



Co-funded by
the European Union



areola

Pre-build Checklist

Pre-build Checklist Overview



Before setting up for a build, it's important to make sure the machine is ready as well as keeping track of all the information regarding consumables and other information for traceability purposes.

This ensures that, in the event of an error, the main cause and the responsible person may be identified.

Checklist Machine Setup EOS M 290 

Checklist Number: _____ Checklist Date: _____

Machine Set-Up

General

Date: _____ Machine: _____

Operator: _____ Selected Machine Material: _____

Powder Material: _____ Powder Charge: _____

Powder Sieving Cycles: _____ Amount of Powder in Dispenser (kg): _____

Build Plate Material: _____ Build Plate No.: _____

Laser Working Hours: _____ Machine Working Hours: _____

Recoating Blade: HSS Ceramic Brush 4 Used Since: _____

Nozzle Type: Grid Holes 4 Used Since: _____

Blade ID: _____ Nozzle ID: _____

Laser Measurements Kit (LMK) EOS-PM-No.: _____ Calibration due date: _____

LMK Calibration Service No.: _____

LMK Measurements at 22.0°C: 1. [_____ W/ _____ °C]
2. [_____ W/ _____ °C]
3. [_____ W/ _____ °C]

Laser Power Monitoring [W]: _____

Building platform position: _____ Dispenser platform position: _____

Collector platform position: _____

Starting layer is prepared: Yes No

Annual Machine service of EOSINT M290 is done Yes No

Six month inspection is done Yes No

Monthly inspection is done Yes No

Weekly inspection is done Yes No

Checklist_Machine Set-Up_M290.docx Page 1 of 3

Checklist Machine Setup EOS M 290 

Machine is prepared for Job start Yes No

Checklist_Machine Set-Up_M290.docx Page 2 of 3

Pre-build Checklist

Step 1 – Write Down Basic Information



First, write down the following basic information:

- Checklist number and date
- Machine
- Operator
- Selected machine material
- Job Name
- Project/Customer
- Job start and end time
- Powder Material
- Selected Machine Material
- Powder Charge
- Laser working hours
- Machine working hours
- Powder sieving cycles
- Amount of powder in dispenser





Pre-build Checklist

Step 2 – Build Plate Information



1. Register the material
of the build plate

2. Register the build
plate ID

3. Measure build plate
thickness and flatness



Note: This information can be found different places, depending
on the brand and model of the build plate



