

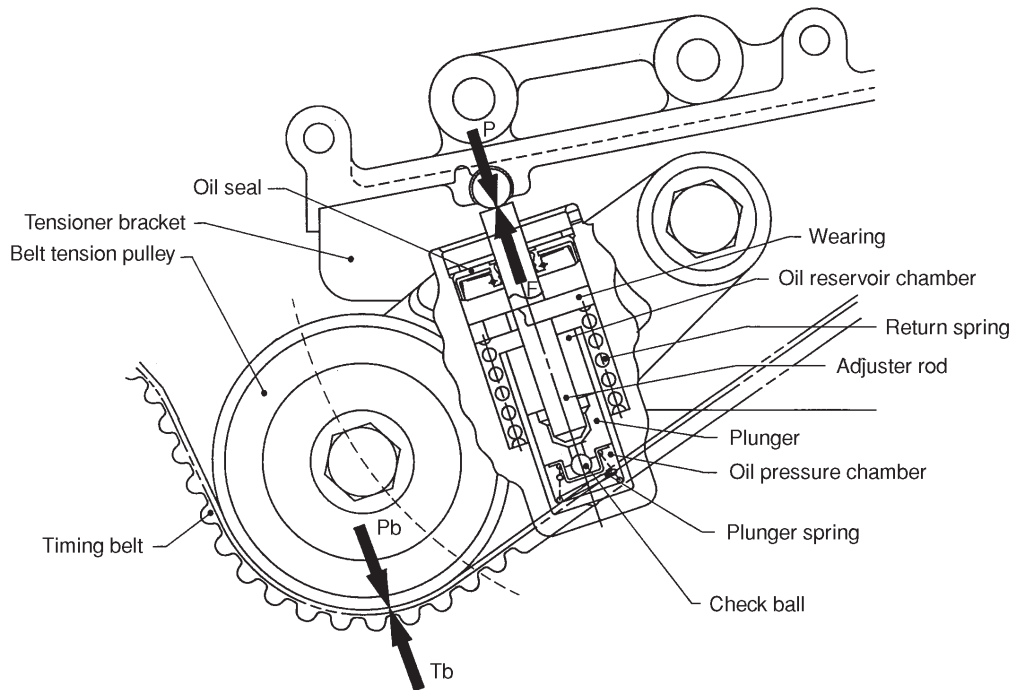
2-3 [M300]**MECHANISM AND FUNCTION****3. Automatic Belt Tension Adjuster Assembly****3. Automatic Belt Tension Adjuster Assembly**

The automatic belt tension adjuster assembly mechanism consists of an automatic belt tension adjuster assembly and a tensioner bracket and maintains the timing belt tension automatically at a specified level to ensure positive transmission of driving power, reduction of noise and improvement of belt life.

The cylinder of the automatic belt tension adjuster assembly incorporates an adjuster rod, wear ring, plunger spring, return spring, check ball and silicone oil.

The automatic belt tension adjuster assembly is so constructed as to apply tension to the timing belt by means of leverage.

The belt is tensioned by the turning moment of the automatic belt tension adjuster assembly which is produced by the push rod pressurized by the return spring in the cylinder.



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- Timing belt tensioning action (which follows slackening of belt)

If the adjuster rod is pushed upward by the return spring, the oil in the reservoir chamber which is pressurized by the plunger spring to a fixed pressure level pushes open the check ball and flows into the oil pressure chamber.

Thrust F of the adjuster rod acts on the tensioner bracket, which causes the belt tension pulley to pivot counterclockwise on the fulcrum of the automatic belt tension adjuster assembly, applying tension P_b to the timing belt.

- Timing belt tension balancing action

When the belt tension pulley is pushed against the timing belt with P_b , reaction force T_b of the timing belt generates reaction force P at the acting point of the adjuster rod.

This force pushes in the adjuster rod up to a point where it is balanced with the thrust F of the adjuster rod plus the pressure generated by the oil enclosed in the oil pressure chamber, thus the timing belt tension being kept constant.

- Overtension correction action (action for slackening the timing belt)

If the tension of the timing belt increases above the specified level, force P becomes larger than thrust F and silicone oil is returned from the oil pressure chamber to the reservoir chamber little by little until P is balanced again with F , thus maintaining timing belt tension at the specified level at all times.