

Category	Optics
OS	N/A
Revision	V1.0
Model	S290/SGLSHybrid/S400
Date	2024/3/27

How to make dark marking effect on metal with Fiber LASER



Generally, LASER has to work with standard focal length to get the highest power density and smallest spot size in order to get the best quality of output.

However, for the purpose getting dark marking effect on metal materials, we have to deliberately use a non-standard focal length to work.

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Reminder: Wear goggle before operating LASER.

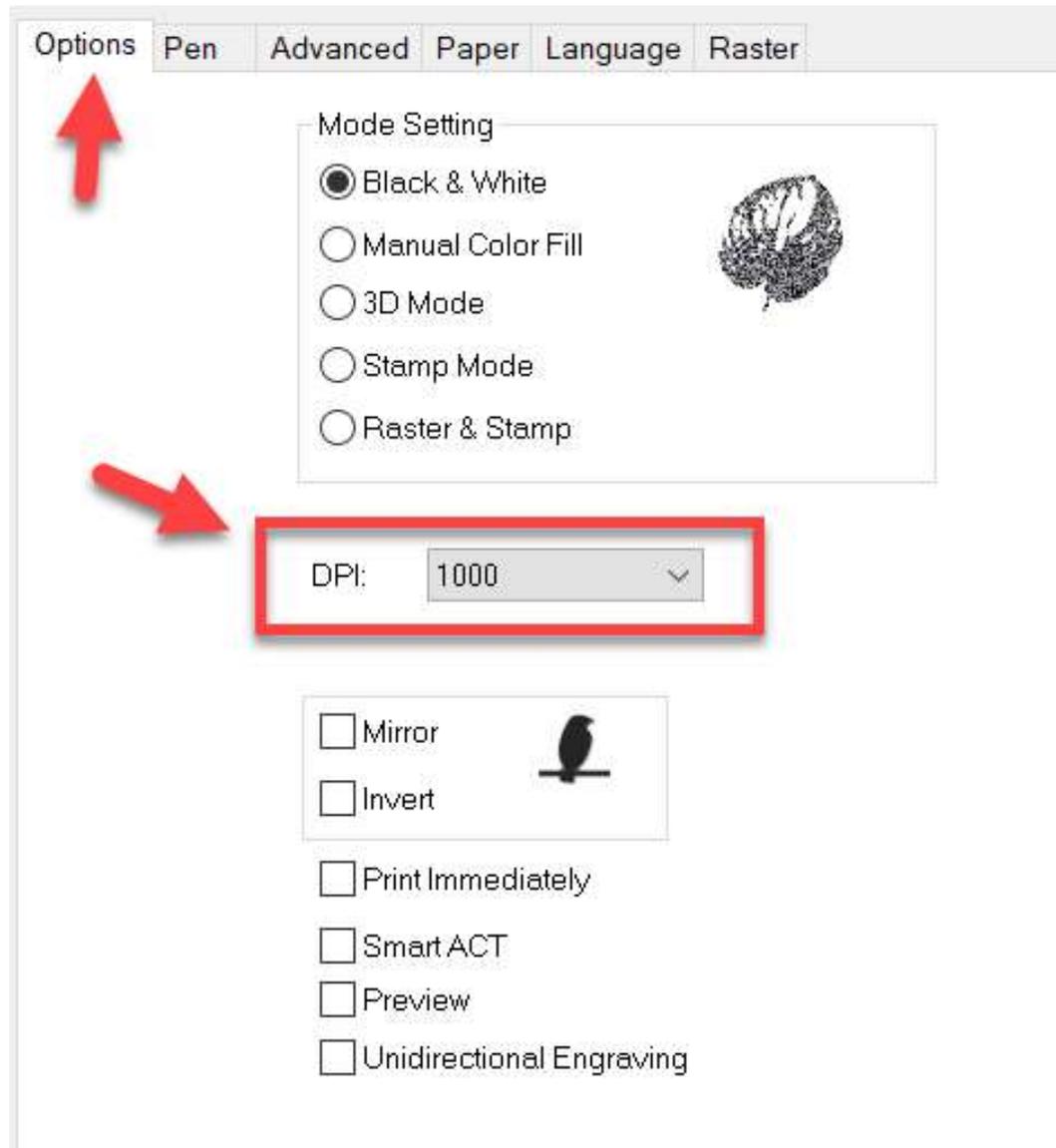


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1. In “Option” tab of driver setting page, set DPI to 1000.



