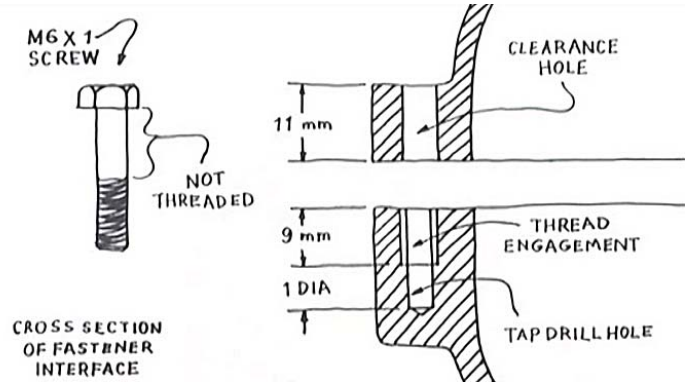


# Nail Gun Case Study

## The scenario:

Given are two cast iron parts of an assembly held together by a pattern of four steel M6 X 1 hexagonal head cap screws. The first part requires 'normal' clearance holes and is 12 mm thick. The second part features blind threaded holes to receive the cap screws. Assume that  $1\frac{1}{2}$  diameters of thread engagement (9 mm) within the threaded hole are required for minimal holding strength. Cap screws in most sizes are not threaded for the whole length specifications, so that constraint may influence the selection of fastener. Tap drill holes are typically one diameter deeper than threads engagement required.

Search a database and identify what ASME standards you should be using in this scenario. Using the ASME standards, answer the following questions.



## Research questions:

1. Given the scenario, what preferred length M6 X1 fastener would be the required to satisfy the strength requirement?
2. Given the scenario, what is the full specification for the threaded hole in the second part?
3. Given the scenario, what is the full specification for a 'normal' clearance hole in the first part?