

TriMark FMVSS 206 Load Testing

The FMVSS 206 standard ***"specifies requirements for door locks and door retention components including latches, hinges, and other supporting means, to minimize the likelihood of occupants being thrown from the vehicle as a result of impact"***.

-from Code of Federal Regulations (revised as of October 1, 1996), section 571.206, p. 457

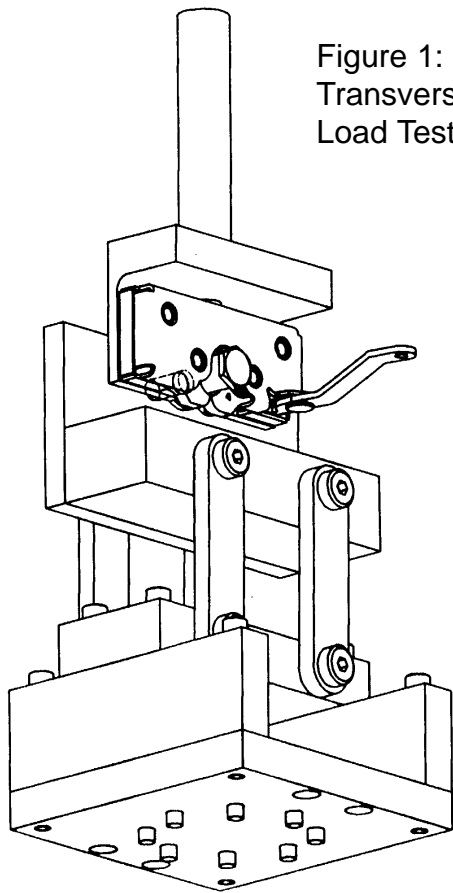


Figure 1:
Transverse
Load Testing

FMVSS 206 standard requirements are dependent on door application, e.g. hinged doors, sliding doors, or hinged upward swinging doors. To determine specific requirements of FMVSS 206 for a particular application see recent version of Code of Federal Regulations.

For side hinged doors, FMVSS 206 specifies two different static loading capacities. Loading capacity requirements differ for transverse and longitudinal loading. See Figure 1 and 2 to examine how transverse and longitudinal loads are applied to the door latches and striker bolts.

Figure 1 and 2 illustrates how TriMark performs transverse and longitudinal testing to TriMark 50-100 Two-Rotor Latch. Testing is very similar for other rotary latch product lines, including 50-200/250 Slimline Rotary Latch, 50-400 Floating Striker Single Rotor Latch and 50-700 12mm Single Rotor Latch.

- Transverse loading requirements are 2,000 pounds (8,900 Newtons) when latched fully in primary state of latch and 1,000 pounds (4,450 Newtons) when latched in secondary state of latch. (Figure 1)



- Longitudinal loading requirements are 2,500 pounds (11,120 Newtons) when latched fully in primary state of latch and 1,000 pounds (4,450 Newtons) when latched in secondary state of latch. (Figure 2)

