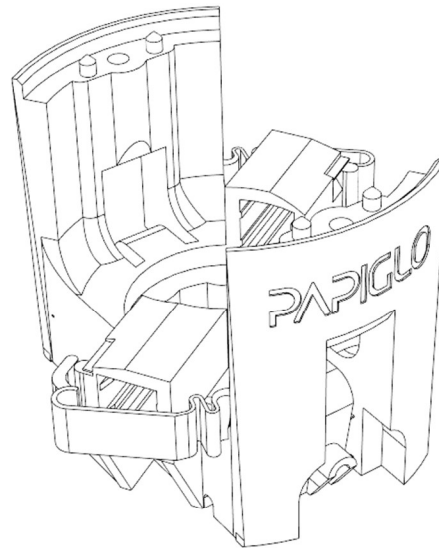


REPLACEMENT INSTRUCTIONS



Brush Holder Support For TRIAC ST/AT

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1 Safety

Make sure you are working with unplugged (de-energized) device and that you wear proper safety protection like gloves and safety glasses.

2 Equipment required for replacement



- 8mm socket wrench
- T10 Torx screwdriver
- T15 Torx screwdriver
- T20 Torx screwdriver
- Soldering iron
- Solder

- Small file, sandpaper, or benchtop grinder
- Impeller removing tool (or two screw drivers – not recommended)
- Steel wire brush
- Nose pliers

3 Tool condition and responsibility – IMPORTANT

Before you start the procedure make sure the hot air tool is in working condition, i.e., ball bearings are in good condition, the tool is clean from dust and debris, motor commutator is not damaged, stator winding are not burned.

NOTE:

PAPIGLO does not take responsibility for any damage done by improper handling and assembly/disassembly of the tool.

Use ONLY with the OEM carbon brush SKU# 100.646 and OEM brass insert SKU# 113.720.

4 Replacing the brush holder support



CAUTION!

Before proceeding make sure the hot air tool is unplugged from the power source.

4.1 Disassembly



Loosen the four screws using T15 Torx screwdriver



Gently but firmly pull out the top part of the housing.



By pressing in the power cord push out the motor from the bottom part of the housing.



Using 8mm socket wrench loosen and remove the nut.



Using impeller extraction tool remove the top impeller.



Using one leg of the extraction tool remove impeller separator.



Remove bottom impeller in the exact same way as the top one (Picture 5).



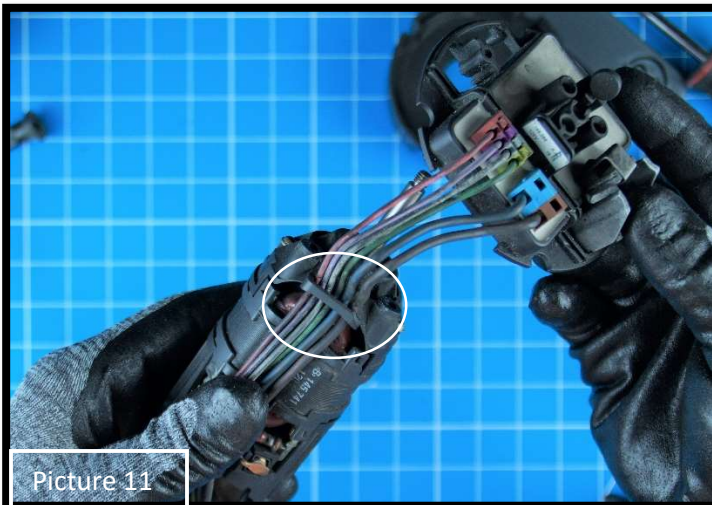
Loosen and remove three screws using T20 Torx screwdriver.



Put the impeller housing aside.



