Quadro Vehicles

ADVANCED MOBILITY SOLUTIONS

OXYGEN

USER MANUAL

Dear Customer,

QUADRO VEHICLES thanks you for choosing OXYGEN, and welcomes you as a Customer!
To maintain the efficiency, performance and safety conditions of the vehicle, careful maintenance is required; this must be performed atauthorised QUADRO VEHICLES servicing centres.
Our technicians have produced this high quality vehicle, the result of our extensive experience, to guarantee you the pleasure of safe driving over time.
Please read this Use and Maintenance Manual supplied with your QUADRO VEHICLES vehicle carefully, and make sure that all routine and extraordinary maintenance and any technical servicing is performed exclusively by the specialist staff from our Network ofQUADRO VEHICLES authorised servicing centres
To ensure the safety, reliability and value of your scooter, and to maintain the validity of the warranty, use only original QUADRO VEHICLES spare parts and recommended lubricants.

Quadro Vehicles

This Use and Maintenance Manual is an integral and essential part of your vehicle.

Before you begin using the scooter, you must read this Use and Maintenance Manual carefully and follow all instructions it contains precisely.
The scooter must not be used by persons who have not thoroughly read and understood the instructions contained in this Use and Maintenance Manual.
This Use and Maintenance Manual contains simple and clear descriptions of the operations necessary to understand and use your scooter, as well as recommendations for safe use of your scooter in order to avoid personal injury.
It also describes the main maintenance operations and periodic checks which must be performed on the scooter.
The guarantee of correct operation and safety of the scooter strictly requires that all instructions contained in this Use and Maintenance Manual be applied.
This Use and Maintenance Manual must always be provided together with the scooter if it is resold, hired or lent out.
This Use and Maintenance Manual is an integral part of the scooter and it must therefore be kept in a safe place accessible to all persons who might need to consult it.
If the Use and Maintenance Manual is lost or damaged, request a new one from your dealer, giving them the scooter specifications.

The information contained in this Use and Maintenance Manual is provided as a guide only and may not be completely up to date due to modifications which may be made by Quadro Vehicles at any time for technical and/or commercial reasons, or else to comply with the legislation of the country in which the scooter is sold.

In order to learn and understand all features and functions of your scooter, you are advised to carefully read the following Use and Maintenance Manual supplied with the scooter.

SYMBOLS USED

The text of this publication contains a series of dedicated symbols used to highlight the main requirements and recommendations to be followed for keeping your scooter and its passengers safe.

DANGER to persons and to the scooter.

The following symbol indicates that it is prohibited to use/handle flammable substances near the vehicle, lubricate/touch moving mechanical parts or remove any guards on the scooter. It also invites you to wear appropriate clothing and protection at all times, both when driving and servicing the vehicle, particularly if there is a possibility of coming into contact with any parts which could cause burns, electric shocks or irritations.

WARNING which you must pay attention to in order not to risk damage to the scooter.

The following symbol invites you to use only original spare parts or parts specifically type-approved for OXYGEN and to avoid all improper modifications which may compromise the scooter's functions, consequently causing the warranty to become null and void

WARNING with an impact on the environment.

The following symbol invites you to dispose of all products (for example lubricants) and all mechanical and bodywork components in the disposal and recycling methods laid down by the statutory regulations in force in each country.

NOTE of a general nature.

CONTENTS

USE

MAINTENANCE

INACTIVITY AND LAYING UP

TECHNICAL DATA

SAFETY AND RECOMMENDATIONS 1

This chapter contains the main precautions you must take in order to drive your vehicle as safely as possible.

POSITIONING INFORMATIVE STICKERS

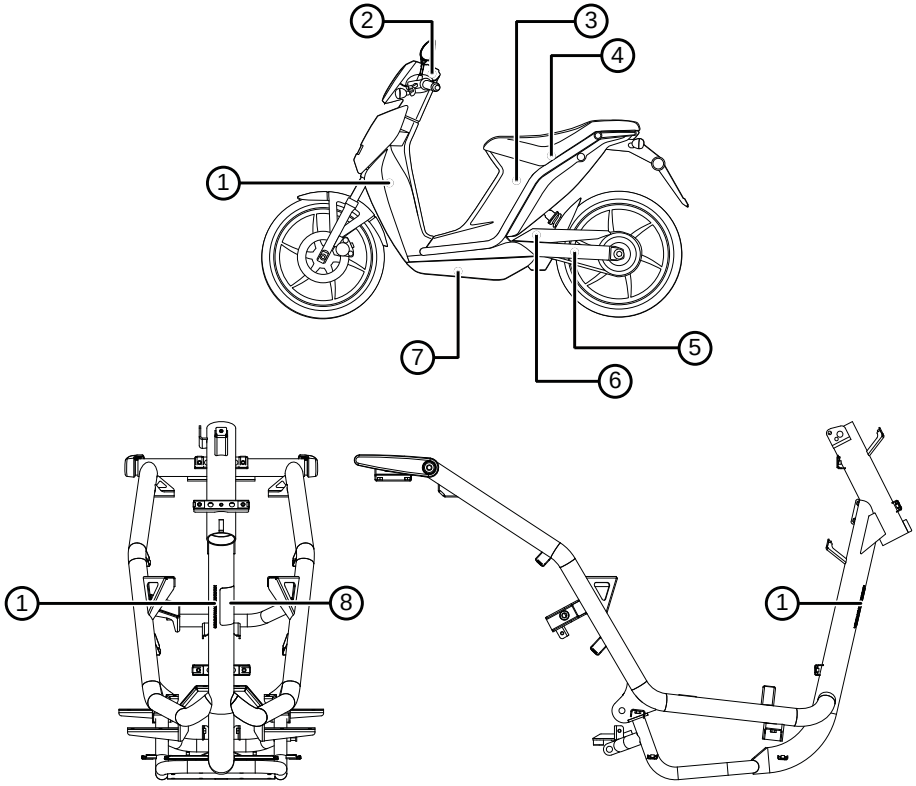


fig. 1

REFER TO FIGURE 01	TYPE OF STICKER	STICKER DESCRIPTION
1	VIN	The VIN, or registration number, is punched on the head tube.
2	ECU	ECU serial number. For use by authorised QUADRO VEHICLES servicing centres.
3	Electric vehicle batteries	Warnings and precautions for the correct use of electric vehicle batteries.
4	Charging	Warnings and precautions for correct charging.
5	Tyres	Front (2.4 bar) and rear (2.4 bar) tyre pressure.
6	Electric motor	Electric motor serial number.
7	Controller	Controller serial number. For use by authorised QUADRO VEHICLES servicing centres.
8	Manufacturer's plate	This is positioned next to the VIN code, on the head tube, and gives the manufacturer's data.

GENERAL RECOMMENDATIONS AND REQUIREMENTS

Using OXYGEN requires knowledge of driving techniques for two-/three-wheeled vehicles.
Ensure you have learnt and practised these techniques with a qualified driving instructor before using the scooter.

OXYGEN has been designed to offer the driver and passenger maximum comfort and safety, however this can only be obtained through responsible use of the scooter.

When necessary, we recommend practising the scooter functions away from heavily trafficked areas.

 *Do not drive the vehicle if you do not have a valid driving licence.*

 *Driving while under the influence of alcohol and drugs or medicaments, has a significant negative effect on reaction times, decision-making and driving abilities in general; it is also generally punished in accordance with the laws of the country in which you are driving.*

CLOTHING

The driver and passenger must wear clothing and safety equipment which meets applicable legislation in the country the vehicle is being driven in and protects them as far as possible in the case of an accident. We recommend always wearing a type-approved helmet, visor/goggles, gloves, overall and boots; you should always avoid any clothing or accessories which could get caught in the moving parts of the scooter and/or obstruct the driver's view.

While the scooter is being serviced, wear clothes and protective equipment that are suitable for the operation being carried out.

 *Wear adequate technical clothing and safety equipment that is approved and certified and that guarantees optimal protection to the driver and passenger. You are recommended to always wear clothing that makes the driver visible to other road users.*

ELECTRIC VEHICLE BATTERIES

The electric vehicle batteries consist of high energy density lithium ion cells.

 *Each battery is equipped with a device which counts the days from when the charge level drops below 20% (equivalent to the*  *indicator light lighting up on the display).*
The warranty will be immediately invalidated if the charge level remains below 20% for 40 or more days. So charge the battery before this occurs.

 *Do not tamper with the electric vehicle batteries in any way; failure to comply with this instruction leads to electric/chemical risks, and consequent harm to persons and/or damage to property.*

The inspection, repair or replacement of the battery, or any of its parts, by personnel not explicitly authorised by the manufacturer, is strictly forbidden.

Handling and/or repairs of any electrical/electronic component on the vehicle (engine, controller, etc.) by any personnel not expressly authorised by the manufacturer is strictly forbidden.

Water, mud and so on must not come into direct contact with the electrical system on the scooter. If water accidentally gets inside one of the electrical elements on the scooter, switch it off and wait for it to dry naturally before using again.

Driving style affects the life of the electric vehicle batteries.
Do not use the vehicle in extremely hot or cold conditions (beyond the limits indicated by the manufacturer).
Do not charge the electric vehicle batteries in extremely hot or cold conditions (beyond the limits indicated by the manufacturer).
When not in use (for short or long periods) the scooter must be stored in a dry place away from hot and/or cold sources and direct sunlight.
Avoid knocks and/or excessive vibrations to the scooter.
Regularly check the correct insulation of the electric vehicle batteries and the chassis.
Monitor the electric vehicle battery discharge.
If the scooter is not used for long periods, make sure that the electric vehicle batteries are fully charged.

After charging, leave the electric vehicle batteries connected to the battery charger for at least 20 minutes.
Use only battery chargers supplied directly by the manufacturer or by an authorised dealer.
When charging, do not switch on and/or start the scooter.
The battery has built-in protection against electrical risks, which are activated automatically in the event of a fault. If the battery does not work correctly, contact an authorised servicing centre.
Keep the electric vehicle batteries clean and in good conditions, remove any dust, dirt or foreign bodies inside the battery compartment during use.
If any deterioration in the electrical system wiring is noted, switch off the vehicle and take it to an authorised QUADRO VEHICLES servicing centre.

