



# Owner's Manual

READ THIS MANUAL CAREFULLY,  
IT CONTAINS IMPORTANT SAFETY INFORMATION.

*GT250*

***Dune Buggy***

MINIMUM  
RECOMMENDED  
OPERATOR AGE: **16**



## **FOR OFF-ROAD USE ONLY**

This vehicle is designed and manufactured for off-road use only.

USA only:

It does not conform to Federal Motor Vehicle Safety Standards, and in regards to operation on public streets, roads, or highways is illegal.

## HAMMERHEAD OFF-ROAD, INC. – EMISSION CONTROL SYSTEM WARRANTY

### YOUR WARRANTY RIGHTS AND OBLIGATIONS

The emission control system warranty period for this vehicle begins on the date the vehicle is delivered to the first purchaser other than an authorized dealer, or the date it is first used as a demonstrator, lease, or company vehicle, whichever comes first and continues for 30 months after that date, or 5,000km, whichever comes first, provided there has been no abuse, neglect or improper maintenance of your vehicle. Where a warrantable condition exists, the Distributor will repair your vehicle at no cost to you, including diagnosis, parts and labor. If an emission-related part on your vehicle is defective, the part will be repaired or replaced by the Distributor. This is your emission control defects warranty.

### OWNER'S WARRANTY RESPONSIBILITIES

As the vehicle owner, you are responsible for the performance of the required maintenance. You should maintain a record of all maintenance performed on your vehicle and retain all receipts covering maintenance on your vehicle. You may not be denied a warranty claim solely because of your failure to ensure the performance of all scheduled maintenance or lack of maintenance records or receipts. You are responsible for presenting your vehicle to an authorized dealer as soon as a problem exists. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

As the vehicle owner, you should be aware that you may be denied your warranty coverage if your vehicle or a part has failed due to abuse, neglect, improper maintenance, or unapproved modifications.

### WARRANTY COVERAGE

The Distributor warrants that each new 2009 and later vehicle:

- is designed, built, and equipped so as to conform at the time of initial retail purchase with all applicable regulations of the United States Environmental Protection Agency, and the California Air Resources Board; and
- is free from defects in material and workmanship which cause such vehicle to fail to conform with applicable regulations of the United States Environmental Protection Agency or the California Air Resources Board for the periods specified above.

Your emission control system warranty covers components whose failure would increase an engine's emission, including electronic controls, fuel injection system, carburetor, the ignition system, catalytic converter, or any other system utilized in this vehicle to control emission if it is originally equipped. Also included may be hoses, connectors and other emission-related assemblies. Replacing or repairing other components (including parts, labor, and other costs) not covered by this emission control system warranty or the standard warranty is the responsibility of the owner.

Coverage of repairs under this warranty applies only when repairs are completed at an authorized dealer or repair facility. The Distributor will not cover repairs performed outside of an authorized dealer or repair facility, except in an emergency situation. The use of replacement parts not equivalent to the original parts may impair the effectiveness of your vehicle's emission control system. If such a replacement part is used and an authorized dealer determines it is defective or causes a failure of a warranted part, your claim for repair to bring your vehicle into compliance with applicable standards may be denied.

If an emergency situation exists when a warranted part or a dealer is not reasonably available to the owner, repairs may be performed at any available service establishment, or by the owner, using any replacement part. The Distributor shall reimburse the owner for the expenses, including diagnostic charges, not to exceed the Distributor's suggested retail price for all warranted parts replaced and labor charges based on the Distributor's recommend time allowance for the warranty repair and the geographically appropriate hourly labor rate. The owner may reasonably be required to keep receipts and failed parts in order to receive compensation.

This Emission Control System Warranty is in addition to the standard Limited Warranty.

### EXCLUSIONS AND LIMITATIONS

This warranty does not cover the following:

- Failures or malfunctions of the emission control systems caused by abuse, alteration, accident, misuse, the use of leaded gasoline.
- Replacement of expendable maintenance items unless they are original equipment defective in material or workmanship under normal use, and the first required replacement interval for the item has not been reached. Expendable maintenance items include but not limited to spark plugs, filters, coolant, lubricants, gaskets, hoses, and belts.
- Replacements of parts and other services and adjustments for required maintenance.
- Any vehicle equipped with an odometer or hour meter where the reading is altered so that actual mileage cannot be readily determined.
- Repairs or replacements as a result of:
  - Accident
  - Misuse
  - Use of replacement parts or accessories not conforming to the original specifications which adversely affect performance
- Physical damage, corrosion, or defects caused by fire, explosions or similar causes beyond the control of the Distributor.
- Failures not caused by a defect in material or workmanship.

Use of the vehicle in any type of competitive racing or related events immediately and completely voids this and all other warranties.

### LIMITED LIABILITY

The liability of the Distributor under this Emission Control System Warranty is limited solely to the remedying of defects in material workmanship by an authorized dealer at its place of business during customary business hours. This warranty does not cover inconvenience or loss of use of the vehicle or transportation of the vehicle to/from the authorized dealer. The Distributor is not liable 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.

No express emission control system warranty is given by the Distributor except as specifically set forth herein. Any emission control system warranty implied by law, including any warranty of merchantability or fitness for a particular purpose is limited to the express emission control system warranty terms stated in this warranty. The foregoing statements of warranty are exclusive and in lieu of all other remedies. All express warranties not stated in this warranty are disclaimed. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply if it is inconsistent with the controlling state law.

No dealer is authorized to modify this Emission Control System Warranty. If you have any questions regarding your warranty rights and responsibilities, you should contact Hammerhead Off-Road, Inc. at (214) 513-1700 (or you can write to 1200 Lakeside Parkway #325, Flower Mound, TX 75028) or the California Air Resources Board, 9528 Telstar Avenue, El Monte, CA 91731 (for California registered vehicles only).