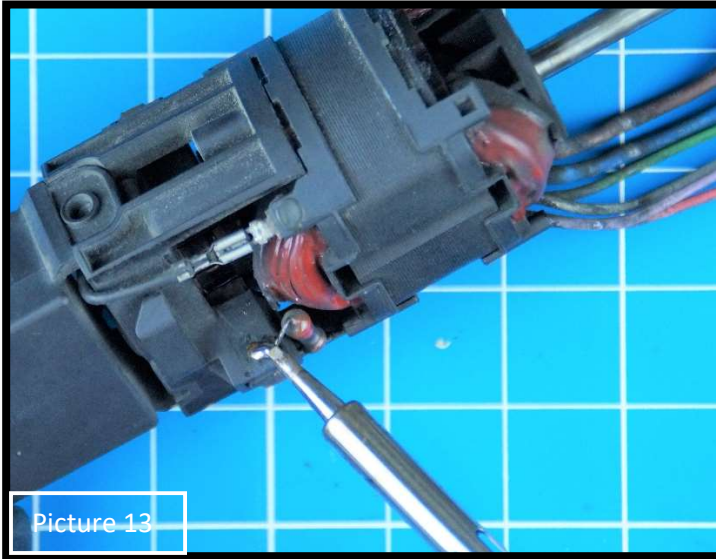
Using T10 Torx screwdriver remove two screws that holds the motor assembly together.



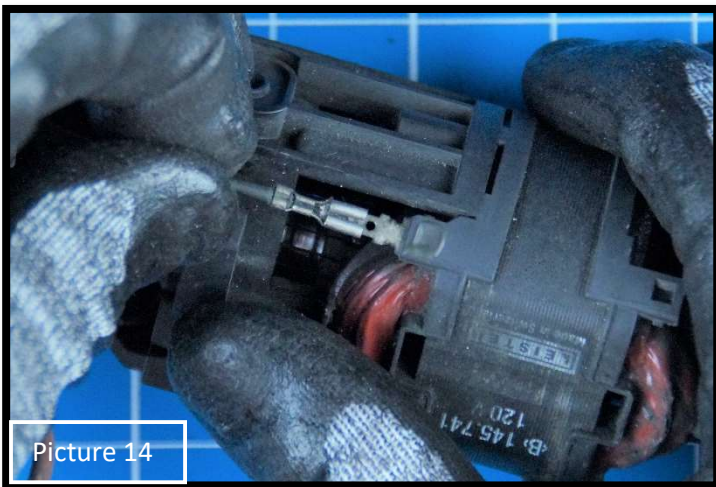
Remove the wire from the top bracket.



Remove top rotor support.



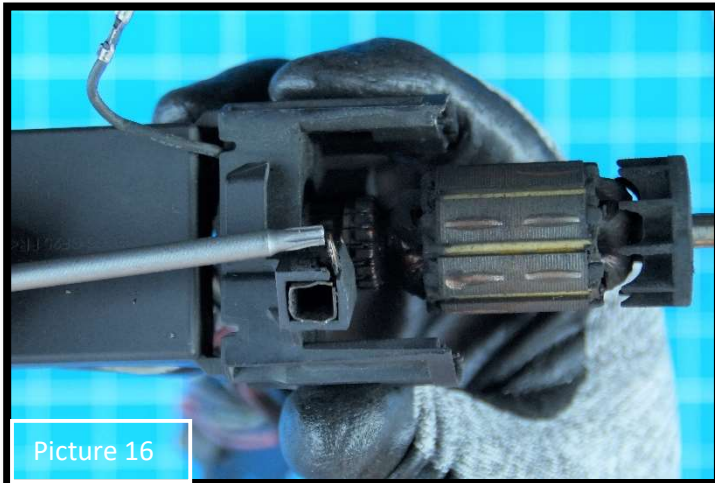
Remove the solder from the tab of both brush holders. Best practise is to use a wick wire.



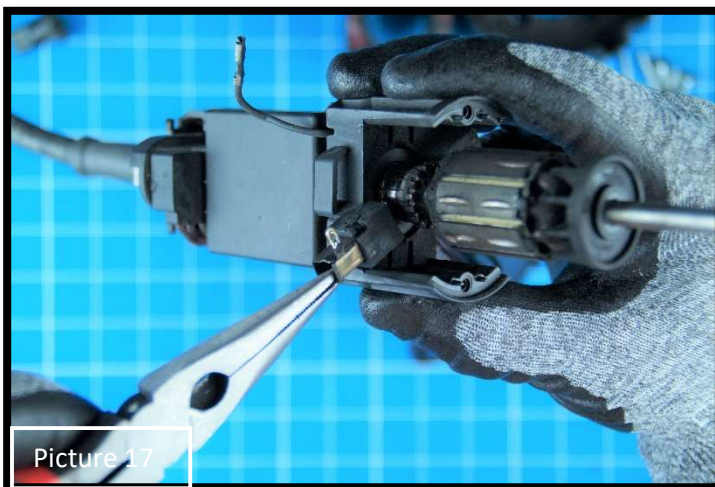
Disconnect both of the motor power cables.