SAFE DRIVING

OXYGEN has been designed to transport the driver and a maximum of one passenger. Before driving you must perform a general check on the condition of the scooter, particularly the safety systems, lights and tyres; if you should notice any serious faults, consult an authorised QUADRO VEHICLES authorised servicing centre.

While driving, the driver must keep both hands on the handlebars and the passenger must hold onto the handles at the sides of the seat. Both the passenger and driver must keep both feet on the footrest while the scooter is in motion. We therefore advise you do not transport passengers who are not able to keep their feet firmly planted on the footrest.

Both the driver and the passenger must sit in the right position that allows the driver to control all the functions of the vehicle and does not involve an unbalancing of the load that could jeopardise the stability of the scooter. Always transport the passenger on the rear of the seat.

When starting off, release the brake lever and turn the throttle handle slowly in the direction shown by the arrow; to decelerate, release the throttle handle accompanying it.

 *If you open and close the throttle handle abruptly it could cause the vehicle to race forward suddenly and a possible loss of vehicle control.*

 *Do not attempt to start the vehicle with the throttle open as you might lose control of the scooter.*

Comfortable braking is guaranteed by the gradual and simultaneous use of both the front and rear brake.

 *Should it be necessary to brake in an emergency, do not let the throttle go abruptly but accompany it as quickly as possible to the "closed" position.*

During a long stretch downhill, release the throttle handle and brake gently intermittently. Using the brakes for a long time continuously could cause them to overheat thus losing braking efficiency.

In order to avoid possible collisions, you should:

- always make yourself visible to other drivers, ensuring you do not drive in their blind spots;
- use appropriate caution when going through road junctions;
- Use the direction indicators to signal a lane change or turning.

 *OXYGEN has been designed and developed for use on roads; you should therefore avoid off-road routes and/or particularly uneven roads.*

If the road surface is wet, drive very carefully and never brake abruptly as the wheels might lock as a prevention thereby increasing the scooter's stopping distance and time. Always drive over bumpier road surfaces such as tram rails or potholes slowly.

In case of strong gusts of wind, drive the vehicle at a moderate speed.

You should always adapt your speed on the basis of the current road/traffic/ atmospheric conditions, and must never in any case exceed the applicable speed limit.

Do not touch any of the mechanical components, as these can reach high temperatures during operation.

WHEN AT A STANDSTILL

When getting off the scooter place it on the stand If you are carrying a passenger, get the him or her to get off the scooter first.

When parking your scooter, ensure it is left in a location where it is not likely to be hit by other traffic; it is also advisable not to park the scooter on steep slopes, uneven surfaces or on leaves, branches or other flammable materials, as the high temperature reached by some mechanical and/or electrical components could ignite them.

LOAD LIMITS

In order not to compromise the stability of the scooter, it is essential not to exceed the maximum permissible load, and to distribute this as uniformly as possible (refer to the "Technical Data" chapter). You must ensure that any loads are correctly positioned and/or restrained in the areas laid out for them. You should also limit your speed on the basis of the transported load.

Greater stability can be achieved by placing loads inside the compartments provided (the compartment under the seat and the object compartment). Furthermore it is advisable always to fix loads being transported in such a way that during the journey they do not move so as to unbalance the weights causing you to lose control of the vehicle.

The sum of the weight of the driver, the passenger and the load transported must never exceed the maximum specified in chapter "Technical Data" of this Use and Maintenance Manual.

Never transport loads on the scooter handlebars.

UNAUTHORISED MODIFICATIONS/ ACCESSORIES AND SPARE PARTS

Do not make any type of modification to the scooter (mechanical components or bodywork), and always use original Quadro Vehicles components/accessories in order not to compromise vehicle operation and driver/passenger safety. Never install accessories that require the electrical system to be modified.

The use of non-original and/ or non-approved parts on your vehicle, even if purchased at authorised QUADRO VEHICLES servicing centres, may result in your warranty lapsing and/or scooter malfunctions.

 *Never drive the scooter with removed and/or damaged parts.*

Rims and tyres are the point where the scooter is in contact with the road surface. The use of rims and tyres with specifications different from those indicated in this Use and Maintenance Manual or not approved could cause instability or a loss of control of the vehicle.

RESPONSIBILITIES AND LIMITS OF USE

Improper use of the scooter or any work performed on it which does not conform to the indications given in this Use and Maintenance Manual shall relieve the manufacturer of any responsibility for vehicle safety and/or operation.

Page left intentionally blank

GETTING TO KNOW YOUR SCOOTER 2

This chapter describes the functions and systems your OXYGEN is equipped with.

Carefully reading the following pages will provide you with the knowledge to make the most of your scooter's potential.

COMPONENT LOCATION

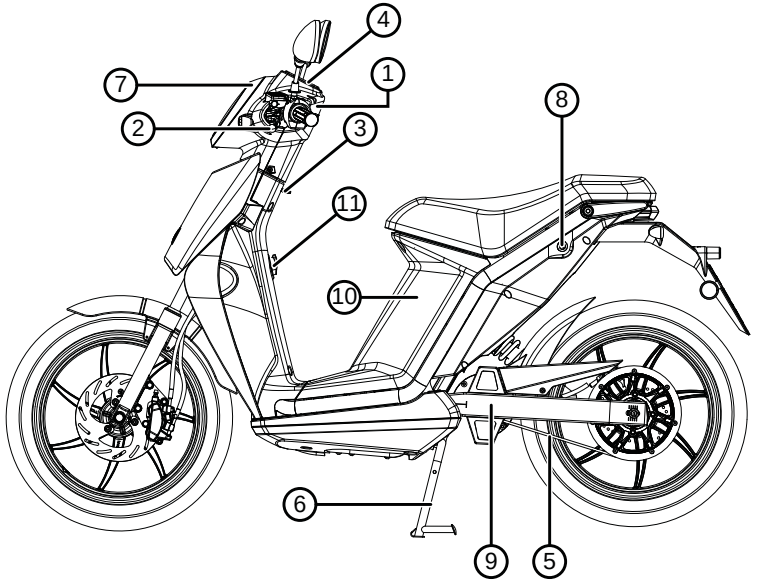


fig. 1

1 - Accelerator
2 - Brake lever
3 - Ignition key
4 - Instrument panel
5 - Drive belt
6 - Central stand
7 - Headlight
8 - Seat opening lock
9 - Electric motor
10 - Electric vehicle batteries
11 - Luggage rack hook

HANDLEBAR CONTROLS, LEFT-HAND SIDE

The controls on the left-hand side of the handlebar include: full beam headlights, flasher, turn signals, horn.

Dipped headlights

With the key in the ON position and selector A fig. 2 in position 0, the dipped headlights are turned on;

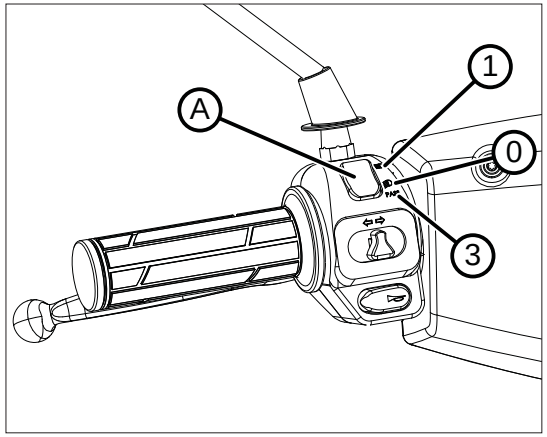


fig. 2

The dipped headlights always stay on.

Full-beam headlights

With the key in the ON position, turn selector A fig. 2 to position 1 in order to turn on the full beam headlights; this is indicated by the following light on the instrument panel: ≡D.

Flasher

With the key in the ON position, you can flash the lights by pressing button A in fig. 2, position 3.

Turn signals

With the key in the ON position, place selector A fig. 3 in position 1 or position 2 to operate the right or left turn signals (momentary positions). The left-hand turn signal indicator light comes on the instrument panel ⇦⇨.

To deactivate the turn signals, press button A fig. 3 on the selector.

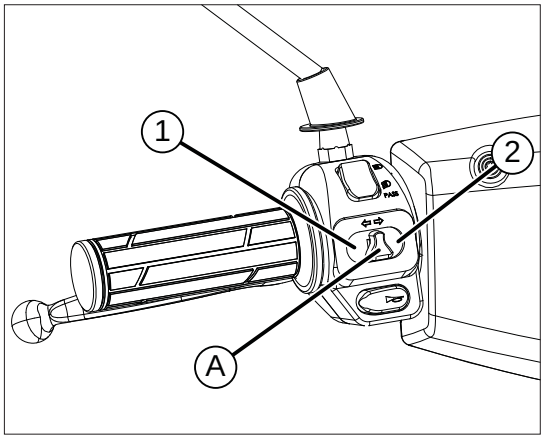


fig. 3

Horn

To sound the horn, press and hold down button A fig. 4.

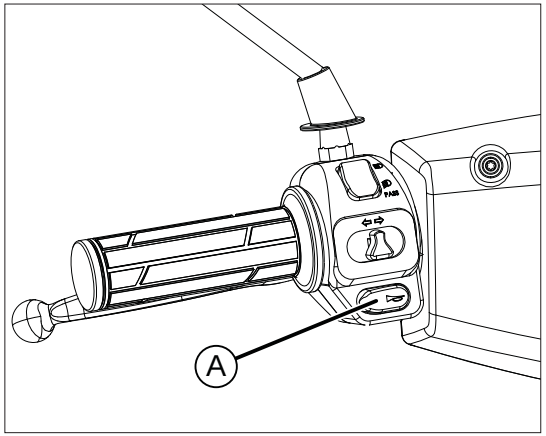


fig. 4

HANDLEBAR CONTROLS, RIGHT-HAND SIDE

The controls on the right-hand side of the handlebar include: engine stop command, SET button.

Engine stop command

To switch off the motor, move lever A fig. 5 to position 1.

The motor stops but the scooter is still in any case switched on.

