aprilia

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www.serviceaprilia.com

workshopmanual

8140816 UK

INTRODUCTION 0

SUMMARY

0.1. FOREWORD

0.1.1. FOREWORD

- This manual provides the information required for normal servicing.
- This publication is intended for use by **aprilia** Dealers and their qualified mechanics; many concepts have been omitted on purpose as their inclusion would be superfluous. Since complete mechanical explanations have not been included in this manual, the reader must be familiar with basic notions of mechanics, as well as with basic repair procedures. Without such familiarity, repairs and checks could be ineffective and even hazardous. Since not all vehicle inspection and repair procedures are described in details, pay utmost attention to avoid damages to components or people. **aprilia s.p.a.** undertakes to constantly improve the design of its products and their literature to ensure that the customer is satisfied of the product. The main technical modifications and changes in repair procedures are communicated to all **aprilia** dealers and agencies worldwide. These changes will be applied to the next issues of this manual. Should you need assistance or clarifications about the inspection and repair procedures, please contact the **aprilia** SERVICE DEPT., they will be glad to give you any information on the matter, or supply you with any detail on updates and technical changes applied to the vehicle.

For further details, see (REFERENCE MANUALS).

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Produced and printed by:

DECA S.r.l.
via Risorgimento, 23/1 - 48022 Lugo (RA) - Italy
Tel. +39 - 0545 35235
Fax +39 - 0545 32844
E-mail: deca@decaweb.it
www.decaweb.it

On behalf of:

aprilia s.p.a.
via G. Galilei, 1 - 30033 Noale (VE) - Italy
Tel. +39 – (0)41 58 29 111
Fax +39 – (0)41 58 29 190
www.aprilia.com
www.serviceaprilia.com

0.1.2. REFERENCE MANUALS

SPARE PARTS CATALOGUES
Version E 361 C 364

aprilia part# (description)	
5564_00	I F D E UK

Version IE 50

aprilia part# (description)	
5574_00	I F D E UK

OWNER'S MANUALS

aprilia part#	
8202397	I
8202441	F D E UK
8202442	NL GR SF GR J
8202439	USA CND

ENGINE WORKSHOP MANUAL
Engines E 361 C 364

aprilia part#	
8140818	I
8140821	E
8140819	F
8140820	D
8140822	UK
8CM0067	I E F D UK

ENGINE WORKSHOP MANUAL
Engines IE 50

aprilia part#	
8140645	I
8140646	E
8140647	F
8140648	D
8140649	UK
8CM006	I E F D UK

CHASSIS WORKSHOP MANUAL

aprilia part#	
8140812	I
8140815	E
8140813	F
8140814	D
8140816	UK
8140817	USA
8CM0064	I E F D UK
8CM0065	USA

0.1.3. ABBREVIATIONS/SYMBOLS/CONVENTIONS

= number
< = less than
> = greater than
≤ = less than or equal to
≥ = more than or equal to
~ = approximately
∞ = infinity
°C = degrees Celsius (centigrade)
°F = degrees Fahrenheit
± = plus or minus
a.c = alternating current
A = Ampere
Ah = Ampere per hour
API = American Petroleum Institute
AT = high voltage
AV/DC = Anti-Vibration Double Countershaft
bar = pressure measurement (1 bar = 100 kPa)
d.c. = direct current
cc = cubic centimetres
CO = carbon monoxide
CPU = Central Processing Unit
DIN = German industrial standards (Deutsche Industrie Norm)
DOHC = Double Overhead Camshaft
ECU = Electronic Control Unit
rpm = revolutions per minute
HC = unburnt hydrocarbons
ISC = Idle Speed Control
ISO = International Standardisation Organisation
kg = kilograms
kgm = kilogram metre (1 kgm = 10 Nm)
km = kilometres
km/h = kilometres per hour
kΩ = kilo Ohm
kPa = kiloPascal (1 kPa = 0.01 bar)
KS = clutch side (from the German "Kupplungseite")
kW = kilowatt
l = litres
LAP = racetrack lap
LED = Light Emitting Diode
LEFT SIDE = left side
m/s = metres per second
max = maximum
mbar = millibar (1 mbar = 0.1 kPa)
mi = miles
MIN = minimum
MPH = miles per hour
MS = flywheel side (from the German "Magnetoseite")
MΩ = MegaOhm
N.A. = Not Available
N.O.M.M. = Motor Octane Number
N.O.R.M. = Research Octane Number
Nm = Newton metre (1 Nm = 0.1 kgm)
Ω = ohm
PICK-UP = pick-up
BDC = Bottom Dead Centre
TDC = Top Dead Centre
PPC = Pneumatic Power Clutch
RIGHT SIDE = right side
SAE = Society of Automotive Engineers
SAS = Secondary Air System

TEST	= diagnostic check
T.B.E.I.	= crown-head Allen screw
T.C.E.I.	= cheese-head Allen screw
T.E.	= hexagonal head
T.P.	= flat head screw
TSI	= Twin Spark Ignition
UPSIDE-DOWN	= inverted fork
V	= volt
W	= watt

GENERAL INFORMATION 1

SUMMARY

1.1. STRUCTURE OF THE MANUAL

1.1.1. CONVENTIONS USED IN THE MANUAL

- This manual is divided in sections and subsections, each covering a set of the most significant components. Refer to the index of sections when consulting the manual.
- Unless expressly specified otherwise, assemblies are reassembled by reversing the dismantling procedure.
- The terms "right" and "left" are referred to the rider seated on the vehicle in the normal riding position.
- Motorcycle operation and basic maintenance are covered in the "OWNER'S MANUAL".

In this manual any variants are identified with these symbols:

IE 361	engine electronic injection Purejet
IE 50	engine electronic injection Ditech
C 364	carburettor
OPT	optional
	catalytic version
-	all versions
11kw	derated version 11 kw
80km	speed 80km/h
f.p	full-power version
MP	national certification
SF	European certification (EURO 1 limits)

VERSION:

I	Italy	GR	Greece	MAL	Malaysia
UK	United Kingdom	NL	Holland	RCH	Chile
A	Austria	CH	Switzerland	HR	Croatia
P	Portugal	DK	Denmark	AUS	Australia
SF	Finland	J	Japan	USA	United States of America
B	Belgium	SGP	Singapore	BR	Brazil
D	Germany	SLO	Slovenia	RSA	South Africa
F	France	IL	Israel	NZ	New Zealand
E	Spain	ROK	South Korea	CDN	Canada

1.1.2. SAFETY WARNINGS

The following precautionary warnings are used throughout this manual in order to convey the following messages:

Safety warning. This symbol appears, whether in the manual or on the vehicle itself, to indicate a personal injury hazard. Non-compliance with the indications given in the messages preceded by this symbol may result in grave risks for your and other people's safety and for the vehicle!

DANGER
Indicates a potential hazard which may result in serious injury or even death.

WARNING
Indicates a potential hazard which may result in minor personal injury or damage to the vehicle.

CAUTION *The word "CAUTION" in this manual identifies important information or instructions.*

1.2. GENERAL RULES

1.2.1. BASIC SAFETY RULES

CARBON MONOXIDE
Should it be necessary to perform some operations with the vehicle running, make sure to work outdoors or in a well-aerated room.
Avoid starting the engine indoors.
In case you are working indoors, use a gas exhaust system.

DANGER
Exhaust gases contain carbon monoxide, which is extremely toxic if inhaled and may cause loss of consciousness or even lead to death.

FUEL

DANGER
The fuel used to operate engines is highly flammable and becomes explosive under particular conditions.
Refuelling and engine service should take place in a well-ventilated area with the engine stopped. Do not smoke when refuelling or in the proximity of sources of fuel vapours, avoid flames, sparks and any element that could ignite fuel or provoke explosions.

DO NOT DISPOSE OF FUEL IN THE ENVIRONMENT.

KEEP AWAY FROM CHILDREN.

HIGH-TEMPERATURE COMPONENTS
The engine and the components of the exhaust system become very hot and remain hot for some time after the engine has been stopped.
Before handling these components, wear insulating gloves or wait until the engine and the exhaust system have cooled down.

USED GEARBOX AND FORK FLUIDS

DANGER
Wear latex gloves when servicing.
Gear fluid may cause serious damage to the skin if handled daily and for long periods.
Wash your hands carefully after use.
Take it to the filling station where you usually buy it or to an oil salvage centre.
Wear latex gloves when servicing.

DO NOT DISPOSE OF FLUID IN THE ENVIRONMENT

KEEP AWAY FROM CHILDREN.

BRAKE FLUID

WARNING
When handling the brake fluid, take care not to spill it on the plastic, rubber or painted parts, since it can damage them. When carrying out the maintenance operations on the braking system, use a clean cloth to cover these parts.
Always wear safety goggles when working on the braking system.
The brake fluid is highly irritant. Avoid contact with your eyes.
If the brake fluid gets in contact with your eyes, carefully wash them with fresh water and immediately seek medical advice.

KEEP AWAY FROM CHILDREN.

HYDROGEN AND BATTERY FLUID

DANGER
The battery electrolyte is a toxic, caustic substance containing sulphuric acid and thus able to cause severe burns in case of contact with the skin.
Always wear tight gloves and protective clothes when handling this fluid.
In case of contact with skin, rinse with plenty of fresh water.
Always use a protection for your eyes since even a very small amount of the battery fluid can cause blindness. In the event of contact with your eyes, carefully wash them with water for fifteen minutes and then consult immediately an eye specialist.
Should you accidentally drink some fluid, drink abundant water or milk, then drink magnesia milk or vegetable oil and immediately seek medical advice.
The battery gives off explosive gases and must be kept away from flames and sources of ignition or heat; do not smoke near the battery.
Make sure the room is well-aerated when servicing or recharging the battery.

KEEP AWAY FROM CHILDREN.

Battery fluid is corrosive.
Do not spill it, especially on plastic parts.
Make sure that the electrolyte acid is suitable for the type of battery used.

GENERAL PRECAUTIONS AND INFORMATION

Follow these instructions closely when repairing, disassembling or reassembling the motorcycle or its components.

DANGER
Using bare flames is strictly forbidden when working on the motorcycle. Before servicing or inspecting the motorcycle: stop the engine and remove the key from the ignition switch; allow for the engine and exhaust system to cool down; where possible, lift the motorcycle using adequate equipment placed on firm and level ground. Be careful of any parts of the engine or exhaust system which may still be hot to the touch to avoid scalds or burns.
Do not put any vehicle parts into your mouth: vehicle components are not edible and some of them are harmful or even toxic.
Unless expressly specified otherwise, assemblies are reassembled by reversing the dismantling procedure. Where a procedure is cross-referred to relevant sections in the manual, proceed sensibly to avoid disturbing any parts unless strictly necessary. Do not polish matt-painted surfaces with polishing paste.
Never use fuel instead of solvent to clean the motorcycle.
Do not clean any rubber or plastic parts or the seat with alcohol, petrol or solvents. Clean with water and mild detergent.
Always disconnect the battery negative (-) lead before soldering any electrical components.
When two or more persons service the same motorcycle together, special care must be taken to avoid personal injury.
For further warnings, see (DANGEROUS ELEMENTS).

BEFORE REMOVING THE COMPONENTS

- Clean off all dirt, mud, and dust and clear any foreign objects from the vehicle before disassembling any components.
- Use the model-specific special tools where specified.

DISASSEMBLING THE COMPONENTS

- Never use pliers or similar tools to slacken and/or tighten nuts and bolts. Always use the suitable spanner.
- Mark all connections (hoses, wiring, etc.) with their positions before disconnecting them. Identify each connection using a distinctive symbol or convention.
- Mark each part clearly to avoid confusion when refitting.
- Thoroughly clean and wash any components you have removed using a detergent with low flash point.
- Mated parts should always be refitted together. These parts will have seated themselves against one another in service as a result of normal wear and tear and should never be mixed up with other similar parts on refitting.
- Certain components are matched-pair parts and should always be replaced as a set.
- Keep away from heat sources.

REASSEMBLING THE COMPONENTS

DANGER
Never reuse a circlip or snap ring. These parts must always be renewed once they have been disturbed.
When fitting a new circlip or snap ring, take care to move the open ends apart just enough to allow fitment to the shaft.
Make it a rule to check that a newly-fitted circlip or snap ring has located fully into its groove.
Never clean a bearing with compressed air.

CAUTION *All bearings must rotate freely with no hard spots or noise. Replace any bearings that do not meet these requirements.*

- Use ORIGINAL **aprilia** SPARE PARTS only.
- Use the specified lubricants and consumables.
- Where possible, lubricate a part before assembly.
- When tightening nuts and bolts, start with the largest or innermost nut/bolt and observe a cross pattern. Tighten evenly, in subsequent steps until achieving the specified torque.
- Replace any self-locking nuts, gaskets, seals, circlips or snap rings, O-rings, split pins, bolts and screws which have a damaged thread.
- Lubricate the bearings abundantly before assembly.
- Make it a rule to check that all components you have fitted are correctly in place.
- After repairing the motorcycle and after each service inspection, perform the preliminary checks, and then ride the motorcycle in a private estate area or in a safe area away from traffic.
- Clean all mating surfaces, oil seal edges and gaskets before assembly. Apply a thin layer of lithium grease along the edges of oil seals. Fit oil seals and bearings with the marking or serial number facing outwards (in view).

ELECTRICAL CONNECTORS

To disconnect the electrical connectors, follow the procedures below. Failure to comply with these procedures may lead to irreparable damage to the connector and the wiring as well.
If present, press the special safety hooks.

WARNING
Do not pull cables to disconnect the two connectors.

- Grasp the two connectors and disconnect them by pulling them in the two opposite directions.
- In case of dirt, rust, moisture, etc.., thoroughly clean the inside of the connectors with compressed air.
- Make sure that the cables are correctly fitted inside the connector terminals.

CAUTION *The two connectors have just one correct positioning. Make sure to position them in the right direction.*

- Then fit the two connectors. Make sure they are correctly coupled (a click will be heard if hooks are present).

TIGHTENING TORQUE SETTINGS

DANGER
Always remember that the tightening torque settings of all wheel, brake, wheel shaft and other suspension parts play a fundamental role to ensure vehicle safety. Make sure that these values are always within the specified limits.
Check fastening parts tightening torque settings at regular intervals. Upon reassembly, always use a torque wrench.
Failure to comply with these recommendations could lead to the loosening and detachment of one of these parts with a consequent locking of the wheel or other serious troubles affecting the vehicle manoeuvrability, and thus the risk of falls and serious injuries or death.

1.3. DANGEROUS ELEMENTS

1.3.1. WARNINGS

FUEL

DANGER
The fuel used to operate engines is highly flammable and becomes explosive under particular conditions.
Refuelling and engine service should take place in a well-ventilated area with the engine stopped. Do not smoke when refuelling or in the proximity of sources of fuel vapours, avoid flames, sparks and any element that could ignite fuel or provoke explosions.
Take care not to spill fuel out of the filler, or it may ignite when in contact with hot engine parts.
In the event of accidental fuel spillage, make sure the affected area is fully dry before starting the engine. Fuel expands from heat and when left under direct sunlight.
Never fill the fuel tank up to the brim. Tighten the filler cap securely after each refuelling.
Avoid contact with skin. Do not inhale vapours. Do not swallow fuel. Do not transfer fuel between different containers using a hose.
DO NOT DISPOSE OF FUEL IN THE ENVIRONMENT.
KEEP AWAY FROM CHILDREN.

Use only unleaded petrol with 95 RON and 85 MON octane rating minimum.

LUBRICANTS

DANGER
A good lubrication ensures the vehicle safety.
Failure to keep the lubricants at the recommended level or the use of a non-suitable new and clean type of lubricant can lead to the engine or gearbox seizure, thus causing serious accidents, personal injury or even death.
Gear fluid may cause serious damage to the skin if handled daily and for long periods.
Wash your hands carefully after use.
Do not dispose of oil in the environment.
Take it to the filling station where you usually buy it or to an oil salvage centre.

WARNING
When filling the vehicle with this oil, take care not to spill it out. Immediately clean spilt oil, or it might damage the vehicle paintwork.
In case of contact with oil, the tyres surface will become very slippery, thus becoming a serious danger for your safety.
In case of leaks, do not use the vehicle. Check and trace the cause of leaks and proceed to repair.

Engine oil

DANGER
Engine oil may cause serious damage to the skin if handled daily and for long periods.
Wash your hands carefully after use.
Do not dispose of oil in the environment.
Dispose of engine oil through the nearest waste oil reclamation firm or through the supplier.
Wear latex gloves when servicing.

FRONT FORK FLUID

DANGER
Front suspension response can be modified to a certain extent by changing damping settings and/or selecting a particular grade of oil. Standard oil: SAE 20 W. Choose suitable viscosity grades according to the desired set-up (SAE 5W softer, 20W less soft).
The two grades can also be mixed in varying solutions to obtain the desired response.

BRAKE FLUID

CAUTION *This vehicle is fitted with front and rear disc brakes. Each braking system is operated by an independent hydraulic circuit. The information provided below applies to both braking systems.*

DANGER
Do not use the vehicle in case brakes are worn out or do not work properly. The brakes are the parts that most ensure your safety and for this reason they must always be perfectly working. Failure to comply with these recommendations will probably lead to a crash or an accident, with a consequent risk of personal injury or death.
A wet surface reduces brakes efficiency.

DANGER
In case of wet ground the braking distance will be doubled, since both brakes and tyre grip on the road surface are extremely reduced by the water present on the road surface.
Any water on brakes, after washing the vehicle or driving on a wet road surface or crossing puddles or gips, can wet brakes so as to greatly reduce their efficiency.
Failure to comply with these recommendations may lead to serious accidents, with a consequent risk of severe personal injuries or death.
Brakes are critical safety components. Do not ride the vehicle in case brakes are not working at their best.
Check for brakes proper operation before every trip.
Brake fluid is an irritant. Avoid contact with eyes or skin.
In the event of accidental contact, wash affected body parts thoroughly. In the event of accidental contact with eyes, contact an eye specialist or seek medical advice.
DO NOT RELEASE BRAKE FLUID INTO THE ENVIRONMENT.
KEEP AWAY FROM CHILDREN.
When handling brake fluid, take care not to spill it onto plastic or paint-finished parts or they will damage.

DANGER
Do not use any brake fluids other than the specified type. Never mix different types of fluids to top up level, as this will damage the braking system.
Do not use brake fluid from containers which have been kept open or in storage for long periods.
Any sudden changes in play or hardness in the brake levers are warning signs of problems with the hydraulic circuits.
Ensure that the brake discs and brake linings have not become contaminated with oil or grease. This is particularly important after servicing or inspections.
Make sure the brake lines are not twisted or worn.
Prevent accidental ingress of water or dust into the circuit.
Wear latex gloves when servicing the hydraulic circuit.

DISC BRAKES

DANGER
The brakes are the parts that most ensure your safety and for this reason they must always be perfectly working; check them before every trip.
A dirty disc soils the pads.
Dirty pads must be replaced, while dirty discs must be cleaned with a high-quality degreaser.
Perform the maintenance operations with half the indicated frequency if the vehicle is used in rainy or dusty areas, on uneven surfaces or for racing.
Check brake pads for wear.
When the brake pads wear out, the level of the fluid decreases to automatically compensate for their wear.
The front brake fluid reservoir is located on the right handlebar, near the front brake lever.
The rear brake fluid reservoir is located under the right fairing.
Do not use the vehicle if the braking system leaks fluid.

COOLANT

DANGER
Coolant is toxic when ingested and is an irritant, contact with eyes or skin may cause irritation.
In the event of contact with your skin or eyes, rinse repeatedly with abundant water and seek medical advice. In the event of ingestion, induce vomiting, rinse mouth and throat with abundant water and seek medical advice immediately.
DO NOT RELEASE INTO THE ENVIRONMENT.
KEEP AWAY FROM CHILDREN.

DANGER
Take care not to spill coolant onto hot engine parts. It may ignite and produce invisible flames. Wear latex gloves when servicing.
Do not ride when coolant is below the minimum level.

Coolant mixture is a 50% solution of water and antifreeze. This is the ideal solution for most operating temperatures and provides good corrosion protection.
This solution is also suited to the warm season, as it is less prone to evaporative loss and will reduce the need for top-ups.
In addition, less water evaporation means fewer minerals salts depositing in the radiator, which helps preserve the efficiency of the cooling system.
When the temperature drops below zero degrees centigrade, check the cooling system frequently and add more antifreeze (up to 60% maximum) to the solution, if needed.
Use distilled water in the coolant mixture. Tap water will damage the engine.
Refer to the chart given below and add water with the quantity of antifreeze to obtain a solution with the desired freezing point:

Freezing point C° (-°F)	Coolant % of volume
-20° (-4)	35
-30° (-22)	45
-40° (-40)	55

CAUTION *Coolants have different specifications. The protection degree is written on the label.*

WARNING
Use only nitrite-free antifreeze and corrosion inhibitors with a freezing point of -35°C (-31°F) as a minimum.

TYRES

WARNING
If tyres are excessively inflated, the vehicle will be hard, difficult and uncomfortable to ride.
In addition, the roadworthiness, mainly on wet surfaces and during cornering, will be impaired.
Flat tyres (insufficient pressure) can slip on the rim and make you lose the control of the vehicle.
In this case too, both vehicle roadworthiness, manoeuvrability and brake efficiency will be impaired.
Tyres changing, repair, maintenance and balancing must be carried out by specialized technicians using suitable equipment.
When new, tyres can have a thin slippery protective coating. Drive carefully for the first kilometres (miles).
Never use rubber treating substances on tyres.
In particular, avoid contact with fluid fuels, leading to a rapid wear.
In case of contact with oil or fuel, do not clean but change the tyres.

DANGER
Some of the factory-assembled tyres of this vehicle are provided with wear indicators.
There are several kinds of wear indicators.
For more information on how to check the wear, contact your Dealer.
Visually check if the tyres are worn and in this case have them changed.
If a tyre deflates while driving, stop immediately.
Avoid hard brakings or moves and do not close throttles too abruptly.
Slowly close the throttle grip, move to the edge of the road and use the engine brake to slow down until coming to a halt.
Failure to comply with these recommendations may lead to accidents, with a consequent risk of personal injuries or death.
Do not install tyres with air tube on rims for tubeless tyres and vice versa.

1.4. RUNNING-IN

1.4.1. RUNNING-IN

Correct engine running-is essential to ensuring proper performance and durability.
Twisty, hilly roads are ideal for an effective running-in of engine, suspension and brakes.
Vary speed frequently during the running-in period.
This will allow engine parts to be alternately loaded and unloaded, allowing them to cool down when unloaded.
While it is important to put some stress on engine components during running-in, it is equally important to avoid extreme load conditions.

WARNING
Only after the first 500 km (312 mi) of running-in is it possible to obtain the best acceleration performance from the vehicle.

Follow these recommendations:

- Never accelerate completely and harshly when the engine is running at low rpm, either during or after running-in.
- Until you have covered the first 100 km (62 mi), use the brakes gently and avoid harsh, prolonged braking. This will help the brake pads bed in properly against the brake disc.
- During the first 300 km (187 mi) do not keep the throttle twistgrip open for more than half of its travel for too long.
- From 300 to 500 km (187 - 312 mi), do not keep the throttle twistgrip open for more than three fourths of its travel for too long.

WARNING
After the first 1000 km (625 mi), carry out the checking operations indicated in the column "After running-in", see REGULAR SERVICE INTERVALS CHART, in order to avoid hurting yourself or other people and/or damaging the vehicle.

1.5. VEHICLE IDENTIFICATION

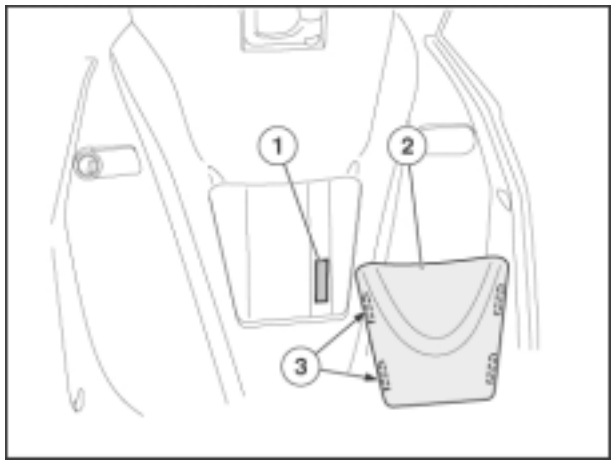
1.5.1. POSITION OF THE SERIAL NUMBERS

CAUTION *Altering the vehicle identification numbers is a legal offence. Altering the frame number invalidates the warranty.*

FRAME NUMBER

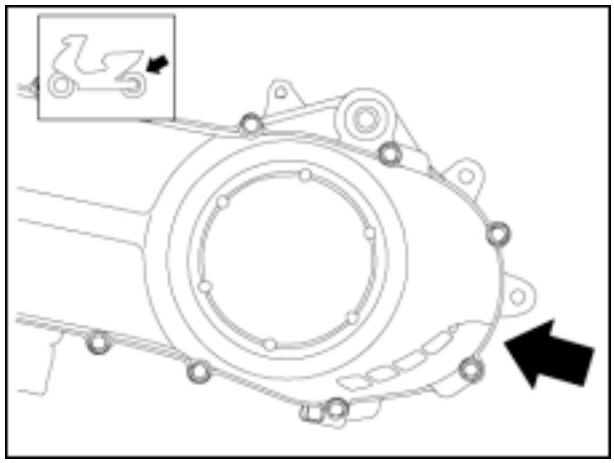
The frame number (1) is stamped on the frame central tube. To read it, it is necessary to remove the indicated cover (2).

CAUTION *The cover (2) can be fitted only in one way. Tabs (3) are on the sides.*



ENGINE NUMBER

The engine number is stamped near the lower support of the rear shock absorber.



PERIODIC MAINTENANCE 2

SUMMARY

2.1. SPECIFICATIONS

2.1.1. TECHNICAL DATA

DIMENSIONS	
Max. length (with rear mudguard extension)	1860 mm (73.2 in.)
Max. Width	705 mm (27.8 in.)
Max. height (to the headlight fairing)	1120 mm (44.1 in.)
Seat height	795 mm (31.3 in.)
Wheelbase IE 50	1290 mm (50.8 in.)
Wheelbase IE 361 - C 364	1260 mm (49.6 in.)
Minimum ground clearance	100 mm (3.94 in.)
Loadless weight (in running order)	108 kg (238 lb)
ENGINE	
Type	2 strokes
Model C 364	C364M
Model IE 361	C361M
Model IE 50	Aprilia engine ditech
Number of cylinders	horizontal single-cylinder
Total displacement	49.38 cu. cm (3.01 cu.in)
Bore/stroke C 364 / IE 361	40 mm /39.3 mm (1.57 in /1.55 in).
Bore/stroke IE 50	41 mm /37.4 mm (1.61 in /1.47 in).
Compression ratio C 364	12.1 ± 0.5 : 1
Compression ratio IE 361	11.50
Compression ratio IE 50	12.50
Starting C 364	electric + kick starter
Starting IE 361 / IE 50	Electric starter
Engine idling speed C 364	1700 ± 100 rpm
Engine idling speed IE 361	2000 ± 50 rpm
Engine idling speed IE 50	1600 ± 100 rpm
Clutch	automatic, dry centrifugal clutch
Gearbox	automatic converter, stepless
Cooling system	Liquid
CAPACITIES	
Fuel (including reserve)	7 litres (12.7 pt)
Fuel reserve	1.2 litres (2.18 pt)
Gearbox oil IE 50	130 cu. cm (7.93 cu.in)
Gearbox oil C 364 / IE 361	75 cu. cm (4.58 cu.in)
Mixer oil (reserve included)	1.2 litres (2.18 pt)
Mixer oil reserve	0.2 litres (0.36 pt)
Coolant	1.2 litres (2.18 pt) (50% water + 50% antifreeze with ethylene glycol)
Seat	no. 1 (2 in the countries where a passenger is allowed)
Vehicle max. load (rider + luggage)	105 kg (231 lb)
Vehicle max. load (rider + passenger + luggage)	180 Kg (397 lb) (in the countries where a passenger is allowed)
TRANSMISSION SYSTEM	
Converter	Stepless automatic converter
Primary	V belt
Ratios	
- minimum for stepless gearbox	C 364 3.07 / IE 361 3.07 / IE 50 2.90
- maximum for stepless gearbox	C 364 1.37 / IE 361 1.24 / IE 50 0.75
Final	gears
CARBURETTOR C 364	
Model	
- standard	Dell'Orto PHVA 17.5
Channel	Ø 17.5 mm (0.69 in.)
ELECTRONIC INJECTION FUEL FEED IE 361 / IE 50	
Model	
- standard	BING 71
Throttle	Ø 18 mm (0.71 in.)
FUEL SYSTEM	
Fuel	unleaded fuel, in conformity with the DIN 51607 standard, min. O.N. 95 (R.O.N.) and 85 (M.O.N.).

