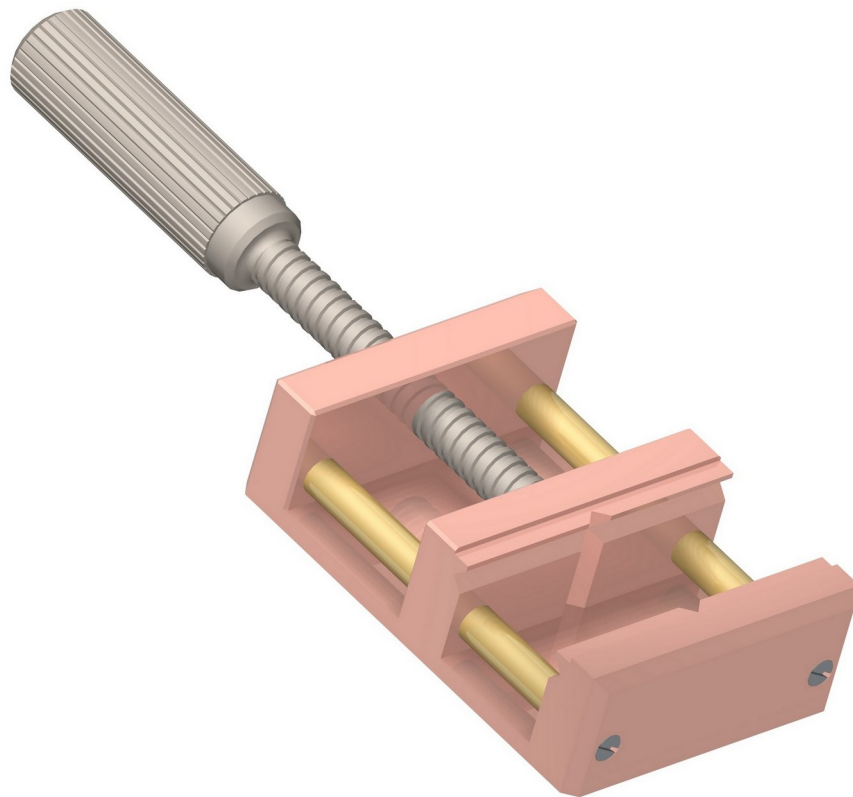


Drill Vice



This is a free plan for you to make a vise for your bench mount or floor mount drill press. A drill press vise is a mechanical screw apparatus used for holding or clamping a work piece to allow work to be performed on it with tools such as saws, planes, drills, mills, screwdrivers, sandpaper, etc. The drill press made according to our plan can be widely used in every amateur workshop because it allows drilling precise vertical holes into different materials and parts. When drilling, the workpiece (either rectangular or cylindrical, a piece of sheet metal, etc.) is firmly clamped and stable between the jaws of the vise.

A few notes to keep in mind in the manufacture of parts:

- The handle with thread (Clamp screw – Part 7) must be made on a lathe, and the surface roughness of the thread should be ISO grade N5 (0.4 micrometers). The inner thread on the support part (Part 2) should also be grade N5.
- Surface roughness of parts 5 (Leading axle) and holes they go through should also be N5.
- We recommend ISO roughness grade N8 (3.2 micrometers) for all other parts surfaces.
- To make a quality handle, you need to imprint a pattern of crossed lines on it using the appropriate knurling tool.
- When you have made all the parts, you have to protect them from corrosion; we recommend that you blacken all the parts. The blackening process is very simple and inexpensive, and as a result, your vise will be adequately protected against corrosion. You can find good instructions on the Internet on how to follow through on it. The blackening process consists of dipping the parts into oil, heating them to about 300 degrees F (blue steel color), and dipping them into oil once again; this process is repeated until the desired quality of blackening is obtained.

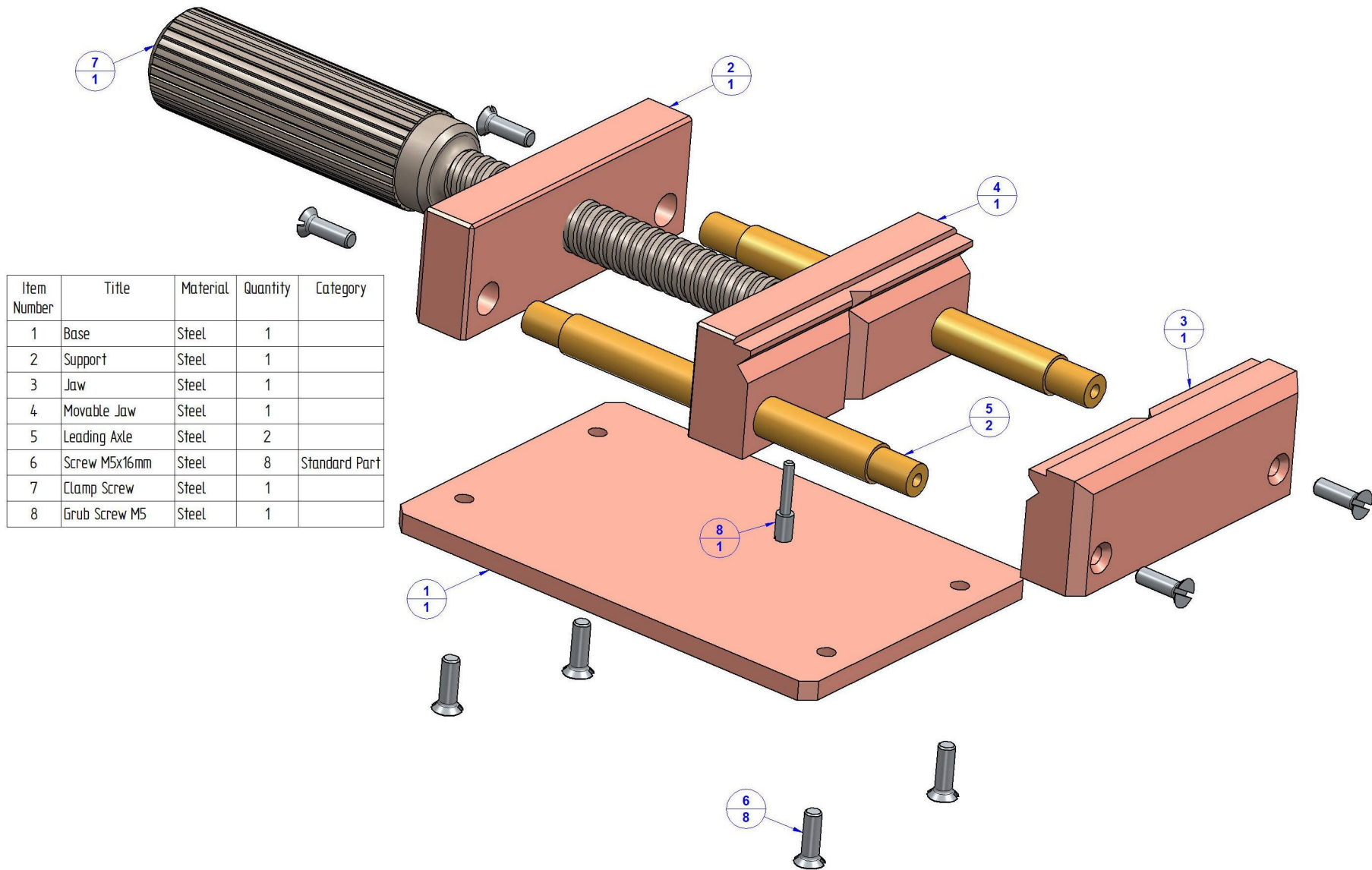
- Depending on the quality and type of steel that the parts are made of, they may or may not be heat-treated. If you do not heat the parts, you need to handle the vise more carefully to avoid damaging the jaws surfaces.
- The handle and the clamp screw parts can be made together to be either one part (as in our plan) or two parts.

