

Press Selection and Automation

An air-pin layout is generated by the die designer. This layout is copied onto an information tag, which is fastened to the side of the die. The relationship of air-pin holes to the bolster plate must be verified for location against the press specifications. The following is a typical air-pin layout for a fender.

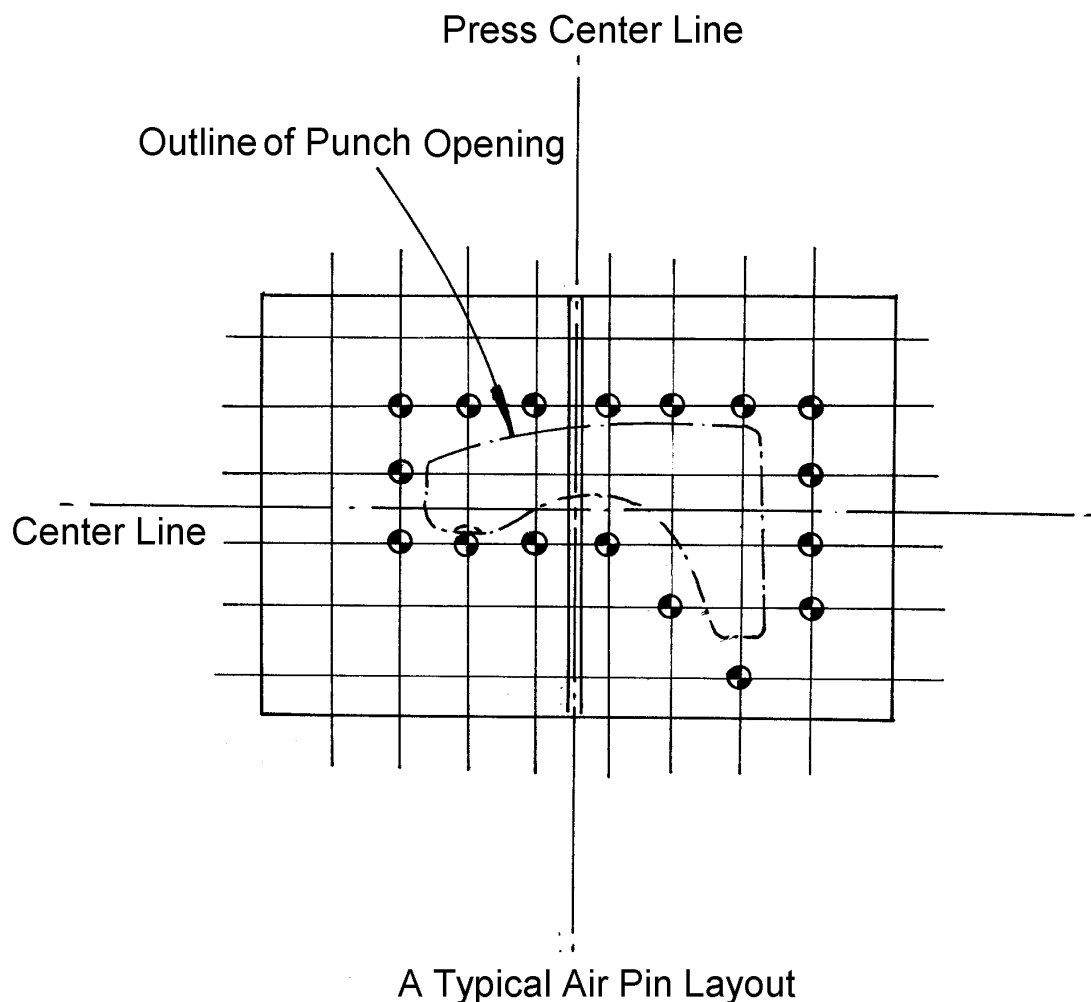


Figure 1-6. An Air Pin Layout for a Fender

When designing a die, it is important to consider the requirements of the die and the press. The binder itself should be balanced with a suitable spread of air pins. This balance is important, as the press ram exerts a force down through the die as it closes. If the air pins in the lower die are in a pattern that provides unbalanced upward pressure, it may cause an off-center counter pressure to be applied through the die to the face of the ram. This counter pressure may result in press and die damage and in inconsistent parts.

