



PEUGEOT
Motocycles

SALES DIVISION
NETWORK TECHNICAL INFORMATION



WORKSHOP MANUAL

Scoot'elec



SERVICE AND REPAIR

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CHARACTERISTICS

CHARACTERISTICS

Machine markings

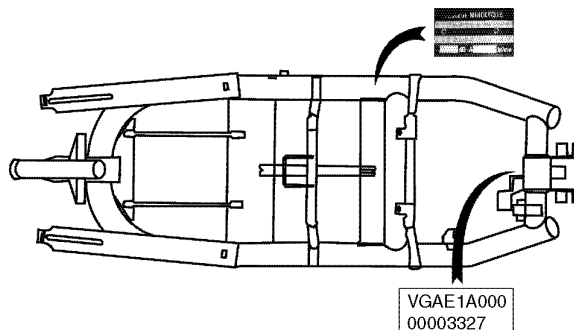
Model code	E1A
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Characteristics

Motor	
Characteristics	Direct current and separate excitation
	Energy recovery motor brake
Marque	Leroy Somer or Schabmüller
Max. power output	2.8 kW
Motor speed	2100 rpm
Torque speed	2000 rpm

Frame

- 1 Manufacturer's plate
- 2 VIN number



Capacities

Relay module	0.12 litres Esso Gear Oil (EZL 848) P/N 753054
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Dimensions

Length	1755 mm
Width	695 mm
Height without rear view mirror	1100 mm
Ground clearance	
Wheelbase	1300 mm

Weight

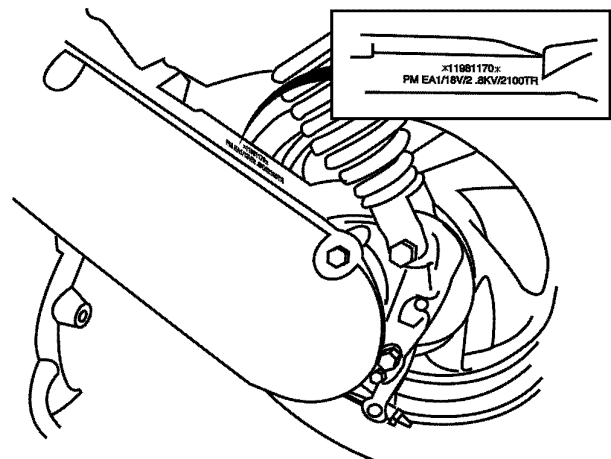
Weight	115 kg
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Tyres

Front wheel	2.5"x10"
Front tyre	100/80x10
Front tyre pressure	2.5 bar
Rear wheel	2.5"x10"
Rear tyre	110/80x10
Rear tyre pressure	2.5 bar

Motor markings

Motor type	EA1
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SERVICE AND COMMISSIONING INSTRUCTIONS

SERVICE AND COMMISSIONING INSTRUCTIONS

Heavy duty servicing is aimed at machines used under “harsh” conditions: door-to-door call, intensive urban use (courier service)

Servicing operations	500 Kms or 3 months	Every 5000 Kms or months	Every 10000 Kms
Heavy duty service	500 Kms	Every 2500 Kms	Every 5000 Kms

Check:

Diagnostic readout	X	X	X
Throttle control	X	X	X
Functioning of electrical equipment	X	X	X
Front and rear brake control	X	X	X
Tyre pressures	X		
Tyre condition, pressure and wear		X	X
Tightness of nuts and bolts	X	X	X

Change:

Front and rear brake lining #			X
Grease cam spindle		X	X
Drive belt	10000 km for heavy duty service		

Check and change:

Motor brushes # (Leroy Somer only)	10000 km for heavy duty service		X
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Test machine:

On road	X	X	X
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if necessary

SERVICE AND COMMISSIONING INSTRUCTIONS

Battery commissioning and maintenance procedure

Remark: the maintenance procedure is identical to the commissioning procedure

Important:




It is essential to use distilled water supplied by PEUGEOT MOTOCYCLES under P/N: 973582

The use of distilled water from any other source will destroy the battery and result loss of warranty.



It is forbidden to pour in distilled water before the end of charging.

Commissioning

Ensure you have 3 litres of PEUGEOT distilled water, P/N: 973582.





- Connect the charge cable to the 230 V – 10/16 A mains.
- The charge lamp  comes on with a beep, the battery lamp  flashes
- Press « V » on the keypad (a minimum of 2 seconds) and do not release it until the 2 confirmation beeps are given.
- Release the « V » key, a series of 3 beeps indicates the operation is to commence, the charge lamp  flashes.
- If it does not flash, repeat the operations more quickly.

The commissioning procedure has started and will take 1à 15 minutes.

At the end of charging, the   lamps stay on indicating that the water may be added to the battery.

Note:

From this point on, you may leave the machine connected to the mains for a period of 72 hours. Beyond this time, you will have to repeat the procedure from the start.

- Disconnect the charging cable, the   lamps stay on. You now have a maximum of 30 minutes to add water to the battery.
- Open the maintenance cover with a Torx screwdriver and slowly pour in the distilled water (P/N: 973582) until the water runs out of the overflow under the scooter.
- Close and tighten the maintenance cover, the   lamps go off indicating the end of commissioning.
- Wait for a minimum of 15 seconds before turning on the ignition.

Charging after prolonged immobilisation


After not being used for a few months, the battery voltage may drop below 8 volts and it is impossible to charge the machine.

In this case, the battery needs to be “woken up” by one or more connections/disconnections to and from the mains socket.

Procedure:

1. Connect the charging connector the mains.

Important:

- The charge lamp  does not come on on the instrument panel.
- No beep on the multifunction keypad.
- The fan does not run.


This is normal.

Do not turn on the scooter lights.

Do not connect the TEP96.

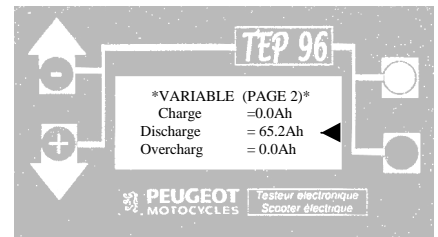
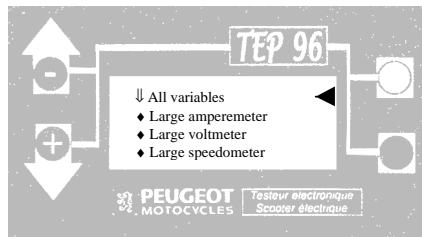
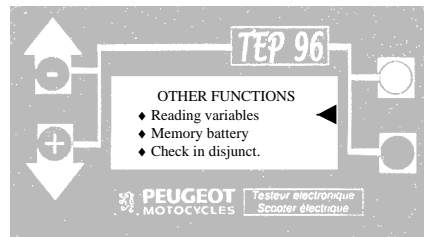
2. Leave the connector connected 5 minutes to the mains
3. Disconnect the connector from the mains and reconnect it immediately

Repeat operations 2 and 3 until:

- The charge lamp  comes on on the instrument panel.
- The multifunction key pad sounds a beep.
- The charger fan starts.

