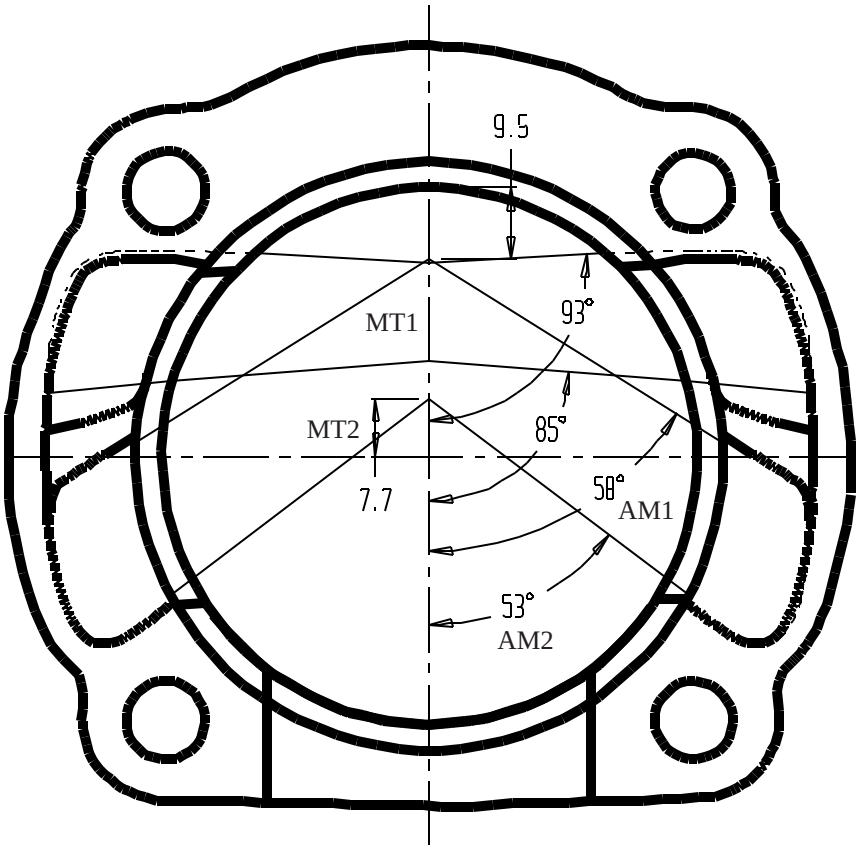
Transfer angles of Kawasaki H2 750, stock cylinder



Analysis

According to G.P.Blair (Design and simulation of two-stroke engines, page 265) the following is found in successful cylinder designs:

- The value of AM2 is usually between 50 and 55 degrees. The H2 cylinder has 53 degrees.
- The target point for MT2 is usually between 10% and 15% of the cylinder bore. In this case 10-15% of the bore (71 mm) is 7-10.5 mm. MT2 is 7.7 mm.
- The target point for MT1 is usually at the edge of the cylinder bore. In the H2 cylinder MT1 is (71/2) - 9.5 - 7.7 = 18.3 mm, which sets the target point 9.5 mm from the edge of the bore.
- The main port is tapered to provide accelerating flow. AM1 is greater than AM2, and AM1 is between 50 and 70 degrees. In the H2 cylinder AM1 is 58 degrees.
- In multiple transfer port layouts it is possible to have AM1 = AM2. This is not the case in the H2 cylinder, although it has multiple transfer ports.
- The side nearest to the main port of the side ports can have the same slope, AM1. They can also have straight sides, i.e. 90 degrees. The H2 cylinder has about 85 degrees.
- The upsweep angle of the main port, is rarely larger than 10 degrees. In the H2, it is at least ?? degrees near the port opening.
- The upsweep angle of the side ports should be between 15 and 25 degrees. In the H2 cylinder it is about ?? degrees.