# CONTENTS

## **OWNER' S MANUAL**

Page

1. FOREWORD .....	1
2. A FEW WORDS ABOUT SAFETY .....	2
3. IMPORTANT SAFETY INFORMATION .....	3
4. SAFETY LABELS .....	5
5. ARE YOU READY TO DRIVE ? .....	6
6. SAFE DRIVING PRECAUTIONS .....	8
7. SPECIFICATIONS .....	10
8. OPERATION .....	12
9. OPERATION/SERVICE INSTRUCTIONS.....	16
10. SERVICE INSTRUCTIONS.....	17
11. REPAIR.....	20
12. PERIODICAL CHECK AND SERVICES .....	22

Thank you for purchasing our dune buggy. We hope you will enjoy it. Before you start to operate the Dune Buggy, please read through this Owner's Manual carefully as it contains important safety and maintenance information. Failure to follow the warnings contained in this manual can result in serious injuries or death.

Be sure to follow the recommended maintenance schedule and service your Dune Buggy accordingly. Preventive maintenance is extremely important to the longevity of your Dune Buggy.

Beginners should seek instructions from your dealer or qualified instructors before and during initial use of the dune buggy. It is also recommended to practice in a large open area and familiar with operations of this dune buggy.

We hope you will have a pleasant experience with our products and thanks again for choosing our Dune Buggy.

# A FEW WORDS ABOUT SAFETY


In order to keep everyone safe, you must take responsibility for the safe operation of your Dune Buggy.

To help you make informed decisions about safety, we have provided operating procedures and other information on labels and in this manual. This information alerts you to potential hazards that could hurt you or others.

It is not practical or possible to warn you about all hazards associated with operating or maintaining a Dune Buggy. You must use your own good judgment.

You will find important safety information in a variety of forms, including:

**Safety Labels** – On the Dune Buggy.

**Safety Messages** – Preceded by a safety alert symbol  and one of two signal words: **WARNING**, or **CAUTION**.

**These signal words mean:**



Physical harm may result from failure to adhere to the instructions that are described within the **WARNING** labels.

**Safety Headings** – such as Important Safety Reminders or Important Safety Precautions.

**Safety Section** – such as Dune Buggy Safety.

**Instructions** – how to use this Dune Buggy correctly and safely.

This entire manual is filled with important safety information—please read it carefully.

# IMPORTANT SAFETY INFORMATION

Your Dune Buggy will provide you with many years of service and pleasure. Providing you take responsibility for your own safety and understand the challenges you can meet while driving.

There is much that you can do to protect yourself while operating your dune buggy. You'll find many helpful recommendations throughout this manual. The following are a few that we consider most important.

## **Follow the Age Recommendation**

Adult Supervision should be present for all people under the age of 16.

## **Always Wear a Helmet**

It's a proven fact: helmets significantly reduce the number and severity of head injuries. Always wear an approved motorcycle helmet. We also recommend that you wear eye protection, sturdy boots, gloves, and other protective gear.

## **Drive Off-Road Only**

Your Dune Buggy is designed and manufactured for off-road use only. The tires are not made for pavement, and the Dune Buggy does not have turn signals and other features required for use on public roads. If you need to cross a paved or public road, get off and walk your Dune Buggy across.

## **Take Time to Learn & Practice**

Even if you have driven other Dune Buggies, take time to become familiar with how this Dune Buggy works and handles. Practice in a safe area until you build your skills and get accustomed to this Dune Buggy's size and weight.

Because many accidents involve inexperienced or untrained drivers, we urge all drivers to take a training course approved by the Dune Buggy Safety Institute. Check with your dealer for more information on training courses.

## **Be Alert for Off-Road Hazards**

The terrain can present a variety of challenges when you drive off-road. Continually "read" the terrain for unexpected turns, drop-offs, rocks, ruts, and other hazards. Always keep your speed low enough to allow time to see and react to hazards.

# IMPORTANT SAFETY INFORMATION

## **Drive within Your Limits**

Pushing limits is another major cause of Dune Buggy accidents. Never drive beyond your personal abilities or faster than conditions warrant. Remember that alcohol, drugs, fatigue, and inattention can significantly reduce your ability to make good judgments and drive safely.

## **Don't Drink and drive**

Alcohol and driving don't mix. Even one drink can reduce your ability to respond to changing conditions, and your reaction time gets worse with every additional drink. So don't drink and drive, and don't let your friends drink and drive either.

## **Do not operate this Dune Buggy at night.**

Dark vision can greatly reduce a driver's visibility and judgment. So driving at night is dangerous and can increase the possibility for an accident.

## **Never run your Dune Buggy indoors.**

The exhaust from the engine contains a tasteless, odorless and poisonous gas called carbon monoxide.

## **Keep away from moving parts of the Dune Buggy**

The operator of the **Dune Buggy** should never place their hands or other parts of their body near any moving part of the **Dune Buggy**. Failure to adhere to this warning will cause physical harm to your body.

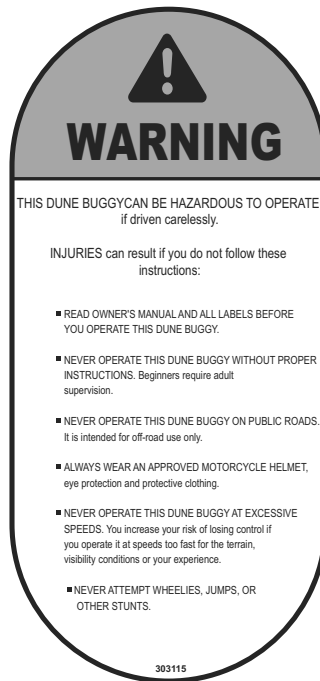
## **Skidding or Sliding**

The terrain surface can be a major factor affecting turns. Skidding in a turn is more likely to occur on slippery surfaces such as snow, ice, mud and loose gravel. If you skid on ice, you may lose all directional control. To avoid skidding on slippery terrain, keep your speed low and drive carefully.

