ATTENTION :

- **DO NOT attempt to operate or select the FORWARD/REVERSE gears unless the vehicle is completely stationery, otherwise you will damage the gearbox**
- **The FORWARD/REVERSE gears can and must only be operated when the brake pedal is pushed to bottom.**
- **The wheel circumst ance parameter of speedometer is recommended to set 1,900.**

Check List before Delivery

1. Please fill the below basic customer data:

Name			Telephone	Registration date
Address				
Model		Displacement	Engine NO.	VIN.No.

2. Please fill the below check list before delivery by dealer:

NO	Check Item	Y	N	NO	Check Item	Y	N
1	Steering Wheel			8	Engine Coolant (BR250 ONLY)		
2	Gap of throttle Pedal			9	Tire Pressure		
3	Gap of Brake Pedal			10	Confirm Engine ,VIN No & Document		
4	Lights and Horn			11	Owner's Manual		
5	Fuel Tank and Fuel Kind			12	Operating Method Introduction		
6	Engine Oil			13	Periodic Maintenance introduction		
7	Disk Brake fluid			14	Warranty Introduction		

Make a copy when writing above data;
Tear down this page to dealer.

Customer Signature	Dealer Signature

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Keep this page for customer.

Customer Signature	Dealer Signature

CONTENTS

OWNER' S MANUAL

Page

DEAR CUSTOMERS

Thank you for choosing **BugRider** of **PGO** kart. We hope you will enjoy it ! Before you start to operate the kart, 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 serious injuries or even death.

It is a fact that the efficiency and sustaining life of each kart depend heavily on the operating method of each user. Thus this owner's manual will provide you a precise knowledge of easy adjusting, sustaining and precaution for your kart. We hope you will read and check it carefully.

This manual includes several models, they are:

MODEL	Abb. as	Engine, Specification
BugRider 50	BR-50	2 stroke, 50CC, air cooled
BugRider 150	BR-150	4 stroke, 150CC, air & oil cooled
BugRider 200	BR-200	4 stroke, 200CC, air & oil cooled
BugRider 250 Single	BR-250S	4 stroke, 250CC, water cooled, Sngle seat
BugRider 250 Dual	BR-250D	4 stroke, 250CC, water cooled, Dual seat

Please recognize your kart model clearly in order to read the following instruments. If there is any question, please do not hesitate to ask your dealer for assistance.

Manufactured by
MOTIVE POWER INDUSTRY CO.,LTD.
2nd edition in 2006.04

A FEW WORDS ABOUT SAFETY

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

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 Kart. You must use your own good judgment.

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

Safety Labels – On the Kart.

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

These signal words mean:

⚠ WARNING

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 Kart Safety.

Instructions — how to use this Kart correctly and safely.

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

Your Kart 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 when you drive. You'll find many helpful recommendations throughout this manual. The following are a few that we consider most important.

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.

Take Time to Learn & Practice

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

Because many accidents involve inexperienced or untrained drivers, we urge all drivers to take a training course approved by the Go-Kart 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.

Drive within Your Limits

Pushing limits is another major cause of Kart 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 Kart at night.

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

Never run your Kart indoors.

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

Keep away from moving parts of the Kart

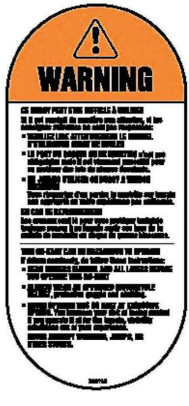
The operator of the Kart should never place their hands or other parts of their body near any moving part of the Kart. Failure to adhere to this warning will cause physical harm to your body.

Skidding or Sliding

The terrain surface can be a major factor affecting turns. Skidding 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 you speed low and drive carefully.

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

The labels should be considered permanent parts of the Kart. 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 you and your Kart 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 Kart, and adjustments to make for your comfort, convenience, or safety.

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

- Read this owner's manual and the labels on your Kart carefully.
- Make sure you understand all the safety messages.
- Know how to operate all the controls.
- Have adult present if under 16 years old.

Before each drive, be sure:

- Wear your seat belt at all times while driving your kart.
- 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 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 when you drive.

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

Helmets and Eyes Protection

Your helmet is your most important piece of driving 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 an authorized sticker in any helmet you buy. Always wear a face shield or goggles to protect your eyes and help your vision.

⚠ WARNING

Operating this Go-Kart without wearing an approved motorcycle helmet, eye protection, and protective clothing could increase your chances of head and/or eye injury, possibly death in the event of severe accident.

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

Additional Driving Attention

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

⚠ WARNING

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

⚠ WARNING

A child driving a Kart that is not recommended for his/her age could lose Kart control and result in severe injury or death.

A child under 16 should have adult supervision when operate the Kart.

No Alcohol or Drugs

Alcohol, drugs and Karts don't mix. Even a small amount of alcohol can impair your ability to operate a Kart safely. Likewise, drugs-even if prescribed by a physician-can be dangerous while operating a Kart. Consult your doctor to be sure it is safe to operate a vehicle after

⚠ WARNING

Operating this Kart after consuming alcohol or drugs can seriously affect your judgement, 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 Kart.

IS YOUR VEHICLE READY TO DRIVE ?

Before each drive, it is important to inspect your Kart 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 Kart has overturned or has been involved in a collision, do not drive it until your Kart has been inspected by your dealer. There may be damages or other problems you can not see.

⚠ WARNING

Improperly maintaining this Kart 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.

Pre-drive Inspection

Check the following items before you get on the Kart:

- Engine Oil

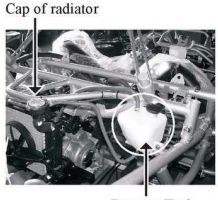
  Check the level and add oil if needed. Check for leaks.

- Fuel

  Check the level and add fuel if needed. Also make sure the fuel fill cap is securely fastened. Check for leaks.

- Engine coolant (only for BR250)

  1. Inspect the level of A.D. cooling tank, fill it to the Maximum-line when the level is lower than the Minimum-line, using the coolant mixed with distilled water only.
  2. Don't open the cap of radiator when the engine is hot !



- Tires

  Use a gauge to check the air pressure. Adjust if needed. Also look for signs of damages or excessive wear.

- Tires should be inflated to the recommended pressure.

  Off road: FRONT:0.25~0.30kgf/cm^2 REAR:0.25~0.30kgf/cm^2

  On road: FRONT:0.40~0.60kgf/cm^2 REAR:0.40~0.60kgf/cm^2

  The pressure should be checked when the tires are "cold" before running the vehicle.

- Nuts & Bolts

  Check the wheels to see that the axle nuts are tight. Use a wrench to make sure all accessible nuts, bolts, and fasteners are tight.

- Underbody & Exhaust System

  Check for and remove any dirt, vegetation or other debris that could be a fire hazard or interfere with the proper operation of the Kart.

- Air Cleaner Housing

  Check the air cleaner housing.

IS YOUR VEHICLE READY TO DRIVE ?

- Leaks, Loose Parts

  Walk around your Kart and look for anything that appears unusual, such as a leak or loose cable.

- Lights

  Make sure the headlight, brake light and taillight are working properly.

- Throttle

  Check the freeplay and adjust if needed. Press the throttle to make sure it moves smoothly without sticking, and snaps back automatically when it is released.

- Brakes

  Press the rear brake pedal several times, check for proper brake pedal freeplay. Make sure there is no brake fluid leakage.

- Vehicle Hazard

  While key is on, press and hold the Hazard Button for two seconds. Make sure signal lamps are twinkling.

- Steering Wheel

  Check that the wheels turn properly as you turn the steering wheel.

- Cable

  Check all cable housings for wear. Check the fittings for looseness. Replace or tighten as needed.

SAFE DRIVING PRECAUTIONS

Keep Hands and Feet on Controls

Always keep both hands on the steering wheel and both feet on the foot controls. When driving your Kart. It is important to maintain your balance and to control the Kart. Removing hands or feet away from the controls can reduce your ability to react and control the kart.