FRAME	
Type	Split single-beam
SUSPENSIONS	
Front	Telescopic fork
Travel	90 mm (3.54 in.)
Rear	hydraulic monoshock
Travel	69 mm (2.72 in.)
BRAKES	
Front	Disc - Ø 190 mm (7.48 in) with hydraulic transmission.
Rear	Disc - Ø 190 mm (7.48 in) with hydraulic transmission.
WHEEL RIMS	
Type	alloy
Front	3.50 x 13"
Rear	3.50 x 13"
TYRES	
Type	tubeless
Front	130/60 – 13" 53J
Rear	130/60 – 13" 53J
STANDARD INFLATION PRESSURE	
Front	180 kPa (1.8 bar) (26 PSI)
Rear	200 kPa (2.0 bar) (29 PSI)
INFLATION PRESSURE WITH PASSENGER (in the countries where this is allowed)	
Front	180 kPa (1.8 bar) (26 PSI)
Rear	220 kPa (2.2 bar) (32 PSI)
IGNITION	
Type C 384	C.D.I.
Type IE 381 / IE 50	T.D.I.
Spark advance C 384	20 ° ± 3 ° before TDC.
Spark advance IE 381 / IE 50	mapped to rpm/a (a = throttle opening)
SPARK PLUG	
Standard C 384	CHAMPION RN1C
Standard IE 381	CHAMPION RG6YCA / RG6YC
Standard IE 50	NGK-R CPR8E
As an alternative IE 381 / IE 50	NGK-R ZMR7AP (recommended) / CR8EKB / CR7EKB
Spark plug electrode gap C 384	0.6 – 0.7 mm (0.024 – 0.028 in.)
Spark plug electrode gap IE 381 / IE 50	0.9 mm (0.035 in.)
ELECTRIC SYSTEM	
Battery	with maintenance 12 V - 9 Ah
Fuses C 384	7.5 A - 15 A
Fuses IE 381	10 A - 15 A
Fuses IE 50	10 A
Generator (with permanent magnet) C 384	12 V - 70 W
Generator (with permanent magnet) IE 381	12 V - 165 W
Generator (with permanent magnet) IE 50	12 V - 140 W
BULBS	
Low beam	12 V - 35 W
High beam	12 V - 35 W
Direction indicators	12 V – 10 W
Rear parking / stop light	12 V – 5 / 21 W
Instrument panel lights	12 V - LED
WARNING LIGHTS	
High beam	12 V - LED
Direction indicators	12 V - LED
Fuel reserve	12 V - LED
Injection Check IE 381 / IE 50	12 V - LED

2.1.2. SCHEDULED MAINTENANCE CHART

Component	After running-in [500 km (312 mi)]	Every 4000 km (2500 mi) or 12 months	Every 8000 km (5000 mi) or 24 months
Rear shock absorber	-	-	1
Battery - Electrolyte level	1	1	-
SPARK PLUG	1	3	-
Carburettor – Idle speed (IE 361 IE 50 excluded)	4	1	-
Transmission and control cables	1	1	-
Drive belt	-	-	3
Steering tube bearings and play	1	1	-
Wheel bearings	-	1	-
Brake discs	-	1	-
Clamps	Every 12000 km (7440 mi):1		
Air filter	1	-	1
Fuel filter	-	Every 12000 km (7440 mi):1	
Throttle operation	1	1	-
Vehicle operation	1	1	-
Light system	1	1	-
Stop light switch	-	1	-
Braking systems / brake discs	1	1	-
Brake fluid (check level)	-	1	-
Brake fluid	Every two years: 3		
Coolant	Every 2000 Km (1240 mi): 1 / Every two years: 3		
Exhaust muffler/exhaust silencer	-	1	-
Mixer / throttle operation	1	1	-
Mixer oil	Every 500 km (312 mi): 1		
Mixer oil IE 361 IE 50	Every 2000 km (1240 mi): 1		
Front fork fluid and oil seal	Every 12000 km (7440 mi):1		
Gearbox oil	3	1	Every 12000 Km (7440 mi) or two years : 3
Front pulley	Every 12000 km (7440 mi):1		
Injector cleaning IE 361 IE 50	Every 16000 km (9920 mi): 2		
Rollers and guides of front converter	Every 12000 km (7440 mi): 3		
Wheels - tyres and inflating pressure	1	1	-
Wheels - tyres and inflating pressure	Every month: 1		
Tightening of nuts and bolts	1	1	-
Tightening of battery clamps	1	-	-
Mixer oil reserve light	1	1	-
Fuel pipe	Every 4000 Km (2500 mi): 2 / Every two years: 3		
Braking system lines	Every 4000 Km (2500 mi): 1 / Every two years: 3		
Mixer oil pipe	1	1	every two years: 3
Front and rear brake wear	1	Every 2000 km (1240 mi): 1	
Clutch wear	-	1	-

1 = check and clean, adjust, lubricate or change, if necessary;
2 = clean;
3 = replace;
4 = adjust.

Carry out the maintenance operations more frequently if you use the vehicle in rainy and dusty areas or on uneven ground.

( ) = OPERATIONS THAT CAN BE CARRIED OUT BY THE USER

2.1.3. LUBRICANT TABLE

LUBRICANT	PRODUCT
Gearbox oil	RECOMMENDED: IP F.C., SAE 75W 90 or Agip GEAR SYNTH, SAE 75W - 90. As an alternative to recommended oil, top brand oils meeting or exceeding A.P.I. GL-4 specifications can be used.
Mixer oil	RECOMMENDED: IP PROGPX2 or IP GREEN HIT 2 as an alternative Agip CITY 2T. As an alternative to recommended fluids, top brand oils meeting or exceeding A.P.I. SJ specifications can be used.
Front fork fluid	RECOMMENDED: IP F.A. 5W or IP F.A. 20W as an alternative Agip FORK 5W or Agip FORK 20W. When you wish to obtain an intermediate response between those offered by IP F.A. 5W and IP F.A. 20W or Agip FORK 5W and Agip FORK 20W, you may mix the different products as follows: SAE 10W = IP F.A. 5W 67% of volume, + IP F.A. 20W 33% of volume, Agip FORK 5W 67% of volume + Agip FORK 20W 33% of volume; SAE 15W = IP F.A. 5W 33% of volume, + IP F.A. 20W 67% of volume, Agip FORK 5W 33% of volume + Agip FORK 20W 67% of volume.
Bearings and other lubrication points	RECOMMENDED: IP AUTOGREASE MP or Agip GREASE 30. As an alternative to recommended grease, use top brand rolling bearing grease that will resist a temperature range of -30°C (-22°F) to +140°C (+284°F), with dropping point 150°C (302°F) to 230°C (446°F), high corrosion protection, good resistance to water and oxidisation.
Battery terminals	Use neutral grease or Vaseline.
Brake fluid	***CAUTION*** *Use new brake fluid only. Do not mix different makes or types of oil without having checked bases compatibility.* The braking system is filled with DOT 4 FLUID (compatible DOT 5). As an alternative to the recommended product, top brand brake fluid meeting or exceeding SAE J1703, NHTSA 116 DOT 4, ISO 4925 specifications for synthetic brake fluid can be used.
Engine coolant	***CAUTION*** *Use only nitrite-free antifreeze and corrosion inhibitors with a freezing point of - 35°C (-31°F) as a minimum.* RECOMMENDED: IP ECOBLU – 40° C or Agip COOL.

2.1.4. TIGHTENING TORQUE SETTINGS

WARNING
The fastening elements listed should be tightened to the specified torque using a torque wrench and applying LOCTITE ® where indicated.

Description	Q.ty	Type of fastener	Torque (Nm)	Tol.	Note
Frame					
Wheelhouse support to frame fastener	2	Screw M6x16	10	±20%	
Coil to connection plate fastener	2	Screw M4x20	3	±20%	
Fuel tank protector to frame fastener	2	Screw M5x16	2	±20%	
Wheelhouse to support fastener	2	Screw M6x16	4	±20%	
Radiator support to frame fastener	2	Screw M6x16	7	±20%	
Connecting rod IE 361					
Connecting rod to frame and connecting rod to engine fastener	2	Nut M10	42	±20%	
Connecting rod C 364 IE 50					
Connecting rod connection plates to frame fastener	4	Screw M8x20	25	±20%	
Silent-block to connection plate fastener	2	Screw M10x55	42	±20%	
Engine shaft fastener	1	Nut M12	60	±20%	
Stand					
Stand fastener onto engine	1	Screw M8x25	25	±20%	
Stand fastener onto engine	1	Screw M8x70	25	±20%	
Fork					
Steering nut fastener	1	Nut M32x1	10	±20%	
Steering lock nut	1	Self-locking nut M32x1	110	-	Adjust steering play
Rear suspension					
Shock absorber lower screw fastener	1	Screw M10x55	40	±20%	
Shock absorber upper screw fastener	1	Screw M10x35	50	±20%	
Engine IE 50					
Cover to crankcase cover fastener	4	Self-tapping 3.9x14 plastic	0.5	-	
Inner disc to crankcase cover fastener	3	Self-tapping 3.9x14 plastic	0.5	-	
Engine IE 361					
Converter unit cover fastener	4	Self-tapping screw M5	4	±20%	
Crankcase cover fastener	5	Screw M6x40	10	±20%	
Rear cover to crankcase cover fastener	1	Screw M6x16	10	±20%	
Engine C 364					
Converter unit cover fastener	4	Self-tapping screw M5	4	±20%	
Converter cover to crankcase fastener	8	Allen cheese-headed screw M6x25	10	±20%	
Filter box					
Air box to bracket fastener (IE 361 – C 364)	2	M6x60	10	±20%	
Air box bracket to engine fastener (IE 361 – C 364)	1	M6x40	10	±20%	
Air box bracket to engine fastener (IE 361 – C 364)	1	M6x30	10	±20%	
Base cover fastener	3	Self-tapping 5x20 plastic	2	-	
Cap to cover fastener (IE 50 – IE 361)	4	Self-tapping 3.9x14 plastic	0.8	-	
Hose tie to base fastener	1	Tie 25 - 45	0.4	-	
Hose tie to throttle body fastener	1	Tie 25 - 45	2	-	

Description	Q.ty	Type of fastener	Torque (Nm)	Tol.	Note
Exhaust					
Muffler flange to cylinder fastener	2	Nut M6	10	±20%	
Protection fastener onto muffler	2	Screw M6x16	10	±20%	
Muffler and mudguard to engine fastener	1	Screw M8x85	27	±10%	
Muffler fastener onto engine	1	Screw M8x85	27	±10%	
Cooling system					
Ties secured with air gun	2	Tie 17 - 25	3	-	
Head pipe fastener onto radiator	1	Clamp D.16 – 24x8	2	±20%	
Front wheel					
Brake disc fastener	3	Allen crowned-head screw M8x30	25	±10%	
Wheel shaft fastener	1	Nut M12x1.25	50	±10%	
Wheel shaft clamp fastener	2	Screw M6	10	±10%	
Rear Wheel C 364 E 361					
Brake disc fastener	3	Allen crowned-head screw M8x25	25	±10%	
Wheel to hub fastener	3	Allen cheese-headed screw M10x55	50	±20%	
Hub to engine fastener	1	Nut M16	130	±10%	
Rear wheel IE 50					
Wheel to engine fastener	1	M14x1.5	110	±10%	
Front and rear brake					
Front brake calliper fastener	2	Hex. head screw flandrin M 8x35	27	±10%	
Rear calliper fastener E 361	2	Allen crowned-head screw M8x35	27	±10%	
Rear brake fluid line tie fastener	1	Flanged hex.head screw M6x35	10	±20%	
Handlebar					
Safety screw fastener for fork onto handlebar	1	Flanged hex.head screw M8x40	25	±20%	
Handlebar clamp to fork fastener	1	Allen cheese-headed screw M10x55	50	±20%	
Right and left mirror securing screw	2	Allen chees-headed screw M8x35	25	±20%	
Brake master cylinders to handlebar fastener	4	Screw M6x25	10	±20%	
Front bodywork					
Door to wheelhouse fastener	2	Self-tapping 3.9x14 plastic	0.8	-	
Front mudguard to insert rear fastener	2	Flanged hex.head screw M5x40	1	-	
Mudguard front fastener	2	Allen crowned-head screw M5x16	2	±20%	
Fastener for wheelhouse onto grid frame side panels and under-platform	10	Self-tapping 4.2x16 crowned cheese-headed	1	-	
Scoops to side panels fastener	4	Self-tapping 3.9x14 plastic	0.8	-	
Headlight to side panels fastener	4	Allen crowned-head screw M4x16	1	±20%	
Radiator conveyor fastener	4	Allen crowned-head screw M5x16 with collar	5	±20%	
Grid frame to inner grid fastener	3	Self-tapping 2.9x12	0.3	-	
Complete frame to side panels fastener	6	Self-tapping 3.9x14 plastic	0.8	-	
Front cover to inner shield fastener	2	Self-tapping 4.2x16 crowned cheese-headed	1	-	
Inner shield to side panels and platform fastener	10	Self-tapping 4.2x16 crowned cheese-headed	1	-	
Side panels to inner shield upper fastener	2	Self-tapping 3.9x14 plastic	0.8	-	
Inner shield to frame fastener	1	Allen crowned-head screw M5x16	2	-	
Bag hook to inner shield fastener	2	Self-tapping 4.2x25 crowned cheese-headed	1	-	

Description	Q.ty	Type of fastener	Torque (Nm)	Tol.	Note
Centre bodywork					
Passenger footboard platform to frame fastener	4	Allen crowned-head screw M5x16	2	±20%	
Under-platform to platform fastener	2	Allen crowned-head screw M5x16	2	±20%	
Under-platform to platform fastener	6	Self-tapping 4.2x16 crowned cheese-headed	1	-	
Platform cover fastener	2	Allen crowned-head screw M5x16	2	±20%	
Rh and Lh tunnel to platform fastener	2	Allen crowned-head screw M5x16	2	±20%	
Rh and Lh tunnel to platform fastener	2	Self-tapping 4.2x16 crowned cheese-headed	1	-	
Tool compartment to platform fastener	1	Allen crowned-head screw M5x16	2	±20%	
Rear bodywork					
Tail guard and seat support assy fastener onto fuel tank protector	6	Allen crowned-head screw M5x16	2	±20%	
Number plate holder to fuel tank protector fastener	4	Allen crowned-head screw M5x16	2	±20%	
Seat support assy to tunnel fastener	4	Allen crowned-head screw M5x16	2	±20%	
Tail guard to helmet compartment fastener	14	Self-tapping 4.2x16 crowned cheese-headed	0.8	-	
Turn indicators to tail guard fastener	2	Allen crowned-head screw M4x16	0.5	±20%	
Tail light to tail guard fastener	2	Allen crowned-head screw M4x16	1	±20%	
Grab handle to frame and to helmet holder fastener	4	Allen cheese-headed screw M6x25	10	±20%	
Helmet compartment to frame fastener	2	Allen crowned-head screw M6x16	7	±20%	
Rear mudguard to air box fastener	1	Allen crowned-head screw M5x16 with collar	2	±20%	
Rear cat's eye to number plate holder fastener	2	Nut M14			
Locks					
Seat latch to inner shield fastener	2	Allen crowned-head screw M5x16	2	±20%	
Levers to helmet compartment fastener	2	Allen crowned-head screw M6x16	4	±20%	
Lock to tunnel cover fastener	1	Narrow-head nut M19x1	4	-	
Lever to tunnel cover lock fastener	1	M4x6	3	±20%	
Ignition lock to frame fastener	1	Allen cheese-headed screw M6x16	10	±20%	
Seat					
Seat bottom end to frame fastener	9	Self-tapping 5x14 plastic	1.5	-	
Box to lug fastener	6	Self-tapping 3.9x14 plastic	0.7	-	
Box to lug fastener	2	Self-tapping 3.9x14 plastic	0.5	-	
ELECTRIC SYSTEM					
Horn fastener	1	M6x16	10	±20%	
Voltage regulator fastener	2	M6x25	10	±20%	
Sensor support fastener	1	M6x16	7	±20%	
Ground cables fastener	1	M6x16	7	±20%	
Control unit fastener (–)	3	M5x16	5	±20%	
Coil connection plate to frame fastener	1	M6x12	10	±20%	
Tail light glass fastener	1	Crowned cheese-headed screw M5x10	1	-	

Description	Q.ty	Type of fastener	Torque (Nm)	Tol.	Note
Instrument panel / Steering head					
Instrument panel to support plate fastener	3	Self-tapping 5x14 plastic	0.5	-	
Steering head to handlebar fastener	2	Allen crowned-head screw M4x16	1	±20%	
Steering head to handlebar fastener	1	Self-tapping 3.9x14 plastic	0.5	-	
Instrument panel support plate to head bottom end fastener	3	Self-tapping 3.9x14 plastic	0.5	-	
Front support plate to instrument panel support plate fastener	5	Self-tapping 3.9x14 plastic	0.5	-	
Handlebar cover to steering head bottom end fastener	4	Self-tapping 3.9x14 plastic	0.5	-	
Turn indicators to support plate fastener	4	Self-tapping 3.9x14 plastic	0.5	-	
Turn indicator covers fastener	2	Self-tapping 3.9x14 plastic	0.5	-	
Headlight fairing to front support plate fastener	4	Allen crowned-head screw M5x20	1	±20%	
Controls to handlebar fastener	4	Screw M5	1	-	
Tanks					
Fuel tank to helmet compartment fastener	3	Allen crowned-head screw M5x16 with collar	3	±20%	
Fuel pump support to helmet compartment fastener (IE 50 – E 361)	1	Screw M5x35	2	±20%	
Oil reservoir and cooling to frame fastener	2	Allen crowned-head screw M5x16	1.5	±20%	
Fuel sensor fastener	4	Nut M4	1	±20%	
Fuel valve to tank fastener (C 364)	1	Tie 16 - 25	2	-	

2.1.5. MULTIFUNCTION DIGITAL COMPUTER IE 361 – IE 50

Using the MODE joystick

Using the MODE joystick on handlebar right side, it is possible to choose various functions in sequence; move the MODE joystick to the right or to the left (UP/DOWN) to scroll the functions, select the function by pressing rapidly, confirm data by pressing for a longer period.

Multifunction indicator functions

Move the UP/DOWN joystick to display the sequence of the various functions:
TRIP 1 → TRIP 2 → BATTERY VOLTAGE → CHRONOMETER → MENU.

TRIP1 - TRIP2 functions

The two pages display two stored values for: trip meter, average speed, maximum speed.
The values can be reset by holding down the MODE joystick for a certain time.

Battery Voltage function

Battery voltage is displayed.

Chronometer function
Quickly press the MODE joystick to start the chronometer.
If the MODE joystick is pressed before 10 seconds have elapsed since chronometer start, current measure is cancelled and a new one is started.
If the MODE joystick is pressed after 10 seconds have elapsed since chronometer start, current measure is stopped, stored and a new one is started.
Hold down MODE joystick for a certain time to stop the measurements.
It is possible to store up to 16 times in a row, that can be displayed on the CHRONOMETER screen under the Menu function (see “Menu Function”).

Menu function
Press the MODE joystick for a certain time to enter the Menu. Press again the MODE joystick to access the SETTINGS, CHRONOMETER, DIAGNOSTICS and LANGUAGE sub-menus.

- SETTINGS sub-menu: this menu allows:

- Time setting: (from the SETTINGS menu) briefly press on MODE joystick to enter the setting function.
Set the time using the UP/DOWN joystick, confirm it with the MODE joystick. Using UP/DOWN joystick shift to minutes, confirm the set value with the MODE joystick .

- Code change: (from the SETTINGS menu) shortly press on the MODE joystick to enter the function for setting the 5-digit safety code.
Set the first digit using the UP/DOWN joystick, confirm it with the MODE joystick. Then set the following digit.

CAUTION *The safety code will be necessary to start the vehicle with a key not fitted with a transponder or in any case not initialised on the vehicle. The safety code stored on any new vehicle is 00000. Every time a new vehicle is started, the instrument panel issues a warning to prompt the rider to customise the safety code. It is recommended to set the standard code with your personal one, take note of the new code and keep it in a safe place, not on the scooter itself and remember to hand it over to the new owner in case of sale.*

- CHRONOMETER sub-menu: this menu allows:

DISPLAY: enter in this menu to display the times recorded using the Chronometer function. Briefly press on the MODE joystick to quit time display mode.

DELETE: enter in this menu to delete the times recorded using the Chronometer function. All values can be deleted by holding down the MODE joystick for a certain time.

- DIAGNOSTICS sub-menu: this menu allows you to make diagnosis and service operations.

WARNING
To gain access to this area it is necessary to enter the specific SERVICE CODE of this vehicle.
The SERVICE CODE should never be disclosed to the end user, it is intended for use by the aprilia Authorised Dealers only.

Using the MODE joystick, enter the vehicle SERVICE CODE: **45256.**

You gain access to the diagnostics menu:

ECU ERRORS: This menu allows you to display any current errors (active) or stored (memo) as detected by the ECU.
The presence of an error is indicated by “x”.
To identify the error, please refer to “ECU error codes” table.

ERROR DESCRIPTION	ECU ERROR CODE
Engine overheat	ECU 01
Pick-up sensor failure	ECU 02
Wrong signal from throttle position sensors	ECU 03
Wrong signal from throttle position sensor 1	ECU 04
Wrong signal from throttle position sensor 2	ECU 05
Throttle position sensor 1 malfunction	ECU 06
Throttle position sensor 2 malfunction	ECU 07
Throttle position sensors malfunction	ECU 08
Incorrect charging voltage	ECU 09
Oil pump malfunction	ECU 10
Air injector malfunction	ECU 11
Fuel injector malfunction	ECU 12
Ignition circuit malfunction	ECU 13
Fuel pump malfunction	ECU 14
Engine rpm limiter tripped	ECU 15
Error in ECU power supply	ECU 16
Rpm limiter tripped while starting	ECU 17
Engine temperature sensor malfunction	ECU 18
Error on ECU – throttle sensor connection	ECU 22
Atmospheric pressure sensor malfunction	ECU 23

INSTRUMENT PANEL ERRORS: This menu allows you to display any current errors (active) or stored (memo) as detected by the instrument panel.
The presence of an error is indicated by “x”.
To identify the error, please refer to “instrument panel error codes” table.

ERROR DESCRIPTION	INSTRUMENT PANEL ERROR CODE
Immobilizer failure: Key code read but not acknowledged	DSB 01
Immobilizer failure: Key code not read (key not available or broken transponder)	DSB 02
Immobilizer failure: Broken antenna (open or short-circuited)	DSB 03
Immobilizer failure: Inner controller failure	DSB 04
Fuel sensor failure	DSB 05

DELETE ERRORS: Select this function to delete the errors detected by the ECU and the instrument panel.

RESET SERVICE: Select this function to reset the SERVICE warning after the necessary maintenance has been carried out.

DISCONNECT: Select this function to cut the instrument panel- ECU connection.

WARNING
This operation is necessary before connecting to the ECU with the AXONE or GAMEBOY, in order to avoid disturbances in data transmission across ECU and diagnosis instrument.

UPDATE: Select this function to cut the instrument panel-ECU connection and preset the instrument panel for uploading a new software through AXONE. In brackets is the code of the software loaded at the moment in the instrument panel.

CHANGE KEYS: The instrument panel manages the immobilizer function through coded keys. In case the keys are lost or the kill switch is changed, it is possible to code up to 4 keys using this procedure.

At the beginning of the procedure you will be prompted to enter the USER CODE.

WARNING
The user code stored on a new vehicle is 00000.

The instrument panel prompts you to insert the first key:

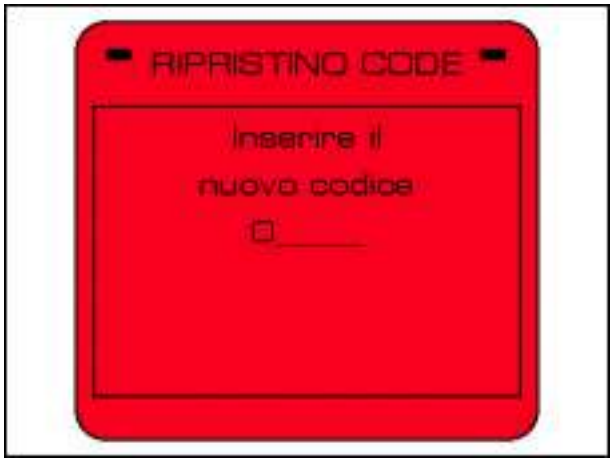
WARNING
The first key is the one already inserted, wait for the key to be stored until the second key is requested.

Insert the second key within twenty seconds from the request.

Proceed with the other keys or let the countdown get to zero to end the operation.

RESTORE CODE: Should the user have forgotten the USER CODE, it is possible to insert a new code through the Restore Code function.

WARNING
This procedure irreversibly deletes the previous User Code.



KM/MILES: use this function to select the unit of measurement for the Tachometer / Odometer.

ESC: Select this item to quit the diagnosis environment.

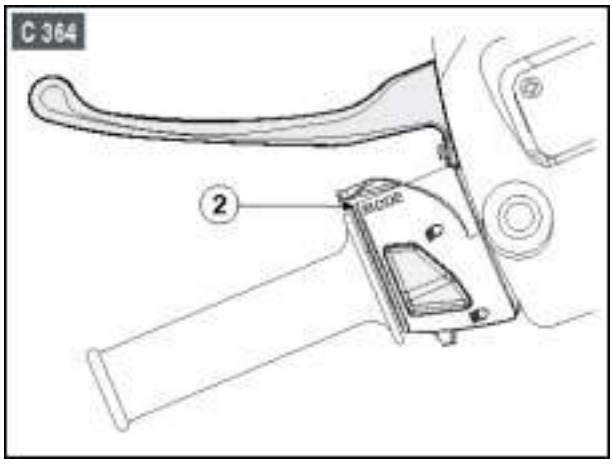
- LANGUAGE FUNCTION sub-menu: choose the desired language from this menu. Briefly press the MODE button to enter, use the keys UP and DOWN to choose the desired language among the available ones and set it by pressing the MODE key for a certain time.

2.1.6. MULTIFUNCTION DIGITAL COMPUTER C 364

Multifunction indicator functions
Use the Mode button (2), on handlebar left side, to select among various functions: clock setting, odometer (ODO), trip meter (TRIP), battery voltage value and trip meter reset.

Odometer (ODO).
When the instrument panel is switched on, the multifunction display (1) shows the odometer function (ODO).

TRIP.
With the odometer display (ODO), press the Mode button (2) once to display the function (TRIP). Hold down the Mode button (2) for at least three seconds to reset stored trip value.



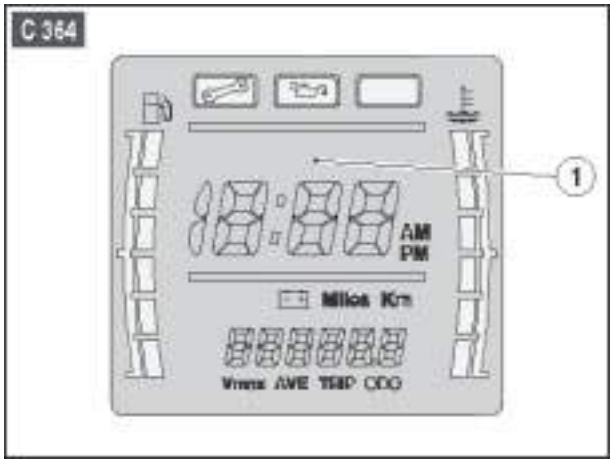
Battery voltage.
With the odometer display, press the Mode button (2) twice to display the battery function.