# SAFETY LABELS

This section presents some of the most important information and recommendations to help you drive your **Dune Buggy** safely. Please take a few moments to read these pages.

The labels should be considered permanent parts of the **Dune Buggy**. If a label comes off or becomes hard to read, contact your dealer for warning label replacements.





# ARE YOU READY TO DRIVE ?

Before each drive, you need to make sure that you and your dune buggy are both ready to drive. To help get you prepared, this section discusses how to evaluate your driving readiness, what items you should check on your dune buggy, and adjustments to make for your comfort, convenience, or safety.

Before you drive your dune buggy for the first time, we urge you to:

- Read this owner's manual and the labels on your dune buggy carefully.
- Make sure you understand all the safety messages.
- Know how to operate all the controls.

Before each drive, be sure:

- You wear your seat belt at all times while driving your dune buggy.
- You feel well and are in good physical and mental condition.
- You are wearing an approved motorcycle helmet (with chin strap tightened securely), eye protection, and other protective clothing.
- You don't have any alcohol or drugs in your system.

## Protective Apparel

For your safety, we strongly recommend that you always wear an D.O.T. approved motorcycle helmet, eye protection, boots, gloves, long pants, and long-sleeved shirt or jacket whenever you drive.

Although complete protection is not possible, wearing proper gear can reduce the chance of injury should you have an accident.

The following suggestions will help you choose the proper protective gear.

## Helmets and Eyes Protection

Your helmet is your most important piece of protective gear because it offers the best protection against head injuries. A helmet should fit your head comfortably and securely.

An open-face helmet offers some protection, but a full-face helmet offers more. Regardless of the style, look for a D.O.T. (Department of Transportation) sticker on any helmet you buy. Always wear a face shield or goggles to protect your eyes and help your vision.

### **WARNING**

Operating this dune buggy without wearing an approved motorcycle helmet, eye protection, and protective clothing could increase your chances of head and/or eye injury, and the possibility of death in the event of a severe accident.

Always wear an approved motorcycle helmet that fits properly and wear eye protection (goggles or face shield), gloves, boots, long-sleeved shirt or jacket and long pants.

# ARE YOU READY TO DRIVE ?

## Additional Driving Gear

In addition to a helmet and eye protection, we also recommend:

- Sturdy off-road motorcycle boots to help protect your feet, ankles, and lower legs.
- Off-road motorcycle gloves to help protect your hands.
- Driving pants with knee and hip pads, a driving jersey with padded elbows, and a chest/shoulder protector.

## Driver Training

Developing your driving skill is an on-going process. Even if you have driven other dune buggies, before take time to become familiar with how this dune buggy works and handles. Practice driving the dune buggy in a safe area to develop your skills. Do not drive on rough terrain until you get accustomed to the dune buggy's controls, and feel comfortable with its size and weight.



### **WARNING**

**Operating this dune buggy without your seat belt could cause you to be thrown from the dune buggy, causing serious injury or death.**

## No Alcohol or Drugs

Alcohol, drugs and dune buggies don't mix. Even a small amount of alcohol can impair your ability to operate a dune buggy safely. Likewise, drugs—even if prescribed by a physician—can be dangerous while operating a dune buggy. Consult your doctor to be sure it is safe to operate a dune buggy after taking medication.



### **WARNING**

**Operating this dune buggy after consuming alcohol or drugs can seriously affect your judgment, cause you to react more slowly, affect your balance and perception, and could result in serious injury or death.**

**Never consume alcohol or drugs before or while operating this dune buggy.**

# IS YOUR DUNE BUGGY READY TO DRIVE?

Before each drive, it is important to inspect your dune buggy and make sure any problems you find are corrected. A pre-drive inspection is a must, not only for safety, but because having a breakdown, or even a flat tire, can be a major inconvenience.

If your dune buggy has overturned or has been involved in a collision, do not drive it until your dune buggy has been inspected by your dealer. There may be damage or other problems that you can not see.



### **WARNING**

**Improperly maintaining this dune buggy or failing to correct a problem before driving can cause a crash in which you can be seriously hurt or killed.**

**Always perform a pre-drive inspection before every drive and correct any problems.**

# SAFE DRIVING PRECAUTIONS

## Off-Road Use Only

Your dune buggy and its tires are designed and manufactured for off-road use only, not for use on paved surfaces. Driving on paved surfaces can affect the dune buggy handling and control. You should not drive your dune buggy on paved surfaces.

### **WARNING**

**Operating this dune buggy on paved surfaces may seriously affect handling and control of the dune buggy, and may cause the dune buggy to go out of control.**

**Never operate the dune buggy on any paved surfaces, including pavements, driveways, car parks and streets.**

When driving off-road, also remember to always obey local off-road driving laws and regulations. Obtain permission to drive on private property. Avoid posted areas and obey "no trespassing" signs.

You should never drive your dune buggy on public streets, roads or highways, even if they are not paved. Drivers of dune buggies may have difficulty seeing and avoiding you, which could lead to a collision. In many states it is illegal to operate dune buggies on public streets, roads and highways.

### **WARNING**

**Operating this dune buggy on public streets, roads or highways could cause a collision with another vehicle. Never operate this dune buggy on any public streets, roads or highways, whether they are dirt, gravel or paved surfaces.**

## Keep Hands and Feet on Controls

When driving your dune buggies, always keep both hands on the steering wheel and both feet on the foot controls. It is important to maintain your balance and to control the Dune Buggy. Removing hands or feet away from the controls can reduce your ability to react and control the dune buggy.

