

# How to replace Carbon brush of Motor D8G-516/571

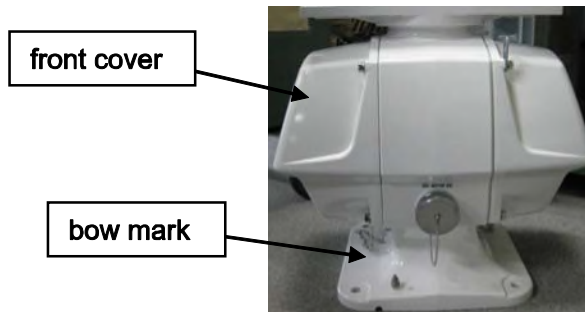
Following describes the procedure to replace the carbon brush of SANYO DENKI's Motor D8G-516/571 in Scanner unit.

## Parts list

Name	Type	Code number	Remarks
Scanner Motor	D8G-516	000-631-715-00	for 24 rpm
Scanner Motor	D8G-571	000-136-566-00	for 48 rpm
Carbon brush	MG120-5×6×11 D8G	000-631-716-00	2 pieces
Carbon brush holder cap	320842	000-174-545-10	2 pieces

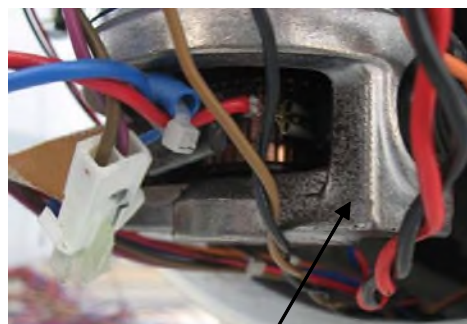
## Procedure

1. Remove the front cover of the scanner.



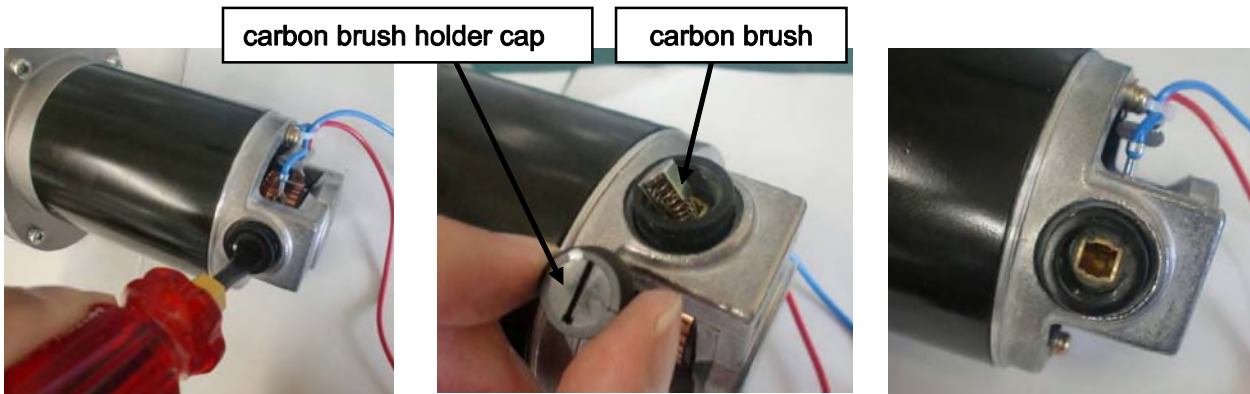
Antenna unit (front view)

