



U.S. Department  
of Transportation  
**Federal Highway  
Administration**

1200 New Jersey Ave., SE  
Washington, D.C. 20590

January 21, 2011

In Reply Refer To:  
HSSD/ SS-165

Mr. Jim Anderson  
Designovations, Inc.  
7339 Wildwood Road  
Stillman Valley, IL 61084

Dear Mr. Anderson:

This letter is in response to your request for the Federal Highway Administration (FHWA) acceptance of revisions to roadside safety systems for use on the National Highway System (NHS).

Name of system:	Snap'n Safe Couplers
Type of system:	Breakaway Sign Support
Test Level:	TL-3
Testing conducted by:	N/A
Task Force 13 Designators:	SSC12a, SSC15a
Date of request:	March 26, 2010
Request acknowledged:	April 1, 2010

You requested that we find these revised systems acceptable for use on the NHS under the provisions of the National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

**Decision:**

The modifications you requested to SS-136 and SS-146 are acceptable, as discussed below.

**Requirements**

Roadside safety devices should meet the guidelines contained in the NCHRP Report 350 or the American Association of State Highway and Transportation Officials' Manual for Assessing Safety Hardware (MASH). Requirements for breakaway supports are those in the American Association of State Highway and Transportation Officials' Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals.



## Description

Snap 'n Safe cast iron couplings were covered in the following FHWA Acceptance Letters:

FHWA Letter #	Date of Letter	Snap 'n Safe couplers covered
SS-156	12/6/2007	Round surface mount, u-channel surface, in-ground mount
SS-146	3/16/2007	Round coupler
SS-136	3/9/2006	Modifications for sizes 2 1/2 inches and smaller
SS-123#	2/28/2007	Coupling for square sign supports
SS-123	4/1/2004	System for fiberglass square tube sign
SS-120	4/1/2004	System for perforated square steel tube sign posts

Your first request updates the FHWA Acceptance letter SS-136 to include a new modified coupler for perforated square steel tube signposts to be mounted on angled surfaces. This coupler is identical to the previous coupler described in SS-136 with the addition of features that allow for angled surface mounting. This coupler is designed for use with 1 3/4", 2", 2 1/4", and 2 1/2" perforated square steel tube signposts and the NEX sign post. A detail drawing of the new modified coupler is enclosed for reference. The modification in design to this new surface mount SNAP'n SAFE breakaway signpost coupler will not adversely affect the crashworthy performance of this device and it is acceptable for use on the National Highway System (NHS).

Your second request updates the FHWA Acceptance letter SS-146 to include a new modified coupler for round signposts. This coupler is identical to the previous coupler described in SS-146 with the only difference being the new modified coupler is designed for use with three inch diameter round signposts and the previous version is for 2 3/8 inch round signposts. A detail drawing of the new modified coupler is included. The modification in design to this new in ground SNAP'n SAFE breakaway signpost coupler will not adversely affect the crashworthy performance of this device and it is acceptable for use on the National Highway System (NHS).

## Crash Testing

No new crash testing was conducted in conjunction with this request. The frangible cross-section area of the modified couplings is equal to the original, crash tested couplers. Since the strength and stiffness of the sign posts is equal to or greater than the posts that were crash tested, the modified couplings can be expected to perform in an acceptable manner.

## Findings

Modifications described in the requests above and detailed in the enclosed drawings are acceptable for use on the NHS under the range of conditions tested, when such use is acceptable to a highway agency.

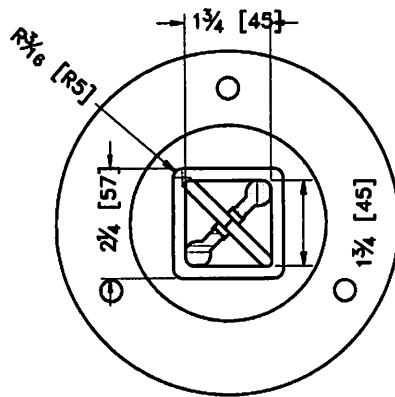
Please note the following standard provisions that apply to FHWA letters of acceptance:

- This acceptance is limited to the crashworthiness characteristics of the systems and does not cover their structural features, non conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may adversely influence the crashworthiness of the system will require a new acceptance letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals unacceptable safety problems, or that the system being marketed is significantly different from the version that was crash tested, we reserve the right to modify or revoke our acceptance.
- You will be expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You will be expected to certify to potential users that the hardware furnished has essentially the same chemistry, mechanical properties, and geometry as that submitted for acceptance, and that it will meet the crashworthiness requirements of the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance is designated as number SS-166 and shall not be reproduced except in full. This letter and the test documentation upon which it is based are public information. All such letters and documentation may be reviewed at our office upon request.
- Snap 'n Safe couplings are patented products and considered proprietary. If proprietary systems are specified by a highway agency for use on Federal-aid projects, except exempt, non-NHS projects, (a) they must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with the existing highway facilities or that no equally suitable alternative exists; or (c) they must be used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411.
- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented system for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate system, and the FHWA is neither prepared nor required to become involved in issues concerning patent law. Patent issues, if any, are to be resolved by the applicant.

