

ROYAL ALLOY

125 Series
Owner's Manual

GP 125 · TG 125 · JP 125 · JP 125 Off-Road · GT1 125

Preface

Thank you for choosing a Royal Alloy **GP 125 (MT and SE), TG 125, JP 125, JP 125 Off-Road and GT1 125** scooter. Royal Alloy products combine advanced technology with reliability, and are designed using the many years of experience that RA Engineering Co., Ltd and its partners have in building scooters for travel, commuting, leisure and sport.

This manual explains the use, operation, basic inspection and maintenance of your scooter. If you have any further questions about operation or maintenance, please contact your dealer.

The scooter is designed to fully meet the exhaust emissions standards in force on its date of manufacture. To keep it compliant, please carry out the maintenance schedule and instructions in this manual together with your dealer.

The GT2 has its own owner's manual.

Safety messages used in this manual

WARNING A procedure that must be followed to avoid injury to you or other people, or damage to the scooter.

CAUTION A procedure that must be followed; otherwise your personal safety may be put at risk.

NOTE A procedure that must be followed to avoid damaging the scooter.

WARNING Read this manual carefully before riding the scooter.

CAUTION This manual should be regarded as part of the scooter and should stay with it, even when the scooter is sold.

NOTE We are continually improving the design and quality of our products. This manual contains the latest product information at the time of printing, but your scooter may differ slightly. If you have any questions, please contact your dealer.

Version 10/2026

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CHAPTER 1

Precautions for safe riding

Obey all local traffic regulations and put safety first whenever you ride. Control your speed and stay within safe limits.

Practise before riding

Before riding in traffic, practise in a spacious, traffic-free area until you can ride safely and are familiar with the controls. Complete any training or government test required before riding on public roads.

Know your safe speed

A safe speed depends on the road, the weather and your riding skill. Be aware of local and national speed limits.

Take care in the wet

Riding on damp or wet roads is dangerous. Avoid high speeds and take extra care when turning. Braking distances in the rain can be twice those on a dry road.

Wear a helmet

Always wear a safety helmet and make sure the strap is securely fastened.

Wear suitable clothing

Bright, well-fitting clothing that lets your arms and legs move freely is recommended, together with clothing made of thick material and shoes with low heels.

Carry out essential inspections and maintenance

Make safety checks before every journey, and follow the maintenance schedule in this manual.

Hot surfaces

The silencer gets very hot and can cause burns. Park the scooter where people are unlikely to touch the silencer.

No modifications

Do not modify the scooter. Modifications may make it unsafe to ride.

CHAPTER 2

Serial numbers

Engine number

The engine number is stamped on the rear of the crankcase.

Chassis number

The chassis number is stamped on the right-hand frame rail.



Figure 1 Engine number location

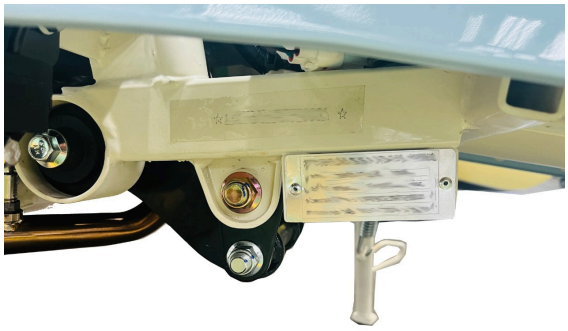


Figure 2 Chassis number (right-hand side)

> **NOTE** Keep a record of your engine number — you will need it to order the correct spare parts from your dealer.

Write your serial numbers here for future reference:

Chassis serial no.	
Engine serial no.	

CHAPTER 3

Controls and instruments

3.1 Multifunction display (GP / TG)

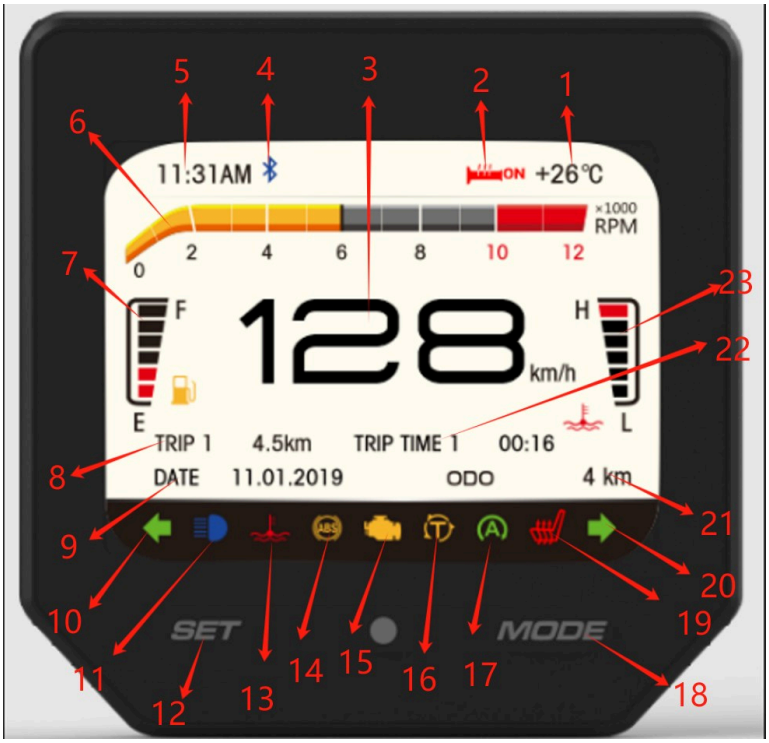


Figure 3 Multifunction display, GP and TG models

1 Temperature display
Shows the outside air temperature.

2, 19 Heated grips, heated seat
Not currently configured.

3 Speedometer
Shows road speed in km/h or mph.

4 Bluetooth indicator and caller ID
Blue shows an active Bluetooth connection; grey shows an inactive one. Caller ID appears to the right of the Bluetooth indicator, above the LCD screen.