2. Remove the carbon dust depositing on the motor and inside of the motor cover.

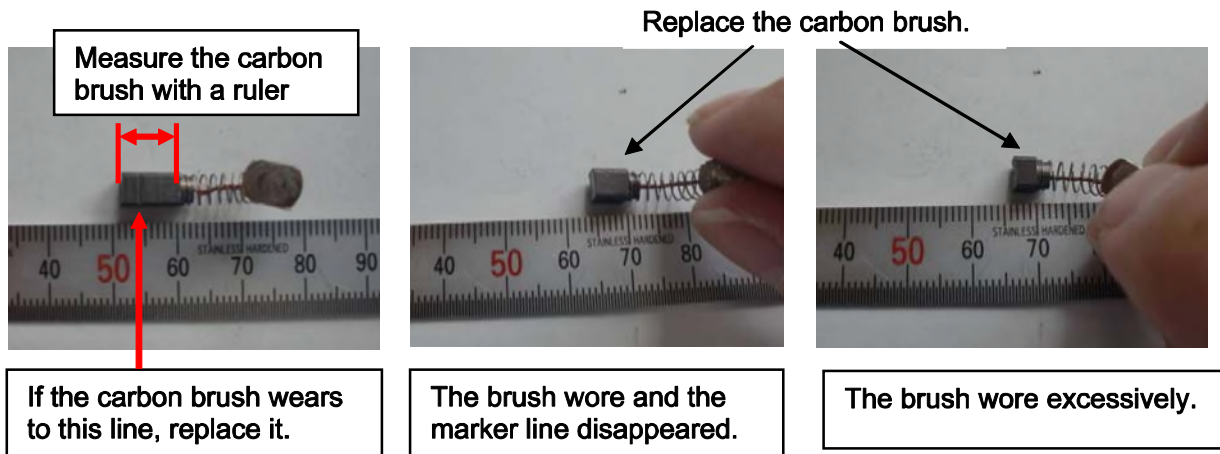


Clean the motor and the inside of cover

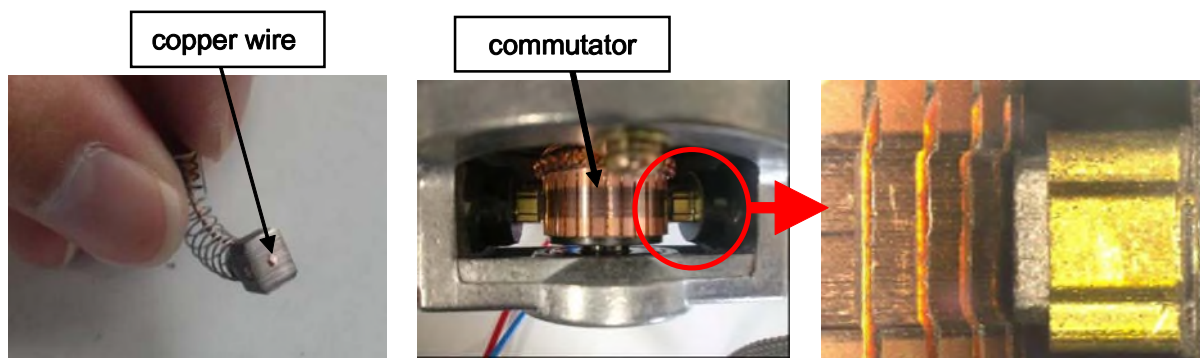
3. Remove the carbon brush holder cap and then two carbon brushes.  
Loosen the cap with the flathead screwdriver as shown in the below figures.  
Note: The carbon brush spring will cause the brush holder cap to pop out.



The following figures describe the carbon brush.



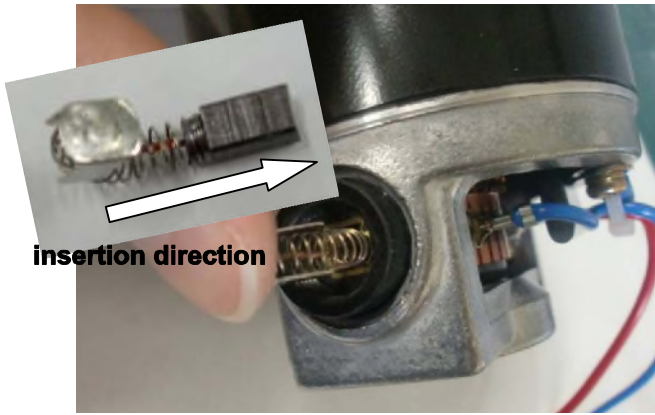
If the brush length is 7 mm or less, replace the brush.



