

INFLUENCE OF RECONDITIONING SHEARING PUNCH AND DIE TO THE PRODUCTIVITY OF THE METAL STAMPING DIE MAINTENANCE

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Metal stamping die components such as punches and dies are particularly susceptible to wear and breakage. Problems with these types of components can cause press shutdowns while tooling is repaired, slowing production and adding cost to the stamping process. Therefore, precision metal stamping die require regular maintenance to ensure the quality of the components it produces. Normally the maintenance works involves sharpening of cutting punches, replacing broken and damaged parts, and working on die to ensure the final stamped product meets all the quality specifications of customers etc. In this study, an optimum metal stamping die maintenance approach has been developed by analysing the current general metal stamping die maintenance process that be carried out at the metal stamping company. An evaluation and comparison between reconditioning (regrind) punch and dies with the new punch and dies on compound stamping die (single shearing operation) was made. The best practice in die maintenance activities in improving the productivity has been realized. Based on the findings and the previous study, it can be conclude that with both new punch and die condition will produce 50% higher on the average of the production output and the maintenance time is 28% faster compare to regrind punch and die condition. Therefore optimization of the productivity can be achieved by continuously using new punch and new die because it will produce higher production output even though it will contribute higher maintenance cost. But with low total average of maintenance time, it will recover the cost.