Remove the stator assembly.



Before removing, gently lift the brush holder tab. Do this to both brush holders.



Using nose pliers pull out the brush holders from the brush holder support.



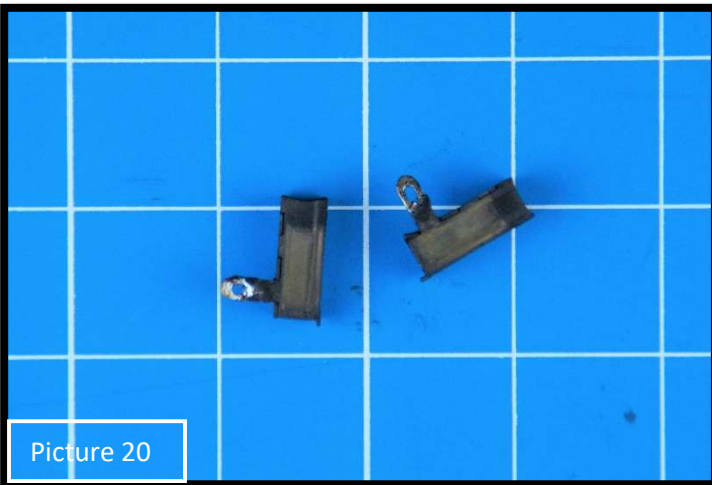
Remove the rotor with its ball bearing.



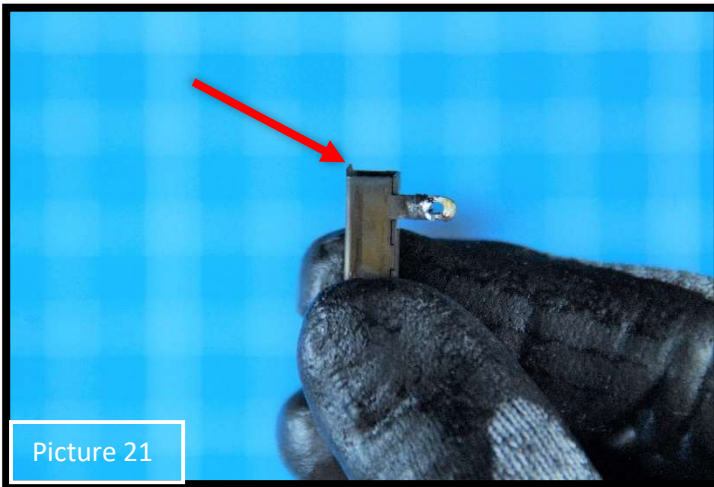
Detach the electronic circuit support which is snapped on the brush holder support. Best practise is to pry it with a pointy tool.

NOTE:
DO NOT USE EXCESSIVE FORCE!

