

# Simplify3D 5.0+

Gambody printing recommendations for:  
MWO Roughneck 3D Printing Model | Assembly



Below you'll find detailed slicing settings for Simplify3D 5.0+ to help you get the best results when printing this model.

These settings are optimized specifically for this 3D model and should work well in most cases. But they're not set in stone - depending on your printer, material, or even the specific part you're working with, feel free to tweak things.

Every 3D printing setup is different, so feel free to make the changes that work best for your machine. When in doubt, check your printer's manual - or reach out to our Support Team at [support@gambody.com](mailto:support@gambody.com)

We'll be happy to help with any questions, suggestions, or issues you may have regarding the recommended printing settings!

## Extruder

<b>General</b>	
<b>Nozzle diameter</b>	0.4 mm
<i>Your current nozzle diameter</i>	
<b>Extrusion Multiplier</b>	0.98
<i>You have to calibrate this parameter using Gambody test models.</i>	

<b>Extrusion Width</b>	
<b>Automatic</b>	✓
<b>Ooze Control</b>	
<b>Use Retraction</b>	✓
<i>You need to calibrate this parameter using Gambody test models. These values are average values for a Direct Drive extruder; for a Bowden extruder, the values should be increased.</i>	
<b>Retract Distance</b>	<b>0.80 mm</b>
<b>Retract Vertical Lift</b>	<b>1.00 mm</b>
<b>Retract Speed</b>	<b>40.00 mm/sec</b>

## Layer

<b>General</b>	
<b>Primary Extruder</b>	<b>Primary Extruder</b>
<b>Layer Height</b>	<b>0.12 - 0.20 mm</b>
<i>For better quality use 0.12 mm layer height, for fast printing use 0.2 mm layer height. For pins and the Ge connectors, use 0.2 layer height.</i>	
<b>Top Solid Layers</b>	<b>5</b>
<i>For 0,2 Layer Height</i>	
<b>Bottom Solid Layers</b>	<b>5</b>

<i>For 0,2 Layer Height</i>	
<b>Outline Perimeters</b>	<b>2</b>
<i>To increase the strength of the print parts, use Outline Perimeters: 3</i>	
<b>Adaptive Layer Height</b>	
<b>Enable Adaptive Layer Heights</b>	
<i>You can enable this parameter to print rounded or spherical models, as well as character models.</i>	
<b>Minimum Adaptive Layer Height</b>	<b>0.08 mm</b>
<b>Maximum Adaptive Layer Height</b>	<b>0.24 mm</b>
<b>Adaptive Smoothing Level</b>	<b>5.0</b>
<b>Dimensional Adjustments</b>	
<b>Horizontal Outer Size Compensation</b>	<b>0.00 mm</b>
<i>Use this option only if your parts are too tight. but better calibrate your printer extrusion</i>	
<b>Horizontal Inner Size Compensation</b>	<b>0.00 mm</b>
<i>Use this option only if your parts are too tight. but better calibrate your printer extrusion</i>	

<b>First Layer Settings</b>	
First Layer Height	100.0 %
First Layer Width	150.0 %
First Layer Speed	30.0 %
<b>Start Point Selection</b>	
Optimize start points for fastest printing	✓
Restrict start points to preferred regions	✓
<b>Printing Order</b>	
Outline Printing Order	Inside-Out
Island Printing Order	Minimize Print Time

### Additions

<b>Use Skirt/Brim</b>	
Skirt Extruder	Primary extruder
Skirt Layers	1 layers
Skirt Offset	0.00 mm
<i>Use 2 and more if you want to create skirt instead brim</i>	
<b>Skirt Outlines</b>	

<i>1-2 for skirt and 10-20 for brim</i>	
Use Raft	X
Use Prime Pillar	X
<i>Use for wipe nozzle if you need</i>	
Use Ooze Shield	X
<i>Use For ABS filament</i>	

## Infill

Sparse Internal Infill	
Internal Infill Pattern	Gyroid
Internal Pattern Rotation	0.0 °
Infill Percentage	7.0 %
<i>For pins and connectors use 50% Infill</i>	
Infill Extrusion Width	100.0 %
Combined Infill Layers	2 layers
Outline Overlap	15.0 %
Minimum Infill Length	5.00 mm
Dense Internal Infill	

Dense Infill Layers	0 layers
Dense Infill Percentage	50.0 %
Solid Layers	
External Infill Pattern	Rectilinear
External Pattern Rotation	0 °
Solid Infill Threshold Area	25.00 mm <sup>2</sup>
Solid Infill Extra Expansion	0.00 mm
Add Solid Diaphragms	

## Support

General	
Support Extruder	All Extruders
Support Infill Pattern	Aligned
Support Pattern Rotation	0.0 °
Support Infill Percentage	30.0 %
Support Outlines	0.00
Base Support Layers	0 layers
Support inflation Distance	-0.01 mm