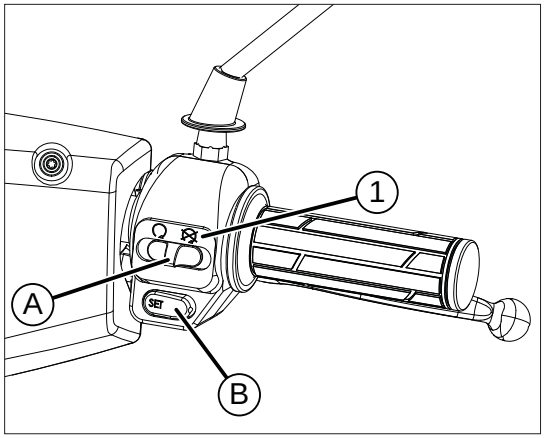


fig. 5

SET button

The SET button B fig. 5 has three functions:

- it sets the required drive mode (for more information see paragraph "DRIVE MODE" in this chapter);
- it resets the mileage on the TRIP computer (for more information see paragraph "ON-BOARD COMPUTER" in this chapter);
- it changes the unit of measurement from kilometres to miles and vice versa (for more information see paragraph "ON-BOARD COMPUTER" in this chapter).

KEYS

The scooter is supplied with two identical keys, which allow you to start the vehicle, engage the steering lock and open the seat.
The keys are accompanied by a plate showing their code.
If you need to make a duplicate of the keys, contact an authorised QUADRO VEHICLES servicing centre and provide the plate with the code as well as the key.

We recommend keeping the spare key in a safe place so it does not get lost.

STEERING LOCK

Proceed as follows to engage the steering lock:

- turn the handlebars left or right;
- Press and turn the key A fig. 6 to the left to the LOCK position;
- Remove the key

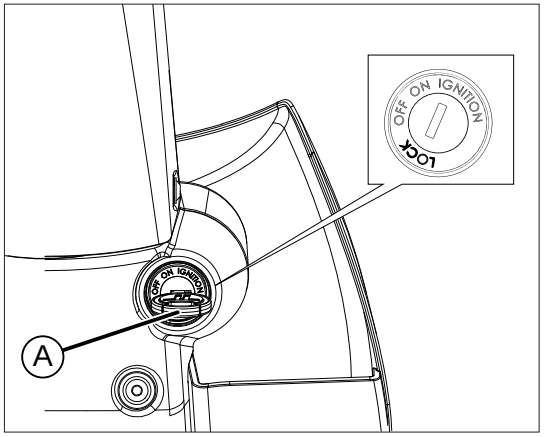


fig. 6

The steering lock does not engage automatically when the engine is shut off.

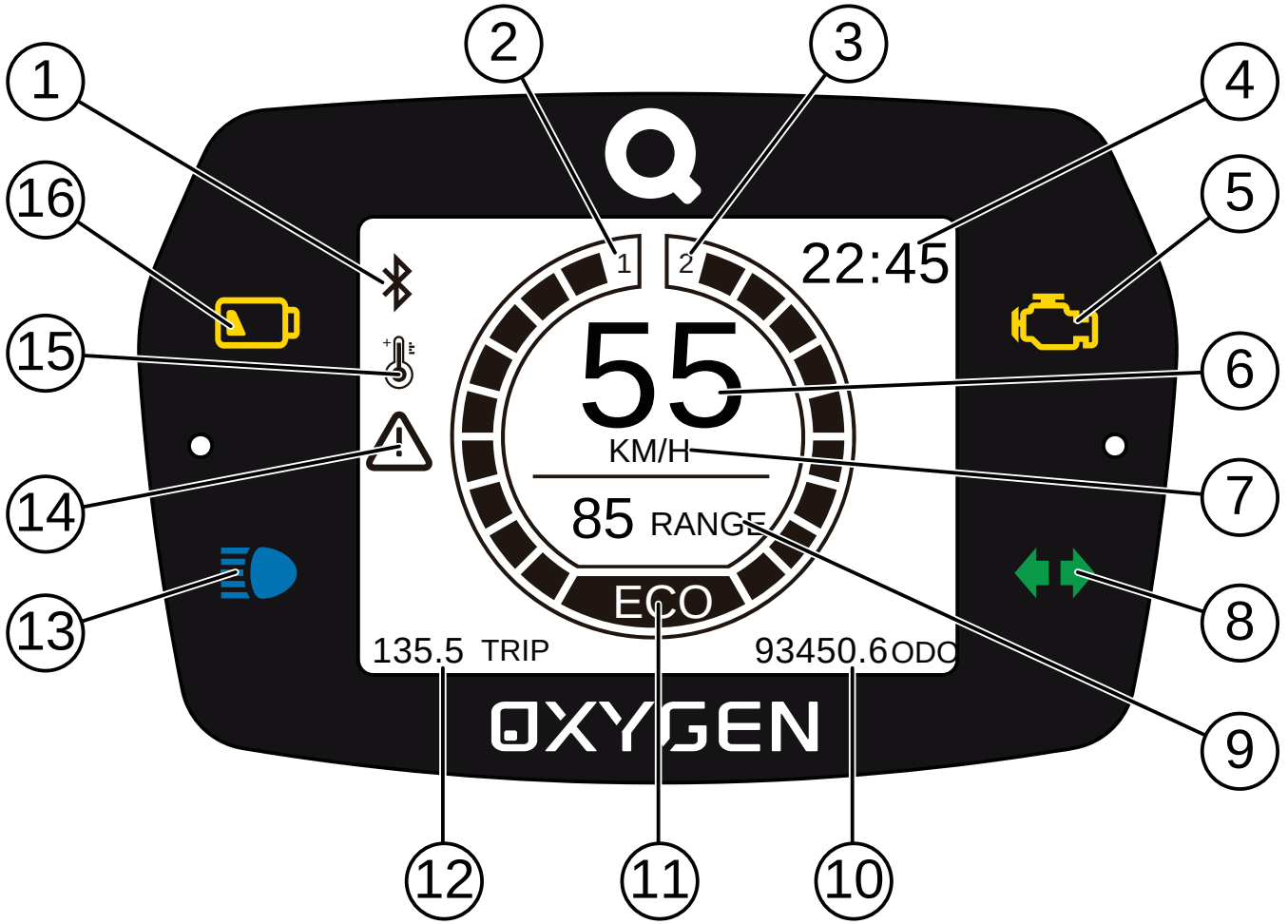
STOPPING THE SCOOTER

If the scooter is stopped and left by the driver, place the scooter on the stand.

You must always follow the highway code of the country in which you are driving when parking the scooter.

INSTRUMENT PANEL

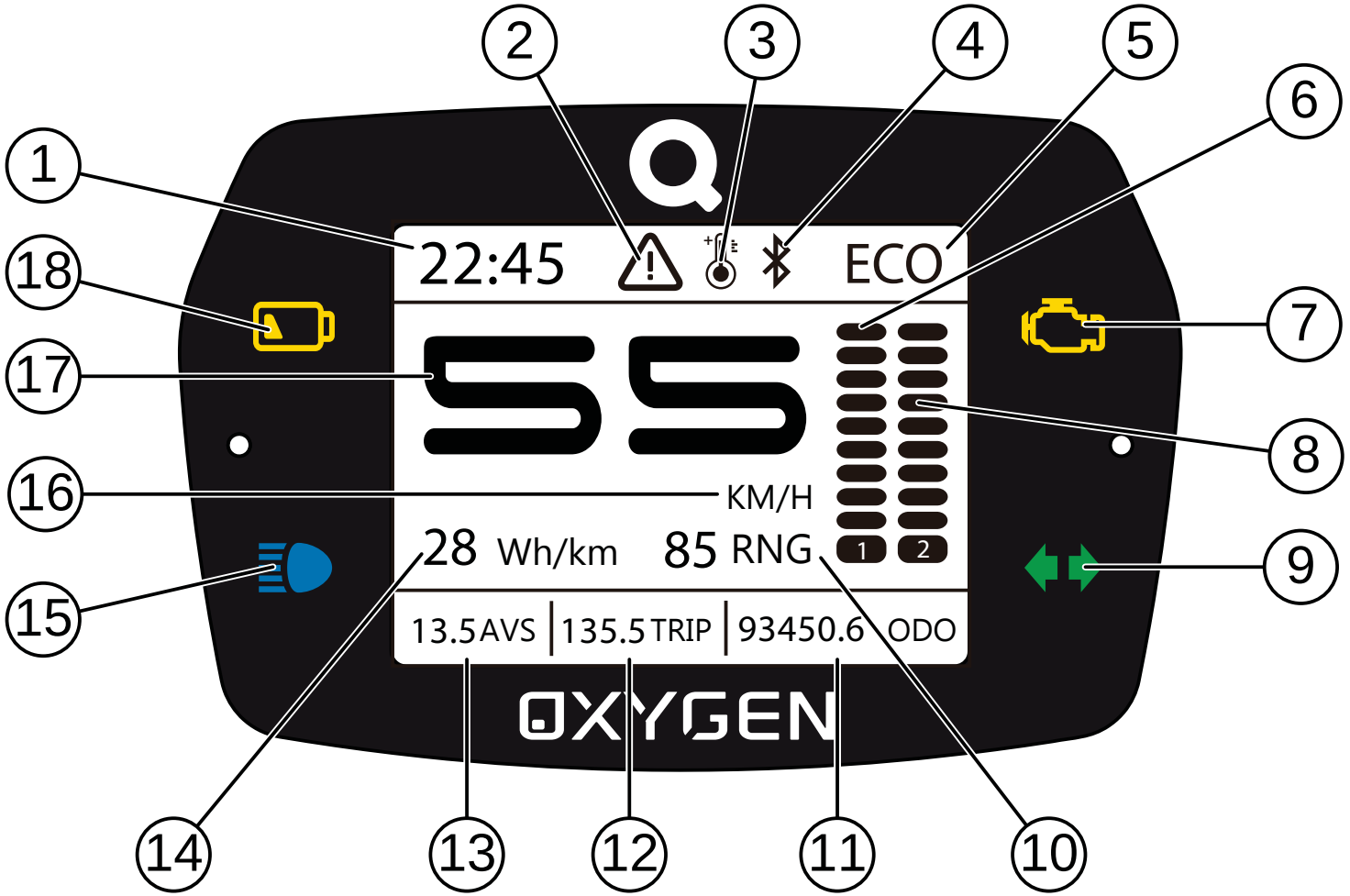
Standard configuration



1 - Bluetooth indicator light
2 - Battery charge level 1
3 - Battery charge level 2
4 - Time indicator
5 - OBD indicator light
6 - Speed indicator
7 - Speed measurement unit
8 - Turn signal indicator light
9 - Autonomy
10 - Odometer
11 - Drive mode
12 - Trip Computer
13 - Full-beam headlight indicator light
14 - General fault indicator light
15 - Temperature indicator light
16 - Flat battery indicator light