When drilling, always hold the vise by the handle.

As you can see from the drawings and the explanation given, this drill press is not too difficult to make. Since today it is possible to buy inexpensive drill press vises of rather good quality, this plan is recommended primarily to enthusiasts, metalworkers who like to make their own tools, for various training courses, etc.

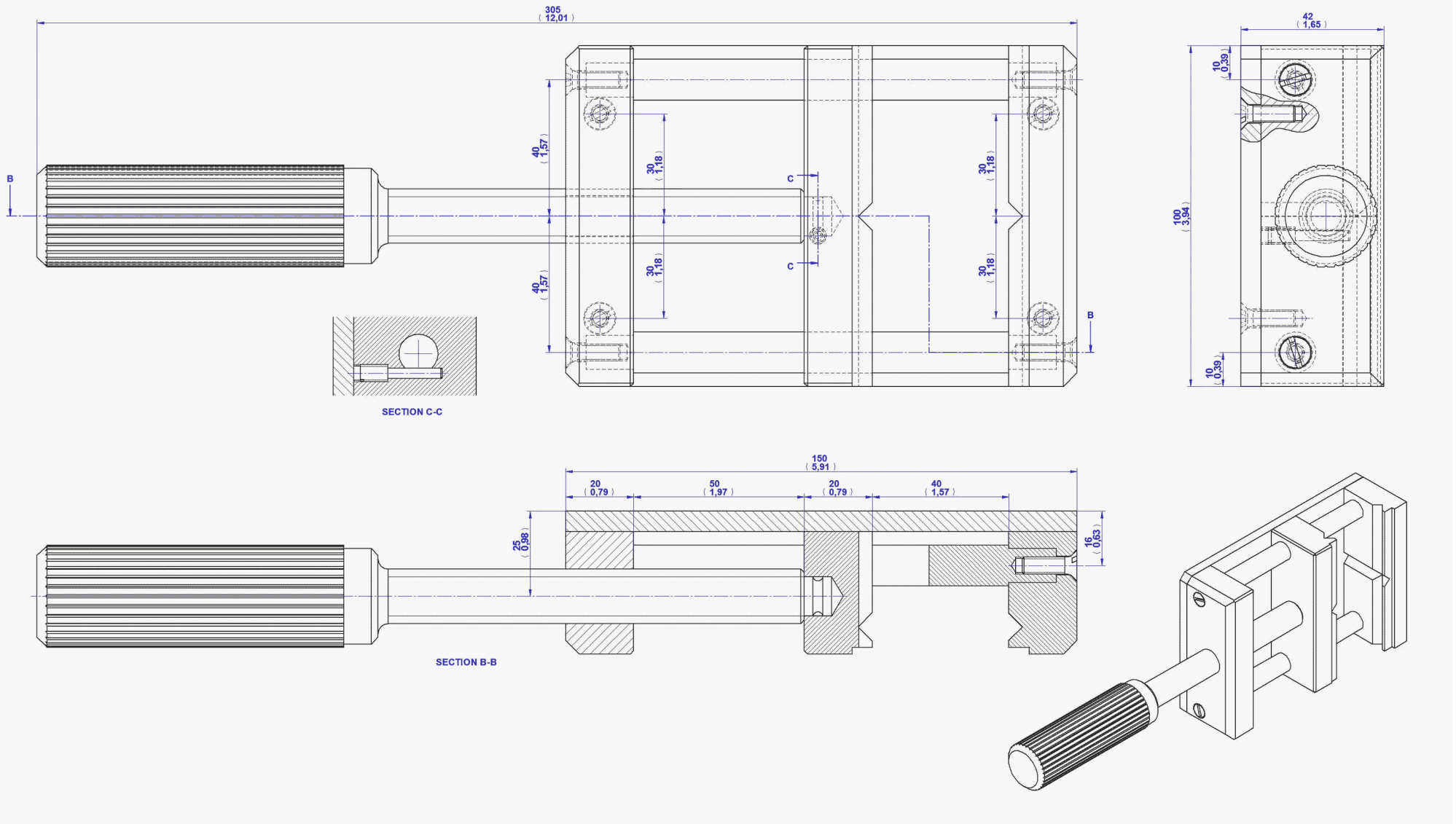
We have made this plan based on a plan authored by Rudolf Keller and published in the Czech DIY journal named "Urob si sam".