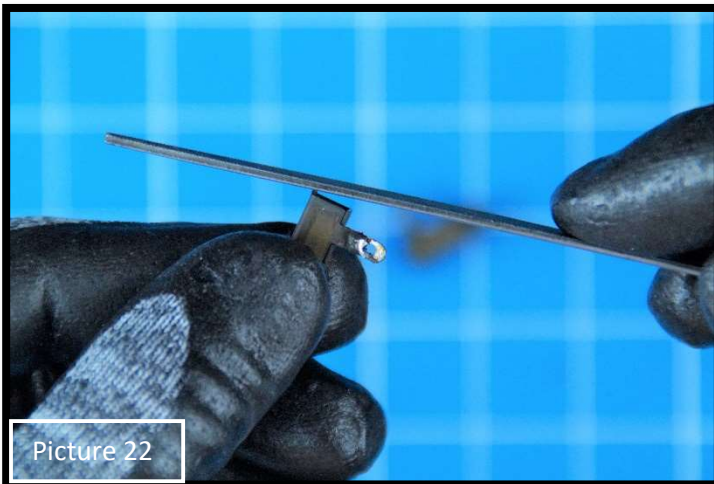
4.2 Brush holder modification



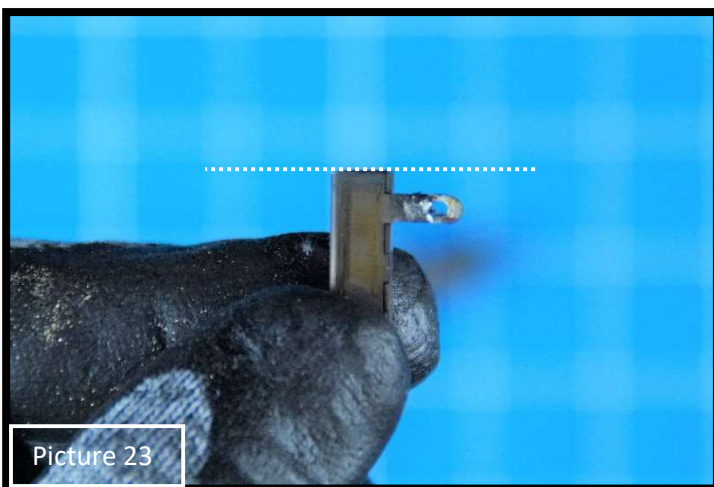
Two otherwise damaged brush holders.



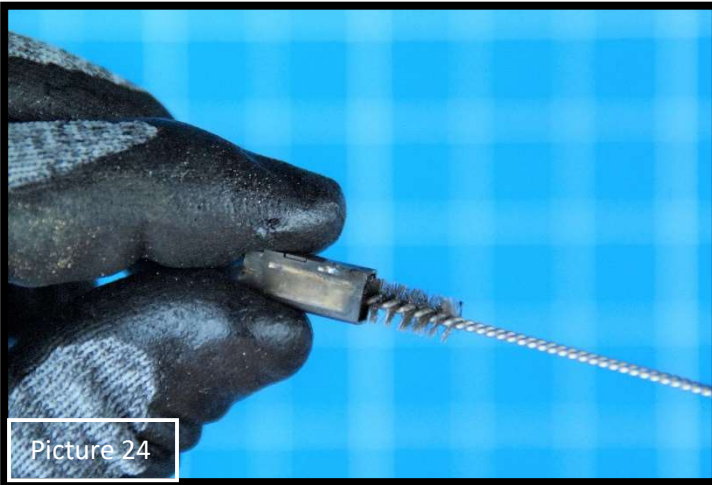
Piece of the brush holder that needs to be modified to fit the new brush holder support.



Using a file/sandpaper/table grinder remove the broken piece of the brush holder.



This is how the modified brush holder should look like.



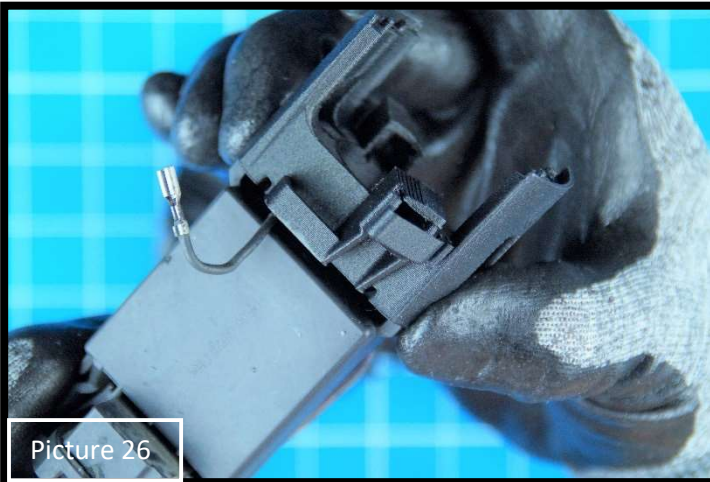
As a good practise clean the inside of the brush holder using steel tube brush.

