

UPDATES	1
SR 50 TE (Engine C361M)	1.1
SR 50 TE (Engine C364M)	1.7

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## 1.1. GENERAL INFORMATION

### 1.1.1. REFERENCE MANUALS

#### ENGINE WORKSHOP MANUALS

aprilia part# (description)	
8140731	I
8140732	E
8140733	F
8140734	D
8140735	UK
8140736	USA

#### SPARE PARTS CATALOGUES

aprilia part# (description)	
553Y	I F D E UK

#### SPECIAL TOOLS MANUALS

aprilia part# (description)	
001H	

#### USE AND MAINTENANCE BOOKLETS

aprilia part# (description)	
8202336	I F D
8202381	GR E UK
8202382	NL DK SF

#### CHASSIS WORKSHOP MANUALS

aprilia part# (description)	
8140123	I E UK
8140124	I F D

### 1.1.2. VEHICLE IDENTIFICATION

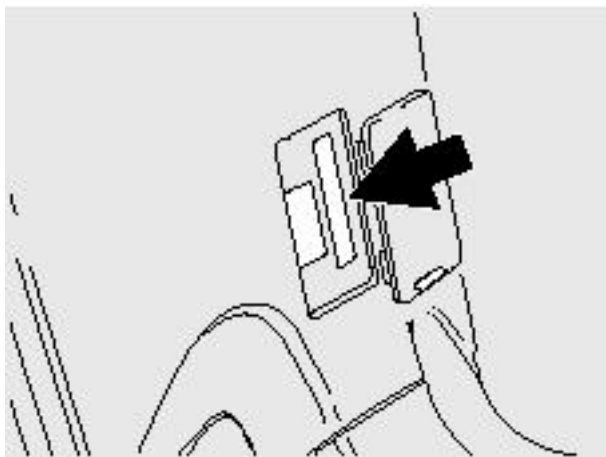
#### POSITION OF THE SERIAL NUMBERS

These numbers are required for the vehicle registration.

**IMPORTANT** *Altering the identification numbers can incur serious penal and administrative penalties. Altering the chassis number in particular, will immediately annul the warranty.*

#### Chassis number

The chassis number is stamped on the steering stem.



#### Engine number

The engine number is stamped on the rear side, near the shock absorber.





























## 1.2. SPECIFICATIONS

## 1.2.1. SPECIFICATIONS

DIMENSIONS	
Max. length	1775 mm
Max. width	720 mm
Max. height (to the windshield)	1200 mm
Height to the saddle	820 mm
Wheelbase	1265 mm
Minimum clear height from the ground	160 mm
Running conditions weight	106 kg
ENGINE	
Type	Two-stroke
Model	C361M
Number of cylinders	Horizontal single cylinder
Total capacity	49.38 cm <sup>3</sup>
Bore/stroke	40 mm / 39.3 mm
Compression ratio	12.4 ± 0.5 : 1
Starter	Electric
Engine idle rpm	2000 ± 50 rpm
Clutch	Dry automatic centrifugal
Gear	Automatic continuous variator
Cooling	Liquid
CAPACITY	
Fuel (reserve included)	8 litres
Fuel reserve	2 litres
Transmission oil	130 cm <sup>3</sup>
Mixer oil (reserve included)	1.6 litres
Mixer oil reserve	0.5 litres
Coolant	1.2 litres (50% antifreeze with ethylene glycol + 50% water)
Seats	1 (2 in countries which allow passengers to be carried)
Max vehicle load (pilot+luggage)	105 kg
Max vehicle load (pilot+ passenger + luggage)	180 Kg (in countries which allow passengers to be carried)
TRANSMISSION	
Variator	Automatic continuous
Primary	V-belt
Ratios	
- minimum for continuous variable transmission	3.07
- maximum for continuous variable transmission	0.78
Secondary	gears
ELECTRONIC INJECTION SUPPLY	
MODEL	
- Type	ELECTRONIC INJECTION
Diffuser	Ø 20 mm
ELECTRONIC INJECTION SUPPLY	
Fuel	Premium unleaded petrol DIN 51607, with minimum octane number 95 (N.O.R.M.) and 85 (N.O.M.M.)
CHASSIS	
Type	Split single beam
SHOCK ABSORBERS	
Front	Telescopic fork
Travel	90 mm
Rear	Hydraulic single shock
Travel	72 mm
BRAKES	
Front	Disc Ø 190 mm with hydraulic transmission
Rear	Disc Ø 190 mm with hydraulic transmission
WHEELS	
Type	Alloy
Front	3.50 x 13"
Rear	3.50 x 13"

<b>WHEELS</b>	
Type	tubeless
Front	130/60 – 13" 53J
Rear	130/60 – 13" 53J
<b>STANDARD INFLATION PRESSURE</b>	
Front	180 kPa (1.8 bar)
Rear	200 kPa (2.0 bar)
<b>INFLATION PRESSURE WITH PASSENGER (in countries which allow passengers to be carried)</b>	
Front	180 kPa (1.8 bar)
Rear	220 kPa (2.2 bar)
<b>IGNITION UNIT</b>	
Type	T.C.I.
Ignition advance	variable 20° at 3000 rpm 17° at 7500 rpm
<b>SPARK PLUG</b>	
Standard	CHAMPION RG6 YC
Spark plug electrodes distance	0.9 mm
<b>ELECTRICAL SYSTEM</b>	
Battery	Maintenance free 12 V - 5 Ah
Fuses	10 A – 15 A
Alternator (permanent magnet)	12 V – 165 W
<b>BULBS</b>	
Low-beam	12 V – 15 W
Low-beam / High-beam	12 V – 35/35 W
Turn indicators	12 V – 10 W
Rear side light	12 V – 5 W
Rear stop light	12 V – 10 W
Dashboard lighting	12 V – 1.2 W
<b>INDICATOR LIGHTS</b>	
Low-beam	12 V – 1.2 W
High-beam	12 V – 1.2 W
Turn indicators	12 V – 2 W
Mixer oil reserve	12 V – 2 W
Fuel reserve	12 V – 1.2 W
Injection Check	12 V – 2 W

## 1.2.2. LUBRICANT'S TABLE

LUBRICANT	PRODUCT
Transmission oil	RECOMMENDED:  F.C., SAE 75W 90 or  GEAR SYNTH, SAE 75W - 90 High quality oil with performance equal to or better than A.P.I. GL-4 specifications can be used in alternative to the recommended oil.
Engine oil	RECOMMENDED:  GREEN HIT 2 or  CITY 2T High quality oil with performance equal to or better than ISO – L – ETEC++, A.P.I. TC++ specifications can be used in alternative to the recommended oil.
Fork oil	RECOMMENDED:  F.A. 5W or  F.A. 20W; alternatively  FORK 5W or  FORK 20W. Whenever requiring an intermediate performance, between that offered by  F.A. 5W and from  F.A. 20W, the products can be mixed as shown below, or from  FORK 5W and from  FORK 20W, the products can be mixed as shown below: SAE 10W =  F.A. 5W 67% of volume +  F.A. 20W 33% of volume, or.  FORK 5W 67% of volume +  FORK 20W 33% of volume: SAE 15W =  F.A. 5W 33% of volume, +  F.A. 20W 67% of volume, or.  FORK 5W 33% of volume +  FORK 20W 67% of volume.
Bearings and other lubrication points	RECOMMENDED:  AUTOGREASE MP or  GREASE 30. Alternatively to the recommended product use high quality grease for roller bearings, temperature field capacity 150°C...230°C, 150°C...230°C drop point, high anticorrosive protection, good water and oxidation resistance.
Battery poles	Neutral grease or Vaseline.
Brakes liquid	<b>IMPORTANT</b> Only use new brakes liquid. Never mix different brands or types of oil without checking the compatibility of the bases.  The braking system is loaded with  Autofluid FR. DOT 4 (DOT 5 compatibility) or  BREAKE 5.1, DOT 4 (DOT 5 compatibility).
Engine coolant	<b>IMPORTANT</b> Only use nitrite free antifreeze and anticorrosive, which ensures protection at least to -35 °C..  RECOMMENDED:  ECOBLU – 40° C or  COOL.

### 1.3. REGULAR MAINTENANCE

#### 1.3.1. REGULAR MAINTENANCE SHEET

Components	End of running in period [500 Km (312 mi)]	Every 5000 Km (3100 mi) or 12 months	Every 10000 Km (6200 mi) or 24 months
Rear shock absorber	-	-	1
Battery – Electrolyte level	1	1	-
Spark plug	1	3	-
Carburettor – Idle	4	1	-
Transmission cables and controls	1	1	-
Vee-belt	-	-	3
Steering stem bearings and steering play	1	1	-
Wheels bearings	-	1	-
Brake discs	1	1	-
Piston rings	Every 12000 Km (7440 mi): 1		
Air filter	1	3	-
Fuel filter	1	-	3
Throttle functioning	1	1	-
General vehicle functioning	1	1	-
Lights system	1	1	-
Brake light switch	-	1	-
Braking systems / brake discs	1	1	-
Cylinder cooling system	Every 20000 Km (12400 mi): 2 (external cleaning)		
Brakes fluid (level check)	-	1	-
Brakes fluid	Every two years: 3		
Coolant	Every 2000 Km (1240 mi): 1 / Every 2 years: 3		
Exhaust pipe / exhaust silencer	-	1	-
Mixer / throttle functioning	1	1	-
Mixer oil	Every 2000 Km (1240 mi): 1		
Fork oil and front oil seal	Every 12000 Km (7440 mi): 1		
Transmission oil	3	1	Every 12000 Km (7440 mi) or 2 years: 3
Mobile/fixed front pulley	Every 12000 Km (7440 mi): 1		
Injector cleaning	Every 16000 Km (9920 mi): 2		
Front variator rollers and guides	Every 12000 Km (7440 mi): 3		
Wheels, tyres and inflation pressure	1	1	-
Wheels, tyres and inflation pressure	Every month: 1		
Nuts and bolts tightening	1	1	-
Battery terminals tightening	1	-	-
Mixer oil reserve indicator	1	1	-
Fuel tubing	Every 5000 Km (3100 mi): 2 / Every two years: 3		
Braking system tubing	Every 5000 Km (3100 mi): 1 / Every four years: 3		
Mixer oil tubing	1	1	Every two years: 3
Front and rear brake pads wear	1	Every 2000 Km (1250 mi): 1	
Clutch wear	-	1	-

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

Carry out maintenance operations more frequently if the vehicle is used in rainy, dusty areas, over bumpy terrain or if driven sportily.