Conversion of unit of measurement - Km/Mi
When battery voltage is displayed on multifunction display (1), hold down the Mode button (2) for more than ten seconds to change the unit of measurement from kilometres (Km) to miles (Mi). While pressing the button, the current unit of measurement is flashing. Should the button be pressed for less than ten seconds, the conversion will not take place.

Setting the clock

CAUTION *For safety reasons, it is possible to set this function when vehicle is stopped only.*

Hold down the Mode button (2) for at least three seconds.
The column dividing hours and minutes will start flashing.
Set the hour value, it will increase by one unit every time you press the Mode button (2).
Hold down the Mode button (2) again for at least three seconds to shift to minute setting. The indicated value will increase by one unit every time the Mode button (2) is pressed.
Hold down the Mode button (2) for at least three seconds to go back to hour setting.
If no key has been touched for three seconds, the display will automatically quit the clock setting function.



2.2. SCHEDULED MAINTENANCE

2.2.1. BRAKING SYSTEM

WARNING
In case of excessive stroke of the brake lever, excessive elasticity or air bubbles, bleed the air out of the circuit.
Do not use or mix different types of silicone or oil fluids.
Prevent water or dust from accidentally getting into the circuit.

CAUTION *The following procedure refers to both braking systems.*

Check

CAUTION *Place the vehicle on a firm and flat surface.*

- Position the vehicle on the centre stand.
- Make sure that the fluid in the reservoir is above the "MIN" level mark.

If the fluid does not reach at least the "MIN" mark, proceed as follows:

WARNING
Brake fluid level decreases as the brake pads wear down.

- Check brake pads for wear.
- If the pads and/or the disc do not need replacing, provide for topping up.

TOPPING UP

WARNING
Danger: brake fluid could leak out. Do not operate the front brake lever if the screws are loose or, most important, if the brake fluid reservoir cover has been removed. Use a cloth under the brake fluid reservoir.

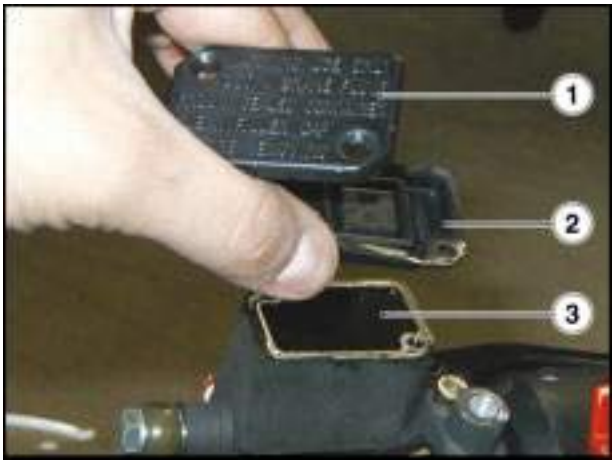
- Release and remove the two screws.

WARNING
Avoid long exposure of brake fluid to air. Brake fluid is hygroscopic and will absorb moisture from the air. Keep the brake fluid reservoir open JUST LONG ENOUGH to top up level.

- Raise and remove cover (1).
- Remove the gasket (2).

CAUTION *In order not to spill the brake fluid while topping up, do not shake the vehicle.*

- Top up tank (3) with brake fluid to correct level.



WARNING
Never top up to maximum level, just top up until level is above "MIN" mark. It is advisable to top up until reaching the "MAX" level only with new pads. Brake fluid level decreases as the brake pads wear down. Do not reach the "MAX" level with worn out pads, since this will cause a fluid outflow when the pads are changed.

- To refit components, follow the disassembly procedure in reverse order.

CHANGING THE BRAKE FLUID

- Remove the bleed valve rubber cap.
- Insert one end of a transparent plastic tubing inside the calliper bleed valve and the other end in a container for collection.
- Loosen the bleed valve of about one turn.

CAUTION *While carrying out this operation, check that some fluid is always present inside the tank. If this is not the case, once the operation is over, the air must be bled out.*

- Check that the fluid is flowing off the tank and, before emptying, tighten the bleed valve.
- Top up.

- Loosen again the bleed valve of about half a turn.
- Check that the fluid comes out of the plastic tubing and, as soon as the fluid colour changes (from a darker to a lighter colour) tighten the bleed valve and remove the tubing.
- Refit the rubber cap.
- Top up fluid inside tank.

CHECKING THE BRAKE PAD WEAR

CAUTION *The following instructions apply to both brakes.*

Outlined below is a quick brake pad inspection procedure:

- Position the vehicle on the centre stand.
- Using a lamp and a mirror located in-between brake calliper and pads, visually check as follows:

FRONT BRAKE CALLIPER

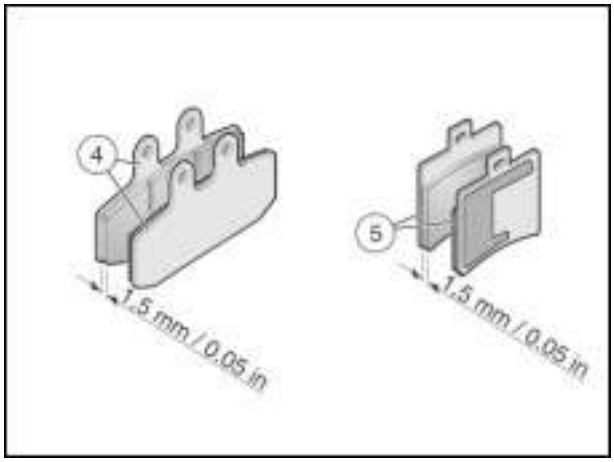
- From below, on the front part, for the left pad;
- From above, on the front part, for the right pad; look through the rim.

REAR BRAKE CALLIPER

- From above, on the rear part, for both pads.

If the thickness of the friction material (even of a single pad) has reduced to about 1.5 mm (0.05 in), have both pads changed.

- Front brake pads (4).
- Rear brake pads (5).



BLEEDING THE BRAKING SYSTEM

The air, if any, present inside the hydraulic circuit will serve as "pad" by absorbing most of the pressure coming from the brake master cylinder and thus reducing the calliper efficiency during braking. If some air is present inside the circuit, the brake control is "spongy" and the braking efficiency is reduced.

DANGER
It is fundamental that air is bled off the hydraulic circuit after the brakes have been refitted and the braking system has been restored to its standard operating conditions, since it would be very dangerous for the vehicle and the rider not to do so.

- Loosen the two brake fluid tank screws.
- Raise and remove cover (1).

CAUTION *It is recommended to keep the fluid parallel to the tank edge (horizontal) in order not to spill fluid when topping up.*

- Remove the gasket (2).
- Top up fluid, if necessary.

- Remove the bleed valve rubber cap.
- Connect a clear tube section to the bleed valve.

WARNING
Do not soil brake pads or disc with brake fluid.

- Put the free end of the hose into a receptacle.
- Slowly pull the brake lever completely two or three times, then keep it pulled.
- Loosen the bleed valve, press the lever and check if air bubbles are coming out of the tube together with the fluid.

WARNING
Tighten bleed valve before releasing the lever in order to prevent air from getting in the brake circuit.

- When air is no longer coming out, tighten the bleed valve and release the brake lever.

CAUTION *Repeat the last three steps until completely eliminating the air bubbles.*

WARNING
After reassembly, repeatedly pull the brake lever and check the braking system for correct operation.

2.2.2. CLEANING THE AIR FILTER

- Remove the air filter, see (REMOVING THE AIR FILTER).
- Wash the filtering element with clean, non-inflammable solvents or solvents with high volatility point, then let it dry thoroughly.
- Apply a filter oil on the whole surface of the filtering element.

WARNING
The partial cleaning of the filter does not exclude or postpone the replacement of the filter itself.
Do not start the engine when the air filter is not in place.
Do not clean the filtering element with petrol or solvents, since they may cause a fire in the fuel supply system, with serious danger for the persons in the vicinity and for the vehicle.

Do not use filters that have already been used.

- Change the air filter with a new one of the same type.

2.2.3. COOLANT

CHECKING AND TOPPING UP THE COOLANT LEVEL

WARNING
Wait for the engine to cool down before checking or topping up coolant level.

- Stop the engine and wait until it has cooled down.

CAUTION *Place the vehicle on a firm and flat surface.*

- Remove the front cover, see (REMOVING THE FRONT COVER).
- Make sure that the level of the fluid contained in the expansion tank is included between the "**MIN**" and "**MAX**" marks.

MIN = minimum level.
MAX = maximum level.

If not so:
- Loosen the filler plug (by turning it anticlockwise by two turns), without removing it.
- Wait a few seconds in order to release any residual pressure.
- Unscrew and remove the plug.

WARNING
Do not put additives or other substances into the fluid.

- Top up the expansion reservoir by adding coolant, see (LUBRICANT CHART), until this almost reaches the "MAX" level.
- Do not exceed this level, otherwise the fluid will flow out while the engine is running.
- Refit the filler plug.

WARNING
In case of excessive consumption of coolant and in case the expansion reservoir remains empty, make sure that there are no leaks in the circuit.

BLEEDING THE COOLING SYSTEM

CAUTION *If the coolant in the expansion tank is used up or if the circuit is emptied, it is necessary to bleed it. Proceed as follows:*

- Remove the rubber gaiter on the bleed valve located on the head.
- Fit a small tube in the bleed valve and leave the other end in a suitable container.
- Loosen the bleed valve.
- Fill the expansion tank with coolant.
- Bleed the air, tighten the valve and continue adding fluid until reaching maximum level.

- Start the vehicle and let it warm up.
- Bleed again and top up.

2.2.4. GEAR FLUID IE361 – C364

CAUTION *Use the recommended oil only, see (LUBRICANT CHART).*

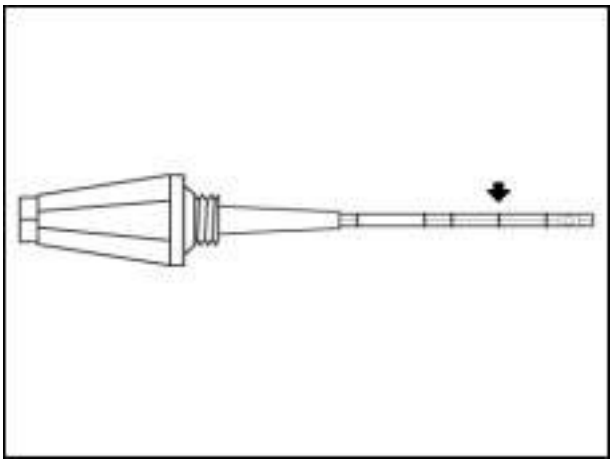
- Ride until covering several kilometres to warm up engine up to operating temperature and then stop the engine.

Check

- Position the vehicle on firm and flat ground.
- Position the vehicle on the centre stand.

WARNING
Allow several minutes for the engine and exhaust system to cool down.

- Unscrew and extract the plug/dipstick.
- Clean the part in contact with the oil with a clean cloth.
- Tighten the plug/dipstick fully into the filler opening.
- Extract the plug/dipstick again and check oil level on the dipstick.



- Correct level is achieved when the oil reaches approximately the second mark over the dot.
- If necessary, provide for topping up.

TOPPING UP

- Pour a small quantity of oil into the filler opening. Allow one minute for oil to flow into the crankcase.
- Check the oil level and top up if necessary.
- Top up by adding small quantities of oil, until reaching the prescribed level.
- When finished, tighten the plug/dipstick.

CAUTION *Do not use the vehicle when lubricant levels are low or lubricant has become contaminated. Use specified lubricants only. Improper lubrication will lead to moving parts fretting, resulting in irreparable damage.*

CHANGE

- Position the vehicle on firm and flat ground.
- Position the vehicle on the centre stand.

WARNING
Allow several minutes for the engine and exhaust system to cool down.

- Stop the engine and let it cool down, in order to allow the oil to flow into the crankcase and to cool down.
- Unscrew and extract the plug/dipstick.

- Take a container of suitable capacity and set it under the drain screw.
- Release and remove the drain screw.
- Let fluid fully drain inside the container.

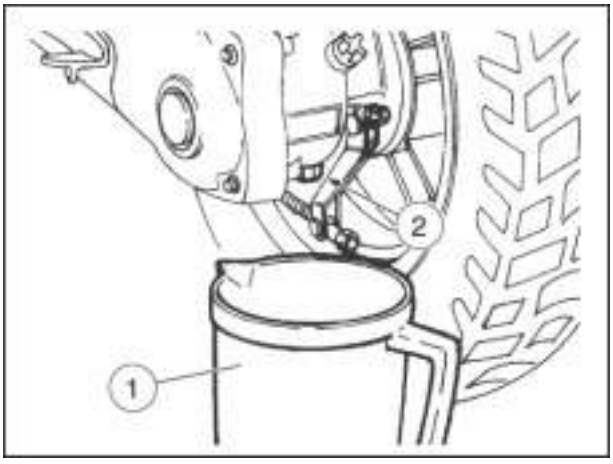
WARNING
Used oil contains substances that are very dangerous for the environment. Dispose of used oil in accordance with applicable regulations.

- Fit and tighten the drain screw.

- Pour oil through the transmission oil filler hole.
- Screw and tighten the plug/dipstick.
- Start the engine and let it run for a few minutes. Stop the engine and let it cool down.
- Check gear fluid level.

2.2.5. GEAR FLUID IE50

CAUTION *Use the recommended oil only, see (LUBRICANT CHART).*

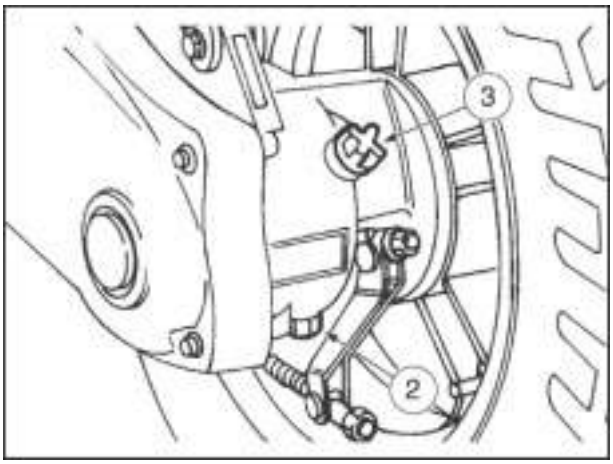


CHECK

- Ride until covering several kilometres to warm up engine up to operating temperature and then stop the engine.
- Position the vehicle on firm and flat ground.
- Position the vehicle on the centre stand.

WARNING
Allow several minutes for the engine and exhaust system to cool down.

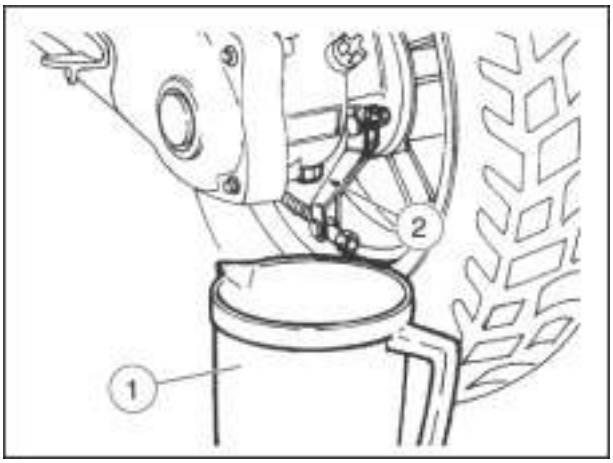
- Place a graduated container (1) with at least 150 cu.cm capacity (9.15 cu. in), under the drain plug (2).



- Loosen and remove the filler plug (3) and oil drain plug (2).
- Let oil fully drain off the crankcase.
- Measure the quantity, if it is less than 130 cu.cm (7.93 cu. in), restore correct level by topping up, see (LUBRICANT CHART).
- Tighten the drain plug (2).
- Refill with oil recovered in the graduated container (1).
- Tighten the filler plug (3).

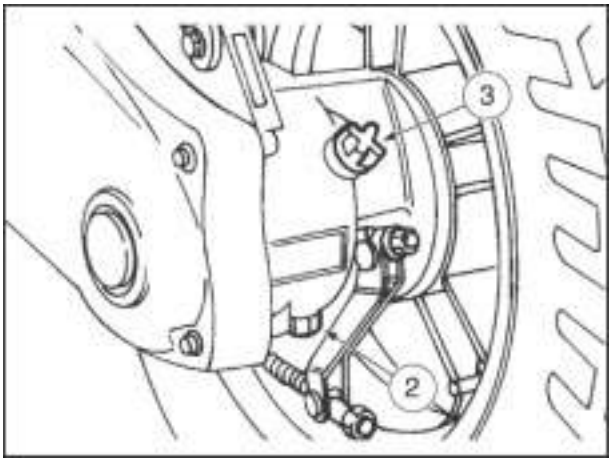
WARNING
Firmly tighten the filler and drain plugs and ensure there are no oil leaks.
Periodically check that there are no leaks at the crankcase cover gasket.
Do not use the vehicle with insufficient lubrication or with contaminated or unsuitable lubricants, since this would cause early wear of the moving parts and may also cause irreparable failures.

CHANGE



- Ride until covering several kilometres to warm up engine up to operating temperature and then stop the engine.
- Position the vehicle on the centre stand.
- Place a graduated container (1) with at least 150 cu.cm capacity (9.15 cu. in), under the drain plug (2).

- Loosen and remove the filler plug (3) and oil drain plug (2).
- Let oil fully drain off the crankcase.
- Tighten the drain plug (2) and pour through the filler 130 cu. cm (7.93 cu. in) of oil, see (LUBRICANT CHART).
- Tighten the filler plug (3).



WARNING
Firmly tighten the filler and drain plugs and ensure there are no oil leaks.
Periodically check that there are no leaks at the crankcase cover gasket.
Do not use the vehicle with insufficient lubrication or with contaminated or unsuitable lubricants, since this would cause early wear of the moving parts and may also cause irreparable failures.

2.2.6. MIXER OIL IE361 – C364

TOPPING UP

CAUTION *The vehicle fits a separated mixer that mixes fuel and oil, necessary for lubrication.*

- Remove the front cover, see (REMOVING THE FRONT COVER).
- Remove plug.
- Fill with oil, see (LUBRICANT CHART).
- Refit plug.

AIR BLEED

WARNING
Should oil in the mixer oil tank result used up or if the mixer oil line is removed -from mixer to reed assembly- it is necessary to bleed the system. This operation is necessary because engine might be damaged if running with air in the mixer oil system.

- Remove the lower cover, see (REMOVING THE LOWER COVER).
- Remove the rubber plug.

- Using a screwdriver, loosen the screw inside the mixer.
- Oil is drained by gravity, allow for the oil to flow out with no air bubbles.
- Tighten the screw.
- Refit cover.

2.2.7. MIXER OIL IE50

TOPPING UP

CAUTION *The vehicle fits a control unit that manages an electronic pump controlling the correct quantity of oil for engine lubrication.*

- Remove the front cover, see (REMOVING THE FRONT COVER).
- Remove plug.
- Fill with oil, see (LUBRICANT CHART)
- Refit plug.

AIR BLEED

CAUTION *the vehicle fits a self-bleeding electronic pump. Should oil in the mixer oil tank result used up or if the mixer oil line is removed -from mixer to reed assembly- it is necessary to bleed the system. Proceed as follows:*

- Completely open the throttle grip.
- Keep the throttle open, turn the key to ON.
- You will hear the noise of the pump.

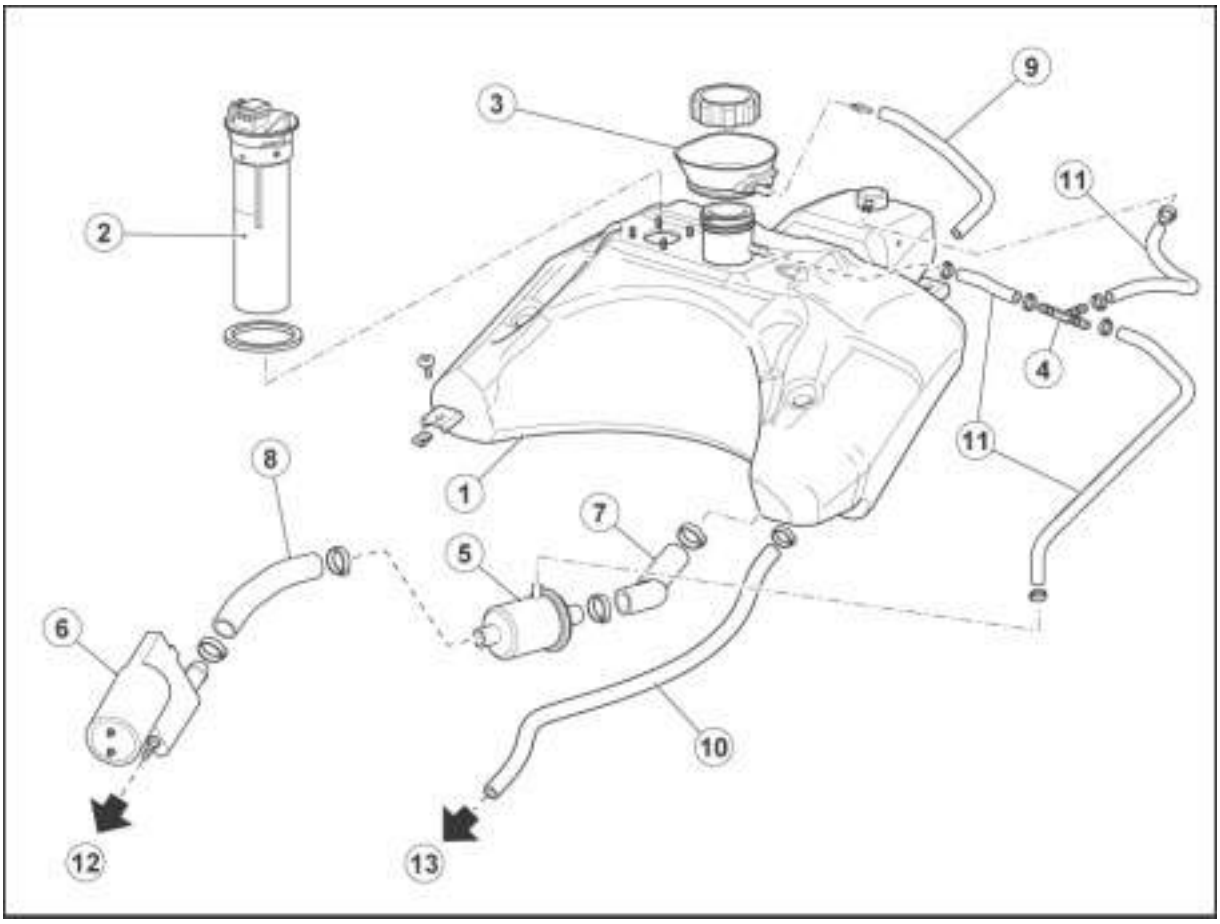
- Look at the mixer oil line going from the mixer to the reed assembly and keep the throttle completely open until the line is full of oil.
- Release of the throttle twistgrip.
- If necessary, top up with mixer oil as described above.

FUEL SYSTEM 3

SUMMARY

3.1. FUEL TANK

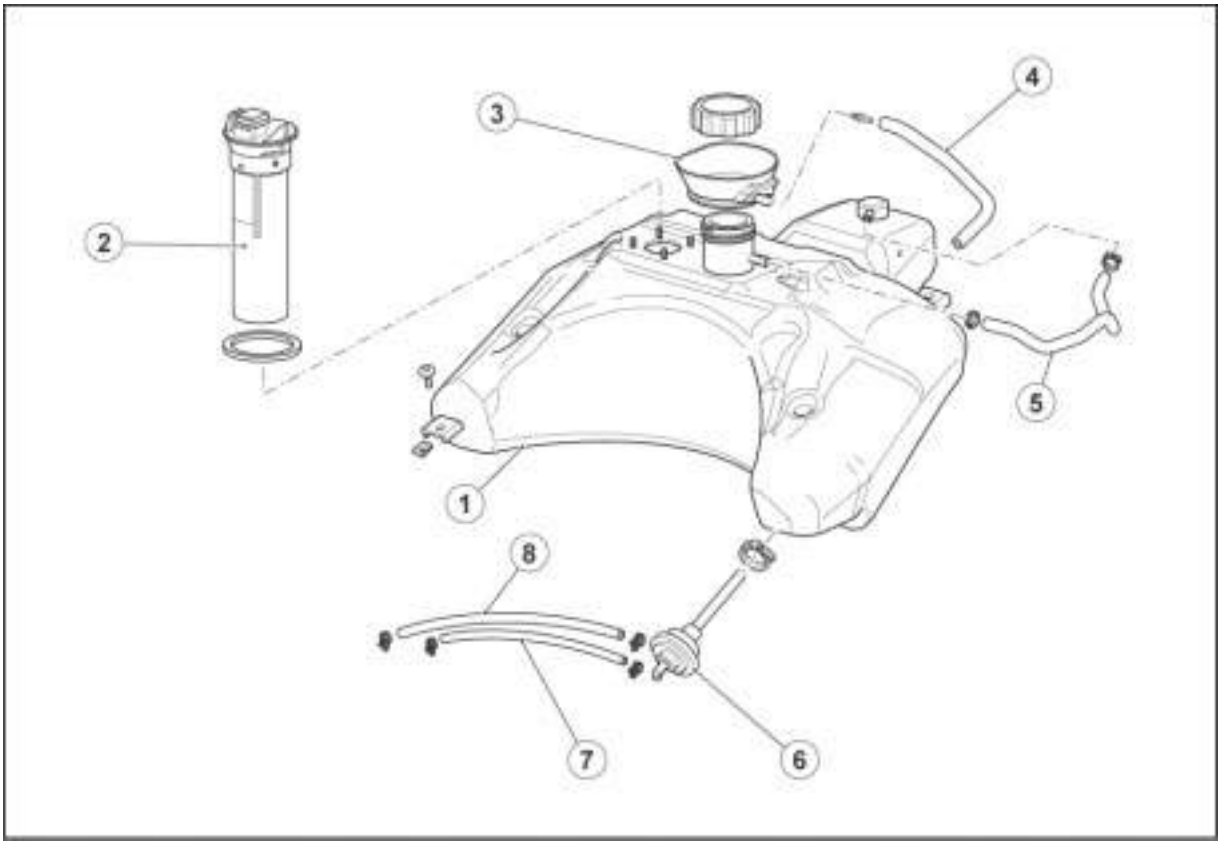
3.1.1. FUEL FEED SYSTEM DIAGRAM IE361 – IE50



Key:

1. Fuel tank;
2. Fuel level sensor;
3. Fuel collection rubber element;
4. Three-way fitting;
5. Fuel filter;
6. Fuel pump;
7. Fuel tank-filter line;
8. Fuel filter-pump line;
9. “Overflow” line;
10. Fuel return hose;
11. Breather hose;
12. High-pressure fuel from injection unit;
13. Low-pressure fuel from injection unit.

3.1.2. FUEL SUPPLY SYSTEM DIAGRAM C364



Key:

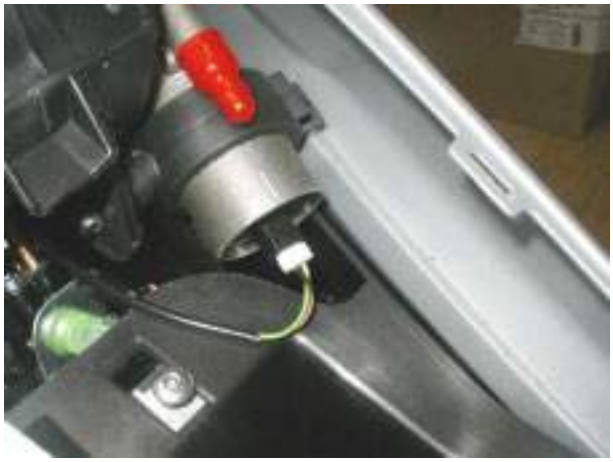
1. Fuel tank;
2. Fuel level sensor;
3. Fuel collection rubber element;
4. “Overflow” line;
5. Breather hose;
6. Vacuum fuel cock;
7. Fuel hose;
8. Vacuum hose.