⚠ WARNING

Removing hand from Steering wheel or feet from foot controls during operation can reduce your ability to control the Kart or could cause you to lose your balance and fall off the kart.

Always keep both hand on the steering wheel and both feet on the foot controls of your kart during operation.

Control Speed

Driving at excessive speed increases the chance of an accident. In choosing a proper speed, you need to consider the capability of your Kart, the terrain, visibility and other operating conditions, plus your own skills and experience.

⚠ WARNING

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

Always drive at a speed that is proper for your Kart, the terrain, visibility and other operating conditions, and your experience.

Use Care 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 Kart on unfamiliar terrain could result in the Kart 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 Kart.

Never drive past the limit of visibility. Maintain a safe distance between your Kart 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 Kart on such terrain. Always be especially cautious on these kinds of terrain.

Do Not Perform Stunts

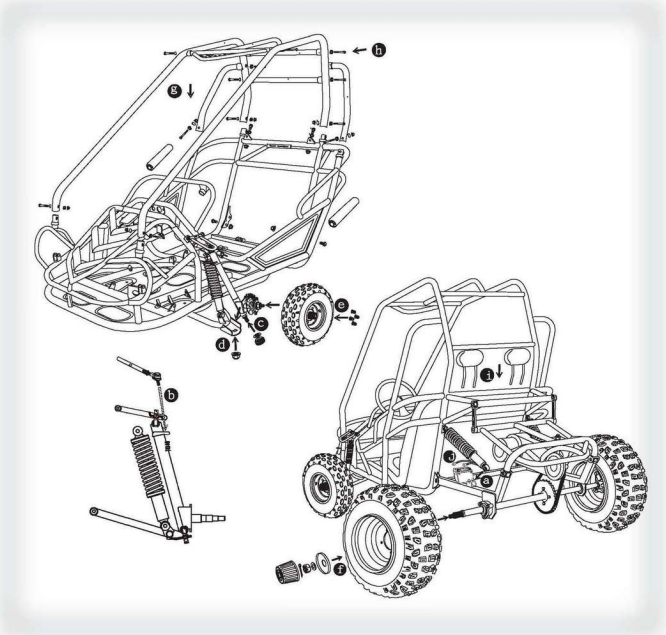
You should always operate your Kart in a safe and reasonable manner. When driving, always keep all four wheels on the ground.

⚠ 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.

a. Install RR. Shocks and tighten the nuts.
b. Install Ball Head, Tie Rod, tighten the Castle Nut and insert the cotter Pin.
c. Install Dust Seals, align the Ball Head Bolt, Knuckle Support to the square hole on the Lower A-Arm.
d. Install Flange Nut and tighten it.
e. Install Front Tires and tighten the nuts.
f. Install Rear Tires, tighten the nuts, insert cotter Pin and put on the Rubber Cover.
g. Raise the Roll cage Bar as what picture shows
h. Install Roll cage Bar, RR., put on R-Washer.
i. Install Head-Rest.
j. Check all nuts and bolts, wirings, cables, fuel line, switches and tire pressure.
k. Fill battery with Acid and charge, check and fill the engine with the recommened oil and cooling water(BR-250).
l. Fill fuel tank with Unleaded Gasoline, and turn on the ignition switch to start the engine



BR-50 SPECIFICATION

Name	BR-50	FRAME	STEEL
TYPE BR-50		SUSPENSION SYSTEM	
DIMENSION		FRONT	SINGLE A ARM
TOTAL LENGTH	2215 mm	REAR	SWING ARM
TOTAL WIDTH	1365 mm	TRANSMISSION	
TOTAL HEIGHT	1445 mm	RPIMARY RATIO	1
WHEELBASE	1510 mm	SECONDARY RATIO	51/15*44/13
DRY WEIGHT	252KG	CLUTCH	C.V.T.
FRONT	105 KG	FINAL REDUCTION	32/16
REAR	147 KG		
TOTAL	252 KG		
LOAD 2	PERSONS(150KG)	TIRE	
VEHICLT PERFORMANCE		FRONT	19x7-8 or 20*7-8
TOP SPEED	REAR	REAR	255/60-10 or 22*10-10
FUEL CONSUMPTION	30KM/L		
CLIMBING ABILITY	18°		
		BRAKE SYSTEM	
CYCLE 2		FRONT	DISC BRAKE
FUEL	UNLEADED	REAR	DISC BRAKE
CYLINDER NUMBER	1	LIGHT	
ARRANGEMENT	HORIZONTAL	HEAD LIGHT	12V-15W*2
DISPLACEMENT	49.0 cc	POSITION LIGHT	12V-5W
BORE	ϕ40.0 mm	TAIL LIGHT	12V-5W
STROKE	39.2 mm	BRAKING LIGHT	12V-21W
COMPRESSION RATIO	6.8 : 1	TURN LIGHT	12V-10W
MAX. POWER/RPM	3.0 kw/6750rpm		
AMX. TORQUE/RPM	4.3 N-M/6000rpm		
IDLE RPM	1900±100 RPM		
IGNITION	CDI		
SPARK PLUG	NGK BRR7HS		
COOLING	FORCE AIR		
STARTER	ELECTRIC		
FUEL SUPPLY	CARBURETOR		
LUBRICATION	SEPARATED		

BR-150 SPECIFICATION

Name	BR-150	FRAME	STEEL
TYPE BR-150		SUSPENSION SYSTEM	
DIMENSION		FRONT	SINGLE A ARM
TOTAL LENGTH	2215 mm	REAR	SWING ARM
TOTAL WIDTH	1365 mm	TRANSMISSION	
TOTAL HEIGHT	1460 mm	RPIMARY RATIO	1
WHEELBASE	1510 mm	SECONDARY RATIO	40/16*42/13
DRY WEIGHT	263KG	CLUTCH	C.V.T.
FRONT	109 KG	FINAL REDUCTION	32/16
REAR	154 KG	TIRE	
TOTAL	263 KG	FRONT	19x7-8 or 20*7-8
LOAD 2	PERSONS(150KG)	REAR	255/60-10 or 22*10-10
VEHICLT PERFORMANCE		BRAKE SYSTEM	
TOP SPEED	70KM/H	FRONT	DISC BRAKE
FUEL CONSUMPTION	25KM/L	REAR	DISC BRAKE
CLIMBING ABILITY	25°	LIGHT	
		HEAD LIGHT(H/L)	12V-35W/35W*2
CYCLE 4		TAIL LIGHT	12V-5W
FUEL	UNLEADED	BRAKING LIGHT	12V-21W
CYLINDER NUMBER	1	TURN LIGHT	12V-10W
ARRANGEMENT	HORIZONTAL		
DISPLACEMENT	150.1 cc		
BORE	ϕ 57.5 mm		
STROKE	57.8 mm		
COMPRESSION RATIO	9.4 : 1		
MAX. POWER/RPM	7.5kw/7750rpm		
AMX. TORQUE/RPM	10.2N-M/6500rpm		
IDLE RPM	1700±100 RPM		
IGNITION	CDI		
SPARK PLUG	NGK CR7HSA		
COOLING	FORCE AIR & OIL		
STARTER	ELECTRIC		
FUEL SUPPLY	CARBURETOR		
LUBRICATION	SEPARATED		