### **WARNING**

**Removing your hands from the steering wheel or feet from the foot controls during operation can reduce your ability to control the dune buggy or could cause you to lose your balance and fall off the dune buggy.**

**Always keep both hands on the steering wheel and both feet on the foot controls of your dune buggy during operation.**

## Control Speed

Driving at excessive speed increases the chances of an accident. In choosing an appropriate speed, you need to consider the capability of your dune buggy, the terrain, visibility and other operating conditions, plus your own skill and experience.

### **WARNING**

**Operating this dune buggy at excessive speeds increases your chances of losing control of the dune buggy, which can result in an accident.**

**Always drive at a speed that is appropriate for your dune buggy, the terrain, visibility and other operating conditions, and your experience.**

# SAFE DRIVING PRECAUTIONS

## Use Dune Buggy on Unfamiliar or Rough Terrain

Before driving in a new area, always check the terrain thoroughly. Don't drive fast on unfamiliar terrain or when visibility is limited (it's sometimes difficult to see obstructions like hidden rocks, bumps, or holes in time to react).

### **WARNING**

**Failure to use extra care when operating this dune buggy on unfamiliar terrain could result in the dune buggy overturning or going out of control.**

**Go slowly and be extra careful when operating on unfamiliar terrain. Always be alert to changing terrain conditions when operating the dune buggy.**

Never drive past the limit of visibility. Maintain a safe distance between your dune buggy and other off-road vehicles. Always exercise caution and use extra care on rough, slippery and loose terrain.

### **WARNING**

**Failure to use extra care when operating on excessively rough, slippery or loose terrain could cause loss of traction or vehicle control, which could result in an accident, including an overturn.**

**Do not operate on excessively rough, slippery or loose terrain until you have learned and practiced the skills necessary to control the dune buggy on such terrain. Always be especially cautious on these kinds of terrain.**

## Do Not Perform Stunts

You should always operate your Dune Buggy in a safe and reasonable manner. When driving, always keep all four wheels on the ground.

### **WARNING**

**Attempting wheelies, jumps, and other stunts increases the chance of an accident, including an overturn.**

**Never attempt stunts, such as wheelies or jumps. Don't try to show off.**

## Radiator Indicator Lamp

During the driving, you should always keep close contact with this red indicator lamp. This indicator lamp will tell you when your engine coolant system is getting too hot. To keep from causing any damage, you should stop the dune buggy and turn the key off. Check if there is any leak. At this time do not open the radiator cap, allow your coolant system and engine to cool down before opening the radiator cap.

If you find the coolant completely gone, you should check if the radiator, hoses or engine has such leaks.

## PARTS MANUAL

### DIMENSIONS

Overall Length -----	94.46in.(2450mm)
Overall Width -----	56.18in.(1427mm)
Overall Height -----	59.35in.(1512mm)
Wheelbase -----	73.42in.(1865mm)
Front Track -----	45.7in.(1160mm)
Rear Track -----	39.4in.(1000mm)
Ground Clearance -----	6.7in.(170mm)

### ENGINE

Type -----	Forced air-cooled, 4-Stroke
Engine capacity -----	250cc
Bore / Stroke -----	72mm X 60mm
Displacement -----	244.3ml
Corrected compression ratio -----	2.2-0.9
Carburator -----	Vacuum diaphragm
Output Power -----	11kw/7000rpm
Maximum Torque -----	13/5500 foot lbs-r-min
Starting -----	Electric
Ignition -----	C.D.I.
Lubrication -----	Force & Splash
Transmission -----	Automatic(C.V.T system)
Spark plug -----	C7HSA(NGK)
Plug gap -----	0.6-0.7mm
Fuel Type -----	RQ90(unleaded)
Lubricate oil -----	SAE-10W/40

### CAPACITIES

Maximum load-----	Double Seats/400lbs
Fuel tank -----	10L(2.6 gal)
Engine oil -----	30 OZ
Starting -----	<5s
Climbing -----	20-25
Battery -----	12V 10Ah
Head Light -----	12V 35W/35W
Tail Light -----	12V 21W/5W
Fuse -----	10A

# SPECIFICATIONS

Brake Track -----<7m@20miles/h  
Top speed ----- 73miles/h(or limited as customers require)

## CHASSIS

Front, Rear brake -----Hydraulic disc, left foot control  
Front tire -----19 x 7-8  
Rear tire -----21 x 10-10  
Front Suspension ----- Independent Dual A-Arm  
Rear Suspension ----- Swing Arm/Double Oil damped Shock  
Restraint System ----- Dual 3-point Harness  
Final Drive Chain ----- Chain

## TIRE PRESSURE

Front ----- 147kPa 1.5kg-cm<sup>2</sup> 21.3psi  
Rear ----- 196kPa 1.5kg-cm<sup>2</sup> 21.3psi

## WEIGHT

Net Weight ----- 235kgs(518lbs)


## A. Operation controls

**WARNING** - Do not attempt to start or operate the engine until completely familiar with the location and use of each control necessary to operate this vehicle. The operator must know how to stop this machine before starting and driving it.

### a. Throttle

The right foot pedal is the throttle that controls the Kart speed. As the engine speed increased above idle, the clutch automatically engages and moves the vehicle forward. To disengage the clutch at any time, allow the throttle to return to the idle position.

(See Fig. 1)



### WARNING

Each time prior to starting the engine, check the throttle assembly to ensure that when the pedal is pushed all the way forward the assembly is working smoothly and returns to idle when released. Do not operate if pedal or engine throttle linkage fail to return to idle. If unable to correct the problem through lubrication, adjustment or replacement of worn parts, contact your dealer for assistance.

### b. Brake

The brake is located on the left side of the kart (See Fig.1). Applying pressure to the pedal draws the brake caliper around the brake pump at the rear wheel and slows or stops the kart.