5 / 9 Time and date display
Press and hold the left button (12) to enter clock setting — the date and month digits flash. Briefly press the right button (18) to change a value and briefly press the left button to move to the next field. Set month, day, year, hour, minute and AM/PM in turn, then press and hold the left button (12) to save and exit. If no button is pressed for more than 15 seconds, the settings are saved automatically.

6 Engine speed (rpm) display
Shows engine speed.

7 Fuel gauge

Shows the amount of fuel in the tank in 6 bars. When the bars reach "F", the tank is full. When only 2 bars remain they turn red — refuel soon. When the level drops further, the first bar flashes — refuel immediately. If bars 1 to 6 all flash, the fuel sender is disconnected.

8 Trip meter

Shows the distance covered on the current trip. Press and hold the right button (18) to reset the trip meter and the trip time.

10 / 20 Left and right turn indicators

The left indicator light (10) flashes when the turn signal switch is pushed to the left; the right indicator light (20) flashes when it is pushed to the right.

11 High beam indicator

Lights when the high beam is on.

12 / 18 Left (SET) and right (MODE) buttons

- Briefly press the left button to switch between metric and imperial units.
- Press and hold the right button (18) to reset the trip meter and clear the trip time.
- Press and hold the left button (12) to set the date and time.

13 Coolant temperature warning light

If the coolant temperature exceeds 115 °C, all 6 bars of the coolant temperature gauge flash and the warning light (13) lights red.

> **WARNING** Stop immediately and switch off the engine to prevent further damage. Only continue once the coolant has cooled down, and contact your dealer or a specialist workshop.

14 ABS warning light

Indicates a fault in the ABS. The ABS is not working.

15 Engine management light (MIL)

Indicates a fault in the electronic fuel injection system.

> **WARNING** If this warning light comes on while riding, contact your dealer or a specialist workshop straight away.

16 TCS indicator

Flashes when traction control (TCS) is active and stays on when it is switched off. It also stays on if there is an ABS component fault or a TCS failure.

17 Start-stop indicator

Automatic engine start-stop is fitted to all UK models. Switch it on or off with the start-stop button on the right handlebar (see section 3.6). The system works as follows:

Stage	Behaviour
Power on	When the ignition is switched on, the start-stop indicator lights for 2 seconds and then goes out.
Start-stop switched on	When the start-stop switch is changed from disabled to enabled, the indicator lights for 2 seconds and then goes out. If the change is not accepted, it goes out immediately.

Stage	Behaviour
Initialisation	With start-stop enabled and the engine running, initialisation completes within 3 seconds once the scooter has exceeded 15 km/h.
Stop detection	Once initialised (including after a throttle restart), start-stop mode becomes active when the engine temperature is above 65 °C, and the indicator stays on.
Engine stop	When the scooter comes to a halt, close the throttle and hold for 3 seconds. The engine is switched off and the indicator flashes at 1 Hz.
Throttle restart	Opening the throttle restarts the engine immediately and the indicator stays on. After a successful restart, stop detection begins again. If the engine fails to restart, the indicator flashes at 1 Hz and waits for the next throttle opening.

Start-stop fault codes

Faults in the start-stop controller are shown by the start-stop indicator flashing:

Fault	Indicator
CAN communication fault	Slow flash × 2
Start-stop voltage low	Slow flash × 4
Over-current protection	Fast flash × 2
Hall sensor fault	Fast flash × 3
Over-voltage protection	Fast flash × 4
Motor stalled	Fast flash × 5
Relay fault	Fast flash × 6
Start time-out	Fast flash × 7
Battery depleted	Fast flash × 8

21 Odometer

Shows the total distance the scooter has covered. Briefly press the left button (12) to switch between kilometres and miles.

22 Trip time

Shows the time taken for the distance on the trip meter.

23 Coolant temperature gauge

Shows engine coolant temperature. If it exceeds 112 °C, all 6 bars flash and the coolant temperature warning light lights red. If the sensor circuit to the display is disconnected, no bars are shown.

3.2 Multifunction display (JP Series)

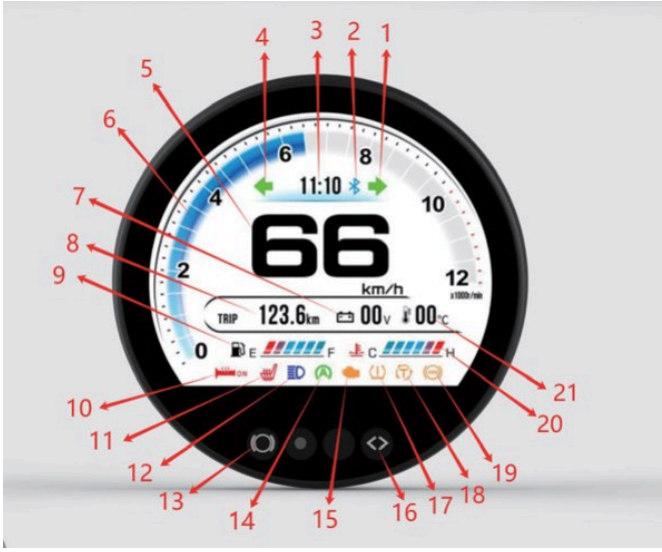


Figure 4 Multifunction display, JP Series

1 / 4 Right and left turn indicators
The left indicator light (4) flashes when the turn signal switch is pushed to the left; the right indicator light (1) flashes when it is pushed to the right.

2 Bluetooth indicator
Blue shows an active Bluetooth connection; grey shows an inactive one.

3 Clock
Shows the time.

5 Speedometer
Shows road speed in km/h or mph.

6 Engine speed (rpm) display
Shows engine speed.

7 Battery voltage
Shows battery voltage in volts.

8 Trip meter and odometer
Shows the trip or total distance. Briefly press the left button to switch between them.

9 Fuel gauge
Shows the amount of fuel in the tank. When the bars reach "F", the tank is full. When bar 1 turns red, refuel soon. When the level drops further, the gauge flashes — refuel as soon as possible. If bars 1 and 6 flash, the fuel sender is disconnected.