BR-200 SPECIFICATION

Name	BR-150	FRAME	STEEL
ENGINE MODEL	C7	SUSPENSION SYSTEM	
DIMENSION		FRONT	SINGLE A ARM
TOTAL LENGTH	2215 mm	REAR	SWING ARM
TOTAL WIDTH	1365 mm	TRANSMISSION	
TOTAL HEIGHT	1460 mm	RPIMARY RATIO	1
WHEELBASE	1510 mm	SECONDARY RATIO	41/16*43/13
DRY WEIGHT	272KG	CLUTCH	C.V.T.
FRONT	111 KG	FINAL REDUCTION	30/22
REAR	161 KG	TIRE	
TOTAL	272 KG	FRONT	19x7-8 or 20*7-8
LOAD 2	PERSONS(150KG)	REAR	255/60-10 or 22*10-10
VEHICLT PERFORMANCE		BRAKE SYSTEM	
TOP SPEED	73 KM/H	FRONT	DISC BRAKE
FUEL CONSUMPTION	23 KM/L	REAR	DISC BRAKE
CLIMBING ABILITY	28°	LIGHT	
		HEAD LIGHT(H/L)	12V-35W/35W*2
CYCLE 4		TAIL LIGHT	12V-5W
FUEL	UNLEADED	BRAKING LIGHT	12V-21W
CYLINDER NUMBER	1	TURN LIGHT	12V-10W
ARRANGEMENT	HORIZONTAL		
DISPLACEMENT	199.1 cc		
BORE	ϕ65.0 mm		
STROKE	60.0 mm		
COMPRESSION RATIO	9.7 : 1		
MAX. POWER/RPM	10.1kw/7250rpm		
AMX. TORQUE/RPM	14.5N-M/5500rpm		
IDLE RPM	1700±100 RPM		
IGNITION	TRANSISTOR		
SPARK PLUG	NGK CR7E		
COOLING	FORCE AIR & OIL		
STARTER	ELECTRIC		
FUEL SUPPLY	CARBURETOR		
LUBRICATION	SEPARATED		

BR-250D SPECIFICATION

Name	BR-250DCN	FRAME	STEEL
ENGINE MODEL	SH50D	SUSPENSION SYSTEM	
DIMENSION		FRONT	SINGLE A ARM
TOTAL LENGTH	2380 mm	REAR	SWING ARM
TOTAL WIDTH	1405 mm	TRANSMISSION	
TOTAL HEIGHT	1480 mm	RPIMARY RATIO	1
WHEELBASE	1670 mm	SECONDARY RATIO	43/16*39/15
DRY WEIGHT	324KG	CLUTCH	C.V.T.
FRONT	134 KG	FINAL REDUCTION	70/36
REAR	190 KG	TIRE	
TOTAL	324 KG	FRONT	19x7-8 or 20*7-8
LOAD	2 PERSONS(150KG)	REAR	255/60-10 or 22*10-10
VEHICLT PERFORMANCE		BRAKE SYSTEM	
TOP SPEED	81 KM/H	FRONT	DISC BRAKE
FUEL CONSUMPTION	22 KM/L	REAR	DISC BRAKE
CLIMBING ABILITY	28°	LIGHT	
		HEAD LIGHT(H/L)	12V-35W/35W*2
CYCLE 4		TAIL LIGHT	12V-5W
FUEL	UNLEADED	BRAKING LIGHT	12V-21W
CYLINDER NUMBER	1	TURN LIGHT	12V-10W
ARRANGEMENT	HORIZONTAL		
DISPLACEMENT	249.1 cc		
BORE	ϕ 72.7 mm		
STROKE	60.0 mm		
COMPRESSION RATIO	10.3 : 1		
MAX. POWER/RPM	12.4kw/6500rpm		
AMX. TORQUE/RPM	18.6N-M/5000rpm		
IDLE RPM	1700±100 RPM		
IGNITION	TRANSISTOR		
SPARK PLUG	NGK DPR7EA9		
COOLING	WATER COOLED		
STARTER	ELECTRIC		
FUEL SUPPLY	CARBURETOR		
LUBRICATION	SEPARATED		

BR-250S SPECIFICATION

Name	BR-250SC	FRAME	STEEL
ENGINE MODEL	SH50D	SUSPENSION SYSTEM	
DIMENSION		FRONT	SINGLE A ARM
TOTAL LENGTH	2300 mm	REAR	SWING ARM
TOTAL WIDTH	1260 mm	TRANSMISSION	
TOTAL HEIGHT	1460 mm	RPIMARY RATIO	1
WHEELBASE	1620 mm	SECONDARY RATIO	43/16*39/15
DRY WEIGHT	260KG	CLUTCH	C.V.T.
FRONT	95 KG	FINAL REDUCTION	27/16
REAR	165 KG	TIRE	
TOTAL	260 KG	FRONT	19x7-8 or 20*7-8
LOAD	1 PERSONS(75KG)	REAR	255/60-10 or 22*10-10
VEHICLT PERFORMANCE		BRAKE SYSTEM	
TOP SPEED	92 KM/H	FRONT	DISC BRAKE
FUEL CONSUMPTION	25 KM/L	REAR	DISC BRAKE
CLIMBING ABILITY	28°	LIGHT	
		HEAD LIGHT(H/L)	12V-35W/35W*2
CYCLE 4		TAIL LIGHT	12V-5W
FUEL	UNLEADED	BRAKING LIGHT	12V-21W
CYLINDER NUMBER	1	TURN LIGHT	12V-10W
ARRANGEMENT	HORIZONTAL		
DISPLACEMENT	249.1 cc		
BORE	ϕ 72.7 mm		
STROKE	60.0 mm		
COMPRESSION RATIO	10.3 : 1		
MAX. POWER/RPM	12.4kw/6500rpm		
AMX. TORQUE/RPM	18.6N-M/5000rpm		
IDLE RPM	1700±100 RPM		
IGNITION	TRANSISTOR		
SPARK PLUG	NGK DPR7EA9		
COOLING	WATER COOLED		
STARTER	ELECTRIC		
FUEL SUPPLY	CARBURETOR		
LUBRICATION	SEPARATED		

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

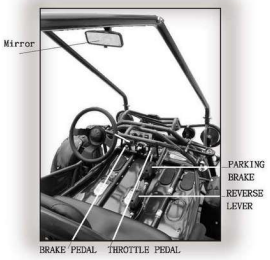
Each time prior to starting the engine, check the throttle assembly to ensure that when the pedal is pushed all the way forward the assembly is working smoothly and returns to idle when released. Do not operate if pedal or engine throttle linkage fail to return to idle. If unable to correct the problem 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,push the braking pedal and 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).



⚠ Caution

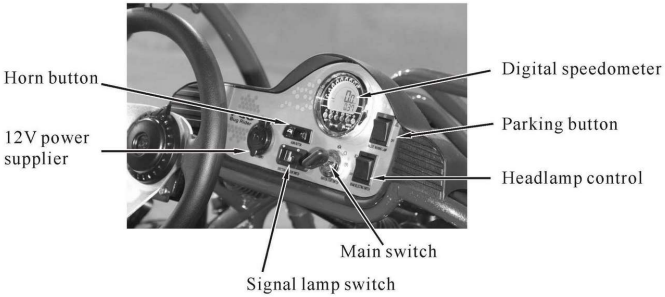
Make sure the shifting lever is on Drive position, otherwise you can not shart the engine.

d. Parking button

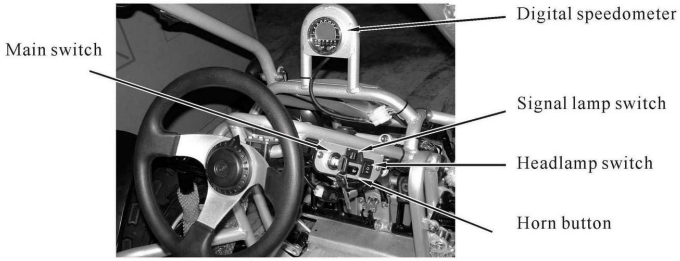
Important-Parking button test.

Before driving this vehicle, test the Parking Button to assure that it is operating properly. With the key on, push and hold the Parking Button for two seconds for the signal lamps to twinkle.

1. Control panel of BR50 & BR150 & BR200 & BR250(dual seat)



2. Control panel of BR250(single seat)



3. Steering Lock

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. Always follow rules for safe operation and wear a helmet.