2. In “Pen” tab, set parameter for the job, and check “Fiber Laser”

Speed	10
Power	100
Freq	60

Pen No	Color	Speed	Power	Freq	Raster	Vector	Air	AF	PPI	Defocus	Bridge	Repeat	wav
1	Black	10.0	100	60	YES	YES	YES	NO	400	0.0	0	1	
2	Red	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
3	Green	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
4	Yellow	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
5	Blue	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
6	Magenta	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
7	Cyan	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
8	Light Blue	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
9	Light Green	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
10	Light Yellow	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
11	Light Purple	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	
12	Light Pink	50.0	50	30	YES	YES	YES	NO	400	0.0	0	1	

Speed: < [Slider] > 10.0
 Power: < [Slider] > 100
 Freq: < [Slider] > 60
 PPI: < [Slider] > 400
 Defocus: < [Slider] > 0.0 mm
 Bridge: < [Slider] > 0 mm

- Raster
- Vector
- Air
- Auto Focus
- Defocus
- Bridge Cutting
- Waveform
- Fiber Laser

Repeat 1

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3. Autofocus on the media, (by it to get the standard focal length)
4. Run the job and observe the sparks generated by LASER.

Refer to below picture, work with standard focal length brings heavy sparks.



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The marking is yellowing and media surface was engraved a little bit, not smooth.

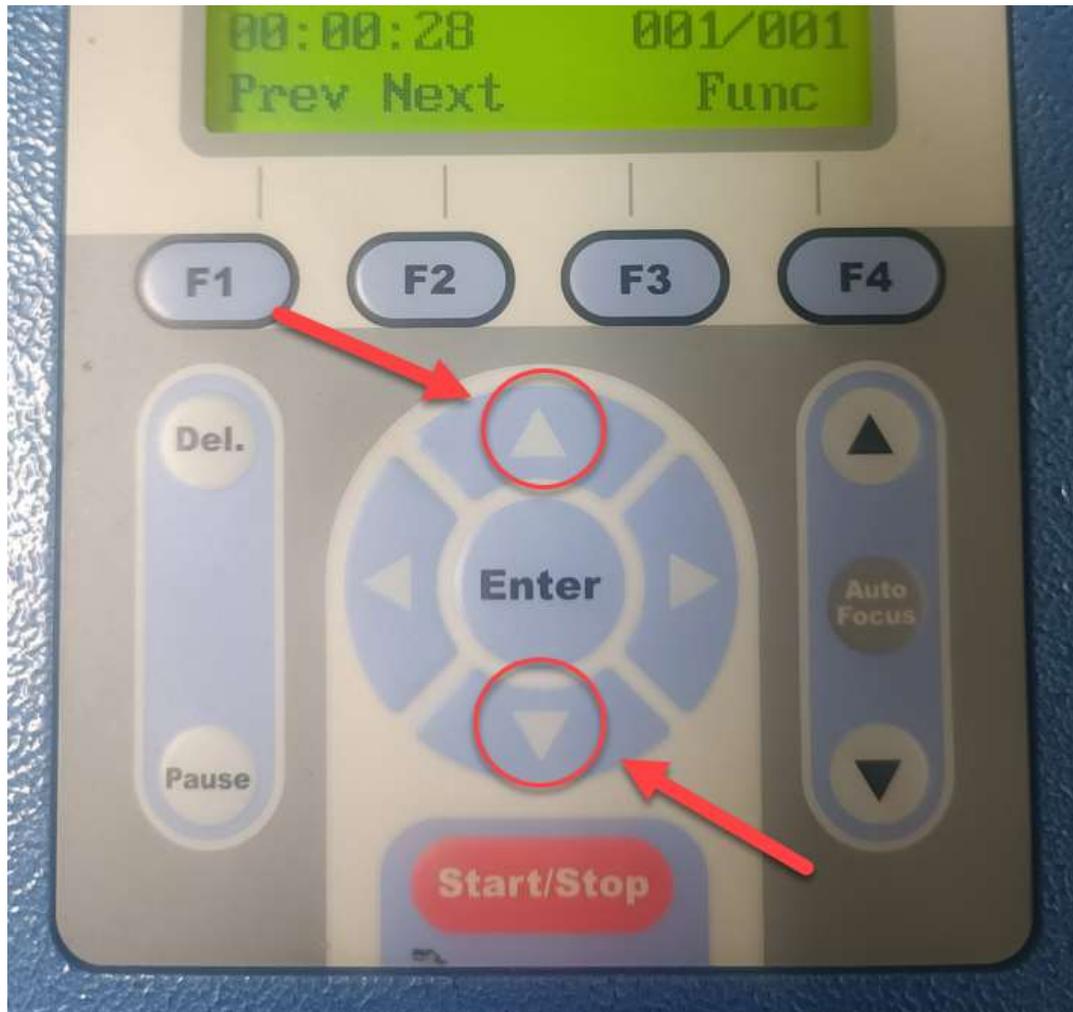


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5. Press “UP” and “Down” arrow key to move working platform up and down during the job is running (by it the working focal length varies).

