ENGLISH

GASGAS

TX RANDONNE 2011

USER MANUAL

GAS GAS thank you for the trust you have placed in us.

Choosing the new GAS GAS TX RANDONNE 2011 you are joining the GAS GAS family and, as a user of brand number one for off-road bikes you deserve the distinguished treatment that we wish to offer you both in our after-sale relationship and in the explanations provided in this manual.

Our TX RANDONNE 2011 is a bike to practice Trial-tour. It is a polyvalent model thought to make an amateur trial as well as excursion off road.

Following the instructions in this user manual you will enjoy the trial practice as well as the trail tours quietly. Remember always ask for original spare parts to enlarge your bike's life.

Thanks for your confidence and be welcome to GAS GAS MOTOS.

GAS GAS MOTOS, S.A.
April - 2011

Important notice

Read this Manual carefully. You will find it contains all the necessary information for your safety, and that of third persons, as well as guaranteeing the correct conservation and maintenance of the GAS GAS motorbike you have just bought.

You will find all the necessary instructions for the correct riding and control of this vehicle are set out below. Each message is proceeded by a sign whose meaning is the following:

Be careful! This sign introduces all those rules and precautionary measures necessary to avoid slight or severe injuries, or even the death of the user should these instructions not be correctly followed.

Look out! This sign introduces special warnings to avoid damaging your motorbike. Should these warnings not be heeded, the guarantee may be automatically invalidated.

Various notes. These are the indications necessary for the optimal control and adjustment operations, together with those tasks of conservation and maintenance of the motorbike in order that you may obtain the greatest possible satisfaction from your vehicle.

The aim of this Manual is to help the user to minimise or avoid possible damage to people, property, the environment, and naturally to his/her new motorbike.
GAS GAS Motos, S.A. reserves the right to make modifications without any prior warning being given to consumers and without incurring any additional obligations in so doing. Your local dealer will also provide you with any information as might be deemed necessary.

Contents

WARRANTY TERMS AND CONDITIONS

(According to Law decree 23/2003 on the 10th of July, covering Warranties on Consumer Item Sales)

Warranty terms of the manufacturer GASGAS Motos, S.A.

The company GAS GAS MOTOS, S.A. (hereafter referred to as “GG”), with this present document guarantees the consumer, the purchaser of a vehicle manufactured by GG, that both the materials and the manufacturing are free of defects in accordance with the highest standards of quality. Consequently, GG with this document guarantees the consumer (hereafter referred to as the “purchaser”), in accordance with the conditions set out below, the repair, free of charge, of any defect in materials or that might result from faulty manufacture that is detected in a new motorcycle within the period covered by this Warranty and with no limit on the number of kilometres covered or hours of use.

Warranty Period

The period covered by this Warranty will begin on the day of delivery of the vehicle to the purchaser by a GG authorised dealer, or in the case of demonstration models, on the date in which the vehicle is used for the first time. The seller will be responsible for any unwarranted faults that become apparent within the period established in the Law decree 23/2003 on the 10th of July covering Warranties on Consumer Goods Sold from the time of delivery and in accordance with the Directive 1999/44/EC for other members of the European Community. For countries outside the European Community, the Warranty Period will be determined by the existing regulations in those countries. Nevertheless, should the fault appear during the first six months after the delivery of the motorcycle, it will be presumed that the said fault existed at the time of delivery; from the end of the sixth month onwards, the purchaser must demonstrate that the unwarranted fault existed at the moment of delivery. During the first six months subsequent to the delivery of the repaired vehicle, the seller will be responsible for any unwarranted faults arising out of the repair.
Any defects detected in the product must be brought to the attention of a GG authorised dealer within the Warranty Period. If the last day of this period is a Sunday or an official holiday, the Warranty period will be extended such that the last day of the period covered will be the first working day after the Sunday or official holiday.

Those claims under Warranty for defects not brought to the attention of a GG authorised dealer before the end of the Warranty Period will be excluded.

Obligation of the purchaser

GG will have the right to reject any claims under Warranty in the event that:

a) The purchaser has failed to submit the vehicle to any of the inspections and/or maintenance work required in the Users' Manual, or has exceeded the date set for such inspections or maintenance work. Also excluded from guarantee are those faults that appeared prior to the dates established for an inspection or maintenance work where the latter was not carried out, or was carried out later than the date established.
b) An inspection, maintenance or repair has been performed on the vehicle by third parties not recognised or authorised by GG.
c) Any maintenance or repair has been carried out on the vehicle that violates the technical requirements, specifications and/or instructions indicated by the manufacturer.
d) Spare parts whose use has not been authorised by GG have been used during the course of maintenance work or repairs to the vehicle, or in the event that the vehicle has been used with fuels, lubricants or other liquids (including, amongst others, cleaning products) that have not been expressly mentioned in the specifications set out in the User's Manual.
e) The vehicle has been altered or modified in any way or fitted with components other than those expressly authorised by GG as accepted components of the vehicle.
f) The vehicle has been stored or transported in a way that is not in accordance to the corresponding technical requirements.
g) The vehicle has been used for special purposes other than ordinary use, such as competition, races or record breaking attempts.
h) The vehicle has been directly or indirectly damaged as a result of a fall or an accident.

Warranty exclusions
The following items are not covered by this Warranty:

a) Worn parts, including, without any limitation, spark plugs, batteries, petrol filters, oil filter elements, (secondary) chains, engine output pinions, rear sprockets, air filters, brake discs, brake pads, clutch plates and discs, bulbs, fuses, carbon brushes, footrest rubbers, tyres, inner tubes, cables and other rubber components
b) Lubricants (for example, oil, grease, etc.) and working fluids (for example, battery liquid, coolant, etc.)
c) Inspection, adjustments and other maintenance tasks, as well as all kinds of cleaning work
d) Damage to the paint-work and consequent corrosion due to external causes, such as stones, salt, industrial fumes and other environmental impact, or inadequate cleaning with inappropriate products

e) Any damages caused as a result of the defects, as well as any expenses incurred either directly or indirectly as a consequence of the defects (for example, communication costs, accommodation expenses, car hire costs, public transport costs, breakdown truck fees,, courier costs, etc.), as well as other financial losses (for example, those caused by the loss of the use of the vehicle, loss of income, time lost, etc.)
f) Any acoustic or aesthetic phenomenon that does not significantly affect the condition or use of the motorcycle (for example, small or hidden imperfections, noise or vibrations that are normal in use, etc.)
g) Phenomena that are the result of the ageing of the vehicle (for example, discolouring of painted or metallic coated surfaces).

Various

1.- GG shall have the prerogative to decide, at its own discretion, whether to repair or replace defective parts. Where parts are replaced, ownership of the parts removed shall pass to GG without any other consideration. The GG authorised dealer, to whom the making good of the defects has been entrusted, is not authorised to make any declarations that are binding on GG.
2.- In case of doubt regarding the existence of a defect, or a visual or material inspection is required, GG reserves the right to demand the return of the parts which are the object of a claim under Warranty, or to arrange an inspection of the defect by an expert from GG. Any additional obligations arising out of guarantees on parts replaced free of charge, or any other service rendered free of charge, are excluded from the effects of this present warranty. The Warranty on parts replaced within the Warranty Period will end at the expiry date for the Warranty Period of the product concerned.
3.- Should it prove to be the case that a defect can not be repaired, the purchaser guaranteed shall have the right to the cancellation of the contract (payment of compensation) or a partial refund of the purchase price (discount), instead of repairing the motorcycle.
4.- Any claims against Warranty by the purchaser under the terms of the sale contract with the corresponding authorised dealer shall not be affected by the terms of this present Warranty. Neither will this present Warranty affect those additional contractual rights acquired by the purchaser under the general commercial terms and conditions of the authorised dealer. However, such additional rights may only be exercised through claims against the authorised dealer.
5.- Should the purchaser resell the product within the Warranty Period, the duration and conditions of the present Warranty will remain unaltered, in such a way as that the rights to make claims under the present Warranty in accordance with the terms and conditions set out in this present document shall be transferred to the new owner of the motorcycle.