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If more than one operation is set on the press bed, the balancing of the air-pin layout can become more complex. Some presses can have one cushion under the press, driven by one or more cylinders. Some presses are fitted with a split cushion that can be driven independently, as shown below. Care should be taken to ensure that the air-pin layout is compatible with the types of tooling actions that are to be placed in the press.

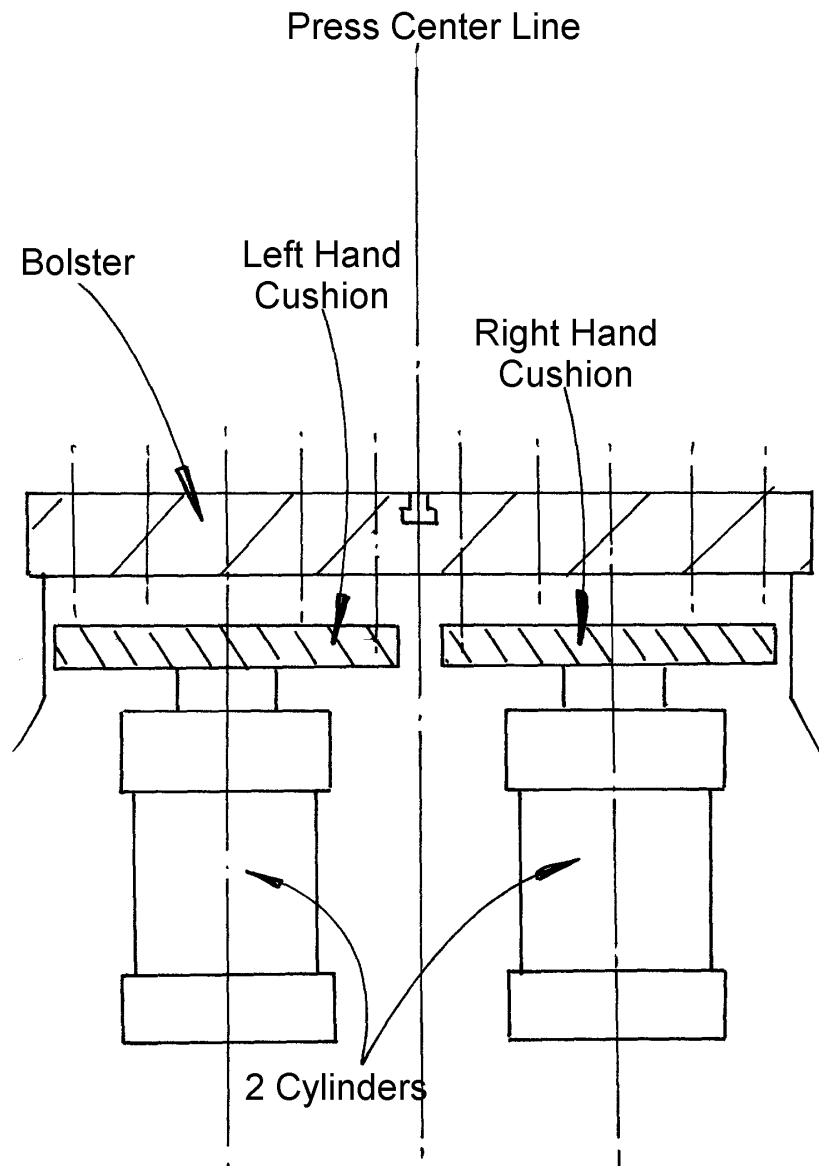


Figure 1-7. Multiple Cushions in a Press