10, 11 Heated grips, heated seat
Not currently configured.

12 High beam indicator
Lights when the high beam is on.

13 / 16 Left and right buttons
Open the menu and adjust settings (see "Display menu" below).

14 Start-stop indicator

Works in the same way as on the GP and TG display — see item 17 and the start-stop fault codes in section 3.1.

15 Engine management light (MIL)

Indicates a fault in the engine management system.

> **WARNING** If this warning light comes on while riding, contact your dealer or a specialist workshop straight away.

17 Tyre pressure (where fitted)

Shows the front and rear tyre pressures. The display gives an alarm if the front pressure is outside 1.8–2.3 bar (180–230 kPa) or the rear pressure is outside 2.0–2.8 bar (200–280 kPa).

18 TCS indicator

Flashes when TCS is active and stays on when it is switched off. It also lights if an ABS component fails or TCS fails.

19 ABS warning light

Indicates a fault in the ABS. The ABS is not working.

20 Coolant temperature gauge

Shows engine coolant temperature. If it exceeds 112 °C, all 6 bars flash and the coolant temperature warning light turns red. If the sensor circuit to the display is disconnected, bars 1 and 6 flash.

21 Temperature display

Shows the outside air temperature.

Display menu

Press and hold the left button to open the menu. Briefly press the left button to move the cursor and briefly press the right button to open an option. Press and hold the right button to go back.

Option	What it does
Display mode	Choose night, day or automatic display.
Clock	Set the time. The right button changes a value; the left button moves to the next digit.
Units	Switch between metric and imperial units.
Backlight	Set the backlight brightness from 1 to 5.
Language	Choose the display language.
Bluetooth	Switch Bluetooth on or off. When it is on, your phone lists the display's Classic Bluetooth and BLE names.
Tyre pressure	Change the tyre pressure units and pair the front and rear tyre pressure sensors (dealer procedure).
Vehicle settings	Password, parameter settings and customer reset.

> **NOTE** Tyre pressure sensors are paired by your dealer, using the diagnostic tool or by inflating and deflating the tyre.

3.3 Smartphone navigation (JP Series)

Several navigation apps work with the display — for example MotoFUN and Carbit Ride. Try them and choose the one that best suits your needs. To connect:

1. Switch on Bluetooth on your smartphone.
2. Download your chosen navigation app.
3. On the display, press and hold the left button to open the menu, move to Bluetooth and briefly press the right button. Make sure Bluetooth is switched on.
4. Open the app and connect to the display by Bluetooth, following the app's instructions. When the connection is made, the Bluetooth symbol appears on the display.
5. Enter your destination to start navigating.

> **CAUTION** Set your destination before you ride. Do not operate your phone while riding.

3.4 Analogue instrument panel (where fitted)



Figure 5 Analogue instrument panel



Figure 6 MODE button in the front luggage box

Rev counter

Shows engine speed.

Fuel gauge

When the gauge reaches "F", the tank is full. When it reaches "E" or lower, the fuel level is low — refuel soon.

Turn indicators

The left or right indicator light flashes when the turn signal switch is pushed that way.

High / low beam indicator

Shows which headlamp beam is on.

Engine management light (MIL)

> **WARNING** If this warning light comes on while riding, contact your dealer straight away.

Oil warning light

> **WARNING** Stop the engine if this light comes on while riding. Check the oil level; if it is correct, contact your dealer.

ABS warning light

If this light comes on while riding, contact your dealer.

Odometer and trip meter

The odometer shows the total distance the scooter has covered.

Coolant temperature gauge and speedometer

The speedometer shows road speed in km/h or mph.

MODE button

The MODE button is in the front luggage box. With the ignition on:

- Press and release MODE to switch between the odometer and the trip meter.
- To reset the trip meter, show the trip meter, then press and hold MODE for 5 seconds until zero is displayed.
- To switch between km/h and mph, show the odometer, then press and hold MODE for 5 seconds.

WARNING Before switching on the ignition, make sure the battery is adequately charged and its connections are tight, with nothing loose.

3.5 Ignition switch



Figure 7 Ignition switch

ON	The engine can be started and the scooter ridden. The key cannot be removed.
OFF	The engine is stopped and cannot be started. The key can be inserted or removed.
LOCK	The steering is locked. The key can be inserted or removed.

Turn the key to switch the power on or off. When you leave the scooter, lock the steering to help prevent theft:

1. Turn the handlebars to the left.
2. Insert the key at OFF, push it in and turn it anticlockwise to LOCK.
3. Remove the key.

To unlock, insert the key at LOCK and turn it clockwise to OFF without pushing it in.

NOTE Move the handlebars to check that the steering is unlocked.
If the key will not turn, move the handlebars slightly to the right and try again.

3.6 Handlebar switches



Figure 8 Left handlebar switches



Figure 9 Right handlebar switches

Left handlebar

Dip switch

Changes the headlamp beam.

HIGH	High beam on.
LOW	Low beam on (for normal riding).

Horn button

Press to sound the horn.

Turn signal switch

Signals to other road users that you intend to turn left or right.

Left	The left indicators flash.
Right	The right indicators flash.
Centre (push in)	Cancels the indicators.

Cancel the indicators when they are no longer needed so you do not confuse other road users.

Right handlebar

Hazard warning switch

Makes all four indicators flash together.

Brake levers

Squeeze the lever gently towards the grip to slow or stop the scooter. The brake light comes on when a lever is squeezed.

Throttle grip

Controls engine speed. Turn it towards you to increase speed and away from you to decrease it.

Starter button

Starts the engine. Turn the ignition to ON, squeeze a brake lever and press the starter button.

Start-stop button

Switches automatic engine start-stop on or off (see section 3.1, item 17).

TCS switch

Switches traction control on or off.