Recommendations for the reliable operartion of your GAS GAS.

•Eight hours of running-in are recommended in order to guarantee the correct operation of the engine.

•It is important to warm the engine to the optimum operation temperature every time the motorbike is used.

TECHNICAL SPECIFICATIONS

MOTOR	4-stroke, single-cylinder, air-cooled
125cc motor	
	Capacity 123.3cc
	Diameter and stroke 54 x 54
Carburettor	PTK
Lubrication system	Wet sump
Ignition system	Electronic
TRANSMISSION	
Transmission type	5-speed
Clutch type	Multi-disc system in oil bath
Secondary transmission	Chain
Gear ratio	1^{st} – 37/14 (2,643)
	2^{nd} – 32/18 (1,778)
	3^{rd} – 25/19 (1,316)
	4^{th} – 23/22 (1,045)
	5^{th} – 21/24 (0,875)

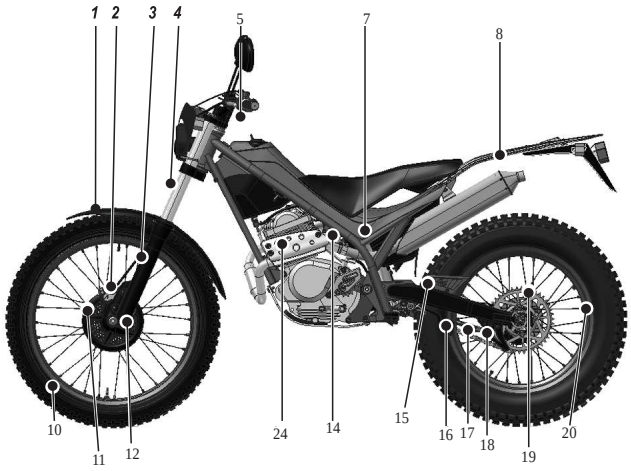
Primary reduction ratio		68/20 (3.400)
Overall drive ratio		38/13 (2.111)
Transmission oil	Capacity	1,2 L
	Type	SF 15W/40

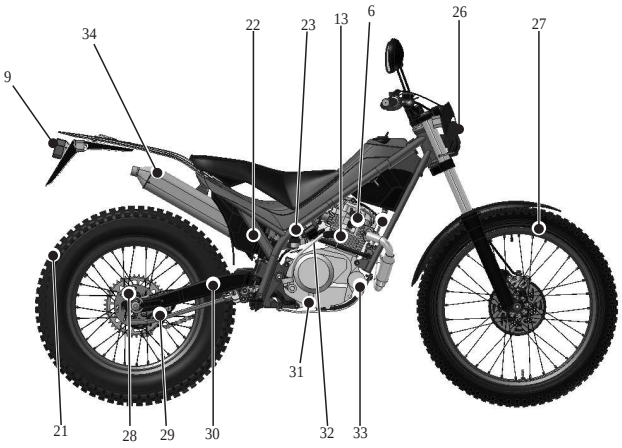
FRAME		
Type		Tubular profile made with Cr-Mo.
Tyres	Front	2,75 x 21" Trial
	Rear	4,00 x 18" Trial tubeless.
Suspension	Front	Adjustable tele-hydraulic fork ø 40 mm.
	Rear	Variable progressive system with mono-shock multiadjustable.
Suspension stroke	Front	175 mm.
	Rear	164 mm.
Front fork oil		SAE 7,5 W GRO FORK FLUID.
Front fork oil level	ø 40 mm	160 mm. air chamber steel bar

BRAKES		
Type		Disc brake.
Disc diameter	Front	ø185 mm. 4 piston calipers.
	Rear	ø150 mm. 2 piston calipers.

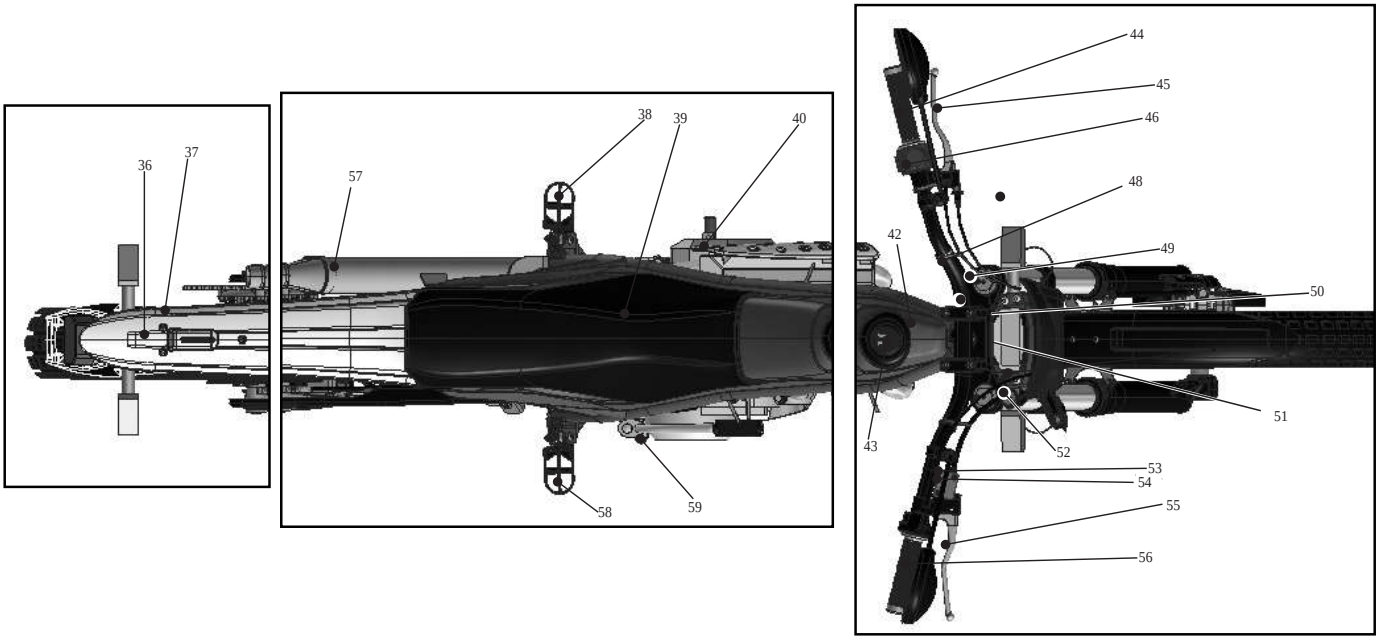
DIMENSIONS	
Overall height	1120 mm.
Overall width	827 mm.
Seat height	825 mm.
Ground clearance	315 mm.
Wheelbase	1330 mm.
Fuel tank capacity	4 liters.

(Specifications subject to change wothout notice, which may not be applicable in every country).





1 Front fender
2 Front brake caliper
3 Front suspension left leg
4 Front suspension bar
5 Breather hose
6 Spark plug
7 Filter box
8 Rear fender
9 Tail lamp
10 Front tyre
11 Front brake disc cover
12 Front brake disc
13 Cylinder
14 Carburetor
15 Chain guide
16 Chain tensioner
17 Chain
18 Rear sprocket cover
19 Rear sprocket
20 Rear rim
21 Rear tyre
22 Exhaust protection
23 Frame
24 Middle silencier
26 Headlight
27 Front tyre air valve
28 Rear brake disc
29 Sidestand arm
30 Swingarm
31 Rear brake pedal
32 Kickstart pedal
33 Water pump
34 Final exhaust



36 Rear fender
37 Axle nut rear wheel
38 Left foot peg
39 Seat
40 Shift pedal
42 Fuel tank
43 Fuel tank cap
44 Left handle grip
45 Clutch lever
46 Light controls
48 Handlebar
49 Left suspension regulation
50 Multifunction
51 Warning indicators
52 Right suspension regulation
53 Front brake pump
54 Throttle cover
55 Front brake lever
56 Throttle grip
57 Silencer
58 Right foot peg
59 Rear brake pedal

The maintenance table and adjustments are easy to carry out and must be done to insure the motorcycle is in good running condition.