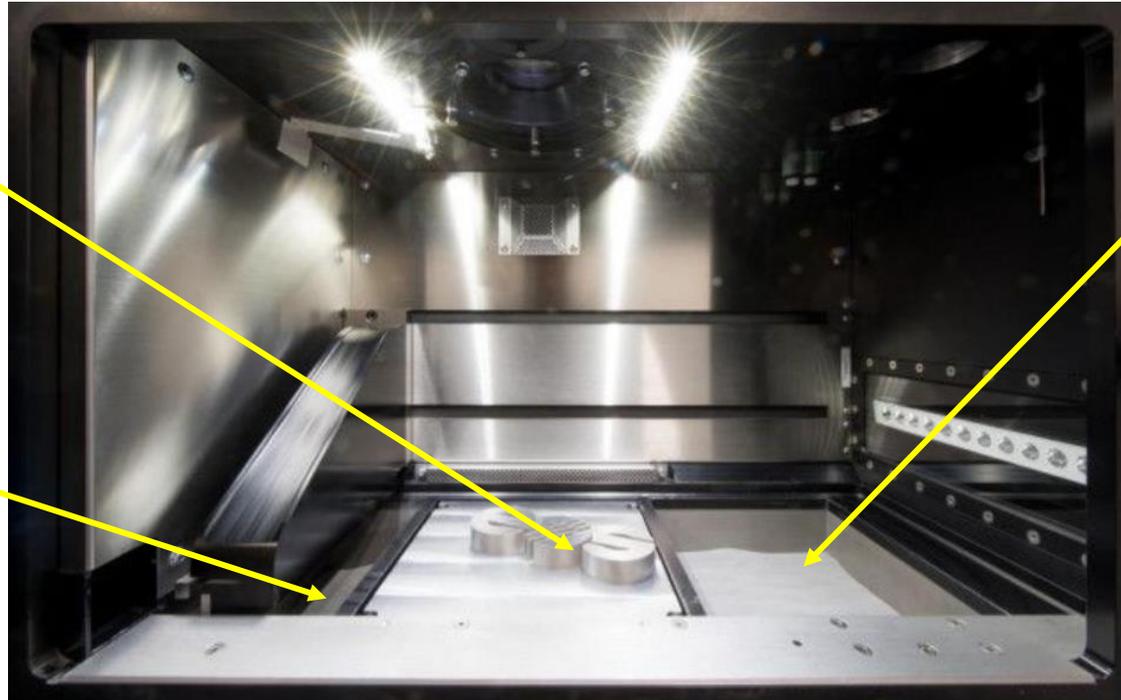
Pre-build Checklist

Step 3 – Build Chamber Information



1. Register the build plate position in the machine

3. Register the collector platform position in the machine



2. Register the dispenser platform position in the machine

4. Once this information is noted, the operator may choose to prepare the first layer

EOS M290 Build Chamber

Pre-build Checklist

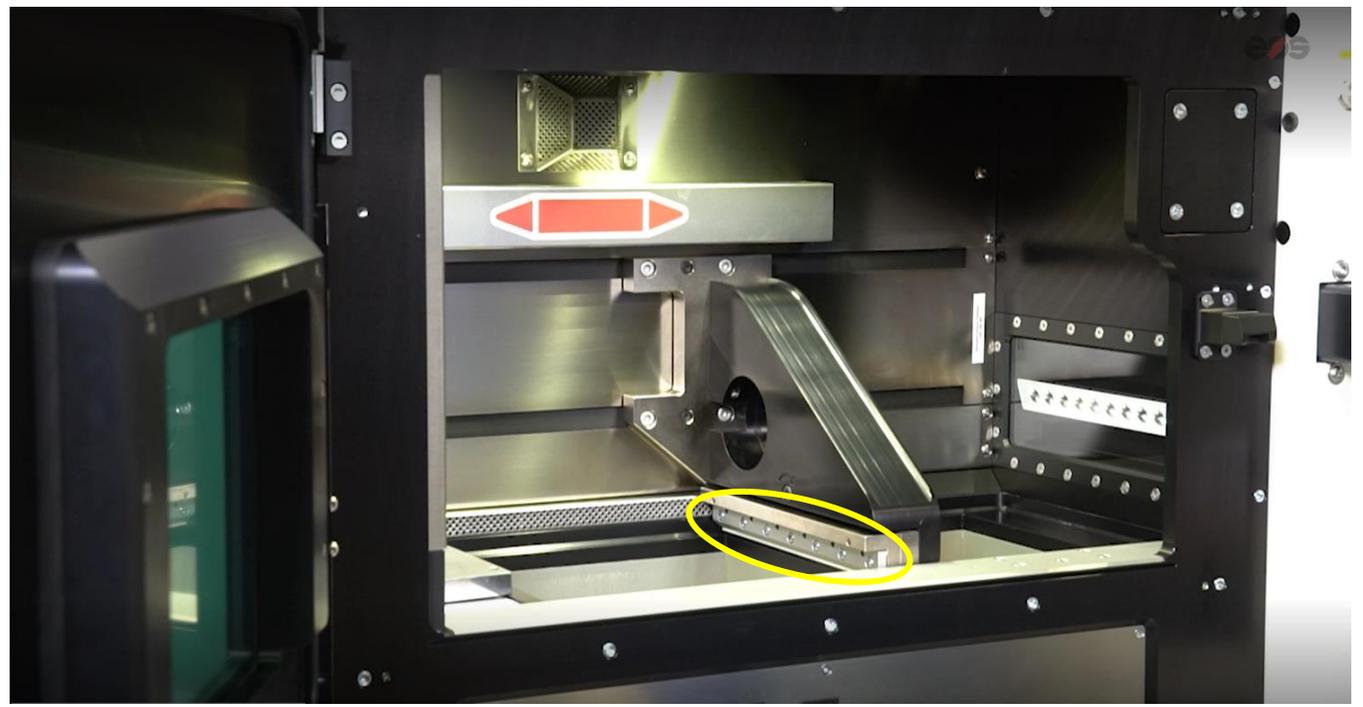
Step 4 – Recoating Blade Information



1. Register the type of recoating blade (HSS, Ceramic or Brush) and age

2. Register the blade ID

3. Register the blade position



EOS M290 Build Chamber

Pre-build Checklist

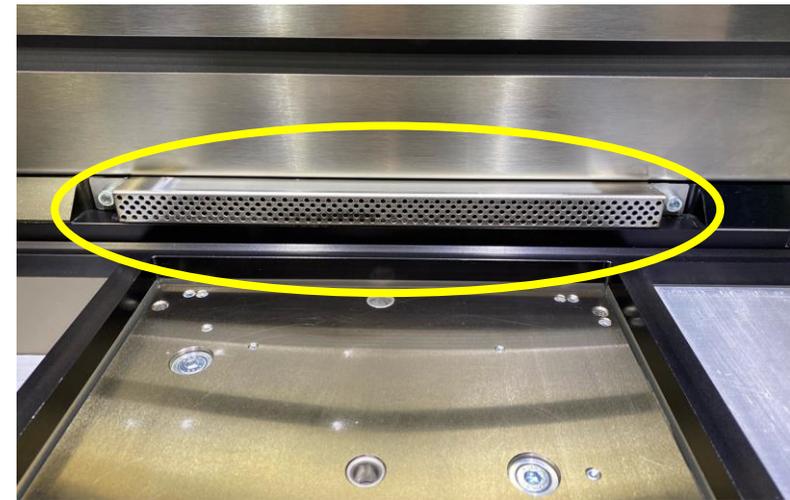
Step 5 – Nozzle Information



1. Register the type of nozzle (grid or holes)