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 engine coolant, Add coolant as necessary and check for leaks.(BR250 only)
d. 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.
e. Check Tires. Check tires condition and pressure. The pressure on both Front and Rear tire 5 to 8 lbs.
f. Check Drive Chain. Check for drive chain's condition and tension. Lubricate if necessary.
g. Check Throttle. Check for smooth operation. Assure throttle "snaps" back to idle.
h. Check Engine Stop Button. Perform engine stop button test. Repair as necessary.
i. 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.
j. Check Roll Cage Bar. Ensure all protective roll cage bars are in place before operating the Kart.
k. Check Brake Light. Check for proper operation.
l. Check Wheels. Check for tightness of wheel nuts and axle nuts; check that axle nuts are secured by cotter pins.
m. Check Steering. Check for free operation for any unusual looseness in any area.

C. Component Location

1. Vehicle Identification Number (VIN) is located (stamped) at the right side of frame.

NOTE:

The first 9 digitals are model type, the last 8 digitals are production serial numbers.
Your dealer need this number for ordering the parts, please write down the engine no. for their reference.

2. Engine No. is located (stamped) on the rear side of the left crankcase.

NOTE:

The upper row is model type, the lower row is production serial numbers.
Your dealer need this number for ordering the parts, please write down the engine no. for their reference.

3.Basic Component locations

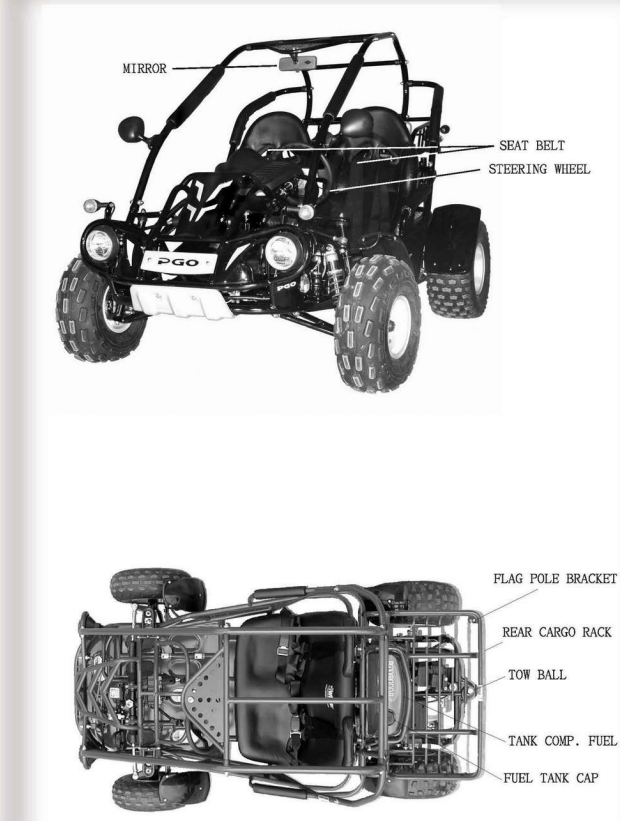


Figure 2

D. Passengers

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

E. 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 emergency stop ignition key.

Figure 3

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 engine of the Kart is stopped.

⚠ WARNING

Never operate this Kart 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 that engine of Kart is stopped.

F.Reverse Adjustment

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

⚠ WARNING

When pushing the lever to "R" , you have to brake the vehicle (by the brake pedal) simultaneously, otherwise the engine will stop automatically for your safety.

b. When reverse lever is in the drive position, there need to be 1/2 inch of free play 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 free play.

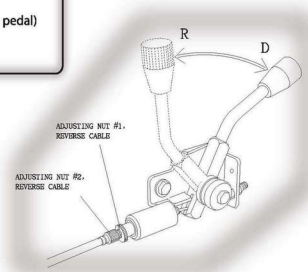
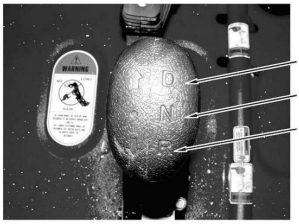


Figure 4

2.Reverse lever of BR250(dual seat)
Attention !
Keep in "N" position when you stop the kart for your safety.



G. Parking Adjustment

a. Push back the lever to park the vehicle.
b. When parking is active, the vehicle can't move by hand. If the parking power isn't enough, loosen nut #2, and adjust nut #1 to get enough parking power.

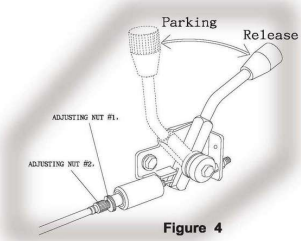


Figure 4

H. Starting And Operating Instructions

a. Before starting the engine, be sure that the driver is seated properly in the Kart with the seatbelt.
b. Testing the Kart in an open space at the beginning to learn how to start, turn and stop.
c. Operate the Kart slowly until you are familiar with it.
d. The turning radius of this Kart 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 Kart from rolling over.
e. To prevent vehicle from rolling over, be sure to only turn the vehicle 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 kart is stable because of the gravity is adjusted and won't roll over.

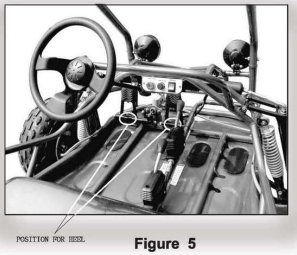
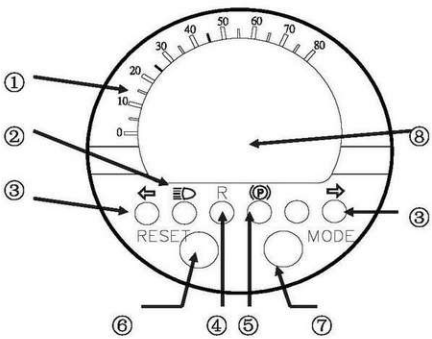


Figure 5

I. Digital Speedometer (For BR150 and basic operations for all models)

1.Symbol description



①speed indication

②high beam indicator

③signal lamp indicator

④reverse gear indicator

⑤parking indicator

⑥RESET button

⑦MODE button

⑧display area

2.Setting: Press "**MODE + RESET**" 2 sec., then can get into the setting procedure.

①Unit: km/h or mile/h, switched by **MODE**, and **RESET** to confirm.

②Wheel circumstance: from 1 to 3999 mm, 4 digitals individually set by **RESET** to increase one by one, and **MODE** to next digital. Finally press **MODE** 2 sec. to escape setting. We recommend you to input 1,900 for all BugRiders.

③If without pressing any button during 20 sec., it will escape to main menu automatically.

④Button operation

Situation Button	Setting	Main menu
MODE	↓: to next parameter ▼2: escape	↓: switch display
RESET	↓: digital + 1 ▼2: no function	↓: no function ▼2: Reset RT, MAX, TRIP
MODE + RESET		▼2: setting parameter

- 「 ↓ 」means press button one time.
- 「▼2」 means press button and hold 2 seconds.

⑤Display description: switched by **MODE** in main menu.

- Sequence: SPD/TRIP → MAX/ODO → SPD/RT → SPD/TRIP
- SPD: real time speed
- TRIP: trip distance from last RESET , press RESET to zero again.
- ODO: accumulated distance from this speedometer been used.
- MAX: maximum speed, press RESET to zero again.
- R T: operating time from last RESET, press RESET to zero again.

