4. Assembly: definition

An assembly is a combination of solids, suitably connected, that serves for a specific function. Each part has its function in the assembly. The number of parts can be different and there are no limits.

There are some assemblies made with a small number of parts, as scissors.

4.1. Image: Scissors (with license of http://farm6.staticflickr.com/5187/5636971607_76b21a3df6_n.jpg) (BY-NC-SA)

Also, some other assemblies have many parts, for example a sophisticated tram. In those cases, the assembly is split into smaller sub-assemblies, in such a way that each one of them can be worked as a different project.

4.2. Image: Tram. (with license of http://farm4.staticflickr.com/3258/3248649922_dafd2cf6f0_n.jpg) (BY-NC-SA)

When designing an assembly, it is necessary to provide complete information with all type of specifications that must be analysed, verified and accepted.

4.1. The presentation of the assembly draft

In order to interpret a mechanism, a drawing that shows each element and the relationship between them has to be done. This ways, the aim of the mechanism can be understood.

When representing a mechanism for manufacturing and assembling purposes, we choose the diedric system to show the different parts and constructing elements. Sometimes, when the manufacturing process demands it (in different factories or enterprises), we must also draw sub-assemblies.

In catalogues, though, the assembly is commonly shown in perspective, showing the different parts assembled and exploded, in a way that facilitates graphic communication of the commercial product. In the same way, technical characteristics are shown, or any data that makes the assembling easier.

As the aim of an assembly drawing is to show its functionality, it will be defined with the minimum number of views, being the most common the front view, and the needed ones for the inner elements to be shown.

The numbering of the different parts of the assembly is made following the standards of UNE- 1-100-83, by means of ISO 6.433, that defines the criterion for the identifying part number, dimensions and any similarities.

It is also included in the project the specification of the material for manufacturing, that must be written in the identification box in the draft.

The spare parts drawing will define each element or part, with the number of views necessary to show all the characteristics for manufacturing. In the same way, functional dimensions, tolerances, machining signs, and the materials will be defined.

4.2. Bibliography about assemblies

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