

GP300S Owner's Manual



www.royalalloy.com



Notice



This owner's manual contains important safety, operational and maintenance information. Any person operating or riding as a passenger on your scooter should carefully read and fully understand the entire contents of this manual prior to riding the vehicle. For your safety, follow all safety warnings contained within the owner's manual and the labels applied to your scooter. You should always keep this owner's manual in your vehicle, and it should be considered a permanent part of the vehicle.

If you have any questions, please ask your dealer for assistance.

Safety symbols and notes. Please observe the following:



WARNING

Failure to follow instructions with a WARNING symbol could result in serious injury or death. Precautionary measures are required.



CAUTION

Important instructions and precautionary rules to avoid damage to the vehicle. Non-observance can lead to an unsafe vehicle condition.



NOTE

Special instructions and precautionary measures for better handling during operation, inspection, adjustment, and service activities.



WARNING

California Proposition 65

WARNING: Operating, servicing and maintaining a passenger vehicle or off-road vehicle can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your vehicle in a well-ventilated area and wear gloves or wash your hands frequently when servicing your vehicle. For more information go to www.P65Warnings.ca.gov/passenger-vehicle.

Introduction



Congratulations on your purchase of the Royal Alloy GP300S!

Please read this manual carefully prior to riding so that you will understand how to safely operate your scooter, understand its capabilities and limitations, and become aware of all vehicle controls and features.

This owner's manual contains important maintenance information. The efficiency and longevity of your scooter will depend heavily on your operating methods and periodic maintenance. Failure to operate and maintain your scooter as instructed in this owner's manual may void the limited warranty and reduce the efficiency and reliability of your vehicle.

The first 500 miles are the most important in the life of your scooter. Proper break-in during this time will ensure maximum life. Please refer to the break-in section for specific break-in procedures prior to riding.

You should always use original **Royal Alloy OEM parts** for all maintenance and repairs as they have been designed specifically for your vehicle.

Genuine Motor Oil is the official lubricant of Royal Alloy vehicles. Genuine Motor Oils have been specially formulated to keep your vehicle operating at maximum efficiency with minimal engine wear. Genuine Motor Oils are synthetic oils that utilize the best-known lubrication technology to increase fuel mileage and produce minimum exhaust emissions.

Your authorized Royal Alloy dealer is the primary resource for information, parts, and service. If you have any questions, please ask your dealer for assistance.

Table of Contents

Royal Alloy

NOTICE	1
INTRODUCTION	2
TABLE OF CONTENTS	3
VEHICLE SAFETY	
Accessories, Modification, Noise Regulation.....	4
Loading, Maintenance, Pre-ride Inspection	5
Carbon Monoxide Gas.....	5
SAFE RIDING	
Wear Safety Gear, Make Yourself Visible.....	6
Know Your Limits, Road Conditions.....	6
IDENTIFICATION NUMBERS	7
VEHICLE LAYOUT	
Ignition Switch.....	8
Dashboard.....	9
Dashboard and Clock.....	10, 11
Handlebar Controls.....	12
Front and Rear Brake Controls.....	13
Bag Hook, Seat Lock.....	14
Primary Storage, Glovebox Storage.....	15
Fuel Fill, USB Charging.....	16
PRE-RIDE INSPECTION	
Pre-ride Inspection Checklist.....	17
Front Brake Inspection and Adjustment.....	18, 19
Rear Brake Inspection and Adjustment.....	19, 20

PRE-RIDE INSPECTION (CONTINUED)	
Throttle Inspection and Adjustment.....	21
Engine Oil Type, Level Check, and Fill	22
Tire Inspection and Pressure Adjustment.....	23
Cable Inspection and Lubrication.....	24
Vehicle Center and Side Stand, Assembly Check.....	24
Fuel, Lighting, Switches, and Loading.....	25
OPERATION	
Vehicle Operation, Engine Starting.....	26
Engine Run-in, Engine Life.....	27
Engine Warm-up, Riding, Throttle.....	28
Braking.....	29
Engine Stop, Parking.....	30
PERIODIC MAINTENANCE	
Periodic Maintenance Key.....	31
Periodic Maintenance Table.....	32
Periodic Maintenance Table Continued.....	33
Air Cleaner, Gear Oil, Transmission.....	34
Spark Plug, Brake Check.....	35
Brake Fluid, Suspension.....	36
Fuses, Battery, Battery Maintenance.....	37
Storage Guide.....	38
Maintenance Record.....	39
TECHNICAL DATA	40
REPORTING SAFETY DEFECTS	41

Accessories

The addition of unsuitable accessories can result in unsafe operating conditions.

Royal Alloy approved accessories have been designed for use on your scooter. Always install Royal Alloy approved accessories on your scooter. Your dealer can assist you in selecting and properly installing accessories.



Modification

Modification of your scooter or removal of original equipment may render the vehicle unsafe or illegal. Do not install any part or component where the principal effect is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations. Obey all applicable equipment laws and regulations. Only use accessories that have been approved by Royal Alloy for this scooter.

Motorcycle Noise Regulation

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW.

These acts include tampering with the following systems, i.e., modification, removal, etc.

Exhaust System - Muffler, Exhaust pipe, Silencer

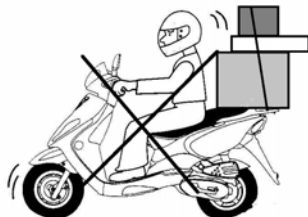
Intake System - Air cleaner case, Air filter, Intake duct.

Vehicle Safety

Royal Alloy

Properly Load Your Scooter

You and any passengers should utilize the floorboard and footrests for your feet. Do not exceed the load limits of the vehicle. Properly secure all cargo.



Maintain Your Vehicle

Perform maintenance as required per the maintenance schedule or as otherwise necessary to keep your scooter in a safe operating condition. If you notice any leaks or notice odd sensations such as vibration, immediately stop your vehicle.

Pre-Ride Inspection

Always perform a pre-ride inspection of your scooter prior to each ride. Review the pre-ride inspection instruction section contained within this manual for more information.



WARNING

WARNING: Not performing a pre-ride inspection, altering your vehicle from the stock configuration, or failure to properly maintain your vehicle can result in serious injury or death. Check your vehicle regularly and have any problems corrected as soon as possible.

Carbon Monoxide Gas

The exhaust gasses from this vehicle contain carbon monoxide, a colorless, odorless, and highly toxic gas.

An enclosed area such as a garage can quickly fill up with carbon monoxide gas. Do not run the engine in enclosed areas that are poorly ventilated. Move the vehicle outdoors before operation.



WARNING

WARNING: Carbon monoxide gas is toxic. Breathing carbon monoxide can cause unconsciousness and even kill you. Avoid running your engine within enclosed areas and other activities that expose you to carbon monoxide.

