Hydraulic Cylinder

Converting non-hydraulic force into hydraulic pressure, the master cylinder control device functions in order to move machines, other slave cylinders, that are situated at the opposite end of the hydraulic system. Pistons move along the bore of the master cylinder. This movement transfers through the hydraulic fluid, causing a movement of the slave cylinders. Hydraulic force made by moving a piston toward the slave cylinder compresses the fluid equally. By varying the comparative surface-area of each and every slave cylinder and/or of the master cylinder, the amount of displacement and pressure applied to every slave cylinder would adjust.

Master cylinders are most commonly utilized in clutch systems and brake applications. In the clutch system, the unit the master cylinder operates is called the slave cylinder. It moves the throw out bearing, causing the high-friction material on the transmission's clutch to disengage from the engine's metal flywheel. In the brake systems, the operated systems are cylinders placed within brake calipers and/or brake drums. These cylinders can be called slave or wheel cylinders. They function to be able to push the brake pads towards a surface which rotates along with the wheel until the stationary brake pads generate friction against the revolving surface.

For both the hydraulic clutch and brake, the flexible pressure hose or inflexible metal hard-walled tubing can be used. The flexible tubing is needed is a short length adjacent to every wheel for movement relative to the car's chassis.

There is a reservoir located on top of each master cylinder supplying a sufficient amount of brake fluid to prevent air from going in the master cylinder. Lots of new cars and light trucks consist of one master cylinder for the brakes which comprise two pistons. Numerous racing vehicles along with several very old cars consist of two separate master cylinders and only one piston each. The piston within a master cylinder operates a brake circuit. In passenger vehicles, the brake circuit usually leads to a brake shoe or caliper on two of the vehicle's wheels. The other brake circuit provides brake-pressure to power the original two brakes. This design feature is done for safety reasons so that only two wheels lose their braking ability at the same time. This results in extended stopping distances and must require instant repairs but at least supplies some braking ability which is much better as opposed to having no braking capability at all.