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| Thesis Title | Comparative Study of Die Guidance Systems on the Angular Deflection for Eccentric and Hydraulic Press |
| Thesis Credits | 12 |
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Abstract

In metal forming work which requires high production accuracy , especially production of automobile parts , guidance systems are necessary. The pillar guides together with heel block guides are used for better alignment of the upper and lower die , thus increasing process accuracy.

This thesis studies and compares the behaviour of eccentric and hydraulic press in accordance with angular deflection of press slide , slide tilting , slide rotation and lateral offset. The die guidance systems is used to reduce angular deflection of press slide , slide tilting , slide rotation and lateral offset. As a result angular stiffness of the die and machine under the eccentric forming force is increased. It has been found that the die guidance systems which provide the maximum improvement are guide pillar \varnothing 32 mm together with heel block guide. The improvement of 71.29 percent for eccentric press has been found. By using heel block guide , 62.51 percent improvement has been recorded. The result of the improvement on the angular spring constant for hydraulic press was 71.49 percent by using guide pillar \varnothing 32 mm and heel block guide and was 55.31 percent by using heel block guide only.

Keywords : Angular Deflection of Press Slide / Slide Tilting / Angular Spring Constant / Lateral Offset / Slide Rotation / Die Guidance Systems / Press Accuracy