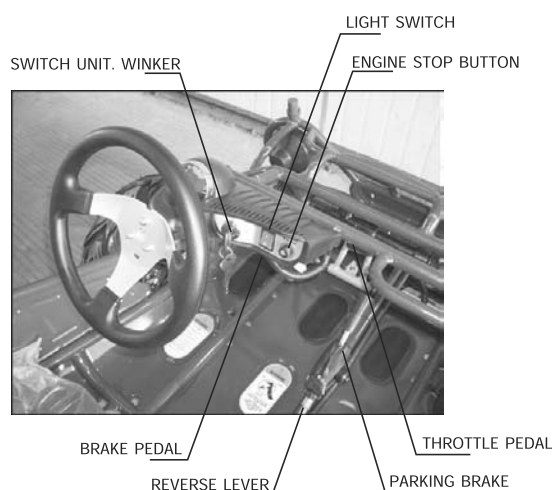
### c. Start engine

Insert the key into key-switch, turn the key clockwise, release the key when the engine starts. The engine will warm up within 5 minutes and the engine choke will close automatically and operate at the normal RPM (Warning: Don't crank starter more than 5 seconds at one time).

### d. Engine stop button

Important-stop button test.

Before driving this vehicle, test the Engine Stop Button to assure that it is operating properly. With the engine running, push and hold the Engine Stop Button for two seconds for the engine to shut down.



**Figure 1**

## B. Pre-Drive Inspection



### **WARNING**

Perform this pre-drive inspection everyday before driving vehicle. If not performed, serious damage to the vehicle or personal injury may result.

- a. Check for Engine Oil Level. Check for leaks, add oil if required.
- b. Check for Fuel Level. Add fuel as necessary and do not overfill. Check for leaks.
- c. Check for Brakes. Depress the rear brake pedal several times, then check for proper brake pedal freeplay. Make sure there is no brake fluid leakage. Adjust if necessary.
- d. Check Tires. Check tires condition and pressure. The pressure on both Front and Rear tire is 5 and 8 lbs respectively.
- e. Check Drive Chain. Check for drive chain's condition and tension. Lubricate if necessary.
- f. Check Throttle. Check for smooth operation. Assure throttle "snaps" back to idle.
- g. Check Engine Stop Button. Perform engine stop button test. Repair as necessary.
- h. Check all Nuts, Bolts, and fasteners. Check wheels to see that all axle nuts and lug nuts are tightened properly. Check and tighten as necessary all other fasteners to specified condition.
- i. Check C.B.C Bar. Ensure all protective C.B.C bars are in place before operating the Kart.
- j. Check Brake Light. Check for proper operation.
- k. Check Wheels. Check for tightness of wheel nuts and axle nuts; check that axle nuts are secured by cotter pins.
- l. Check Steering. Check for free operation for any unusual looseness in any area.



### **CAUTION**

Always follow rules for safe operation and wear a helmet.



## Component locations



Figure 2

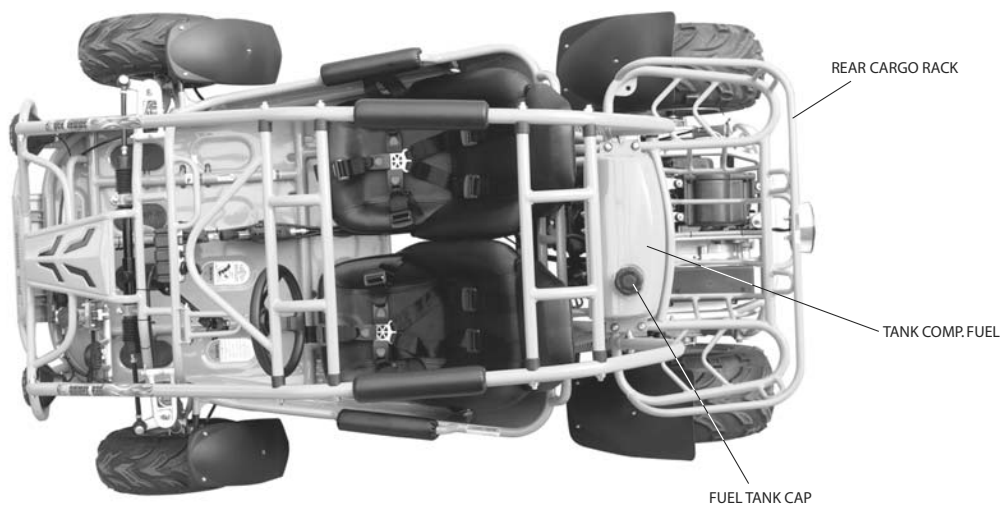


Figure 3

# OPERATION

## C. Passengers

The dune buggy allows for two riders only. Combine maximum weight of driver and the passenger should not exceed 180kg or 400lbs.

## D. Seat Adjustment

The seat must always be securely fastened in the position which best affords the operator control of the foot pedals, steering wheel, and the remote stop button.

- a. Pull seat adjustment handle upward to disengage seat slide.
- b. Move seat to desired position.
- c. Be sure seat adjustment handle snaps back into place and that seat is locked into position.

### **WARNING**

Before attempting to adjust the seat, ensure that dune buggy engine is stopped.

### **WARNING**

Never operate this Dune Buggy when the provided seat is not securely fastened, to do so could result in a strong possibility of severe personal injury or loss of life. Before attempting to adjust the seat, ensure the dune buggy engine is stopped.

## E. Reverse Adjustment

a. Push forward the reverse lever to the "D" position so that the unit can move forward, pull back the lever to "R" so that the unit can move backward. (See Fig.4)

b. When reverse lever is in the drive position, there need to be 1/2 inch of freeplay in the reverse level. If the adjustment is not correct, then loosen the lock nut #2, then adjust lock nut #1 to the proper amount of freeplay.