3.7 Fuel tank cap

The fuel cap is reached by opening the seat. To open the cap, insert the ignition key and turn the cap tab clockwise. Close it the same way. An operation notice decal is next to the fuel cap.



Figure 10 Fuel cap



Figure 11 Key in the fuel cap



Figure 12 Opening the cap

NOTE Do not use the key itself to turn the cap — turning the key and the lock cover together can break the key.

3.8 Coolant tank cap

The coolant tank cap is on the left-hand side of the scooter.

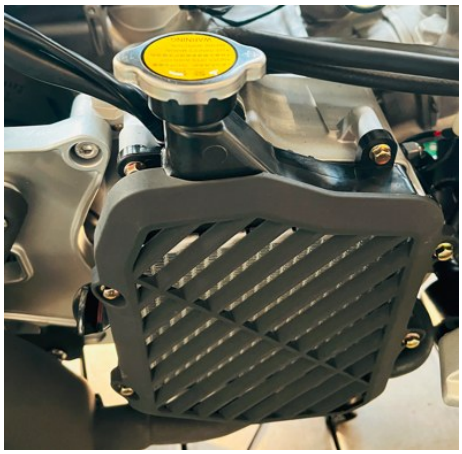


Figure 13 Coolant tank cap

WARNING Never open the coolant tank cap when the scooter is hot.
Hot coolant can cause burns and serious injury.

3.9 Seat lock (type 1)



Figure 14 Seat lock, type 1

To open: carefully lift the rear of the front seat by hand and the seat will open.

To close: push down firmly on the rear of the seat. The latch secures the seat to the centre section.

3.10 Seat lock (type 2)



Figure 15 Seat release button



Figure 16 Seat closed

1. The seat release button is on the left-hand side at the rear of the seat. Push it in and the seat will open.
2. To close, lower the seat gently onto the locking pin.

3.11 Front luggage box



Figure 17 Front luggage box

CAUTION Do not keep breakable or valuable items in the luggage box.
Do not keep fuel or oil in the luggage box.
Only store waterproof items in the luggage box.

CHAPTER 4

Fuel and oil recommendations

4.1 Fuel

Use unleaded petrol with an octane rating of 95 or higher. Unleaded fuel extends spark plug and exhaust component life.

4.2 Engine oil

A high-quality four-stroke engine oil will extend engine life. Use API grade SN or SJ oil with a viscosity of SAE 10W-40 (capacity 950 mL). If this is not available, choose a substitute from the chart below according to the local temperature.

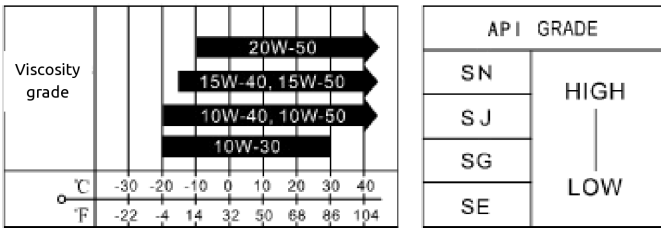


Figure 18 Engine oil viscosity by ambient temperature

4.3 Transmission oil

Use a good-quality SAE 75W-80 synthetic gear oil to API GL-4 or GL-5 specification (capacity 170 mL).

CHAPTER 5

Running-in

The first 600 miles (1,000 km) are the most important in the life of your scooter. Running it in correctly during this period helps ensure maximum life and performance. The parts are made from high-quality materials and machined to close tolerances; correct running-in lets the machined surfaces bed in smoothly together. The internal parts free up after about 60 hours of running, and performance improves as the engine loosens.

Maximum throttle during running-in

First 100 miles (160 km)	Less than ½ throttle
First 250 miles (400 km)	Less than ¾ throttle

Vary the engine speed

Vary the engine speed rather than holding it constant. This loads the parts and then unloads them, letting them cool, which helps them bed in. Some load on the engine is needed during running-in, but avoid heavy loads.

Avoid constant low speed

Running the engine constantly at low speed is not beneficial. Let the engine accelerate freely within the limits above, but do not use full throttle for more than 10 minutes at a time during the first 1,000 miles (1,600 km).

Let the oil circulate before riding

After starting the engine, warm or cold, let it idle long enough for oil to reach all critical components before revving it or riding off.

Have the first service done

The 1,000 km (600-mile) service is the most important service your scooter will receive. By then, the engine components have bedded in and other parts have settled. All adjustments are reset, all fasteners are tightened and the old oil is replaced. Having this service done on time ensures the best service life and performance.

> **CAUTION** The 1,000 km (600-mile) service should be carried out as described in Chapter 8, Inspection and maintenance. Pay attention to the cautions and warnings in that chapter.

CHAPTER 6

Inspection before riding

Check the following items every time before you ride. Never underestimate the importance of these checks.

WARNING Make sure the battery is fully charged and securely mounted, and that the terminals and connectors are tight. Loose battery connections can damage electrical components, including the ECU.

What to check	Check for
Steering	Smooth movement · no restriction · no play or excessive movement
Brakes	Correct lever free play · nothing obstructing braking
Tyres	Correct pressure · adequate tread depth · no cracks or cuts
Fuel	Enough fuel for the planned journey
Lights	Headlamp, side lamp, tail lamp, brake lamp and turn indicators all working
Indicators	Oil level indicator (if fitted) and turn indicators
Horn	Working correctly
Engine oil	Correct level
Throttle	Correct cable free play · smooth operation · grip returns fully to closed when released

6.1 Brake lever free play

Squeeze each brake lever until you feel resistance and measure how far the end of the lever has moved. It should be **10–20 mm**.

6.2 Front brake and anti-dive linkage

Twist the anti-dive link bar from side to side to check that it moves freely. If there is excessive up-and-down play, remove it and inspect or replace as required.

6.3 Tyres

Pressure. Look at the tyres and judge their pressure. If it looks wrong, check with a tyre pressure gauge and adjust to the correct value.