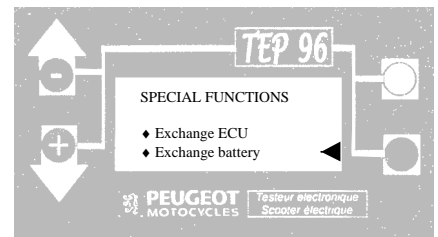
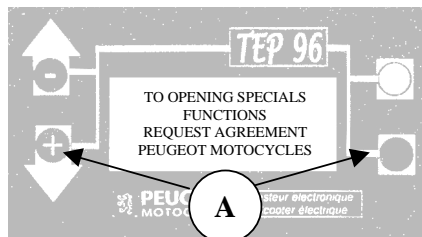
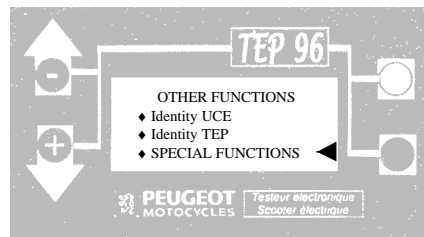
After 5 minutes charging (for ECU, electronic control unit, Soft version 4.2.4, production prior to July 97)

Connect the TEP96 to the machine



The DISCHARGE value must be between 0 and 110 Ah

If the number of discharged Ah is over 110, use the TEP96 to carry out a « Exchange battery » procedure



Press the two buttons (A) for 3 seconds

SERVICE AND COMMISSIONING INSTRUCTIONS

Checks before handing over to the customer:

Check the wheel nuts are tight

Front wheel: 6 m.daN

Rear wheel 10 m.daN

Check all nuts and bolts are tight

Check brake adjustment and efficiency

Check the tyre pressures cold

Front wheel: 2.5 bar

Rear wheel 2.5 bar

Check operation of the lights, flashers, road and pedestrian horn, and brake light

Check operation of the various instrument panel lamps

Check the power reserve

Carry out a road test

SPECIAL IMPORTANT POINTS


SPECIAL IMPORTANT POINTS

The scoot'elec is fitted with a coded immobiliser. This system prevents the machine from being started if the user has not entered the secret code number. See instructions page 19.

Charging of the 3 Cadmium-Nickel batteries is by means of the on-board charger fitted with a 220V 10/16A power connector with earth.

A partial charge may be carried out, and each charge of 10 minutes enables approximately 5 km to be covered in ECO mode.

If the battery temperature is high, charging will only commence after the time it takes to cool down which is controlled automatically by the charger and the ECU (which means that the charging time will be prolonged

by the same time). The  lamp will flash until the charge is triggered automatically. See instructions page 6.

TIGHTENING TORQUES AND SPECIAL TOOLS

TIGHTENING TORQUES AND SPECIAL TOOLS

Tightening torques

Lower body fairing	0.2m.daN
Footboard	0.4 m.daN
Speedo casing	0.1 m.daN
Saddle cover	0.6 m.daN
Front panel	0.1 m.daN
Rear panel	0.1 m.daN
Side fairings	0.1 m.daN
Rear mudguard *	0.8/0.1 m.daN
Mudflap *	0.6/0.8m.daN
Saddle locking plate	1.2 m.daN

Frame:

Front wheel spindle nut	6 m.daN
Rear wheel spindle nut	10 m.daN
arm to frame mounting	4.6 m.daN
Shock absorber upper mount	4.3 m.daN
Shock absorber lower mount	2.5 m.daN
Steering locknut	7 m.daN

Motor:

Arm to motor mount	2.3 m.daN
Battery terminal nut	12 m.daN
Strap and 200 A fuse	1.2 m.daN
Brush fixing screws	

Standard:

Nut and bolt 5 mm diameter	0.5 m.daN
Nut and bolt 6mm diameter	1 m.daN
Nut and bolt 8mm diameter	2.2 m.daN
Nut and bolt 10mm diameter	3.5 m.daN
Nut and bolt 12mm diameter	5.5 m.daN

Special tools:

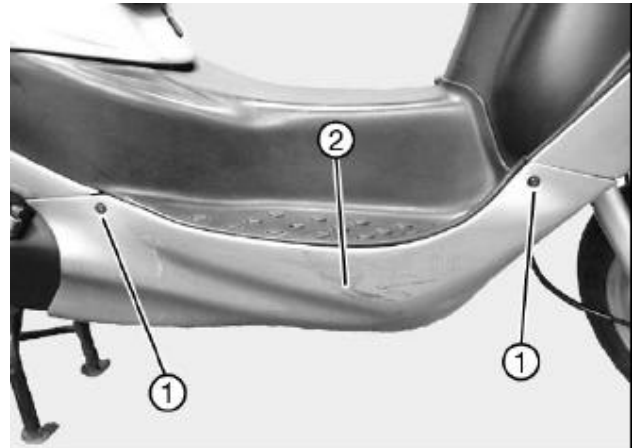
Steering column spanner	754086
Discharge bench	753012
TEP 96	753011
Optional charger	5409

* depending on size of bolt

BODY

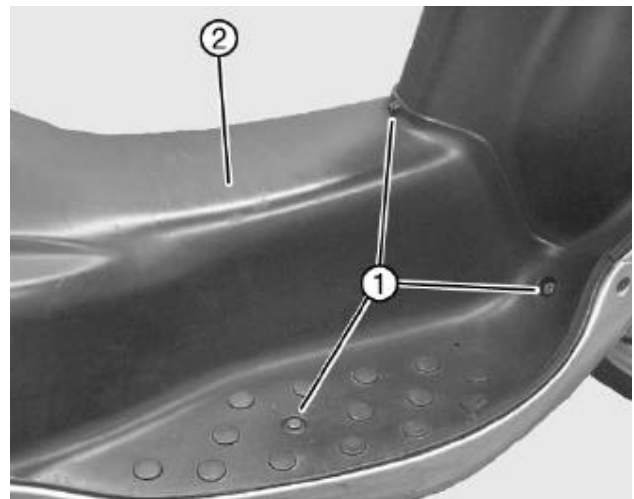
To remove lower body fairings Step 1

- Remove the 4 screws (1)
- Remove the lower body fairings (2)



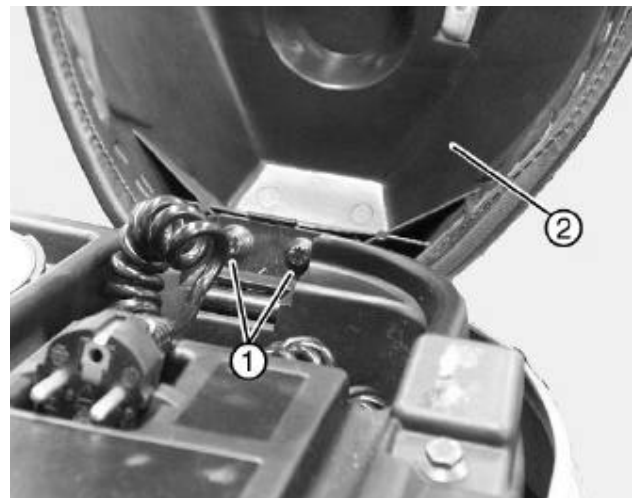
To remove the footboard Step 2

- Remove the 5 screws (1)
- Remove the footboard (2)