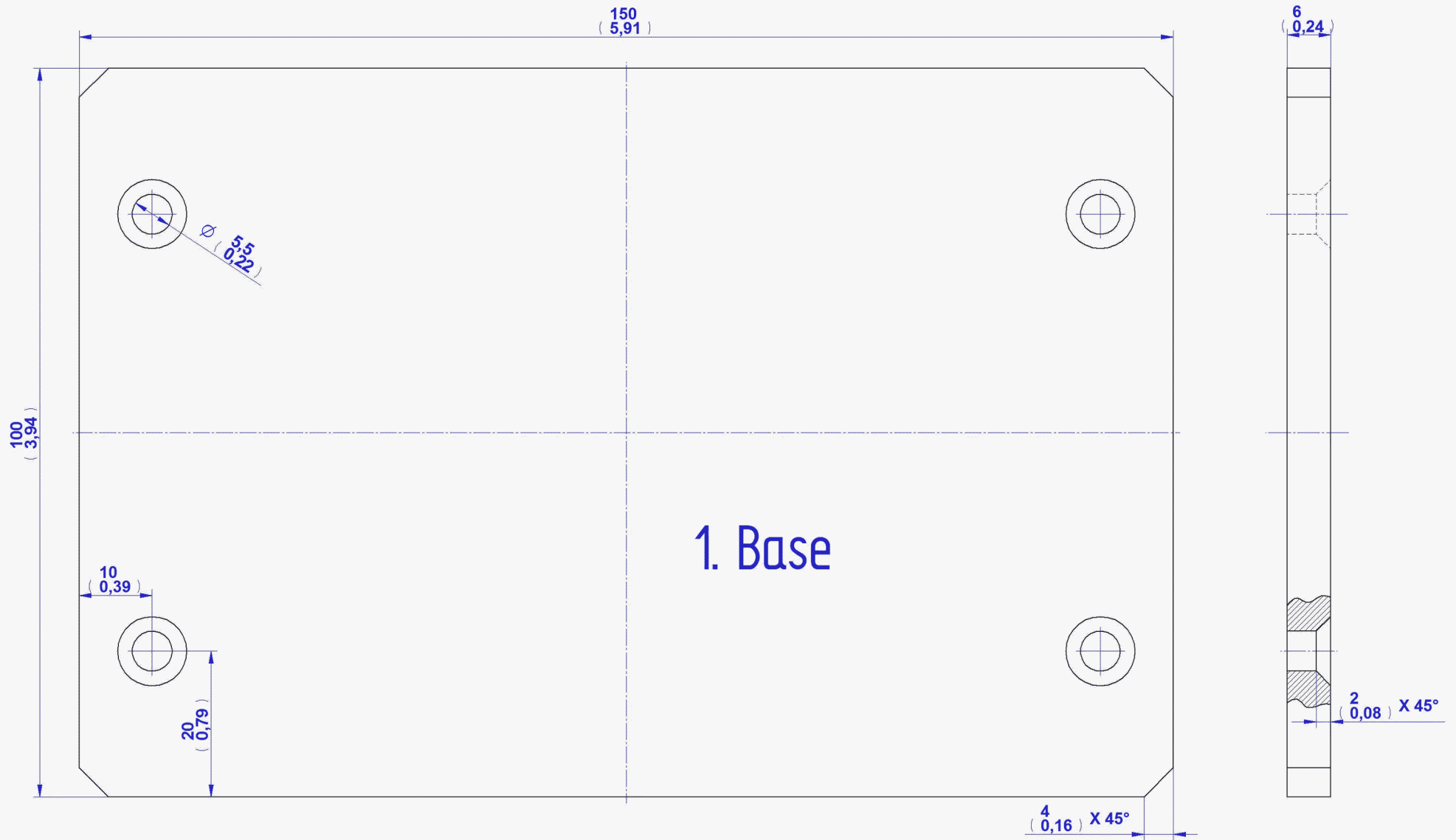
Parts List

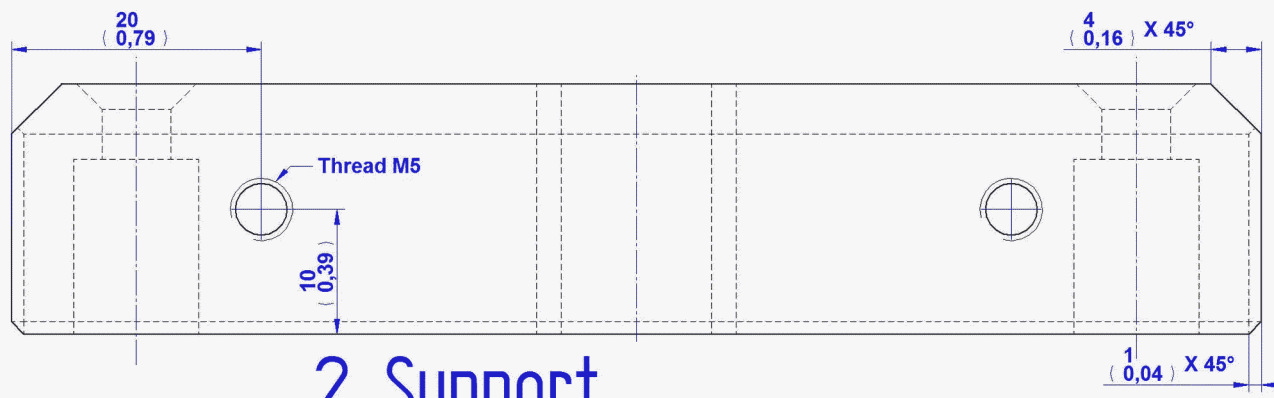
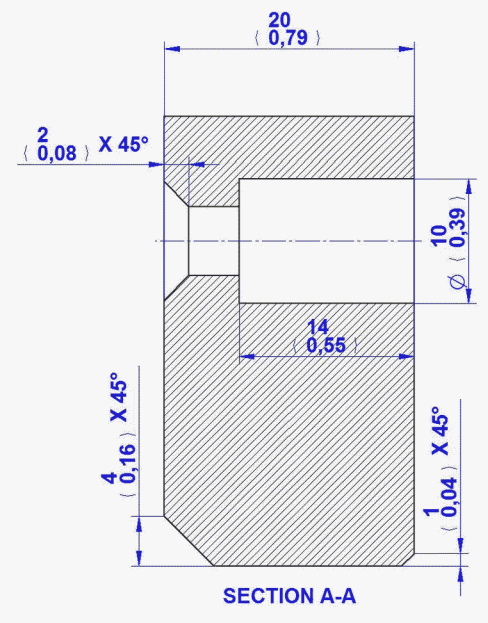
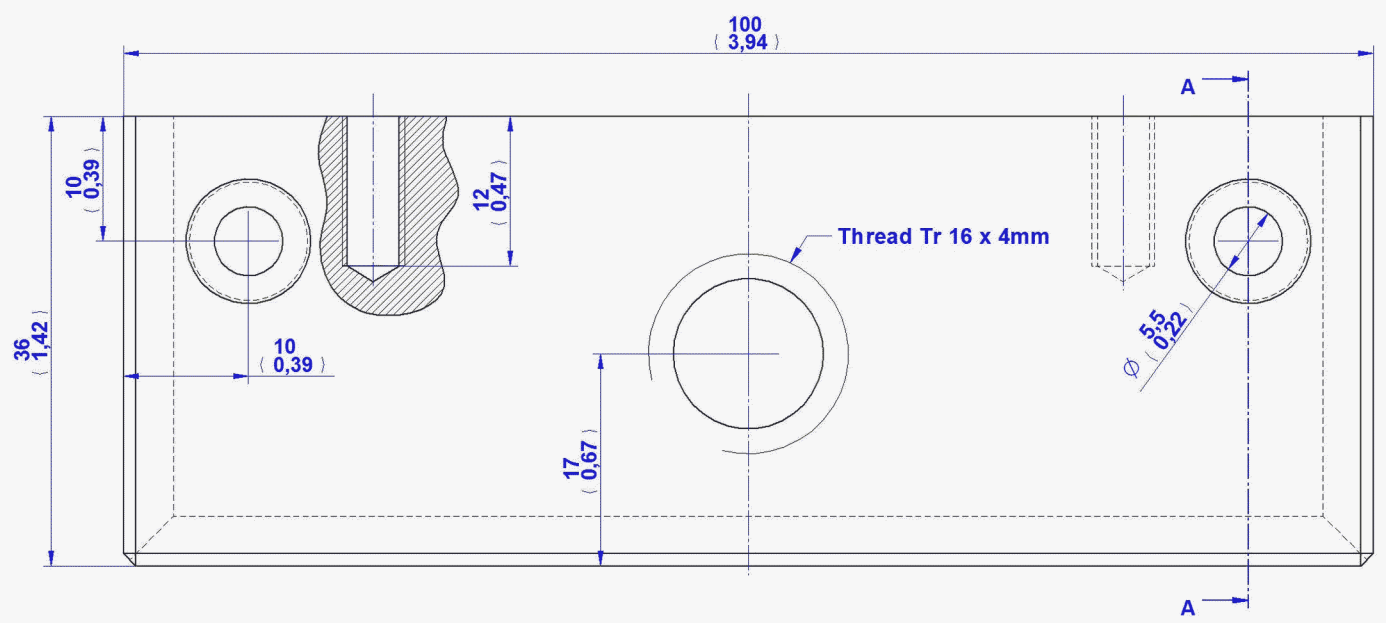


