The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE RECOMMENDED PRACTICE

Submitted for recognition as an American National Standard

SAE J847

REV. NOV87

Issued 1963-06
Revised 1987-11

Superseding J847 AUG85

TRAILER TOW BAR EYE AND PINTLE HOOK/COUPLER PERFORMANCE

Foreword—This Document has also been changed to reflect the new SAE Technical Standards Board Format. Section 2 is now References.

1. ***Scope***—This SAE Recommended Practice applies to highway trailer tow bar eye-type applications, including multiple trailers.

2. ***References***—There are no referenced publications specified herein.

3. ***Performance Requirements***—Trailer tow bar eyes, coupling devices, their attachments and support structures must withstand the indicated test loads without residual deformation of any components which will affect their intended performance. The coupling device must be provided with a locking system which prevents accidental separation of the truck tractor or trailer from the trailer being towed. The coupling device and trailer tow bar eye, when mounted and coupled, must provide the minimum clearance necessary for adequate articulation.

   NOTE—Many tow bar eye sizes and shapes are available. (2) common sizes are shown.

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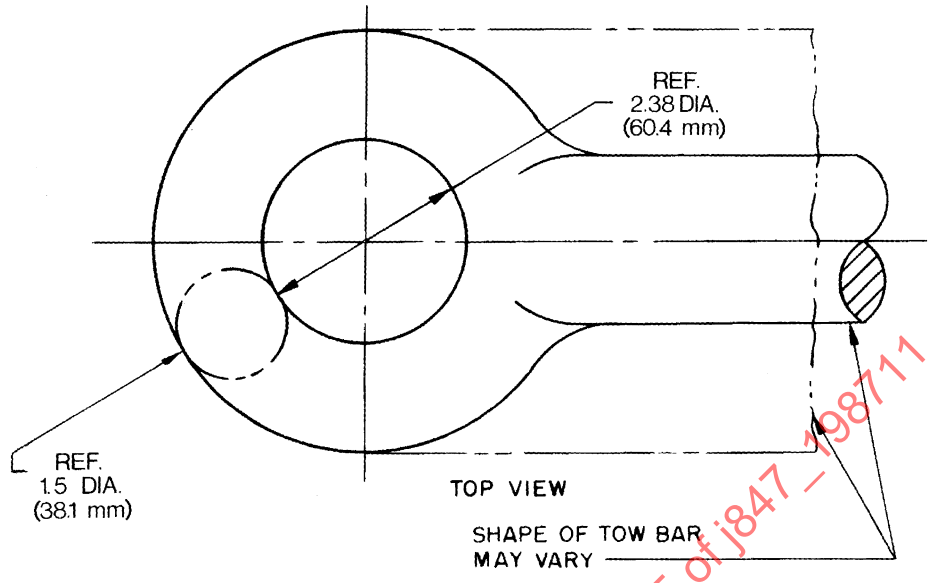
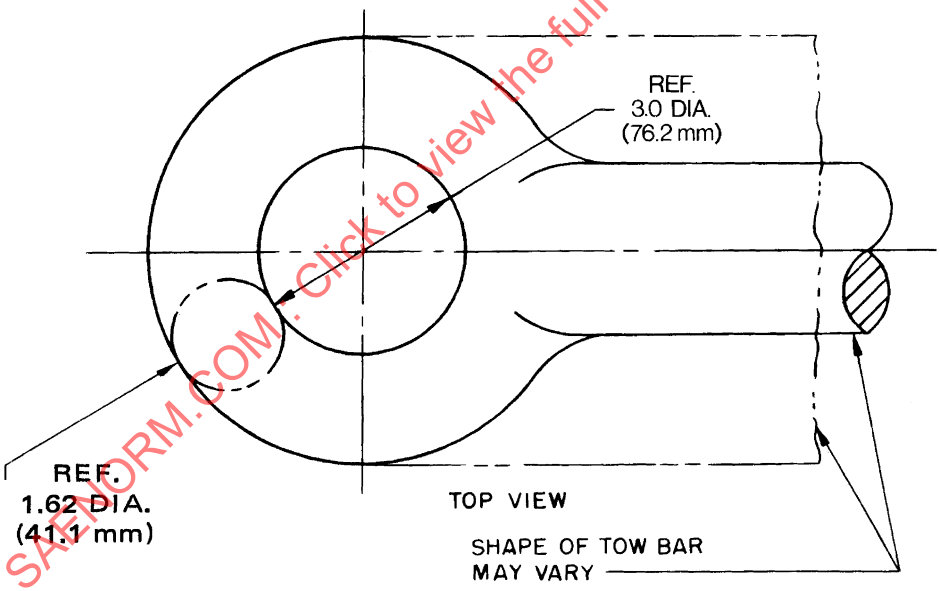
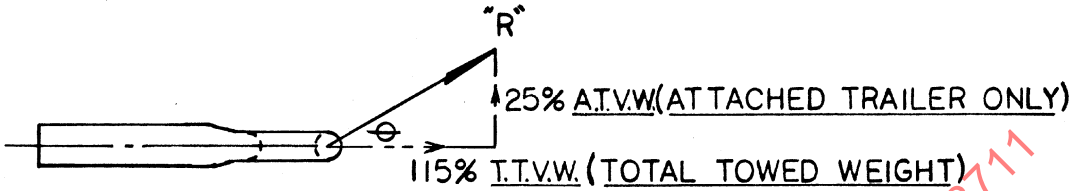