To remove the saddle Step 3

- Remove the 2 bolts (1)
- Remove the saddle (2)



BODY PANELS

To remove the saddle cover and lock Step 4

Remove the footboard (see step 2)

Remove the saddle (see step 3)

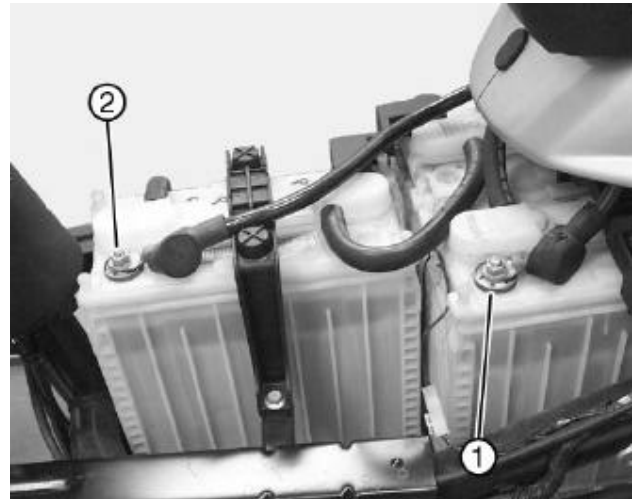
Disconnect the batteries

Imperative:

Begin with the negative cable (1), the thick cable marked green on the rear left cell.

Then continue with the positive (2), the thick cable marked red on the front cell.

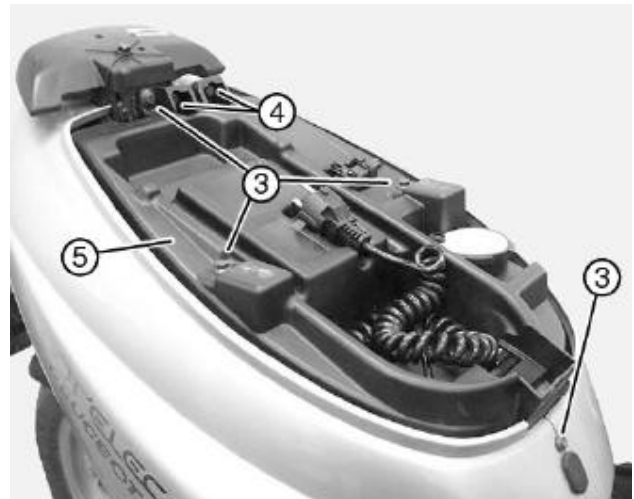
This operation must be carried out before any work in order to avoid short-circuits



Remove the 4 screws (3) and the 2 screws (4) from the lock

Unclip the diagnostic plug

Raise the saddle cover and pull rearwards (5) (it fits at the front in the frame crossmember)

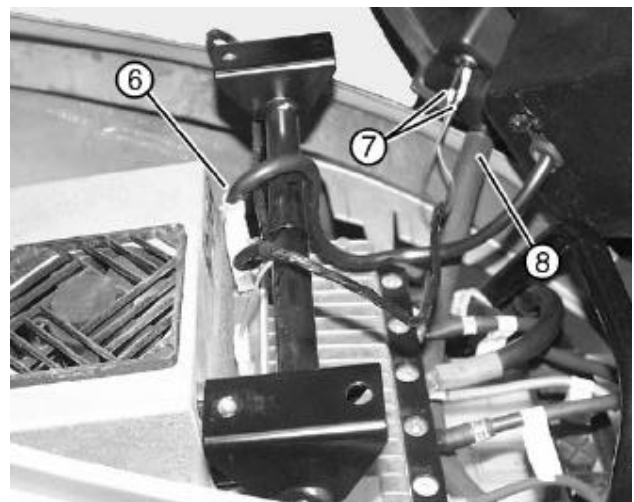


Disconnect the charging cable (6) from the charger

Disconnect the maintenance switch 2 wires (7)

Disconnect the water pipe (8)

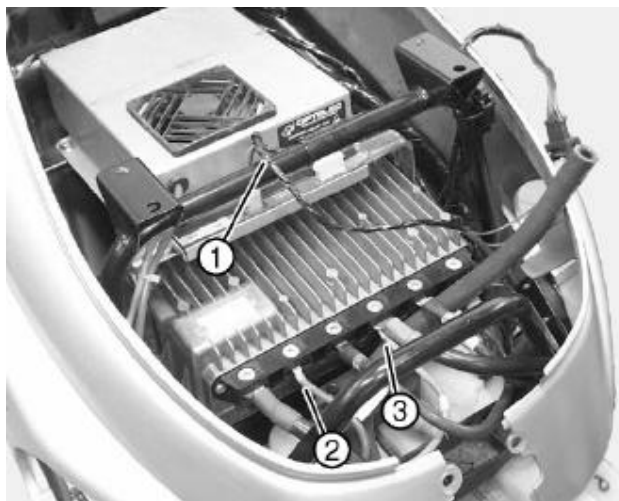
Remove the saddle cover (5)



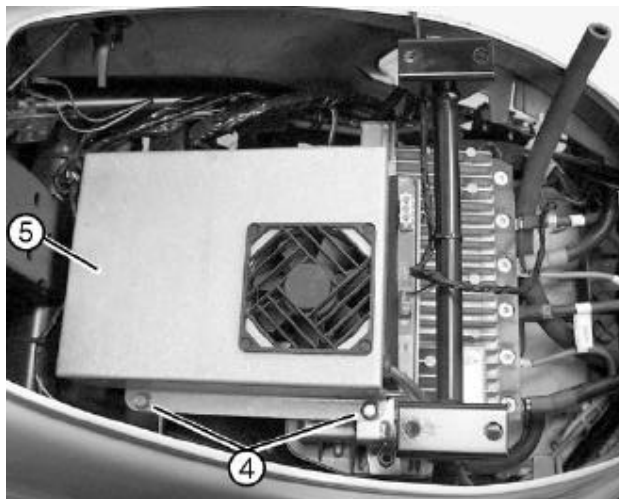
ELECTRICITY

To remove the charger Step 5

Remove the lower body fairings (see step 1)
Remove the footboard (see step 2)
Remove the saddle cover (see step 4)
Disconnect the 2-pin connector (1) from the charger
Disconnect the ECU and the red wire (2) the green wire (3) connected to the charger (fixed to the frame with a plastic tie-wrap)