Cold tyre pressures — UK and Europe (may differ in warmer climates):

Front	2.2 bar / 32 psi
Rear	2.3 bar / 34 psi

Condition. Check for cracks, damage, foreign objects and abnormal wear.

6.4 Fuel level

Make sure there is enough fuel to reach your destination. Turn the ignition to ON; if the fuel gauge is in the red zone, refuel as soon as possible.

6.5 Engine oil level

> **CAUTION** Keep the oil level at the upper mark on the dipstick. Never let it go above the upper mark or below the lower mark — this will cause severe engine damage.



Figure 19 Oil filler cap / dipstick



Figure 20 Dipstick

1. Hold the scooter upright on level ground.
2. Start the engine, let it idle for a few minutes, then switch it off.
3. Wait at least 5 minutes for the oil to drain back into the crankcase.
4. Unscrew and remove the filler cap/dipstick.
5. Wipe the dipstick clean and insert it again **without screwing it in** — screwing it in gives a false reading, which may lead to engine damage. Remove it and check that the level is between the upper and lower marks.
6. If necessary, top up to the upper mark. Do not go above it.
7. Refit the dipstick securely.

6.6 Changing the engine oil



Figure 21 Engine oil drain bolt

Change the oil with the engine at normal operating temperature, so that it drains completely.

1. Hold the scooter upright on level ground.
2. Put a container under the oil drain bolt.
3. Remove the drain bolt and let the oil drain.
4. Check the drain bolt's sealing ring and washer for damage, refit the bolt and tighten it to **20 N·m**.
5. Fill with new oil (950 mL) through the filler opening.
6. Refit the filler cap, start the engine and let it idle for at least 2–3 minutes.
7. Switch off the engine and check the oil level (section 6.5).



Figure 22 Oil filter screen cover

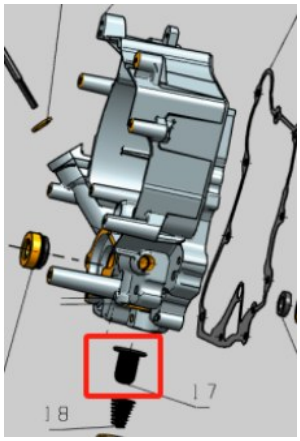


Figure 23 Oil filter screen

NOTE Clean the oil filter screen each time you drain the oil.

6.7 Transmission oil



Figure 24 Transmission oil filler bolt (red cap) and drain bolt (below it)

1. Switch off the warmed-up engine and wait about 5 minutes.
2. Put the scooter on its main stand.
3. Remove the oil filler bolt and check the oil level.
4. If necessary, add SAE 75W-80 gear oil through the filler opening until oil just starts to drip out.
5. To change the oil, remove the drain bolt and let all the oil drain out. Refit and tighten the drain bolt, then fill with new oil (170 mL) through the filler opening.
6. Refit and tighten the oil filler bolt.

6.8 Lights and signals

- Switch on the ignition and check that the headlamp and rear lights are on.
- Operate the front and rear brakes separately and check that the brake light comes on each time.
- Operate the turn signal switch and check that the indicators work normally.

6.9 Mirrors

Sitting in your normal riding position, check that you can see clearly behind and to both sides. Check that the mirrors are clean and undamaged, and that their handlebar mountings are tight.

6.10 Reflectors and number plate

Check that the reflectors and number plate are clean and undamaged, that the number plate is securely fixed, and that the registration number is clearly visible.

CHAPTER 7

Riding

> **CAUTION** Before starting the engine:
> 1. Check the fuel and engine oil levels.
> 2. Put the scooter on its main stand.

7.1 Starting the engine

Insert the key in the ignition switch and turn it to ON.

Cold engine

- Squeeze the front or rear brake lever and keep the throttle closed.
- Press the starter button.
- Once the engine starts, open the throttle slightly and let the engine warm up.

Warm engine

- Squeeze the front or rear brake lever.
- Open the throttle ⅛ to ¼.
- Press the starter button.

> **CAUTION** Release the starter button as soon as the engine starts, otherwise the starter motor and gears may be damaged.
> If the engine does not start after several attempts, open the throttle ⅛ to ¼ and try again. Release the throttle as soon as the engine starts.

7.2 Moving off

Take the scooter off its stand and get on

Holding the handlebars with both hands, push the scooter off its main stand. With both brakes applied, get on from the left-hand side and sit on the seat, supporting yourself with your left foot.

> **CAUTION** Do not turn the throttle until you are ready to move off.

Check that it is safe to move off

Switch on the appropriate indicator and look around to make sure it is safe to move off. Keep the rear brake lever squeezed until you are ready.

> **CAUTION** Pay particular attention to traffic approaching from behind.

Move off

Release the rear brake and gradually turn the throttle towards you to accelerate smoothly.

> **CAUTION** Turning the throttle too far can cause sudden, dangerous acceleration.

7.3 Controlling speed

Turn the throttle towards you (anticlockwise) to speed up and away from you (clockwise) to slow down. Turn it gradually.

7.4 Braking

Use both brakes together. Close the throttle fully and squeeze both brake levers at the same time. Slow down by applying the brakes progressively.

> **CAUTION** Braking with only the front or only the rear wheel can cause a sideways skid.
> Harsh braking and sharp turns are among the main causes of loss of grip and crashes, and should be avoided.

7.5 Wet and wintry conditions

Damp or wet roads give less grip. Avoid sharp turns while accelerating and keep a safe distance from the vehicle in front — braking distances in the rain can be twice those on a dry road. Skids can happen on wet or slippery roads, so concentrate and be ready to brake gently at any time.

7.6 After washing or riding through water

The brakes may be less effective after washing the scooter or riding through standing water. If so, ride slowly and brake gently until the brakes return to normal.

7.7 Parking

> **CAUTION** To stop the scooter falling off its main stand, never park facing downhill or on loose or soft ground.
> Always park on firm, level ground or facing uphill.

When you park, lock the steering to help protect your scooter from theft.

