.

## **OIL RECOMMENDATIONS**

EGIMOTORS recommends the use of PS-4 5W-50 4-Cycle Oil or a similar oil. Refer to the Specifications section for capacities.

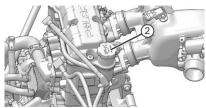
Oil may need to be changed more frequently if PS-4 engine oil is not used. Follow the manufacturer's recommendations for ambient temperature operation. See the Products section for part numbers.

#### NOTICE

Mixing brands or using a non-recommended oil may cause serious engine damage. Always use the recommended oil. Never substitute or mix oil brands.

#### OIL CHECK





The oil dipstick is located on the engine. Access the dipstick through the right rear wheel well.

To check the oil, do the following:

- 1. Position vehicle on a level surface and place the transmission in PARK.
- 2. Stop the engine and allow it to cool down before removing the dipstick.
- 3. Raise the cargo box. Unlock the dipstick lever (1). Remove the dipstick and wipe it dry with a clean cloth.
- 4. Reinstall the dipstick and push it into place. Do not lock the dipstick.

#### NOTE

Make certain the dipstick is inserted all the way into the dipstick tube to keep the depth of the dipstick consistent.

- 5. Remove the dipstick and check the oil level.
- Add the recommended oil as necessary to bring the oil level within the SAFE range on dipstick. Do not overfill (see NOTE below).

#### NOTE

A rising oil level between checks during cold weather operation can indicate contaminants such as gas or moisture collecting in the crankcase. If the oil level is over the upper mark, change the oil immediately.

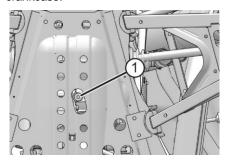
- 7. With the cargo box raised, add engine oil through the oil fill cap 2 located on top of the valve cover, under the cargo box.
- 8. When finished, reinstall dipstick and lock the lever. Lower the cargo box and secure in position.

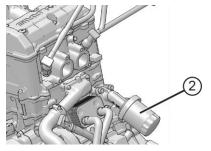
# **ENGINE OIL AND FILTER REPLACEMENT**

Always change engine oil and filter at the intervals outlined in the Periodic Maintenance Chart. Always change the oil filter whenever changing the engine oil.

The engine oil dipstick is located on the right front side of the engine. The engine oil fill cap is located on top of the valve cover. Access the oil dipstick and oil fill cap by tilting the rear cargo box.

The crankcase drain plug is located on the bottom of the crankcase. Access the drain plug through the skid plate access hole located directly under the crankcase.





- 1. Position vehicle on a level surface and place the transmission in PARK.
- 2. Stop the engine and allow it to cool down.
- 3. Clean the area around the crankcase drain plug (1).

# **A** CAUTION

Use caution when performing this procedure. Do not allow hot engine oil to come into contact with skin, as serious burns may result.

- Place a drain pan under the engine crankcase and remove the drain plug. Allow the oil to drain completely.
- 5. Remove all cargo from the cargo box.

# **A** CAUTION

Always remove all cargo from the cargo box before lifting the box to access the engine.

- 6. Pull up on the cargo box release lever to tilt the box.
- 7. Using the Oil Filter Wrench, turn the oil filter (2) counter-clockwise to remove it.

- 8. Using a clean dry cloth, clean the filter sealing surface on the engine crankcase.
- Lubricate the O-ring on the new oil filter with a film of fresh engine oil. Check to make sure the O-ring is in good condition. Install it to specification.

#### **TORQUE**

Oil Filter: Turn by hand until filter O-ring contacts sealing surface, then turn an additional 3/4 turn.

10. Replace the sealing washer on drain plug.

#### NOTE

The sealing surface on the drain plug should be clean and free of burrs, nicks or scratches.

11. Reinstall the engine crankcase drain plug. Torque drain plug to specification.

#### **TORQUE**

Crankcase Drain Plug: 16 N·m

- 12. Remove oil fill cap. Fill engine with recommended engine oil.
- 13. Verify the transmission is still in PARK.
- 14. Start the engine and allow it to idle for 30 seconds.
- 15. Stop the engine and inspect for oil leaks. Wait at least 15 seconds before removing the dipstick.
- 16. Unlock the dipstick lever. Remove the dipstick and wipe it dry with a clean cloth.
- 17. Reinstall the dipstick and push it into place. Do not lock the dipstick.

#### NOTE

Make certain the dipstick is inserted all the way into the dipstick tube to keep the depth of the dipstick consistent.

- 18. Remove the dipstick and check the oil level.
- 19. Add the recommended oil as necessary to bring the oil level within the SAFE range on dipstick. Do not overfill.
- 20. When finished, reinstall the oil fill cap, oil dipstick and lock the lever.
- 21. Dispose of used oil and filter properly.

# **GEARCASES**

# **GEARCASE SPECIFICATION CHART**

GEARCASE	LUBRICANT	CAPACITY	FILL PLUG TORQUE	DRAIN PLUG/ LEVEL CHECK PLUG TORQUE
Transmission (Main Gearcase)	AGL Gearcase Lubricant & Transmission Fluid	1200 mL	14–19 N·m	14–19 N·m
Demand Drive Unit (Front Gearcase)	Demand Drive Fluid	300 — 350 mL	11–14 N·m	15 N·m

# TRANSMISSION (MAIN GEARCASE)

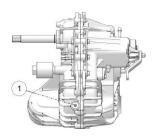
# TRANSMISSION OIL CHECK

Always check and change the transmission oil at the intervals outlined in the Periodic Maintenance Chart. Maintain the oil level even with the bottom thread of the fill plug hole.

The fill plug is located on the rear of the gearcase. Maintain the fluid level at the bottom of the fill plug hole.

To check the transmission fluid, do the following:

- 1. Position the vehicle on a level surface.
- 2. Remove the fill plug (1).
- Check the fluid level.
- Add the recommended fluid to the bottom of the fill plug hole. Do not overfill.
- 5. Reinstall the fill plug. Torque to specification.



# TRANSMISSION OIL CHANGE

The drain plug is located on the bottom of the gearcase. Access the drain plug through the hole in the skid plate.

- 1. Remove the fill plug 1.
- 2. Place a drain pan under the drain plug (2).
- 3. Remove the drain plug. Allow the fluid to drain completely.
- 4. Clean and reinstall the drain plug. Torque to specification.
- Add the recommended fluid to the bottom of the fill plug hole. Do not overfill.
- 6. Reinstall the fill plug. Torque to specification.
- 7. Check for leaks. Discard used fluid properly.



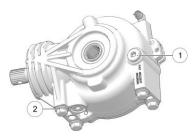
# **DEMAND DRIVE (FRONT GEARCASE)**

# **DEMAND DRIVE OIL CHECK**

Always check and change the demand drive fluid at the intervals outlined in the Periodic Maintenance Chart. Maintain the oil level even with the bottom thread of the fill plug hole. Refer to the Gearcase Specifications Chart for recommended lubricants, capacities and torque specifications.

The front gearcase fill plug  $\widehat{1}$  is located on the right side of the front gearcase.

- 1. Position the vehicle on a level surface.
- 2. Remove the fill plug ①. Check the oil level.
- Add the recommended oil as needed.
- Reinstall the fill plug. Torque to specification.



# **MAINTENANCE**

# DEMAND DRIVE OIL CHANGE

- 1. Support the vehicle securely with a jackstand.
- 2. Remove the front tire on the passenger's side for ease of access (optional).
- 3. Remove the fill plug.
- 4. Place a drain pan under the drain plug  $\bigcirc$  on the bottom right-hand side.
- 5. Remove the drain plug. Drain the oil.
- 6. Clean and reinstall the drain plug. Torque to specification.
- 7. Add the recommended fluid to the bottom of the fill plug hole. Do not overfill.
- 8. Reinstall the fill plug. Torque to specification.
- 9. Check for leaks.
- 10. Discard used oil properly.

# SPARK PLUGS

# SPARK PLUG RECOMMENDATIONS

Refer to the Specifications section for the recommended spark plug type for your vehicle. Always torque spark plugs to specification.