3. Digital Speedometer (BR-50)

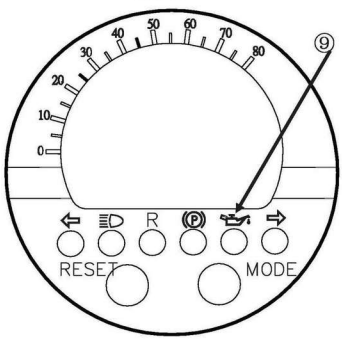
⑨oil warning lamp

Function sequence:

a. Key on: lamp ON 2~3 seconds for selfish test, then OFF.

b. Detect: the oil sensor detects the oil level, the lamp will ON when the oil lever is too low, then you have to add the 2 stroke oil as soon as possible.

BR-50



4. Digital Speedometer (BR-250)

⑩cooling water warning lamp

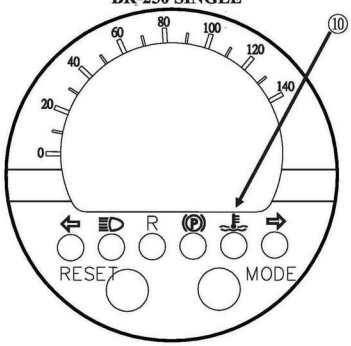
a. This gauge (lamp) is used only for water-cooled engine (BR-250).

b. BR-250D:When the indicator reaches RED area, that warns you the temperature of cooling water is too high, you have to stop the engine and cold down the temperature immediately.

c. BR-250S: When this lamp is ON, that warns you the temperature of cooling water is too high, you have to stop the engine and cold down the temperature immediately.

BR-250 DUAL

BR-250 SINGLE



A. COOLING SYSTEM

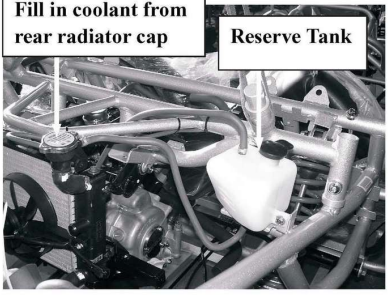
ATTENTION: Service the cooling system ONLY when the engine is COLD !

Coolant level inspection:

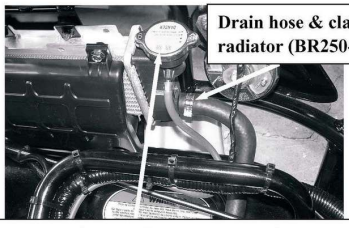
1. Check the coolant level of Reserve Tank. If the level is under the lower line, fill it to the upper line.
2. Recommended coolant: (Lowest proportion must be over 30% coolant) + (distilled water).

Coolant replacement:

1. Coolant draining:
   a. Remove the engine drain bolt.
   b. Remove the inlet hose of front radiator. (Only for BR-250 dual model)
   c. Reinstall the drain bolt and inlet hose of front radiator.
2. Firstly fill the rear radiator with specified ratio coolant when the engine is stopped.
3. Secondly start the engine and keep in idle speed, refill the coolant until the flow is steady and without any bubbles.
4. The total coolant capacity(step#2 & #3) is about:
   BR-250 SINGLE: 1,400 C.C.
   BR-250 DUAL : 2,000 C.C
5. Special attention for BR250-DUAL MODEL:



Engine coolant drain bolt



ATTENTION: don't open the front radiator cap when filling the coolant !

B. SERVICE AIR CLEANER

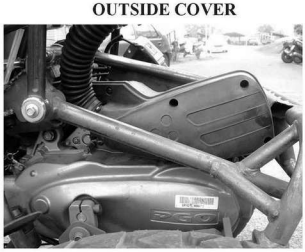
1. Service air cleaner every 1,000 kilometers (approximately 30 hours).
   Note: Service it more often under dusty conditions.

2. Procedure
   - Remove cleaner cover
   - Remove air cleaner element.
   - Clean the outside sponge by compressed air
   - Inspect the inside paper condition, replace it when dirty dust found in this side(to
   - carburetor).

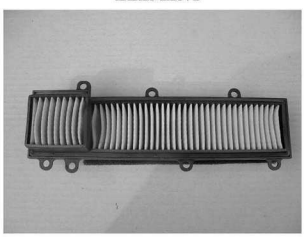
3. Different model photos

- **BR-150 (paper element)**

OUTSIDE COVER

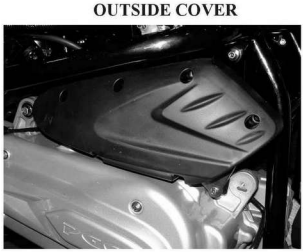


ELEMENT

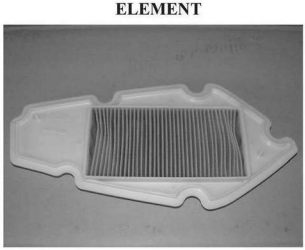


- **BR-250 (paper element)**

OUTSIDE COVER



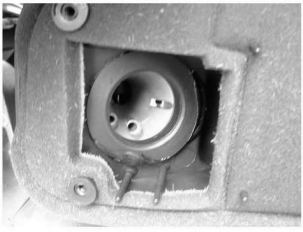
ELEMENT



● **BR-50**

OUTSIDE COVER

ELEMENT



● **BR-200**

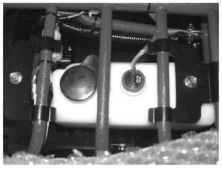
OUTSIDE COVER

ELEMENT

The element of BR-50 & BR-200 is sponge type, that means you can maintain it to multiple usage.

1. Wash the sponge with gasoline.
2. Squeeze the sponge clean.
3. Clean and dry by air compressor, then spray with 5 grams motor oil (SAE10W30) approximately or replace it if necessary.
4. Squeeze the sponge again.

C. Engine Lubrication



1. BR50

When the oil warning lamp is ON during usage, then you have to fill the 2-stroke engine oil as soon as possible. The oil tank is located on upper of the rear rack.

2. BR150 & BR250 & BR200

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.

⚠ WARNING

Never operate this Kart 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.

a. Remove drain plug located on left lower side of engine. Tip kart backwards slightly by blocking up the front end and drain oil into suitable container.

b.Remove and clean engine oil plug cover.

c. Replace drain plug and tighten securely. Place kart in a level position.

d. Refill crankcase to top of filler neck with SAE 15W40 oil. Use same grade of oil as used originally, replace oil amount is approximately:

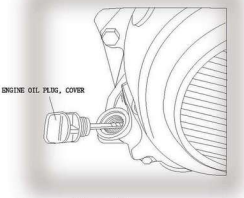


Figure 7

● BR150:800c.c. ● BR250:900c.c. ● BR200:1000c.c.

e. Check oil level before each use of kart or after each 10 hours of operation. Add oil to bring up to proper level. Do not mix various grades of oil.

D. 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 0.025"~0.030".

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.

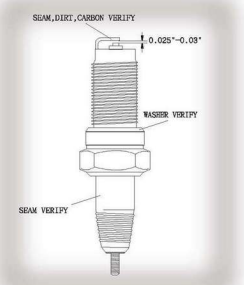


Figure 8

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 1 1/2 turns counterclockwise.
c. Connect the tachometer, adjust the throttle (SCREW B) to limit the idle speed. The standard value is 1700RPM (BR150 & BR250 & BR200) or 1900RPM(BR50).
d. Turn the air screw (SCREW A) 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. Repeat step 4 and 5 until the rotate speed of engine stables.

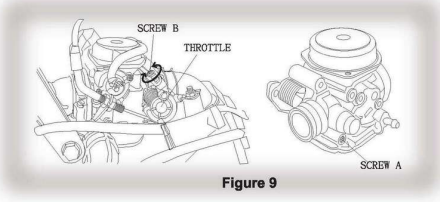
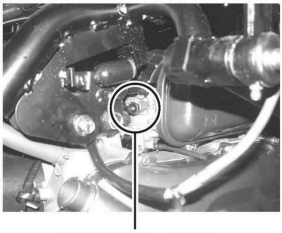


Figure 9


SCREW B for BR50

E. Cleaning Instructions

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

F. Kart Lubrication

Lubricate vehicle every 90 days of use.