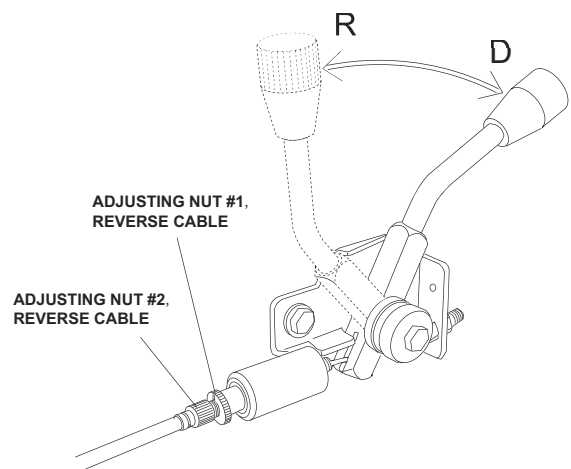


Figure 4

Always stop the dune buggy before changing gears.

# OPERATION/SERVICE INSTRUCTIONS

## F. Starting And Operating Instructions

- a. Before starting the engine, be sure that the driver is seated properly in the Dune Buggy with the seat belt.
- b. Testing the Dune Buggy in an open space at the beginning to learn how to start, turn and stop.
- c. Operate the Dune Buggy slowly until you are familiar with it.
- d. The turning radius of this Dune Buggy is small and agile, so the centrifugal force is very high when turning at high speed. Slow down to a more controllable speed when turning to prevent the Dune Buggy from rolling over.
- e. To prevent dune buggy from rolling over, be sure to only turn the dune buggy at a slow more controllable speed. Heel on the ramp of the main board when turning. (See Fig.5) Keep your leg rely on the foot pedal, you can feel the dune buggy is stable because of the gravity is adjusted and won't roll over.



Figure 5

# SERVICE INSTRUCTIONS

## A. Service Air Cleaner

Service air cleaner every 20 hours

NOTE: Service more often under dusty conditions.

- a. Remove cleaner cover
- b. Remove air cleaner element 2 (See Fig.6)
- c. Fill the non-flammable cleaning agent into a basin and dip the element in it.
- d. Dry it after cleaning.

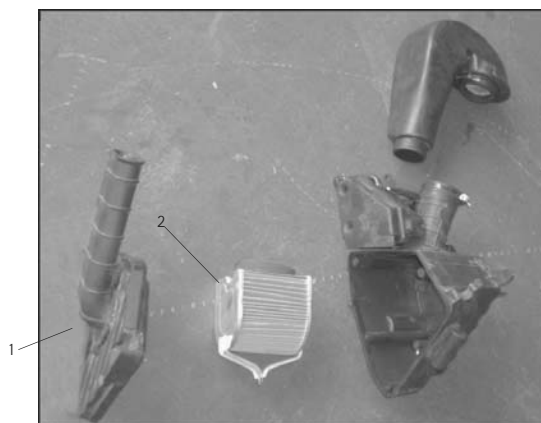


Figure 6

# SERVICE INSTRUCTIONS

## B. Engine Lubrication

You must change the oil in the crankcase after the first 5 hours of operating of your new engine (See Fig. 7) and after 10 hours of use thereafter. That will insure proper lubrication of internal parts and prevent costly repairs due to excessive wear.



- Remove drain plug located on the right rear side of engine. Tip dune buggy backwards slightly by blocking up the front end and drain oil into suitable container.
- Remove and clean Oil Screen.
- Replace drain plug and tighten securely. Place dune buggy in a level position.
- Refill crankcase (approximately 1 1/4 pint) to top of filler neck with SAE 10W40 oil. Use same grade of oil as used originally.
- Check oil level before each use of dune buggy or after each 10 hours of operation. Add oil to bring up to proper level. Do not mix various grades of oil.

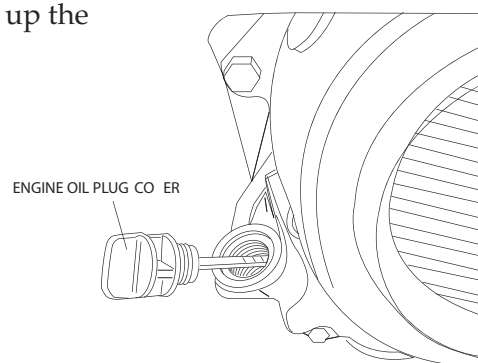


Figure 7

## C. Spark Plug

a. Remove the spark plug and inspect it each time you change the oil. (Use a spark plug wrench) The electrodes should be kept clean and free of carbon. The presence of carbon or excess oil will greatly reduce proper engine performance. If possible, check the spark plug gap (area between electrodes) using a wire feeler gauge. This specification is 0.6~0.7mm.

b. Before installing spark plug coat threads lightly with graphite grease if possible, to ensure easy removal next time the spark plug needs inspection.

c. It is advisable to replace the spark plug at least once a year to insure easy starting and good engine performance.

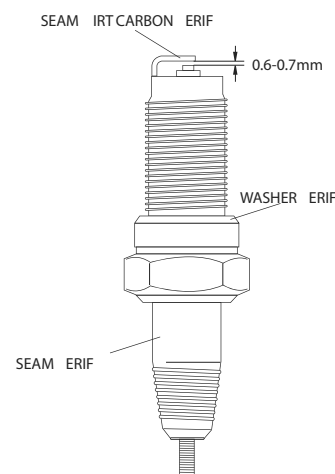
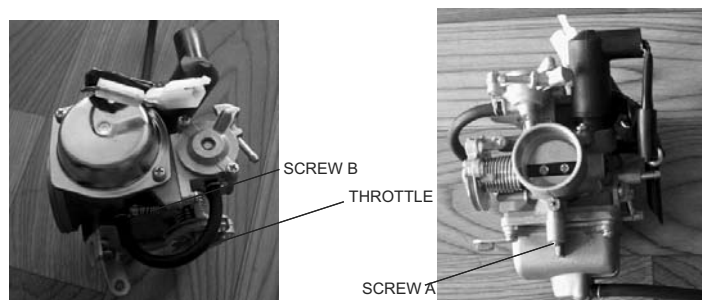


Figure 8

## D. Carburetor Adjustment

Never make unnecessary adjustments. The factory recommended settings are correct for most applications.

