



4-Way Valve

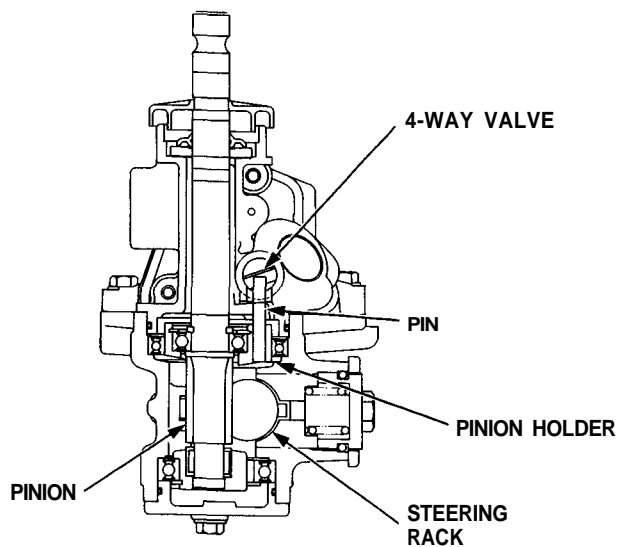
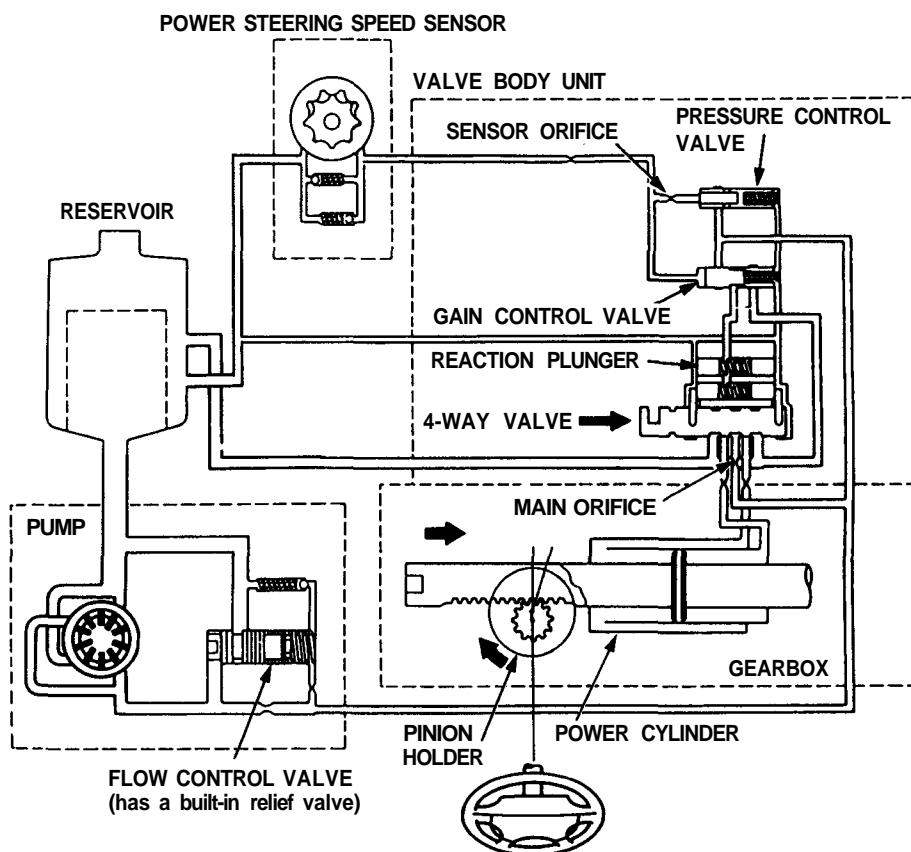
Mounted on the upper side of the gearbox is a 4-way valve that is moved horizontally by a pin on the pinion holder to shift fluid pressure to the right or left side of the power cylinder when the steering wheel is turned.

It has thrust pins at both ends, and two inter-connected reaction chambers, one on each side.

Each reaction chamber contains a pair of spring-loaded plungers that rise against right and left thrust pins.

The valve body fluid passages are controlled by the 4-way valve.

Fluid pressure in the reaction chambers is reduced by the gain control valve in order to change the amount of the assist in accordance with the change in the car's speed.



(cont'd)

System Description

4-Way Valve (cont'd)

In the power steering unit, the method used to direct a single source of fluid pressure in either of two directions (for left or right turns) involves the pinion gear transferring a "message" of direction to the fluid in the 4-way valve.

The pinion is mounted slightly off-center in a pair of bearings, which are in turn mounted in a pinion holder cylinder that rotates, centered in its own outer bearings. At the bottom of the Pinion Holder is a pin, which fits in a slot in the 4-way valve.

As the pinion is turned (to turn left or right), because it is off-center, it also moves slightly along the rack. This movement is transferred to the holder. The pin in the holder then moves the 4-way valve, to direct fluid pressure to either side of the rack in the power cylinder.

The back edges of the pinion holder (facing away from the rack) hit the stops cast into both sides of the gear housing to avoid pushing the 4-way valve too far in either direction. The front edge of the pinion holder cuts off assist at full lock as described on the next page.