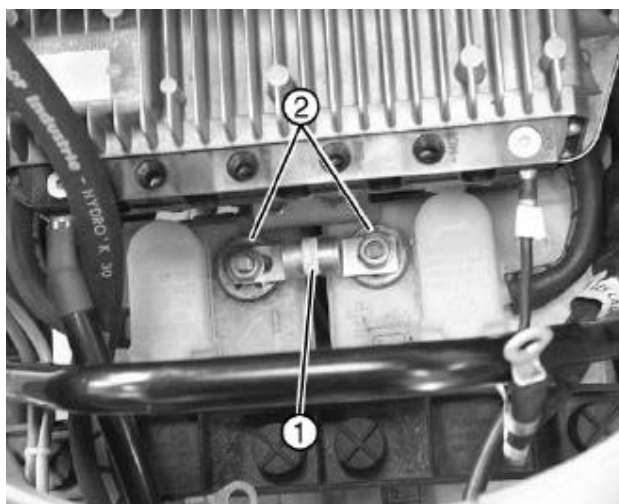
Remove the 4 self-tapping screws (4) (2 screws on the frame – 2 screws on the support)
Remove the charger (5)



*The charger must not be opened
Only the manufacturer is authorised to service this component*

Removal of the 200 Amp fuse Step 6

Remove the lower body fairings (see step 1)
Remove the footboard (see step 2)
Remove the saddle (see step 3)
Remove the saddle cover (see step 4)
Disconnect the ECU 4 central wires for access to the fuse (1)
Remove the fuse cover
Remove the 2 nuts and washers (2)
Remove the fuse (1)



To remove the ECU Step 7

Important:

If changing the ECU it is essential to copy the ECU parameters into the TEP 96 before disconnecting the batteries

(see troubleshooting manual)

Remove the charger (see step 5)

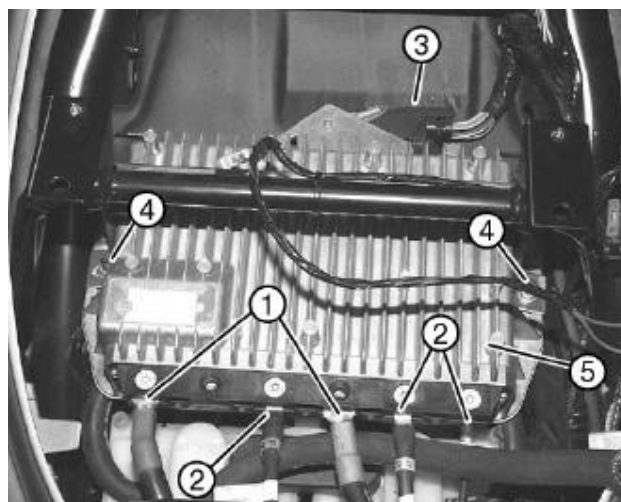
Disconnect the power cables (1) from the batteries

and (2) from the motor to the ECU

Release and unclip the 37-pin connector (3) from the ECU

Remove the 2 nuts (4) which also secure the charger bracket (note fitting position)

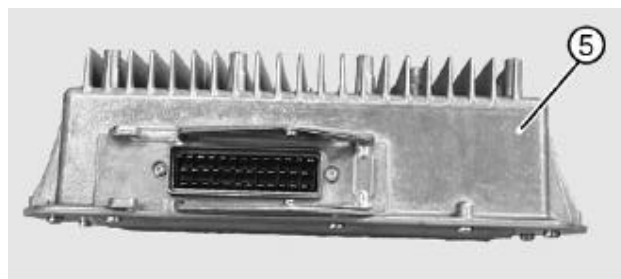
Remove the ECU (5)



Check the 37-pin connection is in perfect condition.
The contacts must be properly aligned

The ECU must not be opened

Only the manufacturer is authorised to service this component

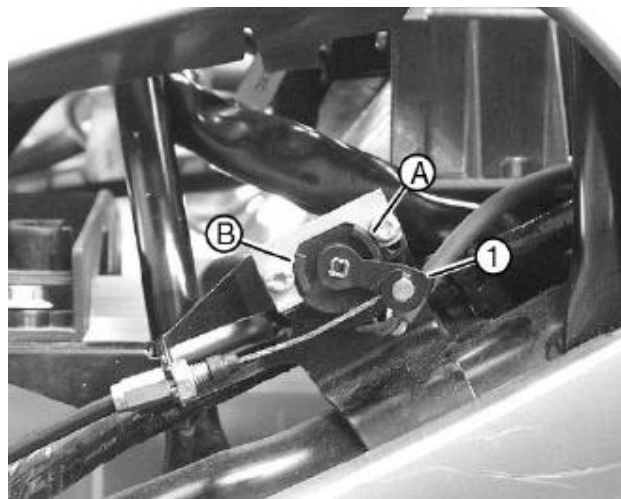


Setting the throttle sensor

With the lever (1) in the rest position the sensor must be against the stop (A) on the sensor body

if it is not in this position the machine will not start

Turn the throttle to fully open and check that the sensor lever is in contact with the sensor stop (B)



To remove the batteries

Remove the 200 Amp fuse (see step 6)
 Remove the protection from the strap between the front and the rear right cell
 Remove the strap (1) (2 nuts)
 Remove the water pipes (2)

The pipes must be removed along the axis of the cell end in order to avoid breaking it

Remove the front cell securing clamp (3), 2 screws (4)

Check that the springs and cups are fitted under the clamp

Remove the front cell (5)

Remove the temperature sensor (6) (clip on the rear left cell)

Remove the rear cells securing clamp (7)