3.1.3. REMOVING THE FUEL TANK IE361 – IE50

- Remove the tool kit compartment, see (REMOVING THE TOOL KIT COMPARTMENT).
- Remove the tail guard, see (REMOVING THE TAIL GUARD).
- Disconnect the fuel sensor connector.

- Release and remove the two screws.

- Disconnect the fuel pump connector.



- Move aside the tank to remove the breather line from the frame.
- Disconnect the two quick-release fittings on the injection unit.

- Loosen and remove the two screws, collect the spacers.
- Release the seat release cable on the tank end.
- Remove the fuel tank together with helmet compartment.

3.1.4. REMOVING THE FUEL TANK C364

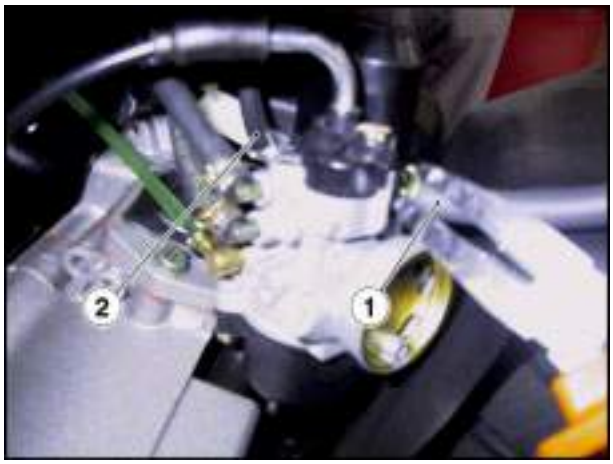
- Remove the tool kit compartment, see (REMOVING THE TOOL KIT COMPARTMENT).
- Remove the tail guard, see (REMOVING THE TAIL GUARD).
- Disconnect the fuel sensor connector.

- Release and remove the two screws.

- Disconnect breather pipe from frame end.

CAUTION *Place some paper under the coupling to collect any fuel spillage.*

- Disconnect the fuel delivery lines (1) and vacuum lines (2).
- Fold the delivery line (1) on itself and fit a tie.



- Release and remove the two screws.
- Release the seat release cable on the tank end.
- Remove the fuel tank together with helmet compartment.

3.1.5. REMOVING THE FUEL SENSOR

- Raise the seat.
- Remove cover.
- Disconnect the connector.

- Release the sensor and hook it with a suitable tool, turn it anticlockwise.

- Remove the fuel sensor.

3.2. AIR FILTER

3.2.1. REMOVING THE AIR FILTER AND THE AIR BOX IE361 - IE50

REMOVING THE AIR FILTER IE 361 - IE 50

- Release and remove the three screws.

- Loosen and remove the two screws, collect the washers and the spacers.

- Move aside the cover, do not disconnect the air intake line.

- Remove the air filter.

REMOVING THE AIR BOX IE 361 - IE 50

- Loosen and remove the two screws, collect the washers and the spacers.

- Loosen and remove the rear mudguard screw.
- Disconnect the air intake line.

- Loosen the clamp and remove the throttle body intake hose.
- Remove the air box.

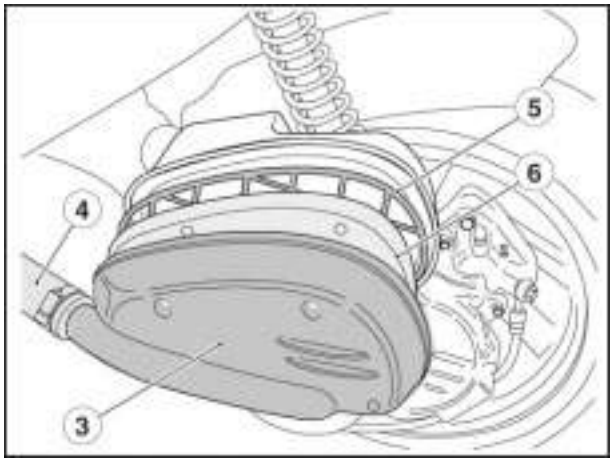
3.2.2. REMOVING THE AIR FILTER AND THE AIR BOX C364

REMOVING THE AIR FILTER C364

- Loosen and remove the three screws (1).
- Loosen and remove the two screws (2), collect the washers.

WARNING
Do not force during removal. The air box cover (3) stays connected to the line (4).

- Partially remove the air box cover (3).
- Remove the mesh (5).
- Remove the filter (6).



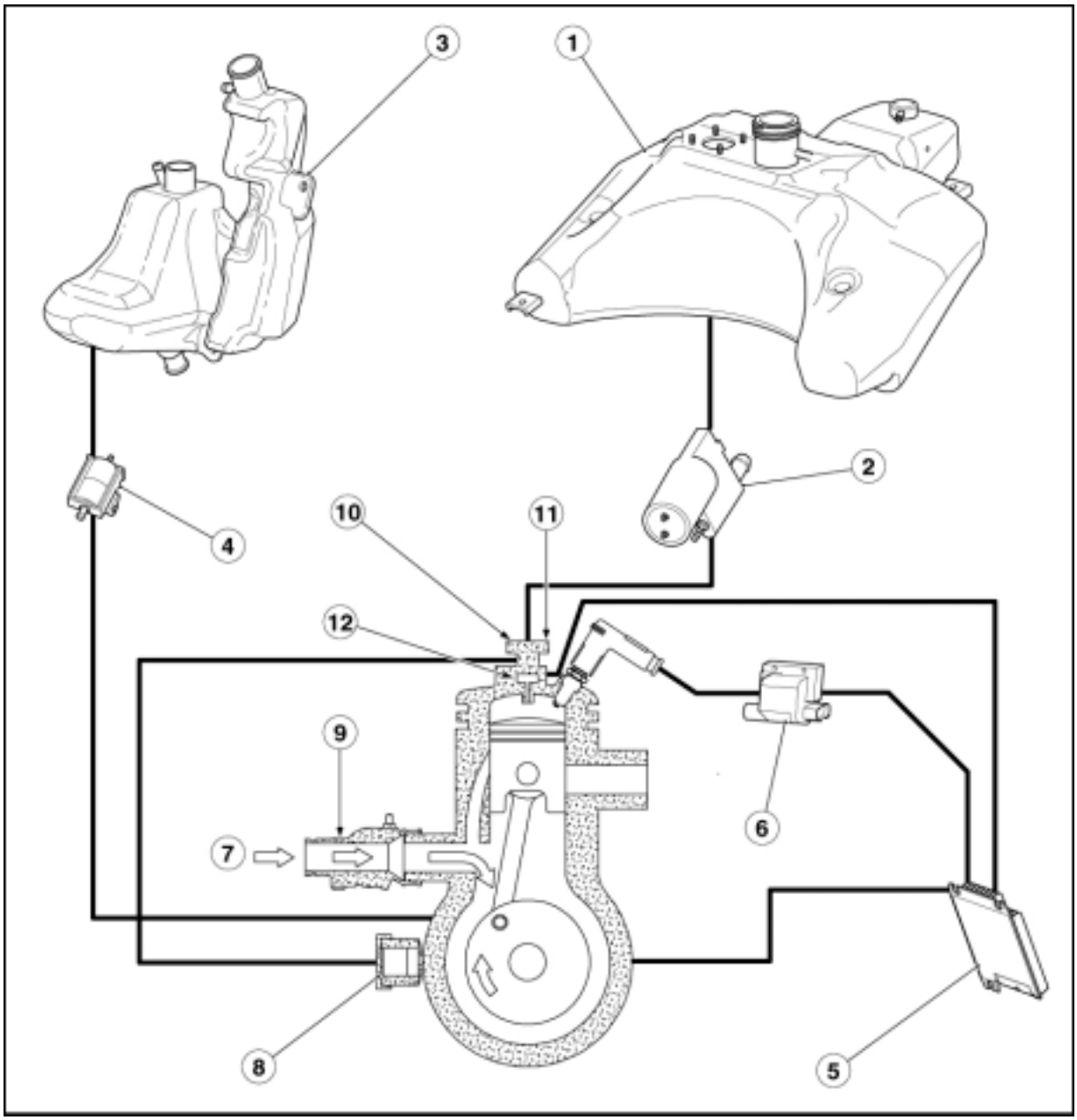
REMOVING THE AIR BOX C364

- Loosen and remove the two screws (2), collect the washers.

- Loosen the tie (7).
- Disconnect the air intake line.
- Loosen the clamp (8) and remove the carburettor intake hose.
- Remove the air box.

3.3. INJECTION UNIT

3.3.1. INJECTION SYSTEM DIAGRAM IE50



Key:

1. Fuel tank
2. Fuel pump
3. Oil reservoir
4. Oil pump
5. ECU
6. Coil
7. Air intake
8. Air compressor
9. Throttle body
10. Pressure regulator
11. Fuel injector
12. Direct injector

3.3.2. REMOVING THE THROTTLE BODY IE361 – IE50

- Loosen the clamp and remove the throttle body intake manifold from the air box end.

- Disconnect the connector.

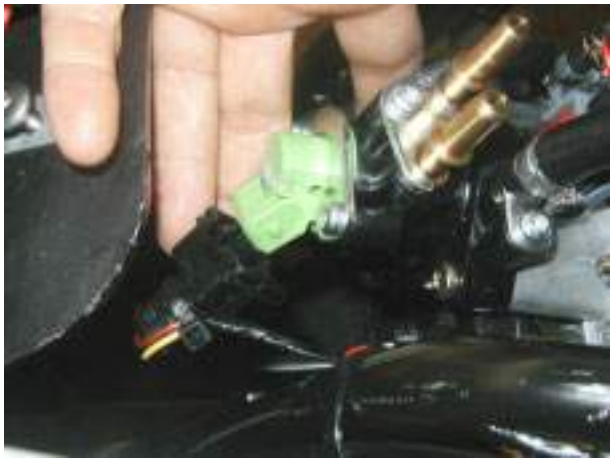
- Loosen the clamp.

- Remove the throttle body from the right side of the vehicle, keep it attached to the throttle cable.

CAUTION *If the throttle body is to be completely removed, disconnect it from the throttle cable.*

3.3.3. REMOVING THE INJECTION UNIT IE361 – IE50

- Move the fuel tank aside, keep it connected to the seat release cable and to fuel pump wiring, see (REMOVING THE FUEL TANK).
- Disconnect the fuel injector connector.

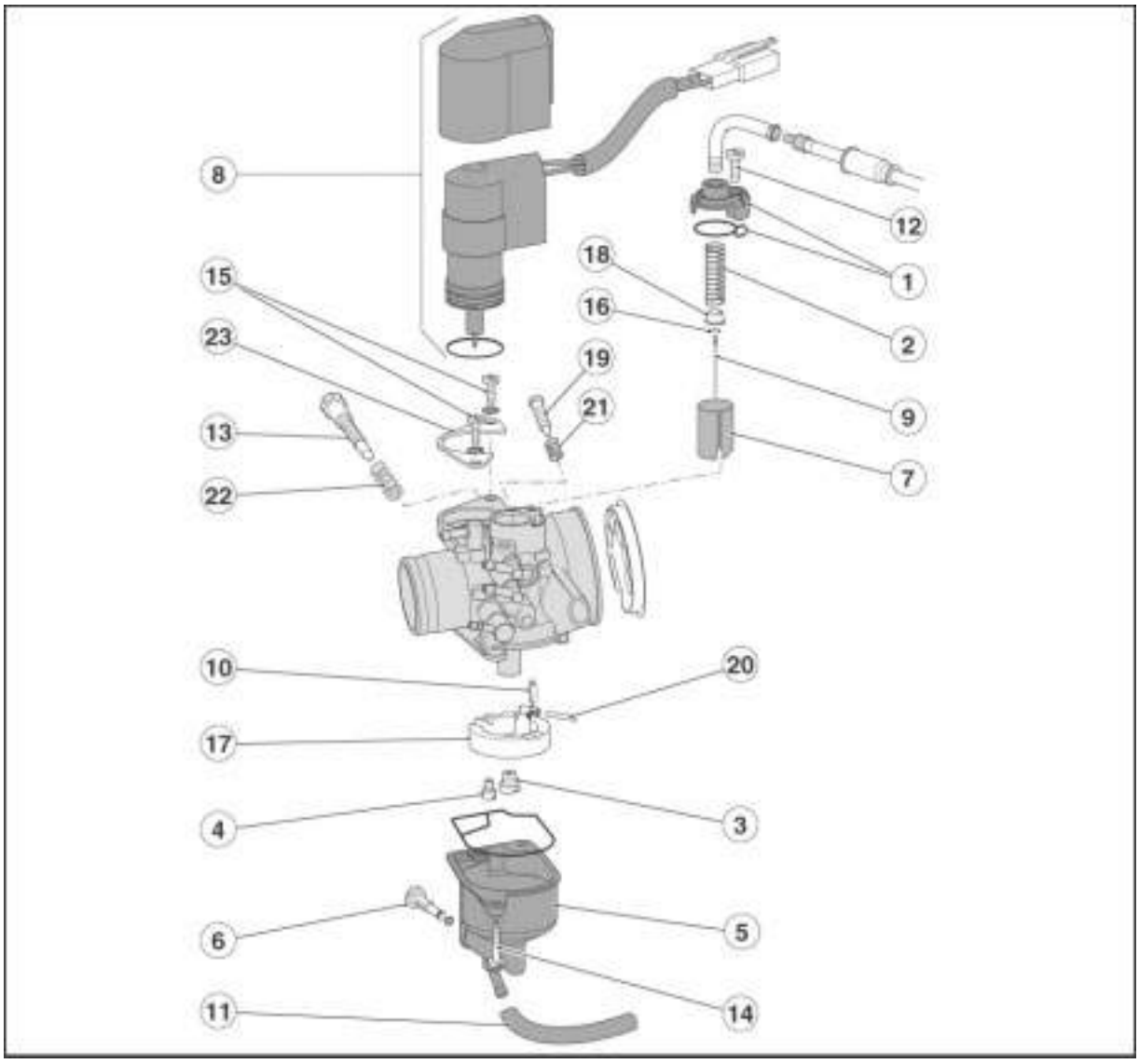


- Disconnect the compressed air inlet line.

- Release and remove the two screws.
- Remove the injection unit.

3.4. CARBURETTOR

3.4.1. CARBURETTOR DIAGRAM C364



Key:

1. Throttle valve cover
2. Throttle valve spring
3. Maximum jet 53
4. Minimum jet 32
5. Complete float chamber
6. Float chamber drain screw
7. Throttle valve
8. Choke
9. Tapered needle
10. Fuel closing pin
11. Float chamber bleed line
12. Screw
13. Throttle valve adjuster
14. Float chamber securing screw
15. Screw
16. Ring
17. Complete float
18. Tapered needle housing
19. Air screw
20. Float pin
21. Idle speed air screw spring
22. Throttle valve adjuster spring
23. Plate

3.4.2. REMOVING THE CARBURETTOR C 364

- Release and remove the two screws.

- Unscrew and remove the screw.

- Loosen the carburettor clamp.

- Remove the air box.

- Disconnect the automatic choke connector.

- Pinch the two heater hoses.
- Remove the two clamps and remove the hoses.

- Pinch the fuel hose.
- Remove the tie and disconnect the fuel hose.

- Pinch the oil hose.
- Remove the tie and disconnect the oil hose.

- Remove the tie and disconnect the vacuum hose.

- Loosen the tie and remove the carburettor from the intake manifold.

- Loosen and remove the screw and remove the throttle cable with gate.

ENGINE 4

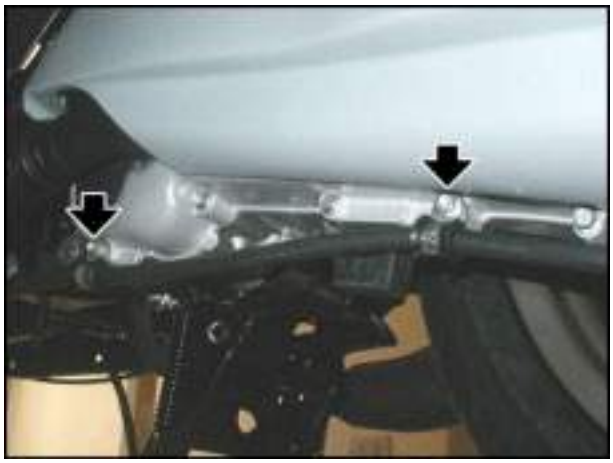
SUMMARY

4.1. ENGINE IE 361

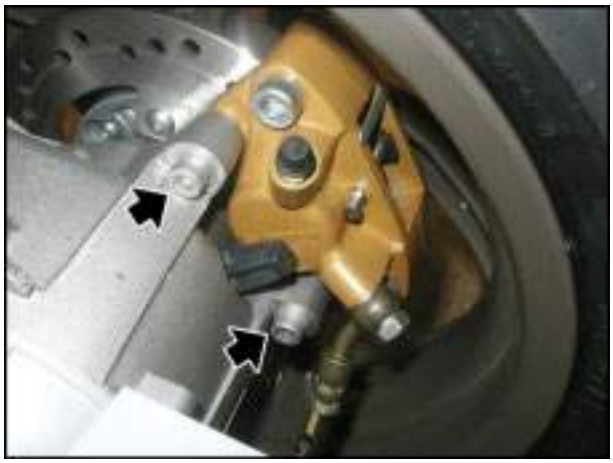
4.1.1. REMOVING THE ENGINE IE 361

- To remove the crankcase, first remove the lower shield, the battery, the fuel tank, the throttle body, keep it connected to the throttle cable and drain the cooling system.
- Using a belt and an A-frame, lift the vehicle rear end.
- Loosen and remove the shock absorber upper screw.

- Loosen and remove the two cable guide screws.



- Release and remove the two screws.
- Slide out the rear brake calliper, keep it connected to the fluid line.



- Slide the two intake hoses out of the ties on the frame.

CAUTION *Place some paper under the coupling to collect any oil spillage.*

- Disconnect the two mixer oil hoses
- Fold the lines and tie them.

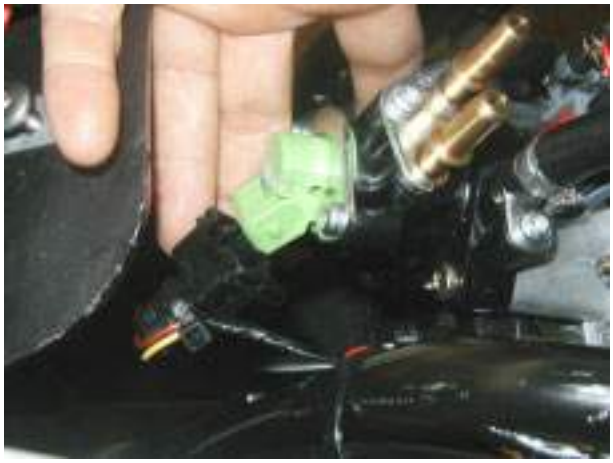
- Remove the cooling system hose from the head.

- Disconnect the spark plug cap.

- Remove the rubber plug.

- Open the tab and remove the mixer oil pump control cable.

- Disconnect the fuel injector connector.



- Disconnect the engine temperature sensor connector.

- Disconnect the compressed air injector connector.

- Loosen the screw and remove the two ground cables.

- Disconnect the starter motor positive cable from the relay end.

- Remove the clamp.

- Working on the right side, loosen and remove the nut.

- Working on the left side, remove the pin.
- Remove the engine.

4.1.2. INSTALLING THE ENGINE IE 361

- Move the frame in small motions until the holes match perfectly.
- Working on the left side, fit the pin.

- Working on the right side, tighten the nut.

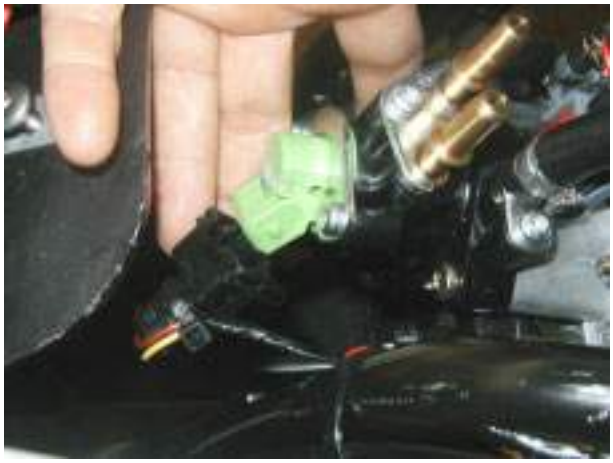
- Connect the starter motor positive cable to the relay.

- Position the two ground cables and tighten the screw.

- Connect the connector to the compressed air injector.

- Connect the engine temperature sensor connector.

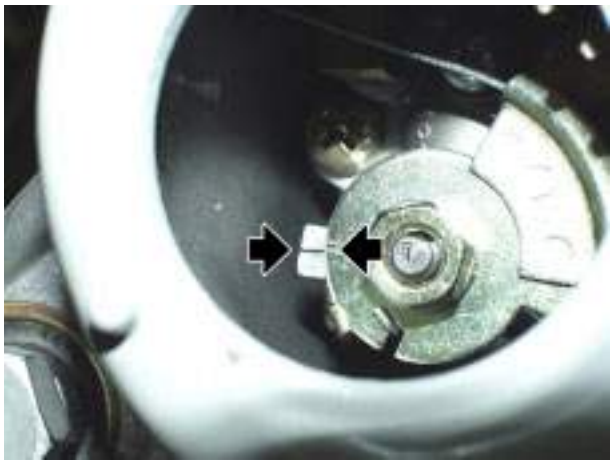
- Connect the connector to the fuel injector.



- Clamp the wiring with a new tie.

- Reposition the mixer oil pump cable in its housing and close the tab.

CAUTION *it might be necessary to adjust the mixer oil pump by making the two marks match.*



- Fit the spark plug cap.

- Position the cooling system hose onto the head.
- Tighten the clamp.

- Connect the generator connector.

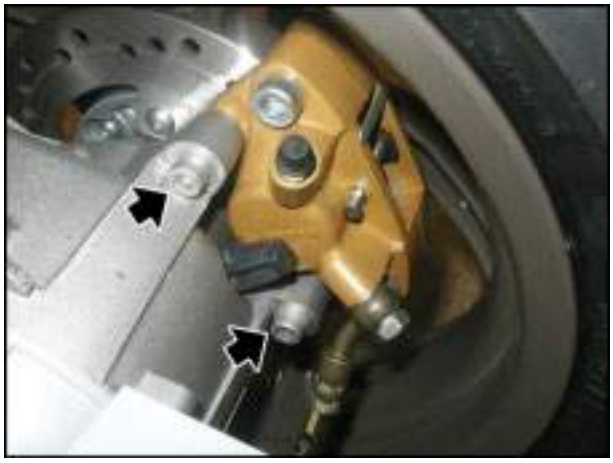
- Fit the cooling system hose to the coolant pump.
- Clamp the hose with the tie.
- Fill and bleed air off the cooling system.

- Connect the two mixer oil hoses

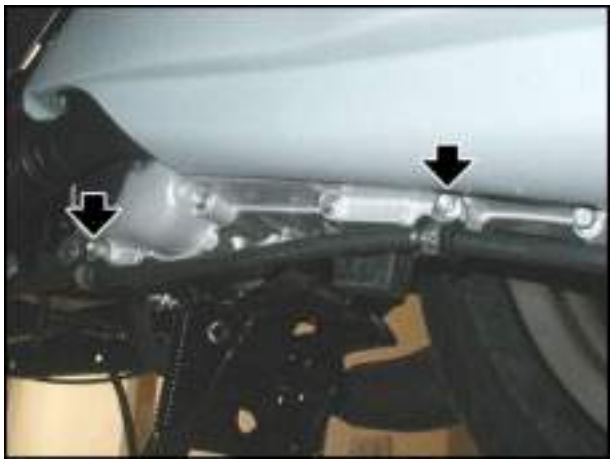
WARNING
Before using the vehicle, bleed the mixer oil pump, see (MIXER OIL IE361 - C364) and (MIXER OIL IE50).

- Place the two intake hoses on the frame.

- Set the rear brake calliper in place.
- Tighten the two screws.



- Reposition the two cable guides of the rear brake fluid hose.
- Tighten the two screws.



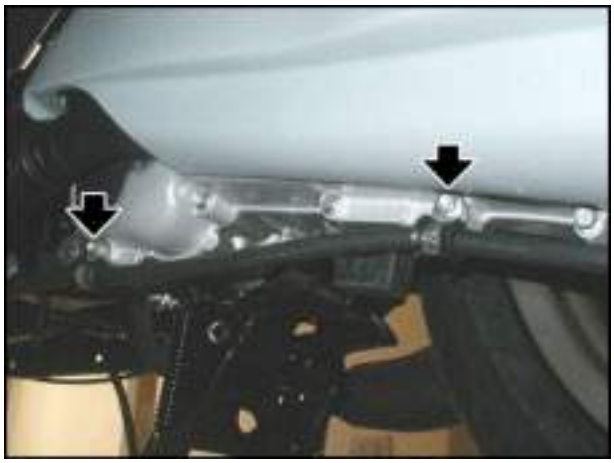
- Tighten the shock absorber top screw.
- Fit the throttle body, the fuel tank, the battery, the lower shield.

4.2. ENGINE IE 50

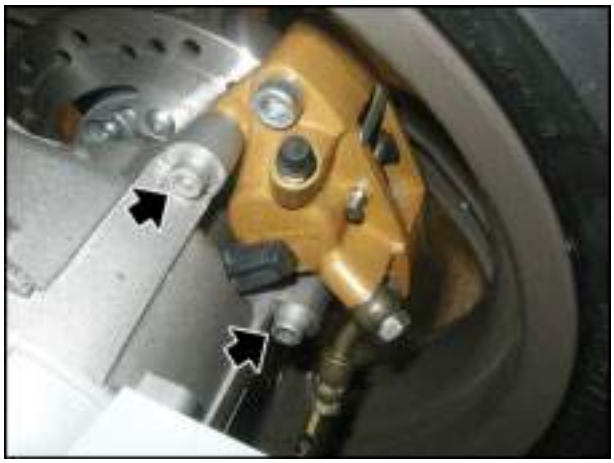
4.2.1. REMOVING THE ENGINE IE 50

- To remove the crankcase, first remove the lower shield, the battery, the fuel tank, the throttle body, keep it connected to the throttle cable and drain the cooling system.
- Using a belt and an A-frame, lift the vehicle rear end.
- Loosen and remove the shock absorber upper screw.

- Loosen and remove the two cable guide screws.



- Release and remove the two screws.
- Slide out the rear brake calliper, keep it connected to the fluid line.



- Slide the two intake hoses out of the ties on the frame.

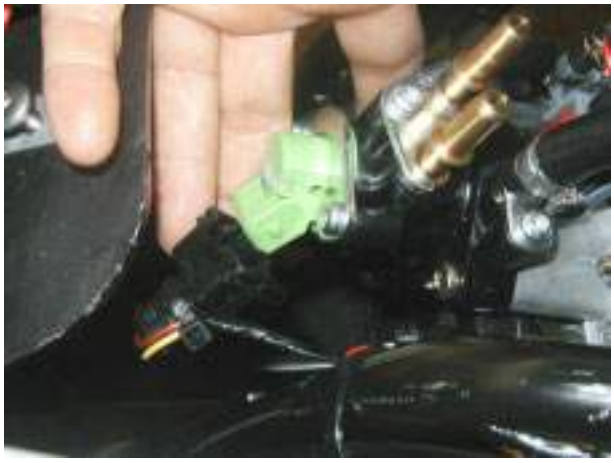
CAUTION *Place some paper under the coupling to collect any oil spillage.*

- Disconnect the mixer oil hose
- Fold the lines and tie them.

