

## BMW ZF-5HP-18 NO MOVE OR DELAYED ENGAGEMENT

**COMPLAINT:** Vehicles equipped with ZF-5HP-18 may exhibit a No movement, or a delayed engagement condition, before and/or after overhaul.

**CAUSE:** The cause may be, that the "Bypass Ball," located in the pump as shown in Figure 1, may have shrunken down and traveled back through the pump passage leading to the Torque Converter Valve, sticking the valve in the "stroked" position (See Figure 2). When this valve is stuck in this position it may cause the Torque Converter to drain-back after sitting for a prolonged period of time. When the vehicle is started after sitting, it may take 10 to 15 minutes for the Torque Converter to fill back up, and this all depends on the positioning of the stuck Torque Converter Valve.

**CORRECTION:** Locate the Torque Converter Valve, as shown in Figure 3 , and free the valve up, removing the shrunken Bypass Ball from binding the valves movement. Replace the assembly in pump body with a new one from ZF, available under ZF part number 1056-210-143, if the capsule can be removed from the pump body (See Figure 1).

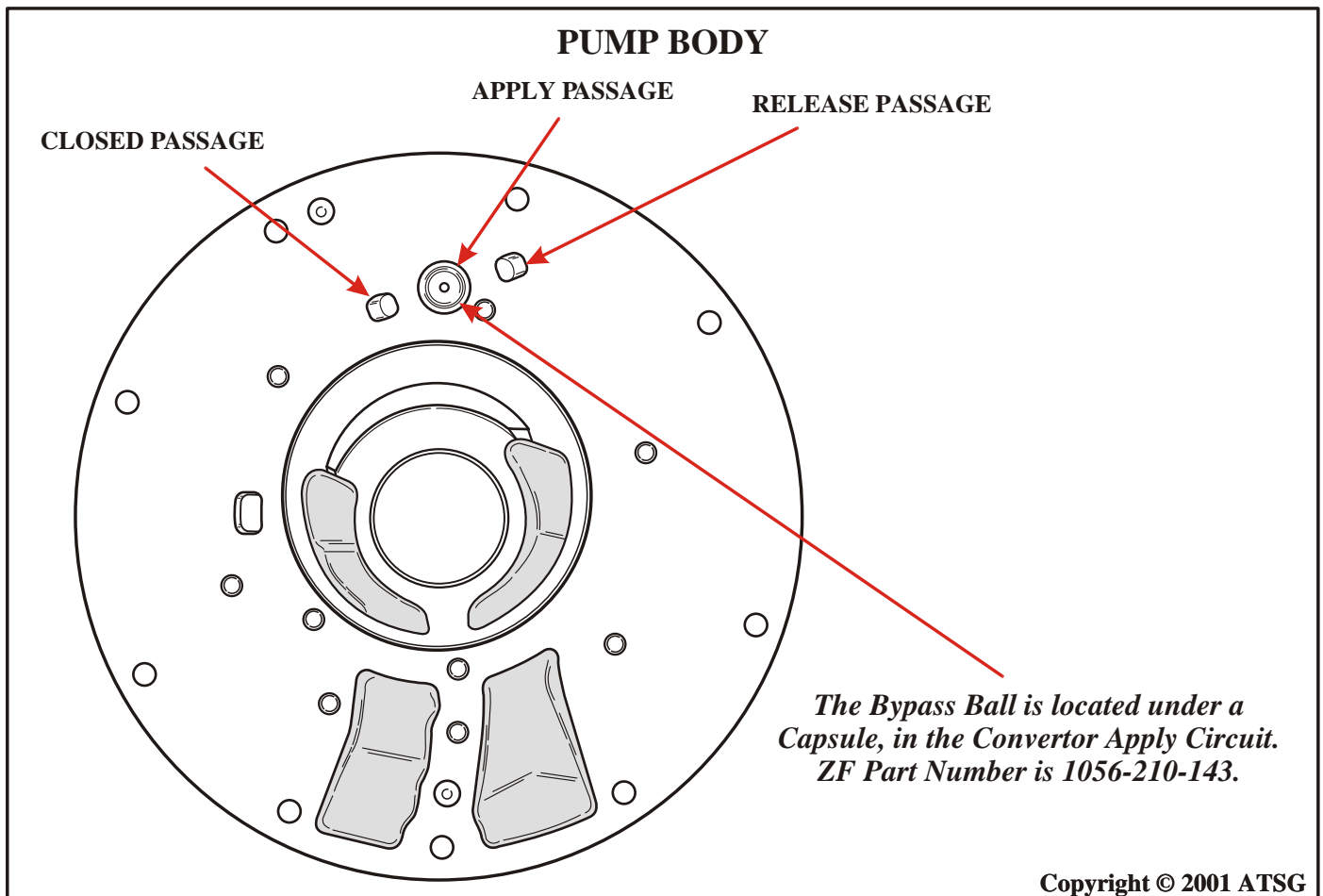
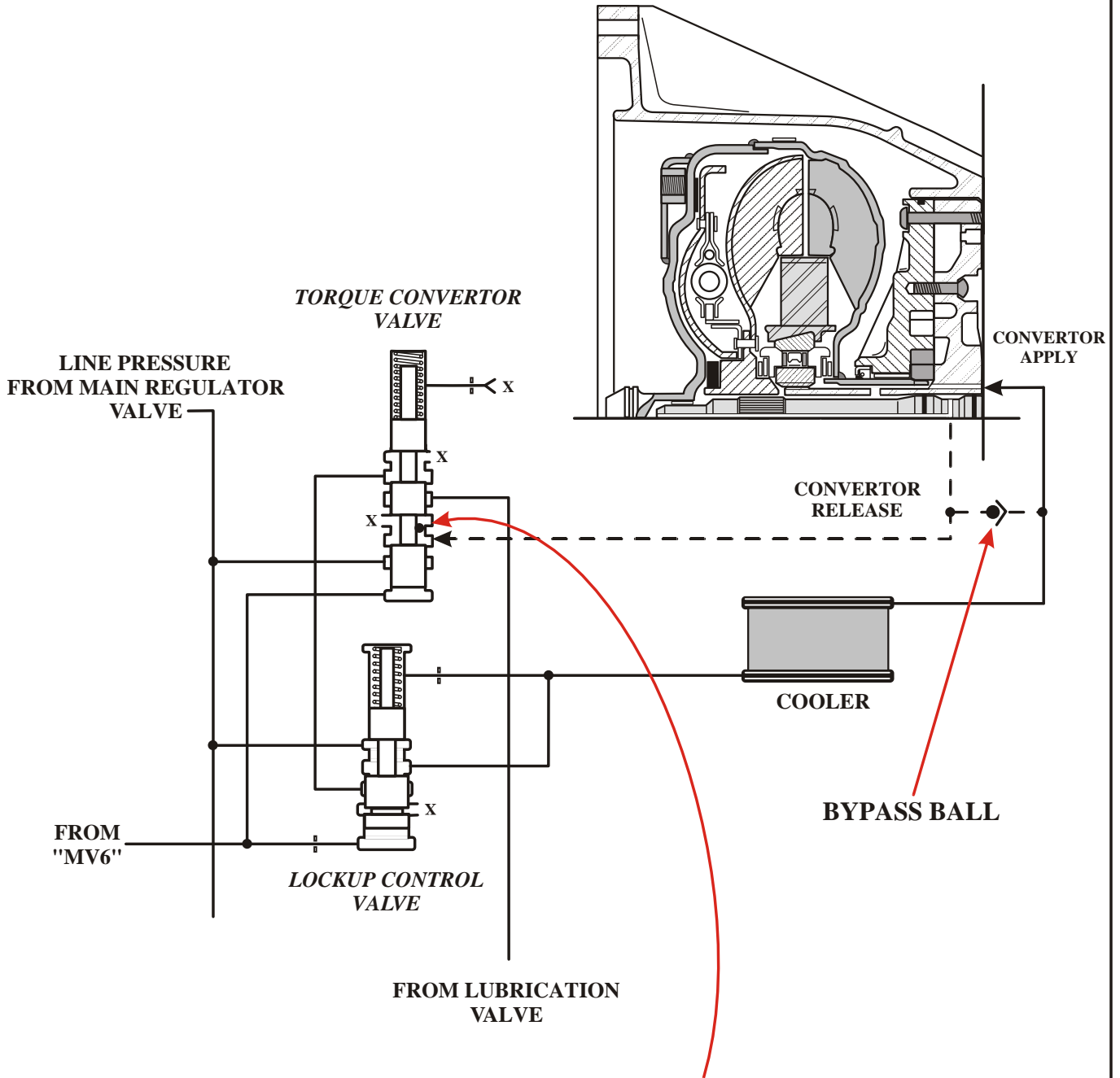