Item Number	Title	Material	Quantity	Category
1	Base	Steel	1	
2	Support	Steel	1	
3	Jaw	Steel	1	
4	Movable Jaw	Steel	1	
5	Leading Axle	Steel	2	
6	Screw M5x16mm	Steel	8	Standard Part
7	Clamp Screw	Steel	1	
8	Grub Screw M5	Steel	1	

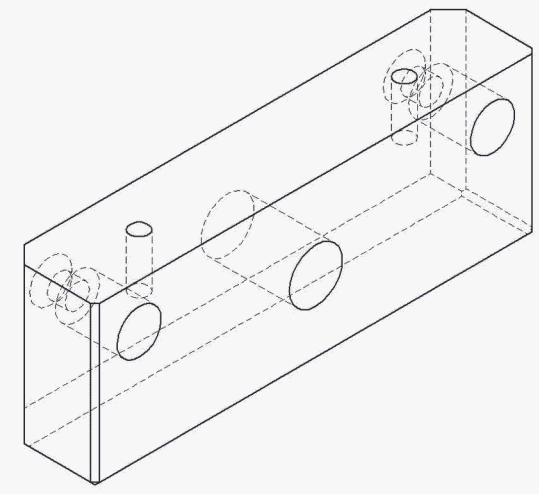
Assembly Drawing

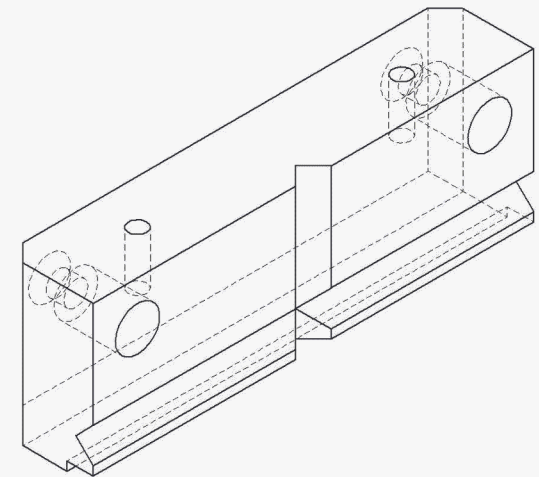
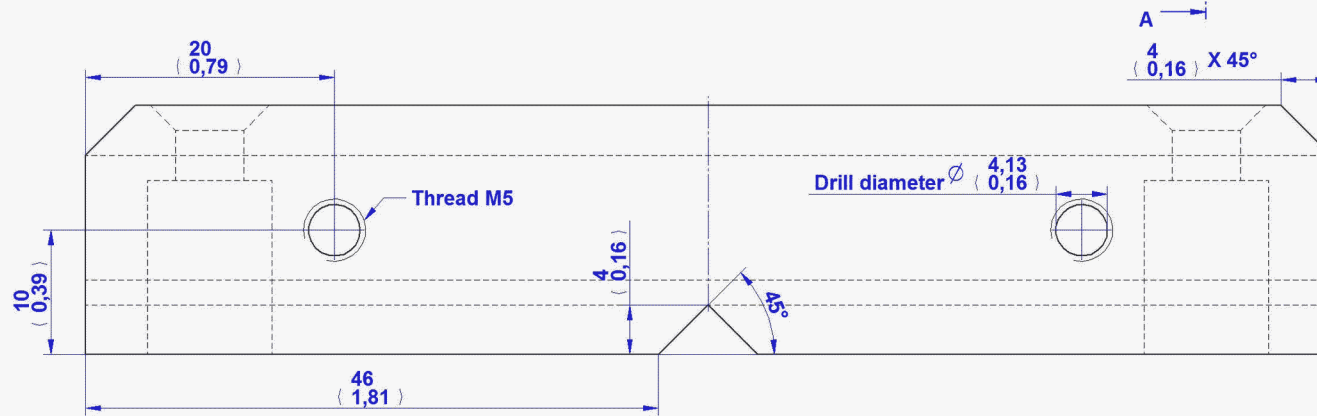
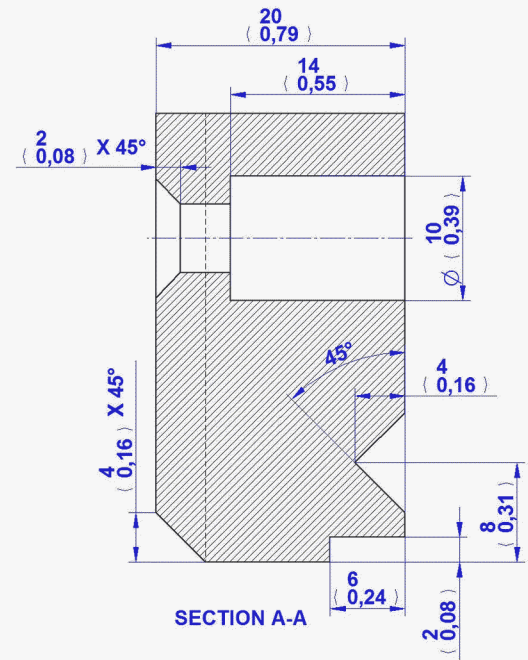
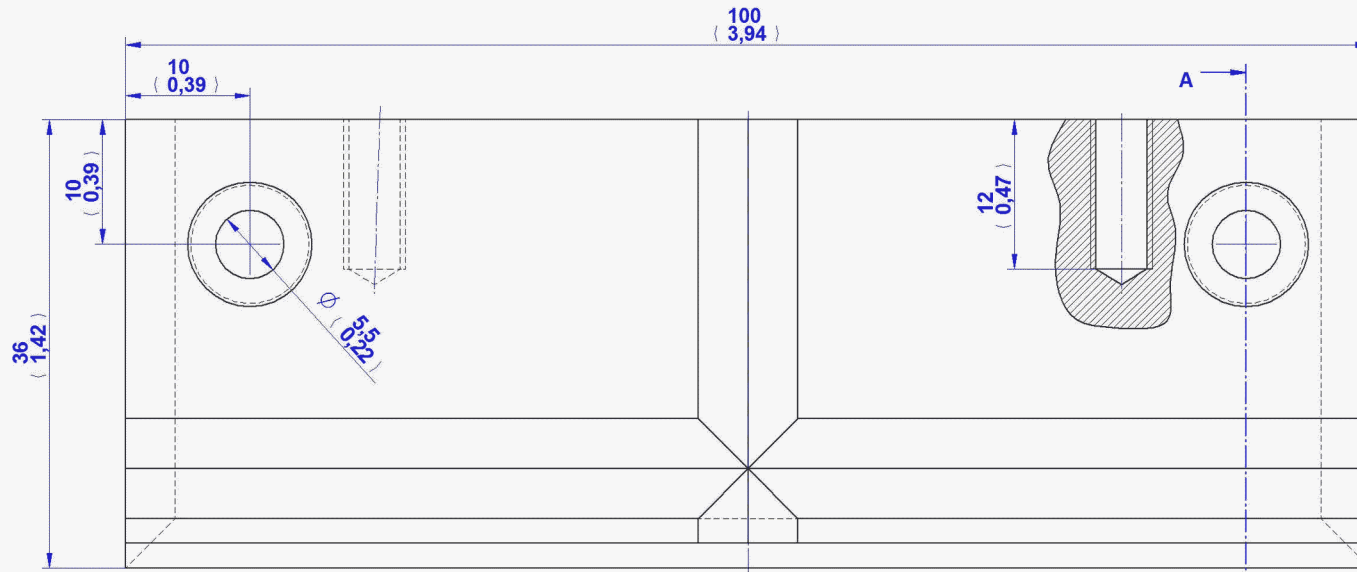




