

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J697

REV.
MAY88

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Submitted for recognition as an American National Standard

SAFETY CHAIN OF FULL TRAILERS OR CONVERTER DOLLIES

- 1. Scope**—This SAE Recommended Practice covers the number, location, and method of attachment of safety chains for full trailers and/or converter dollies.

- 1.1 Purpose**—This SAE Recommended Practice is intended as a guide for manufacturers and users of trailers, specifically full trailer(s) and/or converter dollies. Its inclusion in state, federal, or any laws or regulations where flexibility of revision is lacking is discouraged.

Emergency safety is the basis of this recommendation.

2. References

- 2.1 Applicable Publications**—The following publications form a part of this specification to the extent specified herein.

- 2.1.1 ASTM PUBLICATION**—Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM A 391

- 2.1.2 FEDERAL PUBLICATION**—U. S. Government, DOD SSP, Subscription Service Division, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094

Federal Specification RR-W-410a

3. Definitions

- 3.1 Safety Chain**—A safety chain is the chain from the front of a trailer, full trailer and/or converter dolly to rear of the towing vehicle for purpose of retaining connection between towing and towed vehicles and of controlling direction of travel of the towed vehicle(s) in the event of failure of drawbar or connection on rear of towing vehicle.

NOTE—A single chain or two chains, or single cable or two cables, or a bridle arrangement of a single chain or cable, may be used if all requirements are met.

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- 4. Installation**—The safety chain shall be attached by suitable means to the frame of the trailer or converter dolly to which the hinged drawbar is attached and to the frame of the towing vehicle. Converter dollies with solid tongues and without hinged tow bars may have chain attached to solid tongue. The connection or coupling device shall not be used as a means of attaching safety chain to the towing vehicle frame. The safety chain shall be so installed as to support the drawbar and prevent it from dropping to the ground in the event of failure of the drawbar or connection on the rear of towing vehicles.

The safety chain shall be attached and installed so as to keep the trailer in a straight line back of the towing vehicle insofar as practicable in the event of failure of the drawbar, connection, or coupling device.

The safety chain shall have no more slack, when in use, than is necessary to permit proper turning of the vehicles.

NOTE—Two cables, when used, may be attached to the full trailer's front axle and/or converter dolly axle near the wheels in lieu of this attachment. The means of attachment shall have an ultimate strength of not less than the gross weight of the vehicle or vehicles being towed.

- 5. Capacity**—The safety chain and the means of attaching to the towed and towing vehicles may have an ultimate strength of not less than the TVW (towed vehicle weight) of vehicle or vehicles being towed.

For the purpose of this recommended practice, the safety chain capacity should be the published break test load or the ultimate strength by actual test. The safety cable capacity should be the published breaking strength or the ultimate strength by actual test.

NOTE—When two chains or two cables are used, each chain or cable and its attachment shall have a capacity equal to the TVW (towed vehicle weight) or vehicle or vehicles being towed.

Breaking strengths are given in Table 1.

TABLE 1—

Type	Published Breaking Strength 1bf (KN)
Alloy Steel Chain, in Per ASTM A-391	
1/2 (12.7)	32 500 (144.6)
5/8 (15.9)	50 000 (222.4)
3/4 (19.1)	69 500 (309.1)
Wire Rope Fed. Spec. RR-W-410a Type 1, Class 2, Improved Plow Steel with Independent Wire Rope Core	
1/2 (12.7)	23 000 (102.3)
9/16 (14.3)	29 000 (129.0)
5/8 (15.9)	35 800 (159.2)
3/4 (19.1)	51 200 (227.8)
7/8 (22.2)	69 200 (307.8)
Extra Improved Plow Steel with Independent Wire Rope Core	
1/2 (12.7)	26 600 (118.3)
9/16 (14.3)	33 600 (149.5)
5/8 (15.9)	41 200 (183.3)
3/4 (19.1)	58 800 (261.6)
7/8 (22.2)	79 600 (354.1)

6. Notes

- 6.1 Marginal Indicia**—The change bar (I) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

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