Extra Configuration Display 1

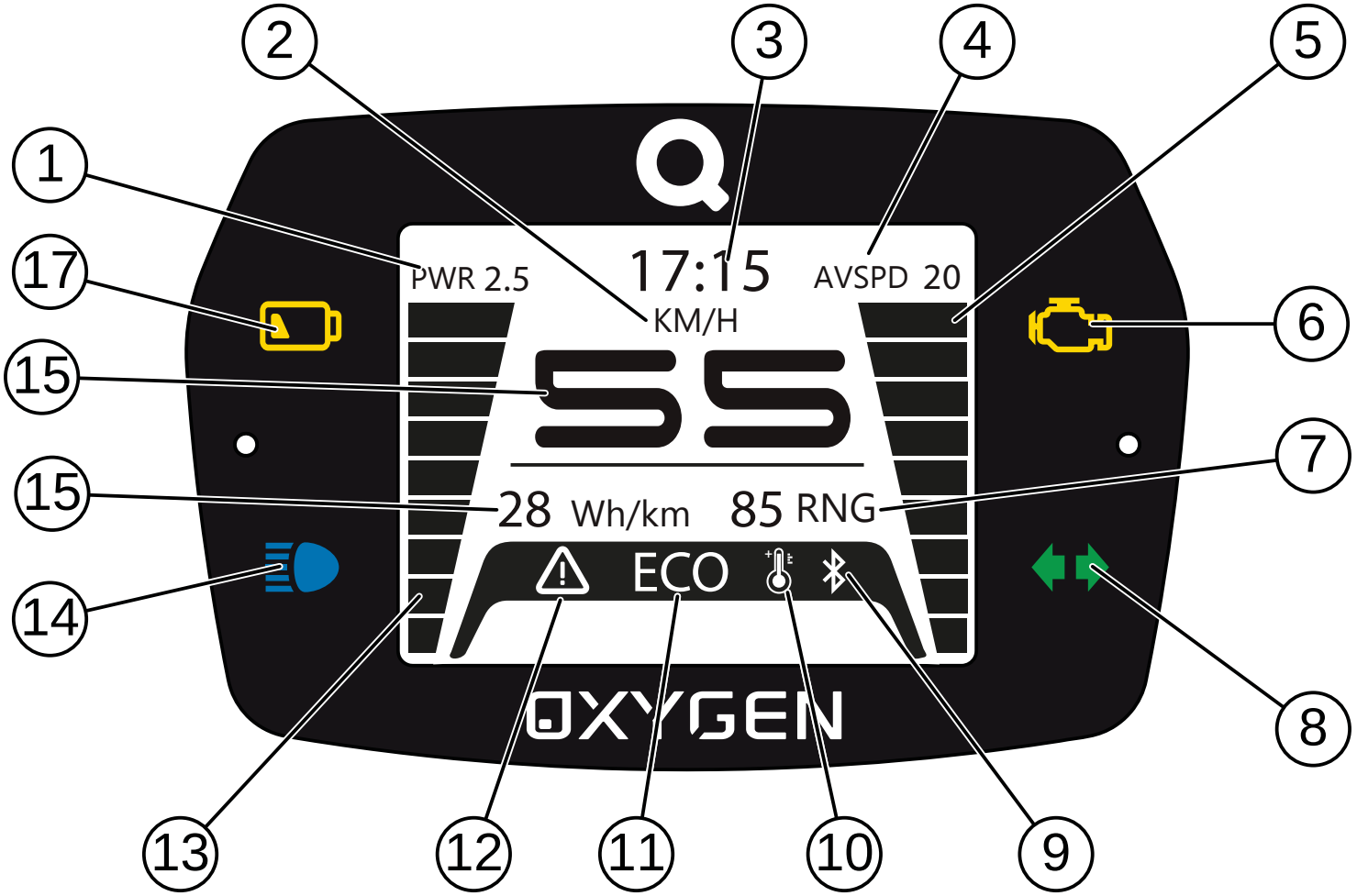
The configuration can be selected using the OXYGEN application (see paragraph “OXYGEN application” in this chapter).



1 - Time indicator
2 - General fault indicator light
3 - Temperature indicator light
4 - Bluetooth indicator light
5 - Drive mode
6 - Battery charge level 1
7 - OBD indicator light
8 - Battery charge level 2
9 - Turn signal indicator light
10 - Autonomy
11 - Odometer
12 - Trip Computer
13 - Average speed
14 - Consumption
15 - Full-beam headlight indicator light
16 - Speed measurement unit
17 - Speed indicator
18 - Flat battery indicator light

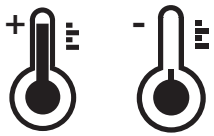
Extra Configuration Display 2

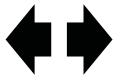
The configuration can be selected using the OXYGEN application (see paragraph "OXYGEN application" in this chapter).



1 - Power output
2 - Speed indicator
3 - Time indicator
4 - Average speed
5 - Battery charge level 2
6 - OBD indicator light
7 - Autonomy
8 - Turn signal indicator light
9 - Bluetooth indicator light
10 - Temperature indicator light
11 - Drive mode
12 - General fault indicator light
13 - Battery charge level 1
14 - Full-beam headlight indicator light
15 - Consumption
16 - Speed measurement unit
17 - Flat battery indicator light

INDICATOR LIGHTS AND SYMBOLS ON THE INSTRUMENT PANEL

SYMBOL	DESCRIPTION
	**Bluetooth** The symbol comes on when a Bluetooth device is connected to the scooter
	**Temperature** HIGH TEMPERATURE The symbol comes on when an electric drive system component has reached a high temperature, reducing the torque speed and the power output. LOW TEMPERATURE The symbol comes on when the temperature inside the battery pack is less than - 20°C. Remove the battery pack from its seat and put in a place with a temperature of no more than 25°.
	**General fault** MEANING The symbol comes on if there is a general fault (e.g. broken headlamp bulb, etc.)

SYMBOL	DESCRIPTION
	**Flat battery indicator light** MEANING The light comes on when the battery pack charge falls below 20% NOTA BENE: Charge the batteries as soon as possible.
	**Full-beam headlight indicator light** MEANING With the key in the ON position, this indicator light turns on when the full-beam headlights are turned on.
	**OBD indicator light** MEANING The light comes on when the OBD system detects an error. The preliminary analysis can be run using the specific application. Contact an authorised QUADRO VEHICLES servicing centre to solve the malfunction.
	**Turn signals** MEANING With the key in the ON position, the indicator light turns on when the turn signals (left or right) are activated

Instrument Panel Messages

When the ignition key is turned to the ON position, the instrument panel comes on and the following system status messages can be seen.

System check in progress.

Positive check; the scooter can be started.

The residual charge in one of the electric vehicle batteries is less than 20%.

The temperature of a component in the electric drive system is too low.
The ECO drive mode is enabled and the symbols appear on the display.

The temperature of a component in the electric drive system is too high.
The ECO drive mode is enabled and the symbols appear on the display.

Non conforming and/or incompatible batteries have been fitted.
The scooter ignition is inhibited.
The ⚠ symbol lights up on the display.

Error reported in one of the two electric vehicle batteries.
The ECO drive mode is enabled.
The ⚠ symbol lights up on the display.

The charge level of the electric vehicle batteries is different.
The ECO drive mode is enabled.
The ⚠ symbol lights up on the display.

Only one electric vehicle battery is detected.
The ECO drive mode is enabled.
The ⚠ symbol lights up on the display.

The scooter cannot work. Check the errors using the application and contact the servicing centre.
The ⚠ symbol lights up on the display.

ON-BOARD COMPUTER

Trip Computer

Shows the kilometres or miles travelled since the last reset.

To reset the value press the SET button for one second.

Drive mode

Shows the current scooter drive mode.

There are two modes: ECO and FULL.

You can only pass to FULL mode when two arrows (one each side) appear next to the word ECO.

 *You can only pass to FULL mode when two arrows (one each side) appear next to the word ECO.*

 *For further information, read the "DRIVE MODE" section in this chapter*

Battery 1

Indicates the charge level of battery 1.

Battery 2

Indicates the charge level of battery 2.

Time indicator

Shows the time.

 *The time is synchronised with the smartphone device connected to the system via Bluetooth*

Speed

The scooter speed is displayed.

Speed unit of measurement

Indicates the unit of measurement adopted for the scooter speed (Km/h or miles).

To change the unit of measurement, press the SET button and the right brake lever at the same time for 3 ÷ 5 seconds.

Autonomy

Indicates the indicative distance that can be travelled depending on the residual battery charge.

Odometer

Shows the total quantity of kilometres or miles travelled by the scooter (depending on the configuration).

Power

Shows the instantaneous electrical power of the scooter.

Average speed

Shows the average scooter speed.

Fuel consumption

Shows the average consumption per distance unit (kilometres or miles depending on the set unit of measurement).

"OXYGEN" BLUETOOTH APPLICATION

A specific application has been developed for Bluetooth connection of the smartphone to OXYGEN.

A sticker in the battery compartment shows the scooter identification and PIN to enter to make the connection.

Creating an account

Having launched the application, enter the required data fig. 7.

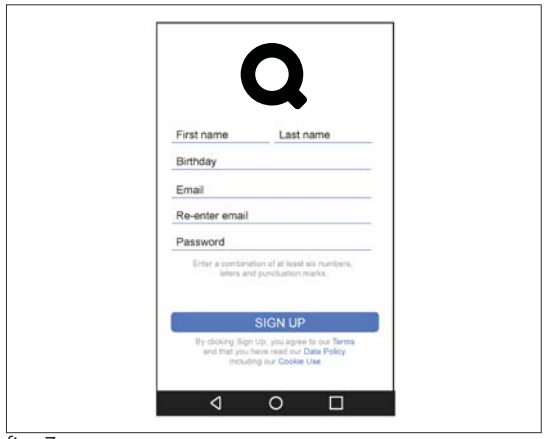


fig. 7

Access to the account

To access the account, enter the access credentials fig. 8 (username and password) created during registration.

