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**Automatic
Transmission
Hydraulic Control
Systems —
Terminology**

SAE Recommended Practice
Reaffirmed July 1988

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AUTOMATIC TRANSMISSION HYDRAULIC CONTROL SYSTEMS - TERMINOLOGY

1. SCOPE:

The following is a list of the most common terminology used in describing hydraulic control systems.

The hydraulic control system of an automatic transmission may include oil pumps, pressure regulator, governor, and control valves.

2. PUMP:

A device which provides fluid pressure to the transmission.

3. PRESSURE REGULATOR VALVE:

A device which regulates a pressure in the hydraulic control system.

4. MANUAL OR SELECTOR VALVE:

A valve through which the desired driving range is selected.

5. SHIFT VALVE:

A valve which brings about a ratio change when acted upon by control forces.

6. LINE PRESSURE:

The primary pressure of a hydraulic control system.

7. MODULATED PRESSURE:

Any controlled variable pressure.

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8. THROTTLE PRESSURE:

A pressure which varies in relation to throttle opening.

9. GOVERNOR PRESSURE:

A pressure which varies in relation to speed, usually that of the transmission output shaft.

10. COMPENSATOR PRESSURE:

A modulated pressure which is varied to modify engagement characteristics of ratio changing elements.

11. HYDRODYNAMIC UNIT CHARGE AND DISCHARGE PRESSURE:

The externally applied pressures under which the hydrodynamic unit operates.

12. VACUUM MODULATOR PRESSURE:

A pressure which varies in relation to engine vacuum and is used as an engine torque signal.

13. WIDE-OPEN THROTTLE KICKDOWN VALVE:

A valve which produces an automatic forced upshift or downshift at the maximum throttle opening position and which may be activated either mechanically or electrically.

Further detailed information on hydraulic systems used in automatic transmissions can be found in Section 1 of "Design Practices - Passenger Car Automatic Transmissions," SAE Advances in Engineering, Vol. 2.

RATIONALE:

Not applicable.

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

REFERENCE SECTION:

Not applicable.

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