- Remove the cooling system hose from the head.

- Disconnect the spark plug cap.

- Disconnect the fuel injector connector.



- Disconnect the engine temperature sensor connector.

- Disconnect the compressed air injector connector.

- Working on the left side, loosen the screw and remove the ground cable.

- Disconnect the starter motor positive cable connector and remove the tie.

- Disconnect the two wiring.

- Working on the left side, loosen and remove the nut.

- Working on the right side, remove the pin.
- Remove the engine.

4.2.2. INSTALLING THE ENGINE IE 50

- Move the frame in small motions until the holes match perfectly.
- Working on the right side, fit the pin.

- Working on the left side, tighten the nut.

- Connect the two wiring.

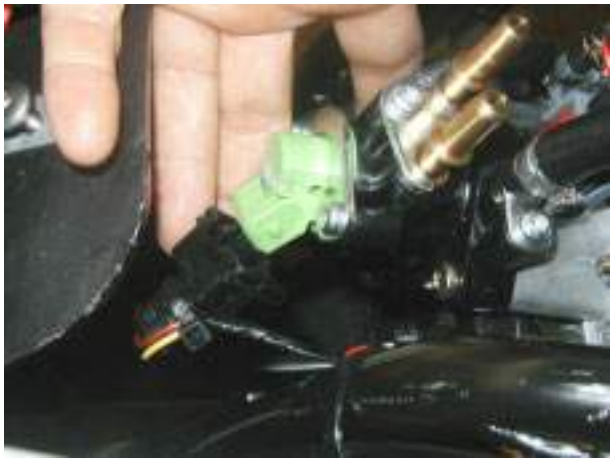
- Connect the starter motor positive cable connector and position a new tie on the wiring.

- Position the ground cable and tighten the screw.

- Connect the connector to the compressed air injector.

- Connect the engine temperature sensor connector.

- Connect the connector to the fuel injector.



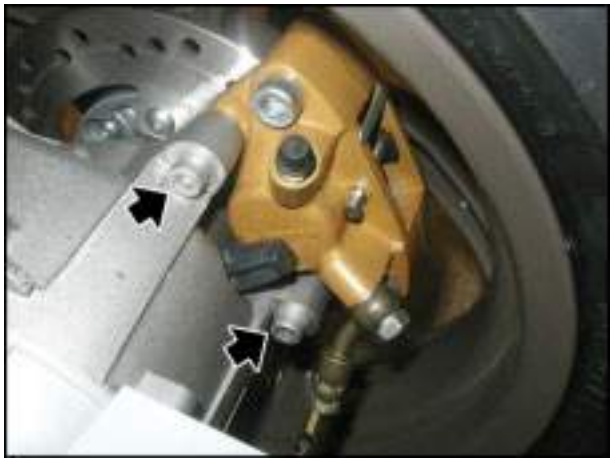
- Fit the spark plug cap.

- Position the cooling system hose onto the head.
- Tighten the clamp.

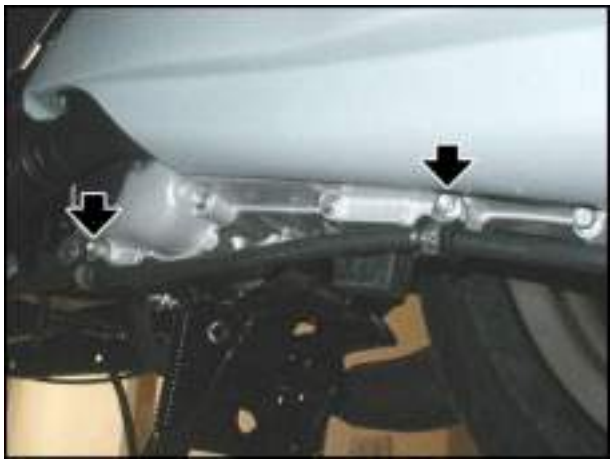
- Connect the mixer oil hose

- Place the two intake hoses on the frame.

- Set the rear brake calliper in place.
- Tighten the two screws.



- Reposition the two cable guides of the rear brake fluid hose.
- Tighten the two screws.



- Tighten the shock absorber top screw.
- Fit the throttle body, the fuel tank, the battery, the lower shield.

4.3. ENGINE C 364

4.3.1. REMOVING THE ENGINE C 364

- Remove the air box hose.
- Remove the brake calliper, see (REMOVING THE BRAKE CALLIPER).
- Loosen and remove the fifteen screws and remove the converter cover.

- Release the mixer oil pump drive cable.

- Pinch oil hose delivery.
- Remove the tie and the hose.

- Remove the carburettor, see (REMOVING THE CARBURETTOR).
- Remove the spark plug cap.
- Disconnect the temperature sensor connector.

- Remove the two rear side panels, see (REMOVING THE REAR SIDE PANELS).
- Remove the exhaust, see (REMOVING THE EXHAUST).
- Disconnect the alternator connector.

- Release and remove the four screws.

- Remove the tie and the cover.

- Loosen and remove the two upper screws securing the lower cover.

- Release and remove the lower screw of the lower cover.
- Slide down the lower protection.

- Loosen and remove the screw and remove the starter motor ground cables

- Remove the clamp.

- Disconnect the connector.

- Unscrew and remove the drain screw of the cooling system and drain it.

- Loosen the clamp and remove the hose on the thermostatic valve end.

- Using a belt and a suitable tool, lift the vehicle rear end.
- Remove the rear shock absorber lower screw, see (REMOVING THE REAR SHOCK ABSORBER).
- Working on the right side, loosen and remove the nut.

- Working on the opposite side, remove the pin.
- Remove the engine.

4.3.2. INSTALLING THE ENGINE C 364

- Move the frame in small motions until the holes match perfectly.
- Insert the pin.

- Working on the right side, fit and tighten the nut.

- Fit the hose in the thermostatic valve.
- Fit a new clamp and tighten.

- Fit and tighten the drain screw.
- Fill the cooling system.

- Connect the connector.

- Fit a new clamp to the wiring.

- Position the starter motor ground cables.
- Fit and tighten the screw.

- Fit the lower protection.
- Fit and tighten the lower screw of the lower cover.

- Fit and tighten the two upper screws securing the lower cover.

- Fit cover.
- Fit and tighten a new clamp.

- Fit and tighten the four screws.

- Connect the alternator connector.

- Connect the temperature sensor.
- Fit the spark plug cap.
- Install the exhaust.
- Install the two rear side panels.
- Install the carburettor.

- Fit the hose to the mixer oil pump.
- Fit the clamp.
- Pinch oil hose delivery.

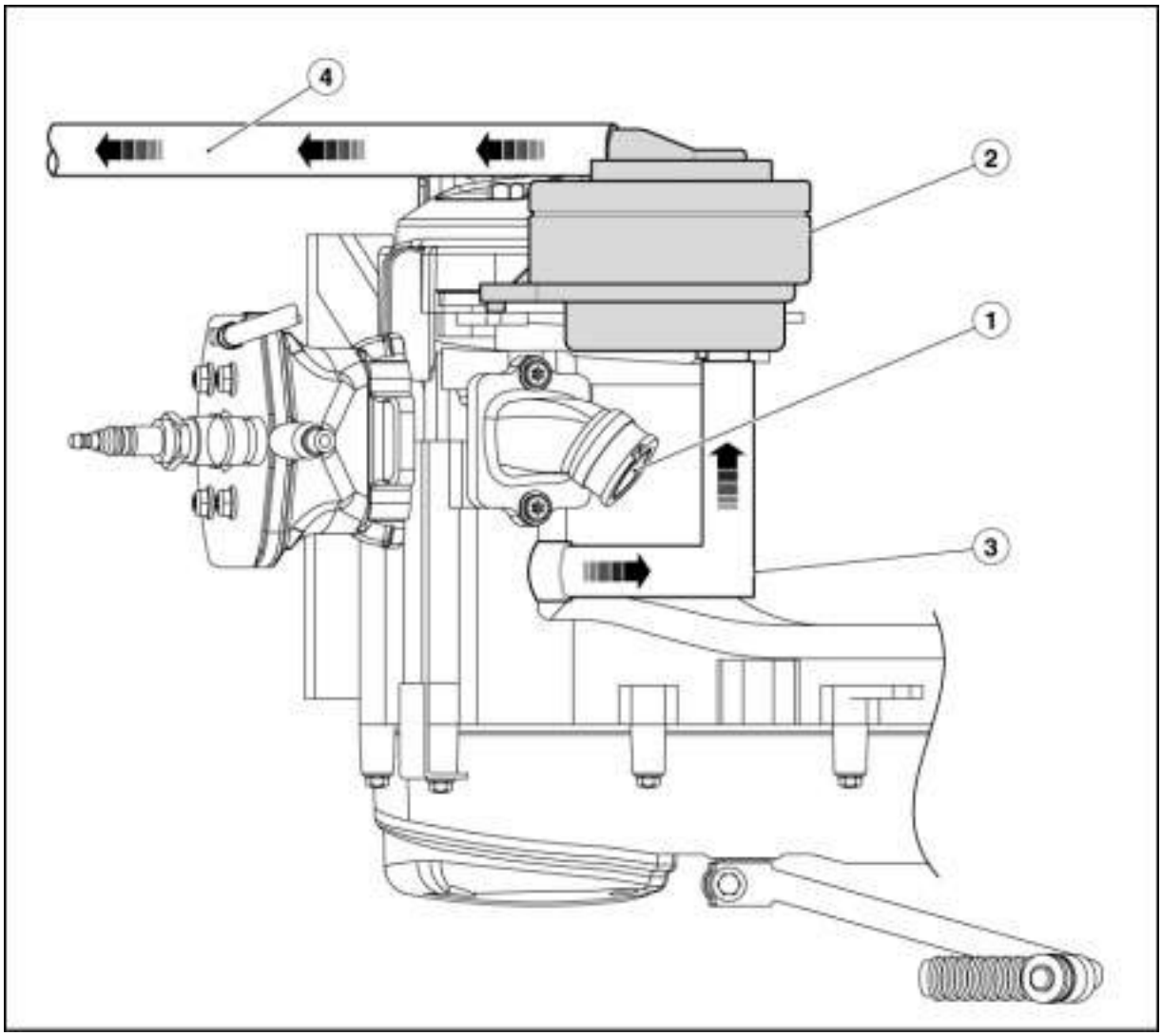
- Fit the mixer oil pump drive cable.

- Fit the converter cover.
- Fit and tighten the fifteen screws.
- Fit the rear brake calliper.
- Fit the air box hose.

4.4. SECONDARY AIR SYSTEM

4.4.1. SECONDARY AIR SYSTEM

SYSTEM DIAGRAM



Key:

1. Intake manifold;
2. Secondary air valve;
3. From the engine;
4. Exhaust.

SAS

The Secondary Air System (SAS) has been developed to reduce carbon oxide and unburnt hydrocarbon emissions in vehicles that are not equipped with a lambda sensor. Natural air (which is rich in oxygen) is channelled into the exhaust stream to trigger a post-combustion process that raises the temperature of the exhaust gasses for a quick light-off of the catalyst.
The secondary air system is especially useful when the engine is idling and during warm-up, as the catalyst alone is not capable of triggering post-combustion under these operating conditions.

DESCRIPTION OF THE SYSTEM

The secondary air system operates on pressure fluctuation in the exhaust system. During depression stages, the exhaust takes in oxygen-rich air from the secondary air system so unburnt gasses in the exhaust stream can complete the combustion.
During overpressure stages, the secondary air reed valve cuts air supply to prevent backflow.
On 4-stroke engines, the reed valve is equipped with a cut-off device that shuts down additional air during cut-off stages, as exceedingly lean exhaust gasses would lead to exhaust blowing, resulting in exhaust valve and catalytic converter damage.

DETAILS OF SAS

- The system consists of a rubber hose that takes filtered air in through a scoop on the casing.

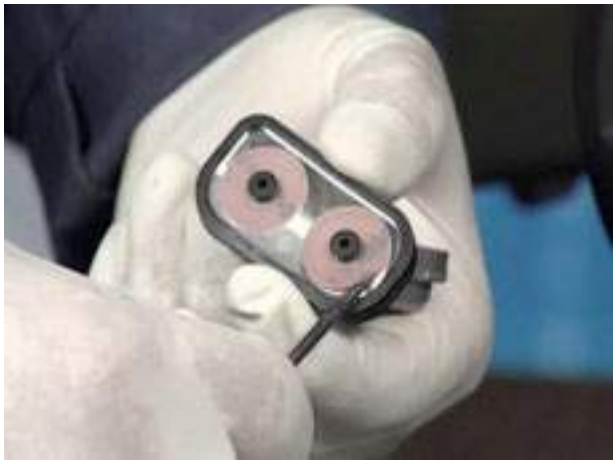
- Secondary air flow is controlled by a reed check valve, on the vehicle right-hand side, on the flywheel cover.
- The secondary air tube is connected to a flanged metal fitting attached directly to the head exhaust duct.

REMOVING AND CLEANING THE AIR FILTER

- Loosen the two screws and remove the aluminium cover of the system.

- Remove the plastic cover and the filter.

- Remove the single-acting valve housing, check the valve condition and refit them in their housings.
- Wash and blow the filter with compressed air.



CYCLE PARTS 5

SUMMARY

5.1. OUTER STRUCTURES

5.1.1. REMOVING THE SEAT

- Remove the central inspection cover.

- Slide out the split pin.

- Raise the seat.
- Remove pin.
- Remove the seat.

5.1.2. REMOVING THE PASSENGER GRAB HANDLE

- Raise the seat.
- Release and remove the four screws.
- Remove the passenger grab handle.

5.1.3. REMOVING THE TAIL GUARD

- Remove the passenger grab handle, see (REMOVING THE PASSENGER GRAB HANDLE).
- Working on either side, loosen and remove the two side screws.

- Release and remove the fourteen top screws.

- Release and remove the four rear screws.

- Release and remove the two lower screws.

- Disconnect the tail light connector.
- Remove the tail guard together with number plate holder.

5.1.4. REMOVING THE LOWER SHIELD

- Release and remove the three front screws.

- Working on either side, loosen and remove the rear screw.

- Release and remove the three top screws.

- Remove the lower shield.

5.1.5. REMOVING THE FRONT COVER

- Release and remove the two outer screws.

- Lift the front cover just enough to release it.
- Remove the front cover.

CAUTION *To easily remove the cover, raise from the right first, then from the left.*

5.1.6. REMOVING THE FRONT MUDGUARD

- Working on the right side, loosen and remove the odometer cord cable guide screw.

- Loosen and remove the mudguard front right screw.

- Working on the left side, loosen and remove the brake line cable guide screw.

- Loosen and remove the mudguard front left screw.
- Remove the front mudguard.

5.1.7. REMOVING THE REAR MUDGUARD

- Remove the air box, see (REMOVING THE AIR BOX).
- Working on the left side, loosen and remove the screw.

- Working on the right side, loosen and remove the screw, collect the washer and the spacer.
- Remove the rear mudguard.

5.1.8. REMOVING THE TOOL KIT COMPARTMENT

- Lift and remove the tool kit compartment cover.

- Unscrew and remove the screw.
- Remove the tool kit compartment.

5.1.9. REMOVING THE INNER SHIELD

- Remove the front cover, see (REMOVING THE FRONT COVER).
- Release and remove the two screws.

- Release and remove the ten screws.

- Loosen and remove the two screws of the bag hook.
- Remove the bag hook.

- Loosen and remove the screw below the bag hook.

- Remove the rubber element from the ignition switch/steering lock.

- Slightly raise the inner shield and slide it out of its tabs.
- Loosen and remove the two screws securing the seat lock.
- Remove the inner shield.

5.1.10. REMOVING THE HEADLIGHT

- Remove the front cover, see (REMOVING THE FRONT COVER).
- Release and remove the two screws.

- Release and remove the eight screws.

- Working on either side, loosen and remove the three inner screws.

- Unscrew and remove the central screw.

- Move the headlight with the two side fairings forward.
- Disconnect the two headlight connectors.

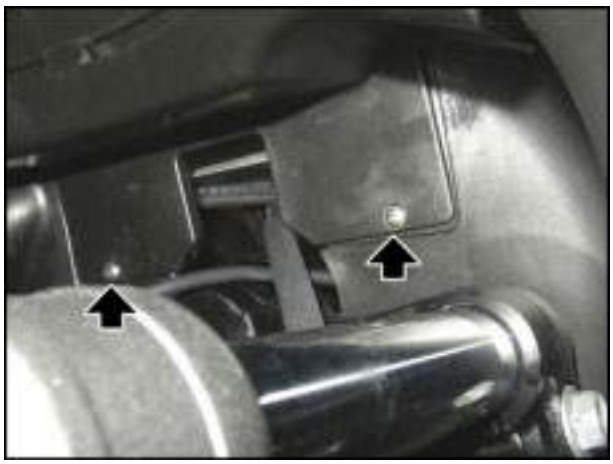
- Remove the headlight with the two side fairings.

5.1.11. REMOVING THE FRONT WHEELHOUSE

- Remove the headlight, see (REMOVING THE HEADLIGHT).
- Remove the front wheel, see (REMOVING THE FRONT WHEEL).
- Remove the front mudguard, see (REMOVING THE FRONT MUDGUARD).
- Release and remove the two front screws.

- Release the tie and the two cooling system hoses.

- Release and remove the two inner screws.



- Release the two wheelhouse shells and slide them out of the fork.

5.1.12. REMOVING THE INSTRUMENT PANEL

- Release and remove the four front screws.
- Remove the headlight fairing.

- Release and remove the three top screws.

- Release and remove the two lower screws.
- Release the handlebar fairing, move it down and keep it connected to the turn indicator wirings.

- Disconnect the instrument panel connector.

WARNING
During reassembly, ensure to perfectly align the connector with the instrument panel, to avoid damaging the instrument panel pins.

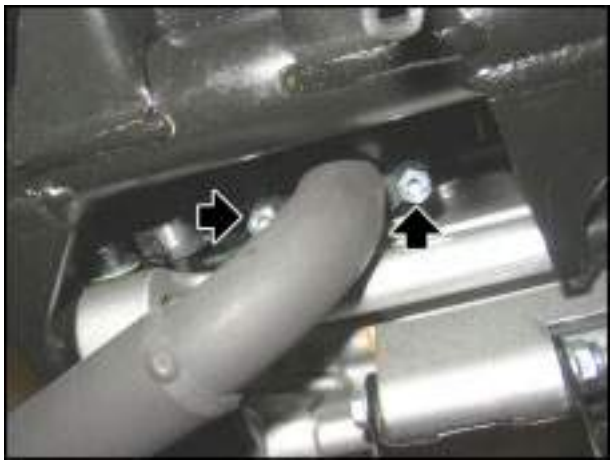
- Loosen and remove the three screws of the instrument panel subframe.

- Remove the instrument panel.

5.2. EXHAUST SYSTEM

5.2.1. REMOVING THE EXHAUST SYSTEM IE361 – C364

- Remove the lower shield, see (REMOVING THE LOWER SHIELD).
- Loosen and remove the two studs on the stud bolts.



- Working on the right side, loosen and remove the two screws, collect the washers and the spacers.
- Remove the exhaust system.

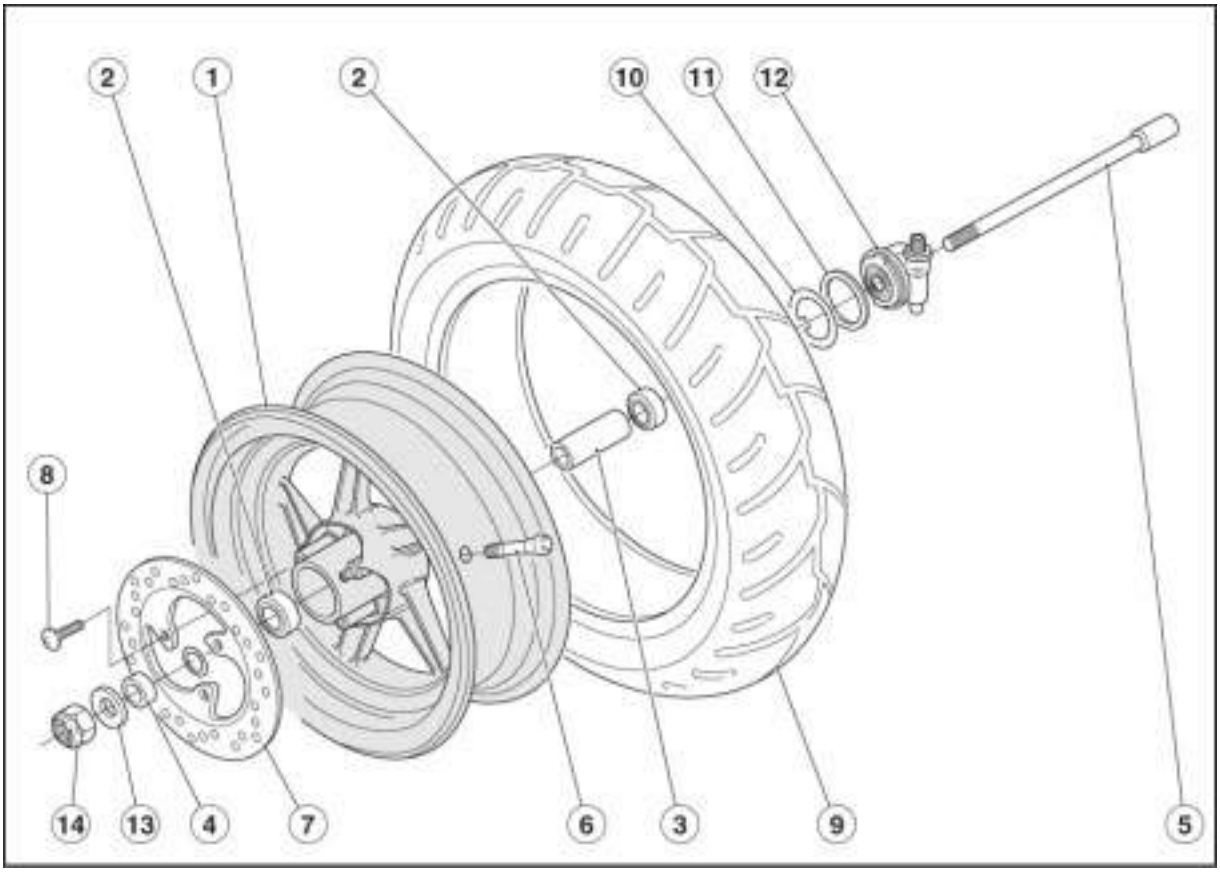
5.2.2. REMOVING THE EXHAUST SYSTEM IE50

- Unscrew and remove the screw (1).
- Loosen and remove the screw (2).

- Loosen and remove the screw (3) securing the silencer to the engine.
- Loosen and remove the screw (4) securing the mudguard to the engine.
- Raise the mudguard.
- Loosen and remove the screw (5) securing the silencer to the engine.
- Remove silencer.

5.3. FRONT WHEEL

5.3.1. FRONT WHEEL DIAGRAM



Key:

1. Front wheel rim;
2. Bearing;
3. Inner spacer;
4. Left spacer;
5. Wheel shaft;
6. Tubeless valve;
7. Brake disc;
8. Brake disc screws;
9. Tyre;
10. Drive;
11. Drive seal;
12. Odometer drive fitment;
13. Washer;
14. Nut.

5.3.2. REMOVING THE FRONT WHEEL

WARNING
When removing/refitting, pay utmost attention not to damage the brake line, disc and pads.

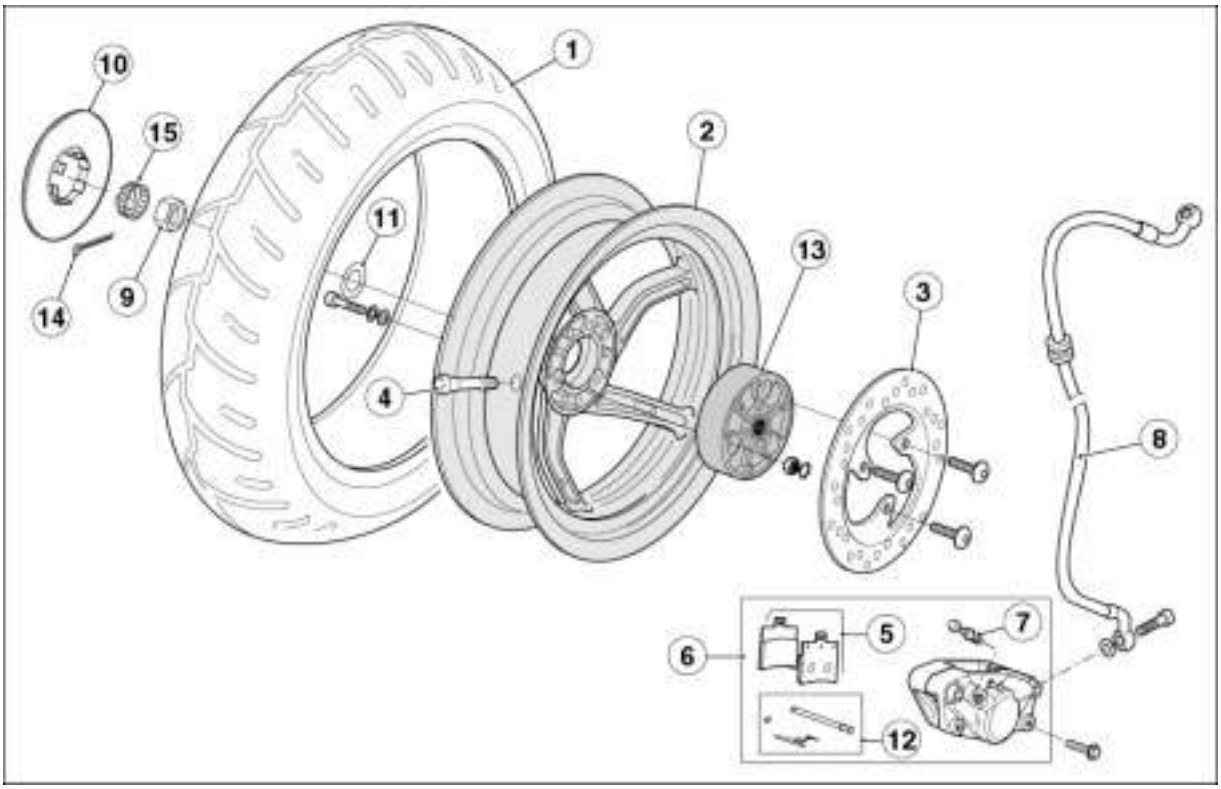
- Position the vehicle on the centre stand.
- Set a support under the frame.
- Remove the brake calliper, see (CHANGING THE FRONT AND REAR BRAKE PADS).
- Loosen and remove the wheel shaft nut.

- Loosen the shaft screws.
- Loosen and remove the wheel shaft.
- Collect the odometer drive fitment.
- Slide out the wheel.

WARNING
Do not operate the front brake lever when the wheel is not in place or the calliper piston might come off its housing, thus causing brake fluid leakage.

5.4. REAR WHEEL

5.4.1. REAR WHEEL DIAGRAM

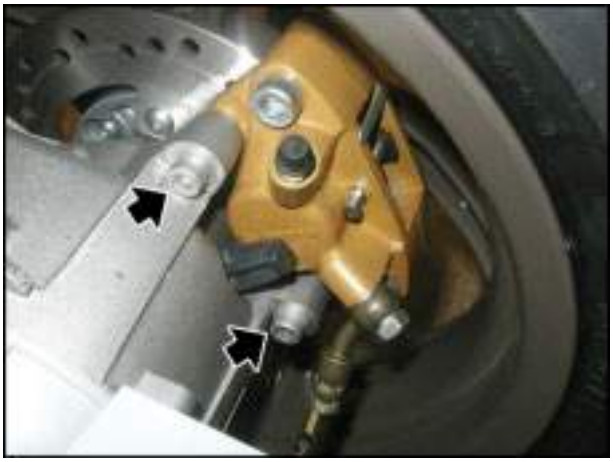


Key:

1. Tyre
2. Bare rear wheel
3. Brake disc
4. Tubeless valve
5. Pads
6. Rear brake calliper
7. Air bleed
8. Rear brake line
9. Rear wheel nut
10. Rear wheel plate
11. Ring
12. Pin + calliper spring
13. Bare rear hub (E 351 – C 364)
14. Split pin
15. Cap

5.4.2. REMOVING THE REAR WHEEL

- Position the vehicle on the centre stand.
- Set a support under the frame.
- Remove the exhaust system, see (REMOVING THE EXHAUST SILENCER).
- Release and remove the two screws.
- Slide out the rear brake calliper, keep it connected to the fluid line.



