

A Product of the
Cooperative Engineering Program

SAE J847 AUG85

**Trailer Tow Bar Eye
and Pintle
Hook/Coupler
Performance**

SAE Recommended Practice
Revised August 1985

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Submitted for Recognition as
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APPLICATION:

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

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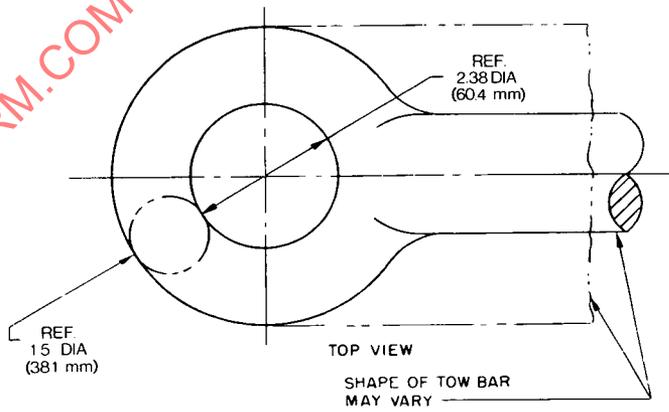
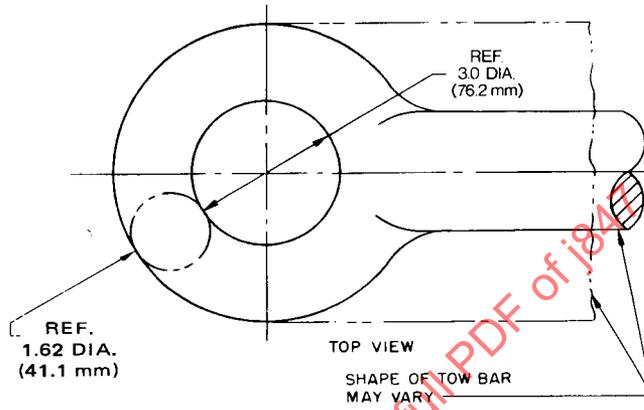
TRAILER TOW BAR EYE AND PINTLE HOOK/COUPLER PERFORMANCE

1. **SCOPE:** This SAE Recommended Practice applies to highway trailer tow bar eye-type applications, including multiple trailers.
2. **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: (2) Acceptable tow bar eye sizes are shown.

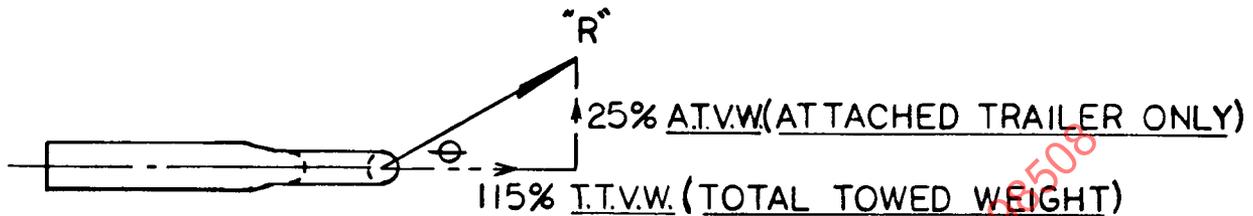
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APPLICATION TYPE I: TOWING APPLICATION WHERE THE STATIC VERTICAL LOADING AT THE COUPLING DOES NOT EXCEED 5% OF THE A.T.V.W.



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.



<u>TYPE</u>	<u>TEST LOAD "R"</u>	<u>ANGLE θ</u>
<u>I</u>	$\sqrt{(25\% \text{ A.T.V.W.})^2 + (115\% \text{ T.T.V.W.})^2}$	$\text{SINE } \theta = \frac{25\% \text{ A.T.V.W.}}{R}$
<u>II</u>	$\sqrt{(50\% \text{ A.T.V.W.})^2 + (115\% \text{ T.T.V.W.})^2}$	$\text{SINE } \theta = \frac{50\% \text{ A.T.V.W.}}{R}$

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.