#### NOTICE

Using non-recommended spark plugs can result in serious engine damage. Always use EGIMOTORS-recommended spark plugs or their equivalent.

# SPARK PLUG GAP/TORQUE

ELECTRODE GAP	NEW OR USED PLUG TORQUE	
0.85 mm	12 N·m	

# SPARK PLUG INSPECTION

Spark plug condition is indicative of engine operation. The spark plug firing end condition should be read after the engine is warmed up and the vehicle is driven at higher speeds. Immediately check the spark plug for correct color.



#### A CAUTION

A hot exhaust system and engine can cause burns. Wear protective gloves when removing a spark plug for inspection.

To inspect the spark plugs, do the following:

- 1. Lift the cargo box to access the spark plugs.
- 2. Remove the spark plug cap. Using the spark plug wrench provided in the tool kit, remove the plug by rotating it counter-clockwise.
- Reverse the procedure for spark plug installation.
- 4. Torque to specification.

# NORMAL PLUG

The normal insulator tip is gray, tan or light brown. There will be few combustion deposits. The electrodes are not burned or eroded. This indicates the proper type and heat range for the engine and the service.

The tip should not be white. A white insulator tip indicates overheating, caused by use of an improper spark plug or incorrect throttle body adjustments.

#### WET FOULED PLUG

The wet fouled insulator tip is black. A damp oil film covers the firing end. There may be a carbon layer over the entire nose. Generally, the electrodes are not worn. General causes of fouling are excessive oil consumption, use of non-recommended oil, or poor fuel quality.

# **COOLING SYSTEM**

The engine coolant level is controlled or maintained by the recovery system. The recovery system components are the overflow bottle, radiator filler neck, radiator pressure cap and connecting hose.

As coolant operating temperature increases, the expanding (heated) excess coolant is forced out of the radiator, past the pressure cap, and into the overflow bottle. As engine coolant temperature decreases, the contracting (cooled) coolant is drawn back up from the tank, past the pressure cap, and into the radiator.

Some coolant level drop on new vehicles is normal as the system is purging itself of trapped air. Observe coolant levels and maintain as recommended by adding coolant to the overflow bottle.

# ADDING OR CHANGING COOLANT

EGIMOTORS recommends the use of Antifreeze 50/50 Premix. This antifreeze is already premixed and ready to use. Do not dilute with water.

To ensure that the coolant maintains its ability to protect the engine, we recommend that the system be completely drained every five (5) years and fresh Antifreeze 50/50 Premix added.

Any time the cooling system has been drained for maintenance or repair, replace the coolant with fresh Antifreeze 50/50 Premix. If the recovery bottle has run dry, the level in the radiator should be inspected. Add coolant as needed.

# RADIATOR AND COOLING FAN

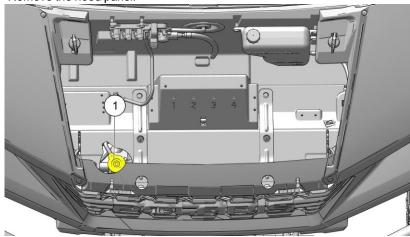
Always check and clean the screen and radiator fins at the intervals outlined in the Periodic Maintenance Chart. Do not obstruct or deflect air flow through the radiator by installing unauthorized accessories in front of the radiator or behind the cooling fan. Interference with the radiator air flow can lead to overheating and consequent engine damage.

#### NOTICE

Washing the vehicle with a high-pressure hose could damage the radiator fins and impair the radiator's effectiveness. Using a high-pressure system is not recommended.

# RADIATOR COOLANT LEVEL

1. Remove the hood panel.



# **A** CAUTION

Escaping steam can cause burns. Never remove the pressure cap while the engine is warm or hot. Always allow the engine to cool before removing the pressure cap.

- 2. Slowly remove the radiator cap (1).
- 3. View the coolant level through the opening.
- 4. Use a funnel and slowly add coolant as needed.

#### TIP

This procedure is required only if the cooling system has been drained for maintenance and/or repair. But if the overflow bottle has run dry, the level in the radiator should also be inspected.

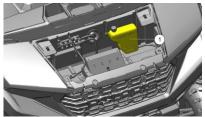
Reinstall the pressure cap. Use of a non-standard pressure cap will not allow the recovery system to function properly. Your EGIMOTORS dealer can provide the correct replacement part.

# **OVERFLOW BOTTLE COOLANT LEVEL**

Always check and change the coolant at the intervals outlined in the EGIMOTORS Maintenance Schedule. Maintain the coolant level between the minimum and maximum marks on the bottle (when the fluid is cool).



- 1. Position the vehicle on a level surface.
- 2. Remove the hood. View the coolant level in the overflow bottle (1).
- If the coolant level is below the safe operating range, locate the overflow bottle lid. Remove the cap and use a funnel to add coolant through the filler opening. Reinstall the cap.



#### TIP

If coolant must be added often or if the overflow bottle runs completely dry, there may be a leak in the system. Your dealer can inspect the cooling system.

# EGIMOTORS VARIABLE TRANSMISSION (PVT) SYSTEM

# **A** WARNING

Failure to comply with the instructions in this warning can result in severe injury or death. Do not modify any component of the PVT system. Doing so may reduce its strength so that a failure may occur at a high speed. The PVT system has been precision balanced. Any modification will cause the system to be out of balance, creating vibration and additional loads on components. The PVT system rotates at high speeds, creating large amounts of force on clutch components. As the owner, you have the following responsibilities for your own safety and the safety of others:

- Always follow all recommended maintenance procedures. Always look for and remove debris inside and around the clutch and vent system when replacing the belt.
- See your EGIMOTORS dealer or other qualified service person as outlined in the owner's manual.
- This PVT system is intended for use on EGIMOTORS products only. Do not install it in any other product.
- Always make sure the PVT housing is securely in place during operation.

# **BELT REMOVAL**

If a belt fails, always clean any debris from the clutch air duct and from the clutch and engine compartments when replacing the belt.

# **A** WARNING

Failure to remove ALL debris when replacing the belt could result in vehicle damage, loss of control and severe injury or death.

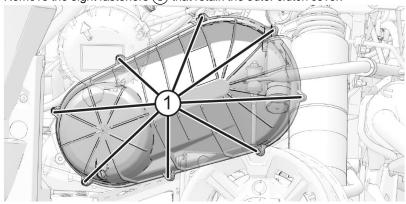
#### NOTE

Inspect the entire clutch outlet duct (including the outlet duct screen) when replacing a drive belt. Remove any debris found in the outlet duct or outlet duct screen.

# **MAINTENANCE**

To remove the belt, do the following:

1. Remove the eight fasteners (1) that retain the outer clutch cover.



#### NOTE

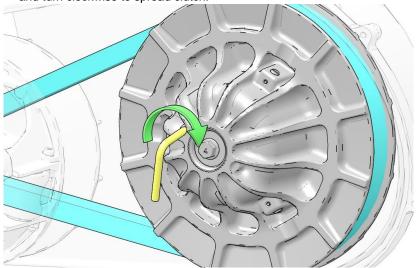
Removal of left rear wheel or left rear shock is NOT necessary for belt replacement.

2. To remove the clutch cover, pull the cover (starting at the bottom), lift up over the suspension, and then out of the vehicle.

#### NOTE

Use care when lifting clutch cover upwards. Do not damage cover, intake boot, or electrical harness.

Mark the drive belt direction of rotation so that it can be installed in the same direction. 4. Insert clutch spreader tool into threaded hole on driven clutch as shown and turn clockwise to spread clutch.



#### NOTE

Clutch spreader tool part number 2883577 is found in vehicle tool kit.

