



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

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

May 4, 2012

In Reply Refer To:
HSST/ SS-131A

Greg Kirchgesner
Xcessories Squared
P.O. Box 135
Auburn, Illinois 62615

Dear Mr. Kirchgesner:

This letter is in response to your request for the Federal Highway Administration (FHWA) to review a roadside safety system for eligibility for reimbursement under the Federal-aid highway program.

| | |
|---------------------------|--|
| Name of system: | Kleen Break Sign Post Coupler |
| Type of system: | Breakaway Small Sign Support for Perforated Square Steel Tube (PSST) posts |
| Test Level: | NCHRP Report 350 Test Level 3 |
| Testing conducted by: | N/A |
| Task Force 13 Designator: | SSC08a-c |
| Date of request: | June 6, 2011 |

Decision:

The following device is eligible, with details provided below

- Kleen Break Sign Post Coupler for 2 ¼ and 2 ½ inch PSST posts

Based on a review of the information and calculations submitted by the manufacturer certifying the device described herein meets the crash test and evaluation criteria of the National Cooperative Highway Research Program (NCHRP) Report 350, the device is eligible for reimbursement under the Federal-aid highway program. Eligibility for reimbursement under the Federal-aid highway program does not establish approval or endorsement by the FHWA for any particular purpose or use.

The FHWA, the Department of Transportation, and the United States Government do not endorse products or services and the issuance of a reimbursement eligibility letter is not an endorsement of any product or service.

Requirements

To be found eligible for Federal-aid funding, roadside safety devices should meet the crash test and evaluation criteria of the National Cooperative Highway Research Program (NCHRP) Report 350 or the American Association of State Highway and Transportation Officials' Manual for Assessing Safety Hardware (MASH).

FHWA: HSST: NArtimovicht: ms: x61331:3/13/12: sf. Updated 5/4/12
File: s: //directory folder/HSST/Artimovich/SS-131A.dotx
cc: HSST (NArtimovich; JDewar)

Description

The new coupler hardware would allow the product to accommodate 2-1/4" (14ga or 12 ga) and 2-1/2" (12ga or 10ga) PSST. The new product configuration would use the same shear bolt hardware set, including the breakaway bolt, which was in the original Kleen Break in FHWA Letter SS-131 dated December 2, 2005, under NCHRP 350. Since the new design uses the same shear bolt and has the same breakaway functionality, it will break away at the same energy level as the original design. The newer design for the larger size posts uses the same Locking Wedge as the original design, so the square tube posts are attached to the top casting in the same manner as the original design. The larger square tube would have a slightly larger section modulus than the original tested product.

The new parts include a new cast stem base (CKB250-8-G) that fit into a 3" x 7ga square anchor, a new cast surface mount base (SMKB4) that will mount to the top of an existing concrete surface, a new cast top post receiver (TX225-250-G) which will accept 2-1/4" and 2-1/2" square tube (not at the same time), and a larger diameter rubber bushing (RB45-EPDM) to better fit the new castings. The new parts do not replace the original parts, but would be offered as an additional option to fit the two larger square sign post sizes. All of the new parts have the same material specifications as the parts that were originally covered in SS-131.

Summary and Standard Provisions

Therefore, the system described and detailed in the attached form is eligible for reimbursement and may be installed under the range of conditions tested.

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

- This letter provides an AASHTO/ARTBA/AGC Task Force 13 designator that should be used for the purpose of the creation of a new and/or the update of existing Task Force 13 drawing for posting on the on-line 'Guide to Standardized Highway Barrier Hardware' currently referenced in AASHTO Roadside Design Guide.
- This finding of eligibility does not cover other structural features of the systems, nor conformity with the Manual on Uniform Traffic Control Devices.
- Any changes that may influence system conformance with NCHRP Report 350 criteria will require a new reimbursement eligibility letter.
- Should the FHWA discover that the qualification testing was flawed, that in-service performance reveals safety problems, or that the system is significantly different from the version that was crash tested, we reserve the right to modify or revoke this letter.
- You are expected to supply potential users with sufficient information on design and installation requirements to ensure proper performance.
- You are expected to certify to potential users that the hardware furnished has the same chemistry, mechanical properties, and geometry as that submitted for review, and that it will meet the crash test and evaluation criteria of the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of eligibility is designated as number SS-131A 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.
- This 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 FHWA does not 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