Safe Riding

Royal Alloy

Your scooter can provide many years of riding enjoyment. You must take responsibility for your own safety and the safety of others. There are many steps you can take to protect yourself and others while riding. Here are some very important safety precautions:

Wear a Helmet

Rider safety begins with quality head protection. A head injury is one of the most serious injuries that can occur. Always wear a quality DOT approved helmet that is properly buckled. If the helmet does not have a face shield, wear suitable eye protection.

Wear Riding Apparel

Choose quality gloves, boots, pants, jackets and other riding apparel specifically designed with protective features. Loose clothing can be unsafe when riding your scooter.

Make Yourself Visible

Wear bright, reflective apparel to make yourself more visible to fellow drivers. Position yourself on the road where other drivers can easily see you. Use your turn signals, hand signs, horn and other methods to help others locate you and understand your driving actions.

WARNING

WARNING: Not wearing safety apparel increases the chance of serious injury or death in a crash. Be sure you and any passengers always wear helmets and protective gear properly.



Know Your Limits

Ride within the boundaries of your own skill at all times. Do not ride under the influence of drugs or alcohol. Strictly observe all traffic regulations. Always adapt your riding to account for traffic and road conditions.

Road Conditions

Road conditions can vary greatly with weather, foreign material, elevation etc. Your riding stability and braking power are limited by the grip of the tires on the road surface.

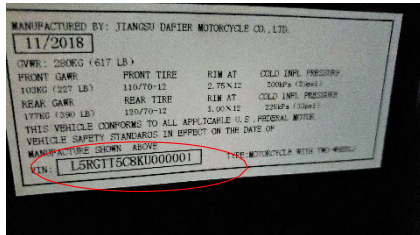
When encountering slippery road surfaces, braking distance will increase significantly, and riding stability will be reduced. Reduce vehicle speed and perform all actions in a gradual and deliberate manner to prevent accidents.

Use extreme caution on painted surfaces or metal objects such as manhole covers or train rails when they are wet.

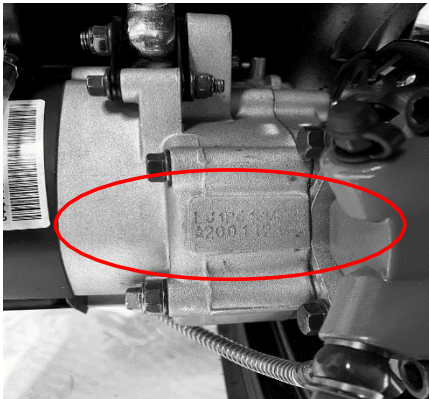
Identification Numbers

Royal Alloy

Vehicle Identification Number (VIN) is located on the VIN plate (1) or on the lower portion of the frame (2).



Record your Vehicle Identification Number: _____



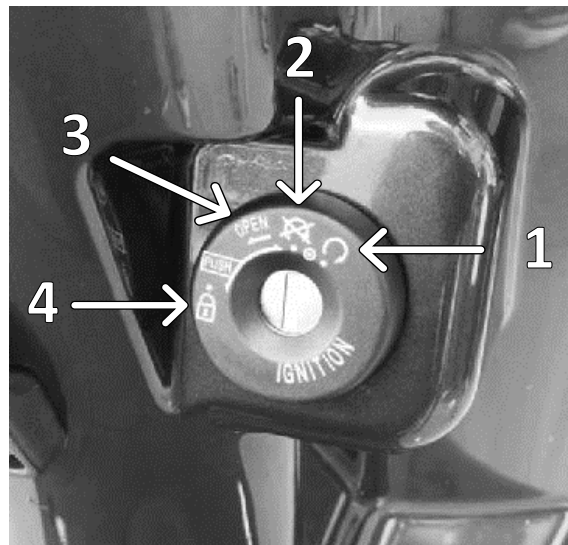
The Engine Serial Number (ESN) is located on the rear left side of the engine (3).

Record your Engine Serial Number: _____

Ignition Switch Operation

Insert the key and select ON (1), OFF (2), OPEN (3), or (4) LOCK.

1. Turn key to ON position (1) to operate the vehicle. In this position, the key cannot be removed. The vehicle will have power and the engine can be started.
2. Turn key to OFF position (2) to cease vehicle operation. In this position, all vehicle power will be off, the engine will not run, and the key can be removed from the ignition switch.
3. Turn handlebars fully to the left steering-stop. With the key in the OFF position (2), press key inward toward front of the scooter and turn key left to LOCK position (4) to lock the handlebars as a theft deterrent. The fork is now locked and cannot be turned. The key can be removed from the ignition switch in the LOCK position. Insert and rotate the key clockwise from the LOCK position to the OFF or ON position to unlock the steering.



CAUTION

CAUTION: Turn handlebars gently to confirm steering is locked after following locking procedure. Lock your vehicle whenever you leave it unattended.

Vehicle Layout

Royal Alloy

Dashboard

1. **Engine Speed**
Current engine speed measured in thousands of revolutions per minute (x1000 rpm).
2. **Fuel Level Indicator**
Current fuel level indicated by F - Full to E - Empty.
3. **Odometer / Trip Odometer**
Distance traveled during the life of the vehicle or current trip measured in miles or kilometers.
4. **Directional Indicator**
Illuminates green when turn signal button is pressed to the left or right and signal is on.
5. **ABS Indicator**
Illuminates orange if there is an ABS problem.
6. **High Beam Indicator**
Illuminates blue when high beam switch is selected
7. **Check Engine Indicator**
Illuminates orange if there is an engine problem,
8. **Oil Level Indicator**
Illuminates when oil level is low. Please check oil level immediately.
9. **Speedometer**
Current vehicle speed in miles per hour (mph) or kilometers per hour (km/h).
10. **Coolant Temperature Indicator**
Indicates the temperature of your engine's coolant.



Dashboard Mode Selector Button

The dashboard mode selector button is red and located in the glovebox. The button is used to change between odometer and trip odometer. It is also used to change between mph and kmh units.



Odometer / Trip Odometer Selection

To change between odometer and trip odometer:

1. Press the dashboard mode selector button once to change between odometer and trip odometer.



Trip Odometer Reset

While the trip odometer is visible:

1. Hold the dashboard mode selector button for 5 seconds to clear the trip odometer history.



Miles / Kilometers Unit Selection

There are two options for unit selection:

1. Distance measured in miles and speed measured in miles per hour (mph).
2. Distance measured in kilometers (km) and speed measured in kilometers per hour (km/h).

To change from current unit option to the other unit option, hold the dashboard mode selector button for 5 seconds.



Vehicle Layout

Royal Alloy

Handlebar Controls

1. Headlight Switch

Press up for HIGH Beam
Press down for LOW Beam

2. Turn Signal Switch

Press switch left to signal a LEFT turn.
Press switch right to signal a RIGHT turn.
Press center button to turn indicator OFF.

3. Horn

Press in to sound the HORN.

4. Hazzard Switch

Press up to turn on HAZZARD flashing turn signals.
Press down to turn OFF flashing turn signals.