( ) = WORK WHICH CAN BE CARRIED OUT BY THE USER

(\*\*) = Check every fifteen days or at the indicated intervals.

## 1.3.2. FIXING ELEMENTS

**CAUTION**

The fixing elements reported in the table must be tightened to the prescribed pair using a dynamometric key and LOCTITE where specified.

**Notes:**

L243= fix it with Loctite® 243

Lub= lubricate

Component	Quantity	Measure	Pair Nm
<b>Frame</b>			
Fixing rear handle	4	M6x30	7
<b>Engine connecting element</b>			
Engine pivot pin	1	M10x205	50
Connecting rod pivot pin	1	M10x230	42
<b>Central stand</b>			
Central stand front attachment	1	Screw M8x70	25
Central stand rear attachment	2	M8x25	25
<b>Rear shock absorber</b>			
Fixing shock absorber lower screw	1	M10x35	50
Fixing shock absorber top screw	1	M10x55	50
<b>Motor</b>			
Fixing CVT cover	2	M6x35	10
<b>Filter housing</b>			
Fixing filter housing on engine clamp	2	M6x60	10
Fixing hose collar on throttle body	1		2
Fixing filter housing clamp to engine	2	M6x40 M6x30	10
Fixing intake union support to engine	2	M6x35	10
<b>Exhaust system</b>			
Flange exhaust pipe on cylinder	2	Nut M6	10
Fix plate on engine	2	M8x85	25
<b>Water cooler</b>			
Water cooler-head tube clamp on head	1	Nut 16-24x8	3
Water cooler-pump clamp on pump	1	17-25	3
<b>Front wheel</b>			
Front wheel pin	1	M12x1.25	50
Wheel pin clump	2	M6	12
<b>Rear wheel</b>			
Rear wheel hub nut	1	M16	130
Fixing rear wheel on hub	3	M10x55	50
<b>Front brake</b>			
Fixing left brake pump	2	M6	10
Fixing front brake caliper	2	M8x35	27
<b>Rear brake</b>			
Rear brake pipe	2	M6x35	10
Fixing left brake pump	2	M6	10
Fixing rear brake caliper	2	M8x30	27

**P.S.:** All the pairs identified represent the nominal value. The range allowed is+ or – 5%.

Component	Quantity	Measure	Pair Nm
<b>Handlebar and Controls</b>			
Handlebar locking screw	1	M8x40	25
Handlebar clump screw	1	M10x55	50
Fixing steering nut	1	M36x1	10
Steering fixing return nut	1	Self locking	110
<b>Electrical system</b>			
Fixing I.E. control unit	3	M5x16	5
Fixing pressure sensor support	1	M6x16	7
Fixing ground cables	1	M6x16	7
<b>Fuel tank</b>			
Fixing fuel level sensor	4	Nut M4 self-locking	3
<b>Saddle</b>			
Fixing rider saddle screws on saddle	3	M6x16	3
Fixing saddle pillar screws on saddle	4	M6x12	3
<b>Front body</b>			
Fixing rear mudguard	2	M5	6
Fixing exhaust pipe protection	2	M6x16	7
Fixing fairing glass	4	M5x35	1.5
Fixing fuel pump pin	1	M5x35	1
<b>Locks</b>			
Fixing commutator key	1	M6x17 shearing	12
Fixing commutator key	1	M6x16	12
Fixing saddle lock	2	M6x40	4

**P.S.:** All the pairs identified represent the nominal value. The range allowed is+ or – 5%.

**1.3.3. MIXER OIL PUMP ADJUSTMENT**

- Remove the guard protection, see (REMOVING THE CRANKCASE COVER)
- Remove the small rubber plug (1).



- Loosen the locking nut (2) and by manoeuvring on the adjuster (3) align the two marks on the mixer oil pump



**1.3.4. IDLE ADJUSTMENT**

The idle adjustment cannot be carried out

## 1.4. FUEL SUPPLY SYSTEM

### 1.4.1. PUMPING OUT THE FUEL TANK

- Remove the rear fairing, see (REMOVING THE REAR FAIRING).
- Using a pipe wrench, pinch the tank-pump pipe (1).
- Remove the clamp (2).
- Remove the pipe (1) from the pump.
- Position the pipe (1) in an adequate holding capacity container.
- Remove the pipe wrench and empty the fuel tank into the container.



#### 1.4.2. REMOVING THE FUEL TANK

- Remove the helmet carrying case, see (REMOVING THE HELMET COMPARTMENT).



**CAUTION**  
Empty the fuel tank prior to removing it.

- Empty the fuel from the tank, see (DRAINING THE FUEL TANK).
- Disengage the fuel sensor connector (1).



- Disengage the fuel supply pump connector (2).



- Disengage the two quick couplings (3-4) on the fuel rail.



- Remove the fuel tank (5).



**1.4.3. REMOVING THE EXHAUST SYSTEM**

- Unscrew and remove the two nuts (1) from the exhaust manifold.



- Unscrew and remove the two screws (2).
- Remove the exhaust system (3).

**IMPORTANT** When reassembling, replace the gasket between exhaust manifold and exhaust system, with a new one.

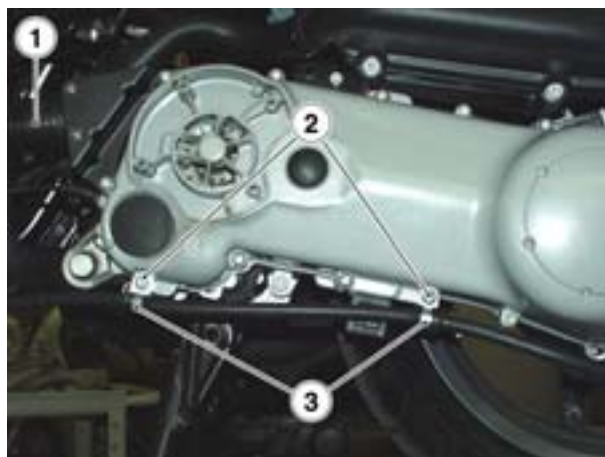
**CAUTION**

Plug the exhaust manifold to ensure that impurities or foreign bodies cannot enter.



#### 1.4.4. REMOVING THE ENGINE

- Remove the guard protection, see (REMOVING THE CRANKCASE COVER).
- Remove the fuel tank, see (REMOVING THE FUEL TANK).
- Remove the air filter pipe (1)
- Unscrew and remove the two screws (2), and recover the fairleads (3).



- Unscrew and remove the two screws (4).
- Remove the rear brake caliper (5).



- Remove the small rubber plug (6).



- Open the tab (7) and pull the cable out (8).



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- Loosen the throttle cable adjuster screw (9).
- Remove the throttle cable (10) from the throttle body.



- Disengage the sparkplug cap (11).



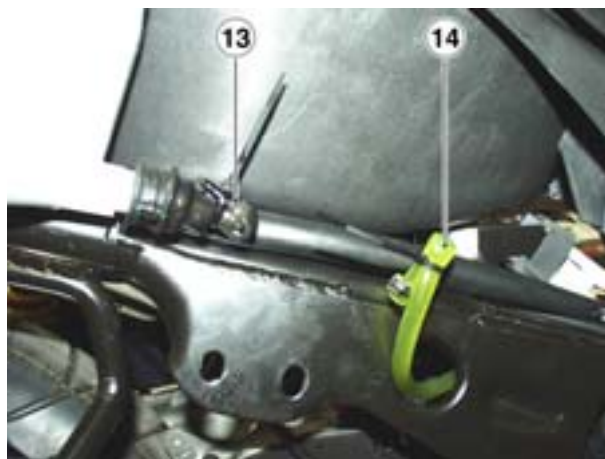
- Empty the cooling system, see (DRAINING THE COOLING SYSTEM).
- Remove the clamp and disengage the return hose from the thermostat valve



- Remove the clamp (12).



- Fold the pipes over (13-14) and tighten them with some clamps.



- Disengage the connectors in the following order:
  - Alternator connector (15);



- Fuel Rail connector (16);



- Water temperature thermistore connector (17);



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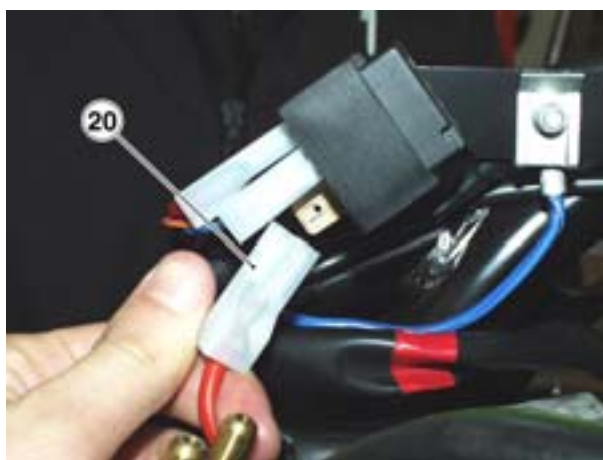
- Air injector connector (18);



- Throttle sensor connector (19).



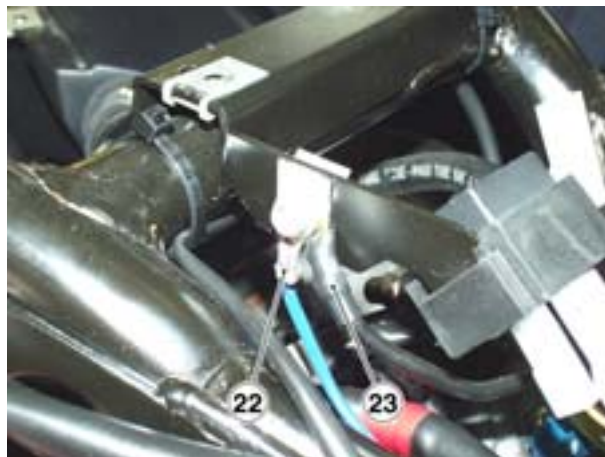
- Relay starter connector (20).



- Remove the clamp (21).



- Loosen the screw and remove the two ground cables (22-23).



- Remove the clamp



- Using a belt and a horse, lift the rear part of the vehicle.
- Remove the rear shock absorber lower screw.
- Working from the right hand side, loosen and remove the nut (25); remove the pin from the opposite side.



- Remove the engine.



**1.4.5. INSTALLING THE ENGINE**

- Shift the frame little by little until the fixing holes are perfectly aligned.
- Insert the pin (1).



- Lock the nut (2).



- Insert the pipe (3) into the coolant pump.
- Block the pipe (3) with the clamp.



