Print Head replacement Steps

**PRE-SERVICE PREPARATION**

Use proper anti-static precautions when

performing this replacement. Discharge

static electricity before beginning. Work on a static-free

surface

Tools Required:

• Scissors

• 2mm Hex bit or Hex wrench (Allen key)

• 2.5mm Hex bit or Hex wrench (Allen key)

• 3/32 inches Flathead bit or screwdriver

• T10 Torx bit or screwdriver (no longer than 4 inches)

**Step 1: Bring Printer to Safe State for Service**

a. Turn on the printer, and verify that the temperature icon

reads cool (empty, highlighted green), if it is not cool

(full thermometer, highlighted red) allow adequate time

for the nozzle and bed to cool.

b. Turn off the printer.

c. Unplug the printer.

**Step 2: Remove Top Cover on the Extruder**

a. Cut the filament just before the intake on the top of the

extruder.

b. Remove screw located on the right side hole using the

T10 Torx screwdriver. The first picture below shows the

location of the screw, the second picture a bottom view

of the area where the screw is located, circled in red,

is the screw that needs to be removed.

c. Unscrew the two screws on the top of the filament

guide bracket using the 2.5mm Hex wrench.

d. Remove the top cover.

e. Carefully unplug filament run out switch from the

extruder circuit board, ensuring to pull from the plastic

plug and not the wires; pulling the wires can damage

the connection to the extruder. Please see picture

Below.

**Step 3: Removing the Extruder Motor**

a. Disconnect the white extruder terminal block from the

extruder connector as shown in the picture below.

Ensure to grab the block and avoid pinching the wires.

b. Unscrew the two motor screws below using the Torx

screwdriver, as shown in the picture below. Please

ensure that the screws once fully unscrewed, should

still be left inserted in the extruder chassis hole.

c. Pull the extruder motor assembly away from the printer

(vertically) as shown in the picture below.

d. Cut the filament as close to the nozzle tube top as

possible and dispose of that piece of filament.

**Step 4: Nozzle Assembly Removal**

a. Unscrew the nozzle assembly screw with 2mm Hex

wrench as shown in the picture below, there is an

access pass-through for this screw located just to the

right of the blue level sensor motor. This is a set screw, loosen and do not remove completely. The leveling arm may need to be moved to access the set screw.

b. Unscrew the Torx screws that hold the fan baffle

assembly and pull down the assembly as shown in the

picture below.

c. Unplug the thermocouple connector (white) from the

extruder circuit board as shown in picture below.

d. Use flathead screw driver to disconnect heater wires

from extruder circuit board. Gently pull the wires out of

the green terminal block.

e. Push down nozzle tube and pull from bottom. (Note:

Ensure that sufficient time has been given for the nozzle

to cool). Grab the block heater as shown in the picture

to pull the nozzle assembly gently. Then, use your

fingers to straighten any bent wires and pull straight

down through the (encircled) cavity to remove the

nozzle assembly as shown below.

**Step 5: Insert New Nozzle Assembly**

a. Route the heater and the thermocouple wires through

the passage in the chassis as shown in the picture

under Step 4e (see encircled).

b. Bend the white heater wires, insert in the terminal block

and tighten the flathead screws as shown in picture

below. Gently pull the wires to check if the wires are

securely held in place.

c. Plug in the white thermocouple connector in the

extruder circuit board. Refer picture under Step 4d.

d. Push the nozzle assembly in the extruder chassis hole

such that the heater block is in the left hand side as

shown in the picture.

e. Tighten the nozzle assembly screw with 2mm Hex

wrench as shown in the picture under Step 4a.

f. Lineup the air baffle assembly with extruder chassis,

with the hole towards the user (front) as shown in the

picture below.Insert the fan baffle assembly and match

the screw holes with the holes on the chassis. Screw

the 2 Torx screws to tighten the fan baffle assembly.

Refer picture under Step 4b.

**Step 6: Replace Extruder Motor**

a. Place the extruder motor on the chassis. Extruder motor

screw holes should line up with holes in the chassis.

b. Tighten the two hex screws with 2.5mm Hex wrench.

Refer picture under Step 3b.

c. Plug in the white terminal block on the extruder connector

as shown in picture under Step 3a (encircled).

**Step 7: Replace Top Cover**

a. Attach the filament runout switch wires of the cover to

the extruder circuit board. Refer picture under Step 2d.

b. Place the new top cover over the extruder.

c. Replace the two 2mm screws onto the cover. Refer picture

under Step 2c.

**Step 8: Test the Machine**

• Plug in and turn on the 3D45.

• Navigate to “Filament” and follow the on screen instructions

to load filament.

• Build the “Test Print” file on the machine to ensure the

3D45 printer is working correctly.