5. Emergency Stop Switch

Press switch right to select RUN position to operate vehicle.
In an emergency, press switch left to STOP to stop the engine.

6. Engine Start Button

Press button in with the ignition key in ON position and at least one brake lever engaged in to START the engine.

Left Handlebar Controls



Right Handlebar Controls



 **CAUTION**

CAUTION: Do not press and hold start button for more than 5 seconds at a time as this can damage the start system. Follow starting procedure found on page 26.

Front & Rear Brake Controls

Extend your fingers over the brake lever.

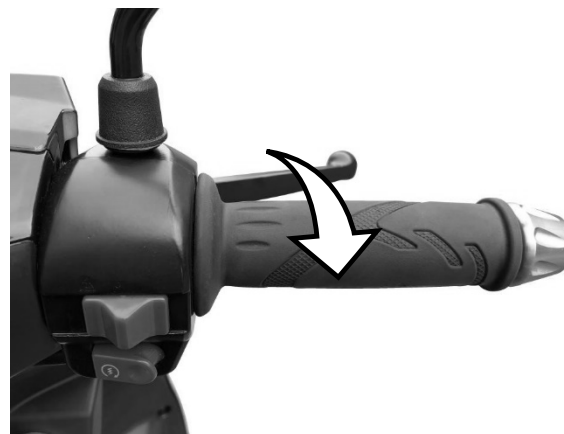
Pull lever toward the grip to actuate brake.

The brake lever will slow the vehicle with firm pressure.

REAR BRAKE LEVER



FRONT BRAKE LEVER



WARNING

WARNING: The brake lever should not touch the handlebar. If the brake lever feels soft / touches the handlebar, have your brake system inspected, adjusted, or repaired immediately.

Bag Hook

A bag hook is located on the inner front side of the leg shield. Ensure all bags and other cargo are properly secured to prevent spillage and subsequently a potential hazard for other motorists.



Fuel Fill Location

Raise the seat forward toward the handlebar to expose the fuel cap. Return the seat to rest on the body panel and press down firmly on the rear of the seat to securely close it. There are several suction cups underneath the seat to keep it locked.



Vehicle Layout

Royal Alloy

Side Stand and Center Stand

The side stand is located near the undercarriage. It is important that the stand is resting on firm ground to prevent the vehicle from toppling over. The scooter is equipped with a side stand switch which will prevent the engine from starting if the side stand is engaged.



The center stand is located behind the side stand. It is best practice to use the center stand when parking the bike. To engage the center stand, the user must put full body weight on the foot anchor and simultaneously pull the bike to the rear.



Glovebox Storage

The glovebox is located under the ignition switch and the bag hook. Use the ignition key to open the glovebox by inserting key into the glovebox lock cylinder and turning to the right.



After the glovebox is open, remove the key from the glovebox lock cylinder.

To close the glovebox, remove the key and press firmly in the center of the glovebox lock cylinder with your thumb. The glovebox will latch closed.



Vehicle Layout

Royal Alloy

Fuel Fill

The fuel tank fill location is under the seat. Lift the seat to the upright position.

Insert the key to unlock and turn counterclockwise to open the fuel cap.



Fill with unleaded fuel 91 octane or higher.

Take special care not to overfill fuel tank.

USB Charging

Your scooter is equipped with a USB Charging Port located in the glovebox compartment. Remove protective cover to expose USB charging port. This port is designed to charge small consumer electronics such as a cellular phone.

After use, cover the charging port with the protective rubber cover to prevent moisture and debris from entering the charging port.



Coolant Tank Cap

The coolant tank cap is located on the left side of the vehicle behind the side body panel. Never open the coolant tank cap when the scooter is hot because this might cause boiling coolant to surge out of the tank. Hot coolant will cause injuries and burns, and it is very important to only open the coolant tank cap when the scooter is cool.



Rear Rack

The rear rack is located on the rear portion of the main body behind the seat. The rear rack can be used as a handle when propping the scooter onto the center stand. It can also be used to carry items with a maximum load of 11 lbs.



Pre-Ride Inspection

Royal Alloy

Perform a pre-ride inspection prior to every ride. This is a checklist. Detailed procedures are in the pages that follow.

ITEM	PROCEDURE
FRONT BRAKE	Check the brake function, clearance, brake-fluid level, inspect for fluid leaks, if necessary, add DOT 4 or higher brake fluid. Check brake lever free-play and adjust if necessary. Check brake pad wear. If the brake pads are worn down past the wear marks, replace pads immediately.
REAR BRAKE	Check the brake function, lever free-play and clearance. If the brake lever pressure is low, check for worn brake pads or fluid leak. Repair immediately.
THROTTLE	Check to make sure the throttle actuates freely through the range. Lubricate throttle cable if necessary. Check throttle free-play. Adjust throttle cable tension if necessary.
LUBRICANTS	Check the engine oil level before each ride. If the engine oil level is low, refill with JASO MA-2 5W-40 engine oil
TIRES	Check tire pressure in both the front and rear tire, add air if necessary. Inspect tires.
CABLES	Check operation of all cables. Lubricate cables and adjust tension as necessary.
CENTER / SIDE STAND	Check center and side stands for operation, lubrication and secure mounting.
ASSEMBLY	Check all vehicle assembly to ensure fasteners are secure and assemblies function properly.
FUEL SYSTEM	Check fuel level. Fill if necessary. Ensure no fuel leaks are present.
LIGHTING	Check the function of all lights. Clean lenses as necessary.
SWITCHES	Check the function of all switches.
LOADING	Ensure your vehicle is not overloaded, is loaded in a balanced manner, and cargo is secured.

Pre-Ride Inspection

Royal Alloy

Perform a pre-ride inspection prior to every ride.

Front Brake

The front brake is a hydraulic disk type. Inspect the brake system prior to each ride.

Properly functioning brake systems are vitally important to your personal safety.

Check for fluid leaks, fluid level, brake pad wear, and rotor condition. Also check lever free-play frequently.

Pull the brake lever lightly until you feel tension, then check the lever free-play.



WARNING

WARNING: A brake lever that is not firm when engaged implies there is a problem with the brake system. Do not drive your vehicle until the problem has been resolved. Bring the vehicle to your authorized Royal Alloy dealer for repair.

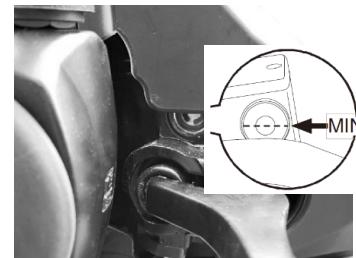
Front Brake lever free-play: 10 - 20mm

If the brake lever has no free-play or is too loose, there is a potential brake system fault. Inspect brake system thoroughly.

Front Brake Fluid

Check all joints along the brake hose for any fluid leaking from the joint or the brake cylinder. Leakage has occurred if you see wet or oxidized fluid sludge.

Check brake fluid level sight glass at base of lever to determine brake fluid level. Fluid should be above the bottom half of the sight glass. Add brake fluid if necessary.