5. Walk the belt out of the driven clutch and drive clutch. Remove the belt from the vehicle.

# **BELT INSPECTION**

To inspect the drive belt, do the following:

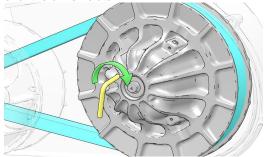
- Inspect belt for hour-glassing (extreme circular wear in at least one spot and on both sides of the belt). Hour glassing occurs when the drive train does not move and the drive clutch engages the belt.
- Inspect belt for loose cords, missing cogs, cracks, abrasions, thin spots, or excessive wear. Compare belt measurements with a new drive belt. Replace if necessary.
- 3. Belts with thin spots, burn marks, etc., should be replaced to eliminate noise, vibration, or erratic PVT operation.

# **BELT INSTALLATION**

#### NOTE

Be sure to install belt in the same direction as it was removed.

 With the clutch spreader tool installed, loop the belt over the drive clutch and over the driven clutch.

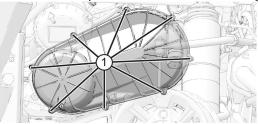


- 2. Rotate the driven clutch and walk the belt into the clutch.
- 3. Remove the clutch spreader tool from the driven clutch.
- 4. Rotate / spin the driven clutch and belt approximately 5-7 times to properly seat the belt in the driven clutch.
- 5.Install the clutch cover into wheel well by installing the top half first, then the bottom half over the suspension.

#### NOTE

Use care when installing the clutch cover. Do not damage cover, intake boot, clutch cover seal or electrical harness.

6.Install and torque the outer clutch cover bolts (1) to specification.



#### **TORQUE**

PVT Outer Cover Fasteners: 5 N·m

# EGIMOTORS VARIABLE TRANSMISSION (PVT) DRYING

There may be some instances when water is ingested into the PVT system. Use the following instructions to dry it out before operating:

- 1. Position the vehicle on a level surface.
- 2. Remove the red drain plug on the outer clutch cover. Allow the water to drain completely. Reinstall the drain plug.
- 3. Place the transmission in PARK.
- 4. Start the engine.
- Apply varying throttle for 10-15 seconds to expel the moisture and air-dry the belt and clutches. Do not hold the throttle wide open for more than five (5) seconds.
- Allow the engine RPM to settle to idle speed. Apply the brakes. Shift the transmission to the lowest available range.
- 7. Test for belt slippage. If the belt slips, repeat the process.
- Your vehicle requires service as soon as possible. Your EGIMOTORS dealer can assist.

# **VEHICLE IMMERSION**

# **A** WARNING

If your vehicle becomes immersed, major engine damage can result if the machine is not thoroughly inspected. Take the vehicle in for service before starting the engine. Your EGIMOTORS dealer can provide this service.

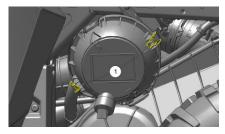
If it's impossible to take your *RANGER* to a dealer before starting it, follow the steps outlined below:

- 1. Move the vehicle to dry land or at the very least, to water below the footrests.
- Dry any water present in the air box. Filter replacement is required if water is present.
- Remove the spark plugs. Turn the engine over several times using the electric start.
- 4. Dry the spark plugs and reinstall, or replace with new plugs.
- 5. Attempt to start the engine. If necessary, repeat the drying procedure.
- 6. Take the vehicle in for service as soon as possible, whether you succeed in starting it or not. Your EGIMOTORS dealer can provide the required service.
- 7. If water has been ingested into the PVT follow the procedure for drying.

# **FILTER SYSTEMS**

# AIR FILTER REPLACEMENT

Inspect the air filter at the intervals outlined in the EGIMOTORS Maintenance Schedule. In extremely dusty conditions, air filter replacement will be required more often.





- 1. Tilt the rear cargo box to access the airbox.
- Release the two airbox cover latches (1) and lift the cover up and out to access the air filter element.
- 3. Remove the air filter element 2.
- 4. Inspect the airbox for oil or water deposits. Wipe away any deposits with a clean shop towel.

#### NOTE

If the filter has been soaked with fuel or oil it must be replaced.

DO NOT attempt to clean the air filter.

Place the air filter into the airbox. Reposition the lower airbox cover and install the two retaining latches.

#### **NOTE**

Make sure the hinge pins are properly seated and cover is properly aligned when reassembling the airbox.

# SPARK ARRESTER

# **A** WARNING

- · Never operate the vehicle without the spark arrester.
- · Remove any combustible materials from the area.

# Failure to heed the following warnings while servicing the spark arrestor could result in serious injury or death.

- Never run the engine in an enclosed area. Exhaust contains poisonous carbon monoxide gas that can cause loss of consciousness or death in a very short time.
- Do NOT perform service on the spark arrester while the system is HOT.
   Exhaust system temperatures can reach extreme temperatures. Allow components to cool sufficiently before proceeding.
- Do not stand behind or in front of the vehicle while purging the exhaust system.
- · Never go under the vehicle while it is inclined.
- · Wear eye protection and gloves while servicing.

Use the following procedure to periodically purge accumulated carbon from the exhaust pipe.

- 1. Turn off engine and allow exhaust to cool sufficiently.
- 2. Remove the spark arrester from the tailpipe of the muffler.
- 3. Remove any debris from spark arrester and the tailpipe.
- 4. Inspect spark arrester for holes in mesh screen. Replace as needed.
- 5. Replace spark arrester and torque bolt to specification.

#### **TORQUE**

Spark Arrester Bolt: 11 N·m

## **BRAKES**

The front and rear brakes are hydraulic disc type brakes. Press down on the brake pedal to engage the brakes.

#### **BRAKE FLUID**

Inspect the brake system routinely. Inspect the level of the brake fluid before each operation.



After opening a bottle of brake fluid, always discard any unused portion. Never store or use a partial bottle. Brake fluid is hygroscopic, meaning it rapidly absorbs moisture from the air. The moisture causes the boiling temperature of the brake fluid to drop, which can lead to early brake fade and the possibility of accident or severe injury.

Change the brake fluid every two years and any time the fluid becomes contaminated, the fluid level is below the minimum, or if the type and brand of the fluid in the reservoir are unknown.

- 1. Position the vehicle on a level surface and turn off the engine.
- View the brake fluid level at the reservoir in the driver's side wheel well. The level should be between the upper (MAX) and lower (MIN) level lines.
- If the fluid level is lower than the upper level line, remove the master cylinder cap and add brake fluid to the upper (MAX) line.
- 4. Apply the brake forcefully for a few seconds and check for fluid leakage around the fittings.

# **BRAKE INSPECTION**

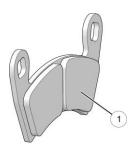
# **MARNING**

Do not apply WD-40®or any petroleum product to brake discs. These types of products are flammable and may also reduce the friction between the brake pad and caliper.

# **MARNING**

Brake components get hot with prolonged use and can cause burns. Wear protective gloves when inspecting the brakes.

- Check the brake system for fluid leaks.
- Check the brake pedal for excessive travel or a spongy feel.
- 3. Check the friction pads for wear, damage and looseness.
- Check brake discs for signs of cracks, excessive corrosion, warping or other damage. Clean any grease using an approved brake cleaner or alcohol.
- Inspect the brake disc spline and pad wear surface q for excessive wear. Change pads when worn to 0.762 mm.



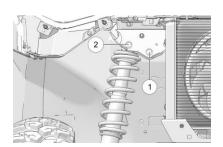
# FRONT SUSPENSION ADJUSTMENT

#### NOTICE

See ELEVATING THE VEHICLE FOR SERVICE for information on how to safely raise the vehicle.

The front suspension can be adjusted to provide a stiffer suspension, if necessary.

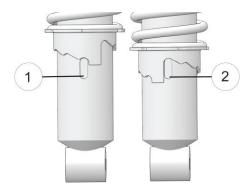
- 1. Support the vehicle securely with a jack stand.
- Remove the top shock mounting bolts from the inside mounting positions 1.
- 3. Reposition the shocks to the outside mounting holes 2.
- 4. Reinstall the shock mounting bolts. Torque to 60 Nm.



# **SPRING ADJUSTMENT**

Adjust the front and rear shock absorber springs by rotating the adjustment cam either clockwise or counter-clockwise to increase or decrease spring tension.