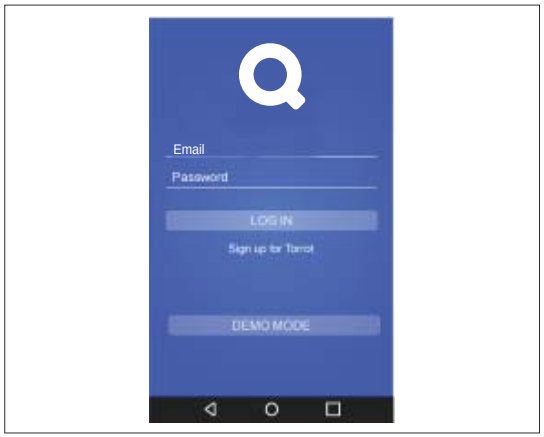


fig. 8

Menu

In the application homepage choose from the following environments:

- settings;
- partial statistics;
- total statistics;
- battery status;
- support;
- Quadro Vehicles website;
- facebook;
- information.

"Settings" environment

In this environment fig. 9 it is possible to:

- set the unit of measurement (kilometres or miles);
- synchronise the time of the smartphone with the display on the instrument panel;
- reset the Trip Computer
- select the display layout on the instrument panel.

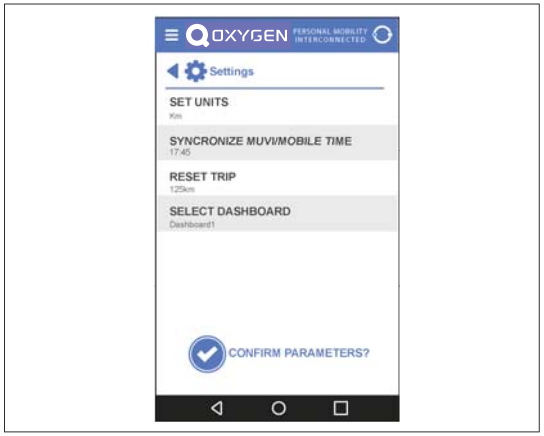


fig. 9

"Partial statistics" environment

In this environment fig. 10 it is possible to see:

- the travel time;
- the distance travelled;
- the average speed;
- the maximum speed;
- the average consumption;
- the energy consumed.

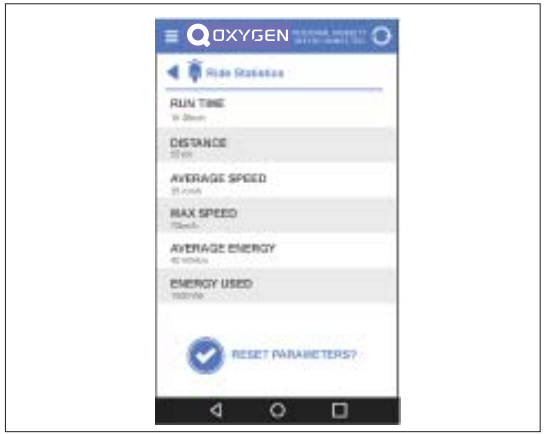


fig. 10

"Battery status" environment

In this environment fig. 11 it is possible to see:

- the battery charge level;
- the battery voltage;
- the battery capacity;
- the battery energy;
- the battery work cycles;
- the days when the battery was not charged.

fig. 11

"Support" environment

In this environment fig. 12 it is possible to:

- contact the technical support service via the online website;
- contact the technical support service by e-mail;
- send error logs;
- view the errors detected by the system fig. 13;
- search for devices with bluetooth technology.

fig. 12

fig. 13

REAR BRAKE LEVER

The front left-hand lever works only the rear brake.

Press the brake lever progressively to avoid locking the rear wheel.

UNIFIED BRAKE LEVER

The front right-hand brake lever works both the front and rear brakes (combined brake).

Press the brake lever progressively to avoid locking the wheels.

REAR-VIEW MIRRORS

To adjust the rear-view mirrors fig. 14, move them manually to the required position.

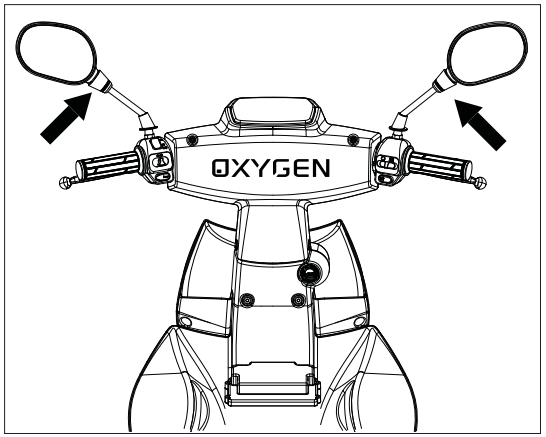


fig. 14

CENTRAL STAND

Press the stand bracket A fig. 15 with your foot and at the same time pull the vehicle backwards until it is on its stand.

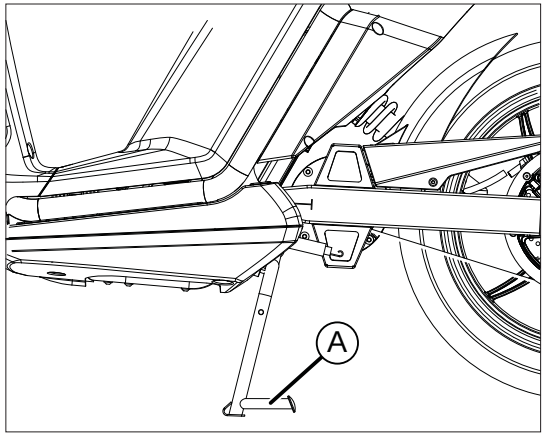


fig. 15

Do not sit on the vehicle while the stand is on the ground.

Make sure the vehicle is stable, only park on stable ground.

SEAT COMPARTMENT

To access the storage compartment below the seat fig. 16:

- remove the key from the ignition block;
- insert the key in the lock A fig 16 on the left side of the scooter.

To reclose the seat, accompany it until it is resting on the latch, then push until you hear it click closed.

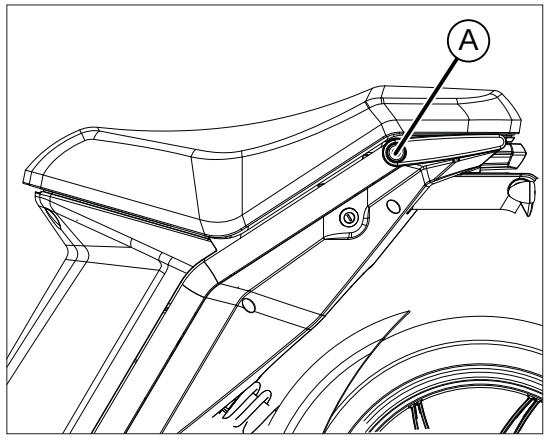


fig. 16

The seat compartment is designed to contain only one helmet and this requires the removal of one of the two electric vehicle batteries.

Do not leave the ignition key in the seat compartment.

Make sure there are no objects in the battery compartment.

DRIVE MODE

Press button A fig. 17 for one second to select one of the two drive modes: ECO, FULL.

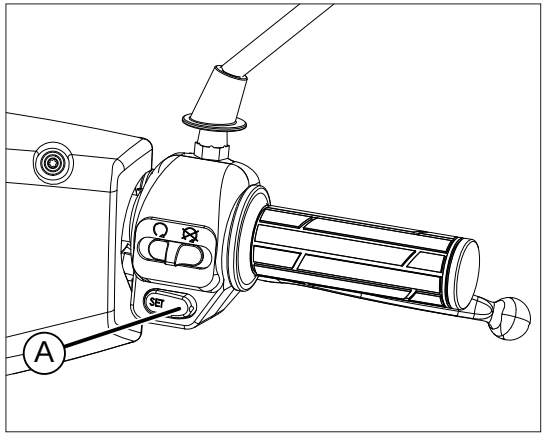


fig. 17

ECO drive mode

This is the default standard mode set automatically when the scooter is switched on.

This drive mode delivers smooth, constant power guaranteeing maximum autonomy.

The ECO mode comes on automatically in the following conditions:

- one or both electric vehicle batteries have a residual charge of less than 20%;
- the system has recorded an error in one of the two electric vehicle batteries;
- the difference between the battery charge levels is more than 20%;
- the system has recorded the presence of only one battery.

In ECO drive mode it is not advisable to carry a passenger.

FULL drive mode

This drive mode offers higher performance in terms of power and driving.

It is possible to switch to this drive mode when two arrows appear by the word ECO on the instrument panel display (one on each side) fig. 18.

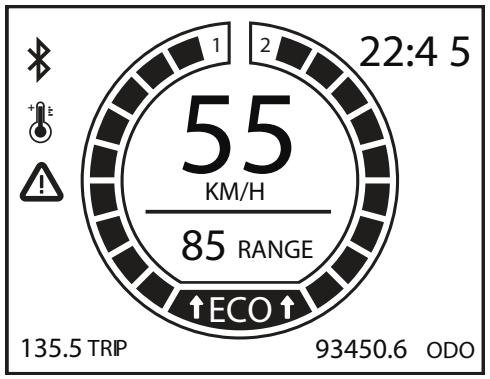


fig. 18

This mode is only available when both batteries are connected and their charge difference is less than 20%.

Only in these conditions, press the SET button A fig. 17 to switch to FULL drive mode fig. 19.

Press the SET button again to switch to ECO drive mode.

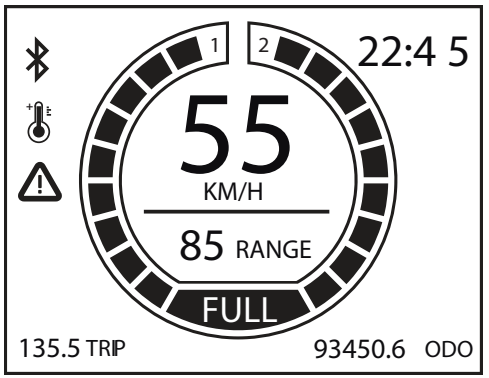


fig. 19

The FULL mode is disabled automatically in the following conditions:

- one or both electric vehicle batteries have a residual charge of less than 20%;
- the system has recorded an error in one of the two electric vehicle batteries;
- the difference between the battery charge levels is more than 20%;
- the system has recorded the presence of only one battery.

