

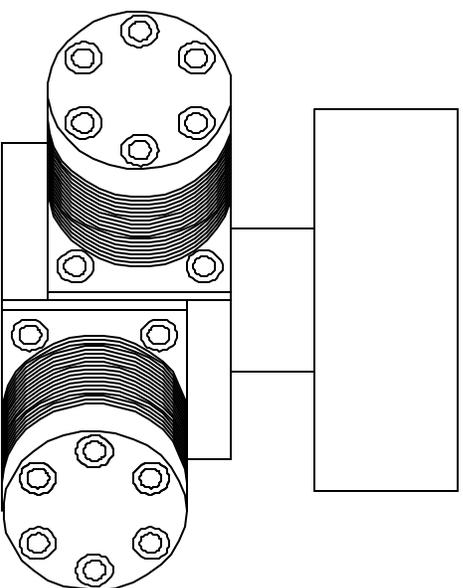
A small 2 cylinder V design 0.250 bore X 0.250 stroke compressed air engine designed based on a CO2 model airplane engine. This engine is the second in a group of engines called Mini.

The engine is a spin off from the single cylinder vertical first engine. I knew I could get the proportions better and it would be easy to add a second cylinder. I took out as much length as possible from the head, piston and connecting rod. The cylinder diameter was increased a little. The tie rods were eliminated for a cleaner design. Unfortunately it looks more like an air compressor than an engine, but that is OK because it means there will be a third Mini.

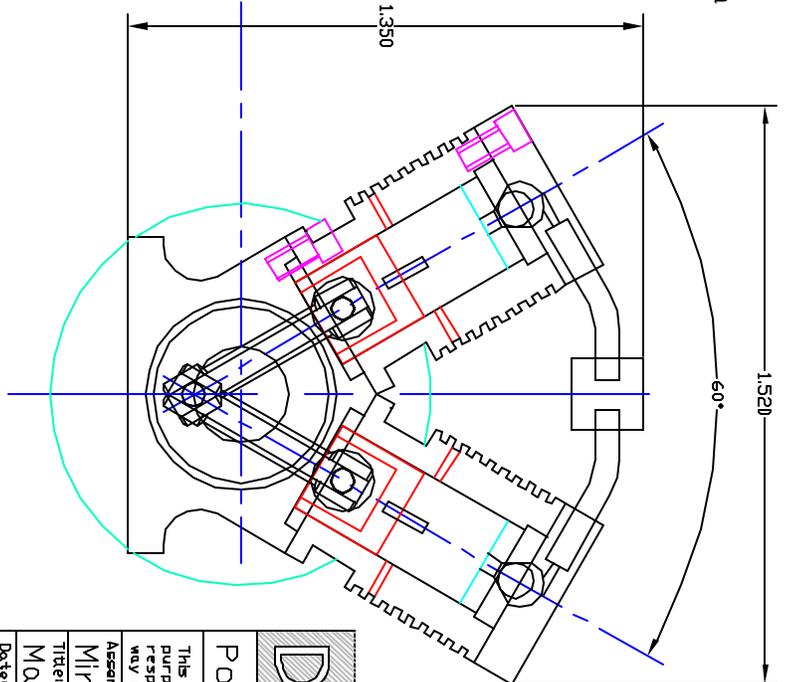
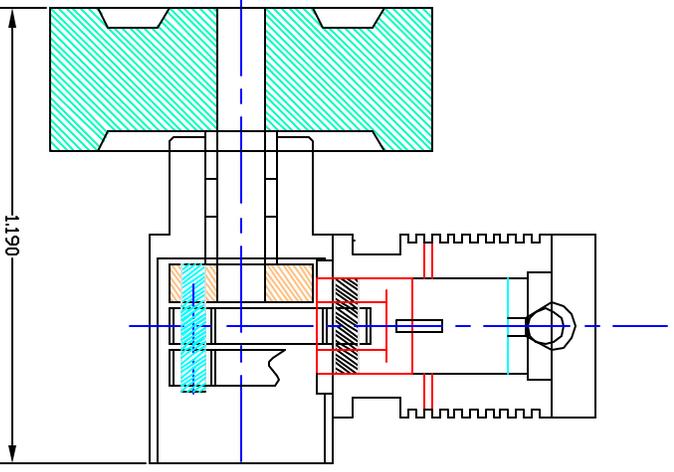
The project went very fast, about 32 hours to build it and about 9 hours to draw the plans.

It is a quick build and defiantly sharpens accuracy and machining skills. Making multiple small parts is much more challenging than just making small parts. Being a compressed air engine it just starts and runs with no fuss.

This type of engine has a lot of fun easy possibilities for modifications and more complex designs. Please use this as a starting point for your own ideas.



This is a simple engine to build. The pistons are made from 1/4 drill rod. The shaft and connecting rods are made from 1/8 drill rod. The cylinders are made from 1/2 key stock and the rest is scraps (the block is made from a 7/8 cube of aluminum). By the end of the project the 0-90 screws will seem normal size and 4-40 will look like bolts.



David Kerzel

Pompano Beach, Florida USA

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Assembly'
Mini CO2 Vertical 2

Title:
Main View W

Date: 09/06/2003
Revision: 11
Drawing
Mini_V2-01