Brake Fluid specification: DOT4

WARNING

WARNING: Contact your Royal Alloy dealer immediately to repair any brake fluid leaks. A leak could result in loss of hydraulic pressure to your brake system rendering the brake system useless.

Pre-Ride Inspection

Royal Alloy

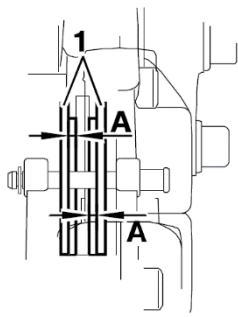
Perform a pre-ride inspection prior to every ride.

Front Brake Disc and Pads

Inspect the brake disc for wear, glazing and/or warping. Inspect the brake pads to ensure the pad thickness is not beyond the wear limit:

Wear Limit: 2mm

If the brake pad wears entirely before replacement, damage to the disc and loss of braking ability can occur.



Rear Brake

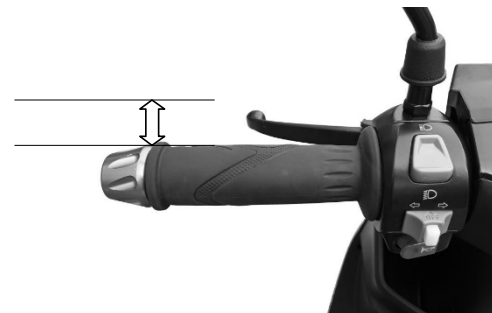
The rear brake is a hydraulic disk type. Inspect the brake system prior to each ride.

Properly functioning brake systems are vitally important to your personal safety.

Check for fluid leaks, fluid level, brake pad wear, and rotor condition. Also check lever free-play frequently.

Pull the brake lever lightly until you feel tension, then check the lever free-play.

10 – 20mm



Rear Brake Lever Free-Play: 10 - 20mm

If the brake lever has no free-play or is too loose, there is a potential brake system fault. Inspect brake system.

Pre-Ride Inspection

Royal Alloy

Perform a pre-ride inspection prior to every ride.

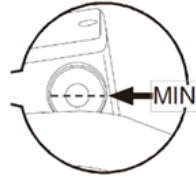
Rear Brake Fluid

Check all joints along the brake hose for any fluid leaking from the joint or the brake cylinder. Leakage has occurred if you see wet or oxidized fluid sludge.

Check brake fluid level sight glass at base of lever to determine brake fluid level.

Fluid should be above the bottom half of the sight glass.

Add brake fluid if necessary.



Brake Fluid specification: DOT4



WARNING

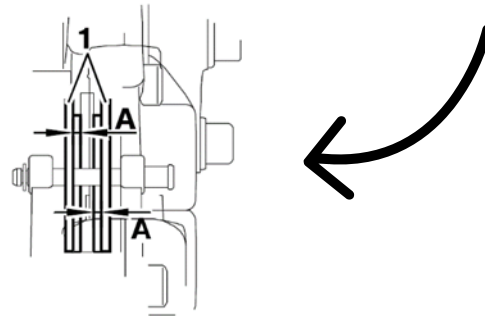
WARNING: Contact your Royal Alloy dealer immediately to repair any brake fluid leaks. A leak could result in loss of hydraulic pressure to your brake system rendering the brake system useless.

Rear Brake Disc and Pads

Inspect the brake disc for wear, glazing and/or warping. Inspect the brake pads to ensure the pad thickness is not beyond the wear limit.

Brake Pad Wear Limit: 2mm

If the brake pad wears entirely before replacement, damage to the disc and loss of braking ability can occur.



Pre-Ride Inspection

Royal Alloy

Perform a pre-ride inspection prior to every ride.

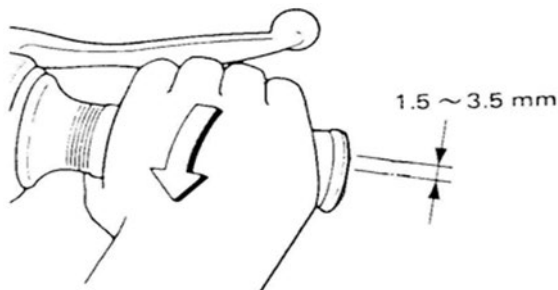
Throttle

Check the throttle cable for ease of movement by turning the twist grip from fully close to fully open.

Move the handlebar from left to right to ensure throttle is not applied when bars turn.

Measure throttle free-play by opening the grip slightly until resistance can be felt.

Throttle free-play: 1.5 - 3.5 mm



Adjust throttle as necessary to ensure proper free-play. Lubricate throttle cable tube and cable ends to ensure ease of operation.

Throttle Adjustment

Slide the protective rubber cover (1) to expose the throttle adjustment screw.

Loosen the lock nut (2) on the throttle cable.

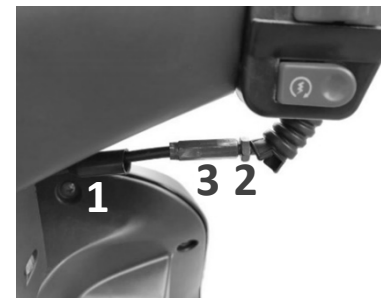
Turn the adjustment screw (3) until the throttle free-play is within the proper range of movement.

Measure throttle free-play again by opening the grip slightly until resistance can be felt.

Throttle free-play: 1.5 - 3.5 mm

Once throttle free-play has been adjusted within the proper range, tighten lock nut (2).

Return the protective cover (1) to cover the throttle adjustment screw.



WARNING

WARNING: An improperly-adjusted, non-lubricated or binding throttle cable is an extremely dangerous condition that can result in loss of control of your vehicle. Maintain and inspect frequently.

Pre-Ride Inspection

RoyalAlloy

Perform a pre-ride inspection prior to every ride.

Engine Oil

Genuine Motor Oil is the oil brand recommended by Royal Alloy. Your scooter operates under intense conditions, including higher engine speed, hotter temperatures, and higher compression ratios than other vehicle types. These extreme conditions subject the oil to significant operational stress and require a lubricant specifically designed for scooters.

Only use JASO MA-2 5W-40 engine oil.



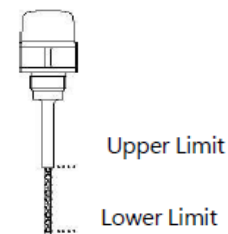
JASO MA-2 oils are formulated for use in scooter and motorcycle engines. Other oil types may severely damage your engine and void any warranty. All JASO rated oils will display the JASO oil classification on the bottle within an outlined border like the example above.

Many oils claim to “meet or exceed” JASO ratings but are not verified to meet these standards. If an oil does not have a 10-character oil code and the JASO rating prominently displayed on the label, then the oil has not been verified by the Japan Lubricating Oil Society and should not be used in your scooter.