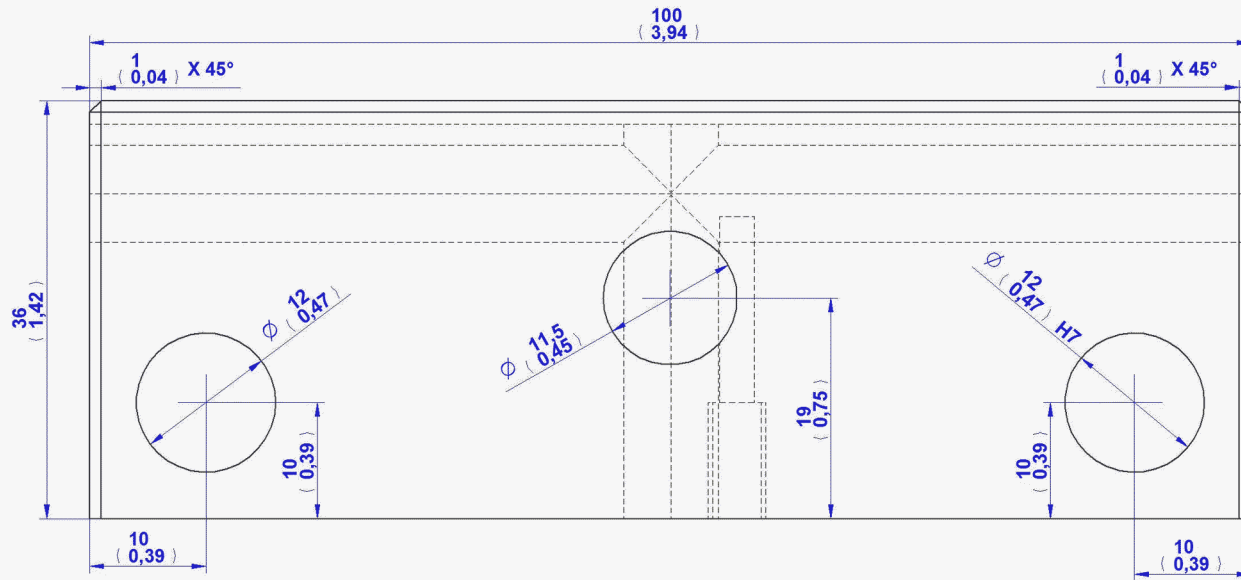
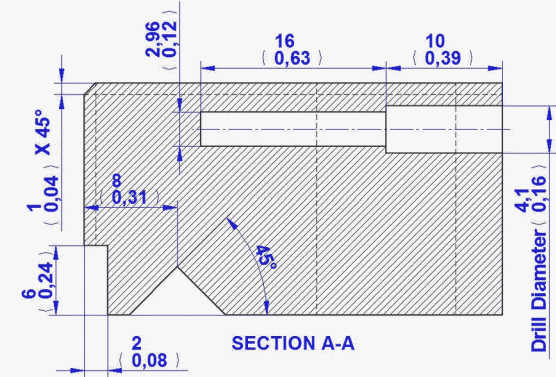
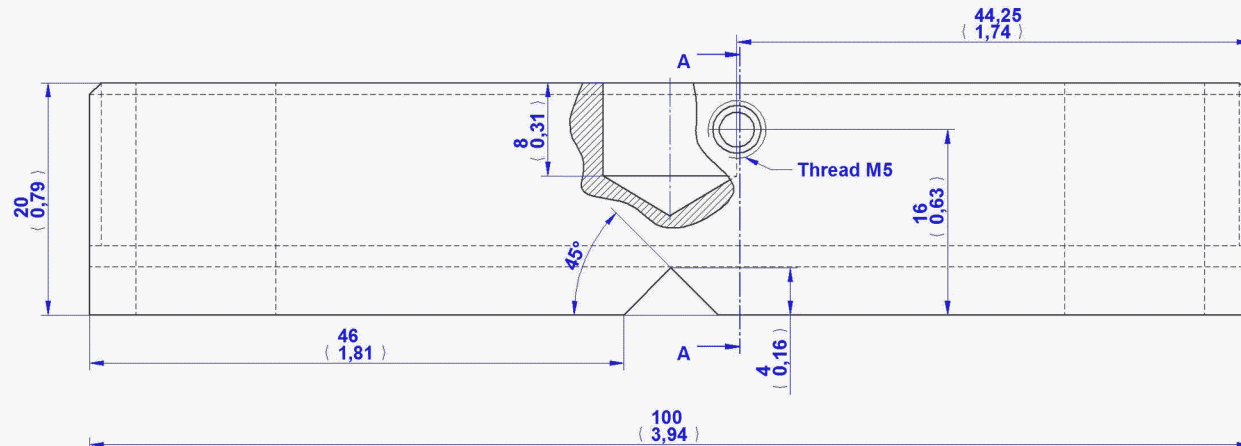