Check that the springs and cups are fitted under the clamp

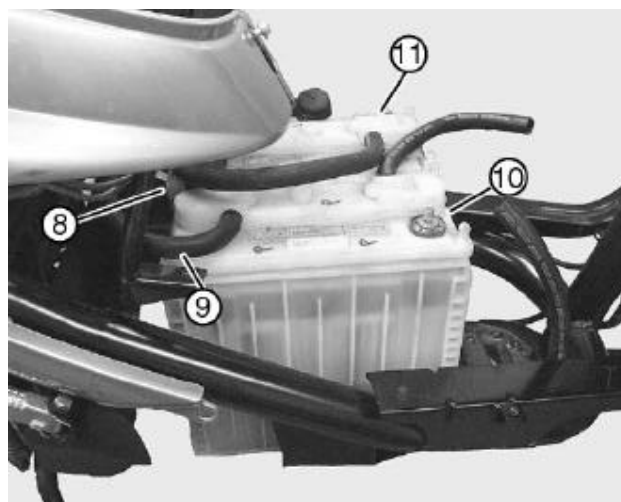
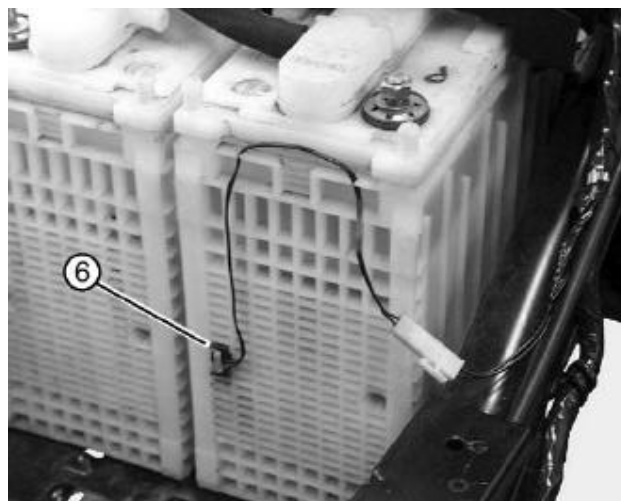
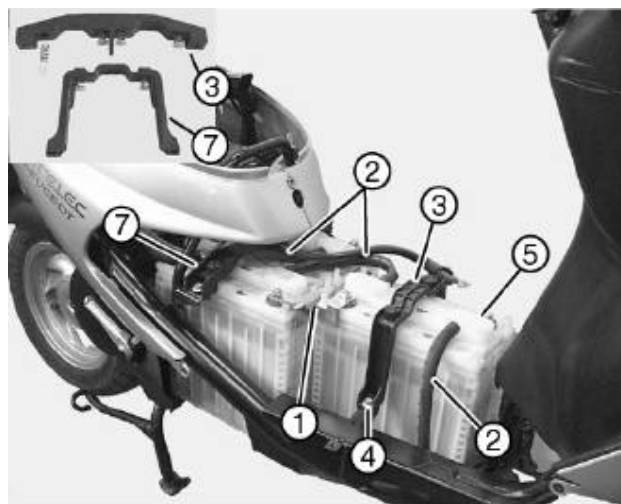
Slide the 2 rear cells towards the front of the machine
 Remove the plastic securing clamp (8) behind the two cells

Disconnect the water pipe (9)

Remove the 2 cells (10) (11)

Important:

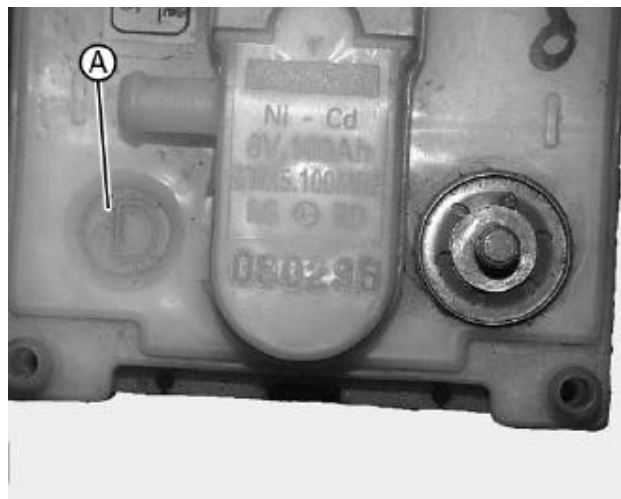
If changing one or two cells, the cell(s) must be discharged separately using the discharge bench (see troubleshooting manual)



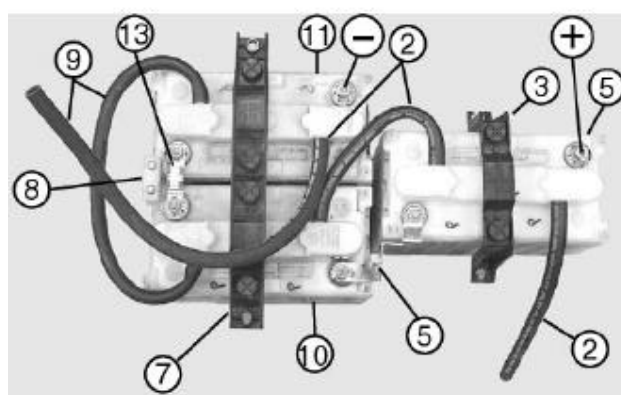
Cell fitting order

If the 3 cells are changed

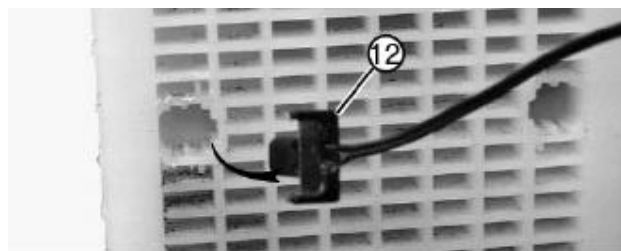
Fit a cell, marked G at (A), on the right-hand side of the machine with the red terminal at the front
 Fit a cell, marked D at (A), on the left-hand side of the machine with the red terminal at the rear
 Fit the plastic clamp (8) for the 2 rear cells (2 screws)
 Connect the water pipes (2) (9)
 Push the 2 cells into the frame housings
 Fit the securing clamp (3) for the 2 cells (with the washers and cups)



Clip the temperature sensor (12) to the left cell
 Fit the last cell marked D with the red terminal at the front
 Fit the strap between the front and rear right-hand cells (2 nuts)
 Fit the strap protection
 Fit the front cell securing clamp (with washers and cups)

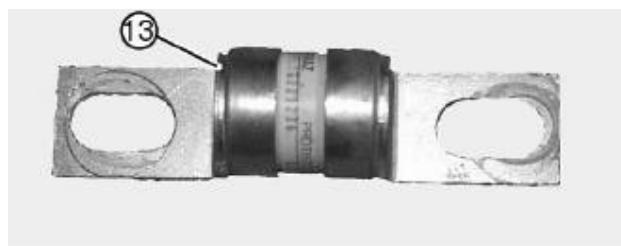


Fit the 200A fuse (13) (2 nuts and 2 washers) connecting the blue terminal of the rear right-hand cell to the red terminal of the rear left-hand cell
 Fit the fuse cover
 Connect the thick cable with the red end (+) connected to the ECU to the red terminal on the front cell
 Connect the thick cable with the green end (-) to the blue terminal on the rear left-hand cell



Important:

A battery commissioning procedure must be carried out (see procedure page 5) and the ECU parameters initialised using the TEP96



MOTOR

MOTOR

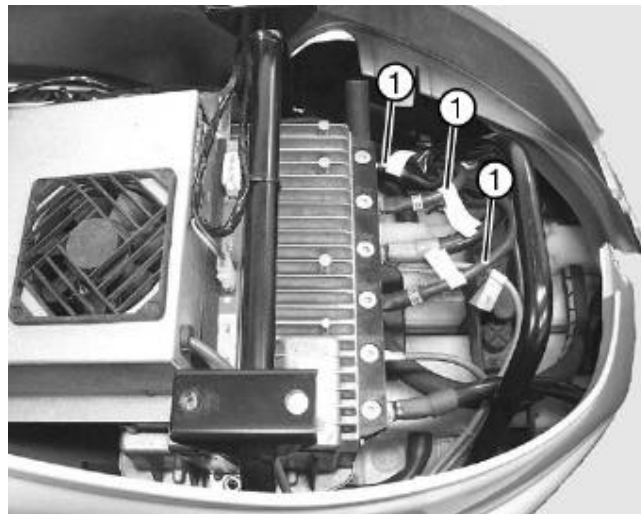
To remove the power unit

Remove the lower body fairings (see step 1)

