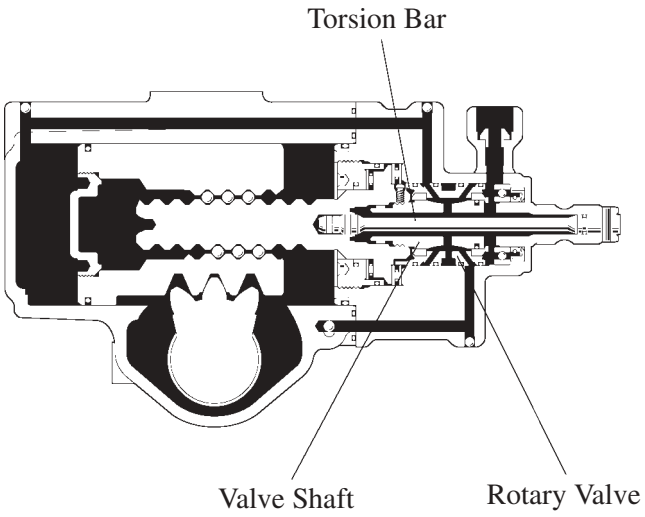
## ■ STEERING GEAR

### 1. General

The rotary valve of the steering gear on the models with power steering has been changed to improve the steering response further during straightline driving and realize excellent steering feeling.




140CH31



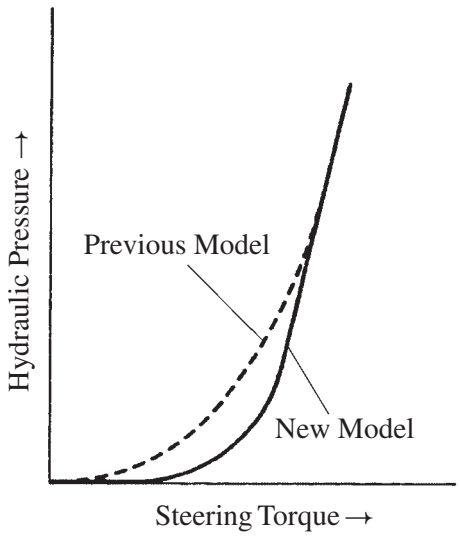
### 2. Rotary Valve

#### Construction

The conventional rotary valve has its valve opened in the vicinity of the neutral position of the steering, which creates a pressure difference between the right and left cylinders even with a minute change in steering angle.

On the new model, the shape of the valve has been revised so that the valve does not open completely in the vicinity of the neutral position of the steering. As a result, a difference in cylinder pressure is less likely to be created with a slight change in the steering angle.

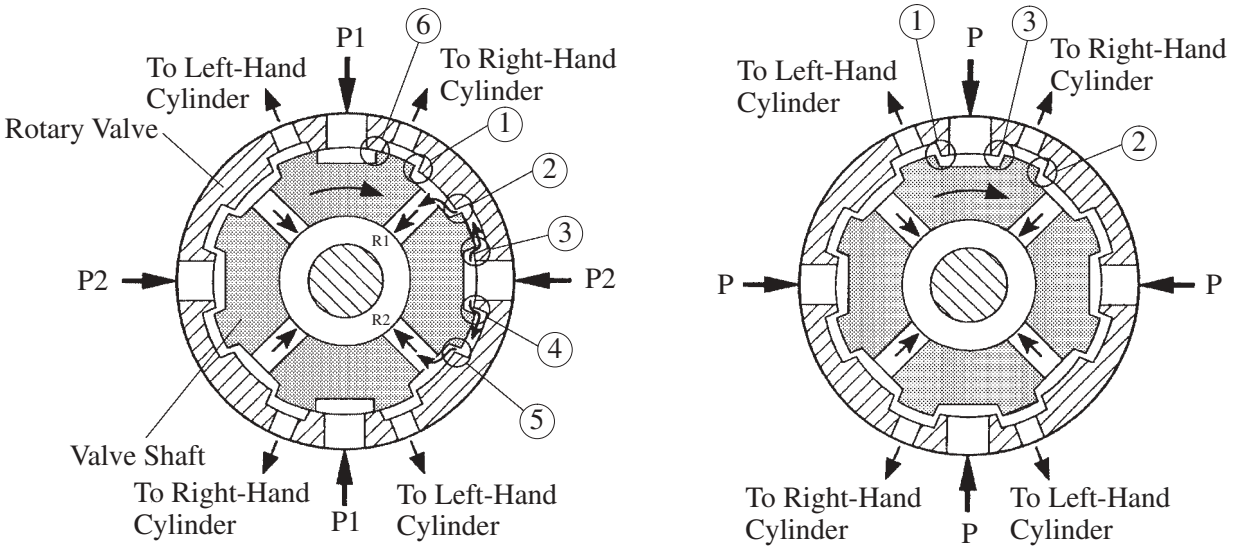
As the steering wheel is turned further, and the required steering torque increases, the power steering's assist becomes greater to lessen the steering effort.




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## Operation

On the previous model, turning the steering wheel to the right activated the rotary valve and valve shaft, causing the apertures (1) and (2) to contract, and the aperture (3) to open.
Because the area ratio of these apertures determine the hydraulic characteristic, even a very small amount of activation created a pressure difference between the right and left cylinders.
On the new model, P1 is closed during straightline driving, enabling the power steering fluid to flow to P2. The power steering fluid, which is introduced through P2, flows to both sides, R1 and R2.
Even if the driver begins to turn the steering wheel to the right, as the aperture (6) remains closed, the fluid to P1 does not flow to the right-hand cylinder. For P2, the apertures (2) and (4) begin to open, and the apertures (1) , (3) , and (5) begin to close.
However, as the path from P2 is balanced between the opening side (2) and (4) , and the closing side (3) and (5) , a pressure difference is not created between the right and left cylinders.
Then, turning the steering wheel further causes the apertures (1) , (3) , and (5) to close, and simultaneously open the aperture (6) . As a result, the fluid from P1 flows to the right-hand cylinder creating a pressure difference between the right and left cylinders.




**New** **Previous** 140CH28