2. Support

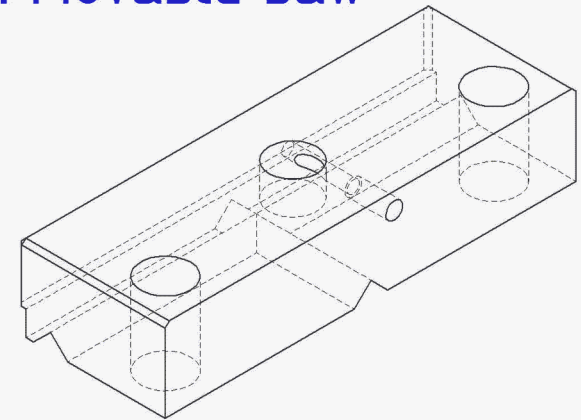


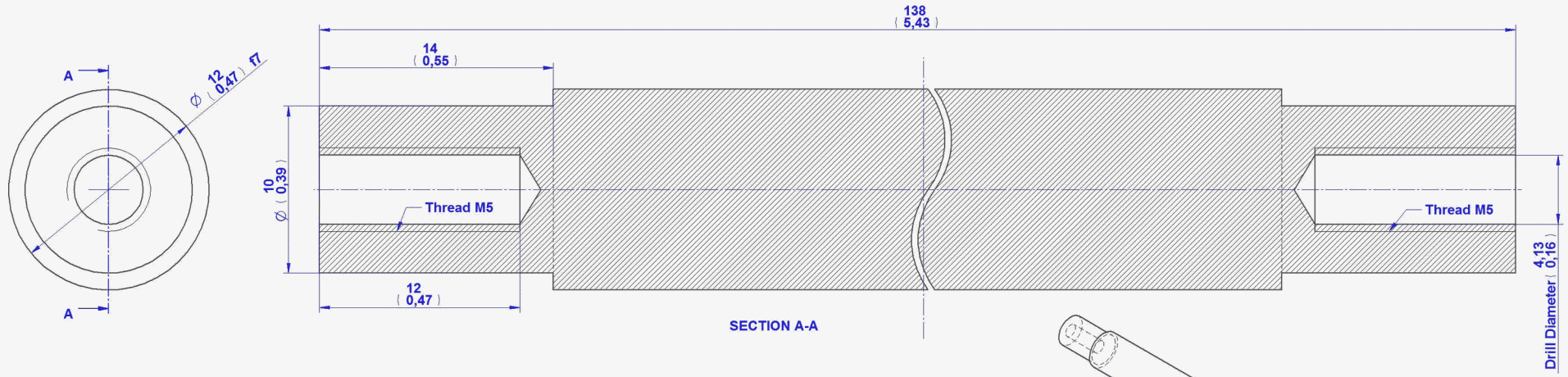


3. Jaw

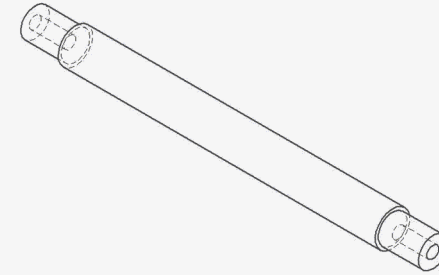


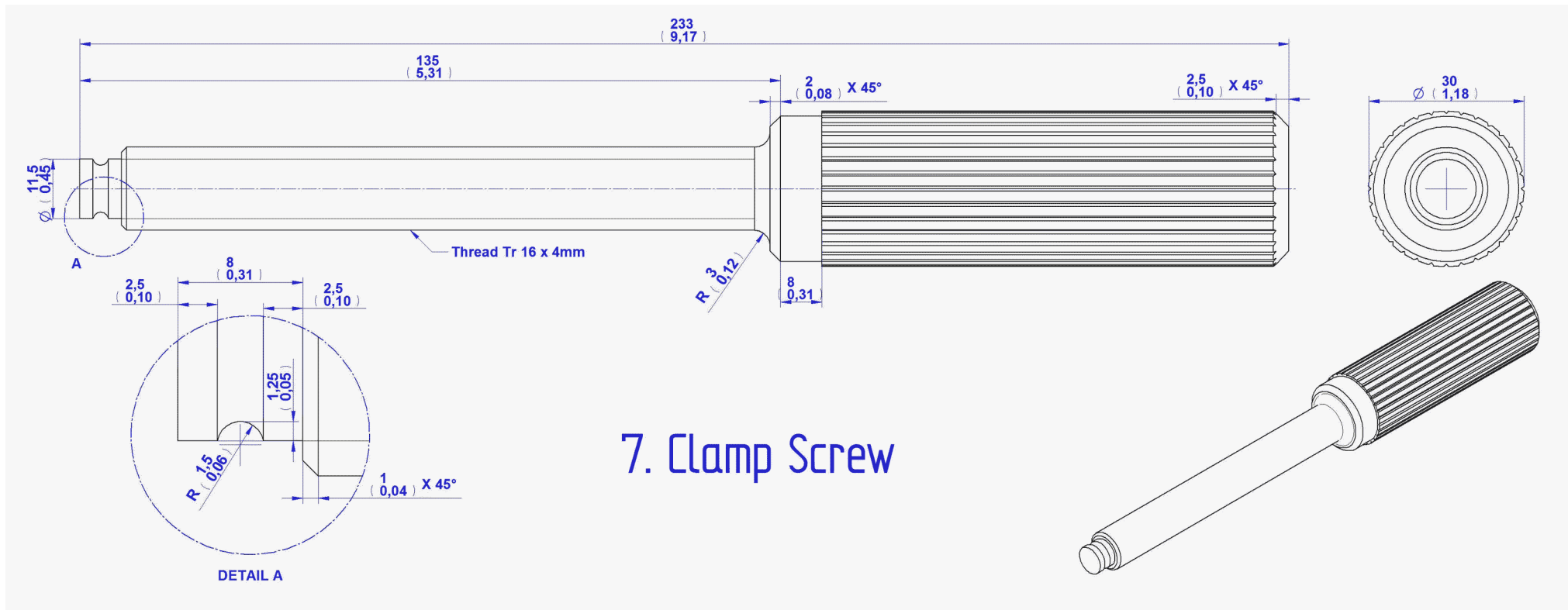
4. Movable Jaw

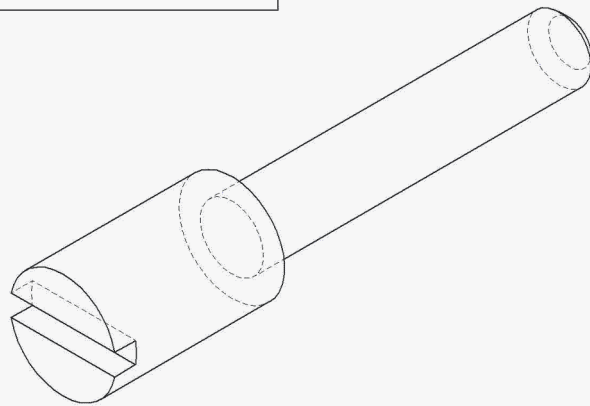
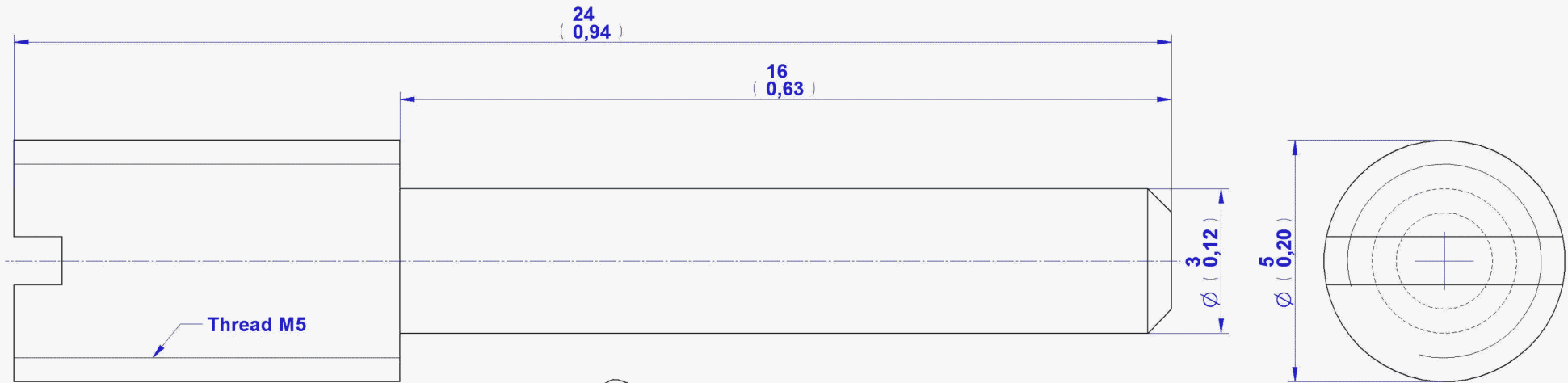




