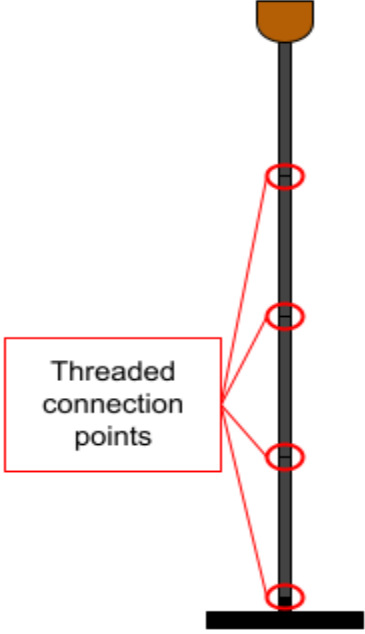
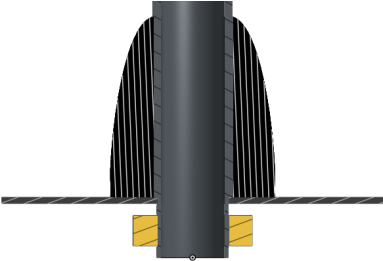


Overview	The Torch Stand consists of the torch body and the torch base, upon which the torch head sits
Basic Schematic:	 <p>The torch body is made up of four threaded tubes, while then thread into the base. The hollow tubes allow for the fuel line to be run through the base, up the body, and into the torch head</p>
Initial Issues	The initial model given to the team by the customer had several key structural weaknesses. The stainless steel pipes utilized thin aluminium threaded inserts; these would often shear given minimal moment on the torch body. Some body pieces given were bent/warped, adding to structural tilt. In construction of the torch base, a small section of pipe is given a rolled end and placed through a cut hole in the base; when welded the radius of this rolled end interferes with the cut hole causing the torch body to not be perpendicular with the base.
Solution/Designs	 <p>The new torch stand design utilizes threading integrated directly into the pipes, as well as turning to aluminum as the pipe material. For the base connection, the welded bit of tubing ins removed and the hole cleaned up; a flange is then placed on the end of the tube which then goes through the baseplate. A threaded nut is then placed on the end of the bottom pipe, securing a tight connection and ensuring the torch body remains perpendicular to the base.</p>

Going Forward	Current designs vary on OD and wall thickness for pipes. Possible coating on pipes for extra protection.
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