- Insert the pin (4) into the lower part of the shock absorber and lock the nut (5).



- Insert the pipe (6) into the thermostat valve.



- Connect the sparkplug cap (7) correctly.



- Connect the following electrical connectors in this order:
  - Alternator connector (8);



- Fuel Rail connector (9);



- Water temperature thermistore connector (10);



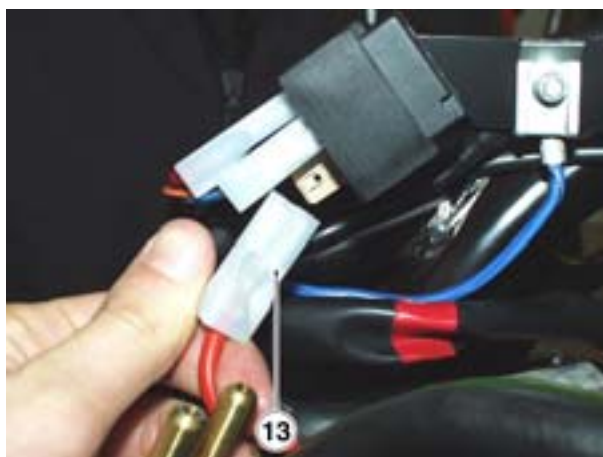
- Air switch connector (11);



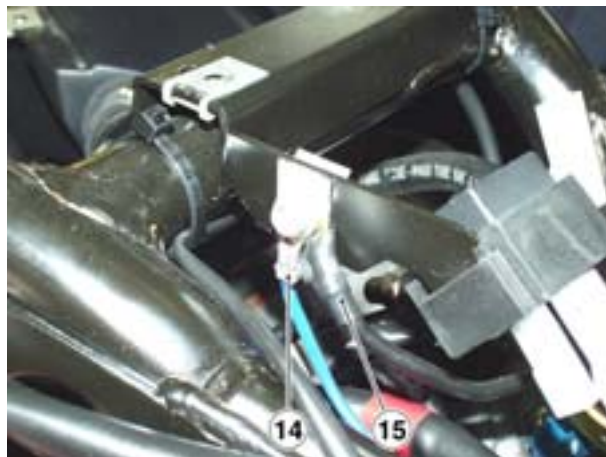
- Throttle sensor connector (12);



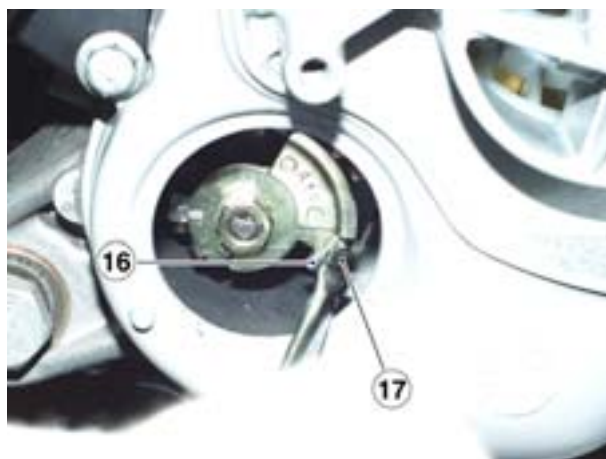
- Relay starter connector (13).



- Place the two ground cables (14-15) and lock the screw.



- Put in place the mixer oil pump cable (16) again in its proper lodging and close the tab (17).



- Put in place the throttle cable (18) again in its proper lodging.
- Synchronize the oil pump cable with the throttle cable and adjust the play.

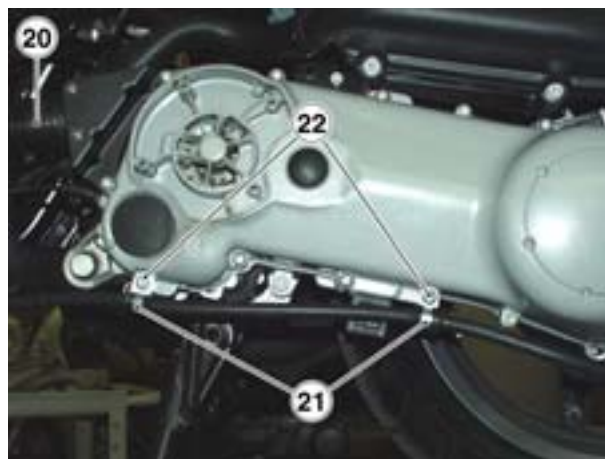


- Reassemble the small rubber plug (19).



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- Reassemble the air filter pipe (20).
- Put the two fairleads (21) in place again and lock the two screws (22).



- Position the brake caliper and lock the two screws (23).



- Insert the oil pipe in the fairlead (24) of the protection guard
- Assemble the protection guard
- Assemble the fuel tank
- Refill the cooling system



**IMPORTANT** Perform a general inspection of all the components which were subject to operations and check specifically:

- the correct fixing of electrical cables with the proper clamps;



### CAUTION

No twisting or flattening must be present.

- the correct coupling of the electrical connectors;
- the correct insertion of pipelines, couplings and the related fixing with fitting clamps;
- the throttle cable must slide freely without stretching at the handlebar rotation.

## 1.5. CHASSIS

### 1.5.1. REMOVING THE REAR MUDGUARD

- Working from the right hand side, unscrew and remove the screw (1).
- Working from the top side, unscrew and remove the screw (2).



- Working from the left hand side, unscrew and remove the screw (3).
- Remove the rear mudguard (4).



**1.5.2. REMOVING THE CRANKCASE COVER**

- Unscrew and remove the three screws (1).
- Unscrew and remove the two screws (2).
- Remove the rear brake oil pipe (3) from the fairlead (4).



- Remove the crankcase cooling pipe (5).
- Remove the crankcase cover (6).



### 1.5.3. REMOVING THE CENTRAL STAND

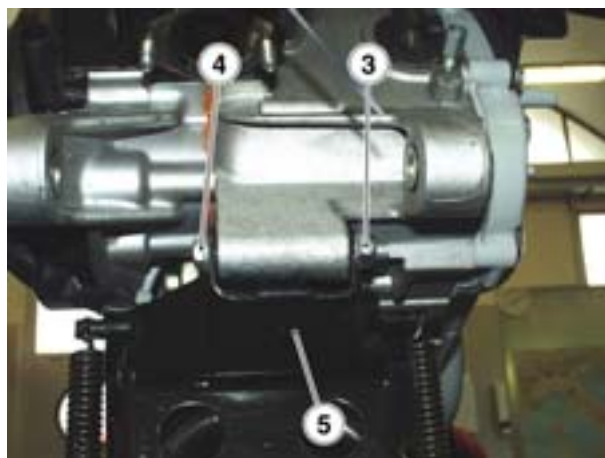
- Working from the right hand side, unscrew and remove the screw (1) and collect the washer.



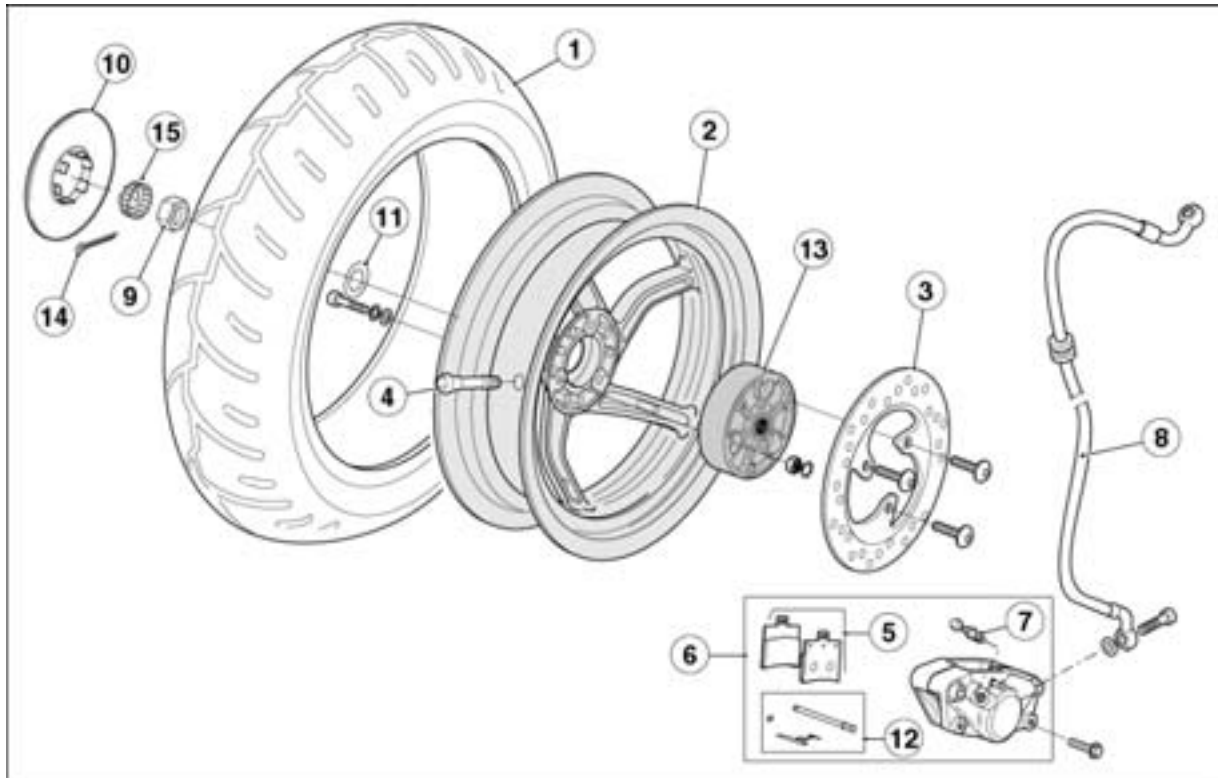
- Working from the left hand side, unscrew and remove the screw (2) and collect the washer.



- Unscrew and remove the nut (3) and remove the pin from the opposite side (4).
- Remove the central stand assembly (5).



#### 1.5.4. REAR WHEEL DIAGRAM



**Legend:**

1. Tyre
2. Rear wheel
3. Brake disc
4. Tubeless valve
5. Pads
6. Rear brake caliper
7. Air bleed valve
8. Rear brake pipe
9. Rear wheel nut
10. Rear wheel plug
11. Ring
12. Pin + caliper spring
13. Rear hub
14. Split pin
15. Cap

### 1.5.5. REMOVING THE REAR WHEEL

- Remove the exhaust, see (REMOVING THE EXHAUST SYSTEM).
- Remove the plug (1).