G. Chain Lubrication

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

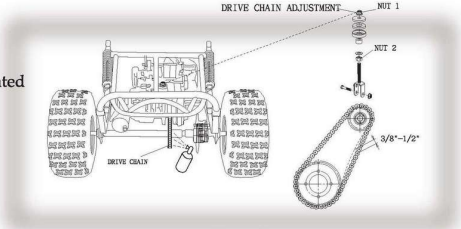


Figure 10

I. Chain Adjustment

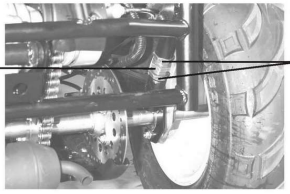
Check the chain adjustment after first two hours of use. Readjust if it has more than 1/2" flex.

a. Loosen Nut #1

b. Adjust Nut #2. Turn Nut #2 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.

Available for BR50 BR200 & BR250(single seat).



J. Adjustment of Front And Rear Shock

There are five adjustable positions on each shock. The default position is in the middle set by manufacture (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 the right.

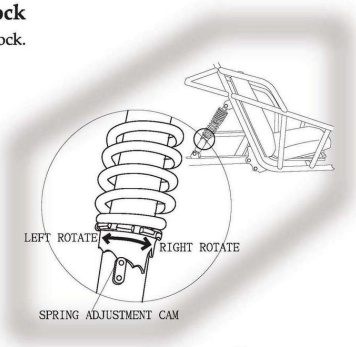


Figure 11

K. Storage Instruction

In the event your kart 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 Kart outside before draining fuel.

A. Front Wheel Replacement

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

Remove the 4 lug nuts to remove the wheel.

(See Fig. 12) Tighten the nuts after replacing the wheels.

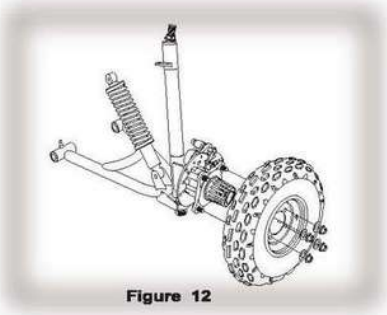


Figure 12

B. Rear Wheel Replacement

Do not disassemble the castle nuts when you replace the rear wheels.

It is only necessary to remove the 4 lug nuts to remove the wheel.

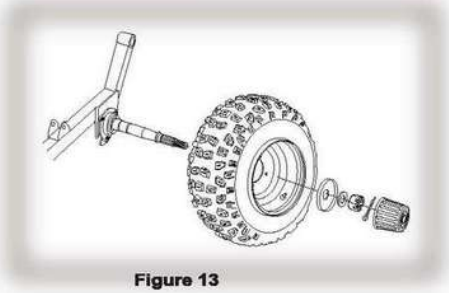


Figure 13

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 the 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.

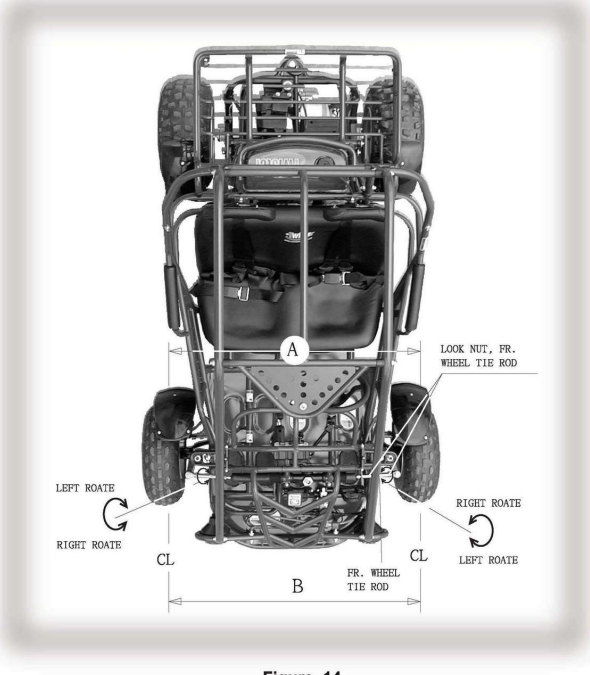


Figure 14

In order to achieve safe riding, good performance and reduce pollution, please execute the following recommended maintenance table base upon average driving condition. Driving in unusual dusty areas, require more frequent servicing.

1. BR150 & BR200& BR250 periodical maintenance table:

Item	Checking Content	MONTHS/DISTANCE(IN KM)FOR CHECKING						
		1 or 300 km	3 or 3000k	6 or 5000k	9 or 8000k	12 or 10000k	15 or 13000k	18 or 15000k
* Engine oil	BR150: 800cc, total 900cc BR200: 1,000cc, total 1,400cc BR250: 900cc, total 1,100cc	R	Replace it per 1,000km					
* Oil Filter	Replace (except BR250)	R	Replace it per 5,000km					
* Coarse oil filter (on oil draining bolt)	Clean or replace it if necessary	C	Clean it per 3,000km or replace it if required					
Oil cooler	Clean or replace it if necessary	I		C		C		C
* Air filter	Replace it if required	I	Replace it per 1,000km					
* Gear oil	BR150: 90cc, total 110 cc BR200: 110cc, total 130 cc BR250: 180cc, total 200 cc	R		R		R		R
Brake performance	Leaking and function check	I	I	I	I	I	I	I
Brake oil, disk, pad, hose, master cylinder	Leaking and worn-out check or replace it if necessary	I	I	I	I	I	I	I
Cooling water, radiator, hose (BR250 ONLY)	Leaking check and clean the radiator if necessary	I	I	I	I	I	I	I
* Clutch linings	Check or replace it if necessary		I	I	I	I	I	I
Tires	Worn-out check or replace it if necessary		I	I	I	I	I	I
* Wheel bearing	Fasten tightly if loosen		I	I	I	I	I	I
* Driving chain	Lubricate & check the slack	I	I	C,A,L	I	C,A,L	I	C,A,L
* Chassis suspension arm, spindle	Check looseness. Add grease if required	I	I	C,A,L	I	C,A,L	I	C,A,L
* Steering joint & rod	Check looseness. Adjust it if required			I		I		I
* Absorber	Leaking and function check	I		I		I		I
Parking	Function check or replace it if required	I	I	I	I	I	I	I
Nuts, bolts, fasteners	Tighten it if required	I	I	I	I	I	I	I
Battery	Recharge the battery it required. Clear the poles.	I	I	I	I	I	I	I
* Valve gap	When engine is cool : BR150: 0.08mm for IN & EX BR200: 0.08mm for IN & EX BR250: 0.10mm for IN & EX	Check and Adjust it when necessary						
Spark plug	Clear or replace if required		I	I	I	I	I	I
* V belt	Worn out check or replace if necessary.			P		P		P
* Fuel feeding system	Crack and blockage check. Replace it if necessary.			I		I		I
* Engine idle speed	1700±100 rpm	A	A	A	A	A	A	A
* Carburctor idle A/F Adjustment	Check and adjust referring to CO/HC Percentage.	A	A	A	A	A	A	A

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

1. Items with "*" mark indicate our recommendation to have it done by PGO dealer.
2. "**P**" denotes that function check or replace it when the engine performance reduces significantly.

NOTE 1 :

The engine oil shall be changed completely after run-in period 300 km or one month later. This can make sure the engine runs smoothly.

NOTE 2 :

The exchange of brake fluid

1. After disassembling of brake main cylinder or caliper, do change the new fluid.
2. Check the fluid level often, refill if necessary.
3. Change the oil seal of main cylinder and caliper every two years.
4. Change the brake fluid hose every four years.

NOTE 3： Available for BR250 water-cooled engine only

1. Clean the filter of cooling fan per 3,000 kms.
2. Check the clamping and hoses of radiator system initially 1,000 kms and per 10,000kms for anti-leaking proof.
3. Replace the engine coolant every two years.

