



Objet Geometries Ltd

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# Alaris30 Preventive Maintenance Kit

Dear support engineer,

This kit contains supplies needed for the preventive maintenance (PM) visit. A complete PM procedure is performed on each Alaris30 printer every 1000 printing hours or once a year, whichever comes first. Preventive maintenance increases productivity by reducing printer downtime.

As you perform the preventive maintenance procedures, remember to reset the maintenance counter. When you are finished, verify that the "*PM is Due*" alert does not appear in the printer interface.

**Important:** When you have completed the maintenance visit, fill in an FSR form and return it to your Objet® regional office.

**Note:** Cleaning cloths, transparency sheets, and pink paper, are supplied in the start-up kit.

Please take a moment to become familiar with the contents of the preventive maintenance kit. We hope it will enable you to service the printer efficiently and competently.

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The Alaris30 Preventive Maintenance Kit (KIT-04020-S) contains the following items:

Part No	Description	Quantity
DOC-04005	Maintenance Kit User Notes	1
ASY-04262-S	Wiper Blade Assembly	1
ASY-04059-S	Odor Filter Assembly	1
ASY-04110	Waste Container	6
FLT-00012	18 $\mu$ Filter	2
FLT-04000-S	Filter for Head Driver Cooling Fan	2
PNM-01006-S	Norprene <sup>®</sup> Material Pump Tubing (1.5 m)	1
MSC-00107	Cleaning Pad for UV Glass (3M <sup>®</sup> sponge)	1
KIT-04017-S	3 Roller Knives	1
SHM-03899-S	UV Shadow Bracket	1
CBL-02069	Cable ties	10

## Alaris30 Preventive Maintenance Procedures

### Roller Assembly

- Check the roller surface. If it is rough, smooth it as instructed in the "Maintenance" chapter of the Service Guide (DOC-04204).
- Clean the roller surface.
- Clean the roller waste collector (bath) and the area surrounding the roller.
- Replace the roller blade on both roller waste collectors (see the "Maintenance" chapter of the Service Guide, DOC-04204).
- Make sure the blade is clamped in place straight.
- Make sure the roller waste collector straws are in place.
- Check the suction at the three roller waste collector straws.

### Wiper Assembly

- Replace the wiper blade using the Wiper Cleaning wizard. Make sure you seal front end of the wiper waste collector with paste as instructed in the "Maintenance" chapter of the Service Guide (DOC-04204).
- Check if the wiper needs calibration. If necessary, adjust the wiper (see the "Maintenance" chapter of the Service Guide, DOC-04204).
- Purge the heads and verify that they are dry.
- Clean the wiper waste collector (bath).

### Material Pumps

- Replace the 2 material filters (model and support).  
**Note:** Make sure you connect the inlet and outlet of the filter correctly.
- Replace the material-and waste-pump tubes.  
**Note:** To replace the model material-pump tubes it is necessary to remove the model pump assembly.
- Check that the print block fills properly with support and model materials.
- Purge the print heads twice.
- IMPORTANT:** Make sure you connect the suction and the pressures sides of the pumps to the correct locations.
- Inspect the tube connections and make sure that there are no leaks.

### Print Heads

- Clean the print heads with the Head Cleaning wizard.
- Inspect the orifice plates for peeling and other problems.
- Perform the Pattern Test.

### Cartridge Drawer

- Calibrate the load cells for both full and empty weight levels. If necessary, re-calibrate.
- Check the waste container. If it is full, replace it.
- Inspect the needles. Make sure they are straight and firmly installed.

### Vacuum System

- Check the following measurements and calibrate if necessary, calibrate—
  - The voltage to the vacuum pump: 5.3 VDC,  $\pm$  0.2 VDC
  - The water: 6.0 cm of water,  $\pm$  0.2 cm
  - The air-pressure level: 3 PSI
- Check if the vacuum-sensor reading matches the measured vacuum level. If not, calibrate the sensor.

## UV Lamp

- Inspect the black strip in the UV reflector (SHM-03899-S). If the black paint is faded, replace it.
- Clean the glass lens of the UV lamp assembly with the special 3M cleaning pad (MSC-00107).
- Calibrate the UV lamp intensity.

## Printing Parameters

- Calibrate the printing position.
- Perform a weight test and adjust the LayerHeight parameter(s).  
**Note:** As you perform the weight test, check the printed tests for blocked nozzles.

## Axes

- Make sure the axes move smoothly and easily.
- Verify X encoder zero position.
- Inspect the cables and hoses. Make sure the electrical cables are firmly connected.
- Inspect the X-chain and Y-chain (Iigus) hoses and cables for mechanical damages.

## Fans

- Turn on the model and UV cooling fans. Inspect the fans and make sure they are working properly.

## Head Driver Cards

- Turn off the Electrical Box Fan (*Maintenance>Actuators & Sensors Control*).
- Replace the filters for the head driver cooling fan (FLT-04000-S).

## Printer Calibrations (Transparency Tests)

- Print the Transparency Test sheet and check the printer calibrations using the printed sheet. Make adjustments as necessary.

## General

- Remove and clean the Z-axis cover.
- Inspect the printer for leaks and clean up any spills.
- Inspect the entire 3-D printing system and the surrounding environment.
- Replace the odor filter (ASY-04059-S).
- Check Z-Start.
- Send a test print job.
- Review the operator maintenance procedures with the operator.

## Printer Software

- Back up the Configs folder and the Modes folder to the following locations:
  - Built-in printer computer—D:\backups
  - Server workstation—C:\backups
- Reset the "PM is Due" counter.
- Restart both computers.