- Unscrew and remove the three screws (2).
- Remove the rear wheel (3).



**1.5.6. REMOVING THE REAR WHEEL HUB**

- Remove the rear wheel, see (REMOVING THE REAR WHEEL).
- Remove the split pin (1) and collect the plug (2).

**IMPORTANT** The split pin must be replaced every time that it is disassembled.



- Unscrew and remove the nut (3) and collect the washer.
- Remove the rear wheel hub (4).



#### 1.5.7. REMOVING THE REAR BRAKE DISC

- Remove the rear wheel hub, see (REMOVING THE REAR WHEEL HUB).
- Unscrew and remove the three screws (1).
- Remove the rear brake disc (2).



**1.5.8. REMOVING THE SHOCK ABSORBER**

- Position the vehicle on the central stand.

**CAUTION**

Place a sufficient spacer under the rear wheel, to prevent lowering and the consequent pushing of the air filter housing on the inspection cover.

- Remove the rear fairing, see (REMOVING THE REAR FAIRING).

**CAUTION**

Prop up the rear part of the chassis to prevent it lowering during the removal of the shock absorber.

- Unscrew and remove the upper screw (1) and collect the washer.
- Unscrew and remove the nut (2) and remove the screw (3).
- Remove the rear shock absorber (4).



### 1.5.9. REMOVING CONNECTION ELEMENTS

- Remove the engine, see (REMOVING THE ENGINE).
- Working from right hand side, loosen and remove the nut (1).

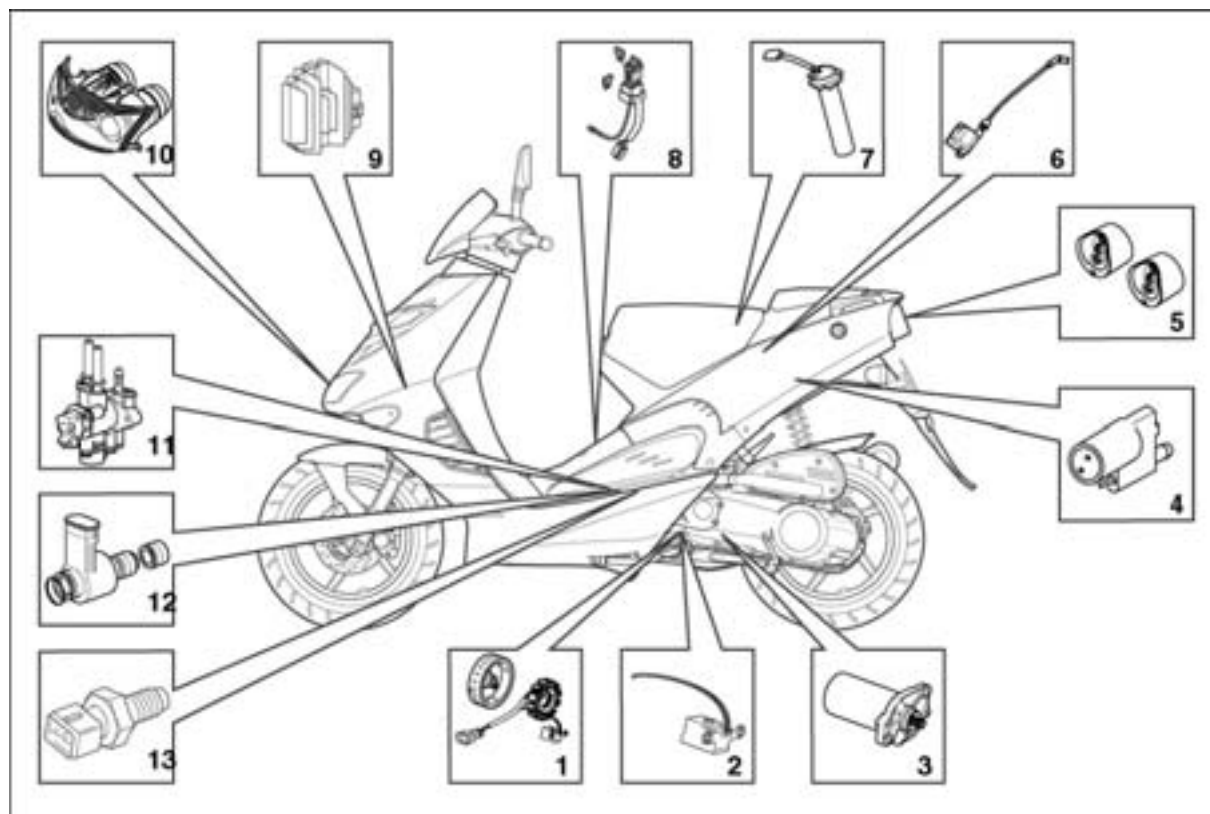


- Working from left hand side, pull the pin (2) out.
- Remove the connection elements (3) and recover (4) the spacer.

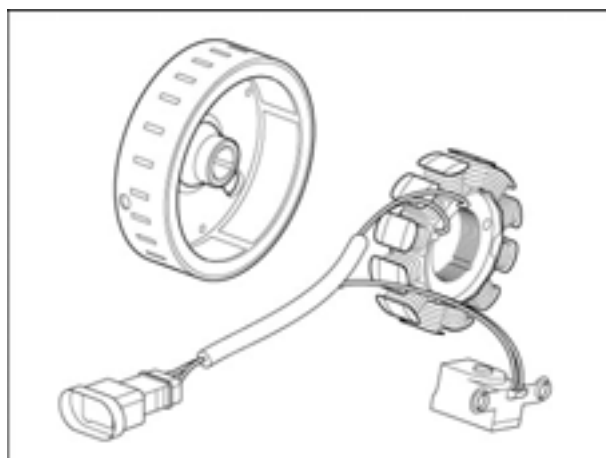


## 1.6. ELECTRICAL SYSTEM

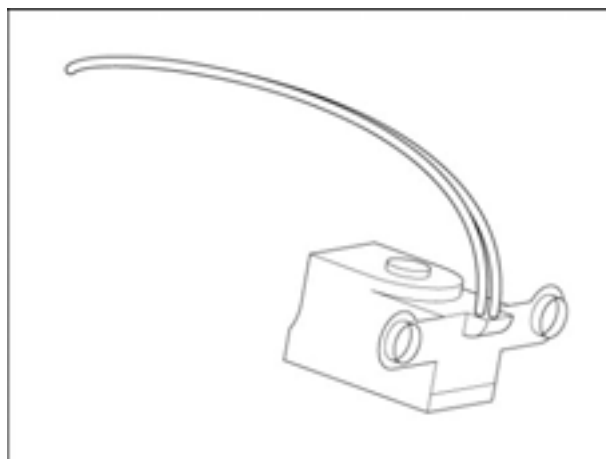
## 1.6.1. COMPONENTS INSPECTION

**1 Alternator:**

Three-phase alternator  
 1 ohm winding resistance  
 50 AC outlet voltage (to be measured when the alternator is disengaged from electrical system and the engine is running at 3000 rpm)