MAINTENANCE TABLE

Part	Check / Inspect	Adjust	Replace / Change	Clean	Grease / Lubricate
Rear shock absorber	Every year	-	Every 2 years	-	-
Transmission oil	30 hours	-	60 hours	-	-
Front fork oil	-	-	60 hours	-	-
Brake adjust	Every race	If is necessary	-	-	-
Swingarm and connecting rods	Every race	-	If is damaged	Every race	Every cleaning
Spark plug	Every race	30 hours	60 hours	15 hours	-
Throttle cable and twist grip	Every race	If is necessary	If is damaged	If is necessary	Every cleaning
Chain	Every race	If is necessary	If is damaged	Every race	Every cleaning
Carburetor	Every race	If is necessary	If is damaged	Every race	-
Frame	Every race	-	If is damaged	Every race	.
Carburetor jet	-	If is necessary	If is damaged	-	-
Steering bearing	Every race	-	If is damaged	-	-
Piston bearing	-	-	If is damaged	-	-
Wheel bearing	-	-	If is damaged	-	-
Engine bearing	-	-	If is damaged	-	-
Rear sprocket	30 hours	First 5 hours	If is damaged	-	Every cleaning
Cylinder and cylinder head	60 hours	-	Every year	-	-
Brake	Every race	If is necessary	If is damaged	-	-
Brake disc	Every race	First 5 hours	If is damaged	Every 2 races	-
Clutch discs	-	-	If is damaged	-	-
Clutch	Every race	-	If is damaged	-	-
Engine protector plate	Every race	im a fall	if is damaged	-	-

MAINTENANCE TABLE

Part	Check / Inspect	Adjust	Replace / Change	Clean	Grease / Lubricate
Exhaust	Every race	-	500 hours	-	-
Packing	-	-	100 hours	-	-
Air filter	Every race	-	If is damaged	Every race	Every cleaning
Steering assembly	Every race	If is necessary	-	-	-
Brake hose	Every race	If is necessary	Every 2 years	-	Every cleaning
General lubrication	Every race	-	-	Every race	Every cleaning
Front and rear rims	Every race	-	If is damaged	Every race	-
Tyres	Every race	-	If is damaged	Every race	-
Brake oil level	Every race	If is necessary	-	-	-
Chain guide slider	Every race	-	If is damaged	-	-
Kickstart and shift pedal	Every race	-	If is damaged	-	Every cleaning
Brake piston pump anb the dustcover	-	-	If is damaged	-	-
Brake piston and the dust-cover	-	-	If is damaged	-	-
Piston and piston rings	60 hours	-	Every year	-	-
Front and rear spokes	Every race	5 hours	If is damaged	Every race	-
Fuel system	Every race	-	If is damaged	-	-
Front suspension	Every race	If is necessary	If is damaged	-	-
Bolts, nuts & fasteners	Every race	If is necessary	If is damaged	-	-
Fuel hose	Every race	If is necessary	If is damaged	-	-
Radiator hose set and connections	-			-	-
Frame protect sickers					

Serial number.

8

The new GAS GAS TX RANDONNE carries the appropriate certification plate whose details should coincide with those on the accompanying documentation and the frame number stamped on the steering arm.

Enter the vehicle identification number (serial number), the particulars shown on the model label, and the ignition-key identification number in the spaces provided, in order to simplify your future orders for spare parts or as a useful reference in the event of your vehicle being stolen.

Serial number (A)
This has been printed on the steering tube. It shows the frame number used for registering this machine.

SERIAL N.

Homologation plate (B)
The motorcycle carries a certification plate showing a serial number that has also been printed on the front, and this information must coincide with that contained in the vehicle documents. We recommend that this information be entered in the box below.

HOMOLOGATION P.

Key identification numbers
The motorcycle carries one key set. The identification number appears right on the key joints. This number may be quoted when ordering a spare to replace a lost key. (except some racing models)

KEY NUMBER

The control panel includes lighting, turn signal, horn and engine stop switches.

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The indicator control has been located on the underside of the left-hand grip.

To start the right-hand indicator, move this switch to the right; and likewise, to start the left-hand indicator, move this switch to the left.

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All light controls have been located on the left-hand grip; the various positions available are reached by sliding the main switch, which is on the left end of the grip.

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Located under the suspension lower right side bracket. For correct operation, it is necessary to turn the handlebar completely towards the right until it stops, insert the key in the slot, turn it in counterclockwise direction, press and to turn it again in clockwise direction. The key can now be removed and the steering will remain locked.

Never leave the key in the lock. If the steering is turned with the key in the lock it may be damaged and the locking system could be damaged.

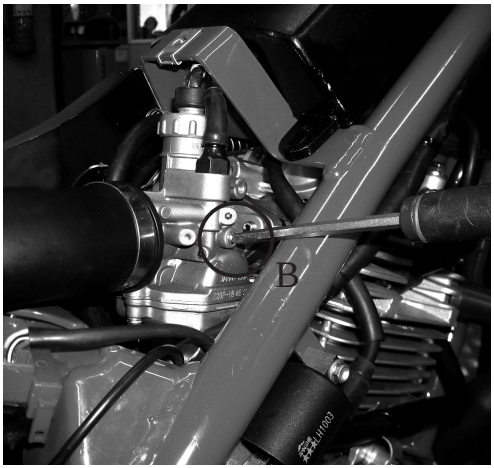
Fuel tank capacity : 4 liters

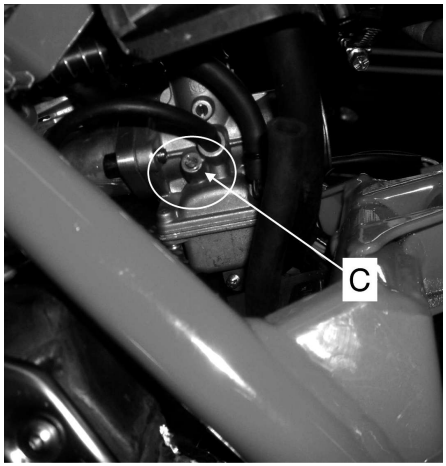
Use premium gasoline with an octane rating equal to or higher than that shown in the table.

OCTANE RATING METHOD	MINIMUM RATING
Antiknock Index (RON + MON)/2	90
Research Octane No. (RON)	98

Gasoline is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light.

The fuel tank cap is of the quick release type. To open the cap, lift the tab and turn it 1/4 turn in counterclockwise direction. To close it, place cap with the words GAS GAS in the upper position, and turn the tab in clockwise direction. It is important to check periodically the condition of the cap sealing O'ring to insure proper sealing.





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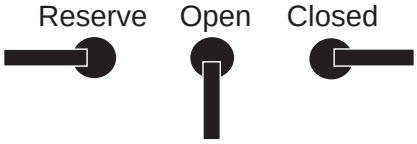
The position of the fuel tap **(A)** must be pointing down for normal operation. When turned forwards, it opens the reserve, to the rear turns off the fuel.



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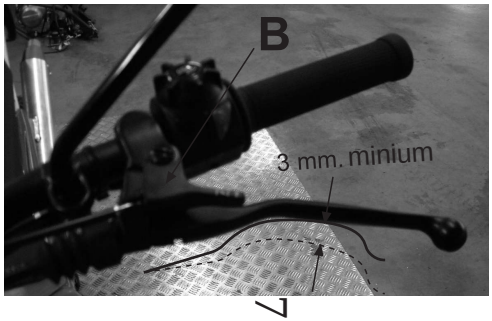
The regulation idling engine can be adjusted by the screw **B** and the air regulation by the **C** screw.