4.3 Assembly

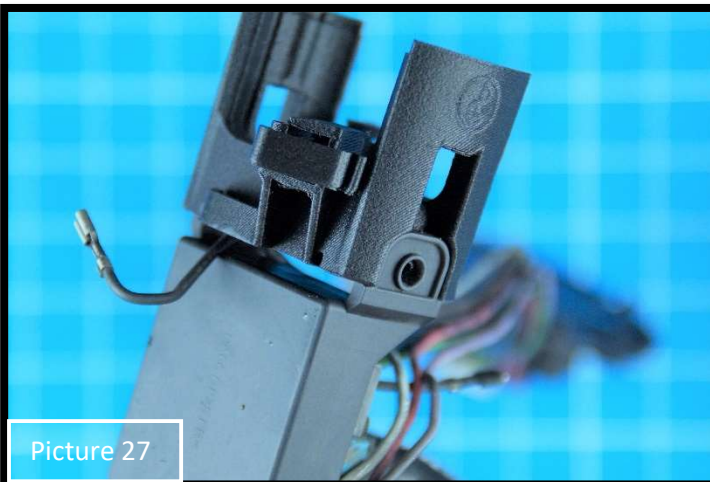


Snap in the new brush holder support.

NOTE:
DO NOT USE EXCESSIVE FORCE. YOU MAY BREAK THE TABS



After fitting the brush holder support press on to the tabs to ensure that they are snapped in place.



This is how properly fitted brush holder support should look like on both sides.

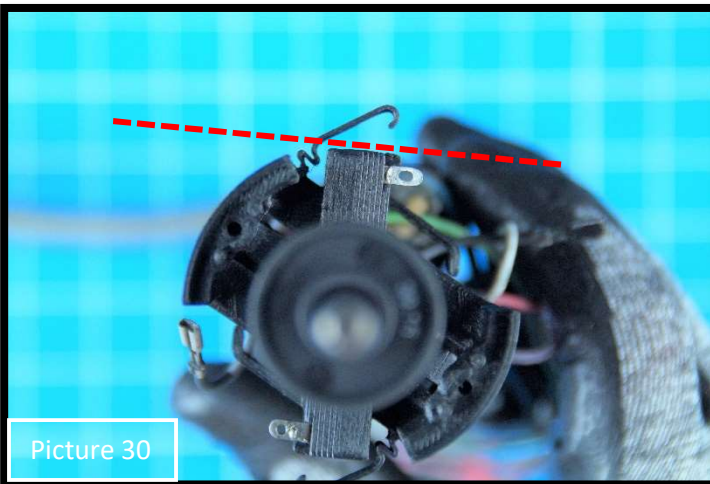


Press in the rotor.

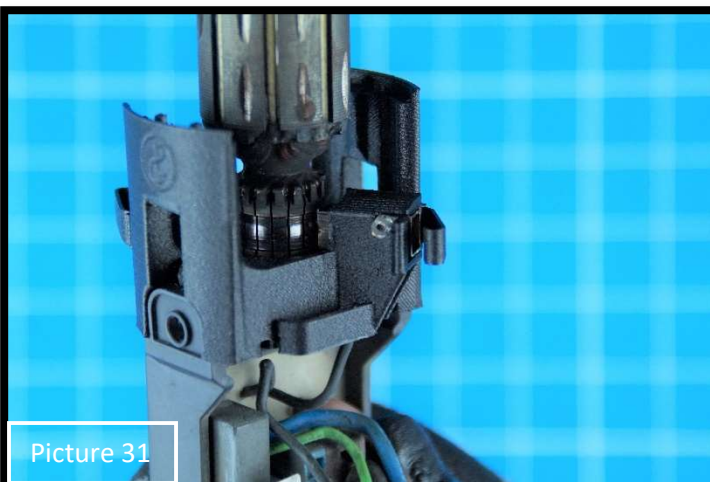


Push in the brush holders to the brush holder support.
Make sure the brush holder is parallel to the opening.

Push the brush holder until it sits flush in the housing.



Correctly installed brush holder will sit flush with the face of the housing.