- 1 Stiffest adjustment setting
- (2) Softest adjustment setting



Always heed the following rules if you make adjustments to this suspension.

- Always return the suspension to the lowest (softest) setting after the load is removed from the vehicle. The increased suspension height will negatively impact vehicle stability when operating without a load.
- Always apply the same adjustment setting to both sides of the vehicle.

## STEERING WHEEL INSPECTION

Check the steering wheel for specified freeplay and smooth operation at the intervals outlined in the Periodic Maintenance Chart section.

- 1. Position the vehicle on level ground.
- 2. Lightly turn the steering wheel left and right.
- 3. There should be 20-25 mm of freeplay.
- 4. If there is excessive freeplay or strange noises, or the steering feels rough or "catchy," have the steering system inspected by an authorized dealer.

# **TIRES**

# **M** WARNING

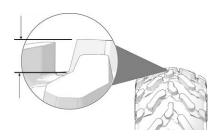
Operating your vehicle with worn tires will increase the possibility of skidding, loss of control and an accident, which could result in serious injury or death. Always replace tires when the tread depth measures 1/8 in (3 mm) or less. Improper tire inflation or the use of non-standard size or type of tires may adversely affect vehicle handling, which could result in vehicle damage or personal injury. Always maintain proper tire pressure. Always use EGIMOTORS approved size and type of tires for this vehicle when replacing tires.

# **MARNING**

Tires age, even if they have not been used or have only been used occasionally. Cracking of the tread and sidewall rubber, sometimes accompanied by carcass deformation, is an evidence of aging. Old and aged tires must be checked and inspected by tire specialists to ascertain their suitability for further use.

# TIRE TREAD DEPTH

Always replace tires when tread depth is worn to 5 mm or less.



## **AXLE AND WHEEL NUT TORQUE SPECIFICATIONS**

Inspect the following items occasionally for tightness, and if they've been loosened for maintenance service. Do not lubricate the stud or the lug nut.

Lug Nut (Aluminum Wheels)	<b>\( \)</b>	Front and Rear	160 Nm
Lug Nut (Steel Wheels) (if equipped)		Front and Rear	81 Nm
Hub Retaining Nut		Front and Rear	245 Nm

#### WHEEL REMOVAL

- 1. Position the vehicle on a level surface.
- 2. Place the transmission in PARK. Stop the engine.
- 3. Loosen the wheel nuts slightly.
- 4. Elevate the side of the vehicle by placing a suitable stand under the frame.
- 5. Remove the wheel nuts and washers. Remove the wheel.

# WHEEL INSTALLATION

# **A** WARNING

Improperly installed wheels can adversely affect tire wear and vehicle handling, which can result in serious injury or death. Always ensure that all nuts are torqued to specification. Do not service axle nuts that have a cotter pin installed. Your dealer can assist.

- Place the transmission in PARK.
- Place the wheel on the hub with the valve stem toward the outside and rotation arrows on the tire pointing toward forward rotation.
- Attach the wheel nuts and washers and finger-tighten.
- Carefully lower the vehicle to the ground.
- 5. Torque the wheel nuts to specification.

## LIGHTS

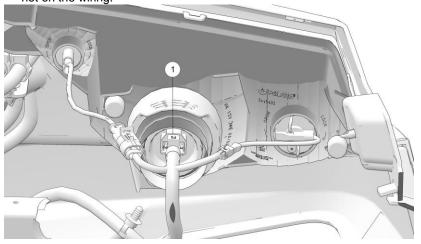
Poor lighting can result in reduced visibility when driving. Headlight and taillight lenses become dirty during normal operation. Clean lights frequently and replace burned out lamps promptly. Do not operate this vehicle at night or in low light conditions until the headlight is replaced. Always make sure lights are adjusted properly for best visibility.

When servicing a halogen lamp, don't touch the lamp with bare fingers. Oil from your skin leaves a residue, causing a hot spot that will shorten the life of the lamp.

## HEADLIGHT BULB REPLACEMENT

- Remove the hood from the front cab.
- 2. Locate the bulb on the back side of the headlight housing.

3. Disconnect the harness from the bulb. Be sure to pull on the connector 1, not on the wiring.



- 4. Turn the bulb counterclockwise and remove it from the headlight housing
- 5. Install the new bulb into the housing and rotate it clockwise 90° to lock it in place.

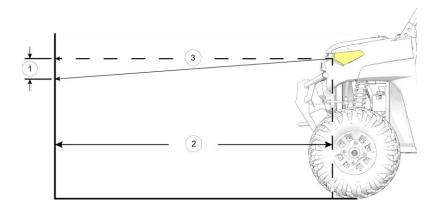
#### NOTE

Make sure the tab on the bulb locates properly in the housing.

6. Install the harness onto the new headlight bulb and install the hood.

# **HEADLIGHT ADJUSTMENT**

The headlight beams are adjustable.



- 1. Ensure the tire pressure of all tires is at recommended levels.
- 2. Place the vehicle on a level surface with the headlight approximately 7.6m (1) from a wall.

ITEM	DESCRIPTION	
1	Measure Distance = 20.0 cm	
2	Measure Distance = 7.6 m	
3	Headlight Center of Bulb	

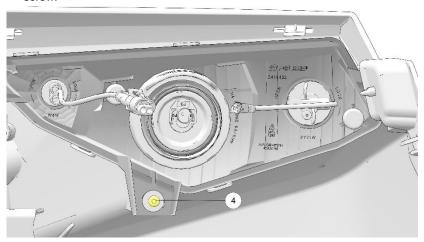
- 3. Measure the distance from the floor to the center of the headlight and make a mark on the wall at the same height.
- 4. Apply the brakes with the machine in PARK. Turn the ignition on, then turn on the headlights.
- 5. Observe the headlight aim. The most intense part of the headlight beam should be aimed 20 cm below the mark placed on the wall.

#### NOTE

Rider weight must be included in the seat while performing this procedure.

### **MAINTENANCE**

6. If a headlight needs adjustment, locate the adjustment screw 4 at the back of the headlight. Loosen the screw, adjust the headlight, then tighten the screw.



Adjust the beam to desired position. Repeat the procedure to adjust the other headlight.

# **MARNING**

Due to the nature of light utility vehicles and where they are operated, headlight lenses become dirty. Frequently washing is necessary to maintain lighting quality. Riding with poor lighting can result in severe injury or death.

8. Repeat steps 4–6 until the lamp is properly adjusted.

# LIGHTS

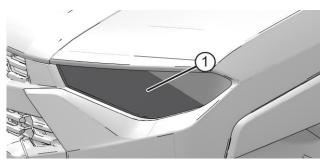
Poor lighting can result in reduced visibility when driving. Headlight and taillight lenses become dirty during normal operation. Clean lights frequently and replace burned out lamps promptly. Do not operate this vehicle at night or in low light conditions until the headlight is replaced. Always make sure lights are adjusted properly for best visibility.

When servicing a halogen lamp, don't touch the lamp with bare fingers. Oil from your skin leaves a residue, causing a hot spot that will shorten the life of the lamp.

# **LED HEADLIGHTS (IF EQUIPPED)**

Poor lighting can result in reduced visibility when driving. Headlight and taillight lenses become dirty during normal operation. Clean lights frequently and replace failed (or failing) lights promptly. Do not operate this vehicle at night or in low light conditions until the headlight is replaced. Always make sure lights are adjusted properly for best visibility.

The vehicle is equipped with integrated LED lights. In the event of a failure, the entire assembly  $\widehat{1}$  must be replaced.



# **BRAKE LIGHTS**

When the brake pedal is depressed, the brake light comes on. Check the brake light before each ride.

To check the brake lights, do the following:

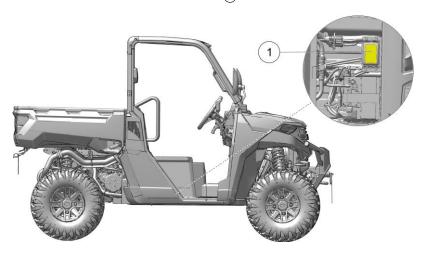
- 1. Turn the key to the ON position.
- Depress the brake pedal. The brake light should come on after a small amount of pedal travel. If the light does not come on, check the electrical connector to the brake lamp.