If one of the above conditions is satisfied, the system automatically switches the drive mode to ECO, and the error message appears on the display (see "Instrument Panel Messages" in this chapter.

Page left intentionally blank

USE 3

This chapter describes the main operations which must be performed and some tips to adopt when preparing to drive the OXYGEN.

IGNITION KEY

The ignition key fig. 1 is located in the upper right-hand side of the leg shield. The key can be turned to the following positions, as required:

1 - Steering lock (requires the key to be pressed).
2 - OFF: scooter off and steering lock disengaged;
3 - ON: scooter on and ready to be started provided it is not on the stand.

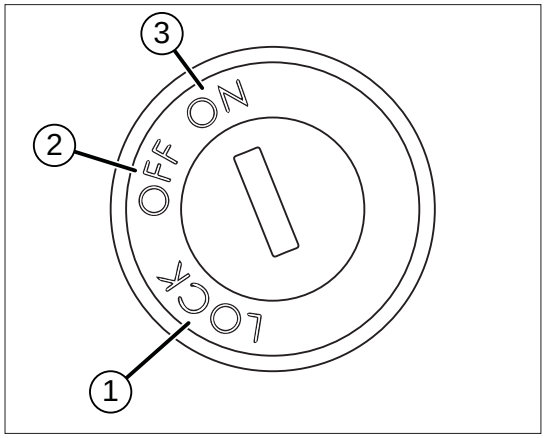


fig. 1

If you are not able to start the scooter, consult an authorised QUADRO VEHICLES servicing centre

ENGINE START

Proceed as follows to start the scooter:

- make sure the scooter is not on the stand;
- make sure that the motor stop command is in position ↻
- turn the ignition key to the ON position;

Some control screens appear on the display (see paragraph "Instrument Panel Messages" in the chapter "INSTRUMENT PANEL"). If there are no errors the word STOP appears and the scooter is ready to be started.

- press one or both brake levers;
- turn the accelerator handle slowly and smoothly to start

This starting sequence prevents the scooter from being started on the stand and is used to test the efficiency of the brakes.

Never start the scooter with the accelerator control open, as this could cause a loss of control of the vehicle with the risk of property damage and/or injuries.

ENGINE STOP

To switch the motor off:

1. move lever A fig. 2 in position 1, leaving the ignition key in the ON position;

In this condition, the engine cannot be started but the instrument panel will still turn on.

2. turn the ignition key to the OFF position

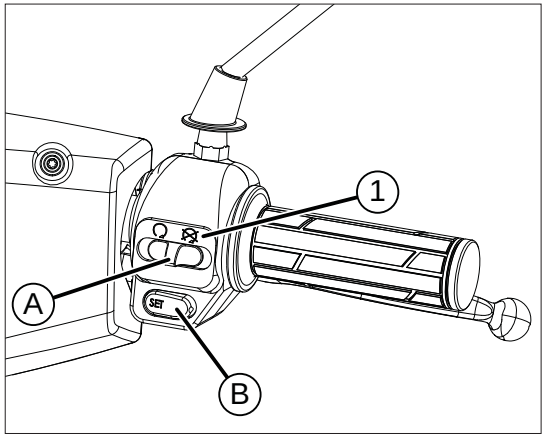


fig. 2

Never turn the key in the «OFF» position while driving.

PARKING

When it is necessary to park the scooter, as well as performing the engine stop procedure described in the previous section, place it on the stand and engage the steering lock.

RECHARGING THE ELECTRIC VEHICLE BATTERIES

As the electric vehicle batteries are removable, they can be charged in two ways:

Charging on the vehicle

- switch off the scooter;
- place the scooter on the central stand;
- open the seat to access the battery compartment;
- connect the battery charger fig. 3 to both batteries;
- connect the battery charger to a mains socket outlet;
- the batteries are charged when the second LED turns green. To optimise the battery life, leave them charging for 20 minutes more after the green LED comes on;
- disconnect the battery charger from the electric vehicle batteries.

The charge level of the electric vehicle batteries is shown on the instrument panel display.

fig. 3

Charging on the bench

- remove the electric vehicle batteries from their seat;
- connect the electric vehicle batteries to the battery charger;
- connect the battery charger fig. 3 to a mains socket outlet;
- the batteries are charged when the second LED turns green. To optimise the battery life, leave them charging for 20 minutes more after the green LED comes on;
- disconnect the battery charger from the electric vehicle batteries.

To view the charge level of the electric vehicle batteries, hold down the button on the upper panel for a few seconds. The LEDs come on and show the charge level.

Do not disconnect the battery charger until the batteries are fully charged.

Before charging the electric vehicle batteries, check that the correct power voltage is selected on the battery charger (110V - 220V).

If after charging you encounter faults in the scooter operation, switch the engine off immediately and contact an authorised QUADRO VEHICLES servicing centre.

Take care, when charging, to avoid water or other substances entering the battery compartment.

When charging on the bench, place the batteries in a dry place away from heat sources.

ELECTRIC VEHICLE BATTERIES

Removal

To remove the electric vehicle batteries from their seat, proceed as follows:

- switch off the scooter;
- place the scooter on the central stand;
- open the seat to access the battery compartment;
- loosen the velcro strap and remove the electric vehicle battery A from its seat fig. 4.

Remove the electric vehicle batteries one at a time.

Each battery weighs 10Kg, so use both hands to remove it.

Do not remove the electric vehicle batteries with the scooter running.

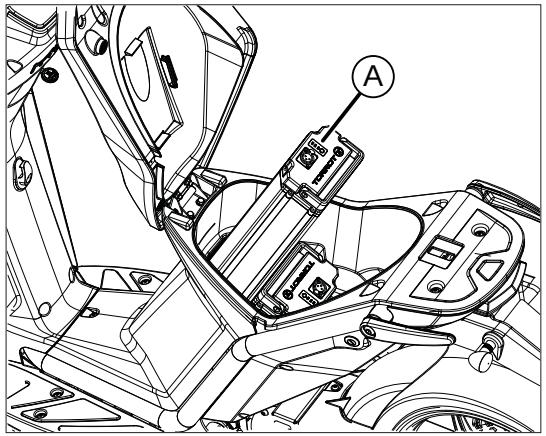


fig. 4

Assembly

To replace the electric vehicle batteries to their seat, proceed as follows:

- place the battery aligning the external edges with the grooves in the compartment;
- slide the battery slowly into the bottom of its seat;
- fasten the battery with the velcro strap.

Replace the electric vehicle batteries one at a time.

Each battery weighs 10Kg, so use both hands to replace it.

Page left intentionally blank

MAINTENANCE 4

This chapter specifies the maintenance procedures and checks which must be performed in order to maintain the efficiency and performance of OXYGEN, as well as ensuring it retains its original appearance.

You can also find a description of the operations to perform yourself in order to deal with minor emergencies which you may encounter while driving.

In any event,authorised QUADRO VEHICLES servicing centres will be happy to assist you in any type of operation and take care of your scooter.

GENERAL ISSUES

Ensuring you always follow the scheduled and extraordinary maintenance instructions in this Use and Maintenance Manual will guarantee perfect operation and a long lifetime for your scooter.

The maintenance operations specified in this Use and Maintenance Manual must only be performed by expert personnel; if the replacement, maintenance and/or inspection procedure is not given, it may only be performed by authorised QUADRO VEHICLES servicing centres

All maintenance operations must be carried out with the engine off.

Ensure you perform all maintenance operations at the specified intervals. Failure to perform services could void the warranty as well as damaging the scooter.

CHECKS

You should have the following checks performed periodically, as well as before any long trips:

- battery charger disconnected;
- charging the electric vehicle batteries;
- Tyre pressure and wear
- Brake fluid level
- Front/rear lights
- brake system operation;
- position of the rear-view mirrors;
- drive belt tension.

With an eye to protecting and respecting the environment, you are advised to dispose of all the waste resulting from the maintenance of the vehicle in accordance with the recycling methods required by the laws of each country, currently in force.

Brake oil

The level of the brake fluid must be checked through inspection hole A fig. 1 on the tank to the side of the handlebar.
Check that the level never falls below the notch or above the upper level of the inspection hole

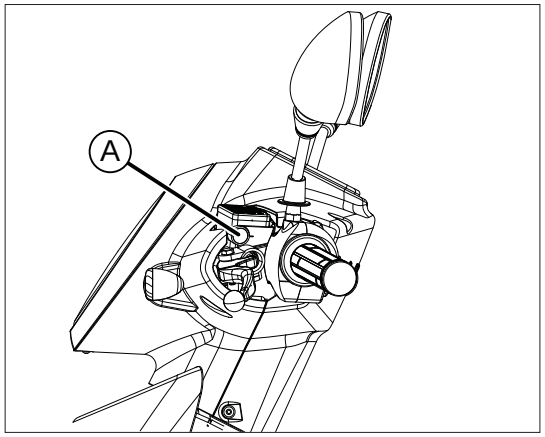


fig. 1

If the brake oil level is equal to or below the minimum level, for a top up contact an authorised QUADRO VEHICLES servicing centre.

Brake pads

Regularly check that the brake pad thickness is more than 1 mm.
If not replace both brake pads.

To replace the brake pads, contact an authorised QUADRO VEHICLES servicing centre.

Drive belt

The drive belt tension must be between 80 and 85 Hz.
Measure using a specific tension measuring tool.

If you are not able to do the check yourself, consult an authorised QUADRO VEHICLES servicing centre.

CLEANING

To keep the scooter looking sharp, regular cleaning is recommended. In addition to this always wash it when you have travelled over unmade roads or used the vehicle in very dusty environments. When cleaning the scooter pay the greatest attention to the warnings given in this chapter. Non compliance with certain instructions could nullify the warranty.

Ensure that the engine is off before cleaning the scooter.