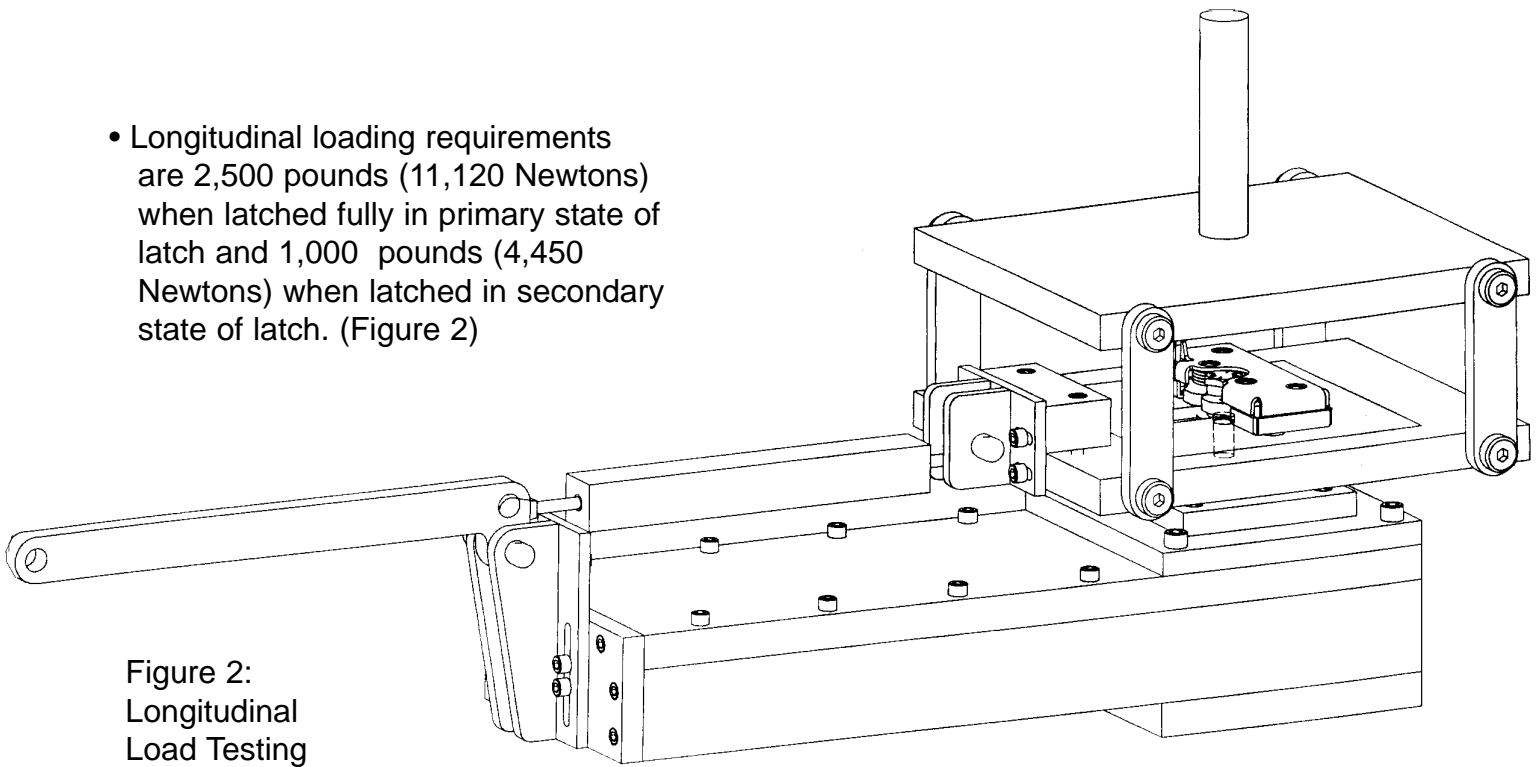


Figure 2:
Longitudinal
Load Testing



500 Bailey Avenue
New Hampton, Iowa 50659
Tel: 641-394-3188
Fax: 641-394-2392
1-800-447-0343
www.trimarkcorp.com



TriMark Europe
Magna Road, South Wigston
Leicester LE18 4ZH
United Kingdom
Tel: +44(0)116-278-7516
Fax: +44(0)116-277-6640



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The purpose of this publication is to explain FMVSS 206 testing practices of TriMark latches and other FMVSS 206 compliant products. **It is not the intention of this publication to interpret and address all concerns of FMVSS 206.** It should be understood that FMVSS 206 compliance includes requirements in addition to load strength such as 30G inertial loading. Further analysis is needed than is described for full compliance with FMVSS 206.

Each year a representative sample of hardware is selected and tested from all part numbers advertised as meeting loading requirements of FMVSS 206. In order to optimize its testing resources, TriMark does not test all pertinent part numbers during each year. Rather, only those part numbers are load tested annually which are judged to be representative of FMVSS 206 compliant hardware. Specimens are selected conservatively according to factors, which affect the load bearing capacities of the FMVSS 206 compliant hardware. This sampling methodology promotes testing which examines different combinations of factors, which affect hardware strength. Only factors that have been proven to not affect strength adversely can be ignored when test specimen sampling is considered. After the test specimens have been selected and assembled to common production practices the selected specimens are tested to FMVSS 206 loading requirements in accordance with SAE J839 Passenger Car Side Door Latch Systems so that the hardware compliance can be verified.

It should be understood that FMVSS 206 compliance of an entire door system could be independent of load bearing capabilities of door hardware. It is important that customers follow application assistance and recommended practices of TriMark, when hardware is used in an application, which is included in the scope of FMVSS 206. **TriMark does not claim to test all potential applications of the FMVSS 206 compliant products.**