- a. Warm up the engine (5~10min)
- b. Tighten the air screw gently. Backout 2-3/8 turns counter clockwise.
- c. Connect the tachometer, adjust the throttle to limit the idle speed. The standard value is (1400RPM).
- d. Turn the air screw counter clockwise slowly and observe the RPM of the engine, stop adjusting as the RPM reaches the top speed.
- e. Adjust the screw and adjust the idle speed to an ideal value.
- f. Recheck and readjust the idle speed if necessary.



**Figure 9**

## E. Cleaning Instructions

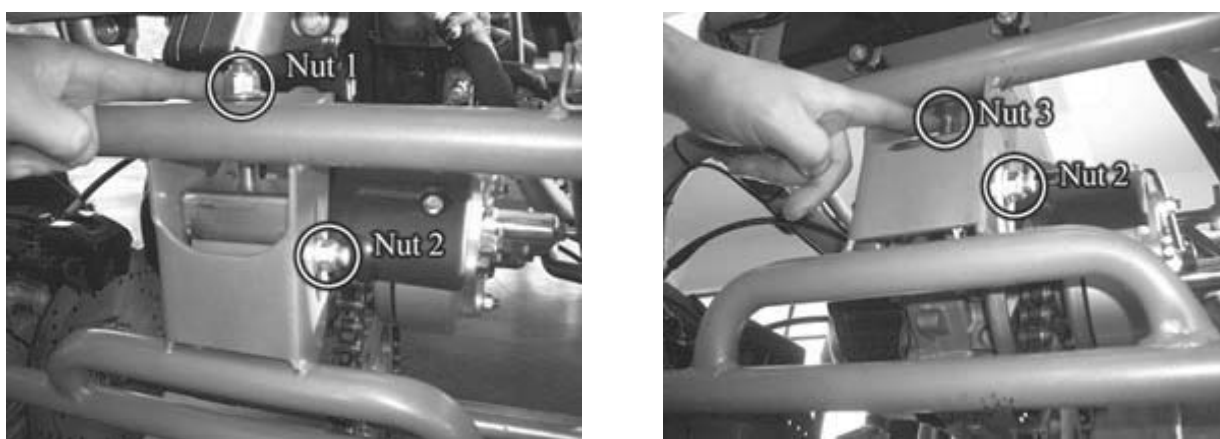
Keep your dune buggy clean. With a clean rag, wipe off dirt and oil from around controls. Wipe off any spilled fuel and oil. Keep the engine clean of foreign objects, and be sure to check that air intake fan is free of debris for proper cooling.

## F. Dune Buggy Lubrication

Lubricate vehicle every 90 days of use. Lubrication should be done sooner, if dune buggy is used everyday.

## G. Chain Lubrication

To increase chain life, it should be lubricated with a spray on type chain lubricant. (See Fig. 10)



**Figure 10**

# SERVICE INSTRUCTIONS

## H. Chain Adjustment

Check the chain adjustment after first two hours of use. Readjust if it has more than 1/2" flex.

- a. Loosen Nut 2(M14X1.5) & Nut 3(M14X1.5)
- b. Adjust Nut 1(M12X1.25). Turn Nut 2 & 3 clockwise in 1/2 turn increments, then turn nut #1 until tight.  
Follow this procedure until chain is at proper tension (See Fig. 10).
- c. Repeat the above two steps until chain is adjusted to desired fit.

## I. Adjustment of Front And Rear Shock

There are five adjustable positions on each shock. The default position is in the middle set by manufacturer (See Fig. 11)

Use a round nut wrench as you adjust the shock, the tension of shock spring will increase as you screw to left, decrease as you screw to right. Adjust according to the weight of the riders.

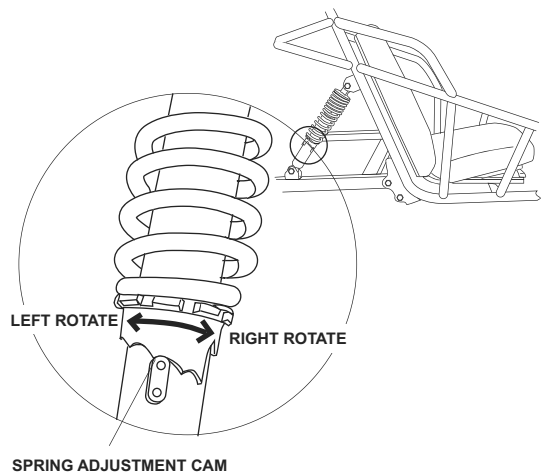


Figure 11

## J. Storage Instruction

In the event your dune buggy is not to be operated for a period in excess of 30 days or at the end of each driving season prepare for storage as follows:

- a. Drain fuel tank and carburetor by allowing engine to run out of fuel, and use a fuel stabilizer.
- b. Lubricate engine cylinder by removing the air cleaner, then spray engine fogging oil through the carburetor until motor dies.
- c. Do not save or store gasoline over winter. Using old gasoline, which has deteriorated from storage, will cause hard starting and affect engine performance.



### WARNING

Do not drain fuel while engine is hot. Be sure to move Dune Buggy outside before draining fuel.

## A. Front Wheel Replacement

**Do not disassemble the castle nuts when you replace the front wheels.**

It is only necessary to remove the 4 lug nuts to remove the wheel. (See Fig. 12)

Tighten the nuts after replacing the wheels.