Engine Oil Check

Start engine and run for 1 minute prior to checking oil level. The engine oil fill access is located near the lower right side of the vehicle. Remove the cap and check the oil level on the dipstick.

Add JASO MA-2 5W-40 engine oil if the oil level is low. Replace cap.



WARNING

WARNING: Failure to use JASO MA-2 5W-40 engine oil and/or failure to maintain the proper oil level in your engine may result in premature wear, severe engine damage or catastrophic engine failure.

Pre-Ride Inspection

Royal Alloy

Perform a pre-ride inspection prior to every ride.

Tires

Perform a physical inspection of both the front and rear tire. Inspect the tread depth to gauge tire wear.

Locate the initials "T.W.I." on the tire sidewall. This is the location of the Tread Wear Indicator.

Move inward toward the center of the tire to find the raised portion of the tire groove. This is the Tread Wear Indicator.



Replace tire when tread wear indicators come in contact with the road surface.

Inspect the tire for foreign material such as nails, screws, glass or other objects that may have become lodged in the tire. Visit a Royal Alloy dealer for tire replacement if necessary.

Tire Pressure

Perform tire pressure checks while the tires are cold:
Remove the valve stem caps.
Check the tire pressure.

Standard Tire Pressure

Front:	32 psi
Rear:	34 psi

Adjust the tire pressure according to the total weight load.
Re-install the valve caps.



TIRE PRESSURE TOO HIGH



TIRE PRESSURE TOO LOW



WARNING

WARNING: Failure to maintain proper air pressure in your tires may result in tire failure and/or loss of control of your vehicle. Do not ride if your tire pressure is not at or near the recommended value.

Pre-Ride Inspection

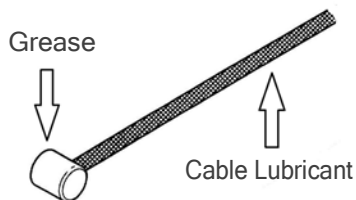
Royal Alloy

Perform a pre-ride inspection prior to every ride.

Cables

Check all cables for integrity, connection and lubrication. If any fraying or other cable damage is observed, replace cable immediately.

Use a cable specific lubricant on the braided portion of the cable. Use waterproof grease on the cable ends and pivot locations.



Center Stand and Side Stand

Inspect both the center stand and the side stand to ensure the mounting bolts securely fasten the stands to the frame and both stands are not loose.

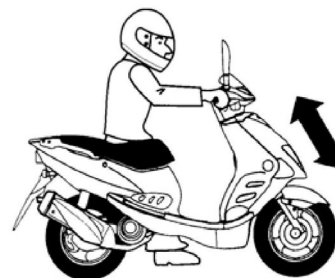
Check spring tension to ensure stands will remain in stowed position when riding.

Assembly

Check all assemblies to ensure they are fastened tightly. This includes both a visual and physical inspection.

Visually inspect the engine, fork assembly, rear shock absorber, wheel assemblies, handlebar, and other critical components.

Apply pressure in all directions for each assembly to check for unusual movement. If you notice any unusual vibration, shake or other indication that a problem may exist, have your vehicle towed to a Royal Alloy dealer for inspection and resolution.



FUNCTION CHECK

Pre-Ride Inspection

Royal Alloy

Fuel System

Check your fuel level prior to each ride.

Fuel Tank capacity: 10.5 liters

Fuel specification: Unleaded 91 octane or higher

Do not fill your fuel tank over the neck-line on the fuel tank inlet.

Fuel expands under the influence of heat. An over-filled fuel tank can cause fuel to spill when the vehicle is warm.

Inspect your fuel system including tank, hoses, petcock and filter for leaks. If a leak is found, repair immediately.



WARNING

WARNING: Both fuel and fuel vapor are highly flammable. Do not smoke or bring an open flame near the fuel tank. Explosions can occur.

Lighting

Lighting is a very important safety feature that helps you navigate at night and communicate your actions with other drivers. Properly functioning lighting can make you more visible to other drivers, reducing the possibility of an accident.

Check the front and rear turn signal indicators, head light, tail - light, brake light, speedometer backlighting, and all indicator lights to assure they are in proper working order.

Make sure all lenses are clean of dirt and debris.

Switches

Check the function of all switches for lighting, signals, horn, etc. Repair as necessary.

Loading

Load your scooter properly. An improperly loaded scooter can cause an accident.

- Make sure the left-to-right weight distribution is balanced.
- Check that all fasteners are correct and tight.
- Do not transport bulky loads.
- Do not load your vehicle in a manner that covers lighting or impedes the movement of any vehicle component.

Vehicle Operation

Before starting your vehicle, you should be familiar with all operations and functions of this vehicle. You should have completed the pre-ride inspection, and you should be wearing safety gear.

If this is the first time you are operating your vehicle, you should thoroughly review the "Initial Engine Run-In" section on the next page.

It is recommended to warm up the engine for a few minutes prior to riding. This will prevent components from experiencing premature wear.



WARNING

WARNING: Carbon monoxide gas is toxic. Breathing carbon monoxide can cause unconsciousness and even kill you. Avoid running your engine within enclosed areas and other activities that expose you to carbon monoxide.

Vehicle Start

- 1) Ensure the kill switch is in the RUN position.
- 2) Ensure the side stand is in the upright position.
- 3) Insert the key into the Ignition Switch and turn to ON.
- 4) With the throttle completely closed, pull in either brake lever & simultaneously push and hold the start button. Once the engine starts, release the start button.

Do not press and hold start button for more than 5 seconds at a time as this can damage the start system. If the vehicle has difficulty starting after pressing the start button for 5 seconds, release the start button. Wait 10 seconds between attempts. Try to start the vehicle again for up to 5 seconds at a time.



WARNING

WARNING: The rear wheel of the scooter may start to spin once the scooter starts. Make sure you keep your body and any loose clothing away from the rear wheel to avoid injury.

Initial Engine Run-In

When your engine is new or when you have installed new engine components, it is very important to follow this run-in procedure. During this period, each part within the engine will obtain proper operating tolerances. Following this procedure will maximize engine life.



CAUTION

CAUTION: During the first 500 miles of operation, avoid wide-open throttle operation or any operation that may cause high engine temperatures.

0 - 100 miles

Avoid opening the throttle beyond 1/2 throttle. Cool down the engine for 10 minutes, after every 30 minutes of operation. Do not operate at a constant speed; change your speed regularly.

100 - 300 miles

Avoid opening the throttle beyond 1/2 throttle for extended periods of time. Do not open throttle beyond 3/4 throttle.

300 - 500 miles

Avoid opening the throttle beyond 3/4 throttle.

Over 500 miles

Avoid long periods of wide-open throttle operation.

Engine Life

Your engine life is highly dependent upon how you operate and maintain your vehicle.

Your scooter is equipped with a CVT transmission. As such, your engine will operate at maximum RPM when you are at maximum speed at wide-open throttle.

If you operate your scooter at maximum RPM for a long period, you will damage your engine. This is not considered normal operation.