2. Register the nozzle or grid ID, if relevant

3. Register the first time the nozzle or grid was used, if relevant



EOS M290 Gas Flow Nozzle



EOS M290 Optional Grid Type Nozzle

Pre-build Checklist

Step 6 – Laser Information



1. Register the Laser Measurement Kit serial number, its respective calibration due date and calibration service number

2. Perform 3 measurements with the LMK at $\pm 0.5^{\circ}\text{C}$ of ambient temperature and register the values



Pocket Monitor

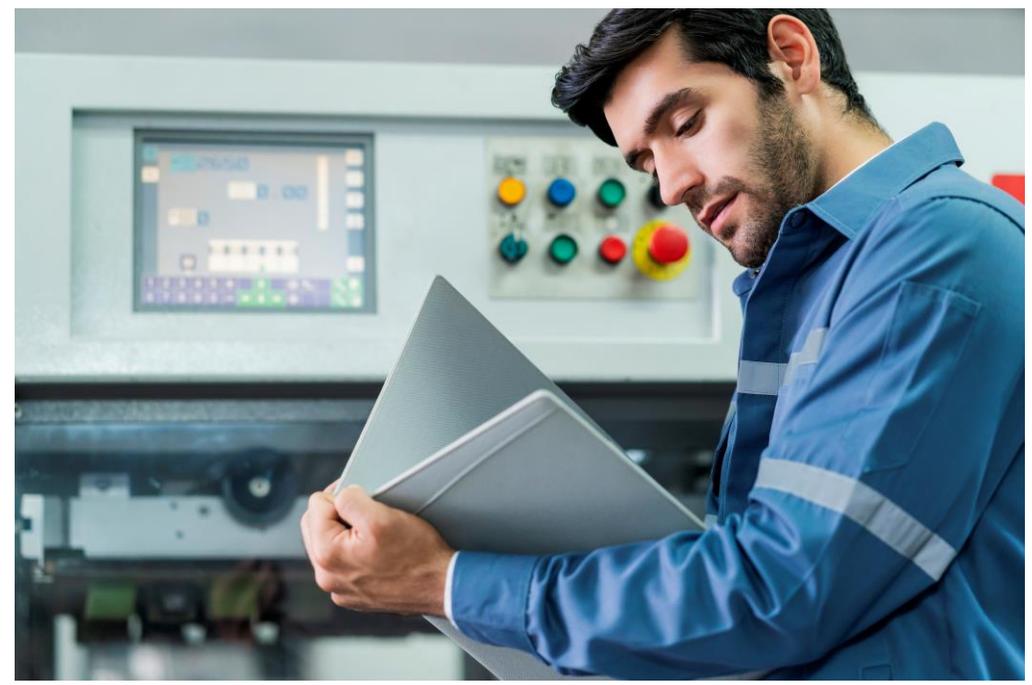
Pre-build Checklist

Step 7 – Maintenance Status of the Machine



Register the status of the periodic maintenance processes that the machine is subject to:

- Annual Machine Service
- Six Month Inspection
- Monthly Inspection
- Weekly Inspection



