

Hydraulic Cylinder

The master cylinder converts non-hydraulic force into hydraulic pressure. This control equipment works in order to move different machines which are situated at the other end of the hydraulic system, as in one or more slave cylinders. Pistons move along the bore of the master cylinder. This movement transfers throughout the hydraulic fluid, resulting in a movement of the slave cylinders. Hydraulic pressure made by moving a piston toward the slave cylinder compresses the fluid equally. By varying the comparative surface-area of every slave cylinder and/or of the master cylinder, the amount of displacement and force applied to each slave cylinder will adjust.

Most commonly used in clutch and brake systems, the master cylinders, whenever used in the clutch system works the unit called the slave cylinder. Moving the throw out bearing will cause the high-friction material on the clutch's transmission to disengage from the metal flywheel. In the brake systems, the operated systems are cylinders situated inside of brake drums and/or brake calipers. These cylinders could be called wheel or slave cylinders. They function so as to push the brake pads towards a surface which revolves along with the wheel until the stationary brake pads create friction against the turning surface.

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

Above each and every master cylinder is situated a reservoir supplying a sufficient amount of brake fluid so as to prevent air from entering the master cylinder. Modern motor vehicles have one master cylinder for the brakes, with the brakes comprising two pistons. Many racing cars together with a few traditional vehicles consist of two individual master cylinders and just one piston each. The piston within a master cylinder works a brake circuit. In passenger vehicles, the brake circuit typically leads to a caliper or brake shoe on two of the vehicle's wheels. The other brake circuit provides brake-pressure in order to power the remaining two brakes. This particular design feature is done for safety reasons so that just two wheels lose their braking capability at the same time. This causes longer stopping distances and should require instant repairs but at least provides some braking capability that is much better compared to having no braking capability at all.