CHAPTER 8

Inspection and maintenance

The maintenance schedule shows the intervals between services in kilometres. At the end of each interval, inspect, check, lubricate and service as shown. If the scooter is used under heavy load — for example, continuous full throttle — or in dusty conditions, some services should be done more often. Your dealer can advise you.

Steering, suspension and wheel components are key safety items that need careful, specialist servicing. For maximum safety, have them inspected and serviced by your dealer or a qualified mechanic.

8.1 First service

The first service, at 1,000 km (600 miles) or after 3 months, is the most important. During running-in, the engine parts bed in against each other and other parts settle. At this service, all parts are readjusted, all fasteners retightened, and the contaminated engine oil and filters replaced. To ensure a long engine life and good performance, have this service done as soon as it is due.

> **CAUTION** Use genuine spare parts. Have the scheduled maintenance carried out by an authorised dealer or qualified specialist workshop. You can carry out the checks and simple tasks described in this chapter yourself.

8.2 Maintenance schedule

Key: I = inspect and clean, adjust, lubricate or replace if necessary · C = clean · R = replace · A = adjust · L = lubricate

The first service is due at 1,000 km or after 3 months, the second at 5,000 km or after 1 year, and then every 5,000 km or every year, whichever comes first.

Interval (× 1,000 km)	1	5	10	15	20	25	30	35	40	45	50
Bolts and nuts — retighten if necessary	I		I		I		I		I		I
Variator cover plastic sliders			R		R		R		R		R
Clutch bell		C	C	C	C	C	C	C	C	C	C
Spark plug			R		R		R		R		R
Drive belt			R		R		R		R		R
Throttle cable	A		A		A		A		A		A
Air filter		C	C	C	C	C	C	C	C	C	C
Variator cover filter			I		I		I		I		I
Oil filter	R		R		R		R		R		R
Valve clearance			A		A		A		A		A
Brake system	I	I	I	I	I	I	I	I	I	I	I
Electrics and battery	I		I		I		I		I		I
Brake fluid **	I		I		I		I		I		I
Coolant **	I		I		I		I		I		I
Gear oil *	R		I		R		I		R		I
Engine oil *	R	I	R	I	R	I	R	I	R	I	R
Headlamp alignment			A		A		A		A		A
Variator rollers			R		R		R		R		R
Road test	I		I		I		I		I		I
Variator pulley			I		I		I		I		I
Radiator	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C	I/C
Wheels and 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
Fuel line ***	I		I		I		I		I		I
Anti-dive bearing	I	I	I	I	R	I	I	I	I	R	I

* Check level every 3,000 km (1,800 miles).

** Replace every 2 years.

*** Replace every 4 years.

When riding on gravel or sandy roads, or in heavily polluted conditions, clean or replace the air filter element more often.

8.3 Frame bolts and nuts

Tighten the frame bolts and nuts to the specified torque after the first 1,000 km (600 miles) or 3 months, and then every 5,000 km (3,125 miles) or 24 months.

No.	Item	N·m	kgf·m
1	Front axle nut	53	5.3
2	Handlebar mounting bolt	49	4.9
3	Steering stem lock nut	30	3.0
4	Handlebar locating bolt	25	2.5
5	Front fork mounting bolt	45	4.5
6	Brake master cylinder mounting bolt	10	1.0
7	Brake hose union bolt	23	2.3
8	Brake caliper mounting bolt	26	2.6
9	Brake bleed valve	7.5	0.75
10	Front panel bolt	23	2.3
11	Rear axle nut	100	10.0
12	Rear shock absorber bolt	40	4.0
13	Rear brake lever nut	11	1.1
14	Engine bracket mounting bolt/nut	98	9.8
15	Engine mounting bolt/nut	80	8.0
16	Anti-dive lever assembly	26	2.6

8.4 Battery

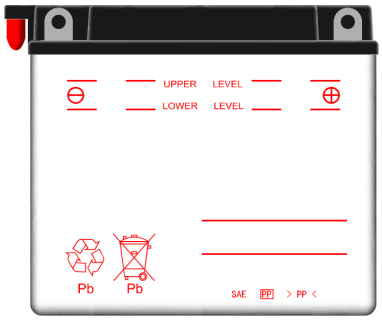


Figure 25 Battery

The battery is behind the removable cover plate beneath the front of the seat. It is a sealed, maintenance-free type — there is no need to check the electrolyte level or specific gravity.

8.5 Spark plug

> **CAUTION** Before working on the engine or exhaust, let them cool to the surrounding temperature to avoid burns.

Remove the three screws and the left-hand side panel to reach the spark plug.



Figure 26 Spark plug location

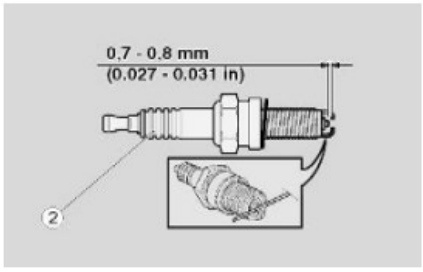


Figure 27 Spark plug electrode gap

1. Pull the spark plug cap off the spark plug.
2. Blow dirt from around the spark plug base with compressed air.
3. Unscrew the spark plug with the plug spanner from the tool kit, taking care that no dust or dirt enters the cylinder.
4. Check that the electrodes and the ceramic insulator are free of carbon deposits and corrosion. If necessary, clean with a suitable plug cleaner or wire brush, then blow off with compressed air. Replace the plug if the insulator is cracked, the electrodes are corroded or there are heavy deposits.
5. Check the electrode gap with a feeler gauge. It should be **0.7–0.8 mm**; if necessary, adjust it by carefully bending the side electrode.
6. Make sure the washer is in good condition. Screw the plug in by hand, taking care not to damage the thread.
7. Tighten with the plug spanner to **10 N·m** (about ½ turn after it seats, to compress the washer).
8. Refit the spark plug cap firmly so that it cannot work loose with engine vibration.