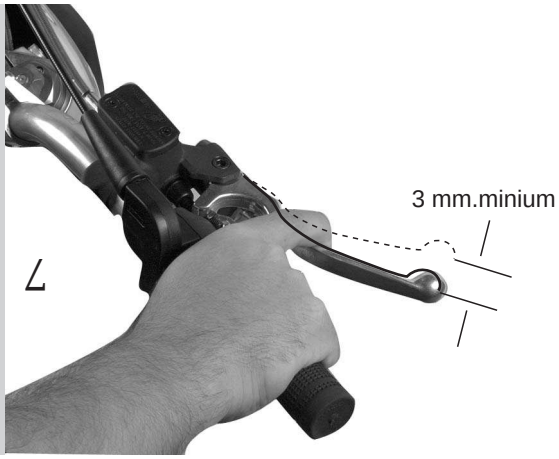


The clutch lever must be adjusted to your liking, but the free play should not exceed 3mm.

This play must never be eliminated.

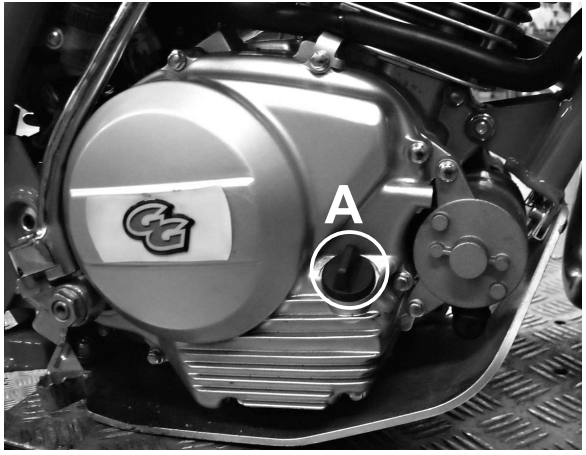
Like the clutch lever, the front brake lever must be in the ideal position. Again, the play must not exceed 3mm,

This play must never be eliminated.



The choke **(B)** is a device for aiding the starting when cold. The enigne will reach a normal temperature in a short time and it won't damage anything.

8 This is the position the kick-start should be in when not being used.



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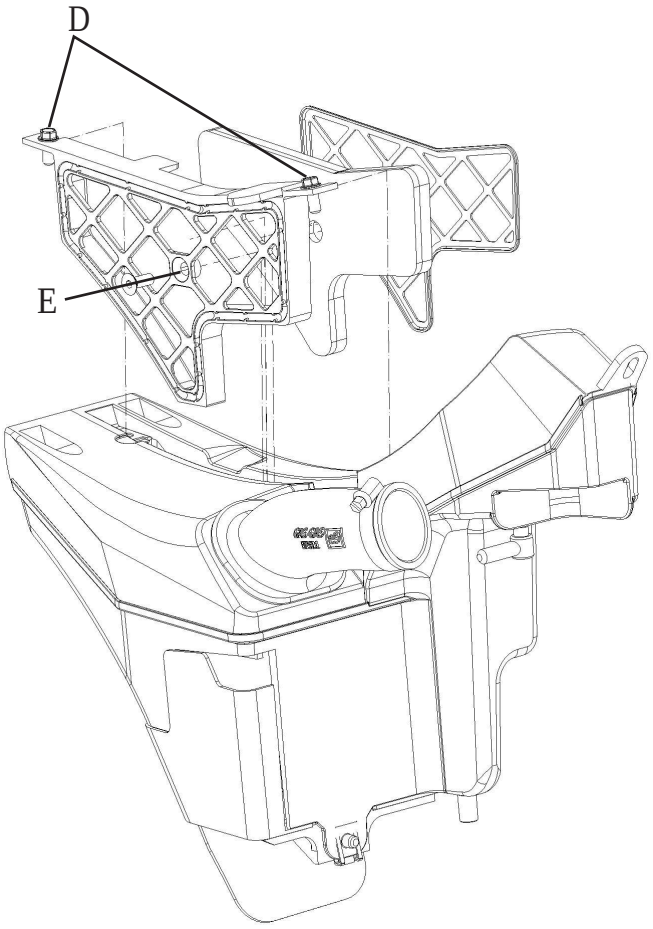
8 Refill oil removing the cap **(A)**.

Oil capacity: 1,2L (15W/40)

The cap to make the engine empty of oil is located at the botton left of engine.

8

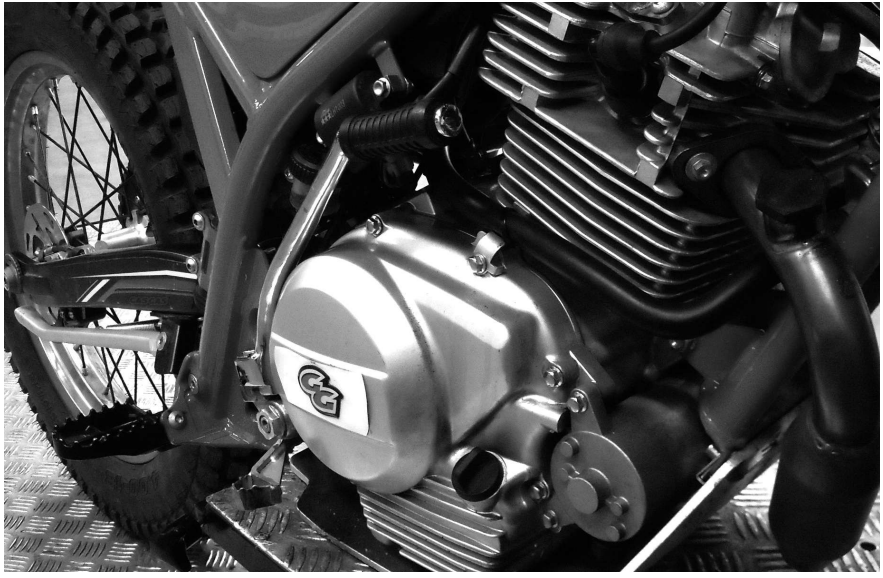
To check the oil level, fix the bike perpendicular to floor. If the engine was running wait few minutes. Check the level with the rod joined to the oil cap: remove oil cap, clean the rod, introduce and get out the rod, now you can see the oil level.
This level must be between max and min.
If it is too high, drain the excess. If it is too low, add the necessary quantity by opening the oil cap. Use the same type and make of lubricant as that which is already in the engine.

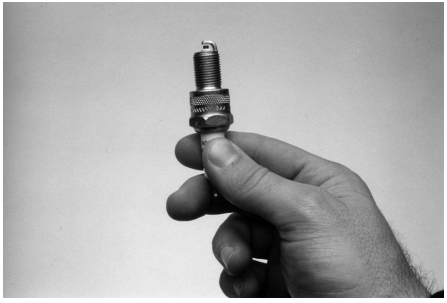


Is important to check periodically the air-filter.

Get the saddle out removing the screw (A). Remove the screws (B) and take the cover out.
Access to the air-filter (C).
Remove screws (D) and pull the air-filter up.
Remove screw (E) and filter foam is free.
Use watter and de-tergent for cleaning, dry it carefully an oil it with proper oil for air filter.

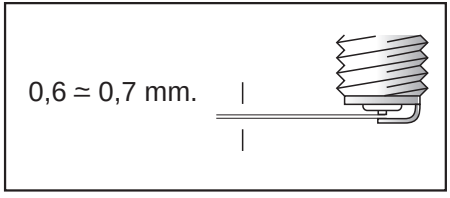
It is necesassary to periodically check the spark plug condition. This must be done removing the spark plug from the upper part of the cylinder head. First disconnect the spark plug cap and remove area first.
Clean the spark plug with compressed air to remove dirt and prevent foreign material from entering inside the engine compartment.





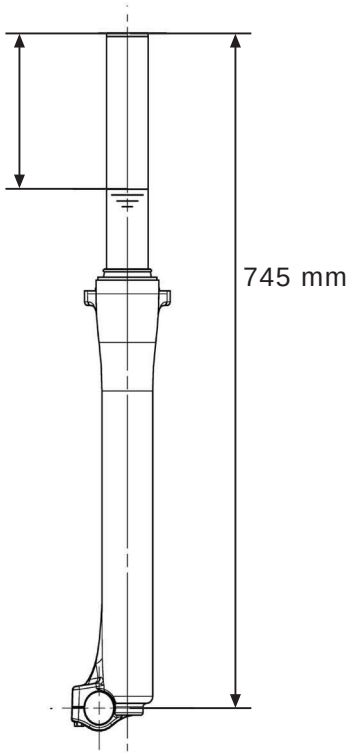
The sparking plug distance should be between 0.6 and 0.7mm.