Proceed as follows to clean the scooter:

- Remove any dirt from the underbody using a sponge with a mixture of water and neutral detergent specifically for washing vehicle bodywork;
- Rinse thoroughly with water in order to remove any detergent residue
- dry the surfaces with a chamois leather being particularly careful to get at the hidden places where water might accumulate
- clean the plastic parts with a solution of a special detergent and water, applying it with a soft cloth, then rinse with clean water;
- wash the seat with a special product for the cleaning and care of leather;
- wash the rims with a degreasing product in the ways and with the acting times indicated by the manufacturer.

For a better shine of the painted parts, use non-abrasive polishing products for bodywork.

 *Never use harsh chemical products on the plastic components (fairing, panels, windscreen, headlight lenses etc.)*

 *Do not use sponges or cloths which have come into contact with abrasive chemical products, solvents, thinners, rust treatments, brake fluid, antifreeze etc.*

 *Remove the electric vehicle batteries during washing.*

While washing, braking surfaces come into contact with water and degreasing products: this involves a temporary fall in braking power and increase in braking distance.
In order to restore normal operation, drive the scooter cautiously and activate the brakes numerous times.

If you are using a pressure washer to clean the scooter, take care not to direct the water jet onto the electrical and/or mechanical parts.

Do not use high pressure jets to wash the scooter

If there are chrome-plated parts, use specific products for treating and cleaning chromium.

The use of non-appropriate products or washing methods could cause surfaces to lose their shine.

Clean the vehicle more frequently if you regularly drive on gritted/salted roads.

Use cold water to remove salt as hot water increases the corrosive effect of it.

When cleaning the vehicle it is important to do little things to respect the environment. So always use biodegradable products and spray solutions that do not contain CFCs (chlorofluorocarbons).

Dispose of the products for cleaning the scooter in accordance with the recycling methods laid down by the statutory regulations in force in each country.

PERIODICAL CHECKS

Periodically, and in any case before long journeys, check and, if necessary, set right the following:

- electric vehicle battery charge level;
- Tyre pressure and wear
- Brake fluid level
- Front/rear lights
- brake system operation;
- position of the rear-view mirrors;
- drive belt tension.

DEMANDING USE / PROLONGED INACTIVITY

Whenever the scooter is used in one of the following situations (or in the event of prolonged inactivity):

- Use on dusty roads
- Use of the scooter with external temperatures below 0 °C

Perform the following checks:

- Check condition and wear of brake pads (front and rear)
- visual inspection of the conditions of: electric vehicle batteries, front and rear suspensions, pipes and hoses;
- check the electric vehicle battery charge level;
- check and replace the brake fluid if required.

Each battery is equipped with a device which counts the days from when the charge level drops below 20% (equivalent to the  *indicator light lighting up on the display).*

The warranty will be immediately invalidated if the charge level remains below 20% for 40 or more days. So charge the battery before this occurs.

SCHEDULED MAINTENANCE

In order to guarantee a long lifetime for the scooter under normal conditions, it is important to perform correct maintenance, respecting the checks and operations to be performed at time or mileage intervals as specified in the maintenance plan.

The Programmed Maintenance service is performed by the Quadro Vehicles service network or qualified workshops.

Any operations outside of the Maintenance Plan will only be performed with your express consent.

PLANNED MAINTENANCE PLAN

The annual checks must be performed every 12 months, unless the mileage interval is reached first.

After 12000 km (7500 miles) or 36 months repeat the checks in the last column of the scheduled maintenance table every 4000 km (2500 miles) or 12 months

No.	Part	Operation to be carried out	Odometer reading (km x 1000)				Checks
			1	4	8	12	Every 4000 km
			Odometer reading (miles x 1000)				
			0.6	2.5	5	7.5	Every 7500 miles
			Months				
			-	12	24	36	Every 12 months
1	Diagnostics	Check for OBD errors	●	●	●	●	●
2	Brake system	Brake fluid level and leakage visual check. Top up if necessary	●	●	●	●	●
		Replace the brake fluid (*)	**Every 24 months**				
		Front and rear brake pads visual check and replacement if necessary	●	●	●	●	●
3	Tyres	Pressure, wear and damage check. Replacement if necessary	●	●	●	●	●
4	Wheels	Misalignment and damage check. Repair if necessary	●	●	●	●	●
5	Wheel bearings	Play check. Replace as required	●	●	●	●	●

No.	Part	Operation to be carried out	Odometer reading (km x 1000)				Checks
			1	4	8	12	Every 4000 km
			Odometer reading (miles x 1000)				
			0.6	2.5	5	7.5	Every 7500 miles
			Months				
			-	12	24	36	Every 12 months
6	Drive belt	Cracks visual check Replace as required	●	●	●	●	●
		Checking the voltage. Adjust if necessary	●	●	●	●	●
		Replacement	**Every 12000 km (7500 miles)**				
7	Motor pulley	Visual inspection of the drive pulley. Replace as required	●	●	●	●	●
8	Front fork	Visual check for leaks. Replace or repair if necessary	●	●	●	●	●
9	Steering bearings	Play and steering smoothness check Tighten if necessary	●	●	●	●	●
		Tightening				●	●
10	Rear shock absorbers	Visual check for leaks. Repair or replace if necessary	●	●	●	●	●
11	Safety locks	Check the correct tightening of the brake system fixing parts, shock absorbers, fork, wheel.	●	●	●	●	●
12	Lights, signals, switches	Operation check	●	●	●	●	●

No.	Part	Operation to be carried out	Odometer reading (km x 1000)				Checks
			1	4	8	12	Every 4000 km
			Odometer reading (miles x 1000)				
			0.6	2.5	5	7.5	Every 7500 miles
			Months				
			-	12	24	36	Every 12 months
13	Throttle grip	Freeplay check, adjustment if necessary	●	●	●	●	●
14	Plastic covers	Check the plastic covers are correctly fixed	●	●	●	●	●
15	Lighting system	Check the lighting system operation. Adjust the light band if required	●	●	●	●	●
16	Controller	Check the firmware version. Update if necessary	●	●	●	●	●
17	ECU	Check the firmware version. Update if necessary	●	●	●	●	●
18	Batteries	Check the firmware version. Update if necessary Run the test to check the correct operation of the electric vehicle batteries. Repair or replace if necessary	●	●	●	●	●

FUSES

To replace the fuses contact an authorised QUADRO VEHICLES servicing centre.

Never repair blown fuses; see an authorised QUADRO VEHICLES servicing centre to have the component(s) replaced.

HEAD LIGHT CLUSTER

The bulbs in the head light cluster fig. 2 are laid out as follows:

A - Parking lights.
B - Dipped/full beam headlights.
C - Turn signals.

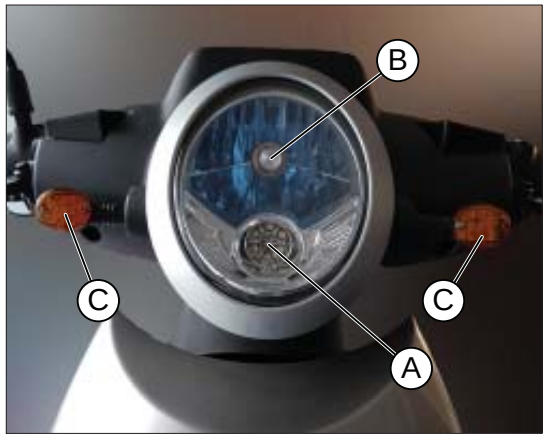


fig. 2

Contact an authorised QUADRO VEHICLES servicing centre to replace the parking lights in the head light cluster and/or turn signal lights.

Replacing the dipped-beam/full beam headlamps

Unscrew the fastening screws A fig. 3 indicated in the figure.

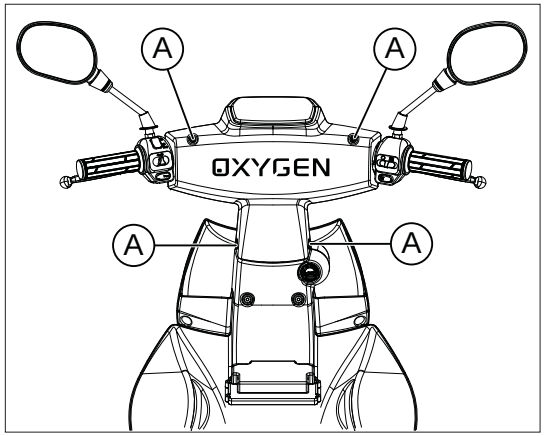


fig. 3

Remove the rear cover of the handlebars, releasing it from the retaining clips A fig. 4

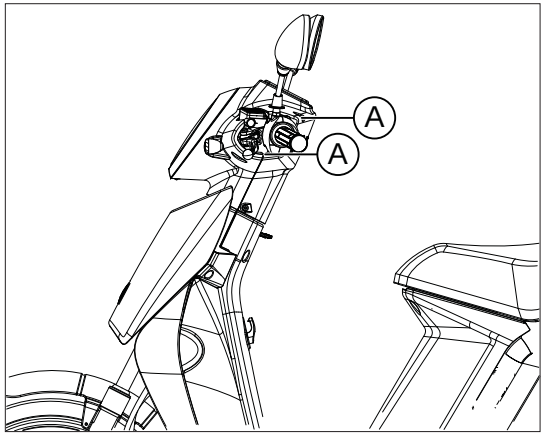


fig. 4

Then proceed as follows:

- remove the bulb holder rubber protection;
- disconnect the electrical connector from the bulb holder;
- press the retaining clips A fig. 5;
- remove the bulb holder and bulb from the seat;
- replace the bulb.