5. Leading Axle

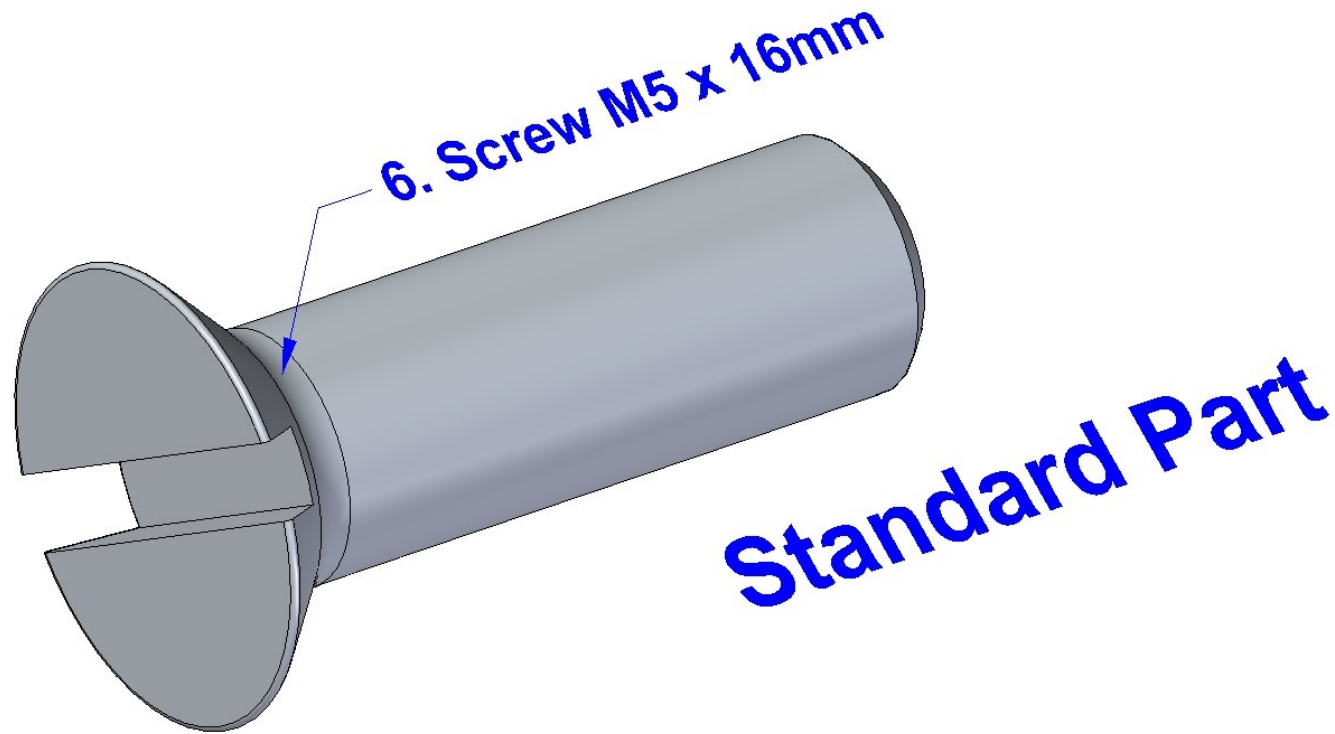






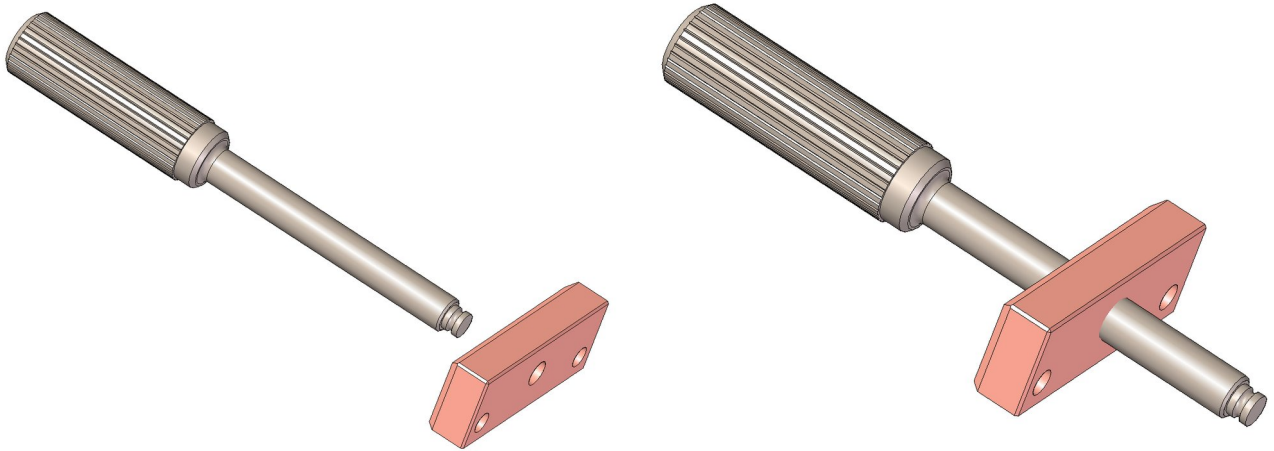
8. Grub Screw M5

Standard Part

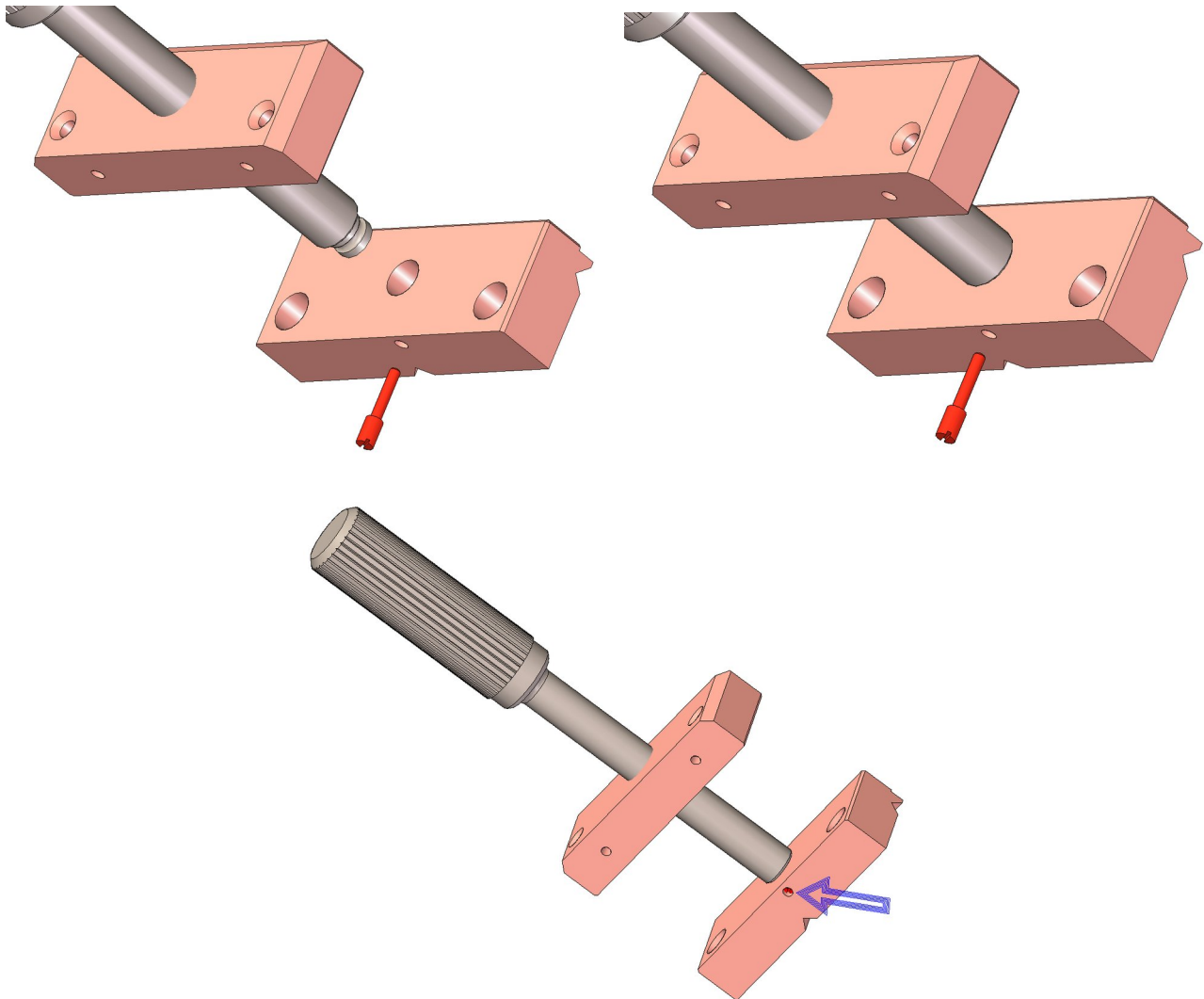


