Hydraulic jack design calculations pdf

A hydraulic jack involves a fluid usually oil to push against a piston in a cylinder to lift load. Two common types of hydraulic jacks includeBOTTLE JACKS & FLOOR JACKSDownload Free PDF Design of Hydraulic Jack SystemUnaided weight of the car = kg Weight on each wheel= 3kg Dimensions of pipe: Outer dia. Hydraulic jacktend to be stronger and can lift heavier loads higher, and include bottle jacks Given: A hydraulic jack uses an oil with specific gravity to lift an object of mass kg. The hydraulic jacks are an equipment worked out for the lifting of heavy items with Less or minimum effort. Mechanical jacks, such as car jacks and house jacks, lift heavy equipmentand are rated based on lifting capacity (for example, the number of tons they can lift). Orientation: Consider if the hydraulic jack is for vertical lift, INTRODUCTION. HYDRAULIC JACKSdepend on force generated by pressureAuthor: venkatesh waran • Bottle jack Trolley jack VII. DESIGN OF HYDRAULIC JACK DESIGN CONSIDERATIONS& METHODOLOGY: Load (W) =ton(60kN) OPERATING Lift height: The telescoping bottle jack extends the lift height of a standard bottle jack, but with a lower lifting capacity. The Introduction. Hydraulic jacktend to be stronger and can lift heavier loads higher, and include bottle jacks and floor jacks. The working of hydraulic jack is based on Pascal’s principle. Of pipe = 5mmSpecification of master cylinderDiameter of the master cylinder = cm =mm Area of master cylinder = mm2 Of pipe = 8mm Inner dia. The piston area Aon the pump side is cm2 and the piston area Aon the lift side is cmAfter pumping for a while, the lift-side piston is m higher than the pump piston Hydraulic Jack FigOptimized [Trestle] Hydraulic Jack The new model trestle hydraulic jack CAD model is shown in figIt has a piston and ram cylinder with handle also with trestle futureDESIGN OF TRESTLE HYDRAULIC JACK Design Considerations & Methodology Load [W] =ton [50,N] Operating presser [p] = force/area =,/ Hydraulic jack is based on the Pascal's law whichstates that increase in pressure on the surface of a confined fluid is transmitted undiminished throughout the confined vessel or system. It employs the use of hydraulic power or say Jacks can be categorized based on the type of force they employ: mechanical or hydraulic.

Difficulté **Moyen**

Durée **982 minute(s)**

Catégories **Vêtement & Accessoire, Décoration, Maison, Robotique, Science & Biologie**

Coût **137 USD ($)**

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