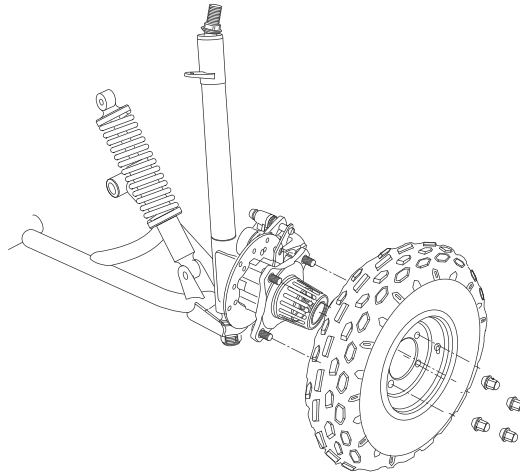


Figure 12

## B. Rear Wheel Replacement

**Do not disassemble the castle nuts when you replace the rear wheels and hub assembly.**

Remove the cotter pin and then 24mm nut. Then slide off wheel and hub assembly.

It is only necessary to remove the 4 lug nuts to remove the wheel by itself. (See Fig.13)

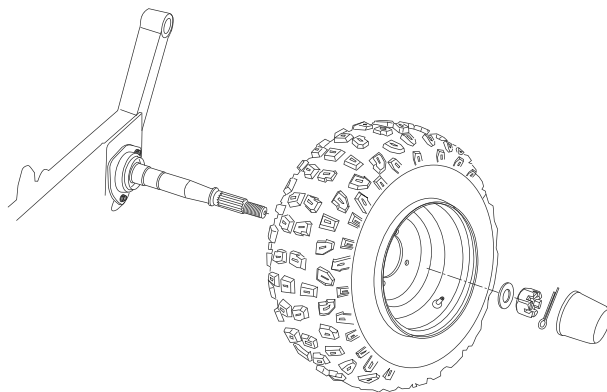


Figure 13

## C. Front Wheel Alignment

a. The front wheels should be “toe-in” from 1/8” to 1/4”. To check for alignment, measure distance A and B between the centerline (CL) of the wheels. The proper toe-in dimension A should be 1/8” – 1/4” greater than dimension B.

b. To adjust the alignments, loosen the lock nuts on both sides of Front Tie Rods. To make Dimension B smaller, turn the rod to left. Adjust the rod to right direction to make Dimension B larger. After adjusting to the desired length, tighten the lock nut against the rod end. Recheck the dimensions for proper alignment.

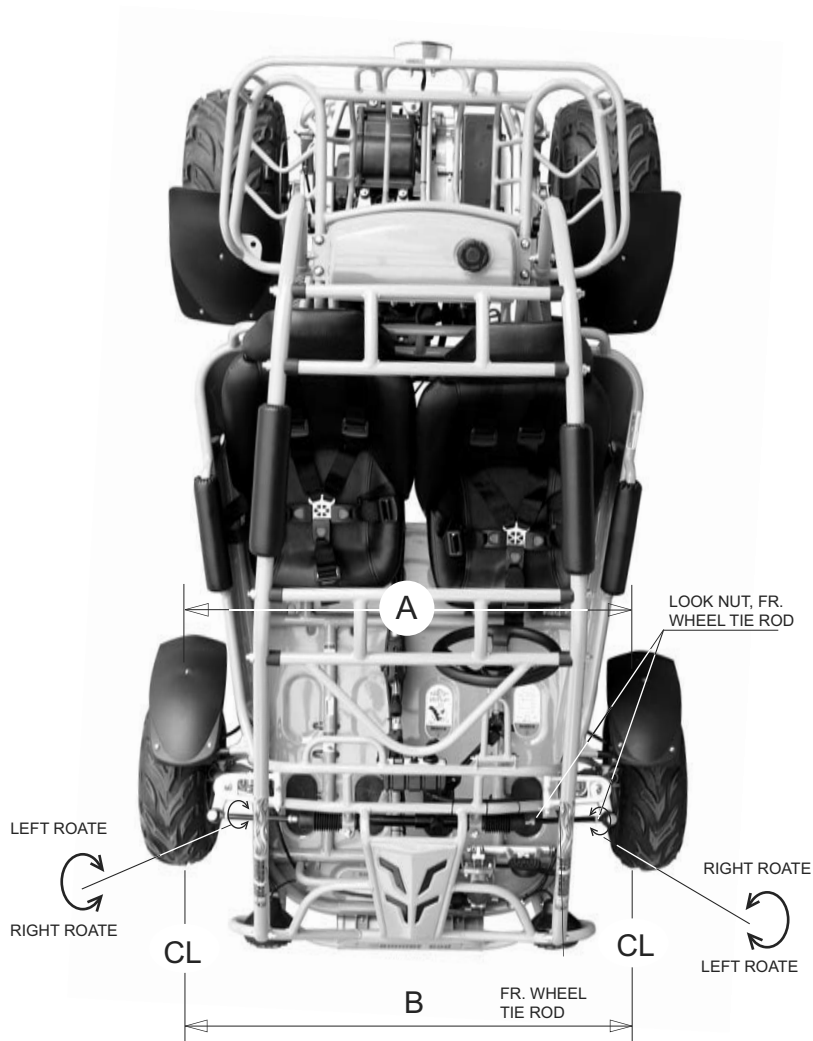


Figure 14



# PERIODICAL CHECK AND SERVICES

The maintenance intervals in the following table are based upon average driving conditions. Driving in unusually dusty areas, require more frequent servicing.

Items	Time of service	Initial service (first week)	Monthly	Quarterly	Yearly
Tire pressure/wear		I	I		
Brake performance		I	I		
Tightness of screws		I	I		
Air cleaner				C	I
Carburetor		I	A		C
Spark plug				C,A	
Drive chain		I	I	C,A,L	
Brake oil				I	
Replace gearbox oil			I	R	
Chassis			C,I	L	
Fuel switch/fuel tank			I		C
Battery				I	
Valve clearance of engine				A	

**A:** adjust **C:** clean **I:** inspect, clean or replace if necessary. **L:** lubricate **R:** replace

## WIRING DIAGRAM