Remove the saddle cover (see step 2)

Disconnect the 3 wires (1) connecting the motor to the ECU

Clear these 3 wires away from the frame



Remove the right (3 screws) and left (4 screws) covers

Disconnect the 2-pin connector from the speed sensor

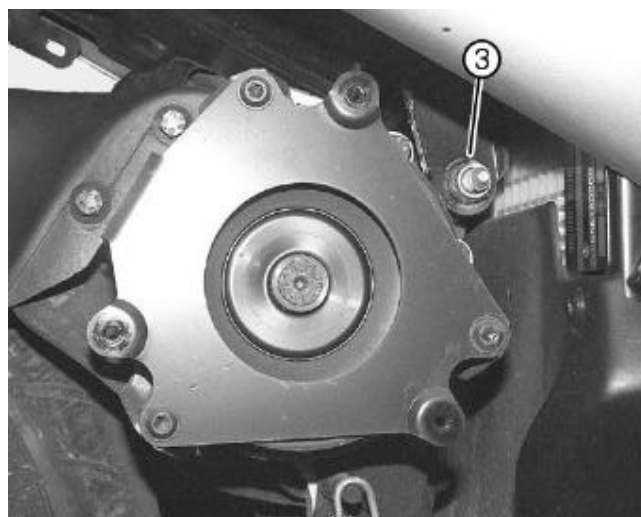
Disconnect the rear brake control from the brake plate

Suspend the machine

Remove the shock absorber lower mount



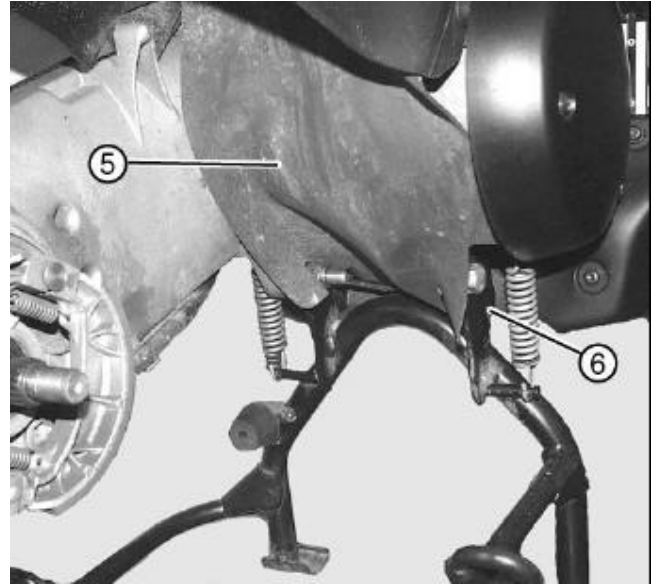
Remove the shaft (3) from the power unit



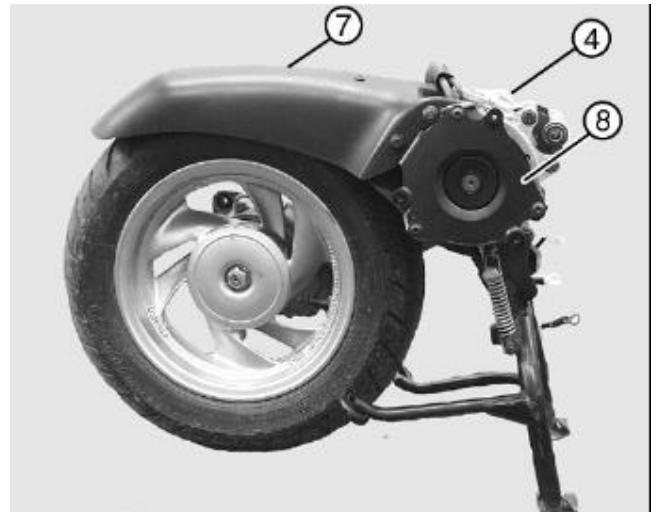
MOTOR

Remove the power unit (4)

Unclip the mudflap (5) from the stand bracket (6)



Remove the mudguard (7) (5 screws) and its stiffener plate (8)



To remove the brushes

On Leroy-Somer motor only

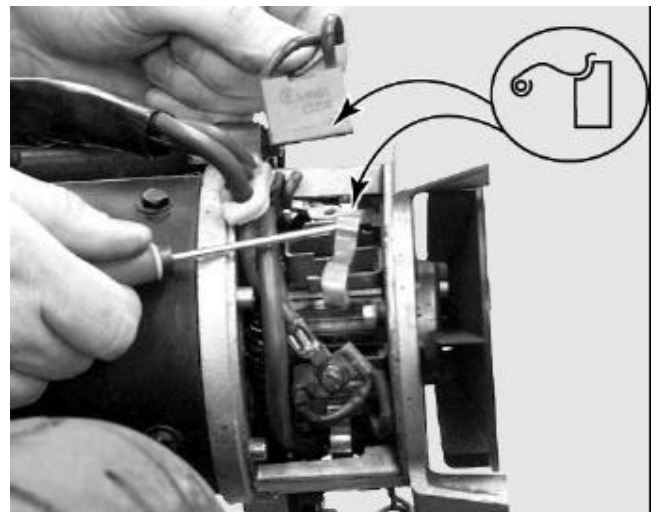
Remove the brush weather protection strap

Remove and if necessary change the 4 brushes one by one so that the connecting wires retain their shape and position

Note:

it is essential that the tightening torques of the brushes are complied with xx mN

Check there is not contact between the wires connected to the brushes and the motor body
Any contact will destroy the ECU



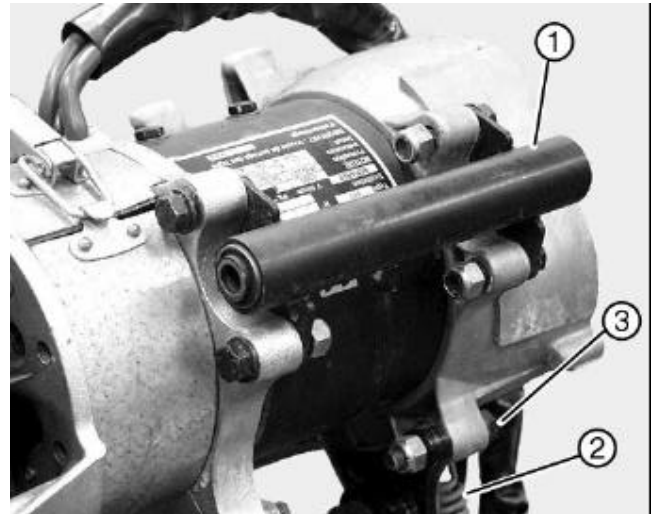
MOTOR

Removal of the motor mounting rod and the stand

Note the position and remove the motor bracket rod (1) (4 nuts and bolts)