SPARK PLUG TYPE: A6 RTC



Level of air chamber
160 mm.

FRONT FORK
ø 40 mm

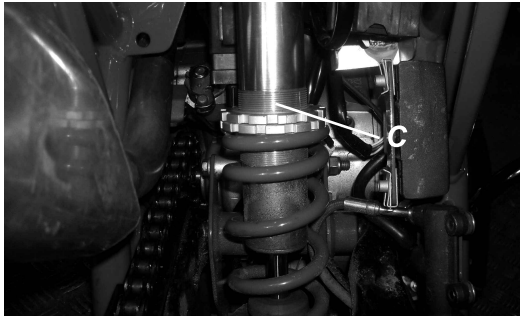


The front suspension is adjusted manually

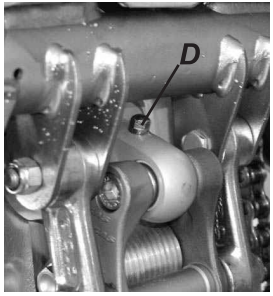
Right (hydraulic extension). Left (hydraulic compression).

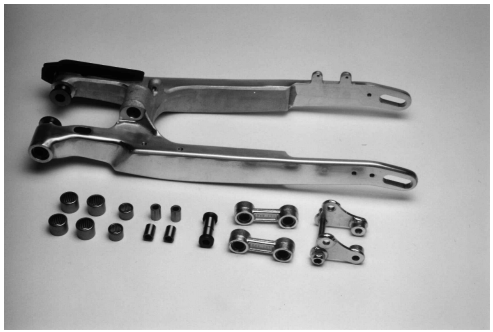
The regulation is done by turning one screw **(A)** located in the center of the suspension tube cap.The bleeder (**B)** is used to purge air that may be trapped inside the slider.

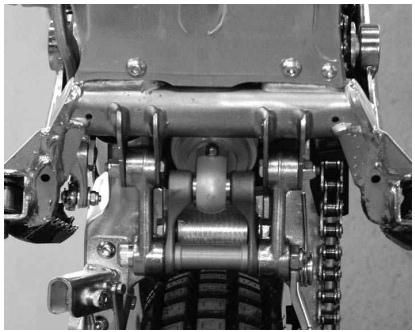
The preloading of the damper spring is measured by the rotation of the toothed rings **(C)** with the aid of a special wrench.



The hydraulic shock absorber can be adjusted by turning the screw **(D)** located in the lowest area of the shock absorber it should be at the mid point of his career.

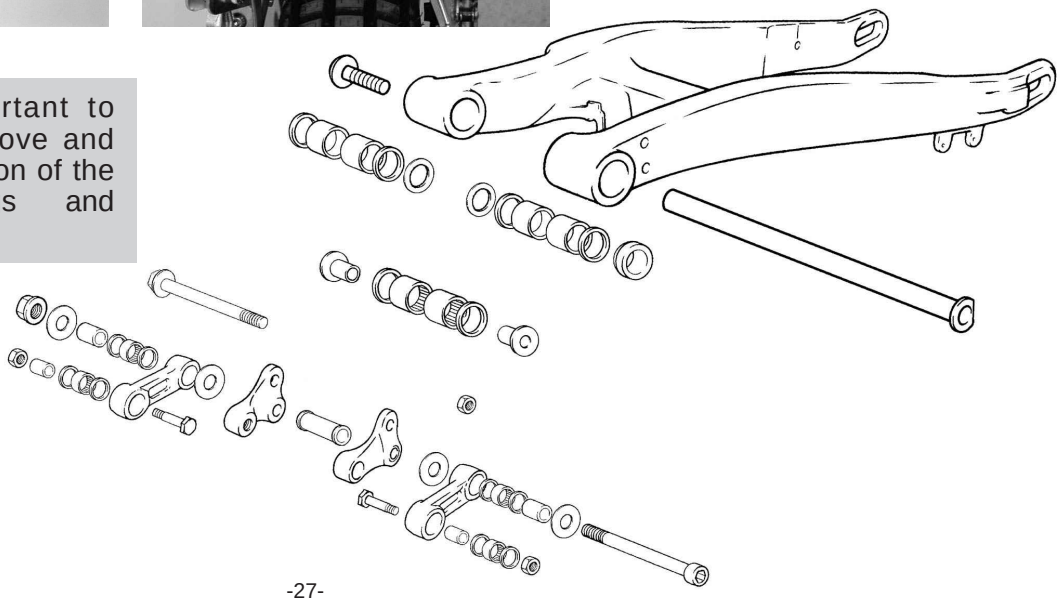






The linkage at the lower part of rear suspension must be periodically cleaned, inspected and lubricated with grease.

Ii is very important to periodically remove and verify the condition of the swingarm bearings and pieces.



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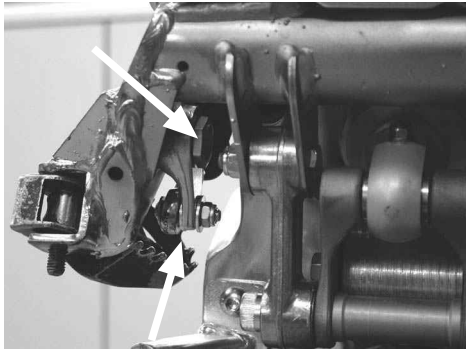
Use special oil to lubricate the following:

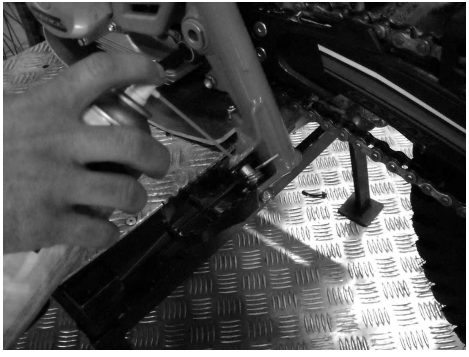
1) All pivot points of the brake and clutch levers.

2) The pivot of the gear shift lever.

3) Also the rear brake pedal (bearings).



4) Apply grease to the footrest springs and fixtures.



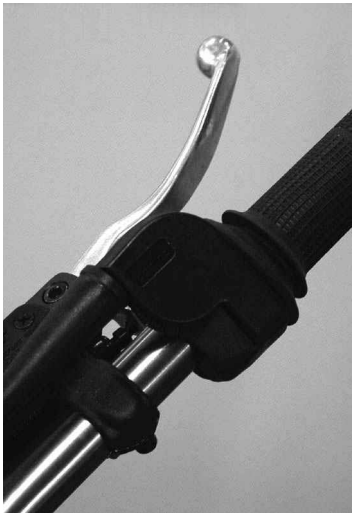
∞

5) Apply grease to the linkage of the engine starting pedal.

∞

6) The drive chain must be cleaned and lubricated thouroughly and frequently since it is exposed to the elements and constant abrassion.

7



7

7) It is also recommended to frequently lubricate the chain tensioner spring because it is under great stress.

8) Oil and clean the throttle control frequently; it is especially recommended to do so after the bike has been cleaned with water under high pressure.

To regulate the chain slack and center the rear wheel use the shaft excentrics which can be easily adjusted.

The chain master link clip must be placed in opposite direction of the wheel travel.

All tyre conditions must checked to insure optimum.