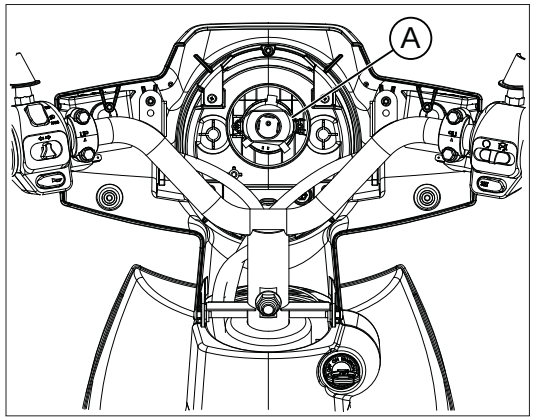


fig. 5

- replace the bulb;
- replace the complete bulb holder in its seat and fasten with the retaining spring A fig. 5;
- connect the bulb holder to the electrical connection;
- replace the bulb holder rubber protection;

TAIL LIGHT CLUSTER

The bulbs in the tail light cluster fig. 6 are laid out as follows:

A - Parking / brake lights.
B - Turn signals.
C - License light bulb

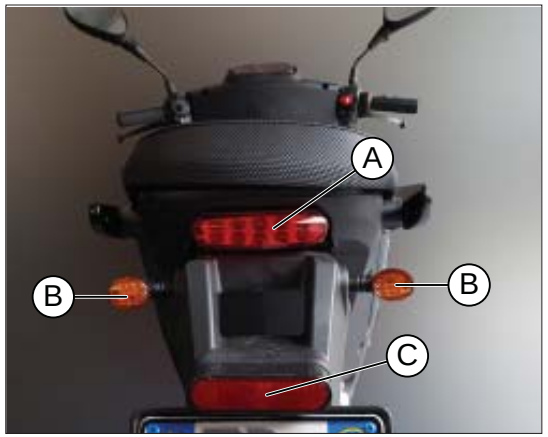


fig. 6

Replacing Bulbs

To replace the lamps in the rear light cluster contact an authorised QUADRO VEHICLES servicing centre.

REPLACING TYRES

OXYGEN is fitted with Tubeless tyres.

To replace the tyres, contact an authorised QUADRO VEHICLES servicing centre.

Page left intentionally blank

INACTIVITY AND LAYING UP 5

The following chapter describes the precautions to be taken in the event of a long period of inactivity of your OXYGEN, aiming to keep it in good working order, as well as ensuring it retains its original appearance.

SCOOTER INACTIVITY AND LAYING UP

If the scooter will not be used for a long period of time, we recommend you proceed with any required maintenance and observe the following precautions:

- check the fluid levels and replace them if necessary;
- remove the electric vehicle batteries (see the "Use" chapter);
- Inflate the tyres to the pressure listed in the "Technical Data" chapter
- clean the scooter (see paragraph on "Cleaning" in the "Maintenance" chapter);
- park the scooter on a solid, stable surface, in doors where it is not exposed to direct sunlight or damp;
- cover the scooter with a transparent sheet.

Each battery is equipped with a device which counts the days from when the charge level drops below 20% (equivalent to the  *indicator light lighting up on the display).*

The warranty will be immediately invalidated if the charge level remains below 20% for 40 or more days. So charge the battery before this occurs.

If it is necessary to protect the mechanical parts with special substances (e.g. antirust products) contact an authorised QUADRO VEHICLES servicing centre.

Before riding the scooter again after it has been laid up, do the following:

- check the tyre pressure and, if necessary, restore the pressure to the level indicated in the "Technical Data" chapter;
- if it is flat, recharge the electric vehicle batteries, then replace on the scooter (see "Emergency" chapter);
- check the fluid levels and replace them if necessary;
- carry out an approximate check of the scooter's functions, especially the safety systems and lights;

If, after a period of inactivity, you encounter faults in the functioning of the scooter, contact an authorised QUADRO VEHICLES servicing centre.

Page left intentionally blank

TECHNICAL DATA 6

This chapter contains all vehicle identification data as well as technical characteristics such as its weight, pressures, dimensions etc.

SCOOTER IDENTIFICATION

Frame number

The vehicle identification number (VIN) is punched on the head tube fig. 1

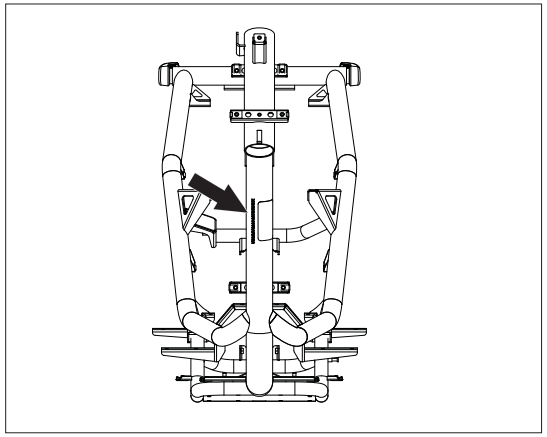


fig. 1

Alteration of the identification numbers is subject to criminal and administrative penalties. It will also immediately void the warranty.

FEATURES

Model	L1e -25	L1e-B	L3e-A1
Engine	Brushless 48V	Brushless 48V	Brushless 48V
Power (kW)	1.37	2.65	3
Torque (Nm)	35	35	35
Maximum speed (km/h)	25	45	70
Maximum autonomy 1 battery in ECO Mode (km) (*)	52	42	41
Maximum autonomy 2 batteries in ECO Mode (km) (*)	103	83	81
Type-approval cycle	CEPE R47	CEPE R47	WMTC-2
Diagnostics	Powered by the ECU controller via the CAN network	Powered by the ECU controller via the CAN network	Powered by the ECU controller via the CAN network
Connection	Bluetooth	Bluetooth	Bluetooth
Instrument Panel	320x240 - 4" LCD customised using the specific application	320x240 - 4" LCD customised using the specific application	320x240 - 4" LCD customised using the specific application

(*) The maximum autonomy is indicative and may vary greatly according to the temperature

PRODUCTS

Braking fluid	DOT3 or DOT4

BRAKE SYSTEM

Type	disc brakes, 1 front + 1 rear
Disc diameter	220 mm (front) 200 mm (rear)

TRANSMISSION

Primary	Toothed belt, ratio 1:5

FRAME

Type	Steel tubes and sheets

SUSPENSIONS

Front	Telescopic hydraulic fork
Rear	Side single shock absorber with preloading control

ELECTRIC VEHICLE BATTERIES

Electric vehicle batteries	2 31.9 Ah lithium batteries

WEIGHTS AND LOADS

Passenger capacity	2 (driver + passenger)
Weight	95 Kg (including electric vehicle battery)
Maximum permissible load	275 kg

RIMS

Type	Aluminium
Dimensions	16” x 2.15

TYRES

Dimensions	90 /80 R16 M/C 51D

TYRE PRESSURE

Front/ Rear	2.4 bar

BARTTERY CHARGER

Type	Dual Charger
Voltage	54.6V

DIMENSIONS

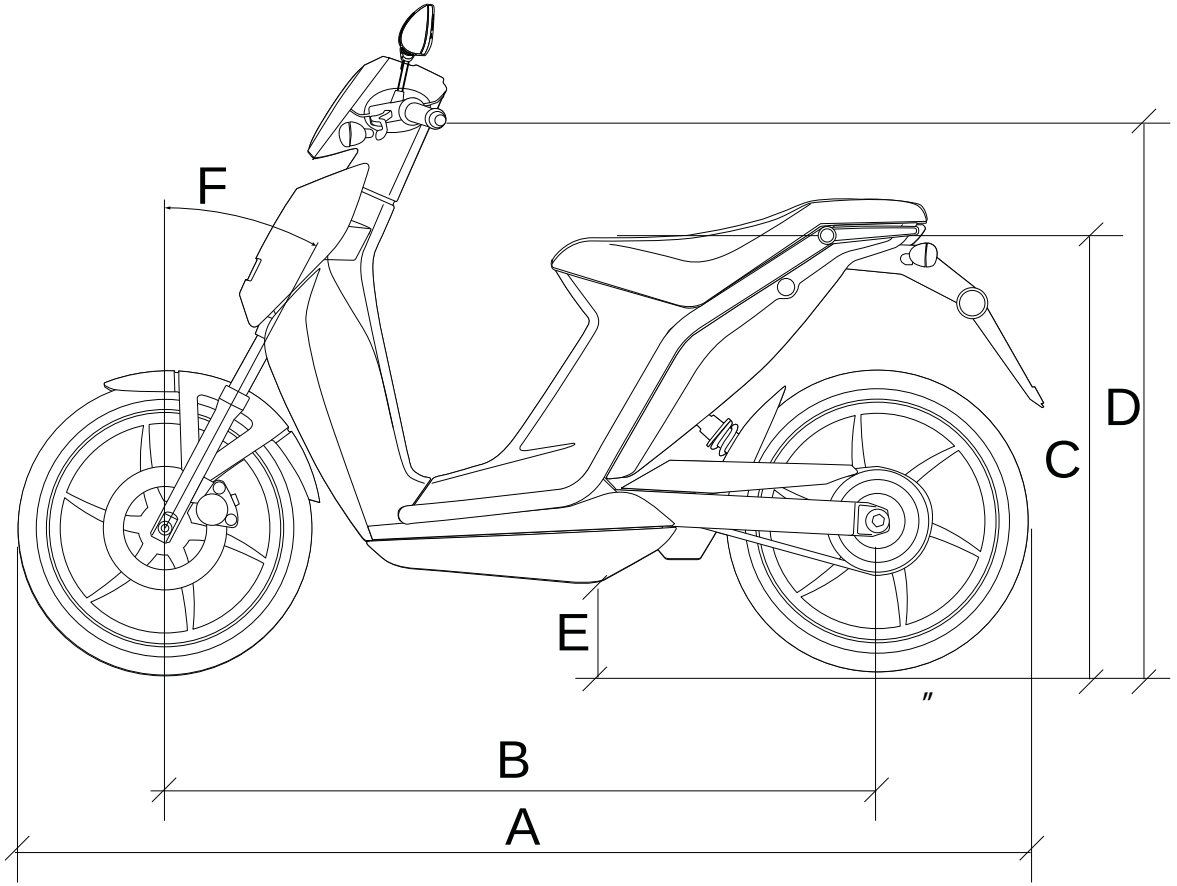


fig. 2

DIMENSIONS

Reference	Description	Value (mm)
A	Overall length	1885
B	Wheelbase	1290
C	Seat height	810
D	Total height (at handlebars)	1025
E	Height from ground	172
F	Front fork angle	27.6°

Dimensions are given in millimetres and refer to the scooter equipped with the original tyres.
The height refers to the scooter when unloaded

NOTES

NOTES

Quadro Vehicles S.A.
Via dei Lauri, 4 - 6833 Vacallo
(Switzerland)
www.quadrovehicles.com

Developed by www.satiztpm.it

QLUMQUA45EN
OXYGEN
Use and Maintenance
Issue 01 / 06-2019

WWW.QUADROVEHICLES.COM