

Laser Marking

Laser Marking & Engraving with Rack Star™, “Jig” Fixtures and Templates

How does the Rack Star™ work?

Rowmark's Rack Star™ is a simple, easy-to-install modular laser cutting table system that sits on your laser bed during fabrication. Rather than trying to secure odd-shaped parts directly on the laser bed to keep them from rolling or moving out of place, using the Rack Star™ unit will allow you to elevate objects slightly off the laser bed and hold them in place with repositionable fixtures, which tailor to any unique shape. Laser equipment users now have a versatile solution to accurately, consistently and quickly secure, level and laser mark dimensional objects... without all the hassle.

Rack Star™ features a variety of key components that, when used together, can be tailored to meet the user's specific needs.

What makes up a Rack Star™ system?

Rack Star™ model unit. The system is available in nine frame sizes (from 12"x18" to 24"x48") to sit on the bed of any laser. This durable aluminum frame provides the base support for the system and serves as the guide for where objects will need to be placed within an allotted area. (Each model unit comes with a collection of cone-shaped rails, v-blocks and risers for getting started.)

Rack Star™ cone-shaped rails. These aluminum rails, featuring a line of cone-shaped "pins" to secure the Rack Star "jig" fixtures, v-blocks and risers (see below), sit in grooves at 1" centers within the system frame. Any number of rails can be used for a job and repositioned in different slots based on the job.

Rack Star™ v-blocks and risers. Repositionable fixtures that sit securely on the aluminum pins and hold objects of varying sizes in place while the laser is operating. V-blocks and risers are designed for more general use and accommodate a wide variety of object shapes and sizes.

Lasering with Rack Star™, “Jig” Fixtures and Templates

Rack Star™ "jig" fixtures. Just like the v-blocks and risers, the "jig" fixtures sit securely on the aluminum pins and hold objects of varying sizes in place while the laser is operating. What makes the "jig" fixtures different is that they offer a more *custom* solution for securing specific, popularly requested dimensional objects. Rowmark's "jig" collection includes custom fixtures for writing utensils, lapel pins, coffee mugs, glassware, pocket knives, key chains and identification tags.

Rack Star™ and "jig" fixture templates. These design files are used in your laser's job control software and serve as a quick guide for pin rail placement and system alignment on the laser bed. They help prevent the need to manually approximate where the laser will need to mark the dimensional object, showing a general "safe area" where the artwork should be placed. It's much easier to achieve vertical/horizontal alignment without all the guesswork.

Using the Rack Star™, "jig" fixtures and accessories, you can quickly expand your fabrication services and product offering to appeal to a broader customer base. Examples include baseball bats, mitts, helmets, footballs, medals, plaques, three dimensional awards, wine glasses, shot glasses, beer steins, coffee mugs, pencils, pens, paper weights... and just about anything else your customers request!

How do I fabricate a job on my laser using Rack Star™?

Let's take a closer look at using the Rack Star™, "jig" fixtures and templates for quick coffee mug engraving, as an example. Follow these 9 simple steps to set up and fabricate your job.

(Note: For optimal clarification, these steps and corresponding photos will generally refer to the production of *one* object using Rack Star™. Multiple jig fixtures, risers and v-blocks can be used to fabricate multiple objects at one time, for larger or mass production jobs.)

1. Place the Rack Star™ system “frame” into the uppermost left corner of your laser bed. In this example, we will be using the standard 18" x 24" Rack Star™ size.

Lasering with Rack Star™, “Jig” Fixtures and Templates

2. Lay the Rack Star™ aluminum pin rails in the frame slots so that they will align with the holes in the “jig” fixture you will be using for the job. In this case, we are using the coffee mug “jig” fixture.

3. Place the mug “jig” fixture on top of the pins, and then lay your object to be lasered on the “jig” fixture. (Don't see the “jig” fixture you need for your object on rackstarlasersystem.com? You can alternatively use v-blocks or risers to secure your object, or request a custom “jig” fixture from Rowmark.) The “jig” fixture can be placed anywhere on the Rack Star™ pin rails, but it may be easiest to start by laying it in the upper left corner of the unit for quick and easy set-up.

4. Now it's time to go to your laser's job control software to adjust the settings and prepare the job for fabrication. Open the 18"x24" Rack Star™ design template (or the template corresponding to your Rack Star size.) (If you have not yet downloaded or saved the template to your computer, Rowmark's Rack Star™ templates are available for free download under the “Media and Downloads” tab on rackstarlasersystem.com.)

5. Open the mug “jig” fixture design template (or the one corresponding with the “jig” fixture you will be using.) Copy and paste the mug “jig” fixture template into the Rack Star™ template and align them on top of each other, using the holes for the pins already present in the template as a guide.

6. Using the 18" x 24" Rack Star™ template, coffee mug “jig” fixture template and physical coffee mug “jig” fixture, you can quickly and easily laser graphics on your coffee mugs... the same way every time. (Can't you just smell that coffee already?) Copy and paste your graphic design file(s) onto the art board with the two template files. To determine the design's placement in the software, go to your laser and pinpoint the X/Y coordinates where you would like the design to appear on the object, using the Rack Star™ horizontal/vertical rulers and your laser's red dot pointer as guides. Now, go back to your computer, find these X/Y coordinates on the Rack Star™ template, and place your graphic at this location.

Laser Marking

Lasering with Rack Star™, "Jig" Fixtures and Templates

7. Plan to laser multiple objects at once? Now that you have your original graphic in place, you can easily copy, paste and re-center it multiple times across the "jig" fixture template for an exact duplication. Be sure to check the coordinates of the objects in the laser when placing your graphics in the software, to ensure consistency and accuracy. (Note: the Rack Star™ pin rails are set at 1" centers (1" apart) for quick and easy set-up.)

8. Once your design file(s) have been placed correctly, hide or delete both the Rack Star™ template and "jig" fixture template from the art board before sending your job to the laser. The graphic design or text should now be the only thing visible on the art board.

9. Send the job to the laser. Important note: when using the Rack Star™ in your laser, Rowmark recommends using manual focus for optimal results.

Where can I learn more about Rack Star™?

To view or make a purchase from Rowmark's complete Rack Star™ product offering, including all nine model size packages, "jig" fixtures and additional accessories, visit rackstarlasersystem.com. Interactive YouTube videos about the Rack Star™ are also available under the "Media and Downloads" tab.

If you don't see the "jig" fixture you need to accommodate your unique project, email info@rackstarlasersystem.com and request your very own custom jig fixture.