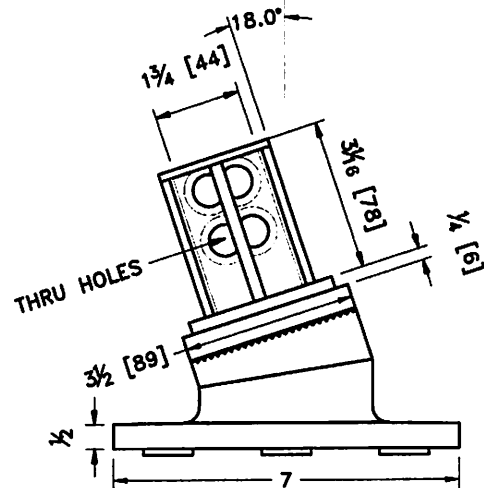
Sincerely yours,



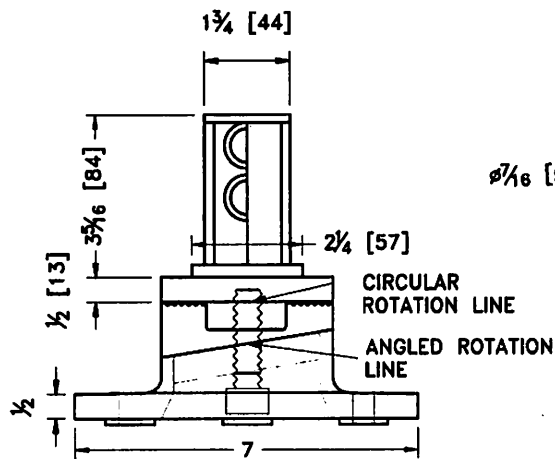
Michael S. Griffith  
Director, Office of Safety Technologies  
Office of Safety



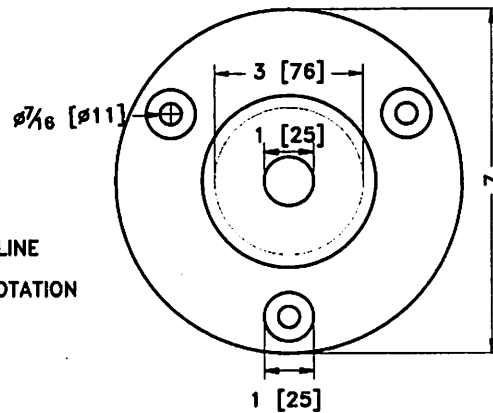
TOP SECTION VIEW



FRONT ROTATED



FRONT SECTION VIEW



BOTTOM

2009

SNAP'n SAFE SQUARE BREAKAWAY COUPLER



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NAME

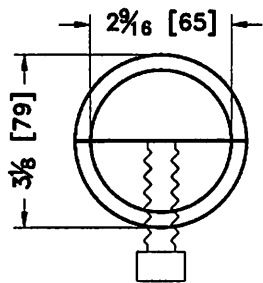
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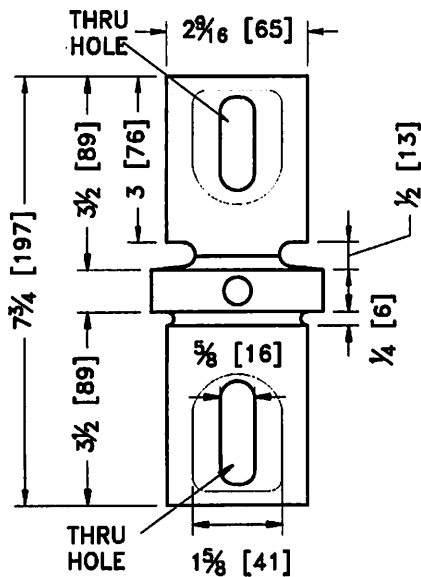
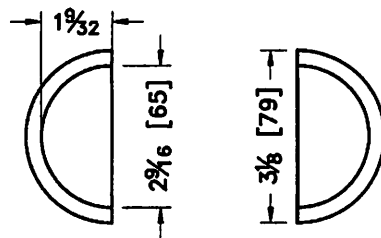
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DV-19

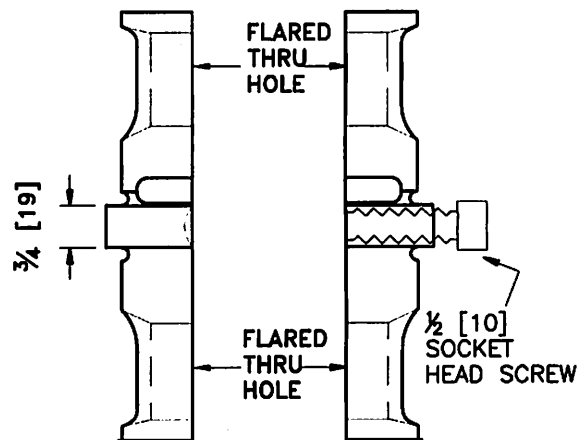
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TOP VIEW



FRONT VIEW



SIDE VIEW SPLIT

2009

# SNAP'n SAFE ROUND BREAKAWAY COUPLER



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SHEET NO. REF. NO.  
 1 of 2 DV-18