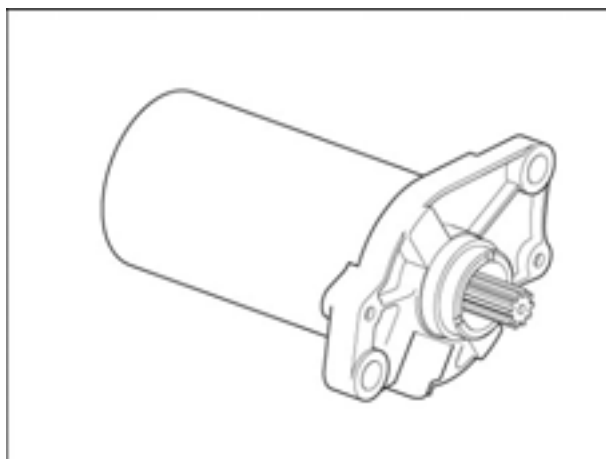
**2 Engine revolutions sensor:**

inductive sensor  
 110 ohm winding resistance



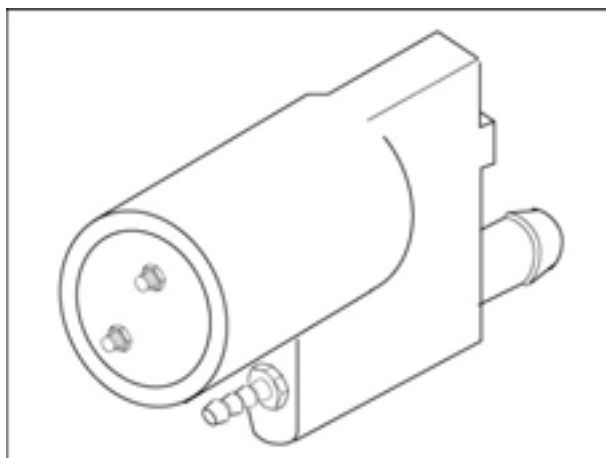
**3 Starter motor**

Steady-state power absorbed at 20 A



**4 Fuel pump:**

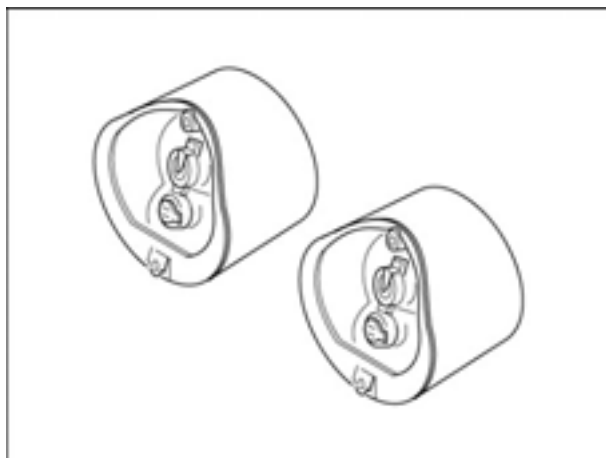
0.35 A absorbing



**5 Taillights:**

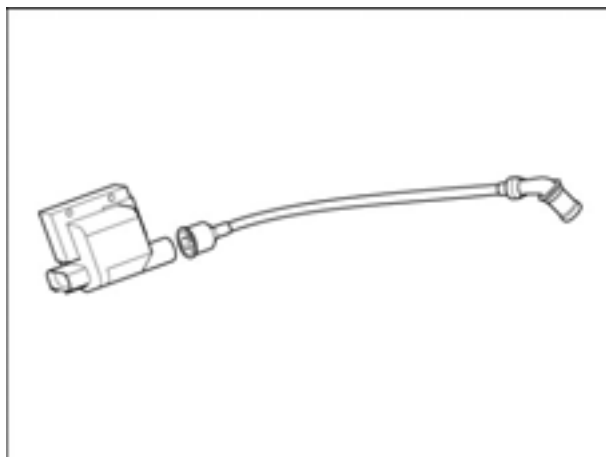
rear position light 12 V - 5 W

rear stop light 12 V - 10 W



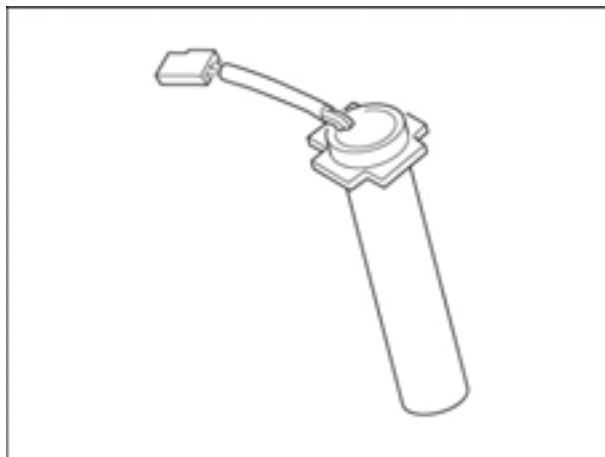
**6 Ignition coil:**

0.7 ohm primary resistance

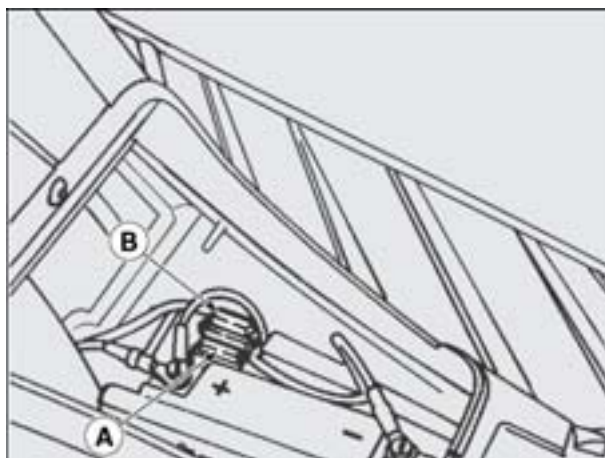


SR 50 TE (Engine C361M)

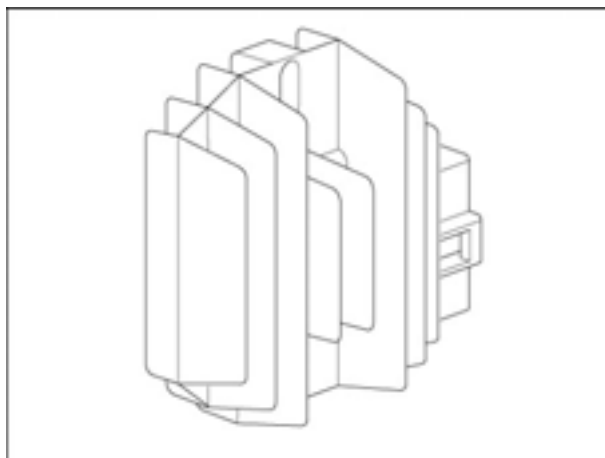
- 7 Fuel level sensor:**  
 resistance between trailings 1 and 3:  
 - 5 ohm with a full tank  
 - 38 ohm with a half full tank  
 100 ohm with an empty tank



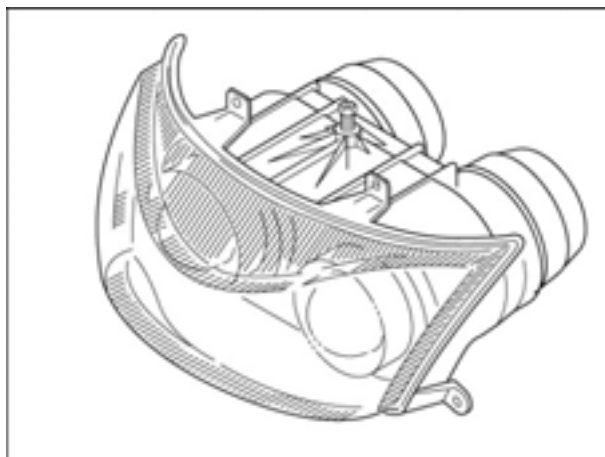
- 8 Fuses:**  
 Fuse 7.5 A (A) - From key commutator to:  
 - turn indicators system;  
 - horn;  
 - fuel level system;  
 - water temperature;  
 - oil level.  
 Fuse 15 A (B) - From battery to:  
 - injection system;  
 - battery recharge;  
 - starter;  
 engine stop lights.



- 9 Recharging voltage:**  
 13.5±0.3 V voltage to note at the battery poles (with the engine at 3000 rpm)



- 10 Headlight:**  
 low beam 12 V - 15 W  
 low/high beam 12 V - 35/35 W



# **11 Throttle body**

## **FUEL INJECTOR:**

Winding resistance 1.7 ohm

## **STRENGTHENING THROTTLE (TPS):**

- resistance between trailings 1 and 4 1.1 kohm

Throttle OFF

- resistance between trailings 1 and 2 1.1 kohm

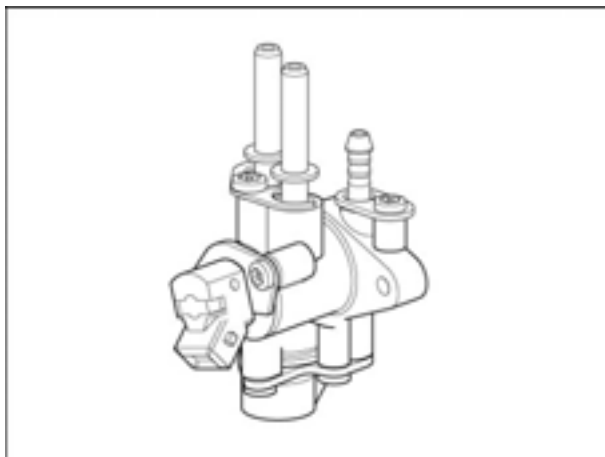
- resistance between trailings 1 and 3 1.9 kohm

Throttle ON

- resistance between trailings 1 and 2 1.9 kohm

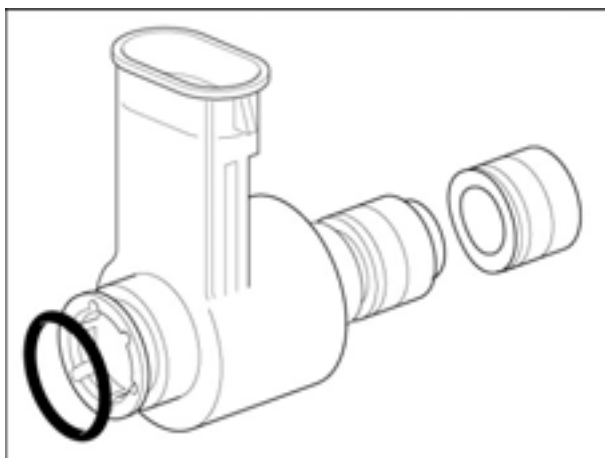
- resistance between trailings 1 and 3 1.1 kohm