APPLICATION TYPE I: TOWING APPLICATION WHERE THE STATIC VERTICAL LOADING AT THE COUPLING DOES NOT EXCEED 5 % OF THE A.T.V.W.

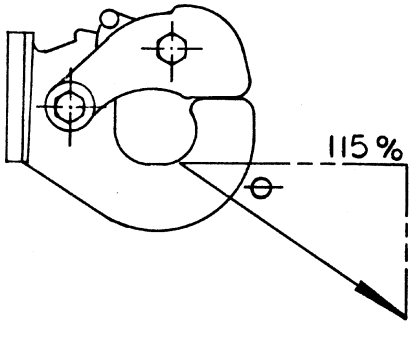


APPLICATION TYPE II: TOWING APPLICATIONS WHERE THE STATIC VERTICAL LOADING AT THE COUPLING IS GREATER THAN 5% OF THE A.T.V.W. BUT DOES NOT EXCEED 20% OF THE A.T.V.W.

TYPE	TEST LOAD "R"	ANGLE ⊖
I	$\sqrt{(25\%\ A.T.V.W.)^2 + (115\%\ T.T.V.W.)^2}$	$\text{SINE}\ \ominus = \frac{25\%\ A.T.V.W.}{R}$
II	$\sqrt{(50\%\ A.T.V.W.)^2 + (115\%\ T.T.V.W.)^2}$	$\text{SINE}\ \ominus = \frac{50\%\ A.T.V.W.}{R}$

NOTE: T.T.V.W. (TOTAL TOWED VEHICLE WEIGHT)
A.T.V.W. (ATTACHED TRAILER TOWED VEHICLE WEIGHT)
A.T.V.W. = T.T.V.W. When Only One Trailer is Being Pulled.

APPLICATION TYPE I: TOWING APPLICATION WHERE THE STATIC VERTICAL LOADING AT THE COUPLING DOES NOT EXCEED 5 % OF THE A.T.V.W.



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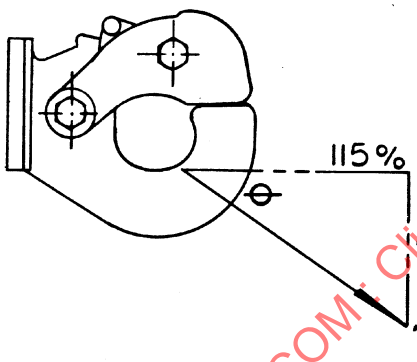

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