- Remove cover.

- Remove the split pin on the wheel shaft.
- Remove nut cover.
- Loosen and remove the wheel shaft nut.
- Remove the rear wheel together with brake disc, slide it out from the right side.

WARNING
Do not operate the front brake lever when the wheel is not in place or the calliper piston might come off its housing, thus causing brake fluid leakage.

5.5. BRAKING SYSTEM

5.5.1. CHANGING THE BRAKE PADS

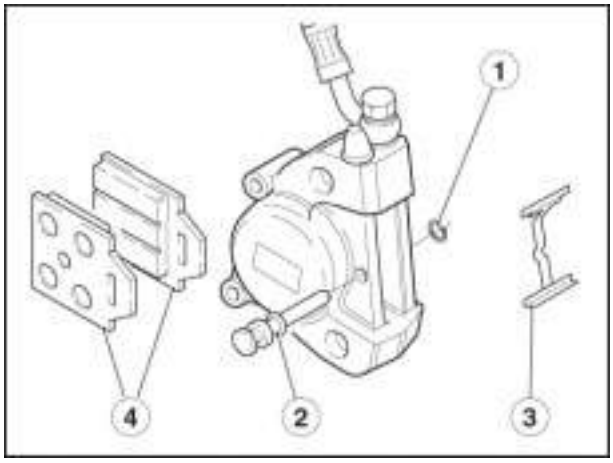
- Position the vehicle on the centre stand.
- Remove the brake calliper from the disc, but leave the line connected.

For front brake calliper only:

- Remove the brake calliper cover.

WARNING
Be careful not to damage the rim paint during removal and reassembly of the calliper on the disc.
While changing pads, protect the rim with tape.

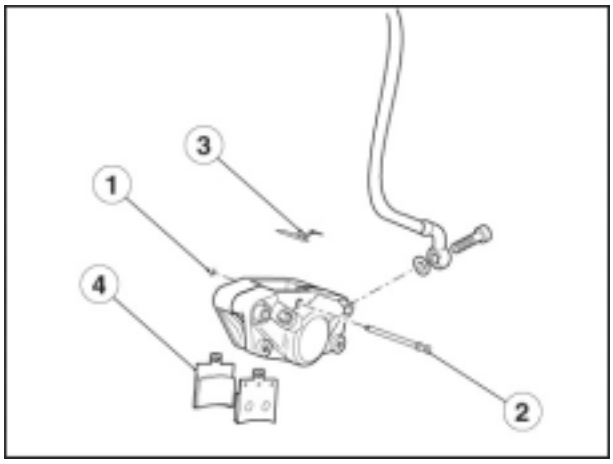
- Remove the snap ring (1).
- Remove the pin (2).
- Remove the spring (3).
- Remove the pads (4) sliding them out one at a time.



WARNING
Do not operate the brake lever when the pads are not in place or the calliper piston might come off its housing, thus causing brake fluid leakage.
Always change both pads and ensure they are correctly in place inside the calliper.

- Fit two new brake pads (4).

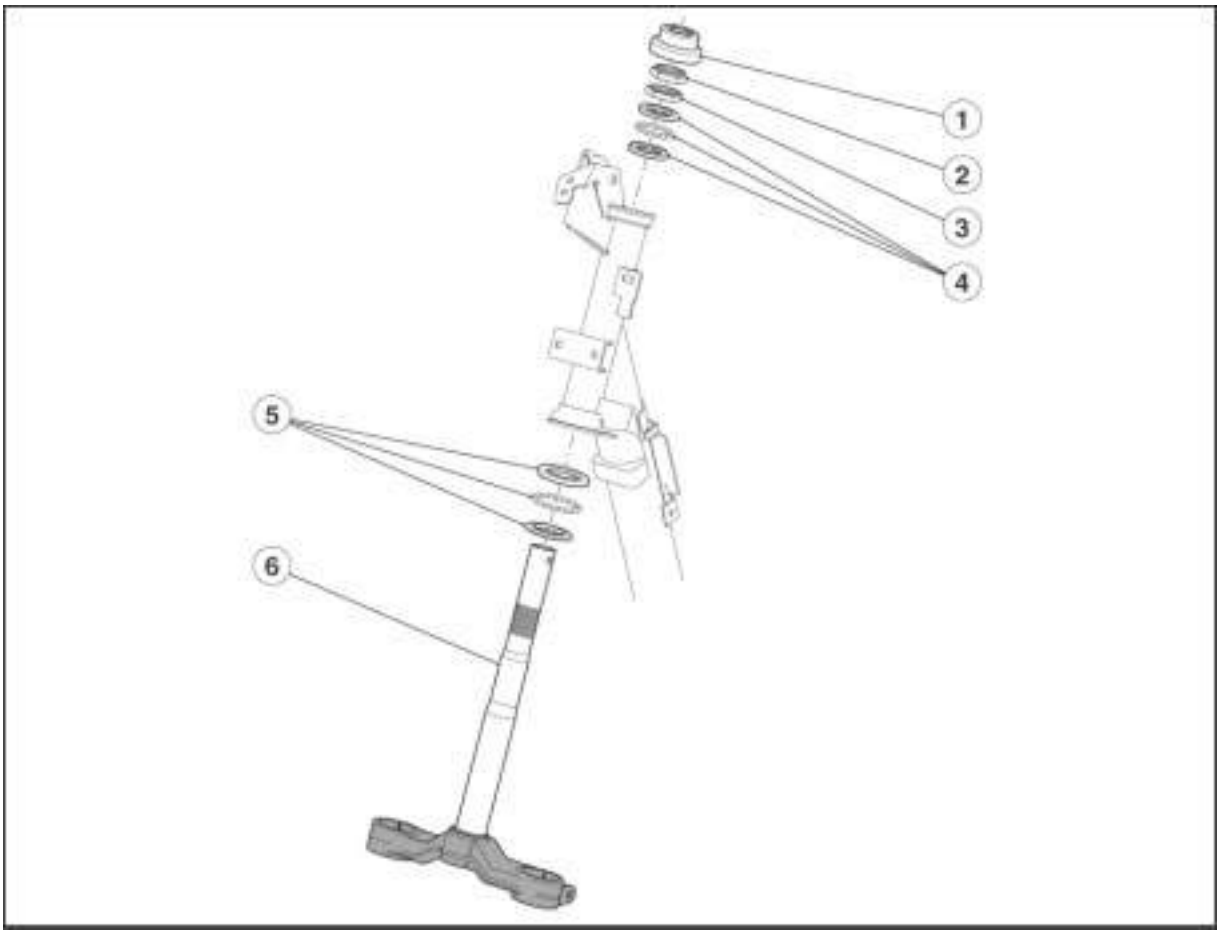
- Correctly seat the spring (3).
- Fit the pin (2).
- Fit the snap ring (1).



For front brake calliper only:
- Refit the brake calliper cover.
- Check the brake fluid level, see (BRAKING SYSTEM).

5.6. STEERING

5.6.1. STEERING DIAGRAM

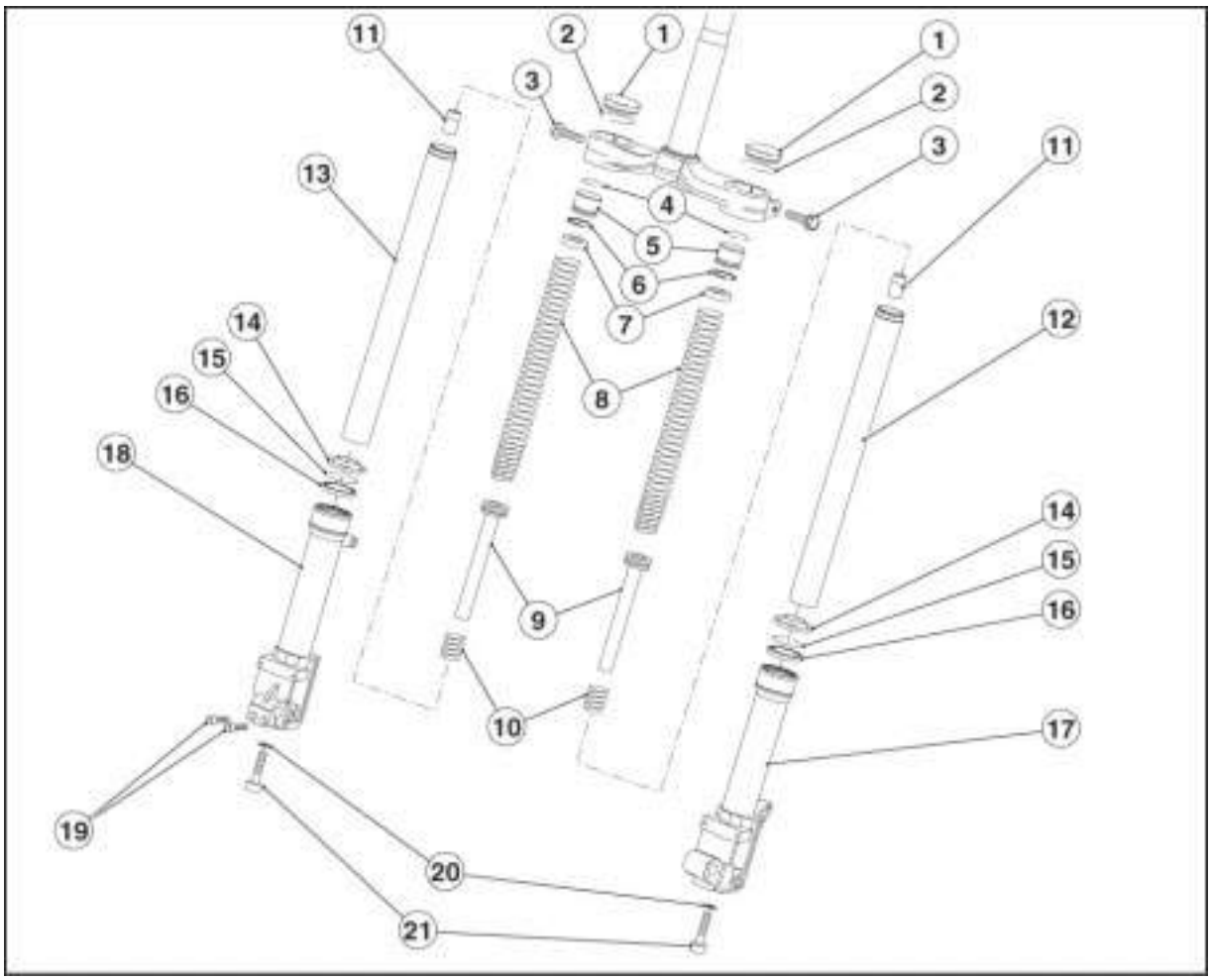


Key:

1. Dust seal
2. Lock nut
3. Adjuster nut
4. Upper bearing
5. Lower bearing
6. Steering

5.7. FRONT FORK

5.7.1. FRONT FORK DIAGRAM

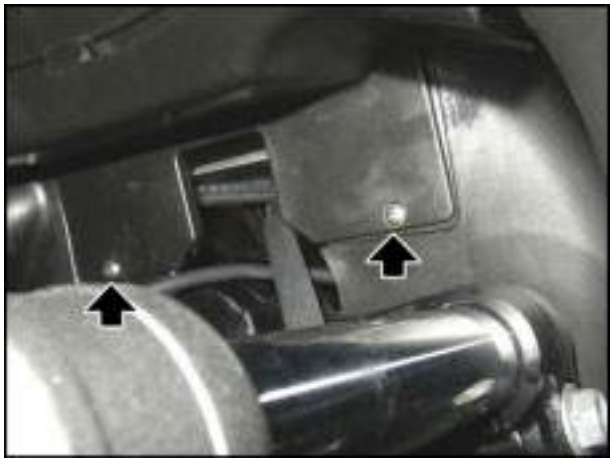


Key:

1. Rubber cap
2. Snap ring
3. Fork clamp bolts
4. Snap ring
5. Sealing cap
6. O-ring
7. Rubber seal
8. Spring
9. Damping cylinder
10. Counter spring
11. Buffer
12. Left slider
13. Right slider
14. Dust seal
15. Snap ring
16. Seal
17. Left stanchion tube
18. Right stanchion tube
19. Securing screws
20. Sealing washer
21. Capscrew

5.7.2. REMOVING THE FORK LEG

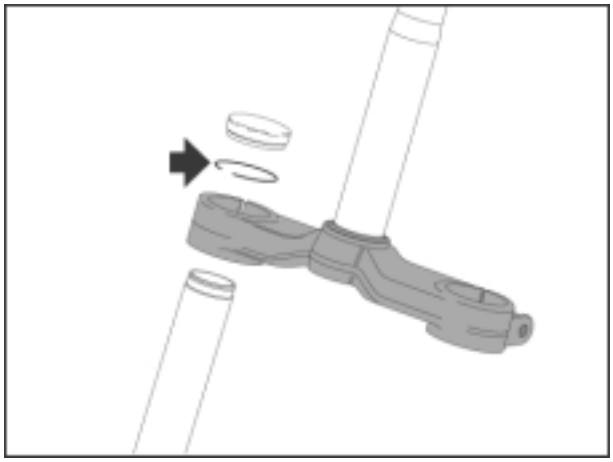
- Remove the headlight, see (REMOVING THE HEADLIGHT).
- Remove the front wheel, see (REMOVING THE FRONT WHEEL).
- Remove the front mudguard, see (REMOVING THE FRONT MUDGUARD).
- Release and remove the two inner screws.



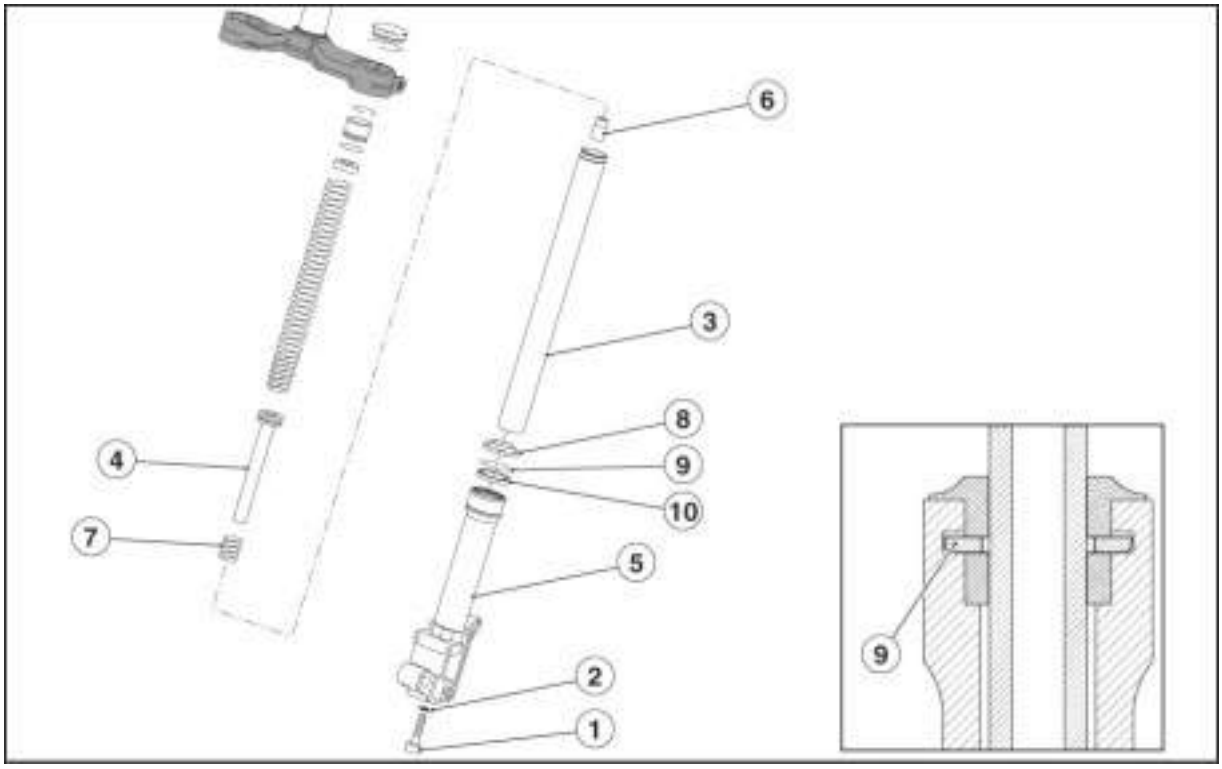
- Release the wheelhouse cover and slide it out of the fork.

- Completely turn the handlebar to the side of the fork leg to be removed.
- Loosen the plate clamp screw.

- Slide out and raise the fork leg as much as necessary to be able to remove the snap ring.
- Move down the fork leg with wheel holder and remove it completely.



5.7.3. DISASSEMBLING THE STANCHION



- Remove the stanchion assembly, see (REMOVING THE FORK LEG).

CAUTION *Prepare a graduated container with a capacity of at least 300 cu.cm (18.31 cu.in.).*

- Let the fork leg enter completely in the stanchion, turn the stanchion assembly and let the fluid drain in the container.

WARNING
Check oil level. If lower than 103 cu. cm (6.28 cu.in.), top up or change.

- Loosen and remove the screw (1) (bottom end) and collect the copper washer (2).
- Slide out the slider (3) with damper (4).
- Turn the stanchion (5), collect the buffer (6) and the counter spring (7).
- Remove the dust seal (8).
- Remove the circlip (9).

WARNING
While reassembling, fit the circlip (9) with the sharp edge fully home (see figure).

- Remove the seal (10).

5.8. REAR SUSPENSION

5.8.1. REMOVING THE SHOCK ABSORBER

- Position the vehicle on the centre stand.

WARNING
Fit a suitable shim in-between the frame and the rear wheel, to avoid that the air box sinks and pushes on the inspection cover.

- Unscrew and remove the top screw.

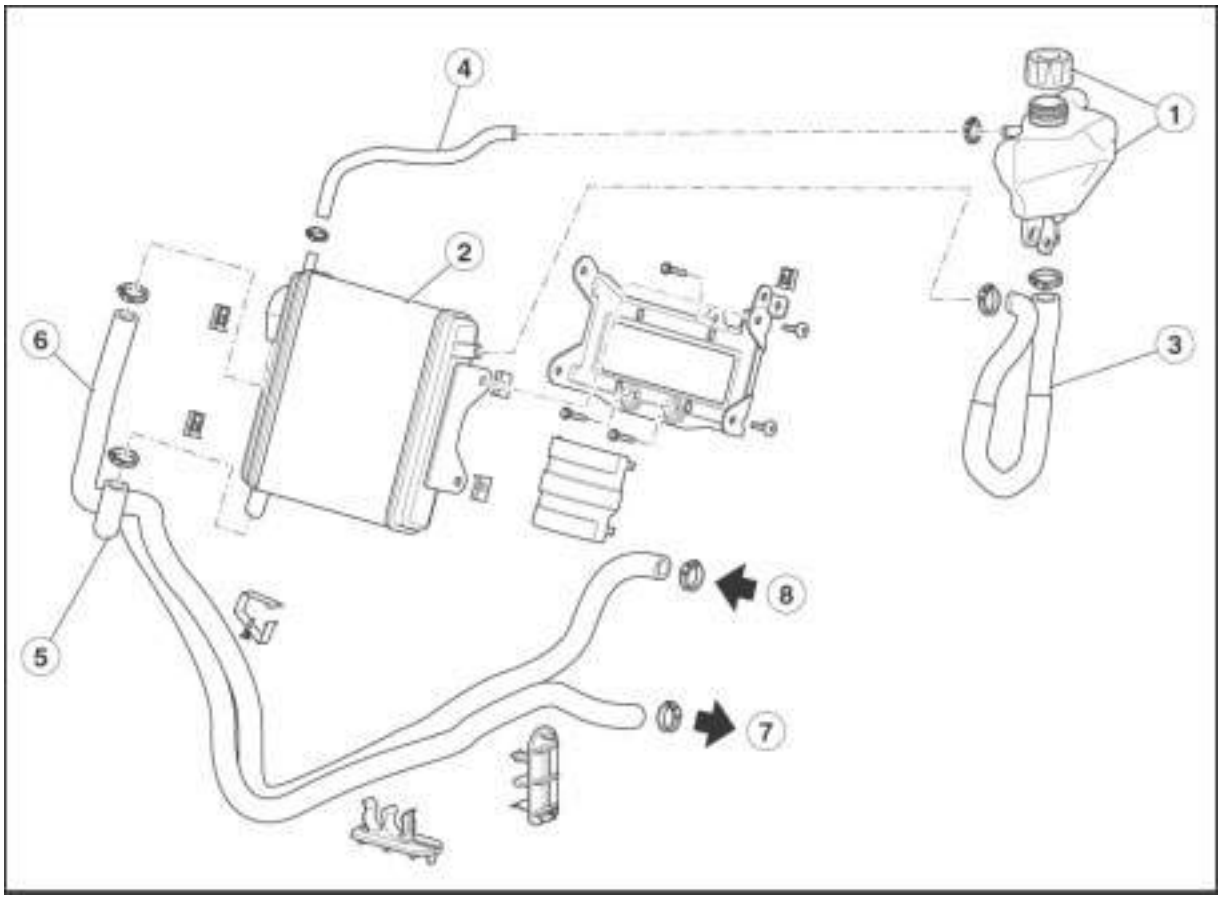
- Loosen and remove the nut and remove the screw.
- Remove the rear shock absorber.

COOLING SYSTEM 6

SUMMARY

6.1. COOLING SYSTEM

6.1.1. DIAGRAM



Key:

1) Expansion tank with plug;
2) Radiator;
3) Expansion tank-radiator hose;
4) Breather hose;
5) Radiator-pump hose;
6) Head-radiator hose;
7) To water pump;
8) From head.

6.2. EMPTYING THE COOLING SYSTEM

6.2.1. EMPTYING THE COOLING SYSTEM

CAUTION *Before proceeding with cooling system emptying, it is necessary to take a container having a suitable capacity.*

- Remove the front cover, see (REMOVING THE FRONT COVER).
- Loosen and remove the expansion tank plug.

- Remove the lower shield, see (REMOVING THE LOWER SHIELD).
- Disconnect the generator connector.

- Place the container under the coolant pump.
- Loosen the clamp and remove the radiator-pump hose, let the coolant flow in the container.

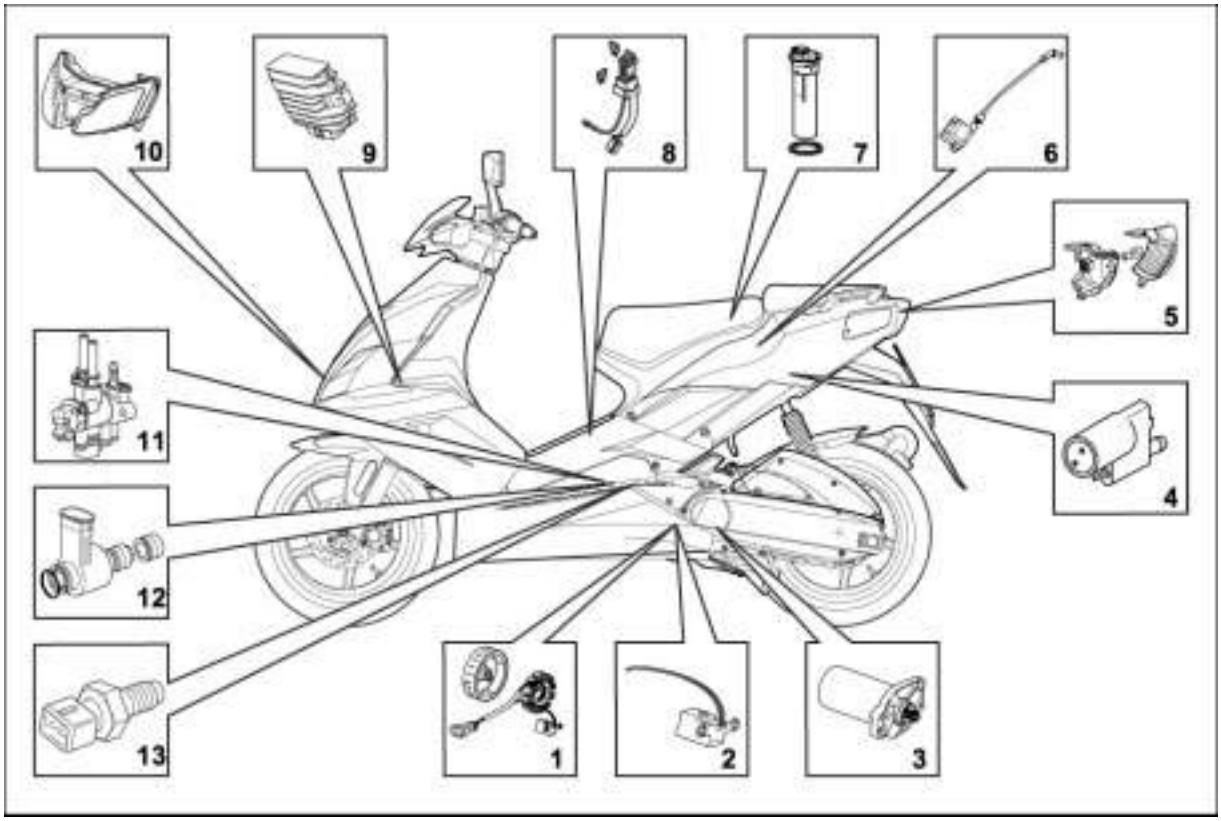
CAUTION *Once the system is filled, bleed air, see (COOLANT).*

ELECTRICAL SYSTEM 7

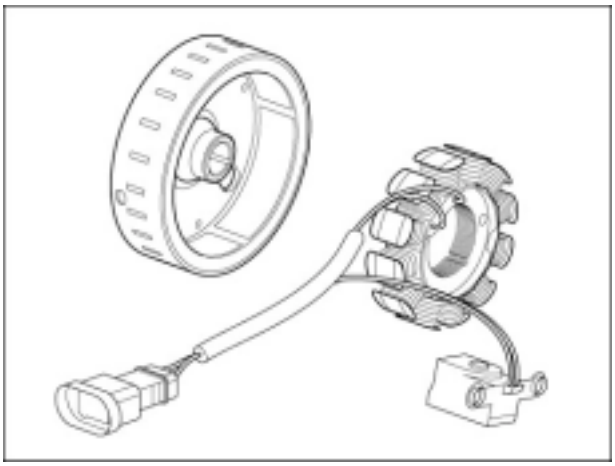
SUMMARY

7.1. CHECKING THE ELECTRICAL COMPONENTS

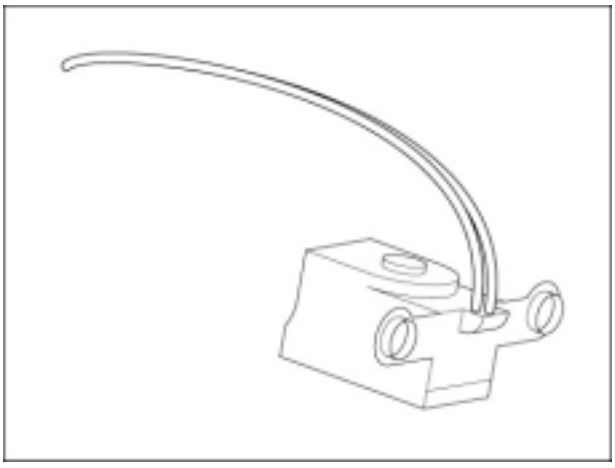
7.1.1. CHECKING THE COMPONENTS IE361



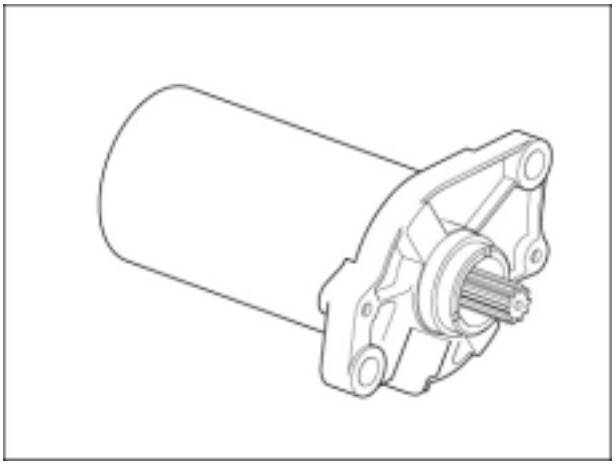
1 Generator:
three-phase generator
winding resistance: 1 ohm
output voltage 50AC (to be measured with generator disconnected from wiring system and engine at 3000 rpm)