Tolerance +/-10% on the values noted



# **12 Air injector:**

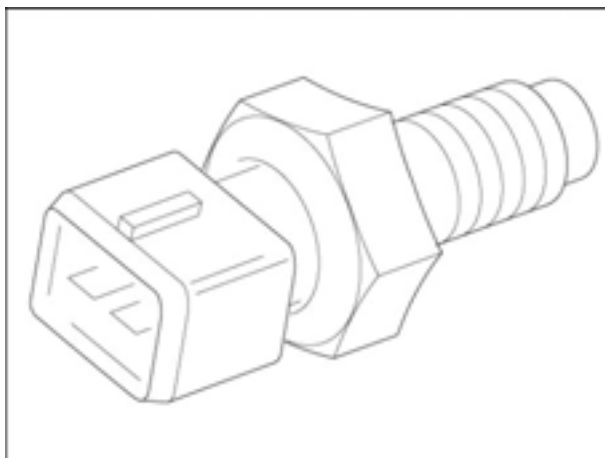
winding resistance 1.3 ohm



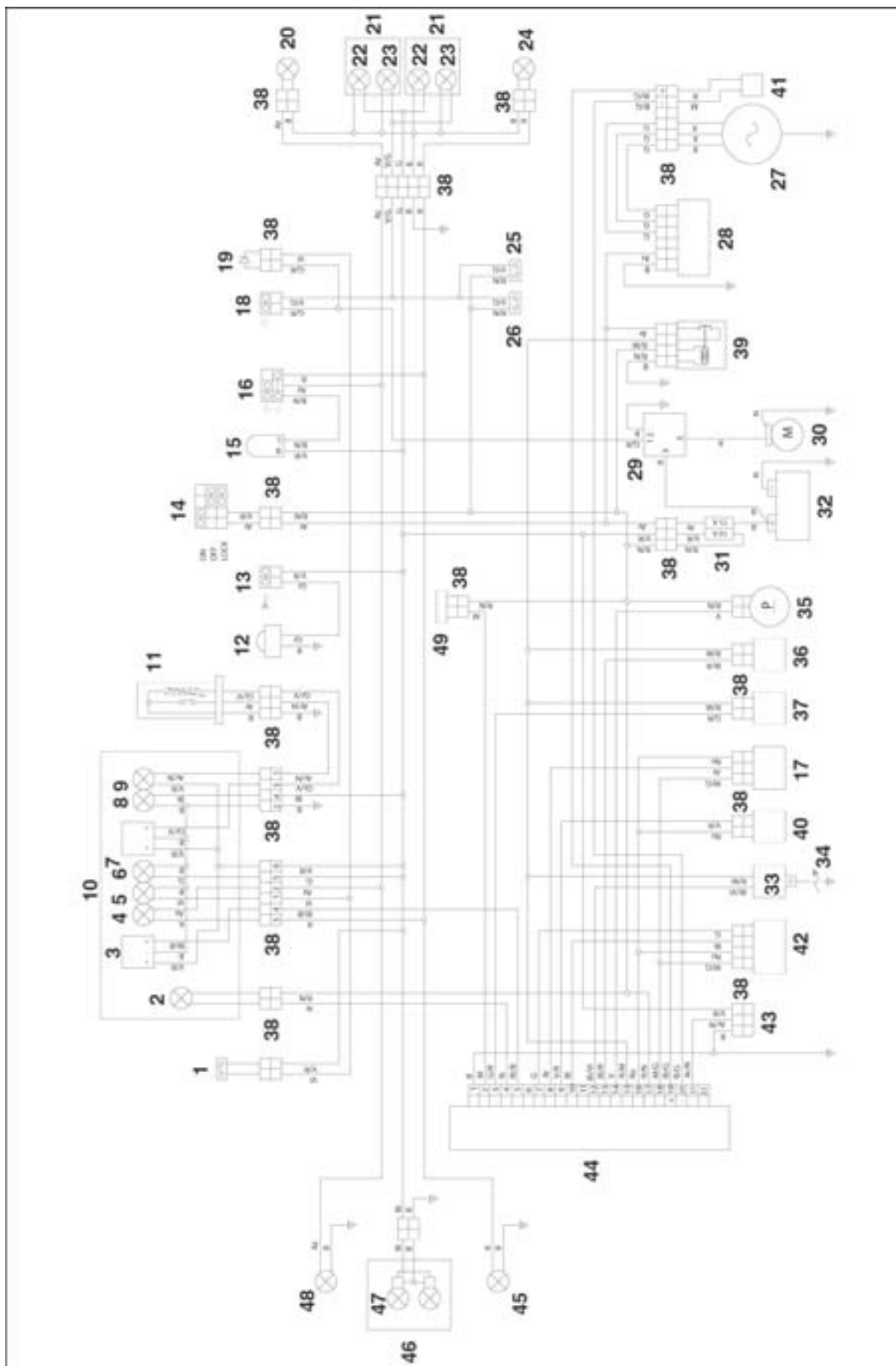
# **13 Coolant temperature sensor**

NTC sensor

Resistance 2.7 kohm at 20 °C



## 1.6.2. ELECTRICAL DIAGRAM



**Legend**

- 1) Oil level switch
- 2) Injection check indicator
- 3) Water temperature instrument
- 4) Turn indicators indicator
- 5) Oil level indicator
- 6) Dashboard lighting lamps
- 7) Fuel level instrument
- 8) Lights on indicator
- 9) Fuel reserve indicator
- 10) Dashboard
- 11) Fuel level sensor
- 12) Horn
- 13) Horn button
- 14) Key commutator
- 15) Flasher unit
- 16) Turn indicators deflector
- 17) Pressure sensor
- 18) Start pushbutton
- 19) Control diode
- 20) Rear left turn indicator
- 21) Tail light
- 22) Side light lamp
- 23) Stop light lamp
- 24) Rear right turn indicator
- 25) Rear stop switch
- 26) Front stop switch
- 27) Alternator
- 28) Tension regulator
- 29) Starter relay
- 30) Starter motor
- 31) Fuses
- 32) Battery
- 33) HT coil
- 34) Spark plug
- 35) Fuel pump
- 36) Air injector
- 37) Fuel injector
- 38) Multiple connectors
- 39) Injector relay
- 40) Head temperature sensor
- 41) Pick up
- 42) Throttle sensor
- 43) Serial connection (Diag)
- 44) ECU control unit
- 45) Front right turn indicator
- 46) Head light
- 47) Low beam lamps
- 48) Front left turn indicator
- 49) Oil pump

## 1.7. GENERAL INFORMATION

### 1.7.1. REFERENCE MANUALS

#### ENGINE WORKSHOP MANUALS

<b>aprilia</b> part# (description)	
8140731	I
8140732	E
8140733	F
8140734	D
8140735	UK
8140736	USA

#### SPARE PARTS CATALOGUES

<b>aprilia</b> part# (description)	
553Y	I F D E UK

#### SPECIAL TOOLS MANUALS

<b>aprilia</b> part# (description)	
001H	

#### USE AND MAINTENANCE BOOKLETS

<b>aprilia</b> part# (description)	
8202336	I F D
8202381	GR E UK
8202382	NL DK SF

#### CHASSIS WORKSHOP MANUALS

<b>aprilia</b> part# (description)	
8140123	I E UK
8140124	I F D

## 1.8. SPECIFICATIONS

### 1.8.1. SPECIFICATIONS

DIMENSIONS	
Max length (with rear mudguard extension)	1775 mm
Max width	720 mm
Max. height (to the windshield)	1200 mm
Height to the saddle	820 mm
Wheelbase	1265 mm
Minimum clear height from the ground	160 mm
Running conditions weight	106 Kg
ENGINE	
Type	Two-stroke
Model	C364M
Number of cylinders	Horizontal single cylinder
Total capacity	49.38 cm <sup>3</sup>
Bore/stroke	40 mm / 39.3 mm
Compression ratio	12.1 ± 0.5 : 1
Starter	electric + kick starter
Engine idle rpm	1800 ± 100 rpm
Clutch	Dry automatic centrifugal
Gear	Automatic continuous variator
Cooling	Liquid
CAPACITY	
Fuel (reserve included)	8 l
Fuel reserve	2 l
Transmission oil	130 cm <sup>3</sup>
Mixer oil (reserve included)	1.6 l
Mixer oil reserve	0,5 l
Coolant	1.2 l (50% antifreeze with ethylene glycol + 50% water)
Seats	1 (2 in countries which allow passengers to be carried)
Max vehicle load (pilot+luggage)	105 Kg
Max vehicle load (pilot+ passenger + luggage)	180 Kg (in countries which allow passengers to be carried)
TRANSMISSION	
Variator	Automatic continuous
Primary	V-belt
Ratios	
– minimum for continuous variable transmission	3.07
– maximum for continuous variable transmission	0.78
Secondary	gears
CARBURETTOR	
MODEL	
– standard	Dell'Orto PHBN17.5
Diffusor	Ø 17,5 mm
SUPPLY	
Fuel	Premium unleaded petrol DIN 51607, with minimum octane number 95 (N.O.R.M.) and 85 (N.O.M.M.)
CHASSIS	
Type	Split single beam
SHOCK ABSORBERS	
Front	Telescopic fork
Travel	90 mm
Rear	Hydraulic single shock
Travel	72 mm
BRAKES	
Front	Disc Ø190 mm with hydraulic transmission
Rear	Disc Ø190 mm with hydraulic transmission
WHEELS	
Type	Alloy
Front	3.50 x 13"
Rear	3.50 x 13"

<b>TYRES</b>	
Type	tubeless
Front	130/60 - 13" - 53J
Rear	130/60 - 13" - 53J
<b>STANDARD INFLATION PRESSURE</b>	
Front	180 KPa (1.8 bar)
Rear	200 KPa (2.0 bar)
<b>INFLATION PRESSURE WITH PASSENGER</b> (in countries which allow passengers to be carried)	
Front	180 KPa (1.8 bar)
Rear	220 KPa (2.2 bar)
<b>IGNITION UNIT</b>	
Type	C.D.I.
Ignition advance	20° ± 3° before the T.D.C.
<b>SPARK PLUG</b>	
Standard	CHAMPION RN1C
Spark plug electrodes distance	0.6 – 0.7 mm
<b>ELECTRICAL SYSTEM</b>	
Battery	With maintenance 12 V - 4 Ah
Fuses	7.5 A - 15 A
Alternator (permanent magnet)	12 V - 70 W
<b>BULBS</b>	
Low-beam	12 V - 15 W
Low-beam / High-beam	12 V - 35/35 W
Turn indicators	12 V - 10 W
Rear side light	12 V - 5 W
Rear stop light	12 V - 10 W
Dashboard lighting	12 V - 1.2 W
<b>INDICATOR LIGHTS</b>	
Low-beam	12 V - 1.2 W
High-beam	12 V - 1.2 W
Turn indicators	12 V - 2 W
Mixer oil reserve	12 V - 2 W
Fuel reserve	12 V - 1.2 W

## 1.9. REGULAR MAINTENANCE

### 1.9.1. REGULAR MAINTENANCE SHEET

Components	End of running in period [500 Km (312 mi)]	Every 5000 Km (3100 mi) or 12 months	Every 10000 Km (6200 mi) or 24 months
Rear shock absorber	-	-	1
Battery – Electrolyte level	1	1	-
Spark plug	1	3	-
Carburettor – Idle	4	1	-
Transmission cables and controls	1	1	-
Vee-belt	-	-	3
Steering stem bearings and steering play	1	1	-
Wheels bearings	-	1	-
Brake discs	1	1	-
Piston rings	Every 12000 Km (7440 mi): 1		
Air filter	1	3	-
Fuel filter	1	-	3
Throttle functioning	1	1	-
General vehicle functioning	1	1	-
Lights system	1	1	-
Brake light switch	-	1	-
Braking systems / brake discs	1	1	-
Cylinder cooling system	Every 20000 Km (12400 mi): 2 (external cleaning)		
Brakes fluid (level check)	-	1	-
Brakes fluid	Every two years: 3		
Coolant	Every 2000 Km (1240 mi): 1 / Every 2 years: 3		
Exhaust pipe / exhaust silencer	-	1	-
Mixer / throttle functioning	1	1	-
Mixer oil	Every 500 Km (312 mi): 1		
Fork oil and front oil seal	Every 12000 Km (7440 mi): 1		
Transmission oil	3	1	Every 12000 Km (7440 mi) or 2 years: 3
Mobile/fixed front pulley	Every 12000 Km (7440 mi): 1		
Front variator rollers and guides	Every 12000 Km (7440 mi): 3		
Wheels, tyres and inflation pressure	1	1	-
Wheels, tyres and inflation pressure	Every month: 1		
Nuts and bolts tightening	1	1	-
Battery terminals tightening	1	-	-
Mixer oil reserve indicator	1	1	-
Fuel tubing	Every 5000 Km (3100 mi): 2 / Every two years: 3		
Braking system tubing	Every 5000 Km (3100 mi): 1 / Every four years: 3		
Mixer oil tubing	1	1	Every two years: 3
Front and rear brake pads wear	1	Every 2000 Km (1250 mi): 1	
Clutch wear	-	1	-

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

Carry out maintenance operations more frequently if the vehicle is used in rainy, dusty areas, over bumpy terrain or if driven sportily.

( ) = WORK WHICH CAN BE CARRIED OUT BY THE USER

(\*\*) = Check every fifteen days or at the indicated intervals.