> **CAUTION** Tighten the spark plug correctly, otherwise the engine may overheat and be damaged. Use only the recommended spark plug type; other types may reduce engine life and performance.

Standard spark plug	NGK CR8E
Electrode gap	0.7–0.8 mm
Tightening torque	10 N·m (7.38 lb·ft)

8.6 Fuel hoses

Replace the fuel hoses every four years.

8.7 Air filter



Figure 28 Air filter element

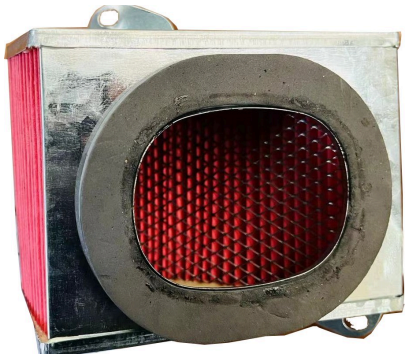


Figure 29 Inlet side

A filter clogged with dust increases intake resistance, reducing power and increasing fuel consumption because the mixture becomes richer. Check and clean the element as follows.

Removal

1. Remove the bolts from the air filter side cover and take off the cover.
2. Remove the bolts securing the filter element and lift it out.

Cleaning or replacement

- If the element is damaged or badly clogged, replace it.
- Otherwise, blow it out gently with compressed air, taking care not to damage it.
- Refit the element and cover in the reverse order.

> **CAUTION** Never run the engine without the filter element — this increases engine wear. Clean the element more often if you ride in dusty conditions.

8.8 Throttle cable

1. Loosen the lock nut.
2. Turn the adjuster in or out to give **0.5–1.0 mm** of cable free play.
3. Retighten the lock nut.

8.9 Brake fluid

Front and rear disc brakes — grade: **DOT 4.1**.

> **NOTE** Use only DOT 4.1 glycol-based brake fluid.
> Do not mix it with silicone-based or mineral oil-based fluid — this will damage the hydraulic brake system.
> Do not use fluid left over in a container opened at a previous service; it absorbs moisture from the air.
> Do not overfill, and do not spill brake fluid on paintwork or other surfaces.

8.10 Tyres

Check the tyre pressures and tread regularly for maximum safety and tyre life — especially before long journeys or when carrying a passenger.

Tyre pressure

Under-inflated tyres wear faster, seriously affect stability and make smooth cornering difficult. Over-inflated tyres reduce the contact area with the road, which can lead to skids and loss of control. Always keep the pressures within the specified limits, and only adjust them when the tyres are cold.

Cold tyre pressures — UK and Europe (may differ in warmer climates):

Front	2.2 bar / 32 psi
Rear	2.3 bar / 34 psi

> **CAUTION** Correct tyre pressures and good tyre condition are essential for the scooter to perform safely. Check your tyres frequently for wear and correct pressure.

Tread condition

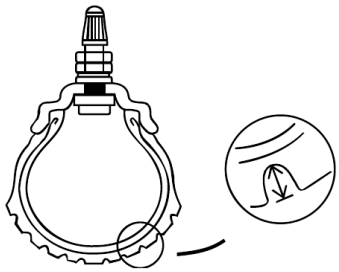


Figure 30 Measuring tread depth

Riding on badly worn tyres reduces stability and may cause loss of control. Replace a tyre when the remaining tread depth is **1.6 mm or less**.

> **CAUTION** The standard tyres are 110/70-12 front and 120/70-12 rear (knobbly tyres on the JP 125 Off-Road). Fitting larger tyres may cause clearance problems.

8.11 Fuses

The fuses are in the battery box under the rear seat cushion. If there is an electrical fault, check the fuses first. Spare 30 A, 15 A and 10 A fuses are provided.

> **CAUTION** Always replace a blown fuse with one of the correct rating. Never use a substitute such as aluminium foil or wire. If the new fuse blows again shortly afterwards, there may be a serious electrical fault — consult your dealer or a qualified mechanic immediately.

CHAPTER 9

Troubleshooting

9.1 Engine will not start

Carry out the following checks to find the cause:

1. Check that the side stand is fully retracted.
2. Check that the battery has enough charge to start the engine.
3. Check that there is enough fuel in the tank.

> **CAUTION** Do not spill fuel. Do not let fuel come into contact with the hot engine, exhaust or ignition system. Keep away from smoking materials and any other source of fire or heat.

Spark check

1. Remove the spark plug and reconnect it to the spark plug lead.
2. Hold the spark plug firmly against the engine and crank the engine with the ignition ON. If the ignition system is working, a blue spark will jump across the gap. If there is no spark, consult your dealer.

> **WARNING** Do not hold the spark plug near the open spark plug hole — fuel vapour in the cylinder could ignite and cause a fire.
> To reduce the risk of electric shock, hold the plug's outer steel shell against an unpainted metal part of the engine. Anyone with a heart condition or pacemaker should not carry out this check.

9.2 Engine stalls

- Check the fuel level in the tank.
- Check the engine idle speed.
- Check the ignition system for an intermittent spark.

> **CAUTION** It is best to consult your dealer before trying to fix any problem. If the scooter is still under warranty, always consult your dealer before attempting repairs — work you carry out yourself may affect your warranty.

CHAPTER 10

Storage

If the scooter is to be left unused for a long period — over winter, for example — it needs special servicing that requires suitable materials, equipment and skills. We therefore recommend that you ask your dealer to do this. If you prepare the scooter for storage yourself, follow these general guidelines.

10.1 Preparing for storage

Scooter	Put the scooter on its main stand and clean it thoroughly.
Fuel	Drain the fuel tank.
Battery	Remove the battery. Clean the outside with mild detergent and remove any corrosion from the terminals and wiring connectors. Store it in a room above freezing and connect a suitable trickle charger/conditioner.
Tyres	Inflate the tyres to the normal pressures (see section 8.10).
Exterior	Spray all vinyl and rubber parts with rubber preservative. Spray unpainted surfaces with a rust preventative such as WD-40. Coat painted surfaces with a good-quality vehicle wax.