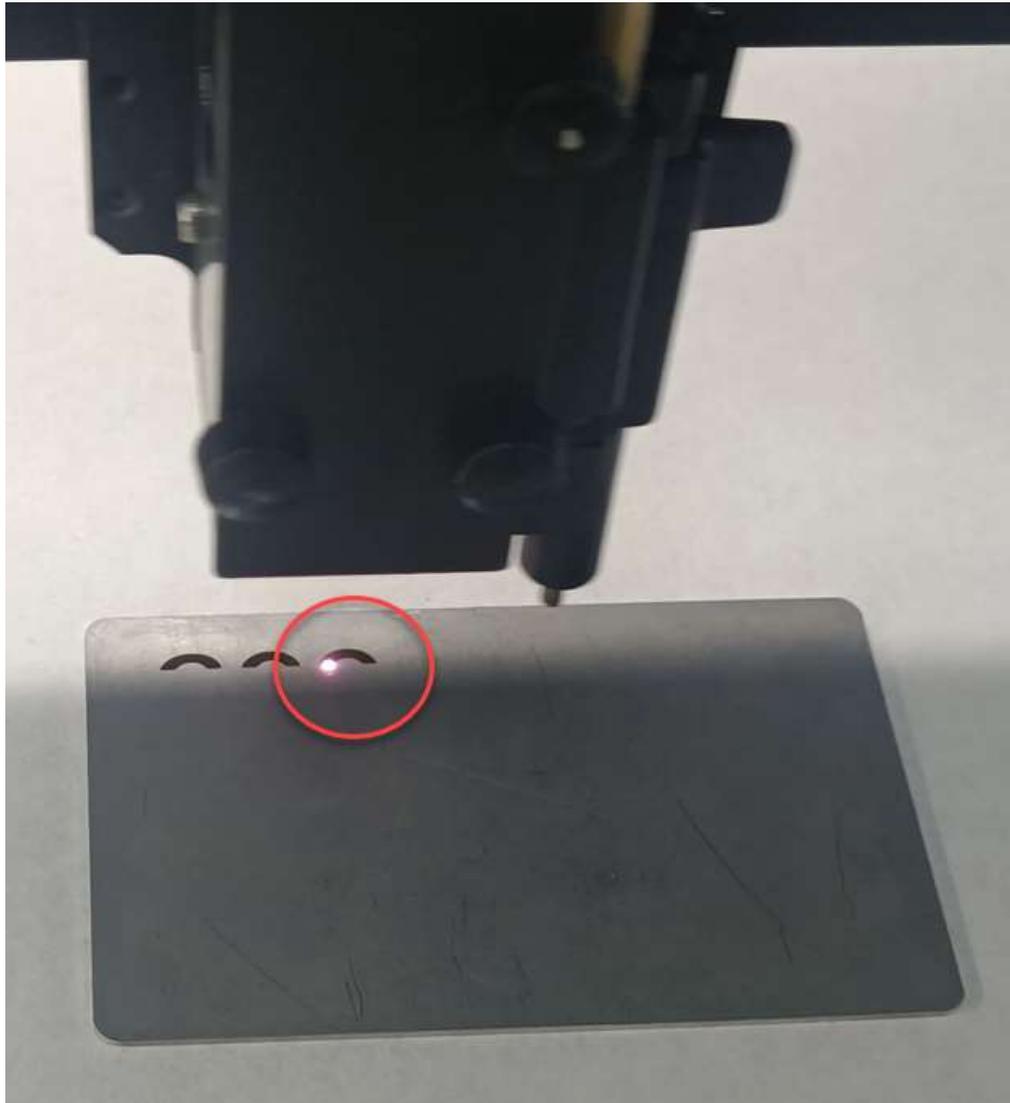


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6. Observe the sparks, stop moving up/down working platform until the sparks is faintness like below picture shows.



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7. Get the dark marking effect , and surface of media is smooth, not engraved.



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