Remove the stand springs (2)

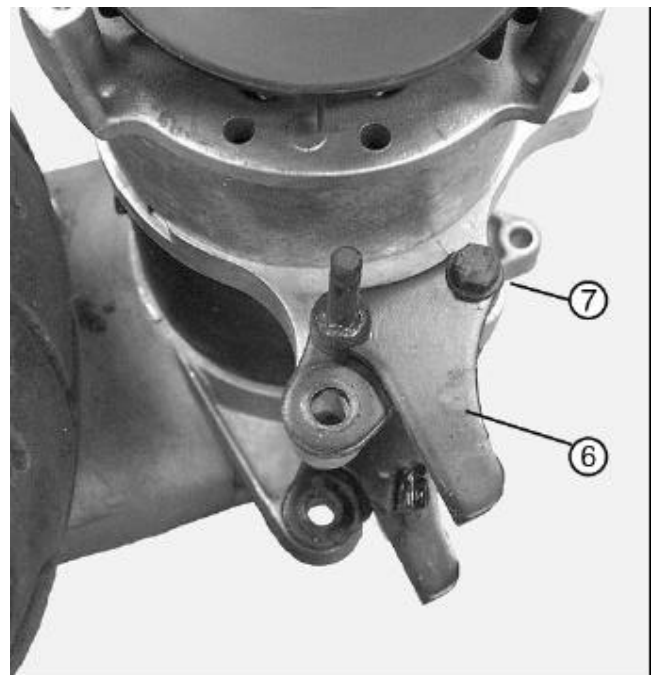
Remove the stand to bracket 2 mounting nuts and bolts (3)



Remove the stand (4) with its 2 shoulder bushes (5)
Note the position of the bushes



Remove the stand bracket (6) 2 nuts and bolts (7)

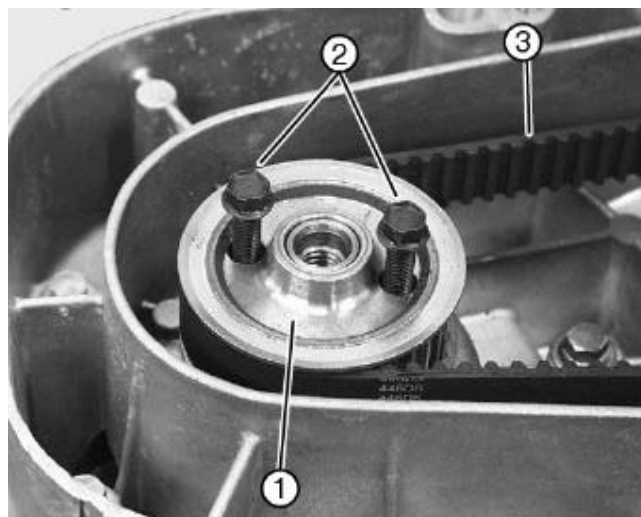


MOTOR

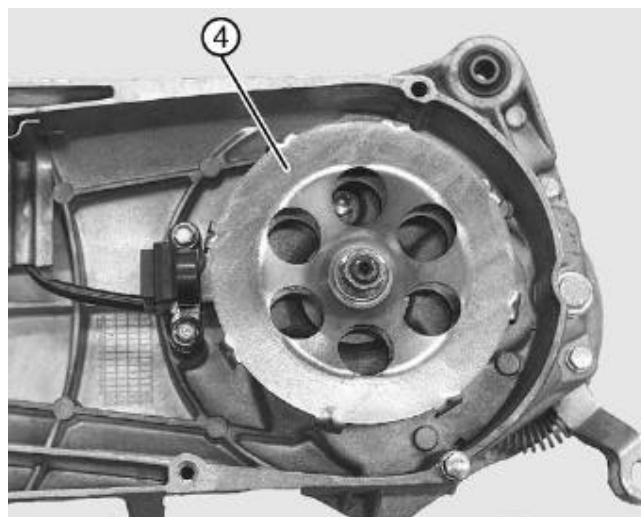
To remove the transmission system

Remove the bolt from the 34-tooth pulley (1)
Remove the pulley using 2 Ø6mm bolts (2)
Remove the belt (3)

Bolt tightening torque: 40 ± 5 mN

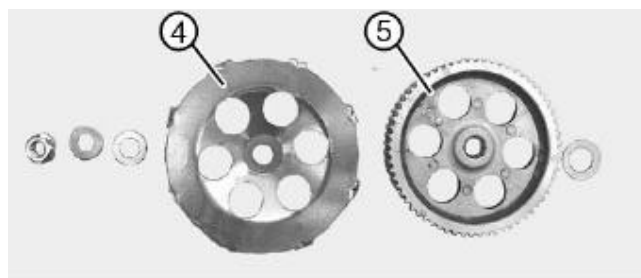


Remove the indexer ring (4) and the 64-tooth pulley (5)
The pulley fits both ways round



Note how the pulley washers and bush are stacked

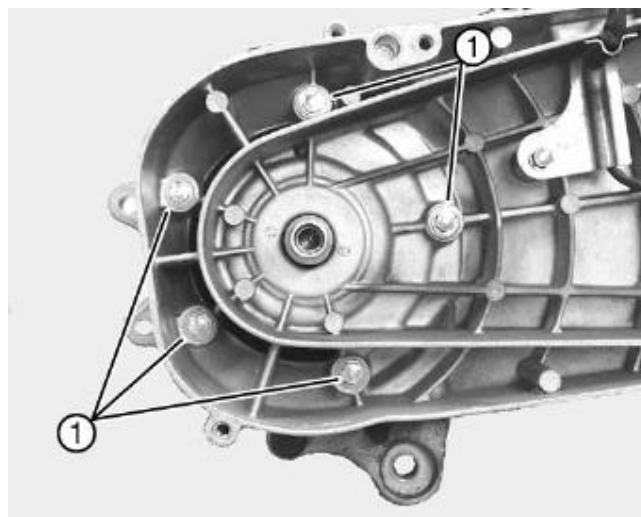
Bolt tightening torque: 40 ± 5 mN



MOTOR

To remove the motor

Remove the 5 bolts (1) securing the motor to the casing



Remove the motor

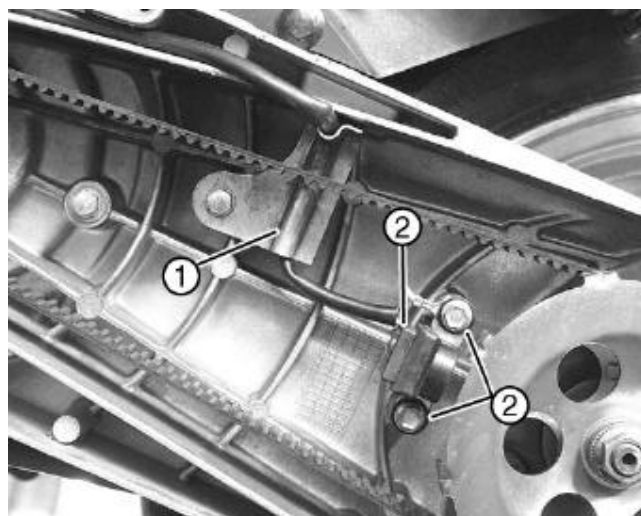
The motor cannot be refurbished
Only replacement is possible if necessary



