



Technical Report Preprint

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J934

VEHICLE PASSENGER DOOR HINGE SYSTEMS - SAE J934

SAE Recommended Practice

Report of Body Engineering Committee approved July 1965.

1. SCOPE

The scope of this SAE Recommended Practice is to establish recommended uniform test procedures and minimum static load requirements for vehicle passenger door hinge systems. Tests are described that can be conducted on test fixtures and equipment in laboratory test facilities.

The test procedures and minimum performance requirements outlined in this recommended practice are based on currently available engineering data. It is intended that all portions of the recommended practice be periodically reviewed and revised as additional knowledge regarding vehicle hinge system performance under impact conditions is developed.

2. TERMINOLOGY

2.1 HINGE SYSTEM - That system used to position the door relative to the body structure and control the path of the door swing for passenger ingress and egress.

2.2 HINGE ASSEMBLY - That portion of the hinge system comprised of a pair of pivotally interconnected hinge members.

2.3 HINGE COMPONENTS -

2.3.1 Door Member - That portion of the hinge assembly normally affixed to the door structure and constituting the swinging member.

2.3.2 Body Member - That portion of the hinge assembly normally affixed to the body structure and constituting the fixed member.

2.3.3 Hinge Pin - That portion of the hinge assembly normally interconnecting the body and door members and establishing the swing axis.

3. BASIC REQUIREMENTS

3.1 LONGITUDINAL LOAD - A vehicle passenger door hinge system, when tested as prescribed under test procedure in paragraph 4.1, must be capable of withstanding an ultimate longitudinal load of 2500 lb.

3.2 TRANSVERSE LOAD - A vehicle passenger door hinge system, when tested in accordance with the test procedures in paragraph 4.2, must be capable of withstanding an ultimate transverse load of 2000 lb.

4. STATIC TESTS

4.1 LONGITUDINAL LOAD -

4.1.1 Purpose - To determine the ability of the vehicle hinge system to withstand a test load in the longitudinal vehicle direction.

4.1.2 Equipment -

(a) Tensile testing machine.

(b) A typical static test fixture is illustrated in Fig. 1.

4.1.3 Operation -

(a) Attach a test fixture to the mounting provision of the hinge system. Hinge attitude must simulate vehicle position (door fully closed) relative to the hinge centerline. For test

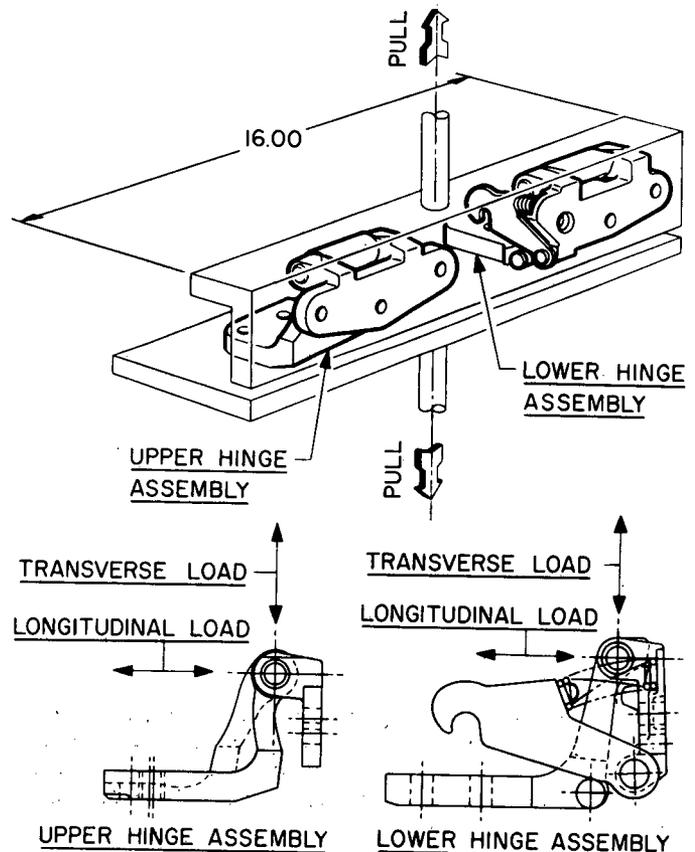


Fig. 1 - Door hinge system-static load fixture (transverse load)