Keep your maximum speed operation to short periods of time. If you are travelling a longer distance, slow or stop your vehicle regularly to allow the engine to cool.

The quality of oil that you use in your vehicle will also determine longevity. Please reference the Engine Oil section in this manual for the proper specification.



CAUTION

CAUTION: Even though your vehicle is liquid-cooled, operating your vehicle at wide-open throttle for any long duration can overheat and /or damage your engine.

Be aware of the length of full-throttle operation and slow down periodically to allow the engine to cool especially in hot climates. Always use JASO MA-2 5W-40 engine oil in your vehicle.

Engine Warm-Up

After engine start, allow the engine to come up to operating temperature by idling the engine for at least 1 minute and then using mild acceleration during the first 3 minutes of operation.

While the engine is warming up, sit on the scooter and adjust the rear-view mirrors to be able to see clearly behind you from both the right and left sides.

Riding

After engine warm up, you are ready to ride. Be sure you have completed the pre-ride checklist before each ride. Review safety recommendations on pages 4-6.

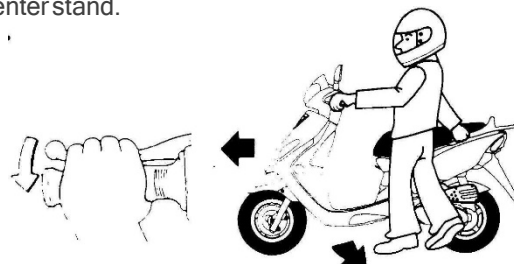
Use the throttle for controlling the general speed of your vehicle.

Use the brakes for slowing and stopping your vehicle.

Use the handlebars to control the direction of the vehicle.

Rider inputs will determine the behavior of the vehicle. Make sure you consider the weather, riding surface, traffic and all other circumstances that may alter the amount of time it will take to accelerate, stop and turn your vehicle.

Hold the rear brake lever and push the vehicle forward off the center stand.

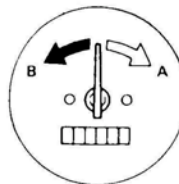


Throttle

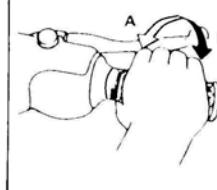
Gradually turn the throttle to accelerate.

- A) Turning the throttle toward your body will increase your speed.
- B) Turning the throttle away from your body will decrease speed.

Speedometer



Throttle Direction



Braking

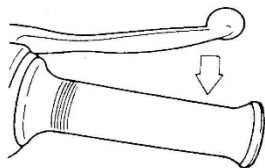
You should always be prepared to use your brakes. Unexpected behavior of fellow motorists, road debris, animals and other obstacles can arise without notice. Becoming familiar with and actively covering your brakes while riding can drastically reduce braking distances and improve safety.

Applying the brakes

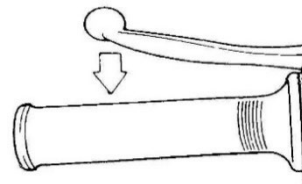
1. Release the throttle.
2. Gradually pull the brake lever(s) toward the handlebar to apply the brake.

Applying both brakes simultaneously will result in a shorter stopping distance than actuating either brake individually.

The right-hand brake lever actuates the front brake.



The left-hand brake lever actuates the rear brake.



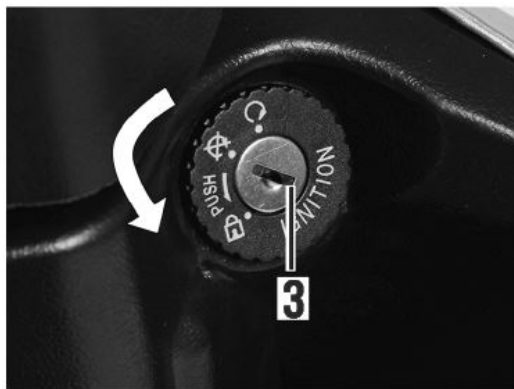
WARNING

WARNING: Applying the brake lever abruptly or forcefully can cause the wheel to stop suddenly which can result in a loss of control of your vehicle. This effect is more prominent when the road surface is wet, covered in dirt or other debris, or you are traveling over metal objects.

Always maintain acute awareness and full control of the braking force you are applying. Consider all environmental circumstances when braking.

Engine Stop

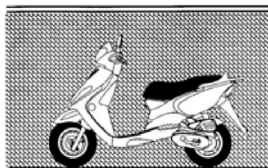
To stop the engine, turn ignition key to OFF. (3)
Remove the key.



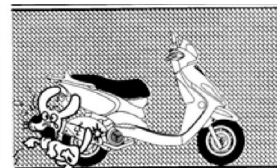
It is not recommended to use the kill switch for normal engine stops. Leave the kill switch in the RUN position under all normal vehicle operation. Use the kill switch for emergency engine stops.

Parking

Park your vehicle with the exhaust facing away from any pedestrian traffic.



Correct

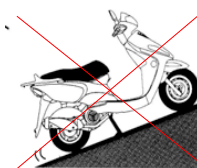
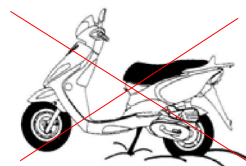


Incorrect

Place vehicle on the center stand whenever possible for the most stability.

If possible, park in front of larger vehicles so they can visibly see your parked vehicle.

Consider the firmness of the parking surface and any incline that may cause your vehicle to fall over.



Periodic Maintenance and Repair

To ensure safe and effective performance of your vehicle, please check, adjust, and lubricate your vehicle periodically. Safety should be every rider's priority and the maintenance table provided is an important guide.

Your vehicle is designed to be operated on normal paved surfaces. If you operate your vehicle in dusty, dirty and/or wet conditions, you will need to increase the maintenance frequency to account for the harsh operating conditions.

Failure to increase maintenance under harsh conditions will result in damage to the engine and other critical vehicle components.

If you are not technically skilled enough to perform any specific maintenance task, you should have the maintenance completed by an authorized Royal Alloy dealer.

Items marked with a “#” symbol are recommended to be completed by an authorized Royal Alloy dealer.

Periodic Maintenance Table

The following two pages contain a periodic maintenance table. Please review this thoroughly and follow all maintenance procedures as scheduled.

Once your vehicle exceeds the distances posted in the maintenance schedule, continue with the same periodic intervals for each item on the table.



CAUTION

CAUTION: If you are unfamiliar with performing these maintenance procedures, visit a Royal Alloy dealer for assistance.