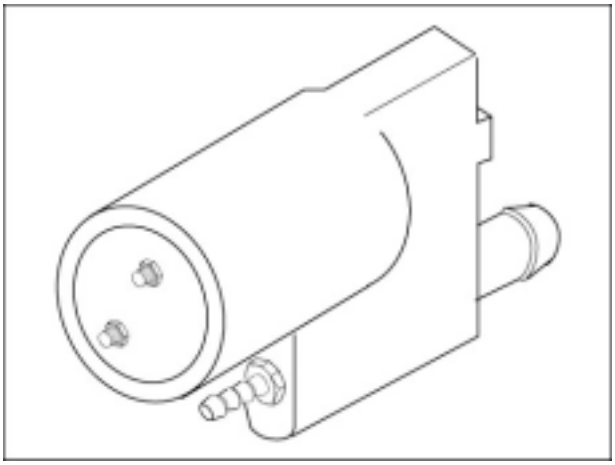
2 Rpm sensor:
inductive sensor
winding resistance: 110 ohm



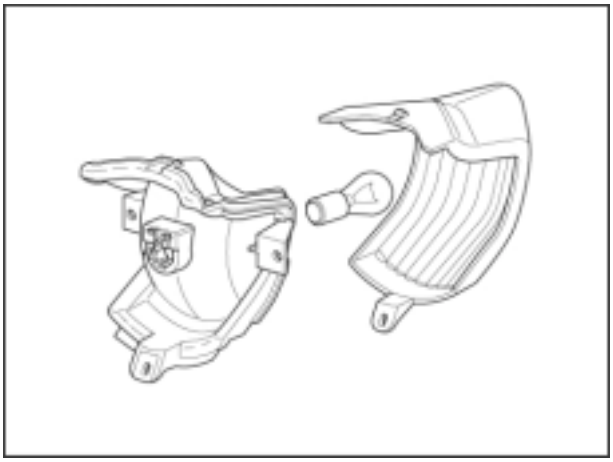
3 Starter motor
current absorbed in operation 20 A



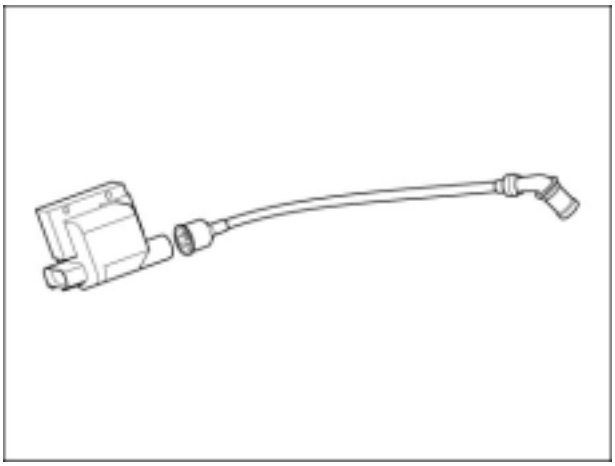
4 Fuel pump:
absorption 0.35 A



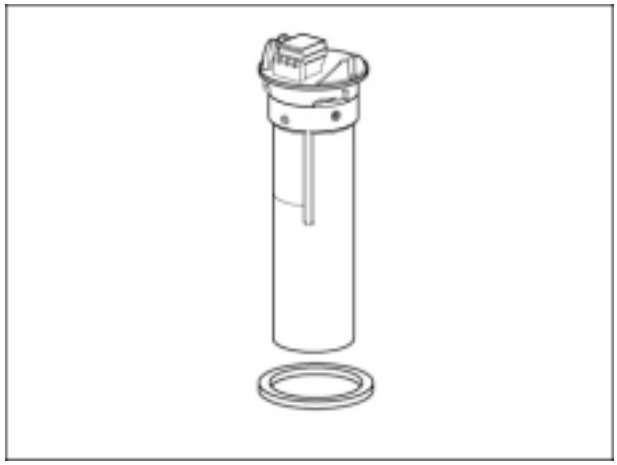
5 Tail light:
parking/stop light 12 V – 5 / 21 W



6 Ignition coil:
primary resistance: 0.7 ohm

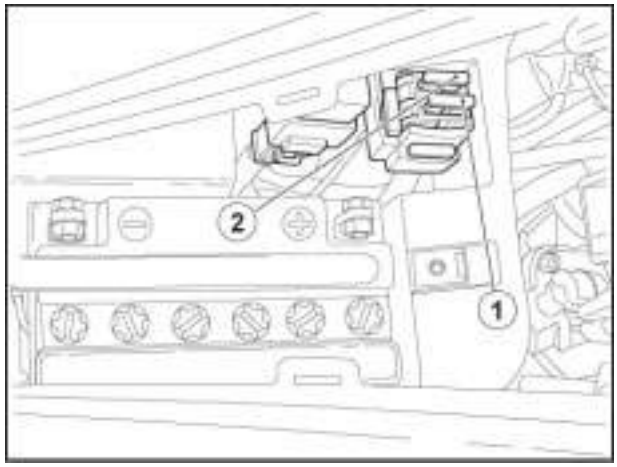


7 Fuel sensor:
resistance across terminals 1 and 3:
- 5 ohm with full fuel tank
- 38 ohm with half full fuel tank
- 100 ohm with empty fuel tank

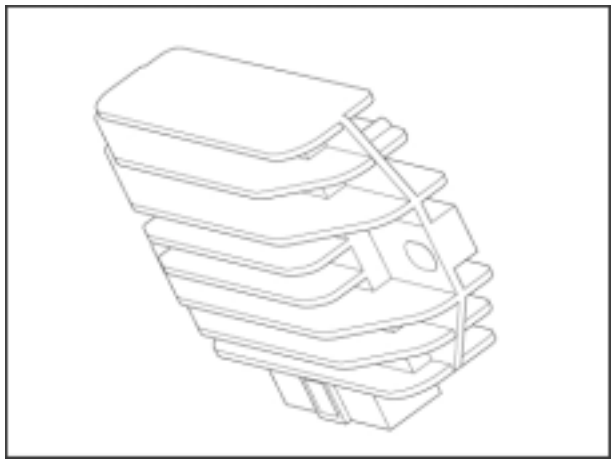


8 Fuses:
10A fuse (1) - From ignition switch to:
- Lights
- Low-high beam relay
- Horn
- Diagnostics circuit

15A fuse (2) - From battery to:
- Rectification/charge circuit
- Ignition switch
- Positive permanent on instrument panel
- Injection relay
- Engine kill switch
- Instrument panel key-operated power
  - Stoplights
  - Mixer oil reserve sensor
  - Fuel sensor
  - Coolant temperature sensor

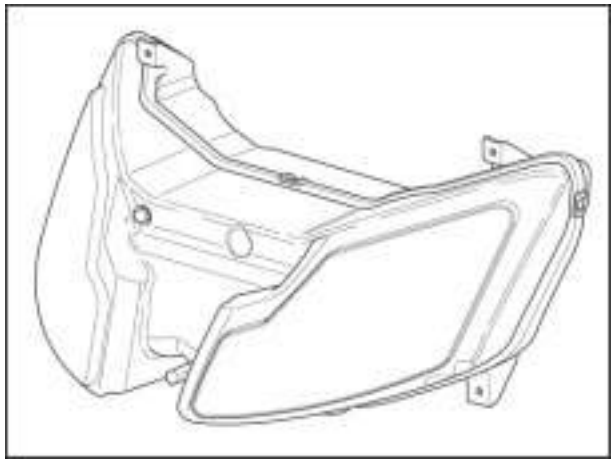


9 Charging voltage:
voltage 13.5 V ± 0.3 V to be measured at battery poles (with engine at 3000 rpm)



10 Headlight:

low beam	12 V – 35 W
high beam	12 V – 35 W



11 Throttle body

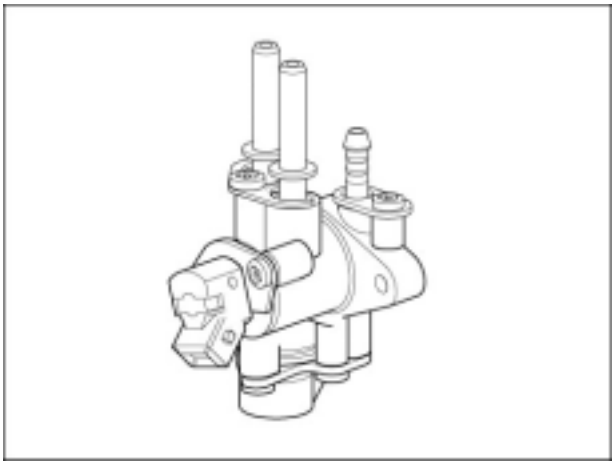
FUEL INJECTOR
winding resistance: 1.7 ohm

THROTTLE POSITION SENSOR (TPS):
- resistance across terminals 1 and 4: 1.1 kohm

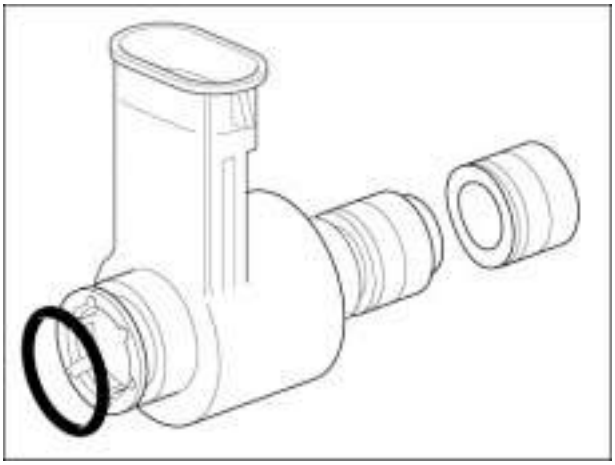
Throttle grip CLOSED
- resistance across terminals 1 and 2: 1.1 kohm
- resistance across terminals 1 and 3: 1.9 kohm

Throttle grip OPEN
- resistance across terminals 1 and 2: 1.9 kohm
- resistance across terminals 1 and 3: 1.1 kohm

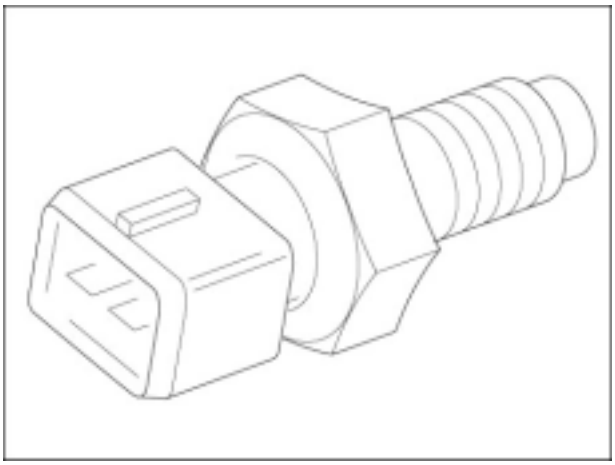
tolerance on measured values: ± 10%



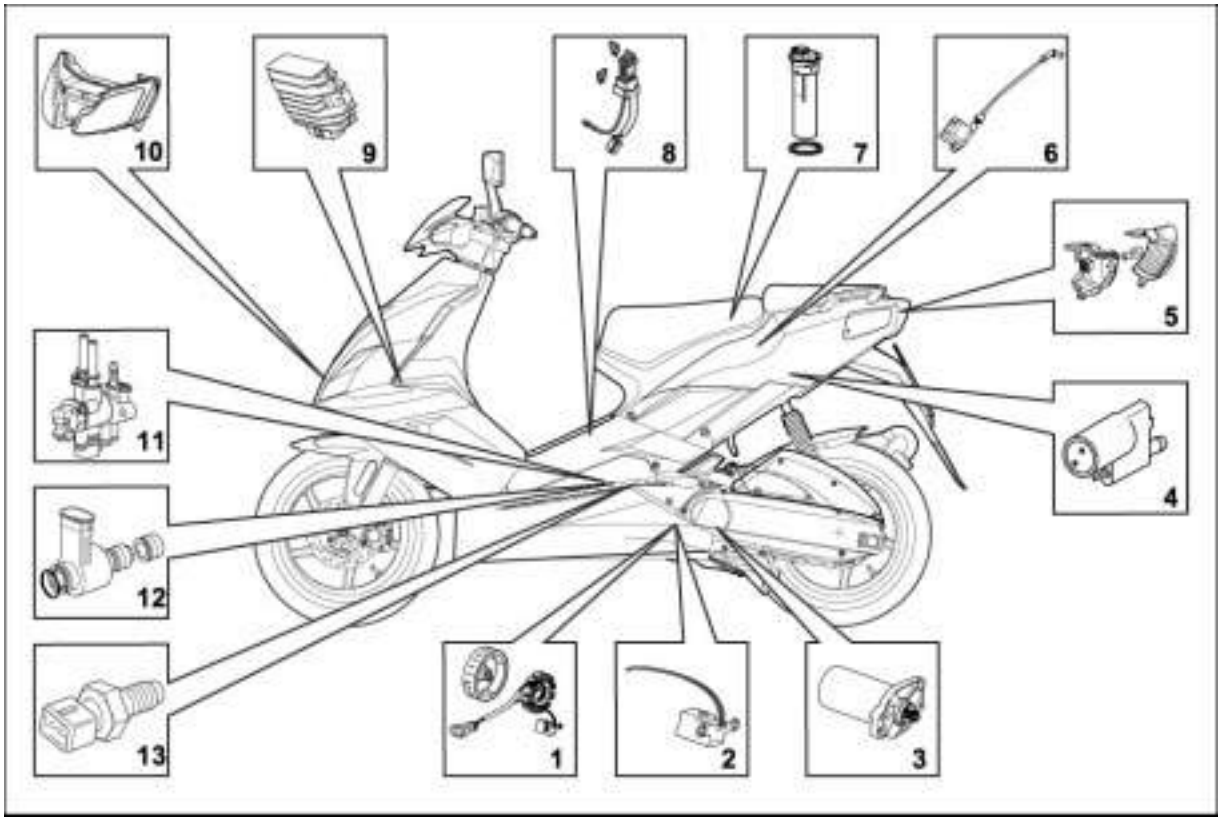
12 Air injector:
winding resistance: 1.3 ohm



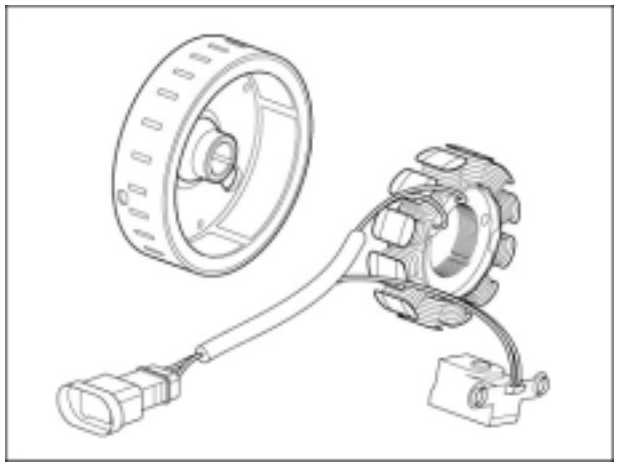
13 Coolant temperature sensor
NTC sensor
resistance: 2.7 kohm at 20 °C



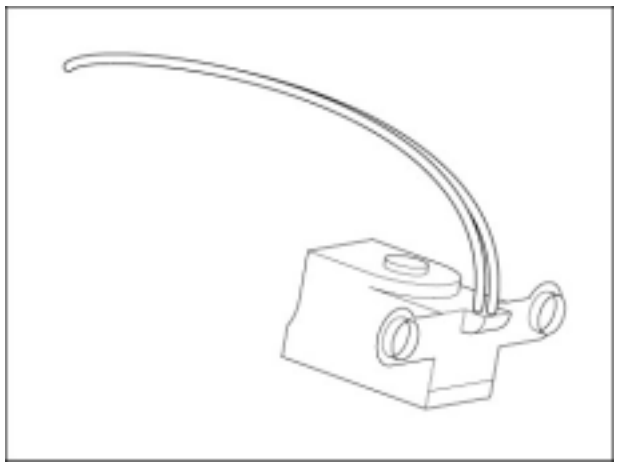
7.1.2. CHECKING THE COMPONENTS IE50



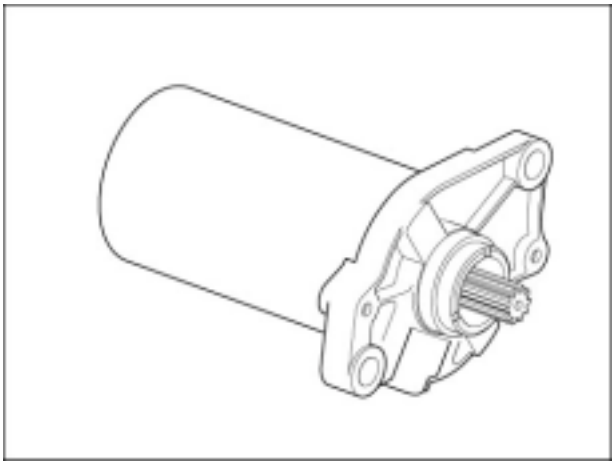
1 Generator:
three-phase generator
winding resistance: 1 ohm
output voltage 50AC (to be measured with generator disconnected from wiring system and engine at 3000 rpm)



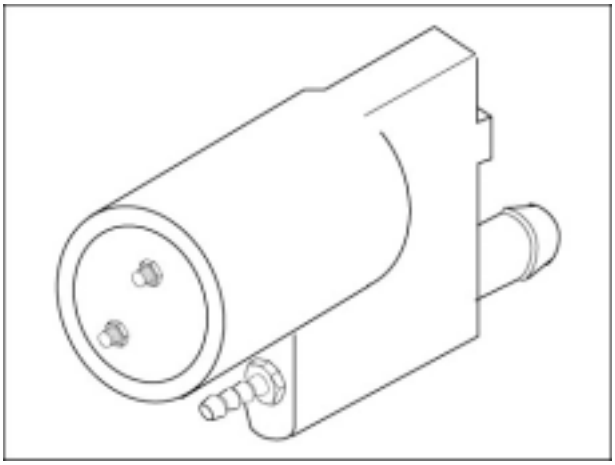
2 Rpm sensor:
inductive sensor
winding resistance: 110 ohm



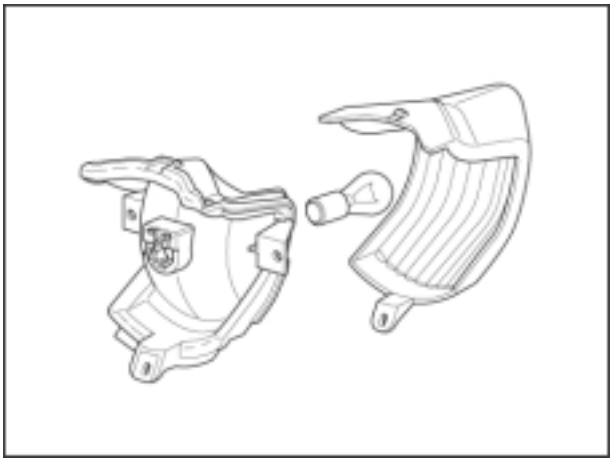
3 Starter motor
current absorbed in operation 20 A



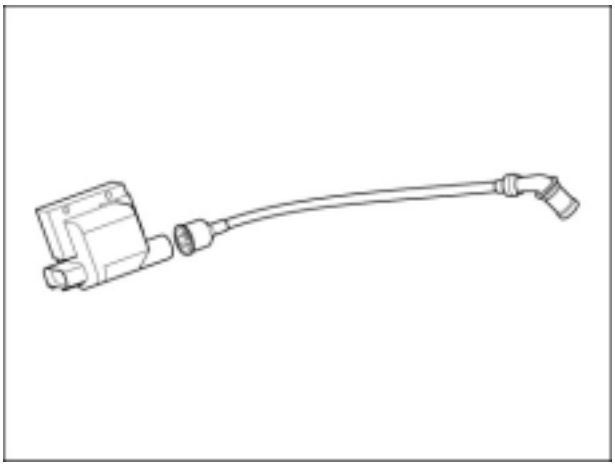
4 Fuel pump:
absorption 0.35 A



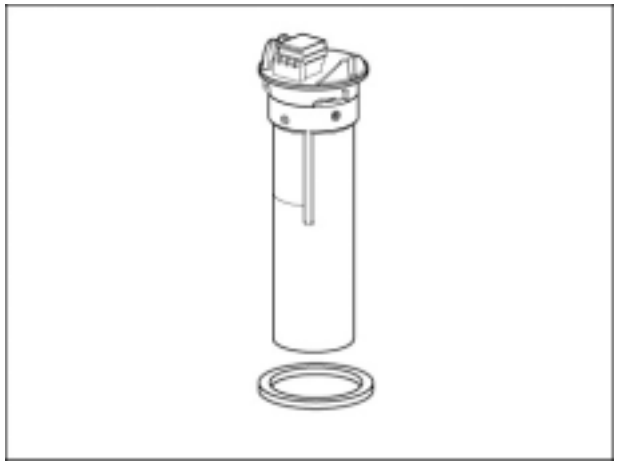
5 Tail lights:
parking/stop light 12 V – 5 / 21 W



6 Ignition coil:
primary resistance: 0.7 ohm

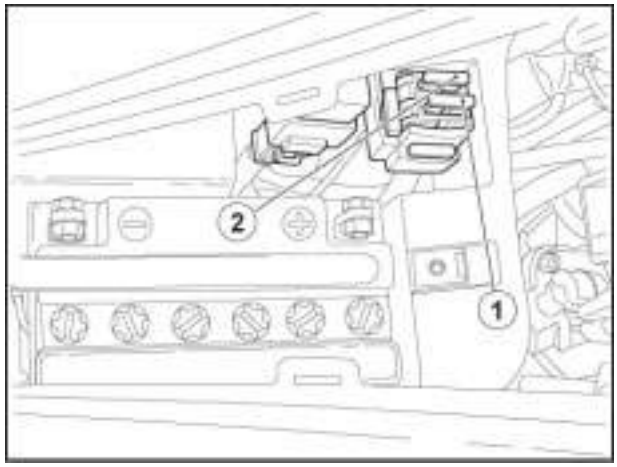


7 Fuel sensor:
resistance across terminals 1 and 3:
- 5 ohm with full fuel tank
- 38 ohm with half full fuel tank
- 100 ohm with empty fuel tank

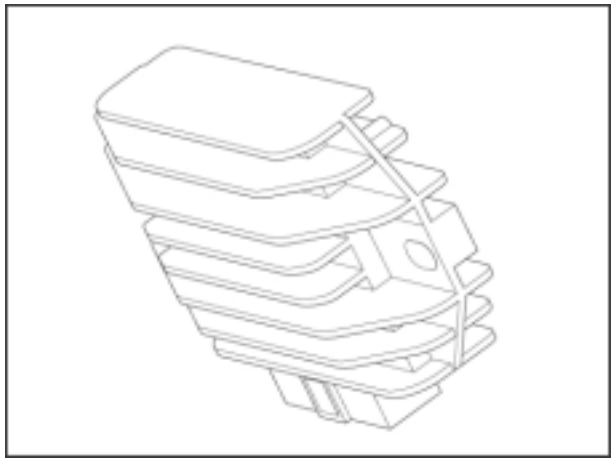


8 Fuses:
10A fuse (1 - 2) - From ignition switch to:

- Horn
- Rectification/charge circuit
- Stoplights
- Injection relay
- Engine kill switch
- Instrument panel key-operated power
  - Direction indicators
  - Mixer oil reserve sensor
  - Fuel sensor
  - Coolant temperature sensor

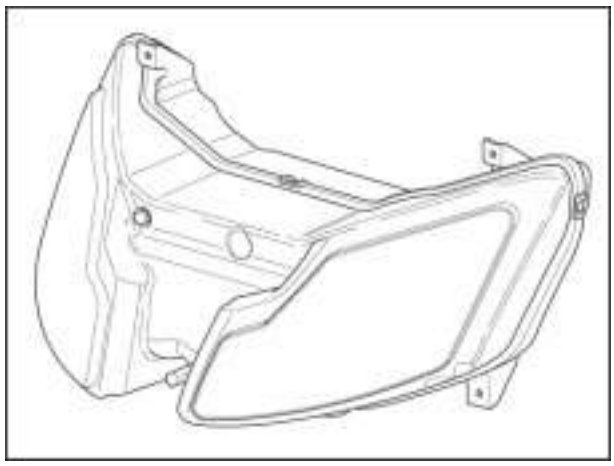


9 Charging voltage:
voltage 13.5 V ± 0.3 V to be measured at battery poles (with engine at 3000 rpm)



10 Headlight:

low beam	12 V – 35 W
low/high beam	12 V – 35 W



11 Throttle body

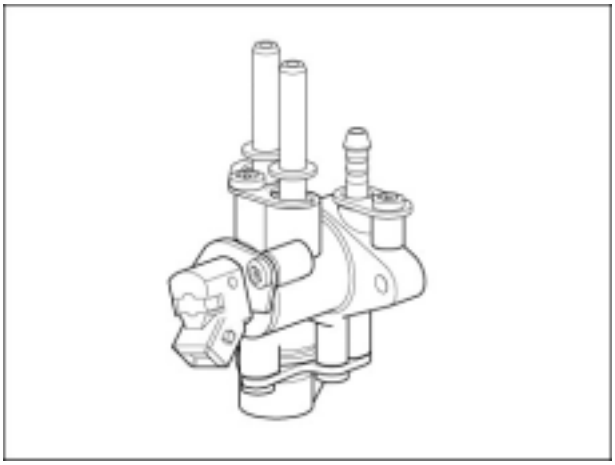
FUEL INJECTOR
winding resistance: 1.7 ohm

THROTTLE POSITION SENSOR (TPS):
- resistance across terminals 1 and 4: 1.1 kohm

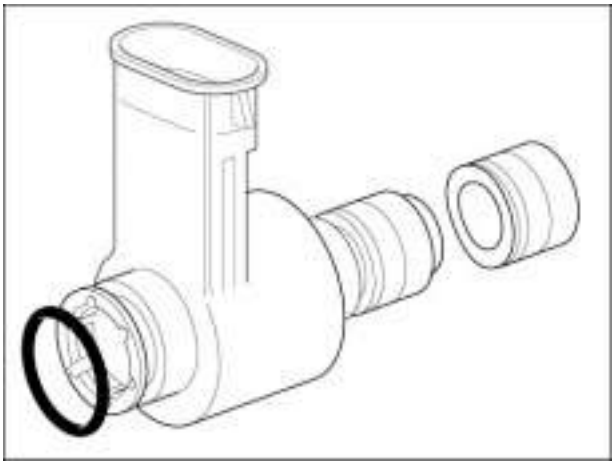
Throttle grip CLOSED
- resistance across terminals 1 and 2: 1.1 kohm
- resistance across terminals 1 and 3: 1.9 kohm

Throttle grip OPEN
- resistance across terminals 1 and 2: 1.9 kohm
- resistance across terminals 1 and 3: 1.1 kohm

