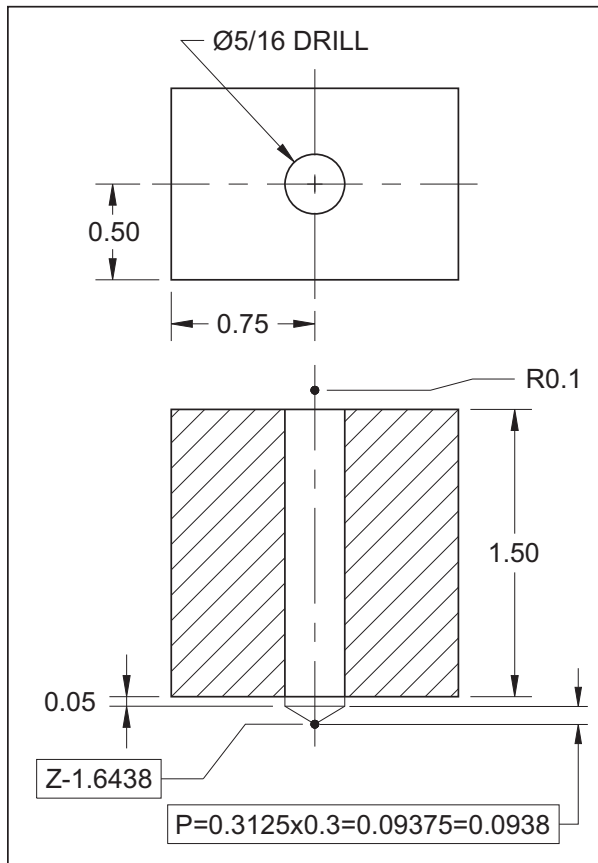


Peck Drilling 1

➡ These are the correct answers for the five questions - with comments listed below:

- ❑ 1 - Drill point length is 0.0938
- ❑ 2 - Final Z-depth is Z-1.6438
- ❑ 3 - A reasonable Q-depth is about 0.4
- ❑ 4 - With Q0.4 there will be five pecks total
- ❑ 5 - G99 G83 X0.75 Y0.5 R0.1 Z-1.6438 Q0.4 F8.0



To calculate the number of actual pecks during machining, you always have to know the total distance the tool travels and the value of the Q-address, as specified in the G83/G73 fixed cycle.

In this project, the start is at Z0.1 (R-level R0.1), the thickness of the part is 1.50 and the drilling is through the material. For best machining results, that will require additional breakthrough clearance - 0.05 is sufficient. The calculation also requires the tool point length, which is:

$$0.3125 \times 0.3 = 0.09375 = 0.0938$$

All these values summed up will be equivalent to the total travel of the tool:

$$0.1 + 1.5 + 0.05 + 0.0938 = 1.7438$$

Since the goal of this project is to calculate the number of pecks, with the selected Q0.4 as being reasonable for mild steel, the actual number of pecks will be:

$$1.7438 / 0.4 = 4.3595$$

This value must be rounded *upwards* to the nearest integer, so the number of actual pecks will be five and the program entry (in G98 or G99 mode) will be:

G99 G83 X0.75 Y0.5 R0.1 Z-1.6438 Q0.4 F8.0

Note - a slight rounding of final values is acceptable - the four digit accuracy is only shown for consistency.