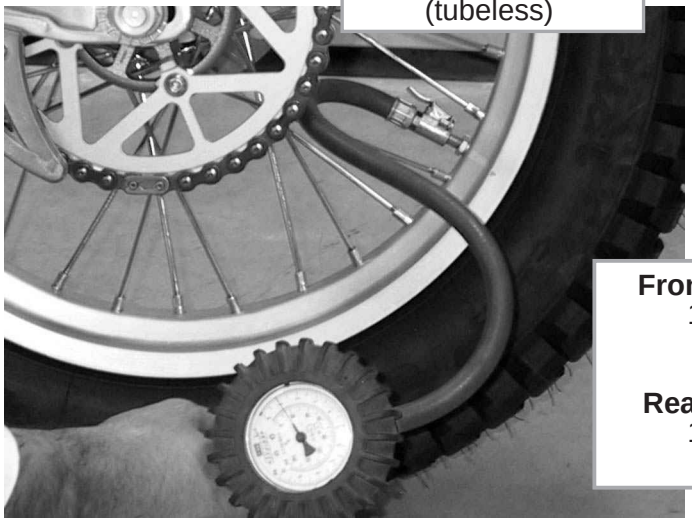
Fig. 1 - Bad condition
Fig. 2 - Good condition

Fig. 1

Fig. 2

Front tyre:
2,75 x 21” TRIAL
Rear tyre:
4,00 x 18” TRIAL
(tubeless)

Tyre pressure should be checked periodically to insure the best.

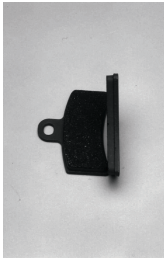


Front wheel pressure:
1,5 bar - normal
0,5 bar

Rear wheel pressure:
1,5 bar - normal
0,5 bar

Brake pad wear, front and rear, must be checked from time to time to insure an efficient braking power under all circumstances.

8



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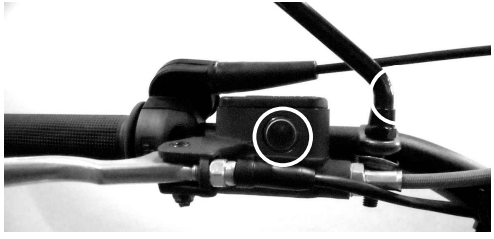


7

The front brake fluid level can be verified through the transparent inspection window.

7

The brake calipers have been furnished with bleeder valves to eliminate the air trapped in the brake system.

7

Verify fluid level periodically and refill if necessary.

To check the break liquid level, fix the bike perpendicular to floor, the level must be between MAX and MIN marks. To be correct the level and marks in the tank must be parallel.

— MAX

— MIN

STORAGE

For extended storage of the motorcycle, you must do the following:

- Clean the motorcycle thoroughly.
- Start the engine for about 5 minutes to warm up the transmission oil and then drain it (see “crankcase drain cap” page 22).
- Fill with new transmission oil.
- Empty the fuel tank (gasoline will deteriorate if left too long).
- Lubricate the chain and all cables.
- Cover all unpainted metal surfaces with a coat of oil to prevent rust, do not apply oil to the brakes and rubber parts.
- Cover the exhaust pipe with a plastic bag to prevent corrosion.
- Place the motorcycle in such a position so that the wheels do not touch the ground (if possible, place cardboard under the wheels).
- Cover the motorcycle to protect it from dust and dirt.

When starting off after an extended storage:

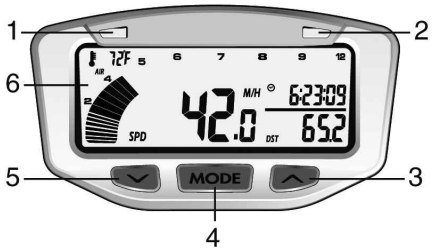
- Remove the plastic bag from the exhaust pipe.
- Tighten the spark plug.
- Fill the fuel tank.
- General lubrication.
- Inspect tyre pressure and inflate to the specified pressure, if necessary.

To avoid excessive ageing of the plastic parts and other washable pieces of the motorcycle, it is suggested that these items must be washed carefully. If the washer applies water at high pressure and/or temperature, take the precaution of maintaining the washer outlet gun at a distance of 30 centimeters minimum, this will insure the correct gloss of the plastics and adherence of the self-adhesive labels that decorate the motorcycle.

GAS GAS MULTIFUNCTION INSTRUCTIONS

The multifunction apparatus, which is waterproof, has 2 LED indicators on a central indicator screen.
This central indicator screen, made of liquid crystal and with illumination, gives information about the rpm, speed, distance travelled, total kilometres travelled, time, average speed, maximum speed, ambient temperature, length of time with motor running and total time. The odometer and the control for the total time with motor running save the data to the memory, even when the device is switched off. When the multifunction apparatus is not activated, it displays a clock.The value of the wheel circumference can be altered, as well as the system of measurement (metric or British). The ambient temperature is displayed on the upper left-hand part of the screen.
The screen can display the engine temperature from an optional temperature sensor. If this is too high, a warning LED lights up in yellow. If the rpm are too high, the second warning LED lights up in red.

NOTE:
Not applicable on some competition models



1. Yellow warning LED
2. Red warning LED
3. Right-hand button
4. MODE button
5. Left-hand button
6. Central display screen

Technical characteristics

FUNCTIONS	SYMBOL	TECHNICAL CHARACTERISTICS	INCREMENTS	PRECISION
CURRENT SPEED	SPD:	4 - 399.9 kmph or mph	0.1 kmph or mph	+/- 0,1%
TACHOMETER	RPM	0 -19999 rpm	10 rpm	+/- 0,1%
TACHOMETER BAR		0 -12000 rpm.	Variable	+/- 0,1%
MAXIMUM SPEED	MS	4 - 399.9 kmph or mph	0.1 kmph or mph	+/- 0,1%
DISTANCE TRAVELLED	DST	0.0 - 19999 km or mi.	0.1 kmph or mph	+/- 0,1%
TIME RUNNING	TT	0 - 9999 hours 59 minutes	1 second	+/- 0.1%
ODOMETER	ODO	0.0 – 999999	1	+/- 0,1%
OPERATION TIME	RT	0 - 999 hours 59 minutes	1 minute	+/- 0.1%
OPERATION TIME ACCUMULATED	ART	0 - 9999 hours 59 minutes	1 minute	+/- 0,1%
CLOCK	00:00:00	12:59:59 or 23:59:59		+/- 0,1%
BATTERY LOW	LO	Approximately 1 year life		+/- 0,1%
TYRE SIZE		0 - 3999 mm		

Initial voltage: 9 - 400 V AC/DC..
Speed sensor: Non-contact magnetic sensor.
Tachometer input: Electrical pulse sensor.
Wheel circumference adjustment: 1 mm – 3.999 mm (1 mm increments).
Operating / storage temperature: from 0 ºC to 60 ºC (from 32 ºF to 140 ºF) / from -20 ºC to 80 ºC (from -4 ºF to 176 ºF).
Battery / life: 3V CR2032 / Approx. 1 year

Functions

RPM: Bar
Tachometer with bar graph. The bar graph of the tachometer displays up to 12,000 rpm.
RPM: Digital Tachometer
The rpm are shown on the right side, second row. The digital tachometer displays up to 12,000 rpm. The tachometer signal can be captured from the sparkplug cable.

Gear change indicator according to rpm
This function permits setting an indicator for changing gears at a specific rpm level. The red LED warning light flashes when the rpm reaches the specific level and stops flashing when the gear is changed.

SPD: Speedometer
The speedometer information appears in the centre of the screen. It shows up to 399.9 kmph or mph.

MS: Maximum speed gauge
It shows the highest speed reached since the last resetting of the data.

DST: Distance travelled
This appears on the right side, in the second line of the screen. The TRIP function contains the vehicle's accumulated mileage since the last RESET operation.

ODO: Odometer
It shows the total mileage accumulated by the vehicle. The data is stored in the memory, even when the device is not running.

ART: Time of use controller
Calculates the total time in operation. It starts counting from the moment the motor is turned on.

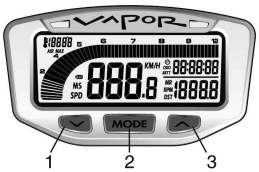
RT: Total time of use controller
It calculates the vehicle's operation time since the last RESET operation. It starts counting from the moment that movement begins. The data is stored in the memory, even when the device is not running.

12/24 hour clock
It shows the time in either 12 or 24 hour formats.