Periodic Maintenance

Royal Alloy

Abbreviation Key I: INSPECT & CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY C: CLEAN R: REPLACE A: ADJUST L: LUBRICATE * Check Engine Oil Level every 600 mi/1,000 km ** Replace every 2 years. *** Replace every 4 years.	600 miles (1000 km)	3,700 miles (6000 km)	7,400 miles (12000 km)	11,200 miles (18000 km)	14,800 miles (24000 km)	18,600 miles (30000 km)	22,300 miles (36000 km)	26,000 miles (42000 km)	29,800 miles (48000 km)	33,500 miles (54000 km)	37,300 miles (60000 km)
Torque driver pins			L		L		L		L		L
Safety fasteners	I		I		I		I		I		I
Plastic sliders in variator cover		I	R	I	R	I	R	I	R	I	R
Clutch bell		C	C	C	C	C	C	C	C	C	C
Variator rollers		I	R	I	R	I	R	I	R	I	R
Driving belt		I	R	I	R	I	R	I	R	I	R
Variator front movable half-pulley			I		I		I		I		I
Air filter		C	C	C	C	C	C	C	C	C	C
Transmission cover air duct filter			I		I		I		I		I
Engine oil*	R	I	R	I	R	I	R	I	R	I	R
Engine oil filter element	R		R		R		R		R		R
Engine oil screen filter	I/C		I/C		I/C		I/C		I/C		I/C
Gear oil	R		I		R		I		R		I
Braking systems	I	I	I	I	I	I	I	I	I	I	I
Electrical system and battery	I		I		I		I		I		I

Periodic Maintenance

Royal Alloy

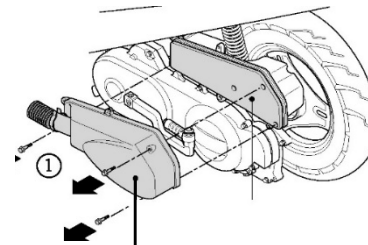
Key to the Abbreviations I: INSPECT & CLEAN, ADJUST, LUBRICATE OR REPLACE IF NECESSARY C: CLEAN R: REPLACE A: ADJUST L: LUBRICATE * Check Engine Oil Level every 600 miles/1,000 km ** Replace every 2 years. *** Replace every 4 years.	600 miles (1000 km)	3,700 miles (6000 km)	7,400 miles (12000 km)	11,200 miles (18000 km)	14,800 miles (24000 km)	18,600 miles (30000 km)	22,300 miles (36000 km)	26,000 miles (42000 km)	29,800 miles (48000 km)	33,500 miles (54000 km)	37,300 miles (60000 km)
Brake fluid **	I		I		I		I		I		I
Coolant level**	I		I		I		I		I		I
Headlight aiming adjustment			A		A		A		A		A
Spark plug			R		R		R		R		R
Vehicle road test	I		I		I		I		I		I
Throttle control	A		A		A		A		A		A
Radiator	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C
Wheels / tyres	I	I	I	I	I	I	I	I	I	I	I
Suspension			I		I		I		I		I
Steering	I		I		I		I		I		I
Transmission			L		L		L		L		L
EVAP cannister and hoses***	I		I		I		I		I		I
Anti-dive linkage bearings	I	I	I	I	R	I	I	I	I	R	I
Valve clearance			A		A		A		A		A

Periodic Maintenance

Royal Alloy

Air Cleaner and Air Filter

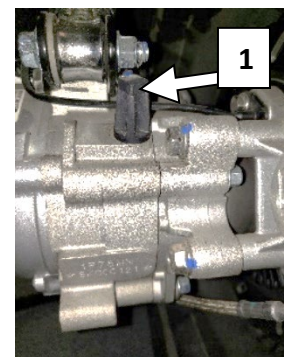
1. Remove screws from air cleaner cover. (1)
2. Clean housing of dirt and debris with a clean cloth.
3. Inspect gasket for integrity.
4. Inspect air filter and replace if dirty or maintenance interval has been reached.
5. Reinstall air filter and cleaner cover, secure screws.



Gear Oil

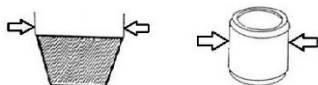
Change the gear oil per the maintenance schedule and check level periodically.

1. Remove the fill screw (1) and drain screw. Drain screw (6mm Allen bolt) is located on inside face of engine case, accessible through the rear wheel. Drain all oil from gearbox.
2. Reinsert drain screw with new washer and tighten to torque specification.
3. Fill with SAE 80W-90 GL-5. Use fill cap level indicator to measure oil level.
4. Reinsert fill screw (1) and tighten to torque specification.
5. Inspect leaks on the shaft seals inside the transmission and on the output shaft near the rear wheel. If there is a leak, you will notice a build-up of oil and dirt. Resolve any leak immediately to prevent damage to the gearbox.



Transmission

1. Check the transmission for belt and roller wear.
2. Rollers should not have major flat spots.
3. Measure belt width to determine wear.
4. Inspect belt for cracks, frays, or other damage.
5. Inspect clutch pads for wear, glazing.



CAUTION

CAUTION: If you are unfamiliar with performing these maintenance procedures, visit a Royal Alloy dealer for assistance.

Periodic Maintenance

Royal Alloy

Spark Plug

The spark plug is one of the most important parts of the engine and it is easy to inspect.

The condition and color of your spark plug can provide important clues about the running condition of your engine. The ideal electrode color of a properly running vehicle is light brown. If the spark plug is white or black and wet, there may be a problem with your vehicle that needs to be resolved. Ask your Royal Alloy dealer for assistance.

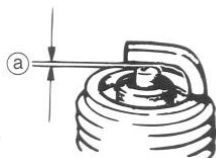
Standard spark plug: NGK CR8EK

- Inspect the spark plug electrode. Replace if you see damage or extreme wear to the electrode.
- Clean the surface of the spark plug gently to avoid damage.
- Measure spark plug gap.

Spark plug gap: 0.6-0.7mm

- Reinstall spark plug and torque.

Torque: 11.7N-m (8ft-lb)

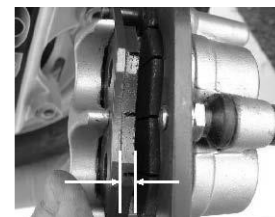


Brake Check

Actuate each brake for inspection. Observe the grooves in the pads. If the groove is gone or nearly gone, your brake pads need to be replaced.

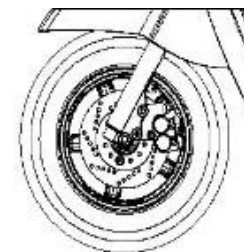
- 1 Visually determine if the brake pads are worn to the bottom of the groove or measure the pad thickness.

If pad thickness is less than 2mm, replace the brake pads.



- 2 Visually inspect the brake rotor for scratches, warping, hot-spots, or foreign material.

Any significant damage can indicate there is a problem with your brake system. Have your dealer inspect immediately if any damage is observed.



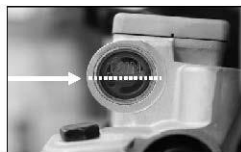
CAUTION

CAUTION: If you are unfamiliar with performing these maintenance procedures, visit a Royal Alloy dealer for assistance.

