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## **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

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Checklist Machine Setup EOS M 290



Machine is prepared for Job start☐ Yes ☐ No

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# Pre-build Checklist

## Step 1 – Write Down Basic Information

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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



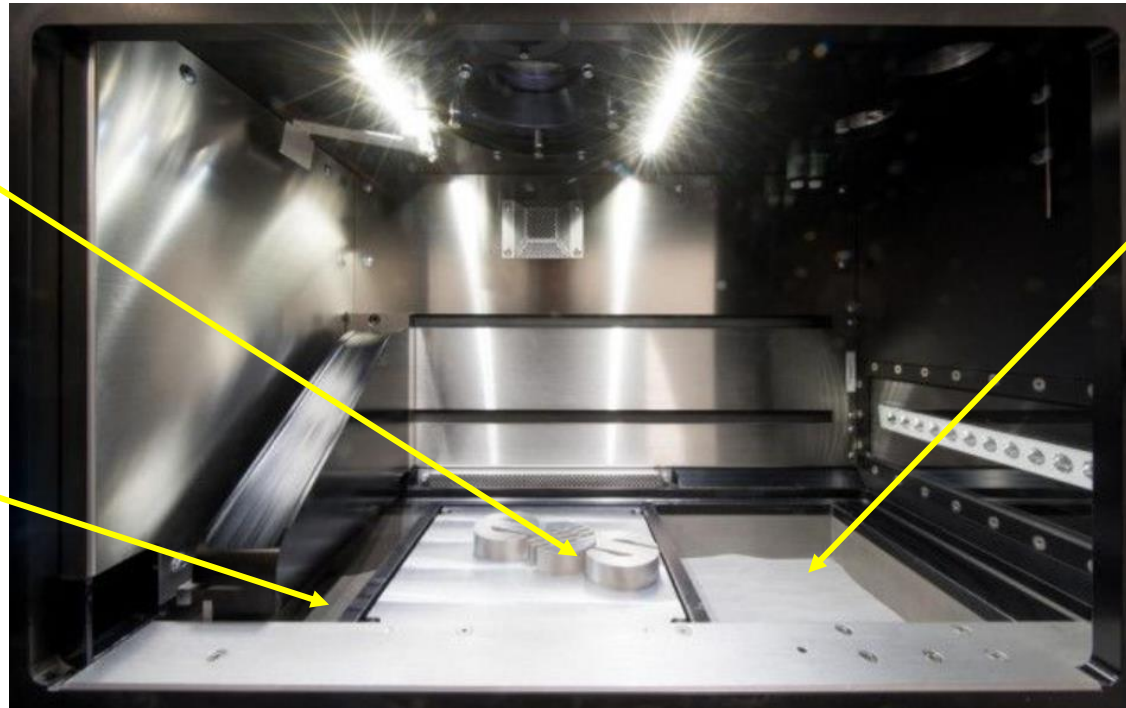
# Pre-build Checklist

## 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

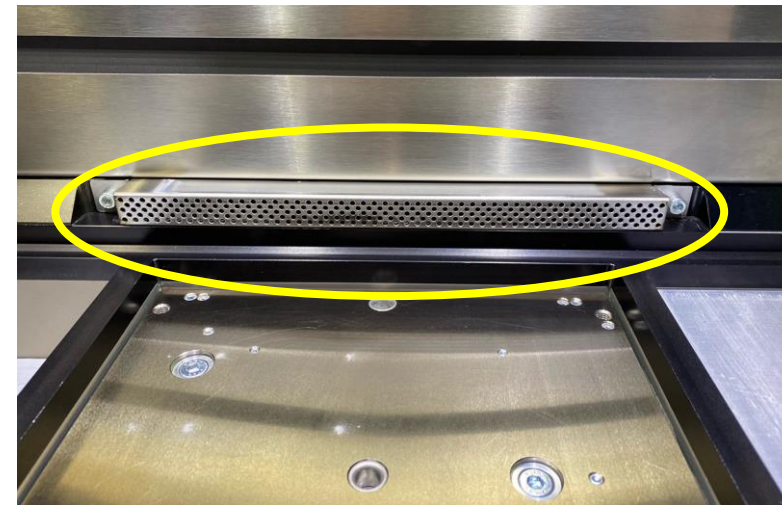
## Step 5 – Nozzle Information



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

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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

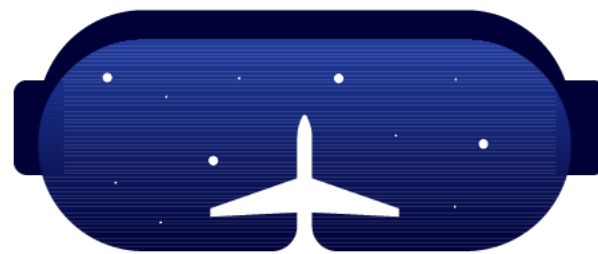


Before the building starts, it's important to write down the following machine settings for traceability purposes:

- 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)

Category	Setting	Value
General	Switch off components after end of building process	No
Material	Automatically adjust building platform	No
Control center	Lower building platform after end of building process	Yes
Material set fine tuning	Home-in sensor	Yes
	Calibration interval (layers)	1
	Recoater adjust mode	20 mm/s
	Screensaver delay	10 min

EOS M290 – Graphical User Interface



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