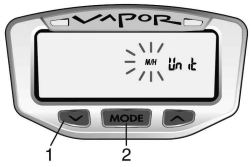
Ambient temperature / engine temperature gauge
The ambient temperature is displayed on the upper left-hand part of the screen.
The screen can display the engine temperature from an optional temperature sensor. If this is too high, a warning LED lights up in yellow.

High rpm gauge / Gear change warning according to rpm
If the rpm are too high, the second warning LED lights up in red.
This function permits setting an indicator for changing gear at a specific rpm level The red LED warning light flashes when the rpm reaches the specific level and stops flashing when the gear is changed.

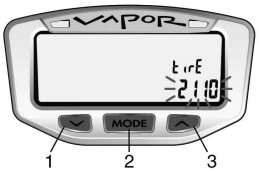
Setting the multifunction display parameters
After confirming each value, the display goes from one screen to the next until all have been displayed. If no button is pressed, the display returns to the home screen after 15 seconds.



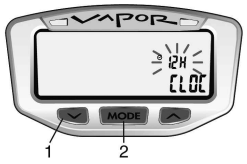
Activating adjustment mode
To start setting mode for the multifunction display, press buttons 1, 2, and 3 simultaneously for 3 seconds, and then release.



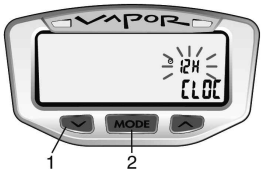
Selecting the speed unit
To change between kmph and mph, press button 1.
Confirm the selection by pressing button 2.



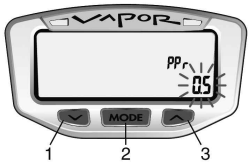
Selecting the values for the wheel circumference
Enter the value for the wheel circumference by pressing button 1 in succession. To go on to the next digit, press button 3.
Confirm by pressing button 2.
Note:
If you do not know the value of the wheel circumference, see the section on "**Measuring the wheel circumference"**



Selecting the time format
To change between the 12 and 24 hour clock, press button 1.
Confirm by pressing button 2.



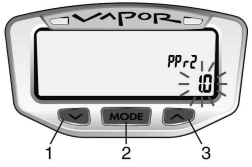
Setting the time
Enter the value for the time by pressing button 1 in succession. To go on to the next digit, press button 3.
Confirm by pressing button 2.



Setting the pulse per revolution (PPR)
The gauge receives one electrical pulse for each revolution on the engine (PPR). Default value for 2 and 4 stroke engines: 1 PPR.
Enter the value by pressing button 1 in succession. To go on to the next digit, press button 3.
Confirm by pressing button 2.

Setting the pulse per revolution (PPR)
Note:
This step is only to be taken on vehicles that change the type of PPR pulse at a specific number of rpm.
If you do not know this value, press button 2 to go on to the next screen.

Enter the value by pressing button 1 in succession. To go on to the next digit, press button 3.
Confirm by pressing button 2.

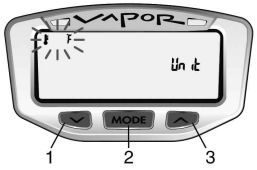


Setting the pulse per revolution (PPR)
Note:
This step is only to be taken if a value of 0 was entered in the previous step.

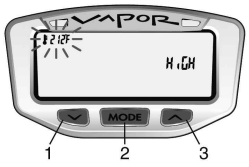
Default value: 1.0

If you do not know this value, press button 2 to go on to the next screen.

Enter the value by pressing button 1 in succession. To go on to the next digit, press button 3.
Confirm by pressing button 2.



Selecting the temperature unit
To change the temperature display between ºC and ºF, press button 1.
Confirm by pressing button 2.



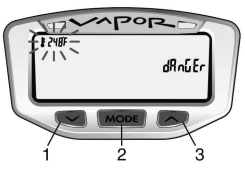
Selecting the warning temperature
Note:
This step can only be taken on vehicles fitted with the optional temperature sensor.

When the engine temperature exceeds the set value, the warning LED on the left lights up.

Default value: 90 °C (190ºF)

Enter the value by pressing button 1 in succession. To go on to the next digit, press button 3.

Confirm by pressing button 2.



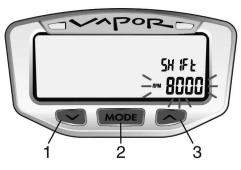
Selecting the danger temperature
Note:
This step can only be taken on vehicles fitted with the optional temperature sensor.

When the engine temperature exceeds the set value, the warning LED on the right lights up.

Default value: 110 °C (230ºF)

Enter the value by pressing button 1 in succession. To go on to the next digit, press button 3.

Confirm by pressing button 2.

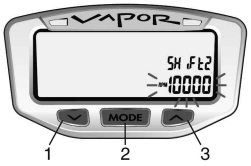


Selecting the rpm for a gear change
When the set rpm is reached, the left-hand warning LED flashes to show that the gear must be changed.

Default value: 6000 rpm

Enter the value by pressing button 1 in succession. To go on to the next digit, press button 3.

Confirm by pressing button 2.



Selecting the danger rpm

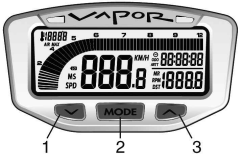
When the set rpm is reached, the right-hand warning LED flashes to show that the rpm on the engine are too high.

Default value: 10000 rpm

Enter the value by pressing button 1 in succession. To go on to the next digit, press button 3.

Confirm by pressing button 2.

Resetting the display functions after each use of the vehicle.

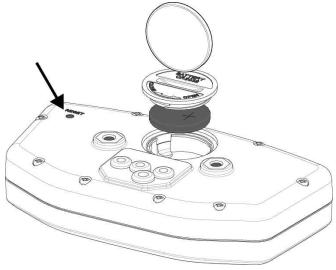


After each use of the vehicle, the following functions can be reset simultaneously:
- Maximum speed
- Distance
- Chronometer
- Maximum temperature
- Maximum rpm

Confirm the reset by pressing buttons 1 and 2 simultaneously.

Total reset of the display

Press the RESET button, using a suitable object. The display will start from zero, except for the data for total accumulated distance and time.



Internal battery

The display is powered by an internal 3 V battery, type CR2032. When the voltage in the internal battery drops below 2.45V, the screen displays LO.
To change the battery, open the cover behind the display, and use a coin to unscrew it counter-clockwise. Make sure that the positive terminal on the battery is facing upward.

Screen options

The multifunction display shows all the information on three different screens.

While in motion, screens 1 and 2 are on display. Screen 3 is displayed for 3 seconds, and then returns to screen 1.

To change from one screen to another, press button 2 ("Mode") in succession.

To edit the distance travelled (DST), keep button 3 pressed down.

Screen 1:

Screen 1 shows the following information:

- Speed, distance travelled, time, ambient temperature, tachometer (bar).

Screen 2:

Screen 2 shows the following information:

- Speed, digital tachometer, time in motion, time in operation, engine temperature*, tachometer (bar).

Screen 3:

Screen 3 shows the following information:

- Maximum speed, danger rpm, accumulated time in operation, odometer, maximum temperature*.

*Optional

Lighting

The display is powered by an internal 3 V battery, type CR2032.

To change the battery, open the cover behind the display, and use a coin to unscrew it counter-clockwise. Make sure that the positive terminal on the battery is facing upward.

When the display is powered by the internal battery only, the screen lights up partially for 3 seconds when the button is pressed.
If the lighting is connected to the 12V system on the vehicle, it will be brighter and stay on for up to 20 minutes after the vehicle has come to a full halt.

Sleep Mode

If the multifunction display does not receive any information for 20 minutes (signal from wheels turning or a button pressed), the screen goes off, showing only the time. When the vehicle starts or a button is pressed, it will start up again.

Measuring the wheel circumference

Method 1

Measures the diameter of the front wheel. Multiply the diameter by 3.14 and, if necessary, convert the measurement into mm by multiplying the figure obtained by 25.4. The measurement obtained is the size of the wheel circumference.