#### NOTICE

There are no serviceable components in the brake light assembly.

# **FUSES**

The fuse box is located under the front seat (1).



If the engine stops or will not start, or if you experience other electrical failures, a fuse may need replacement. Locate and correct any short circuits that may have caused the blown fuse, then replace the fuse. The fuse box is located under the hood. Spare fuses are provided in the fuse box.

If you suspect that a fuse or relay may not be working properly, your dealer can assist.

FUSE SIZE	FEATURE SUPPORTED
5A	Quadricycle Light
15A	Headlight
10A	ECM
15A	Drive
10A	Key Switch
7.5A	Winch
10A	Trickle
20A	Fan CB
30A	EPS
10A	Flasher

FUSE SIZE	FEATURE SUPPORTED
10A	Trailer
20A	Access
5A	Display
25A	Heater (if equipped)
7.5A Heater Cont (if equipped	
5A	Horn

# **BATTERY**

# **A** WARNING

Battery electrolyte is poisonous. It contains sulfuric acid. Serious burns can result from contact with skin, eyes or clothing.

Antidote:

External: Flush with water.

**Internal:** Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call physician immediately.

**Eyes**: Flush with water for 15 minutes and get prompt medical attention. Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in an enclosed space. Always shield eyes when working near batteries. KEEP OUT OF REACH OF CHILDREN.

Your vehicle has a low-maintenance flooded battery. It does not require refilling.

Always keep battery terminals and connections free of corrosion. If cleaning is necessary, remove the corrosion with a stiff wire brush. Wash with a solution of one tablespoon baking soda and one cup water. Rinse well with tap water and dry off with clean shop towels. Coat the terminals with dielectric grease or petroleum jelly. Be careful not to allow cleaning solution or tap water into a conventional battery.

# **MARNING**

Improperly connecting or disconnecting battery cables can result in an explosion and cause serious injury or death. When removing the battery, always disconnect the negative (black) cable first. When reinstalling the battery, always connect the negative (black) cable last.

## **BATTERY MAINTENANCE AND CHARGING**

# **A** WARNING

An overheated battery may explode, causing severe injury or death. Always watch charging times carefully. Stop charging if the battery becomes very warm to the touch. Allow it to cool before resuming charging.

The sealed battery is already filled with electrolyte and has been sealed and *fully charged* at the factory. *Never* pry the sealing strip off or add any other fluid to this battery.

The single most important thing about maintaining a sealed battery is to keep it fully charged. Check the battery voltage with a voltmeter or multimeter. A fully charged battery will register 12.8 V or higher. If the voltage falls below 12.5V, charge it immediately, or the battery runs the risk of sulfation and reduced battery life.

If you do not drive the vehicle for more than TWO WEEKS, EGIMOTORS recommends using a BatteryMINDer® 2012 AGM - 2 AMP charger (PN 2830438), which can be ordered through your dealer.

EGIMOTORS provides a charging accessory with your vehicle that allows easy connection to the battery through the 12V auxiliary outlet, located on the dash. During charging, place the charger outside of the vehicle and protect it from moisture.

#### **IMPORTANT**

The 12V socket located in the rear of 4 seat vehicles is powered after key-on and **CANNOT** be used for charging.

If you plan to store the vehicle for ONE MONTH or longer, remove the battery from the vehicle, then store the battery in a cool and dry location. Continue to maintain the battery with the BatteryMINDer® 2012 AGM - 2 AMP charger.

When using an automatic charger other than a BatteryMINDer® 2012-AGM - 2 AMP charger, refer to the charger manufacturer's instructions for recharging.

If using a **constant current charger** (instead of BatteryMINDer® 2012 AGM - 2 AMP charger), use the guidelines below. Always verify battery condition before and 1-2 hours after the end of charging.

VOLTAGE (DC)	ACTION	CHARGE TIME*
12.8-13.0 volts	None, check monthly	None required
12.6-12.8 volts	May need slight charge, if no charge given, check in 2 weeks	3-6 hours
12.3-12.6 volts	Needs charge	5-11 hours
12.0-12.3 volts	Needs charge	At least 13 hours
12.0 volts or less	Needs charge	At least 20 hours
	12.8-13.0 volts  12.6-12.8 volts  12.3-12.6 volts  12.0-12.3 volts  12.0 volts or	12.8-13.0 volts  None, check monthly  12.6-12.8 volts  May need slight charge, if no charge given, check in 2 weeks  12.3-12.6 volts  Needs charge  12.0-12.3 volts  Needs charge  12.0 volts or  Needs charge

<sup>\*</sup> Using AGM specific charger at standard amps specified on top of battery

### **BATTERY REMOVAL**

# **MARNING**

Improperly connecting or disconnecting battery cables can result in an explosion and cause serious injury or death. When removing the battery, always disconnect the negative (black) cable first. When reinstalling the battery, always connect the negative (black) cable last.

To remove the battery, do the following:

- 1. Remove the storage bin under the passenger seat to access the battery.
- Disconnect the black (-) battery cable first. Disconnect the red (+) battery cable last.
- 3. Remove the battery hold-down strap.
- Lift the battery out of the vehicle. Be careful not to tip a flooded battery sideways, which could spill electrolyte.

#### NOTICE

If electrolyte spills, immediately wash it off with a solution of one tablespoon baking soda and one cup water to prevent damage to the vehicle.

## **BATTERY INSTALLATION**

- 1. Ensure that the battery is fully charged.
- 2. Place the battery in the battery holder.
- 3. Coat the terminals with dielectric grease or petroleum jelly.
- Connect and tighten the red (positive) cable first. Torque the cable connector nut to 4.5 Nm
- Connect and tighten the black (negative) cable last. Torque the cable connector nut to 4.5 Nm
- 6. Install the battery hold-down strap and tighten the screws.
- 7. Verify that cables are properly routed.
- 8. Reinstall the seat.

## **BATTERY STORAGE**

Whenever the vehicle is not used for a period of three months or more, remove the battery from the vehicle, ensure that it's fully charged, and store it out of the sun in a cool, dry place. Check battery voltage each month during storage and recharge as needed to maintain a full charge.

#### TIP

Battery charge can be maintained by using a battery trickle charger or by charging about once a month to make up for normal self discharge. The battery trickle charger can be left connected during the storage period, and will automatically charge the battery if the voltage drops below a predetermined point.

# **CLEANING AND STORAGE**

# **WASHING THE VEHICLE**

Keeping your EGIMOTORS vehicle clean will not only improve its appearance but it can also extend the life of various components.

#### NOTICE

High water pressure may damage components. EGIMOTORS recommends washing the vehicle by hand or with a garden hose, using mild soap.

#### NOTICE

Certain products, including insect repellents and chemicals, will damage plastic surfaces. Do not allow these types of products to contact the vehicle.

The best and safest way to clean your EGIMOTORS vehicle is with a garden hose and a pail of mild soap and water.

- Use a professional-type washing cloth, cleaning the upper body first and the lower parts last.
- 2. Rinse with clean water frequently.
- 3. Dry surfaces with a chamois to prevent water spots.

## **WASHING TIPS**

- Avoid the use of harsh cleaners, which can scratch the finish.
- Do not use medium to heavy duty compounds on the finish.
- Always use clean cloths and pads for cleaning and polishing. Old or reused cloths and pads may contain dirt particles that will scratch the finish.
- Grease all zerk fittings immediately after washing. Allow the engine to run for a while to evaporate any water that may have entered the engine or exhaust system.

If a high pressure water system is used for cleaning (not recommended), exercise extreme caution. The water may damage components and could remove paint and labels. Avoid directing the water stream at the following items:

- · Wheel bearings
- Radiator
- Transmission seals
- Brakes
- Door seals (if equipped)

- · Cab and body panels
- · Labels and decals
- Electrical components and wiring
- Air intake components
- Window seals (if equipped)
- · Throttle and shift cables and controls

If an informational or graphic label becomes illegible or comes off, contact your EGIMOTORS dealer, or other qualified person, to purchase a replacement. Replacement safety labels are provided by EGIMOTORS at no charge.