The carbon brush makes sliding contact with the rotating commutator. The carbon brush wears and the copper wire sticks out on the surface of the carbon brush.  
(If the copper wire contacts with the rotating commutator, the motor may stop.)

If the commutator is pitted (if 0.5 to 1.0 mm), the motor may stop rotating.

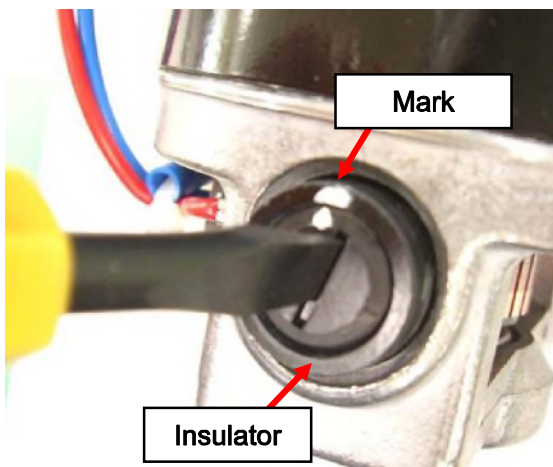
#### 4. Replace the carbon brush.



Insert the carbon brush.



Depress the carbon brush into the holder.



The carbon brush is not inserted in the wrong direction. Insert the carbon brush as shown in the above figures. Push the carbon brush in against spring tension until the retainer comes down to hold it in place and replace and screw the cap.

Note: If the carbon brush is not inserted and the cap is replaced and fastened, the motor may not rotate.

If the cap is screwed tightly, the insulator of motor is broken. So, you must replace the motor.

#### 5. Fix the motor cover and replace the scanner cover.



Fix the motor cover after setting the cables in groove of the cover.

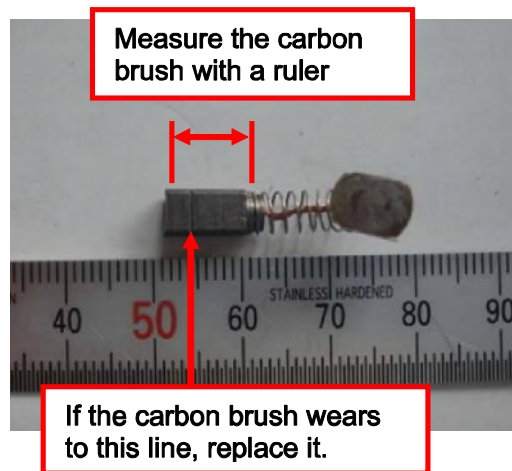
6. After replacing the brush, the motor must be idled for approximately two hours. The motor may stop during idling due to a contact failure of the brush. If the motor stops, turn off the power. Manually rotate the scanner and turn on the power again. If the motor still does not rotate, remove the brush and fit it again.

## Index of carbon brush replacement

It is recommended to check the wear of carbon brushes every 5,000 hours of use or when the magnetron is replaced and to replace them if necessary.

The wear of carbon brushes varies depending on the ship type or the usage environment. (Refer to the table below.)

Manufacturer's recommended operating time	Overload tests by FURUNO	Operating time on actual ships
2000 h (400 h/mm)	3000 h (600 h/mm)	4000 to 7000 h (800 to 1400 h/mm)



### Note:

1. When the cap is loosened/fastened, be careful to pop out the cap.
2. If the brush length is 7 mm or less, replace the brush. The length of a new brush is 11 mm.
3. When fitting a brush, securely insert the brush and fit the brush holder cap.
4. Fasten the brush holder cap as marked on the product. If it is further fastened, it will damage the motor insulator. In this case, the motor must be replaced.