## 1.10. SUPPLY SYSTEM

### 1.10.1. REMOVING THE SPARK PLUG

- Remove the glove compartment, see (REMOVING THE GLOVE COMPARTMENT).
- Remove the spark plug cap. Rim



- Unscrew and remove the spark plug.



### 1.10.2. REMOVING THE CARBURETTOR

- Unscrew and remove the two screws



- Unscrew and remove the screw



- Loosen the clamp on the carburettor.



- Remove the filter housing.



SR 50 TE (Engine C364M)

- Disconnect the automatic starter connector.



- Pinch the two heater pipes.
- Remove the two clamps and disconnect the pipes.



- Pinch the fuel pipe.
- Remove the clamp and disconnect the fuel pipe.



- Pinch the oil pipe.
- Remove the clamp and disconnect the oil pipe.



- Remove the clamp and disconnect the vacuum pipe.



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



- Unscrew and remove the screw and remove the throttle cable with the exhaust valve.



**1.10.3. REMOVING THE VACUUM FUEL TAP**

- Lift the saddle, see (LIFTING THE SADDLE).
- Remove the rubber protection.
- Unscrew and remove the two front screws.



- Unscrew and remove the two central screws.



- Unscrew and remove the four screws and remove the rear handle.



- Unscrew and remove the two rear screws.



- Working from both sides, unscrew and remove the side screw.



- Remove the rear fairing.



- Disconnect the connector.



- Empty the fuel tank, see (DRAINING THE FUEL TANK).
- Remove the clamps and unhook the pipes.



**SR 50 TE (Engine C364M)**

- Loosen the clamp and remove the vacuum fuel tap.



#### 1.10.4. REMOVING THE ENGINE

- Remove the air filter pipe.
- Remove the brake caliper, see (REMOVING THE BRAKE CALIPER).
- Unscrew and remove the fifteen screws and remove the variator cover.



- Unhook the oil pump pipe.



- Pinch the delivery oil pipe.
- Remove the clamp and remove the pipe.



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



## SR 50 TE (Engine C364M)

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



- Unscrew and remove the four screws.



- Remove the clamp and remove the cover.



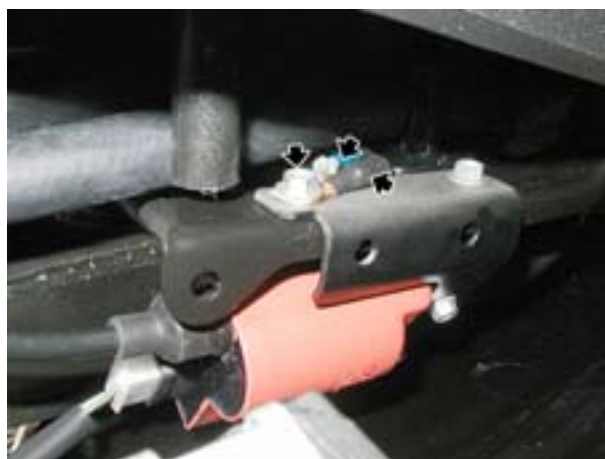
- Unscrew and remove the two upper screws of the lower lockup.



- Unscrew and remove the lower screw of the lower lockup.
- Lower the lower protection.



- Unscrew and remove the screw and remove the starter motor ground wire.



- Remove the clamp.



- Disconnect the connector.



## SR 50 TE (Engine C364M)

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



- Loosen the clamp and remove the thermostatic valve pipe.



- Using a belt and a suitable tool, lift the rear part of the vehicle.
- Remove the rear shock absorber lower screw, see (REMOVING THE REAR SHOCK ABSORBER).
- Working from the right hand side, unscrew and remove the nut.

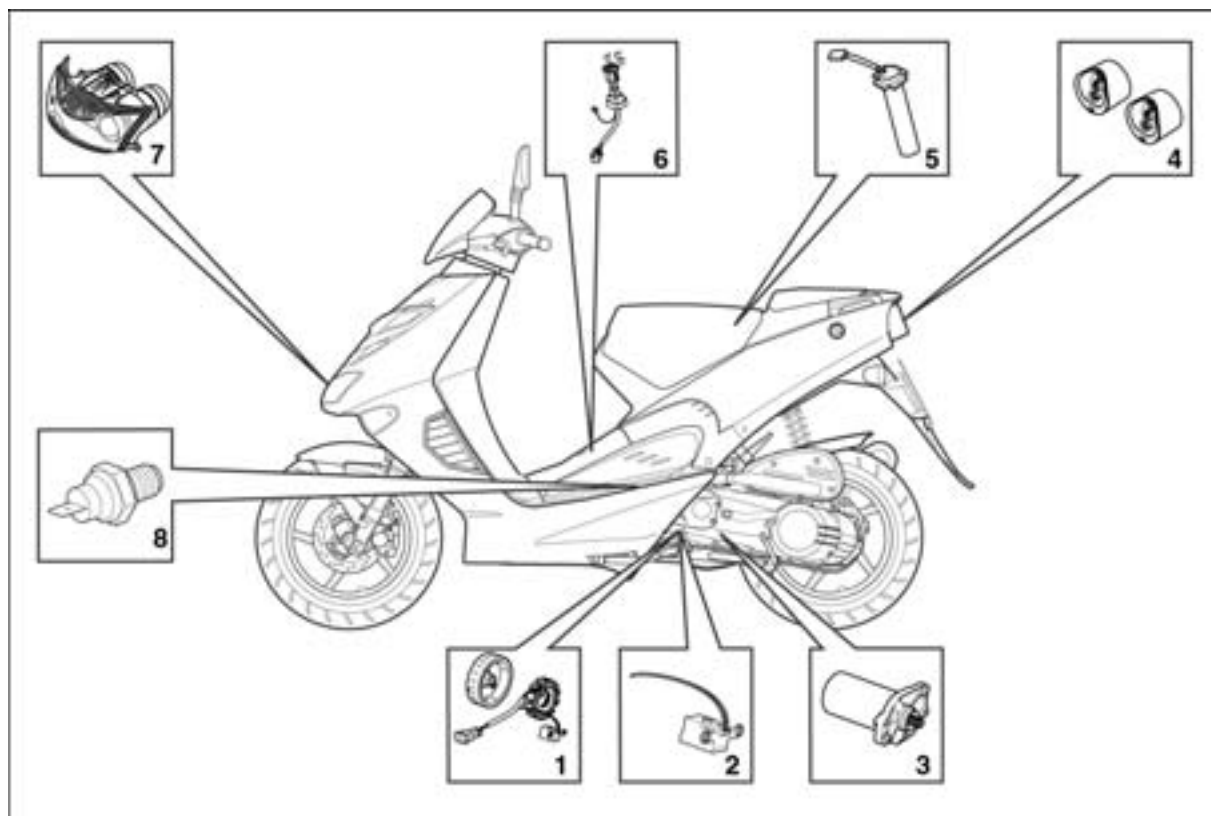


- Remove the pin from the opposite side.
- Remove the engine.



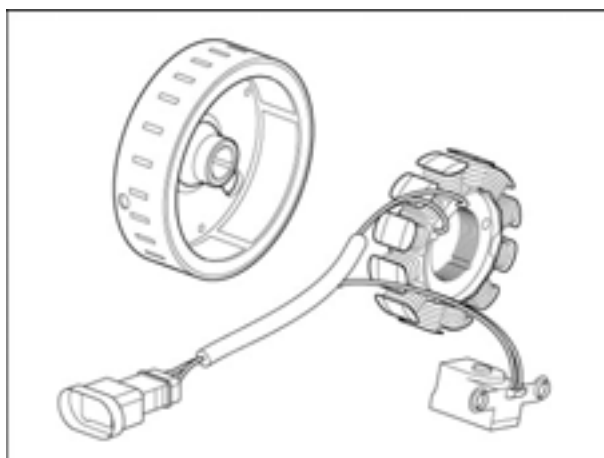
## 1.11. ELECTRICAL SYSTEM

### 1.11.1. COMPONENTS INSPECTION



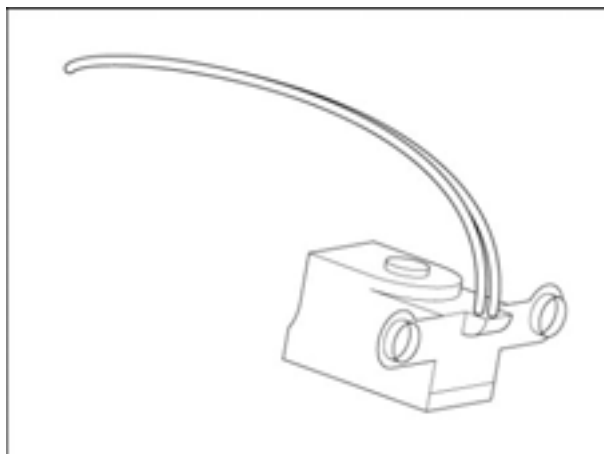
#### 1 Alternator:

Two-phase alternator  
 0.5÷1 ohm winding resistance  
 30-35 AC outlet voltage (to be measured when the alternator is disengaged from electrical system and the engine is motoring over)



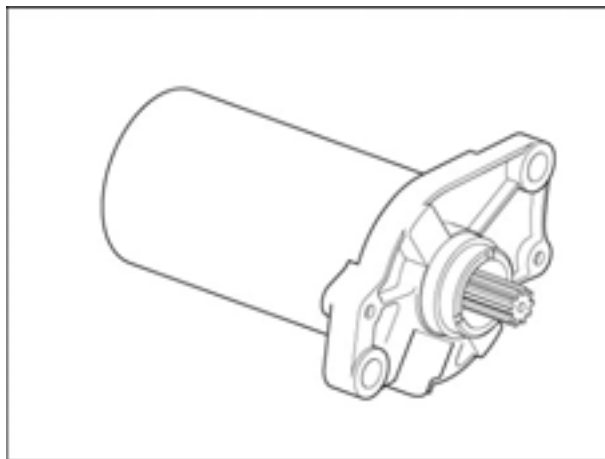
#### 2 Engine revolutions sensor:

inductive sensor  
 110 ohm winding resistance

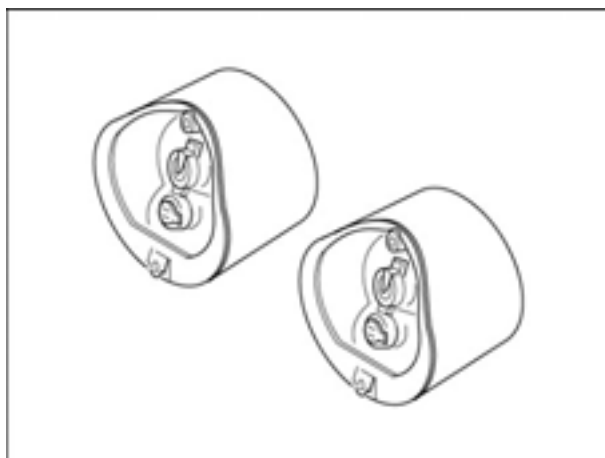


**3 Starter motor**

Steady-state power absorbed at 20 A.