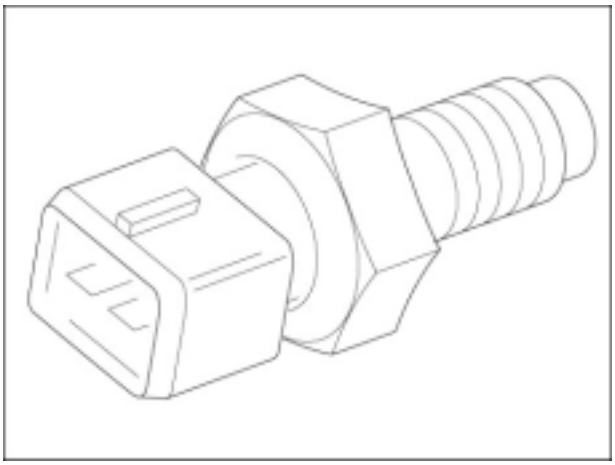
tolerance on measured values: ± 10%



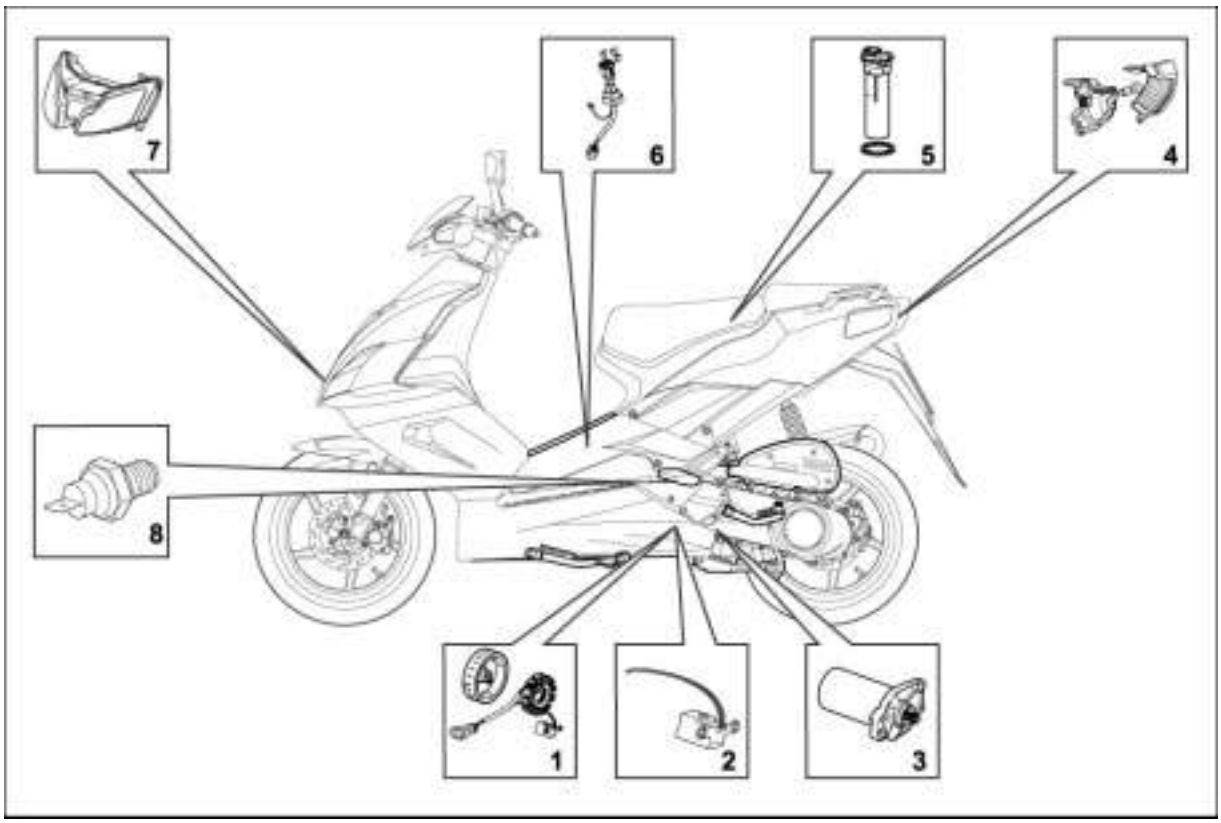
12 Air injector:
winding resistance: 1.3 ohm



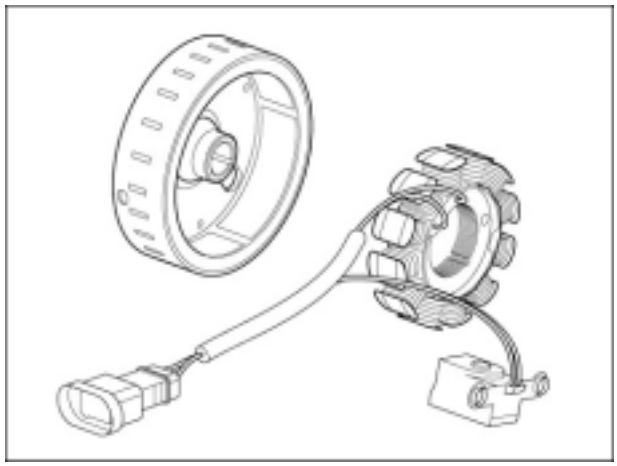
13 Coolant temperature sensor
NTC sensor
resistance: 2.7 kohm at 20 °C



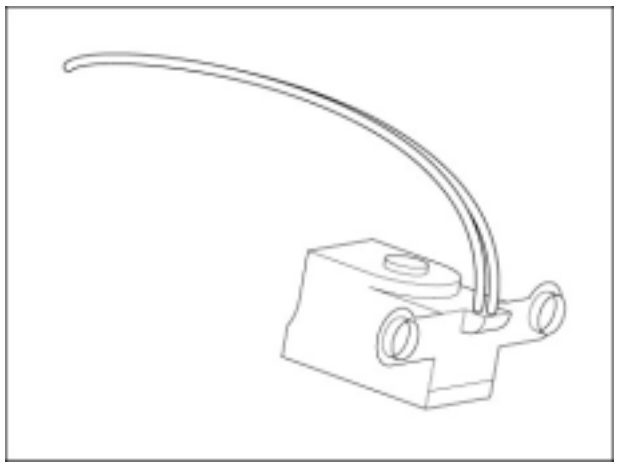
7.1.3. CHECKING THE COMPONENTS C364



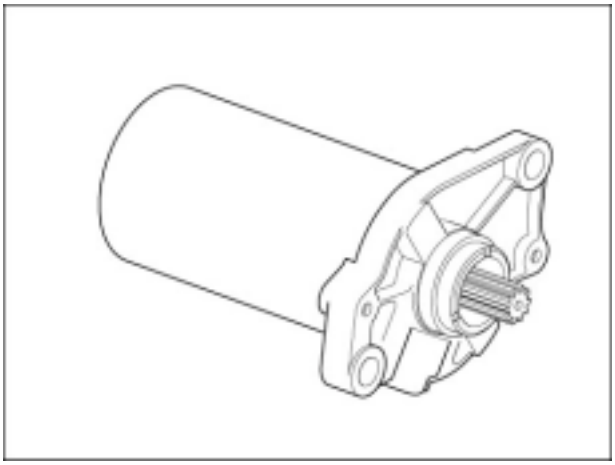
1 Generator:
two-phase generator
winding resistance: 0.5-1 ohm
output voltage 30-35 VAC (to be measured with generator disconnected from wiring system and engine cranking)



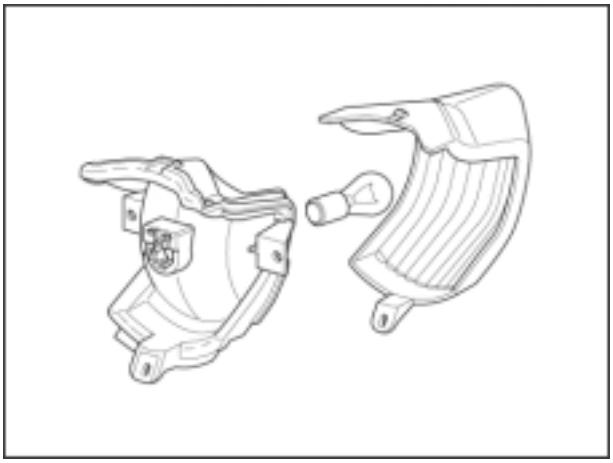
2 Rpm sensor:
inductive sensor
winding resistance: 110 ohm



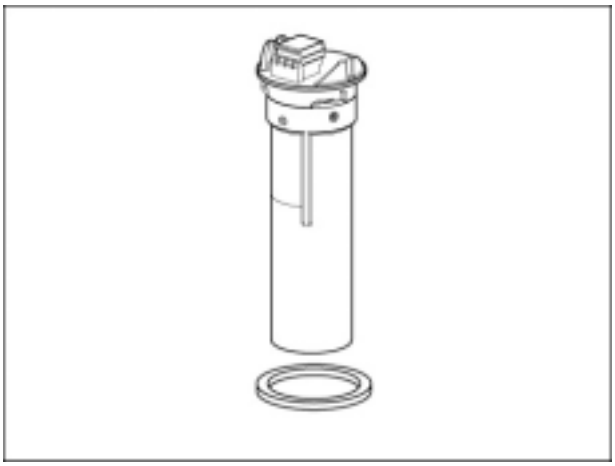
3 Starter motor
absorption in operation: 20 A.



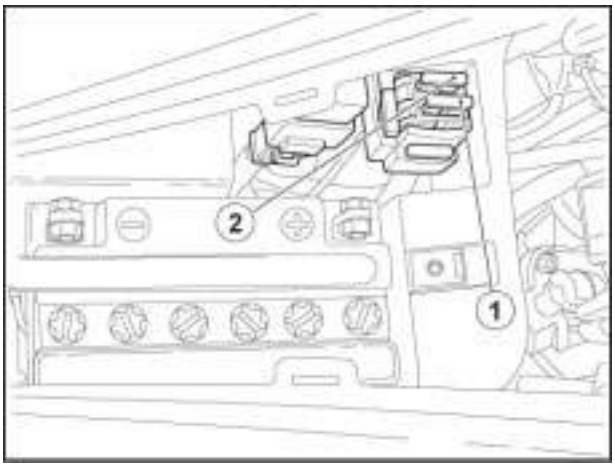
4 Tail lights:
parking/stop light 12 V – 5 / 21 W



5 Fuel sensor:
resistance (measure across pin 1 and 2)
- 5 ohm with full fuel tank
- 100 ohm with empty fuel tank
- 38 ohm with half full fuel tank



6 Fuses:

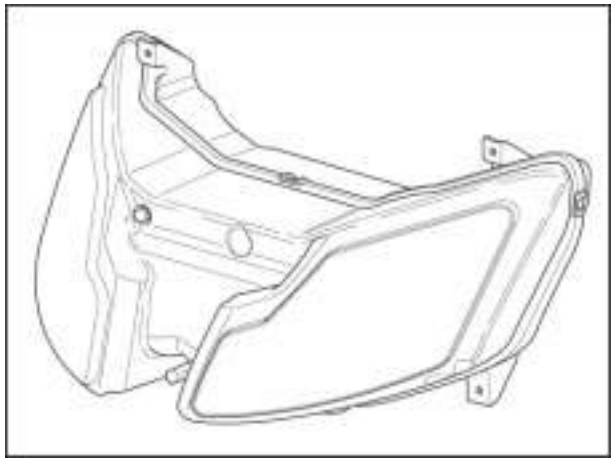


7.5A fuse (1) - From ignition switch to:
- Instrument panel key-operated power
  - Stoplights
  - Mixer oil reserve sensor
  - Fuel sensor
  - Coolant temperature sensor
- Turn indicator circuit
- Horn
- Diagnostics circuit

15A fuse (2) - From battery to:
- Rectification/charge circuit
- Ignition switch
- Positive permanent on instrument panel

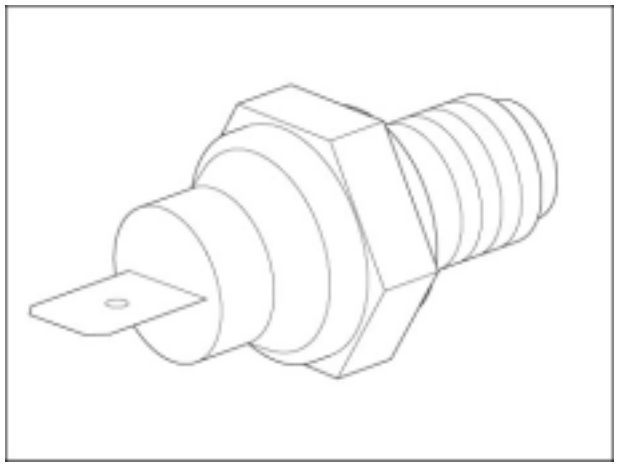
7 Headlight:

low beam	12 V – 35 W
high beam	12 V – 35 W



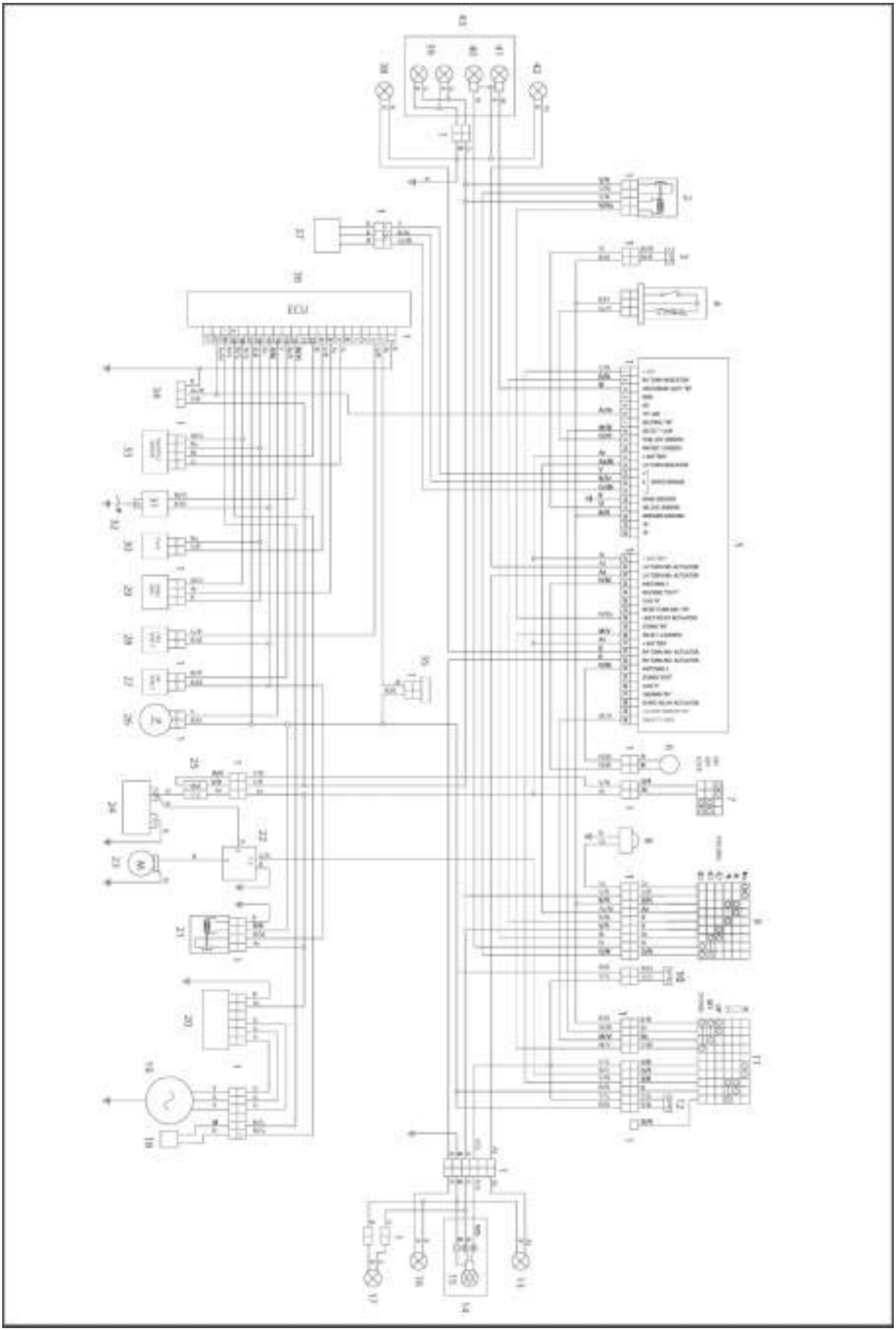
8 Engine temperature sensor:

NTC sensor
resistance: 560 ohm (at 25°C)
resistance: 40 ohm (at 100°C)



7.2. WIRING SYSTEM DIAGRAMS

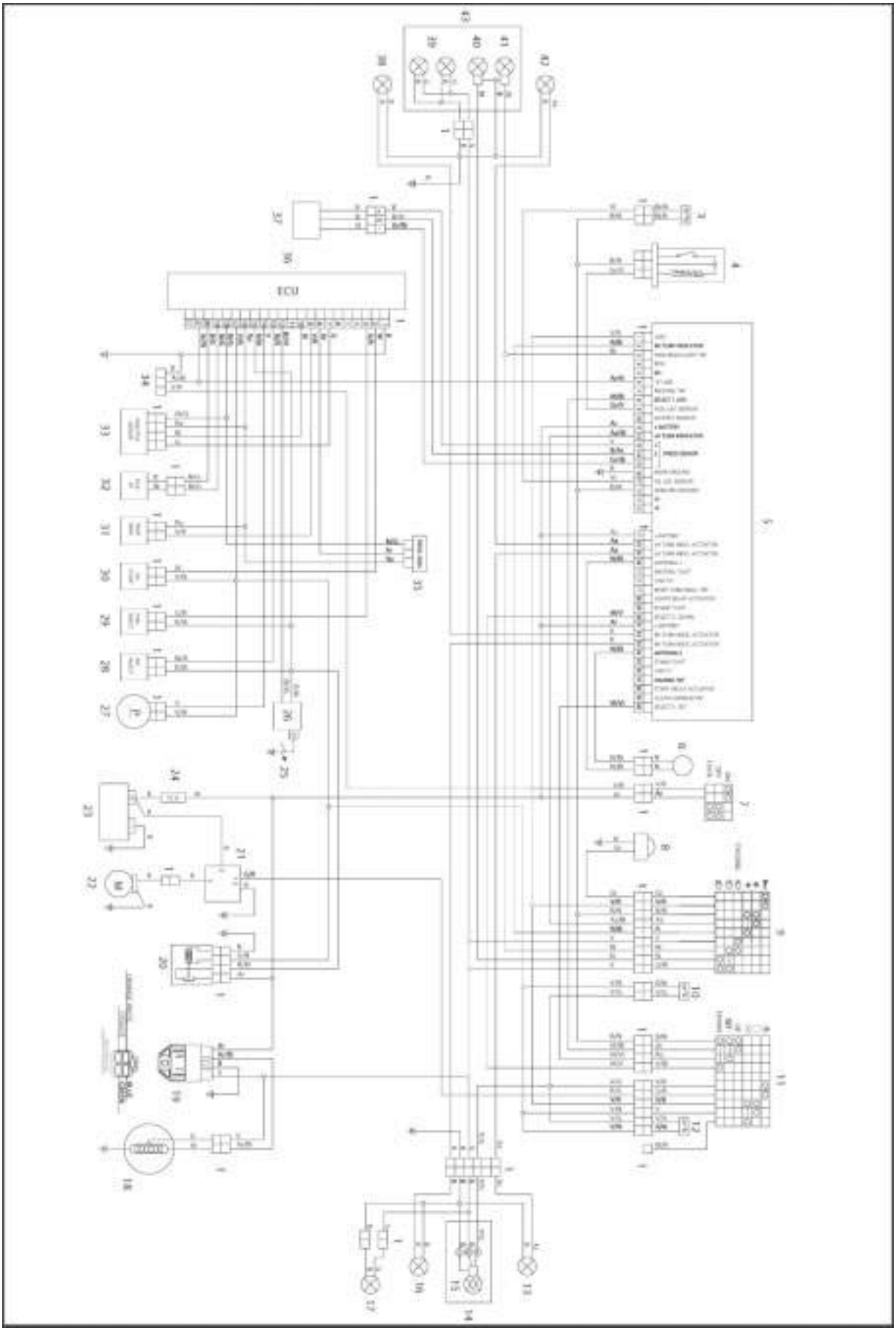
7.2.1. WIRING DIAGRAM IE 361



Key:

1. Multiple connectors
2. Low-high beam relay
3. Oil level switch
4. Fuel level sensor
5. Instrument panel (matrix)
6. Immobilizer antenna
7. Key-operated switch
8. Warning horn
9. Left dimmer switch
10. Rear stop switch (on left dimmer switch)
11. Right dimmer switch
12. Front stop switch (on right dimmer switch)
13. Rear left turn indicator
14. Tail light
15. Parking light/brake light
16. Rear right turn indicator
17. Number plate light (CH - USA only)
18. Pick-up sensor
19. Generator
20. Voltage regulator
21. Injection relay
22. Starter relay (noise proof)
23. Starter motor
24. Battery
25. Fuses
26. Fuel pump
27. Air injector
28. Fuel injector
29. Pressure sensor (or integrated in the control unit)
30. Head temperature sensor
31. H.T. coil
32. Spark plug
33. Throttle sensor
34. Serial connector (diagnosis)
35. Oil pump
36. ECU
37. Speed sensor
38. Front right direction indicator
39. Front parking lights (CH - USA only)
40. Low beam
41. High beam
42. Front left direction indicator
43. Headlight
44. Diode
45. -
46. -
47. -
48. -
49. -

7.2.2. WIRING DIAGRAM IE 50



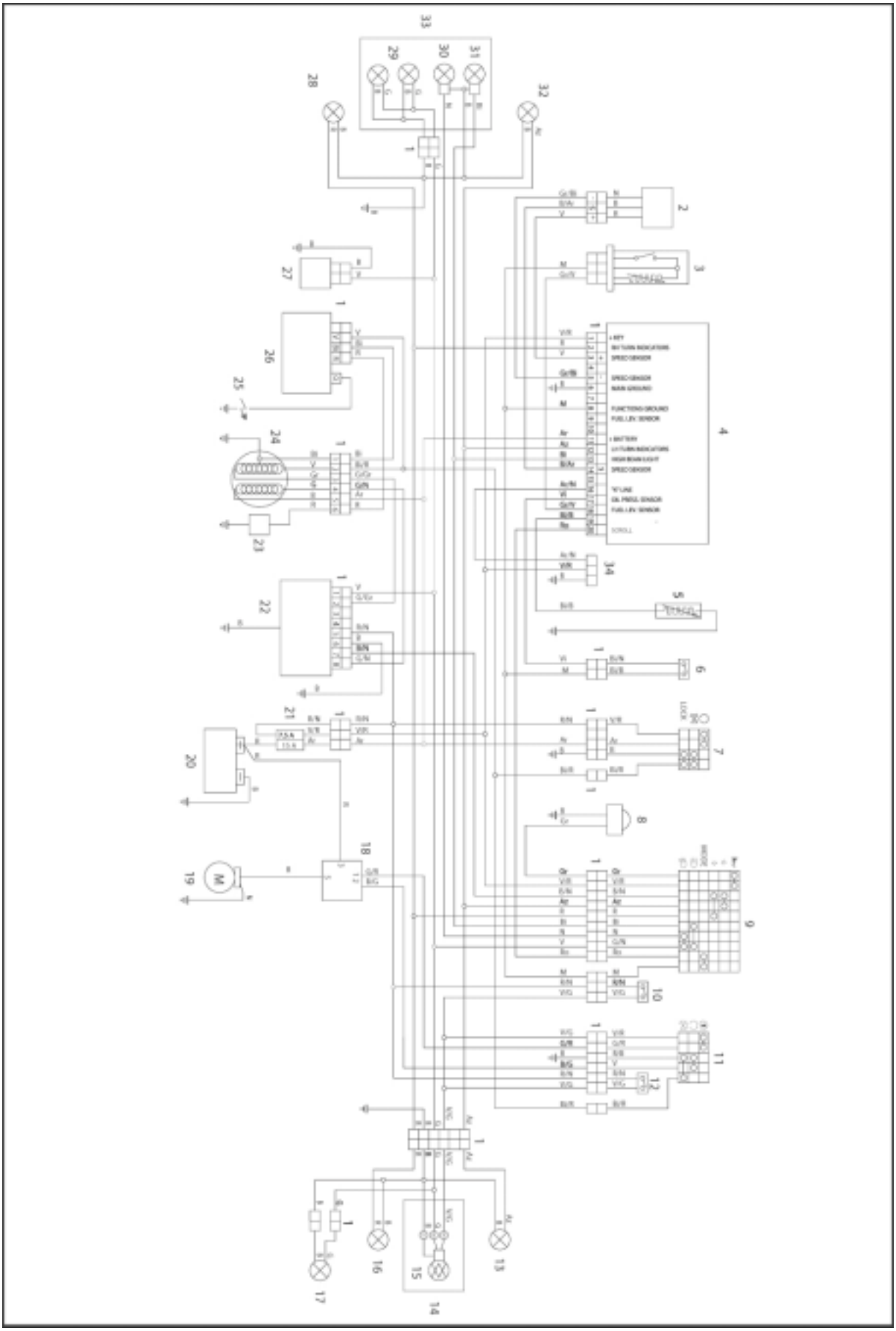
Key:

1. Multiple connectors
2. -
3. Oil level switch
4. Fuel level sensor
5. Instrument panel (matrix)
6. Immobilizer antenna
7. Key-operated switch
8. Warning horn
9. Left dimmer switch
10. Rear stop switch (on left dimmer switch)
11. Right dimmer switch
12. Front stop switch (on right dimmer switch)
13. Rear left turn indicator
14. Tail light
15. Parking light/brake light
16. Rear right turn indicator
17. Number plate light (CH - USA only)
18. Generator
19. Voltage regulator
20. Injection relay
21. Starter relay
22. Starter motor
23. Battery
24. Fuse
25. Spark plug
26. H.T. coil
27. Fuel pump
28. Air injector
29. Fuel injector
30. Oil pump
31. Temperature sensor
32. Pick-up sensor
33. Throttle sensor
34. Serial connector (diagnosis)
35. Pressure sensor (or integrated in the control unit)
36. ECU
37. Speed sensor
38. Front right direction indicator
39. Front parking lights (CH - USA only)
40. Low beam
41. High beam
42. Front left direction indicator
43. Headlight
44. Diode
45. -
46. -
47. -
48. -
49. -

CABLE COLOURS

Ar	Orange
Az	Light blue
B	Blue
Bi	White
G	Yellow
Gr	Grey
M	Brown
N	Black
R	Red
V	Green
Vi	Violet
Ro	Pink

7.2.3. WIRING DIAGRAM C 364



Key:

1. Multiple connectors
2. Speed sensor
3. Fuel level sensor
4. Instrument panel (easy)
5. Head temperature sensor
6. Oil level switch
7. Key ignition switch
8. Warning horn
9. Left dimmer switch
10. Rear stop switch (on left dimmer switch)
11. Right dimmer switch
12. Front stop switch (on right dimmer switch)
13. Rear left turn indicator
14. Tail light
15. Parking light/brake light
16. Rear right turn indicator
17. Number plate light (CH - USA only)
18. Starter relay
19. Starter motor
20. Battery
21. Fuses
22. Regulator
23. Pick-up sensor
24. Generator
25. SPARK PLUG
26. Transducer
27. Automatic choke
28. Front right direction indicator
29. Front parking lights (CH - USA only)
30. Low beam
31. High beam
32. Front left direction indicator
33. Headlight
34. Serial connector (diagnosis)
35. -
36. -
37. -
38. -

aprilia s.p.a.
via G.Galilei, 1
30033 Noale (VE) Italy
tel. +39 041.5829111
fax +39 041.5829190
www.aprilia.com
www.serviceaprilia.com