Using nose pliers gently twist the brush holder tab in the clockwise direction about 45 degrees.
Then press it down about a millimetre.

This will keep the brush holder from sliding out of the housing.



Picture 32

Install the stator assembly.

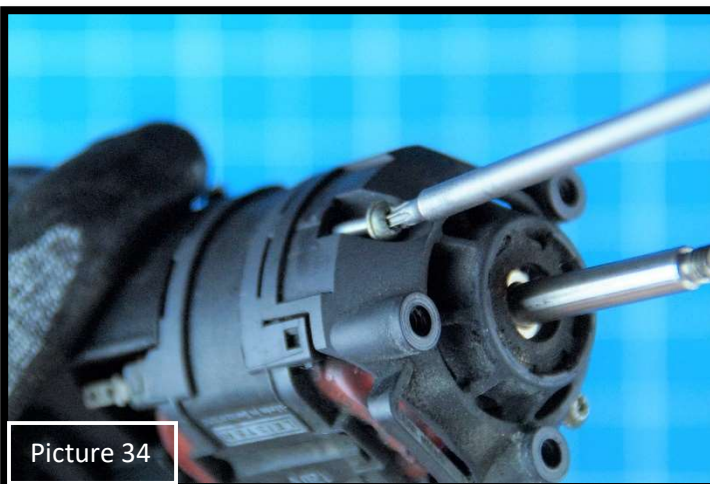
NOTE:

Make sure the resistor wire fits into the hole of the brush holder tab on both sides.



Picture 33

Install the top rotor support.

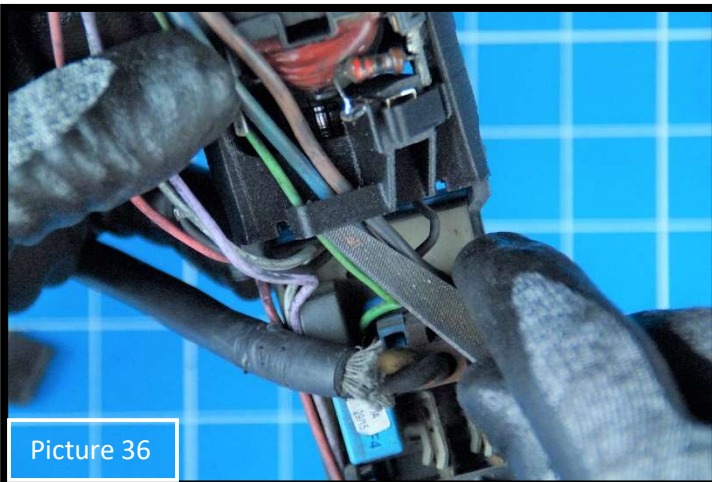


Picture 34

Using T10 Torx screwdriver screw in the two screws that holds the motor assembly.



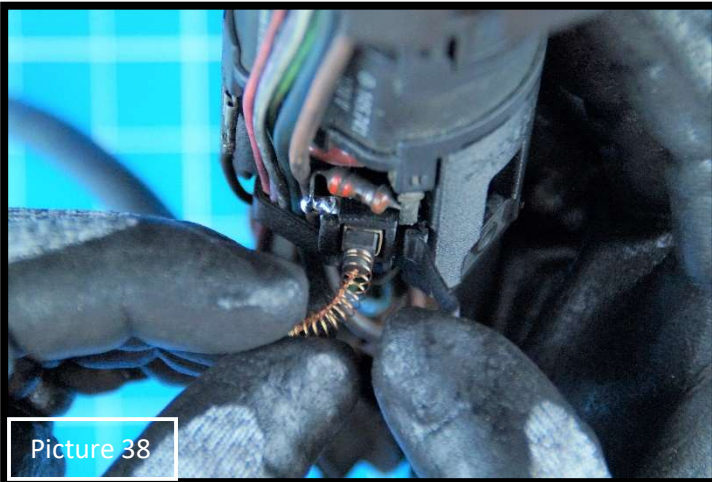
Solder the brush holder tab with the resistor leg.
Remember to do this on both sides!