Combined Support Layers	1 layers
Dense Supports	
Upper Dense Support Layers	0 layers
Lower Dense Support Layers	0 layers
Dense Support Infill Percentage	70.0 %
Dense Support Extra Expansion	0.00 mm
Part Separation	
Support Horizontal Offset from Part	0.24 mm
<i>Top Z distance = 1-1.3 layer Height. If the supports are hard to remove, try increasing this setting by 0.1-0,4 mm</i>	

## Temperature

Extruder	
General	
Enable temperature controller	✓
Temperature Number	T0
Temperature Type	Extruder
Stabilize temperature controller at beginning of print	✓

Per-Layer Setpoints	
<i>Calibrate your filament and detect optimal temperature for it</i>	
Temperature	230.0 °C
Idle Cooldown	
Cooldown Extruder While Ide	✗
Heated Bed	
General	
Enable temperature controller	✓
Stabilize temperature controller at beginning of print	✓
Per-Layer Setpoints	
<i>Average temperature for PLA filament</i>	
Temperature	60.0 °C
Idle Cooldown	
Cooldown Extruder While Ide	✗

## Cooling

Per-Layer Setpoints	
Fan Speed Setpoints	

<b>Setpoint 1</b>	
<b>Fan Speed Percentage</b>	<b>0.0 %</b>
<b>At layer</b>	<b>1 layers</b>
<b>Setpoint 2</b>	
<b>Fan Speed Percentage</b>	<b>100.0 %</b>
<b>At layer</b>	<b>2 layers</b>

## Speeds

<b>General</b>	
<p><i>The parameters in this tab vary greatly, it all depends on the quality of your printer. For example, if you have a classic Ender3, stick to the minimum parameters, but if you have a newer printer, for example Anycubic cobra 3 v3, you can select the maximum recommended values</i></p>	
<b>Default Printing Speed</b>	<b>40 - 160 mm/sec</b>
<b>Outer Perimeter Speed</b>	<b>50.0 %</b>
<b>Inner Perimeter Speed</b>	<b>80.0 %</b>
<b>Solid Infill Speed</b>	<b>80.0 %</b>
<b>Sparse Support Speed</b>	<b>80.0 %</b>
<b>Dense Support Speed</b>	<b>70.0 %</b>
<b>XY Travel Speed</b>	<b>200.0 mm/sec</b>

<b>Z Travel Speed</b>	15.0 mm/sec
<b>Time Estimation</b>	
<i>Settings for advanced users, change these parameters only if you have sufficient 3D printing expertise.</i>	
<b>XY Acceleration</b>	500.0 - 3000.0 mm/sec <sup>2</sup>
<b>Z Acceleration</b>	150.0 - 600.0 mm/sec <sup>2</sup>
<b>Extruder Acceleration</b>	1000.0 - 4000.0 mm/sec <sup>2</sup>
<b>XY Jerk</b>	10.00 - 25.00 mm/sec
<b>Z Jerk</b>	0.30 - 0.50 mm/sec
<b>Extruder Jerk</b>	5.00 - 5.00 mm/sec
<b>Speed Overrides</b>	
<b>Reduce print speed for excessively quick layers</b>	<input checked="" type="checkbox"/>
<b>Begin reducing speed for layers below</b>	15.0 sec
<b>Minimum quick layer speed percentage</b>	20.0 %
<b>Reduce print speed for short perimeters</b>	
<b>Begin reducing speed for perimeters below</b>	80.00 mm

<b>Minimum short perimeter speed percentage</b>	<b>50.0 %</b>
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## Other

<b>Bridging</b>	
<b>Unsupported area threshold</b>	<b>50.00 mm<sup>2</sup></b>
<b>Extra inflation distance</b>	<b>1.00 mm</b>
<b>Bridging extrusion multiplier</b>	<b>95.0 %</b>
<b>Bridging speed multiplier</b>	<b>30.0 %</b>
<b>Filament Properties</b>	
<b>Filament diameter</b>	<b>1.75 mm</b>

## Advanced

<b>Thin Wall Behavior</b>	
<b>External Thin Wall Type</b>	<b>Perimeters only</b>
<b>Internal Thin Wall Type</b>	<b>Allow gap fill</b>
<b>Allowed Perimeter Overlap</b>	<b>10.0 %</b>
<b>Single Extrusions</b>	
<b>Minimum Single Extrusion Length</b>	<b>1.00 mm</b>
<b>Minimum Single Extrusion Width</b>	<b>50.0 %</b>

Maximum Single Extrusion Width	200.0 %
Single Extrusion Endpoint Extension	0.20 mm
Ooze Control Behavior	
Only retract when crossing open spaces	✓
Force retraction between layers	✓

*Best regards,  
your Ge team*