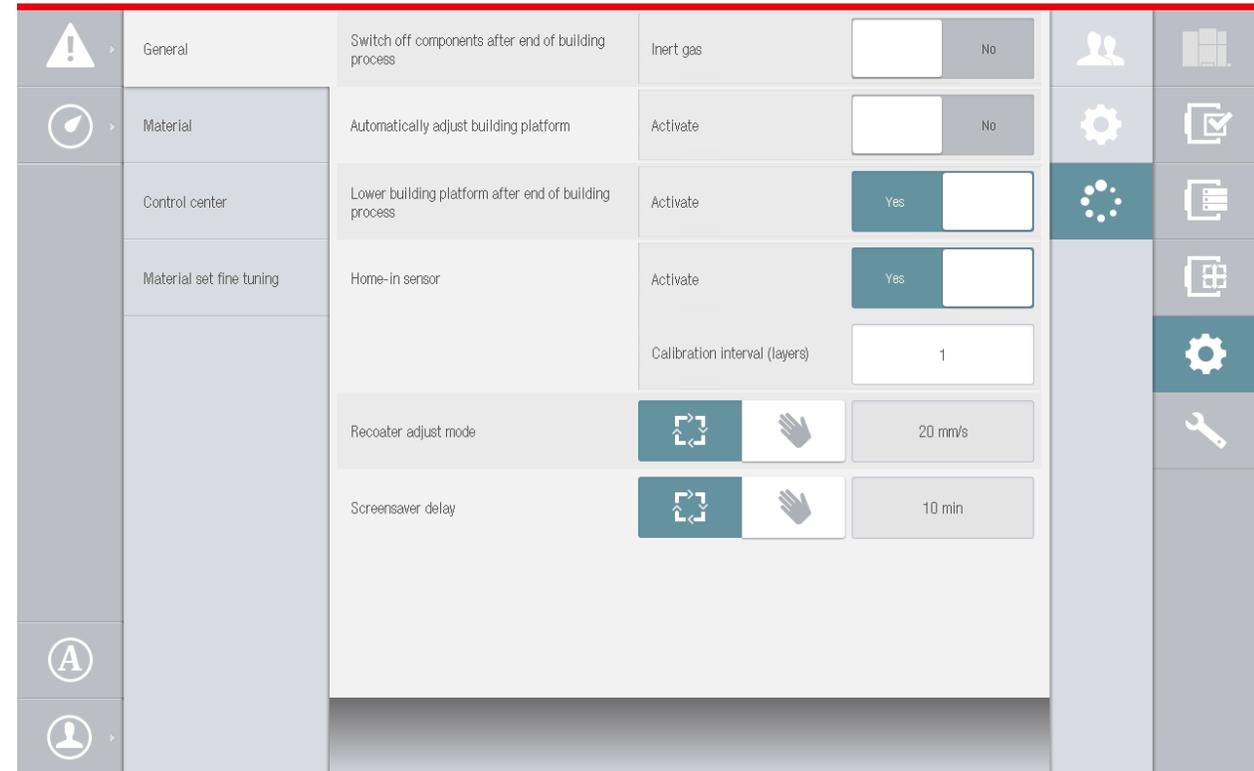
Pre-build Checklist

Step 8 – Process Settings

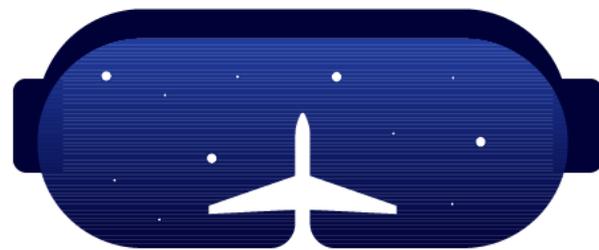


Before the building starts, it's important to write down the following machine settings for traceability purposes:

- Laser Power Monitoring status
- Laser Power Monitoring Measuring interval is set to 10
- Home-in-sensor status
- Home-in-sensor calibration interval (layers) is set to 5
- Recoater adjust mode (automatic/manual)
- EOSTATE Powder Bed status
- Material batch tracking status
- Dosing factor mode (automatic/manual)



EOS M290 – Graphical User Interface



areola

www.areola-am.eu



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Commission. Neither the European Union nor the European Commission can be held responsible for them. The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflect the views only of the authors, and the Commission cannot be held responsible for any use which may be made of the information contained therein.