Slide back in the wires in the retaining bracket in the correct order:
brown – blue – green – grey – violet
- red

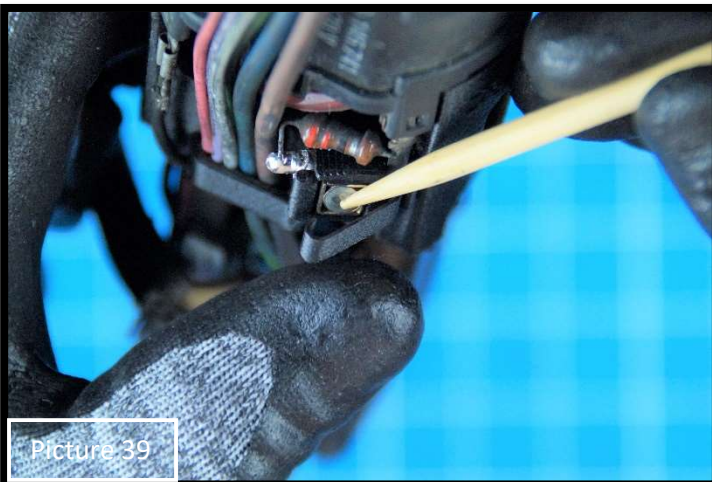


Connect both motor power cables.



Picture 38

Gently pull back the brush retaining clip with one hand and with the other install new carbon brush.

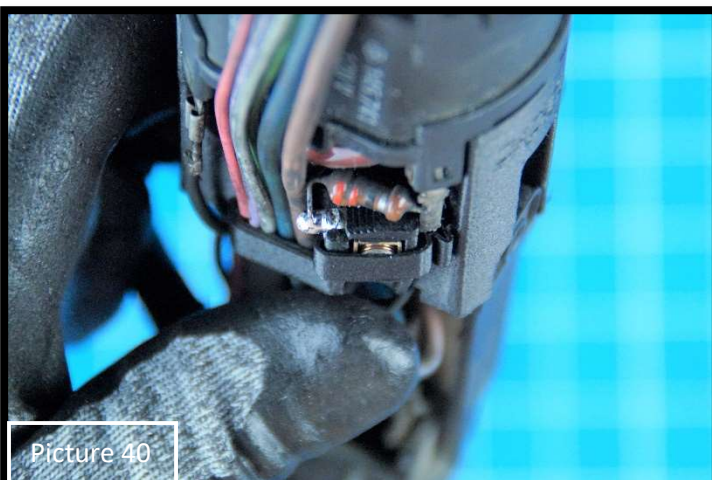


Picture 39

Compress the carbon brush spring using fingers and holding it with a thin tool and then close the retaining clip by pressing it to the brush holder body.

NOTE:

When compressing the carbon brush spring pay close attention to keep the shunt inside the spring perimeter.



Picture 40

Properly closed retaining clip

To complete the assembly, go through pictures 9 to 1.

5 Function test

Turn on the motor of your hot air tool and let it run for 10-15 min for the new carbon brushes to settle in.

Properly installed new brush holder support should result in motor power consumption of about 48 to 72 Watts (450 mA to 600 mA @120VAC).

6 Troubleshooting

| | |
|-----------------------------------|---|
| Inconsistent speed | <ul style="list-style-type: none"> • 8mm nut is not tight enough – tighten the nut • New carbon brushes are not settled in – give 10-15 minutes for carbon brushes to settle in • Worn out ball bearing • Motor assembly screws (Picture 34) are not fully tightened – tighten the screws |
| Excessive noise | <ul style="list-style-type: none"> • Worn out ball bearing • 8mm nut is not tight enough – tighten the nut |
| Vibrations | <ul style="list-style-type: none"> • Worn out ball bearing • Impellers are out of balance – loosen the 8mm nut and position impellers by rotating against each other in such way until the unbalance is gone |
| Excessive motor power consumption | <ul style="list-style-type: none"> • New carbon brushes are too tight – check if the carbon brushes are properly installed and the carbon brush wick wire is not caught between the spring • Worn out ball bearing • Motor assembly screws (Picture 34) are not fully tightened or tightened unevenly – tighten the screws |