### POLISHING THE VEHICLE

EGIMOTORS recommends the use of common household aerosol furniture polish for polishing the finish on your EGIMOTORS vehicle. Follow the instructions on the container.

### **POLISHING TIPS**

- Avoid the use of automotive products, some of which can scratch the finish of your vehicle.
- Always use clean cloths and pads for cleaning and polishing. Old or reused cloths and pads may contain dirt particles that will scratch the finish.

# **CHROME WHEEL CARE (IF EQUIPPED)**

Proper maintenance will protect chrome wheels from corrosion, preserve wheel life and ensure a "like new" appearance for many years. Chrome wheels exposed to road salt (or salt in the air in coastal areas) are more susceptible to corrosion if not properly cleaned. Clean chrome wheels more often if they're exposed to salt or other corrosive elements.

- 1. Wash chrome wheels frequently. Use a mild detergent. Never use abrasive cleaners on plated or painted surfaces.
- Rinse well with clear water. Soap, detergents, salt, dirt, mud and other elements can cause corrosion.
- 3. Polish the clean chrome wheels periodically. Use an automotive grade chrome polish.
- 4. Routinely and liberally apply a weather resistant wax to each polished chrome wheel. Choose a product suitable for chrome finishes. Read and follow the product labels and instructions.

# REMOVING CORROSION

If light rust is found on the chrome finish, use steel wool (#0000-OTT grade) to remove it. Gently rub the affected areas with the steel wool until the corrosion has been removed. Clean and polish the wheel as outlined above.

# **STORAGE TIPS**

#### NOTICE

Starting the engine during the storage period will disturb the protective film created by fogging and damage could occur. Never start the engine during the storage period.

#### CLEAN THE EXTERIOR

Make any necessary repairs and clean the vehicle as recommended.

#### STABILIZE THE FUEL

- 1. Fill the fuel tank.
- Add EGIMOTORS Carbon Clean Fuel Treatment or EGIMOTORS Fuel Stabilizer or equivalent fuel treatments or stabilizers. Follow the instructions on the container for the recommended amount. Carbon Clean removes water from fuel systems, stabilizes fuel and removes carbon deposits from pistons, rings, valves and exhaust systems.
- 3. Allow the engine to run for 15-20 minutes to allow the stabilizer to disperse through the entire fuel delivery system.

#### OIL AND FILTER

Change the oil and filter. See the Engine Oil section.

## AIR FILTER / AIR BOX

Replace the air filter. See Maintenance Chapter. Clean the air box.

# **FLUID LEVELS**

Inspect the fluid levels. Add or change fluids as recommended in the Periodic Maintenance Chart.

- Demand drive fluid (front gearcase)
- · Rear gearcase fluid (if equipped)
- · Transmission fluid
- Brake fluid (change every two years and any time the fluid looks dark or contaminated)
- · Coolant (test strength/fill)

## INSPECT AND LUBRICATE

Inspect all cables and lubricate all areas of the vehicle as recommended in the Periodic Maintenance Chart.

# FOG THE ENGINE

- Treat the fuel system with EGIMOTORS Carbon Clean or other equivalent fuel treatment. Follow the instructions on the container. Start the engine. Allow it to idle for several minutes so the Carbon Clean reaches the injectors. Stop the engine.
- 2. Remove the spark plugs and add 29.5–44 cc. of engine oil. To access the plug holes, use a section of clear 6 mm hose and a small plastic squeeze bottle filled with the pre-measured amount of oil. Do this carefully! If you miss the plug holes, oil will drain from the spark plug cavities into the hole at the front of the cylinder head, and appear to be an oil leak.
- 3. Reinstall the spark plugs. Torque to specification.
- 4. Apply dielectric grease to the inside of each spark plug cap. Do not reinstall the cap onto the plug at this step.
- Turn the engine over several times. Oil will be forced in and around the piston rings and ring lands, coating the cylinder with a protective film of fresh oil.
- 6. Reinstall the spark plug caps.
- 7. If EGIMOTORS fuel system additive is not used, fuel tank, fuel lines, and injectors should be completely drained of gasoline.

#### STORAGE AREA / COVERS

Be sure the storage area is well ventilated. Cover the vehicle with a genuine EGIMOTORS cover. Do not use plastic or coated materials. They do not allow enough ventilation to prevent condensation, and may promote corrosion and oxidation.

## **REMOVAL FROM STORAGE**

# **A** WARNING

Engine exhaust contains poisonous carbon monoxide and can cause loss of consciousness or death. Never run an engine in an enclosed area.

- Check the battery electrolyte level and charge the battery if necessary. Install it in the vehicle. Make sure the battery vent hose is routed properly and that it's not pinched or restricted in any way.
- 2. Make sure spark plugs are tight.
- 3. Fill the fuel tank with fuel.
- 4. Check all the points listed in the Daily Pre-Ride Inspection. *Tightness of the bolts, nuts and other fasteners should be checked by an authorized dealer or other qualified service facility.*
- 5. Lubricate at the intervals outlined in the Periodic Maintenance Chart.

# **SPECIFICATIONS**

# **RANGER 1000 QUADRICYCLE**

Gross Vehicle Weight Capacity (includes weight of operator, passenger, cargo, accessories)	1184 kg	
Unladen mass in running order	600 kg	
Fuel Capacity	41 L	
Engine Oil Capacity	2.4	
Coolant Capacity	4.75	
Overall Length	305 cm	
Overall Width	158 cm	
Overall Height	196 cm	
Wheelbase	206 cm	
Cargo Box Dimensions (Inside)	93 x 137 x 29 cm	
Ground Clearance	30.5 cm	
Min. Turning Radius	401 cm	
Hitch Tongue Capacity	80kg	
Maximum Braked Trailer Mass	300 kg	
Maximum Unbraked Trailer Mass	300 kg	
Max. Cargo Box Load	449 kg	
Engine	4-Stroke SOHC Twin Cylinder	
Displacement	999 cc	
Bore x Stroke (mm)	93 mm x 73.5 mm	
Alternator Output	660 W @ 3000 RPM or 900 W @ 3000 RPM (if equipped)	
Compression Ratio	10.5:1	
Starting System	Electric	
Fuel System	Electronic Fuel Injection	

# **SPECIFICATIONS**

Ignition Timing	ECU Controlled 32° +/- 2° @ 5000 RPM
Spark Plug/ Gap	Autolite® 5684 / 0.85 mm Nominal
Lubrication System	Wet Sump
Cooling	Liquid
Front Suspension	Dual A-Arm, IFS 25.4 cm Travel
Rear Suspension	Dual A-Arm, IRS 25.4 cm Travel
Ignition System	Digital CDI
Driving System Type	PVT
Shift Type	Single Lever (H/L/N/R/P)
Gear Reduction - Low	Front 8.56:1/ Rear 25.59:1
Gear Reduction - Reverse	Front 7.67:1 / Rear 22.92:1
Gear Reduction - High	Front 4.03:1 / Rear 12.05:1
Drive Ratio - Front	42.11:1 (non-EPS) 42.13:1 (EPS)
Tire Size - Front	225/80-12
Tire Size - Rear	280/65-12
Tire Pressure - Front	1 Bar
Tire Pressure - Rear	1 Bar
Brakes, Front/Rear	Foot Activated, 4 wheel hydraulic disc
Halogen Headlights	High Low Beam – 60/55W (Philips H4) Position – 5W (Philips W5W) Indicator – 21W (Philips PY21W)
Taillights	LED
Brake Light	LED
Noise at Operator's Ear	74.5 dB(A)
Noise in Motion	79.4 dB(A)

