



SURFACE VEHICLE TECHNICAL REPORT

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Domestic Performance Torque Converter Manufacturing

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Foreword—The purpose of this Draft Technical Report is to give the technical community the opportunity to review, comment on, and use its content prior to final approval by SAE. Comments on this draft are welcome and should be submitted in writing to Secretary, Technical Standards Board, SAE, 400 Commonwealth Dr., Warrendale, PA 15096-0001.

1. Scope—The scope of this SAE Draft Technical Report is to establish dimensional standards for high-performance domestic torque converter manufacturers. Many torque converter manufacturers build converters to their own standards. Some of these standards may be outside of the specifications that define a quality performance torque converter.

1.1 Purpose—The purpose of this SAE Draft Technical Report is to establish dimensional standards for the high-performance torque converter aftermarket.

2. References

2.1 Applicable Publications—The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated the latest revision of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J641—Hydrodynamic Drives Terminology

SAE J643—Hydrodynamic Drive Test Code

SAE J1087—One-Way Clutches—Nomenclature and Terminology

3. Definitions

3.1 Torque Converter—A hydrodynamic drive which transmits power with ability to change torque.

3.2 Impeller—Designates the power input member. May also be known as the pump.

3.3 Turbine—Designates the output member.

3.4 Reactor—Designates the reaction member. May also be known as the stator.

3.5 One-Way Clutch—See SAE J1087.

- 3.6 Lock-Up Torque Converter**—A hydrodynamic torque converter using a clutch to provide a direct mechanical drive.
- 3.7 Clutch Piston**—A friction element device which mechanically couples the impeller and turbine.
- 3.8 Damper**—A device that reduces the amplitude of torsional vibration to the output.
- 3.9 Blade**—Within an element, designates the means of directing fluid. Sometimes referred to as fins.
- 3.10 Torus Section**—Designates the confines of a flow circuit in a radial plane of a torque converter or fluid coupling.
- 3.11 Shell**—Designates the outside wall of the torus section in any member.
- 3.12 Torque Converter Size**—In general terms, designates the maximum diameter of the flow path.
- 3.13 Hub**—The tubular appendage on the impeller side of the converter. The hub typically drives the transmission pump.
- 3.14 Hub Slot**—The portion of the hub that drives the transmission pump.
- 3.15 Pilot**—Designates the part of the converter that locates the converter to the crankshaft centerline.
- 3.16 Non-Lockup Torque Converter**—A conventional torque converter which does not contain a lockup clutch. Abbreviated as NLU.

4. Dimensions and Material Standards

- 4.1 External Dimensional Standards**—The critical external dimensions are illustrated in Figure 1.

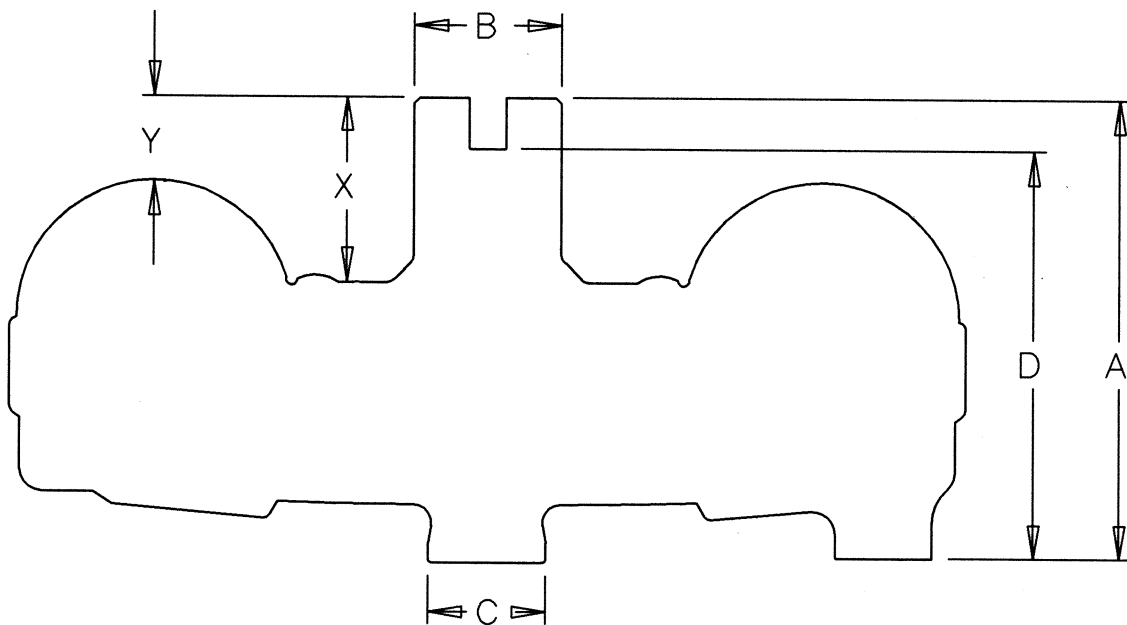


FIGURE 1—TORQUE CONVERTER DIMENSIONS