2. BR50 periodical maintenance table:

Item	Checking Content	MONTHS/DISTANCE(IN KM)FOR CHECKING						
		1 or 300 km	3 or 3000k	6 or 5000k	9 or 8000k	12 or 10000k	15 or 13000k	18 or 15000k
* Engine oil	Add 2-stroke engine oil	A	Add when warning lamp ON					
* Oil Filter	Replace	I	Replace it per 10,000km					
* Air filter	Replace it if required	I	Clean or replace per 1,000km					
* Gear oil	Replace (90cc, total 110 cc)	R		R		R		R
Brake performance	Leaking and function check	I	I	I	I	I	I	I
Brake oil, disk, pad, hose, master cylinder	Leaking and worn-out check or replace it if necessary	I	I	I	I	I	I	I
* Clutch linings	Check or replace it if necessary		I	I	I	I	I	I
Tires	Worn-out check or replace it if necessary		I	I	I	I	I	I
* Wheel bearing	Fasten tightly if loosen		I	I	I	I	I	I
* Driving chain	Lubricate & check the slack	I	I	C,A,L	I	C,A,L	I	C,A,L
* Chassis suspension arm, spindle	Check looseness. Add grease if required	I	I	C,A,L	I	C,A,L	I	C,A,L
* Steering joint & rod	Check looseness. Adjust it if required			I		I		I
* Absorber	Leaking and function check	I		I		I		I
Parking	Function check or replace it if required	I	I	I	I	I	I	I
Nuts, bolts, fasteners	Tighten it if required	I	I	I	I	I	I	I
Battery	Make sure that the voltage stayed over 12.8V. Recharge the battery it required. Clear the poles.	I	I	I	I	I	I	I
* Carbon cleaning	Clean combustion carbon when engine output reduced			I		I		I
Spark plug	Clear or replace if required		I	I	I	I	I	I
* V belt	Worn out check or replace if necessary.			P		P		P
* Fuel feeding system	Crack and blockage check. Replace it if necessary.			I		I		I
* Engine idle speed	1900±100 rpm	A	A	A	A	A	A	A
* Carburetor idle A/F Adjustment	Check and adjust referring to CO/HC Percentage.	A	A	A	A	A	A	A

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

1. Items with "*" mark indicate our recommendation to have it done by PGO dealer.
2. "**P**" denotes that function check or replace it when the engine performance reduces significantly.

NOTE：

The exchange of brake fluid

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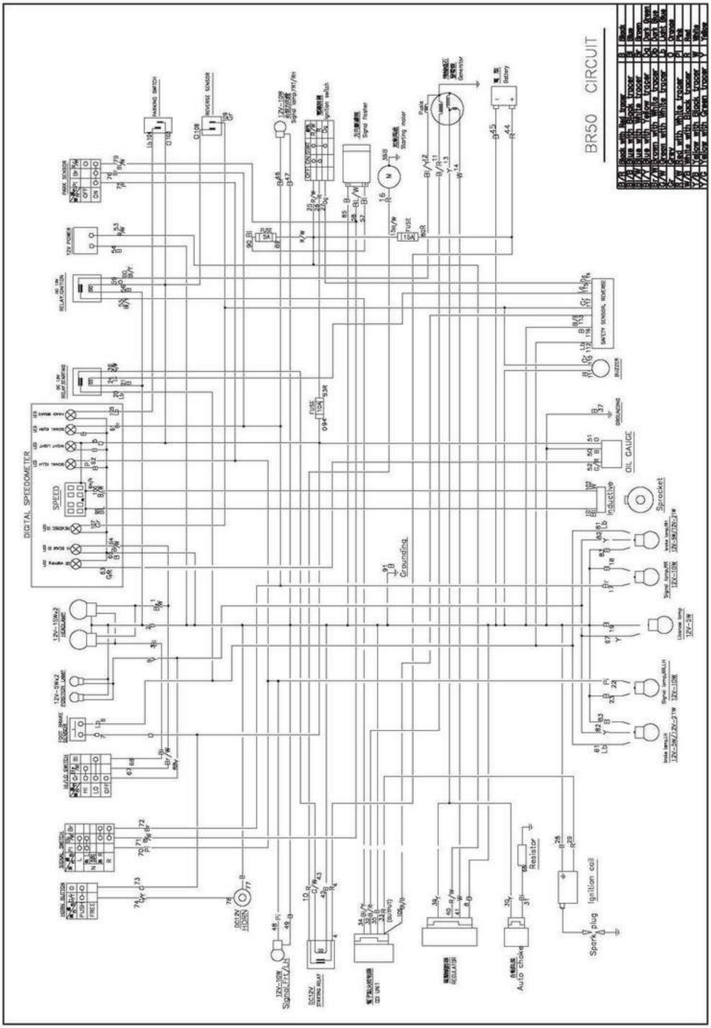
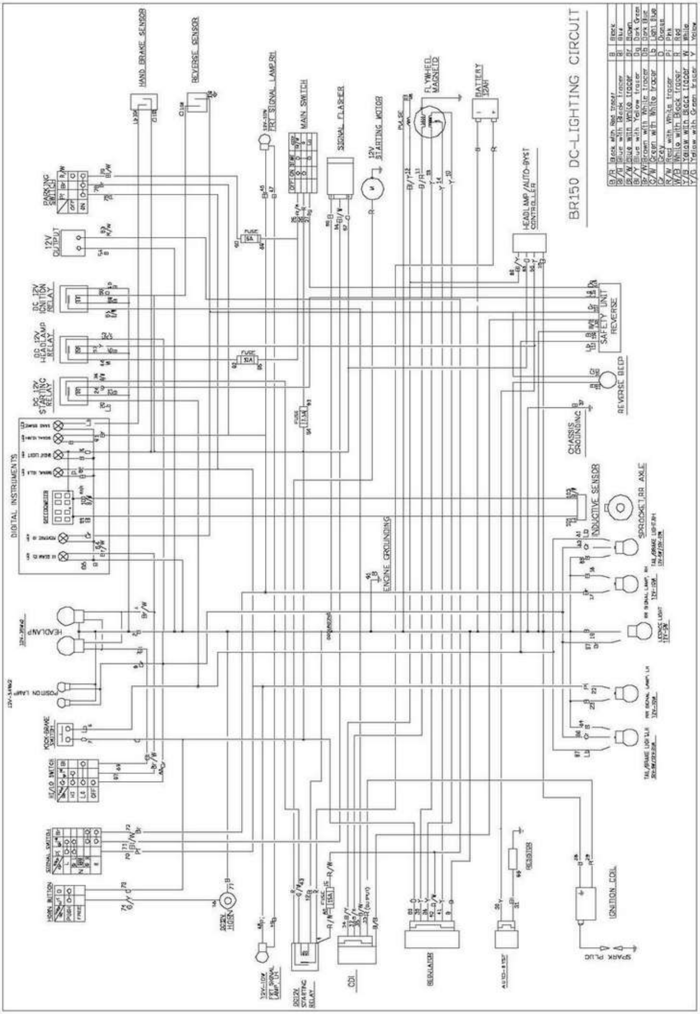
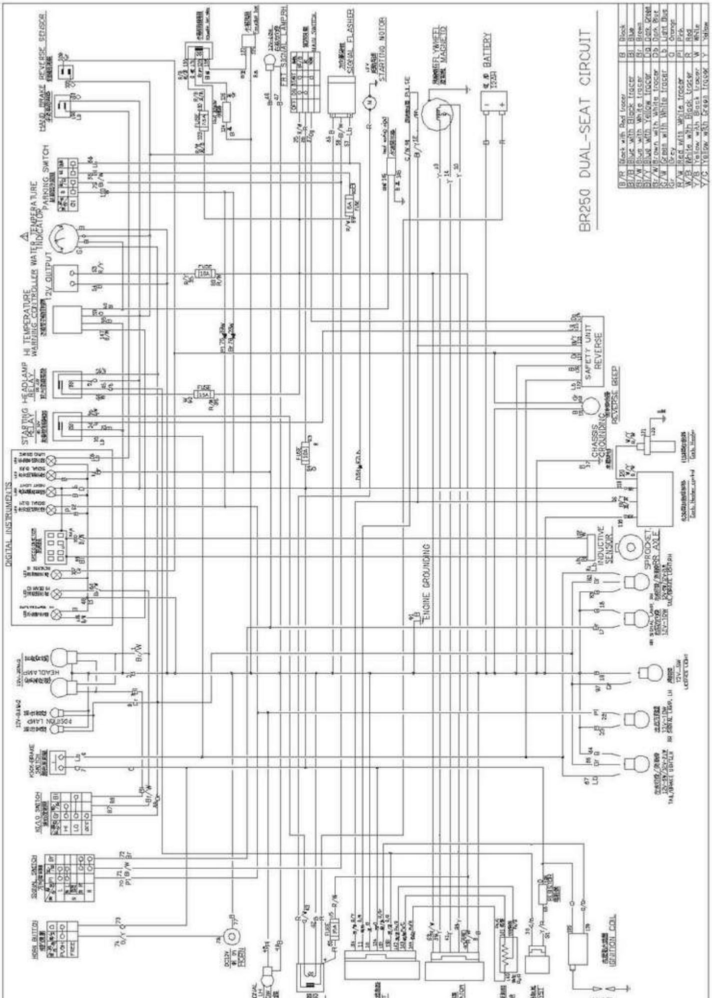
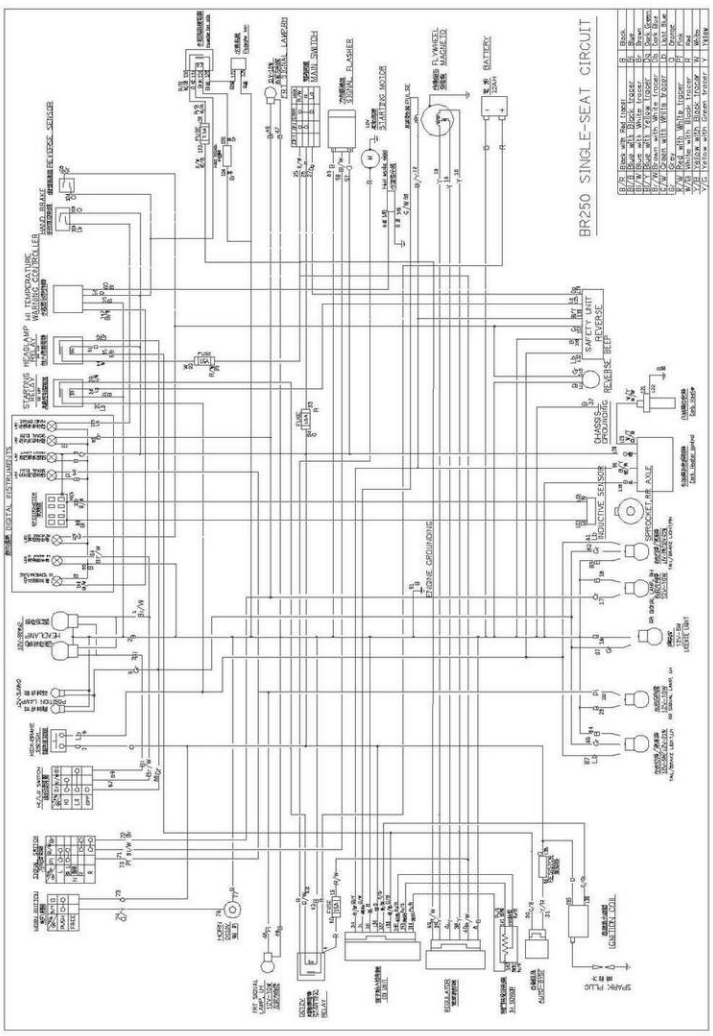