# **SPECIFICATIONS**

OUTPUT GEAR RATIOS		
	Front	Rear
LOW	8,56:1	25,59:1
HIGH	4,03:1	12,05:1
REVERSE	7,67:1	22,90:1

# **SEAT VIBRATION**

DRIVER	AWF	AWS	RATIO
98 kg	2.8	1.0	0.4
59 kg	2.6	1.1	0.4

# **PRODUCTS**

# **LUBRICANTS / SERVICE PRODUCTS**

PRODUCT	SIZE (QUANTITY)	QUANTITY	PART NUMBER
Fogging Oil	355 mL aerosol	12	2870791
	0.95 L	12	2871517
	0.95 L	12	2876244
PS-4	1.90 L	8	2877490
	3.8 L	4	2876245
	0.95 L	12	2878920
	1.90 L	8	2878922
PS-4 Extreme Duty	3.8 L	4	2878919
	0.95 L	12	2889395
	3.8 L	4	2889396
AGL	0.95 L	12	2878068
AGL	3.8 L	4	2878069
Pump for Gallon Jug	_	1	2870465
Damas d Drive	0.95 L	12	2877922
Demand Drive	9.5 L	2	2877923
Antifreeze / Coolant	0.95 L	12	2880514
Antifreeze / Coolant	3.8 L	6	2880513
Grease Gun Kit, Premium All Season	ı	1	2871312
All O	Four 89 mL packs	6	2871322
All Season Grease	414 mL cartridge	1	2871423
Premium Starter Grease	-	1	2871460
	89 mL tube	24	2871515
U-Joint Grease	414 mL cartridge	1	2871551
Dielectric Grease (Nyogel®)	_	1	2871329

# **PRODUCTS**

PRODUCT	SIZE (QUANTITY)	QUANTITY	PART NUMBER
Carbon Clean	355 MI bottle	12	2871326
Fuel Stabilizer	473 mL	12	2870652
Fuel Stabilizer	9.5 L	2	2872280
DOT 4 Brake Fluid	_	1	2872189
Loctite® 565 Thread Sealant	_	1	2871956
BatteryMINDer® 2012 AGM - 2 AMP Charger	_	1	2830438

# **TROUBLESHOOTING**

# **DRIVE BELT WEAR/BURN**

POSSIBLE CAUSE	SOLUTION
Driving onto a pickup or tall trailer in high range	Use low range during loading.
Starting out going up a steep incline	Use low range.
Driving at low RPM or ground speed – 3–7 mph (5 –12 km/h)	Drive at a higher speed or use low range more frequently.
Insufficient warm-up at low ambient temperatures	Warm the engine at least 5 minutes. With the transmission in neutral, advance the throttle to about 1/8 throttle in short bursts, five to seven times. The belt will become more flexible and prevent belt burning. Always warm up the belt by operating below 48 km/h for 1.6 km. When the temperature is below freezing, extend the belt warming time to 8 km.
Slow/easy clutch engagement	Use the throttle quickly and effectively.
Towing/pushing at low RPM/low ground speed	Use low range only.
Utility use/plowing	Use low range only.
Stuck in mud or snow	Shift the transmission to low range and carefully use fast, aggressive throttle application to engage clutch.
Stuck in mud or snow	WARNING: Excessive throttle may cause loss of control and vehicle rollover.
Climbing over large objects	Shift the transmission to low range and carefully use fast, brief, aggressive throttle application to engage clutch.
from a stopped position	WARNING: Excessive throttle may cause loss of control and vehicle rollover.
Belt slippage from water or snow ingestion into the PVT system	Dry out the PVT. See PVT Drying procedure. Prevent water from entering the PVT intake duct. See Intake Pre-Filters for more information. Inspect clutch seals for damage if repeated leaking occurs.
Clutch malfunction	See your EGIMOTORS dealer or other qualified person
Poor engine performance	Check for clogged air filter, clogged fuel filter, water in the fuel or foreign material in fuel tank or fuel lines. An authorized dealer can assist.
Wrong belt	Install the recommended belt.
Improper break-in	Always break in a new belt and/or clutch. See PVT Break-in procedure.

# **ENGINE DOESN'T TURN OVER**

POSSIBLE CAUSE	SOLUTION	
Low battery voltage	Recharge the battery.	
Loose battery connections	Check all connections and tighten.	
Loose solenoid connections	Check all connections and tighten.	
Loose electronic control box connections	Inspect, clean, reinstall connectors.	

# **ENGINE TURNS OVER, FAILS TO START**

POSSIBLE CAUSE	SOLUTION	
Out of fuel	Refuel	
Water is present in fuel	Drain the fuel system and refuel	
Old or non-recommended fuel	Replace with fresh recommended fuel	
Fouled or defective spark plug	Inspect plug and replace if necessary	
No spark to spark plug	Inspect plug and replace if necessary	
Water or fuel in crankcase	See your EGIMOTORS dealer or other qualified person	
Low battery voltage	Recharge the battery to 12.8 VDC	
Mechanical failure	See your EGIMOTORS dealer or other qualified person	

# **ENGINE BACKFIRES**

POSSIBLE CAUSE	SOLUTION	
Weak spark from spark plug	Inspect, clean and/or replace spark plug	
Incorrect spark plug gap or heat range	Set gap to specs or replace plug	
Old or non-recommended fuel	Replace with fresh recommended fuel	
Incorrectly installed spark plug wires	Your authorized dealer can assist	
Mechanical failure	Your authorized dealer can assist	
Loose ignition connections	Check all connections and tighten	
Water present in fuel	Replace with fresh recommended fuel	

# **ENGINE PINGS OR KNOCKS**

POSSIBLE CAUSE	SOLUTION	
Poor quality or low octane fuel	Replace with recommended fuel	
Incorrect spark plug gap or heat range	Set gap to specs or replace plug	

# ENGINE RUNS IRREGULARLY, STALLS OR MISFIRES

POSSIBLE CAUSE	SOLUTION	
Fouled or defective spark plug	Inspect, clean and/or replace spark plug	
Worn or defective spark plug wires	Your authorized dealer can assist	
Incorrect spark plug gap or heat range	Set gap to specs or replace plug	
Loose ignition connections	Check all connections and tighten	
Water present in fuel	Replace with new fuel	
Low battery voltage	Recharge battery to 12.8 VDC	
Incorrect fuel	Replace with recommended fuel	
Clogged air filter	Inspect and clean or replace	
Clogged intake pre-filter	Inspect and clean (with soapy water) or replace	
Plugged spark arrester	Clean or replace	
Other mechanical failure	Your authorized dealer can assist	

# **ENGINE STOPS OR LOSES POWER**

POSSIBLE CAUSE	SOLUTION	
Out of fuel	Refuel	
Kinked or plugged fuel vent line	Inspect and replace	
Water is present in fuel	Replace with new fuel	
Fouled or defective spark plug	Inspect, clean and/or replace spark plug	
Worn or defective spark plug wires	Your authorized dealer can assist	
Incorrect spark plug gap or heat range	Set gap to specs or replace plug	
Loose ignition connections	Check all connections and tighten	
Low battery voltage	Recharge the battery to 12.8 VDC	
Incorrect fuel	Replace with fresh recommended fuel	
Clogged air filter	Inspect and clean or replace	
Clogged intake pre-filter	Inspect and clean (with soapy water) or replace	
Other mechanical failure	Your authorized dealer can assist	
Overheated engine	Clean radiator screen and core, clean engine exterior. Check the radiator fan harness for connection. Your dealer can assist.	
Plugged Spark Arrester	Clean out or replace	
Low Coolant	Check coolant level	

# WARRANTY

# LIMITED WARRANTY

EGIMOTORS gives a TWO-YEAR LIMITED WARRANTY on all components of your Quadricycle against defects in material or workmanship.

This warranty covers parts and labor charges for repair or replacement of defective parts and begins on the date of purchase by the original retail purchaser. This warranty is transferable to another owner during the warranty period through a EGIMOTORS dealer, but any such transfer will not extend the original term of the warranty. The duration of this warranty may vary by international region based upon local laws and regulations.

