

POWER STEERING

DESCRIPTION

POWER STEERING PRINCIPLES

SR008-02

Power steering utilizing engine hydraulically reduce power steering effort. Consequently, the engine is used to drive a pump to develop fluid pressure, and this pressure acts on a piston within the power cylinder so that the pinion assists the rack effort. The amount of this assistance depends on the extent of pressure acting on the piston. Therefore, if more steering force is required, the pressure must be raised. The variation in the fluid pressure is accomplished by a control valve which is linked to the steering main shaft.

NEUTRAL (STRAIGHT-AHEAD) POSITION

Fluid from the pump is sent to the control valve. If the control valve is in the neutral position, all the fluid will flow pass through the control valve in to the relief port and back to the pump. At this time, hardly any pressure is created and because the pressure on the cylinder piston is equal on both sides, the piston will not move in either direction.