BR50 CIRCUIT
DIGITAL SPEEDOMETER
SPEED
OIL GAUGE
Inductive
Sprocket
Grounding
Resistor
Ignition coil
Spark plug
Auto choke
DC12V HORN
12V-10W Signal Frt/LH

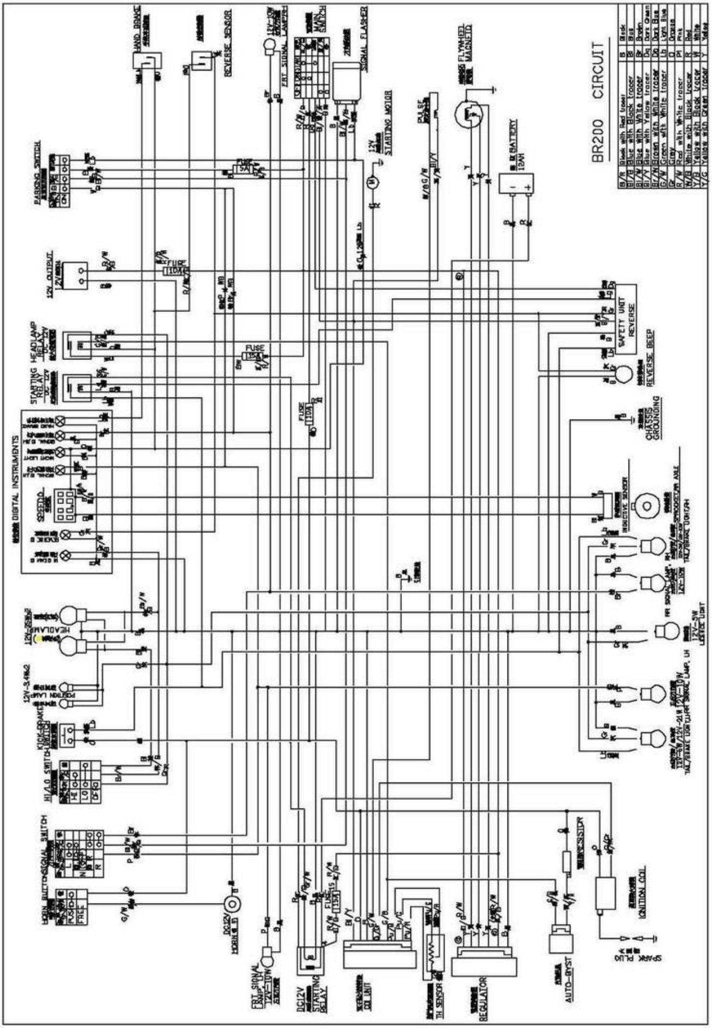
WIRING DIAGAM




BR250 DUAL-SEAT CIRCUIT
BATTERY
STARTING MOTOR
SIGNAL FLASHER
DIGITAL INSTRUMENTS
ENGINE GROUNDING
IGNITION COIL

WIRING DIAGAM




BR200 CIRCUIT
PARKING SWITCH
12V OUTPUT
HEADLAMP RELAY
STARTING RELAY
DIGITAL INSTRUMENTS
HEADLAMP
POSITION LAMP
HI/LO SWITCH
SIGNAL SWITCH
HORN BUTTON
HAND BRAKE
REVERSE SENSOR
FRT SIGNAL LAMP
SIGNAL FLASHER
STARTING MOTOR
PULSE
FLYWHEEL MAGNETO
BATTERY
SAFETY UNIT REVERSE
REVERSE BEEP
CHASSIS GROUNDING
INDUCTIVE SENSOR
LICENSE LIGHT
IGNITION COIL
SPARK PLUG
AUTO-BYST
REGULATOR
TH SENSOR
CDI UNIT
DC12V STARTING RELAY
DC12V HORN
FUSE