Method 2

On a smooth, flat surface, make a mark on the side of the tyre where it touches the ground. Move the vehicle forward until the tyre has made a complete turn, and the mark is back at the lowest point. Make a new mark on the ground at this point.
Measure the distance between the marks on the ground and, if necessary, convert the measurement into mm by multiplying the figure obtained by 25.4. The measurement obtained is the size of the wheel circumference.
To obtain a more precise measurement, the driver must remain on the vehicle while taking measurements.

TROUBLESHOOTING

NOTE

This is not an exhaustive list of malfunctions, it only shows the most common problems.

	MALFUNCTION	POSSIBLE CAUSE	REMEDY
1	**Engine does not start**	- Seized crankshaft. - Seized cylinder / piston / jornal bearing. - Seized transmission assembly. - Motorcycle inactive too long. - Wet or fouled spark plug. - Flooded engine. - Incorrect air/fuel mixture.	- Go to a specialized workshop. - Go to a specialized workshop. - Go to a specialized workshop. Drain old fuel out of the tank. With the fuel tank filled with new fuel, the engine will start immediately. - Clean and dry or replace the spark plug. - In order to "relieve the engine", accelerate to max. speed, press the starter pedal 5 or 10 times. Then, start the engine as described above. If the engine fails to start, remove the spark plug and dry it. - Clean the fuel tank air vent. Adjust the air cleaner duct.
2	**Engine start but then stops**	- Incorrect air supply. - No fuel.	- Close the starter. Clean fuel tank air vent. Adjust the air cleaner duct. - Fill up the fuel tank.

	MALFUNCTION	POSSIBLE CAUSE	REMEDY
3	**The engine operates irregularly**	- Ignition rotor damaged. - Water in fuel.	- Replace the rotor. - Drain the fuel tank and fill up with new fuel.
4	**Engine lacks power or poor acceleration**	- Fuel supply defective. - Dirty air cleaner. - Leaking or deteriorated exhaust system. - Dirty carburetor jets. - Worn or damaged crankshaft bearings. - Clutch slips.	- Clean the fuel system and verify its operation. - Clean or replace the air cleaner. Verify its operation. - Verify if the exhaust system is damaged. Replace the muffler fiberglass packing, if necessary. - Disassembly the carburetor and clean all jets. - Replace the crankshaft bearings. - Verify the clutch operation. Go to a specialized workshop.
5	**Abnormal engine noise**	- Ignition problem. - Overheating.	- Go to a specialized workshop. - Refer to section 5.
6	**Detonations from the exhaust pipe**	- Carbon build up in combustion chamber. - Incorrect octane or poor quality gasoline. - Damaged spark plug or incorrect specifications. - Deteriorated exhaust system gaskets.	- Clean the combustion chamber. - Drain all gasoline and fill up with a higher octane fuel. - Replace the spark plug with a new one of the correct type. - Verify if the exhaust system is damaged. All gaskets must be in perfect conditions, otherwise replace them with new ones if necessary.
7	**White smoke coming out of the exhaust pipe**	- Deteriorated cylinder head gasket (water leakage into the cylinder). - Incorrect throttle cable adjustment.	- Replace the cylinder head gasket. Go to a specialized workshop. - Readjust the throttle valve cable.
8	**Brown smoke coming out of the exhaust pipe**	- Restricted air cleaner. - Main jet set too high.	- Clean or replace the air cleaner. Go to a specialized workshop. - Verify main jet operation. Go to a specialized workshop.

	MALFUNCTION	POSSIBLE CAUSE	REMEDY
9	**The motorcycle is unstable**	- Cable interferes with the handlebar. - Steering stem locknut too tight. - Damaged or worn steering bearings. - Bent steering stem.	- Move or loosen the cable just a little. - Loosen the steering stem locknut. - Replace the steering bearings. - Replace the steering stem. Go to a specialized workshop.
10	**Shock absorber set too hard**	- Excessive front fork oil. - Front fork oil viscosity too high. - Bent front fork. - Tire air pressure set too high. - Incorrect rear shock absorber adjustment.	- Pour excess oil until reaching the correct oil level. - Drain fork oil and fill with correct fork oil viscosity. - Replace the front fork. Go to a specialized workshop. - Check tire air pressure. - Adjust rear shock absorber.
11	**Shock absorber set too soft**	- Insufficient front fork oil. - Front fork oil viscosity too low. - Bent front fork. - Incorrect rear shock absorber adjustment.	- Fill with fork oil until reaching the correct oil level. - Drain fork oil and fill with correct fork oil viscosity. - Replace the front fork. Go to a specialized workshop. - Adjust the rear shock absorber.
12	**Abnormal motorcycle noises**	- Incorrect drive chain adjustment . - Worn drive chain. - Worn rear sprocket teeth. - Insufficient drive chain lubrication . - Incorrect rear wheel alignment. - Insufficient front fork oil. - Weak or broken front fork spring. - Worn disc brake. - Pad installed incorrectly or surface glazed. - Damaged cylinder. - Improperly tightened brackets, nuts, bolts.	- Adjust the drive chain. - Replace the drive chain, rear sprocket and the secondary transmission pinion. - Replace the rear sprocket. - Lubricate with appropriate chain oil. - Align the rear wheel. Go to a specialized workshop. - Add front fork oil until reaching the correct level. - Replace the front fork spring. - Change the disc brake. - Reinstall or replace pad. - Replace the damaged cylinder. - Verify and adjust to the correct torque values.

	MALFUNCTION	POSSIBLE CAUSE	REMEDY
13	**Abnormal motorcycle noises**	falta text falta text angles	
14	**Handlebar vibration**	- Excessive steering axles tolerances. - Loose handlebar bracket, and loos handlebar stem locknut.	- Tighten steering bracket and steering stem locknut to the correct torque values. - Tighten steering bracket and steering stem locknut to the correct torque values.
15	**Motorcycle pull to one side**	- Bent chassis. - Incorrect steering adjustment. - Bent steering stem. - Bent front fork. - Incorrect wheel alignment.	- Replace the chassis. Go to a specialized workshop. - Adjust the steering. Go to a specialized workshop. - Replace the steering stem. Go to a specialized workshop. - Replace the front fork. - Align the wheels.
16	**Brakes do not operate correctly**	- Worn discs. - Leaking brake fluid. - Deteriorated brake fluid. - Broken pump piston. - Incorrect brake adjustment.	- Replace the discs. - Verify the brake circuits. Replace the damaged or broken parts. - Drain the brake fluid and fill with the new fluid recommended by the manufacturer. - Replace the pump piston. - Adjust brakes.

FINAL RECOMMENDATIONS

PREVENTIVE ADVICE

Before you ride the vehicle, take all the time you may require to check your motorcycle, carry out the periodical upkeep and check all functions. In different sections of this manual you will find data and work specifications that must be done at an autorized GAS GAS dealer, because of this and to extend the useful life of the motorcycle, all periodical inspections must be carried out by specially trained professionals at a GAS GAS Post-Sale Service Shop.

Poor maintenance work of the motorcycle or not taking proper care of any problem, even if its is a small concern, can cause severe personal injury and may lead to death.

To avoid excessive ageing of the plastic parts and other washable pieces of the motorcycle, it is suggested that these items must be washed carefully. If the washer applies water at high pressure and/or temperature, take the precaution of maintaining the washer outlet gun at a distance of 30 centimeters minimum, this will insure the correct gloss of the plastics and adherence of the self-adhesive labels that decorate the motorcycle.

SAFE RIDING OF THIS MOTORCYCLE

Safe riding of a motorcycle does not only depend on the vehicle. The driver's intelligence and common sense are key factors to be taken into consideration. It is recommended that you practice your favorite sport wearing all the necessary safety equipment (helmet, protection gear, boots, etc.).

LEGAL ADVICE

In the interest of technical development we reserve the right to modify the construction, the equipment and accessories of the motorcycle. It is understood that all measurements, weights and power data must include their respective tolerances. The photographs included in this manual may not match the model you have purchased. The descriptions and the illustrations may vary depending on the volume of equipment and accessories of your motorcycle and also of the versions exported. Because of this, there can be no liability in case of errors, misprint or omission.

GAS GAS MOTOS, S.A. reserves the right to make changes and/or modifications at any time without notice.