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(54) Title of the invention : A LATCHING MECHANISM FOR SOLENOID VALVE AND A METHOD TO OPERATE THE SAME

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(57) Abstract :

The present invention discloses a latching mechanism for regulating fluid in solenoid valves. Said latching mechanism consists of a core tube (21) with a cam means (22), an armature (31), a lug member (41), and a push rod (51). The latching mechanism latches and de-latch by energizing the solenoid coil for regulating the fluid. Said latching mechanism actuates by using power pulse of singular polarity. The power pulse required to operate the latching mechanism does not require continuous energy to hold the valve in position. Therefore, the power consumption of solenoid valves is reduced and service life is increased.

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(54) Title of the invention : MOTORIZED TILT-ABLE SCREW JACK FOR FARM TRACTOR OVERHAULING

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(57) Abstract :

Title of the Invention Motorized tilt-able screw jack for farm tractor overhauling Field of the invention The present invention relates to the field of screw jack particularly relates to the field of screw jack with motor and provision to tilt which is predominately used for farm tractor overhauling. Prior art to the invention ■ 1. US5441275 - GOLF SWING TRAINING DEVICE describes about the tilt angle of the swing path guide loop, which is adjusted by the tilt angle changing mechanism described above, is indicated by a tilt angle indicator provided on the base frame. None of the above-mentioned prior arts neither teaches nor discloses about the Motorized tilt-able screw jack for farm tractor overhauling. Objects of the invention The primary object of the present invention is to reduce the difficulties in dismantling and assembling of engine and transmission unit of a tractor. i Other object of the present invention is to reduce the hazards and human efforts in tractor maintenance. Another object of the present invention is the engine and transmission system can be mounted on a separate base which is free to rotate over its pivot. Yet another object of the present invention is through two simultaneously operated screw jacks mounted on separate base one for Engine and other for Transmission. Summary of the Invention An aspect of the present invention is a Motorized tilt-able screw jack for farm tractor overhauling; comprises of, A Frame (1); A Base plate (2); A Screw jack (3); A Gear (4); A Gear pinion (5); A DC motor (6); and A handle (7), wherein, the present invention has the fixed frame (1) with castor wheel mounted on it for easy movement of the assembly, therein, the base plate (2) is placed over the frame (1) which is easy to rotate on its pivot mounted in the center of the frame with an axial bearing, wherein, the two screw jacks (3) one for transmission and other for engine is mounted on the top of the base plate (2) and the screw Jacks (3) are specially modified by attaching the gear (4) to the screw nut so that it is meshed with the pinion gear (5) which is rotated by means of the DC Motor (6), wherein, the base plate (2) has the handle (7) mounted with it so that it can be moved easily. Brief description of diagram Figure-1 is the schematic representation of Motorized tilt-able screw jack for farm tractor overhauling DETAILED DESCRIPTION The present invention has a fixed frame (1) with castor wheel mounted on it for easy, movement of the assembly. The base plate (2) is placed over the frame (1) which is easy to rotate on its pivot mounted in the center of the frame with an axial bearing. Two screw jacks (3) one for transmission and other for engine is mounted on the top of the base plate (2). Screw Jacks (3) are specially modified by attaching a gear (4) to the screw nut so that it is meshed with pinion gear (6) which is rotated by means of DC Motor (7). The base plate (2) has a handle (7) mounted with it so that it can be moved easily. During the operation the screw jack is placed precisely below the engine and transmission assembly in a way that the engine and transmission is exactly carried by a screw jack respectively. Engine and Transmission assembly is then freed from the frame of the tractor by removing all the fasteners. The entire assembly is then raised by powering the DC motor, so that the screw jack is operated in forward direction. Once the entire assembly is raised to the required height the engine and the transmission unit is separated and the base plate is rotated to 90 degrees with the help of the handle provided in the base plate. Once the service is one the engine and transmission is assembled back, and the base plate is brought back to normal orientation and the jack is lowered so that the engine and transmission assembly is perfectly placed in their respective position. By this invention the service of tractor engine and transmission system becomes easy and reduces operating time.

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