# REGISTRATION

At the time of sale, the Warranty Registration Form must be completed by your dealer and submitted to EGIMOTORS within ten days of purchase. Upon receipt of this registration, EGIMOTORS will record the registration for warranty. No verification of registration will be sent to the purchaser as the copy of the Warranty Registration Form will be your proof of warranty coverage. If you have not signed the original registration and received the customer copy, please contact your dealer immediately. NO WARRANTY COVERAGE WILL BE ALLOWED UNLESS YOUR VEHICLE IS REGISTERED WITH EGIMOTORS. Initial dealer preparation and set-up of your vehicle is very important in ensuring trouble-free operation. Purchasing a machine in the crate or without proper dealer set-up will void your warranty coverage.

# WARRANTY COVERAGE AND EXCLUSIONS LIMITATIONS OF WARRANTIES AND REMEDIES

This EGIMOTORS limited warranty excludes any failures that are not caused by a defect in material or workmanship. THIS WARRANTY DOES NOT COVER CLAIMS OF DEFECTIVE DESIGN. This warranty also does not cover acts of God, accidental damage, normal wear and tear, abuse or improper handling. This warranty also does not cover any vehicle, component, or part that has been altered structurally, modified, neglected, improperly maintained or used for racing, competition or purposes other than for which it was designed.

This warranty excludes damages or failures resulting from improper lubrication; improper engine timing; improper fuel; surface imperfections caused by external stress, heat, cold or contamination; operator error or abuse; improper component alignment, tension, adjustment or altitude compensation; snow, water, dirt or other foreign substance ingestion/contamination; improper maintenance; modified components; use of aftermarket or unapproved components, accessories, or attachments; use of unapproved software or calibration; unauthorized repairs; or repairs made after the warranty period expires or by an unauthorized repair center.

This warranty excludes damages or failures caused by abuse, accident, fire, or any other cause other than a defect in materials or workmanship and provides no coverage for consumable components, general wear items, or any parts exposed to friction surfaces, stresses, environmental conditions and/or contamination for which they were not designed or not intended, including but not limited to the following items:

- · Wheels and tires
- · Suspension components
- · Brake components
- · Seat components
- · Clutches and components
- Steering components
- · Batteries
- · Light bulbs/Sealed beam lamps
- Filters
- Lubricants
- Bushings

- · Finished and unfinished surfaces
- Carburetor/Throttle body components
- · Engine components
- · Drive belts
- · Hydraulic components and fluids
- · Circuit breakers/Fuses
- Electronic components
- · Spark plugs
- Sealants
- Coolants
- · Bearings

## **LUBRICANTS AND FLUIDS**

- Mixing oil brands or using non-recommended oil may cause engine damage.
   We recommend the use of EGIMOTORS engine oil.
- 2. Damage or failure resulting from the use of non-recommended lubricants or fluids is not covered by this warranty.

This warranty provides no coverage for personal loss or expense, including mileage, transportation costs, hotels, meals, shipping or handling fees, product pick-up or delivery, replacement rentals, loss of product use, loss of profits, or loss of vacation or personal time.

THE EXCLUSIVE REMEDY FOR BREACH OF THIS WARRANTY SHALL BE, AT EGIMOTORS' OPTION, REPAIR OR REPLACEMENT OF ANY DEFECTIVE MATERIALS, COMPONENTS, OR PRODUCTS. THE REMEDIES SET FORTH IN THIS WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON FOR BREACH OF THIS WARRANTY. EGIMOTORS SHALL HAVE NO LIABILITY TO ANY PERSON FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY DESCRIPTION, WHETHER ARISING OUT OF EXPRESS OR IMPLIED WARRANTY OR ANY OTHER CONTRACT, NEGLIGENCE, OR OTHER TORT OR OTHERWISE. THIS EXCLUSION OF CONSEQUENTIAL, INCIDENTAL, AND SPECIAL DAMAGES IS INDEPENDENT FROM AND SHALL SURVIVE ANY FINDING THAT THE EXCLUSIVE REMEDY FAILED OF ITS ESSENTIAL PURPOSE.

THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXCLUDED FROM THIS LIMITED WARRANTY. ALL OTHER IMPLIED WARRANTIES (INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY) ARE LIMITED IN DURATION TO THE ABOVE ONE YEAR WARRANTY PERIOD. EGIMOTORS DISCLAIMS ALL EXPRESS WARRANTIES NOT STATED IN THIS WARRANTY.

## HOW TO OBTAIN WARRANTY SERVICE

If your vehicle requires warranty service, you must take it to a EGIMOTORS Servicing Dealer. When requesting warranty service you must present your copy of the Warranty Registration Form to the dealer. (THE COST OF TRANSPORTATION TO AND FROM THE DEALER IS YOUR RESPONSIBILITY.) EGIMOTORS suggests that you use your original selling dealer; however, you may use any EGIMOTORS Servicing Dealer to perform warranty service.

# IN THE COUNTRY WHERE YOUR PRODUCT WAS PURCHASED:

Warranty or Service Bulletin repairs must be done by an authorized EGIMOTORS dealer, or other qualified person. If you move or are traveling within the country where your product was purchased, Warranty and Service Bulletin repairs may be requested from any authorized EGIMOTORS dealer, or other qualified person, that sells the same line as your product.

# OUTSIDE THE COUNTRY WHERE YOUR PRODUCT WAS PURCHASED:

If you are traveling temporarily outside the country where your product was purchased, you should take your product to an authorized EGIMOTORS dealer, or other qualified person. You must show the dealer photo identification from the country of the selling dealer's authorized location as proof of residence. Upon residence verification, the servicing dealer will be authorized to perform the warranty repair.

# **IF YOU MOVE:**

If you move to another country, be sure to contact EGIMOTORS Customer Assistance and the customs department of the destination country before you move. Product importation rules vary considerably from country to country. You may be required to present documentation of your move to EGIMOTORS in order to continue your warranty coverage. You may also be required to obtain documentation from EGIMOTORS in order to register your product in your new country. You should warranty register your product at a local EGIMOTORS dealer in your new country immediately after you move to continue your warranty coverage and to ensure that you receive information and notices regarding your product.

# IF YOU PURCHASE FROM A PRIVATE PARTY:

If you purchase a EGIMOTORS product from a private party, to be kept and used outside of the country in which the product was originally purchased, all warranty coverage will be denied. You must nonetheless register your product under your name and address with a local EGIMOTORS dealer in your country to ensure that you receive safety information and notices regarding your product.

## **EXPORTED PRODUCTS**

EXCEPT WHERE SPECIFICALLY REQUIRED BY LAW, THERE IS NO WARRANTY OR SERVICE BULLETIN COVERAGE ON THIS PRODUCT IF IT IS SOLD OUTSIDE THE COUNTRY OF THE SELLING DEALER'S AUTHORIZED LOCATION. This policy does not apply to products that have received authorization for export from EGIMOTORS. Dealers may not give authorization for export. You should consult an authorized dealer to determine this product's warranty or service coverage if you have any questions. This policy does not apply to products registered to government officials or military personnel on assignment outside the country of the selling dealer's authorized location. This policy does not apply to Safety Bulletins.

## NOTICE

If your product is registered outside of the country where it was purchased and you have not followed the procedure set above, your product will no longer be eligible for warranty or service bulletin coverage of any kind, other than safety bulletins. Products registered to government officials or military personnel on assignment outside of the country where the product was purchased will continue to be covered by the Limited Warranty.

Please work with your dealer to resolve any warranty issues. Dealership contacts can be found via this website, if needed:

#### www.egimotors.it

Should your dealer require any additional assistance, they will contact the appropriate person at EGIMOTORS.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or in different countries. If any of the above terms are void because of federal, state, local law, all other warranty terms will remain in effect.

For questions reach EGIMOTORS on www.egimotors.it

# **MAINTENANCE LOG**

# **MAINTENANCE LOG**

Use the following chart to record periodic maintenance.

DATE	MILES (KM) OR HOURS	TECHNICIAN	SERVICE PERFORMED / COMMENTS

# For more information visit www.Egimotors.it

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143