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DESIGN AND DEVELOPMENT OF HYDRAULIC PRESS WITH DIE

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Abstract: The aim of this paper is to sum-up the mechanical systems of hydraulic system. It will make the our operations easy in present era time is time most important factor for any operational work . In this process we engage less time and also do the operation with higher accuracy.this things provide a lot of comfort to human to work in this operation .in this way made and attempt to give the smooth and fast functioning working operation of the press work

I. INTRODUCTION

It is a device which produces huge amount of force with the help of fluid.basically this operation works on Pascal's principle which states that the intensity of pressure of steady state fluid is distributed equally and all directions .by the use of this principle larger force produces which will be uae in this workingoperation .It is the process of mass production which includes the different working on metal's .It is on of the different and unique method which also uses very different shapes with the parellel walls

Press working includes larger forces that is for the short interval of time in this process this operation contains a lot of advantages like grate accuracy,well surface finish and it doesn't include any heating parts of material .It has a lot of tolerance which are very much sticked to it.

It can produce the different parts at very good speed and also the cost which will be pay for labour a very low .

The forces which will work in it are referred as press it is our attempt to regulate the press work using the hydraulic mechanism in press machine . The most important factor of starting the process is movement of all the things which will be used in it the key rolefor input and output will be done by rotating shaft and reciprocating plunger.

After this we use some of the valves which helps to control and regulate the operation smoothly .The vavles which play important roleare direction controls and pressure valve , it provides the easier way to regulate the forces used in this forces used in this operation .

II. WORKING PRINCIPLE

It is used for heavy production.the main advantage of this operation is that it complets the work cycle in very short time which helps the process in increasing of production .In hydraulic press machine hydraulic energy first convert to kinetic energy to potential energy that will help to produce shere stress between die and punch which helping cutting metal's . It's working discription firstly started from its main part that is named plunger . basically the whole function working on Pascal's low which is all ready discussed in the introduction . plunger and cylinder connected through pipe.

As we increase the pressure on plunger the pressure intensity of cylinder of also increase according to Pascal's low .so increased intensity of pressure of cylinder help to force to outword cylinder .due to this the punch who is attached to one side of the piston also walks in ahead of piston as the punch goes down it will go through gide way because of shear stress metal cut in that position and we got the final product .

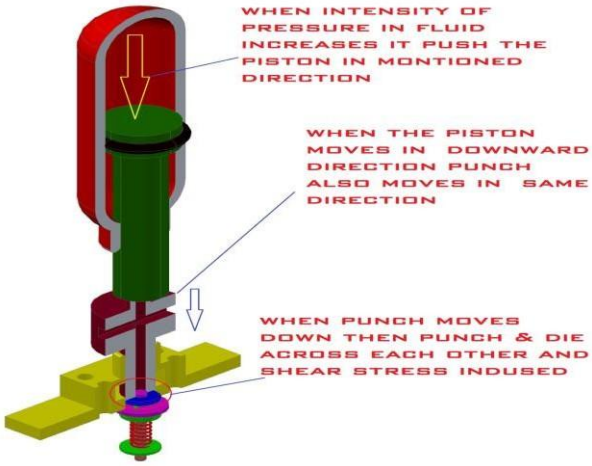

Fig. 1 Concept of working of press

III. ACTUAL SET UP

Fig. 2 Developed Setup

IV. CONCLUSION AND FUTURESCOPE

Here we used the hydraulic way to perform working of press it helps the work for large production. it will help a lot to increase the accuracy of work with better surface finish too . this process can also be utilised by some other performances

like elctrohydraullics . directions control valve is also used for close loop system , that will give benefit to rise in production .

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