Brake Fluid Check

Insufficient brake fluid will allow air into the brake system and may cause the brake system to fail. Please check the brake fluid level regularly and refill it if necessary. Standard brake oil: FMVSS DOT4.

1. When checking the fluid level, please turn the handlebar to ensure the brake fluid indicator is horizontal.
2. Only use specified brake fluid, otherwise the oil seals will deteriorate. Deterioration can cause fluid leaks & loss of brake function.
3. Clean up any spilled brake fluid immediately with clean water. Brake fluid will erode painted surfaces and/or plastic.
4. If any problems are noticed with the fluid color, volume, leaking or any other problem with the brake system, have your Royal Alloy dealer inspect immediately.



CAUTION: Do not mix brake fluid types. This could cause brake failure

Suspension

Suspension is very important in vehicle stability. Malfunctioning suspension can cause your vehicle to behave in an unpredictable manner. Check regularly.

1. Check the inner surface of the front fork and rear shock for any wear, damage, or leakage.
2. Park the vehicle on a flat surface prior to inspection. Hold the handlebar and keep the vehicle in a vertical position. Apply the front brake.
 - Press and release the vehicle's front fork several times to check the front fork.
 - Hold the rear grab-rail and press up and down several times to check the rear shock.



If the suspension functions are not smooth or any component is damaged, immediately contact your authorized Royal Alloy dealer for service.



CAUTION: If you are unfamiliar with performing these maintenance procedures, visit a Royal Alloy dealer for assistance.

Periodic Maintenance

Royal Alloy

Fuse Replacement

1. The main fuse is located next to the battery inside the floorboard section.
2. In the event of a broken fuse, disconnect the main switch and any other switches connected to circuits that have failed. Install a new fuse corresponding to the correct Amperage. Turn on the ignition switch to check the function. If the new fuse burns immediately, contact your authorized Royal Alloy dealer for service.

Battery

1. It is unnecessary to add any electrolyte or distilled water into the sealed battery installed in the vehicle. In case of any sign of leakage of battery acid, immediately contact your authorized Royal Alloy dealer.
2. If the engine has difficulty starting, weak horn, dim lights, etc., remove the battery from the vehicle and follow the standard procedure to charge the battery.

CAUTION

CAUTION: Disassembling any sealed component on the battery can damage the battery.
Never jump start the battery as this can damage vehicle electronics.

Battery Maintenance

A trickle/maintenance charger is highly recommended if you do not use your vehicle daily. The battery will deplete over time if the vehicle is not run on a regular basis. Your Royal Alloy dealer can recommend and install an appropriate charging device.
You will be unable to start the vehicle with your electric start button if the battery has been depleted.

CAUTION

CAUTION: If you are unfamiliar with performing these maintenance procedures, visit a Royal Alloy dealer for assistance.

Storage

It is important to take the proper steps for storage of your scooter to reduce the effects of deterioration during extended non-use period of times. It is highly recommended to perform all periodic maintenance and perform any repairs prior to storage so the scooter is in great condition when removed from storage.

1. Replace the oil and oil filter (if applicable)
2. Fill the gas tank to maximum capacity and add the recommended amount of fuel stabilizer. A full gas tank does not leave as much room for condensation to build up, and the stabilizer will handle any that does. Run your scooter for a few minutes to ensure that the treated gasoline makes its way into your carburetor/injector nozzles. Lastly, drain the carburetor if the vehicle is equipped.
3. Inflate the tires to the recommended pressure and turn them over every couple of weeks. This helps prevent flat spots from forming.
4. Prevent rusting in the cylinder by removing the spark plug and pouring a tablespoon of clean engine oil into the cylinder. Cover the spark plug hole with a piece of cloth and crank the engine several times to distribute

the oil. Reinstall the spark plug back into the cylinder. Use a clean cloth and avoid any material from entering the combustion chamber.

5. Remove the battery and store it in area that is out of direct sunlight and above freezing temperatures. Use a good quality trickle charger to charge the battery during storage

6. Use a scooter cover and store in an area that is free of excessive moisture, has minimum daily temperature variations, and is not in direct sunlight. The sun's UV rays can damage the body work.



WARNING

WARNING: Both fuel and fuel vapors are highly flammable. Do not smoke or bring an open flame near the fuel tank. Explosions can occur. You can be burned or seriously injured when handling fuel.

Maintenance Record

Royal Alloy

Maintenance Plan Mileage	Actual Mileage	Date	Dealer Signature	Maintenance Plan Mileage	Actual Mileage	Date	Dealer Signature

Technical Data

Royal Alloy

Engine		Chassis	
Type	1P75MN	Length	1845 mm / 73 in
Displacement	278.3 cc	Width	670 mm / 26 in
Bore	75 mm	Height	1115 mm / 44 in
Stroke	63 mm	Wheelbase	1390 mm / 55 in
Compression Ratio	11:1	Curb Weight	166 kg / 366 lb
Cooling Method	Liquid Cooled	Max Loading	113 kg / 249 lb
Lubrication Method	Separated Pump	GVWR	340 kg / 750 lb
Fuel Delivery	Electronic Fuel Injection (EFI)	GAWR - Front	123 kg / 271 lb
Idle Speed	1700 ± 100 rpm	GAWR - Rear	217 kg / 478 lb
Spark Plug	NGK CR8EK	Front Tire	110/70-12
Electrode Gap	0.6-0.7 mm	Rear Tire	120/70-12
Start System	Electric	Electrical	
Transmission		Ignition System	EFI
Type	Continuously Variable (CVT)	Generator	Flywheel Magnet Stator
Clutch	Dry, Centrifugal	Battery Type	12V 7Ah MF
Fluids		Main Fuse	15A Tube
Engine Oil Type	JASO MA-2 5W-40 Motor oil		
Engine Oil Capacity	~ 1.0 Liter		
Gear Oil Type	SAE 80W-90 GL-5		
Gear Oil Capacity	170cc		
Fuel Type	Unleaded fuel, 91 Octane or higher		
Fuel Capacity	10.5 liters		

Reporting Safety Defects

Royal Alloy

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Royal Alloy and Genuine Scooter Company.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, Royal Alloy or Genuine Scooter Company.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to <http://www.safercar.gov>; or write to: Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. You can also obtain other information about motor vehicle safety from <http://www.safercar.gov>.

WARRANTY INFORMATION

Your vehicle is covered by a manufacturer's Limited Warranty, an EPA Emissions Control System Warranty, and In California, a California Emissions Control System Warranty . Detailed warranty information can be found in your warranty booklet supplied separately from this manual.

This owner's manual should always remain in your vehicle for reference. This manual should be considered a permanent part of your vehicle. The information contained within this manual is the latest available at the time of publication. Royal Alloy reserves the right to make changes to products and publications at any time without notice. There may be information in this manual that differs slightly from your vehicle as improvements and changes occur regularly. The current manual can always

be viewed at: <http://www.guinescooters.com/ownersmanual.html>



A real classic

Royal Alloy
www.royalalloy.com

GP300S Owner's Manual