Assemblage images

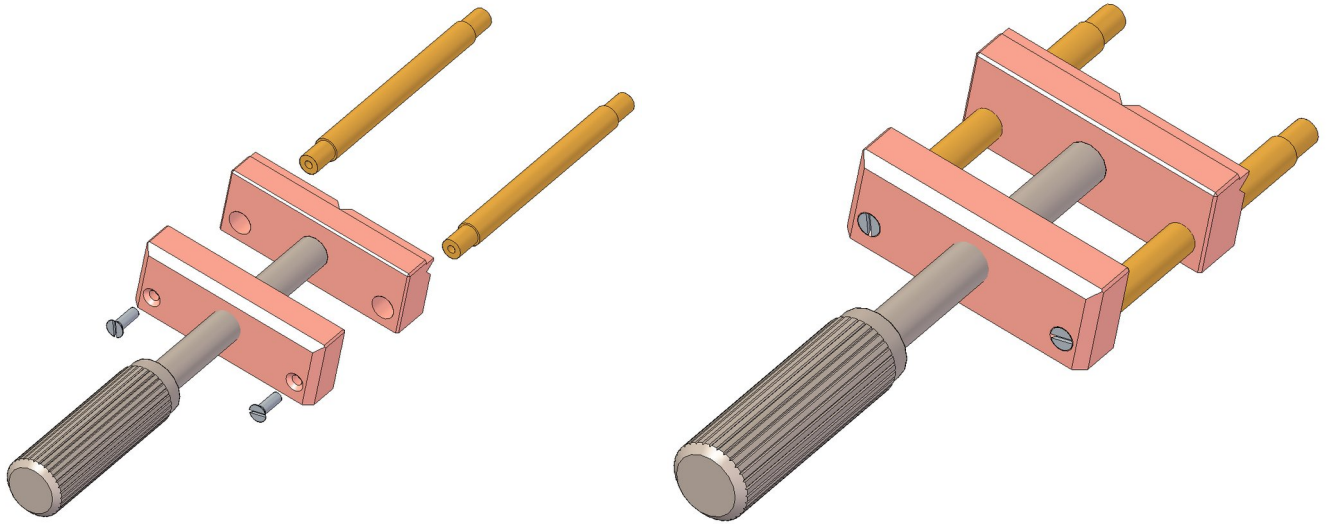
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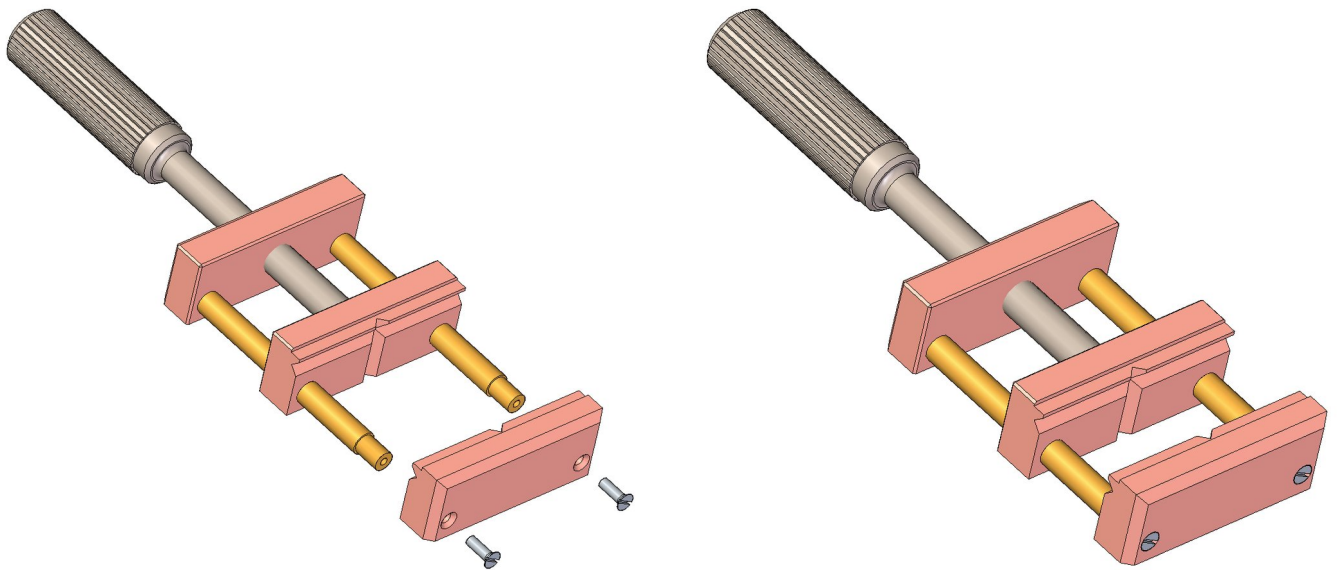
2.



3.



4.



5.