To remove the speed sensor

Remove the sensor wire securing clamp (1)
Remove the speed sensor (3) 2 bolts (2)

The 2 self-tapping screws must be removed with care in order to avoid breakage and coated with grease when refitting



MOTOR

Important:

The speed sensor is mounted on plastic washers and spacers which isolated it from the casing

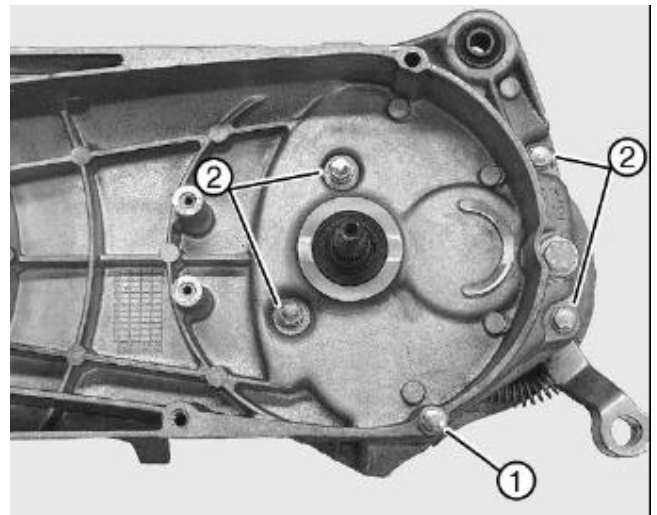
Non-compliance with the assembly order will interfere with motor functioning



Relay module removal

This operation can be done on the machine
Drain off the relay module by removing the lower bolt (1) which is also used to tighten the cover
When refitting it, make sure the copper washer is fitted under the bolt head

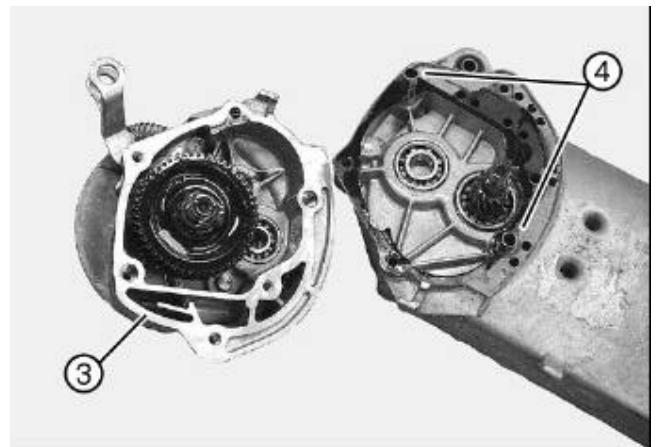
Remove the 4 remaining bolts (2)



Remove the cover (3)

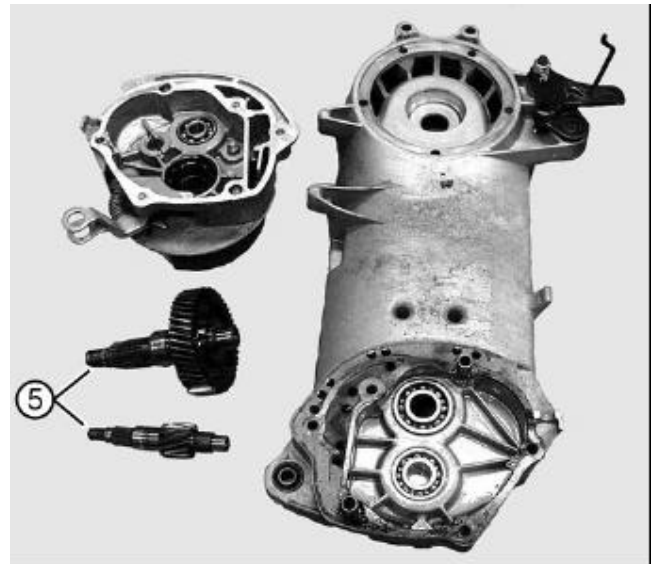
Remove the seal

Remove the 2 centring posts (4)



MOTOR

Remove the 2 shafts (5) from the relay module



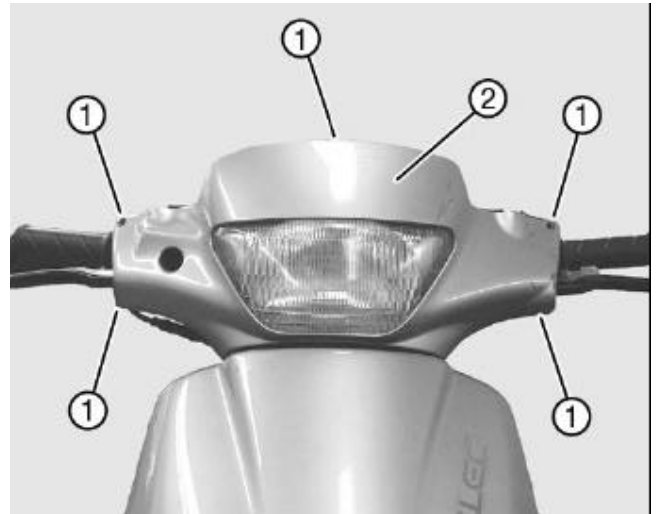
MISCELLANEOUS OPERATIONS

MISCELLANEOUS OPERATIONS

Keypad removal

Remove the headlight fairing 5 screws (1)

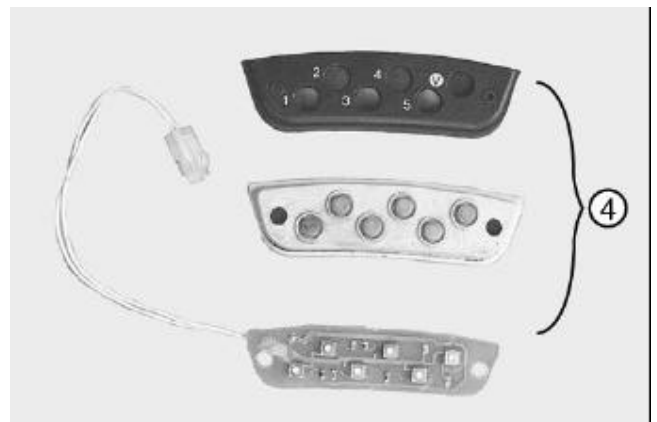
Remove the fairing (2)



Remove the 2 screws (3) from the keypad (4)



Remove the keypad (4)





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