Figure 1

### ZF-5HP-18 LOCKUP HYDRAULIC CIRCUIT

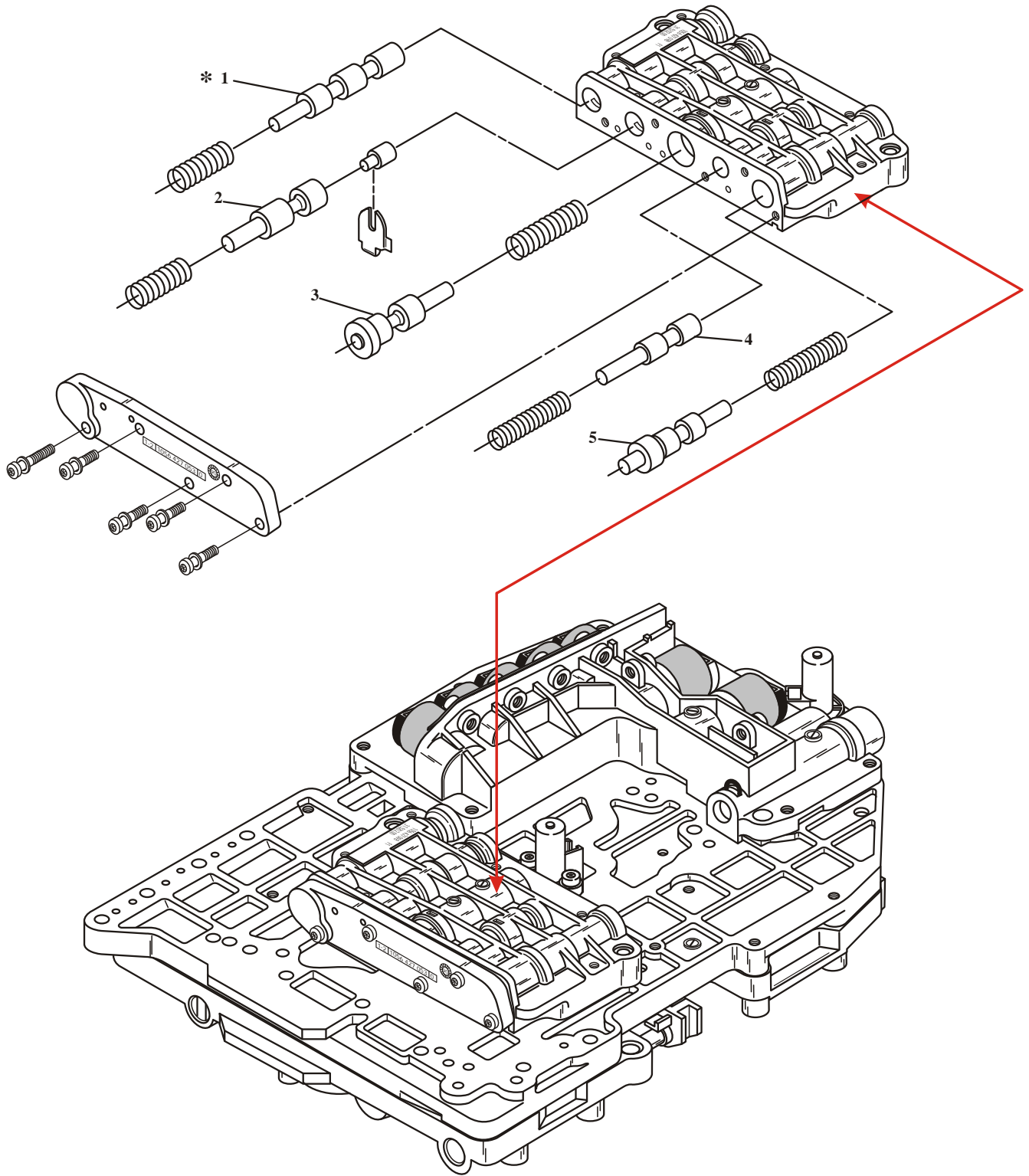


*The "Bypass Ball" shrinks and travels back through to the Torque Converter Valve and lodges itself in this passage, sticking the valve in this approximate position.*

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Figure 2

### ZF-5HP-18 UPPER FRONT VALVE BODY



- \*1. Torque Converter Valve
- 2. Lubrication Valve Train
- 3. Lock-Up Control Valve
- 4. 5-4 Traction Valve
- 5. 5-4 Traction Valve

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Figure 3