**4 Taillights:**

rear position light	12 V – 5 W
rear stop light	12 V – 10 W

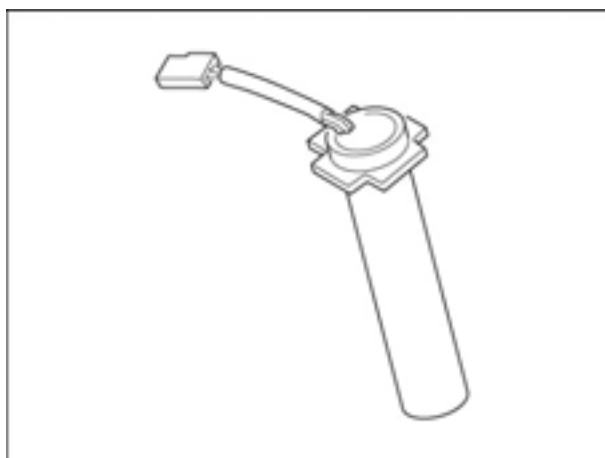
**5 Fuel level sensor:**

resistance (between trailings 1 and 2)

5 ohm with a full tank

100 ohm with an empty tank

38 ohm with a half full tank

**6 Fuses:**

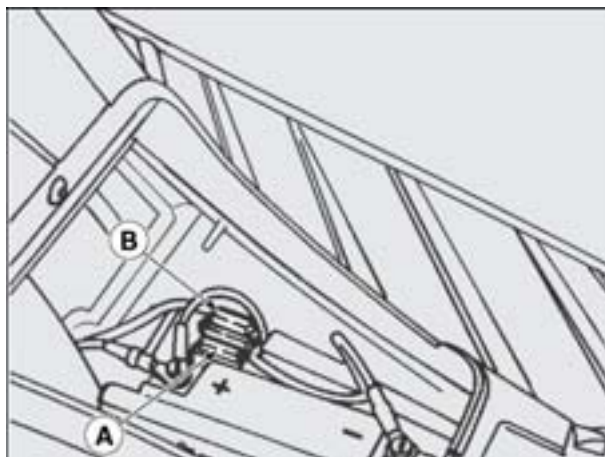
## DISPOSIZIONE FUSIBILI

Fuse 7.5 A (A) - From key commutator to:

- stop light circuit;
- mixer oil reserve sensor circuit;
- fuel level sensor circuit;
- coolant thermistor circuit;
- CDI circuit;
- turn indicators circuit;
- horn.

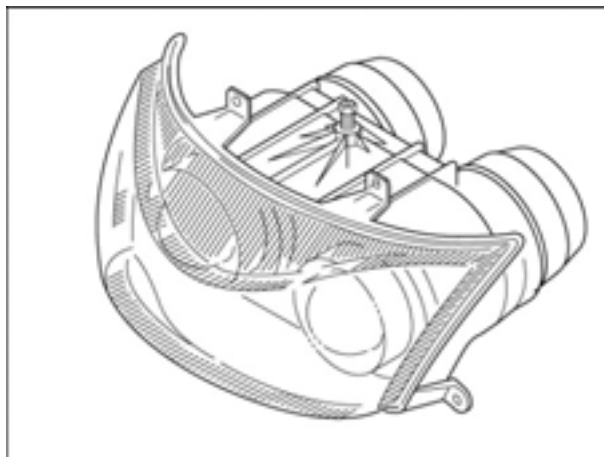
Fuse 10 A (B) - From battery to:

- tension regulator;
- ignition/steering lock switch;
- thermal switch;
- PTC.



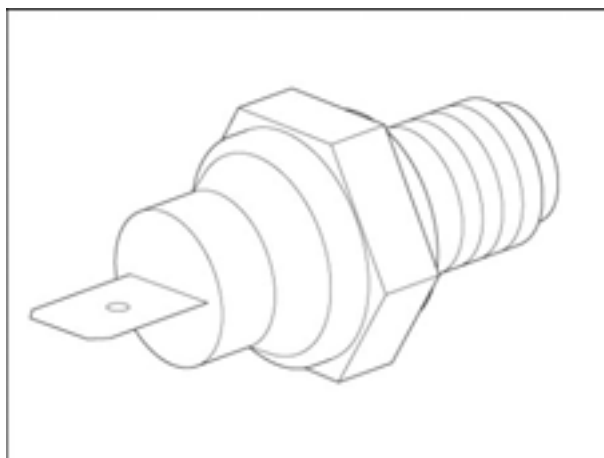
**7 Headlight:**

low beam 12 V – 15 W  
low/high beam 12 V – 35/35 W

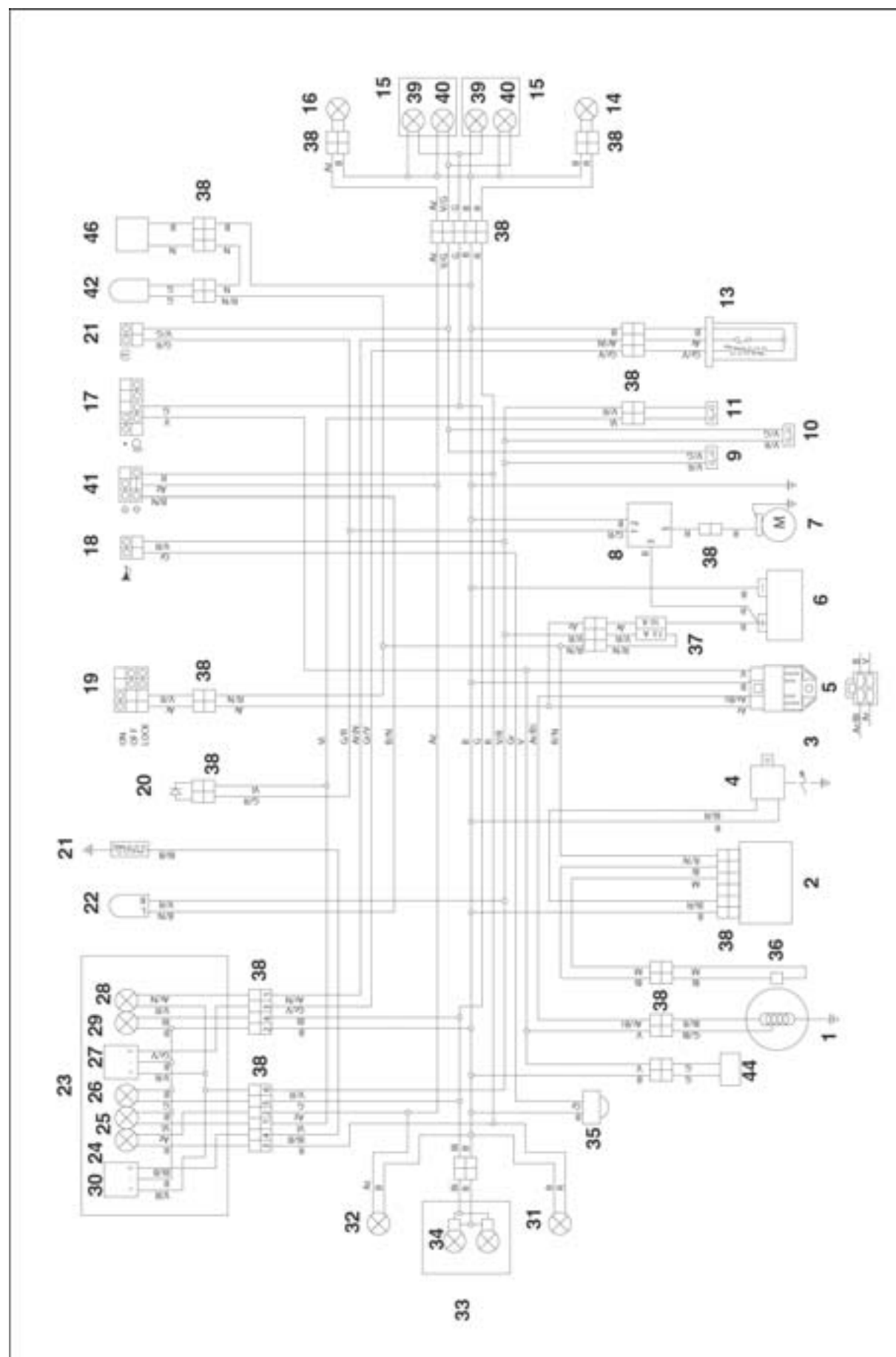


**8 Engine temperature sensor:**

NTC sensor  
Resistance 560 ohm (temperature 25°C)  
Resistance 40 ohm (temperature 100°C)



## 1.11.2. ELECTRICAL DIAGRAM



- 1) Alternator
- 2) CDI
- 3) Sparkplug
- 4) HT coil
- 5) Tension regulator
- 6) Battery
- 7) Starter motor
- 8) Starter relay
- 9) Front stop switch
- 10) Rear stop switch
- 11) Mixer oil reserve switch
- 12) Coolant thermistor
- 13) Fuel level sensor
- 14) Rear right turn indicator
- 15) Tail light
- 16) Rear left turn indicator
- 17) Light switch
- 18) Horn button
- 19) Ignition/steering lock switch
- 20) Control diode
- 21) Start pushbutton
- 22) Flasher unit
- 23) Dashboard
- 24) Turn indicators indicator
- 25) Mixer oil reserve indicator
- 26) Dashboard lighting lamps
- 27) Fuel level instrument
- 28) Fuel reserve indicator
- 29) Low beam indicator
- 30) Coolant temperature instrument
- 31) Front right turn indicator
- 32) Front left turn indicator
- 33) Head light
- 34) Low beam lamps
- 35) Horn
- 36) Pick up
- 37) Fuses
- 38) Multiple connectors
- 39) Rear side light lamp
- 40) Stop light lamp
- 41) Turn indicators deflector
- 42) Thermal switch
- 43) -
- 44) Automatic starter
- 45) -
- 46) PTC