NOTE We suggest you protect the exterior in this way as soon as you buy your new Royal Alloy scooter, as part of its regular care.

10.2 Returning to service

1. Clean the entire scooter.
2. Refuel with unleaded petrol with an octane rating of 95 or higher.
3. Refit the fully charged battery.
4. Set the tyre pressures (see section 8.10).
5. Lubricate all points as described in this manual.
6. Carry out the inspection before riding (Chapter 6).

CHAPTER 11

Specifications

Model	GP 125 · TG 125 · JP 125 · JP 125 Off-Road · GT1 125 UK and EU models
Dimensions and weights	
Overall size, L × W × H (mm)	1880 × 675 × 1115 or 1165
Wheelbase (mm)	1390
Maximum loaded weight (kg)	295
Fuel tank capacity (L)	10.5
Engine	
Engine model	1P54MI
Engine type	Single-cylinder, four-stroke, four-valve, liquid-cooled
Bore × stroke (mm)	54 × 54
Displacement (cm³)	124
Compression ratio	11.5 : 1
Maximum net power	10 kW (13.4 hp) at 8,500 rpm
Maximum net torque	12 N·m at 6,500 rpm
Idle speed	1,800 ± 100 rpm
Starting	Electric
Engine start-stop	Switchable, automatic
Lubrication	Pressure and splash
Engine oil	SAE 10W-40, 950 mL
Transmission oil	SAE 75W-80, 170 mL
Fuel	Unleaded petrol, octane rating 95 or higher
Spark plug	NGK CR8E
Chassis	
Front tyre	110/70-12 (knobbly on the JP 125 Off-Road)
Rear tyre	120/70-12 (knobbly on the JP 125 Off-Road)
Tyre pressure (cold)	Front 2.2 bar / 32 psi · Rear 2.3 bar / 34 psi
Brakes	220 mm disc front and rear, ABS
Traction control	TCS, switchable
Electrical	
Headlamp	12 V LED
Turn indicators	12 V LED
Tail / brake lamp	12 V LED
Instrument lights	12 V 3 W
Battery	12 V 9 Ah
Horn	12 V 1.5 A, 90–100 dB(A)
Maximum noise	≤ 82 dB(A) at 7 m

Seat height and weight by model

Model	Seat height (mm)	Unladen weight (kg)
GP 125 MT	745	145
GP 125 SE	770	145
TG 125	800	145
JP 125	800	145
JP 125 Off-Road	770 (ground clearance 120)	145
GT1 125	750	130

CHAPTER 12

Warranty terms

12.1 Royal Alloy warranty

Engine and frame	24 months from the date of sale or 20,000 km, whichever comes first.
Main wiring harness, silencer, front and rear shock absorbers, front and rear wheels, ABS unit, ECU (electronic fuel injection)	1 year or 10,000 km, whichever comes first.

We recommend using the specified oils and genuine Royal Alloy parts, which are of the same quality as the parts originally fitted. Genuine parts are available from authorised Royal Alloy dealers and service centres.

Regular maintenance in line with this manual is a condition of the warranty and of any warranty claim. It also extends the life of the scooter and keeps it safe to ride. Warranty claims require verifiable maintenance records; records from any authorised dealer or service centre are equally valid. Royal Alloy may decline to accept warranty claims for faults or additional damage caused by non-standard work carried out by unauthorised third parties.

Before handing over a scooter, the authorised dealer is responsible for carrying out the pre-delivery inspection according to the checklist, explaining how to use and inspect the scooter, and explaining the importance of regular maintenance, the warranty conditions and limitations, and safe operation.

12.2 Exclusions

The warranty does not apply in the following cases:

- Damage caused by an accident.
- Damage caused by improper use, by failing to use, maintain or care for the scooter as described in this manual, by ignoring important instructions in this manual, or by failing to respond properly to vehicle warnings.
- Use of non-genuine parts or accessories.
- Use in competitions or extreme events.
- Improper maintenance or dismantling of major components — such as the body, transmission or engine — by unauthorised third parties.
- Unauthorised alteration of the chassis number or engine number.
- Subjective effects that do not affect mechanical performance, such as heat, vibration or noise.
- Damage caused by abnormal use, natural or man-made disasters, or other force majeure.

12.3 Consumable parts

The following consumable parts are not covered by the warranty: bulbs, fuses, tyres, seat covers, batteries, brake discs and pads, rubber parts, stickers, filter elements, oils and fluids, lubricants and greases, washers, drive sprockets and chains (normal wear), spark plugs, bearings, hoses, and rust within the normal range.

Your Royal Alloy dealer

Your Royal Alloy dealer is an experienced scooter specialist with expertise in selling and servicing these vehicles. The dealer uses only genuine Royal Alloy spare parts on your machine, obtains the parts required, and has the special tools needed to repair and diagnose your scooter. Their aim is to make sure you are completely satisfied with your Royal Alloy.

Royal Alloy – Enjoy Life.

Your local Royal Alloy dealer
(dealer stamp)

With their stamp and signature, your Royal Alloy dealer confirms that the handover inspection has been carried out.

Date

Dealer signature

Service record

Have each service recorded and stamped by your authorised Royal Alloy dealer. Verifiable service records are required for warranty claims.

1st service **1,000 km** or after 3 months Dealer stamp Date km	**2nd service** **5,000 km** or after 1 year Dealer stamp Date km	**3rd service** **10,000 km** Dealer stamp Date km
4th service **15,000 km** Dealer stamp Date km	**5th service** **20,000 km** Dealer stamp Date km	**6th service** **25,000 km** Dealer stamp Date km

7th service **30,000 km** Dealer stamp Date km	**8th service** **35,000 km** Dealer stamp Date km	**9th service** **40,000 km** Dealer stamp Date km
10th service **45,000 km** Dealer stamp Date km	**11th service** **50,000 km** Dealer stamp Date km	**Service** **_____ km** Dealer stamp Date km

Notes



ROYAL ALLOY

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