

## *MAINTENANCE OF EC MOTORS*

### **Maintenance of motors EC100, EC180, EC350, EC600**

Carbon brushes and commutators are the only parts of a DC motor that are wear parts.

1. The first check of the brushes is suggested to be made after 100 working hours.
2. Successive checks of the brushes should be made after every 500 hours of work.
3. Check the diameter and the condition of the commutator after every 1000 hours of work.

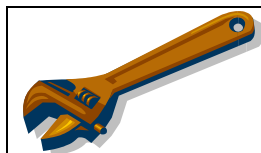


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For security reasons, the inspection intervals should not be any longer than 1000 working hours.

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**1**



### **Brush Inspection**

Proceed following the instructions below:

- A) Ensure that the motor has been switched off.
- B) With a screwdriver, remove the black caps as indicated in photo 1.



(photo 1)



(photo 1.1)

C) By the means of pliers remove the old brushes, see photo 2.



(photo 2)



(photo 2.1)

D) Check the length of the brushes, as in Table 1 and eventually substitute them with a new set, photo 3.



(photo 3)

E) Close the brushes slots and start up the motor as in photo 4.



(photo 4)



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Please note: If the minimum length has been reached (see table 1), you are advised to substitute these with a new set of brushes.

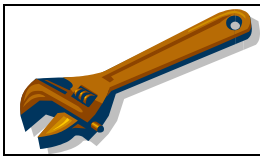
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- I. Substitute only with original brushes, or those recommended by Transtecno.
- II. Mount the carbon brushes and ensure smooth gliding in the brush holders.
- III. Ensure that the carbon can be pushed forward when they are becoming shorter due to wear.
- IV. If they do not, you must use abrasive paper so that the brushes are able to run freely.

Table 1

EC series Motor	New brush length	Minimum length
EC 100/180	17 mm.	8.5 mm.
EC 350/600	16.8 mm.	8.0 mm

# 2



## Commutator Inspection

Generally commutators show very little wear and do not need any maintenance even if the carbon brushes are replaced, however a check is recommended after every 1000 hours of work, removing the end shell and cleaning the dust from the inside.

Proceed as described below:

- 1) Switch off the motor.
- 2) Remove the brushes, photo 5.



(photo 5)

- 3) Unscrew the 2 through-bolts, photo 6.



(photo 6)

- 4) Remove the end shell, photo 7/8



(photo 7)



(photo 8)

- 5) Clean the commutator and the surrounding area from any dust and carbon with an air gun and/or a small brush. Photo9



(photo 9)

- 6) Measure the grooves on the commutator, photo 10



(photo 10)



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If the running-in grooves are more than 0,3 mm in respect to the original diameter, we recommend to overturn the commutators.

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- 7) Replace the end shell ensuring that the through-bolt is in line with the bevel on the motor body.



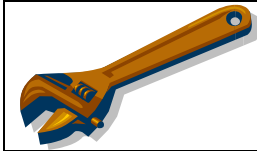
(photo 11)

- 8) Close the end shell and reinsert the brushes, see photo 12.



(photo 12)

### 3



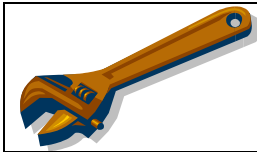
### Codes of carbon brushes spare parts

When ordering brushes as spare parts please use the references as written in Table 2  
Each code refers to a different brush.

Table 2

Motor type	Carbon brush size (mm)	Carbon brush code
EC100120	17 x 17 x 6.5	255001B240
EC100240	17 x 17 x 6.5	255001B240N
EC180120	17 x 17 x 6.5	255001B120
EC180240	17 x 17 x 6.5	255001B240
EC350120	16.8 x 19 x 9.5	255001B350
EC350240	16.8 x 19 x 9.5	255001B600N
EC600120	16.8 x 19 x 9.5	255001B350
EC600240	16.8 x 19 x 9.5	255001B600N

### 4



### Repairs

It is not advisable to proceed with any type of repair without consulting our technical department as the material may lose its warranty which otherwise would still be valid.



For further information please contact our Technical Department.

24-07-07 R&D dept - Transtecno srl