

MISTAKE PROOFING (POKA-YOKE) IN BUSH PRESSING MACHINE IN AN ENGINE BLOCK

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In bush press machine, manual stoppers are used to stop the cylinder block and insert the bush into the block. Sometimes in this system due to human error the bush is not inserted into the H cylinder block oil pump bore. This reduces the availability of the machine which in turn affects the Overall Equipment Effectiveness (OEE) level of the machine. This also leads to increase in operating cost, tool cost, and consumable cost of the machine per product. The time taken to re – rework the entire block is also high and it affects the overall production rate. In order to reduce the concerning cost and increase the OEE level, I have developed a relay based automation system. This will sense the block once it enters the machine and sequence of operation is automatically done to engage the stopper thus eliminating the human error. In order to ensure that the bush is inserted into the chuck before pressing it into the cylinder block, a proximity sensor is used. If the proximity sensor does not sense the bush even if the cycle start button is pressed it will not start the operation. By this automation, POKA – YOKE technique is implemented in the bush press machine.