Enclosures



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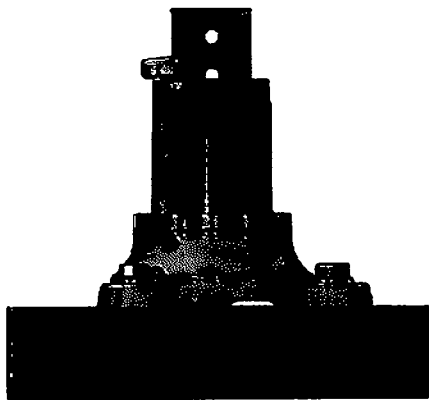
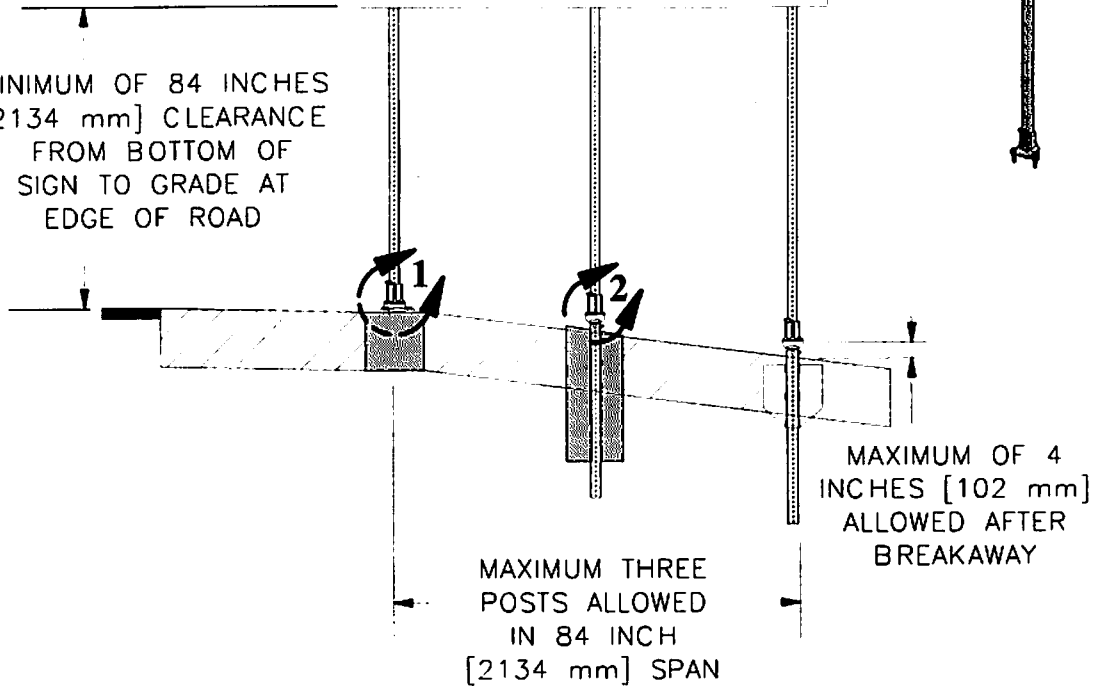
Sincerely yours,

A handwritten signature in blue ink that reads "Michael S. Griffith". The signature is written in a cursive style with a large, stylized "M" and "G".

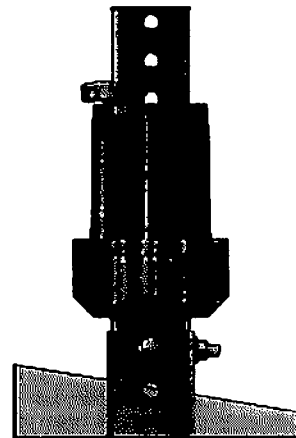
Michael S. Griffith
Director, Office of Safety Technologies
Office of Safety

Enclosures

MINIMUM OF 84 INCHES
[2134 mm] CLEARANCE
FROM BOTTOM OF
SIGN TO GRADE AT
EDGE OF ROAD



DETAIL 1
Surface Mount



DETAIL 2
Stem Base

KLEEN BREAK Breakaway Signpost Coupler System for Square Posts



SSC08a-c

SHEET NO.

DATE

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10/1/11

INTENDED USE

Kleen Break is a 360° indexable, flush mountable, sign post coupler for square sign posts. Product allows for high impact sign support installations to break away upon impact, and inexpensive reinstallation without a new anchor. Product can be used for multiple post installations (up to three in a 7 foot span) when required to meet NCHRP break away requirements. Stem Base may be used in soil or concrete installations.

COMPONENTS

| Item | Component | Quantity |
|------|--|----------|
| E | Kleen Break Shear Bolt | 1 |
| D | Lock Washer | 2 |
| G | Flange Nut | 1 |
| C | Rubber Bushing | 1 |
| I | Locking Wedge | 1 |
| F1 | Small Kleen Break Square Post Receiver | 1 |
| F2 | Large Kleen Break Square Post Receiver | 1 |
| A1 | Small Kleen Break Anchor for Concrete | 1 |
| A2 | Small Kleen Break Anchor for Surface Mount | 1 |
| A3 | Large Kleen Break Anchor for Concrete | 1 |
| A4 | Large Kleen Break Anchor for Surface Mount | 1 |
| X | Anchor Extension | 1 |
| W | Wing Sleeve | 1 |

APPROVALS

FHWA Acceptance Letter SS-131, 12/2/05.

CONTACT INFORMATION

Xcessories Squared Dev. & Mfg. Inc.
P.O. Box 135
Auburn, IL 62615
800-621-7948
www.x-sqrd.com

Kleen Break Breakaway Signpost Coupler System for Square Posts

SSC08a-c

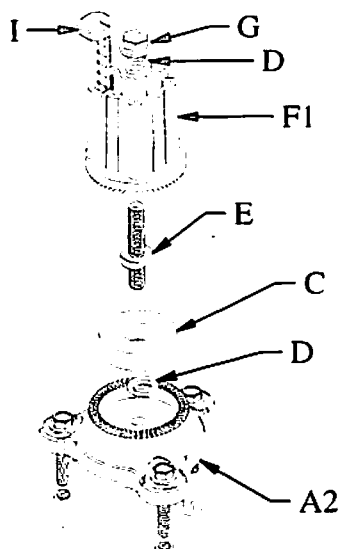
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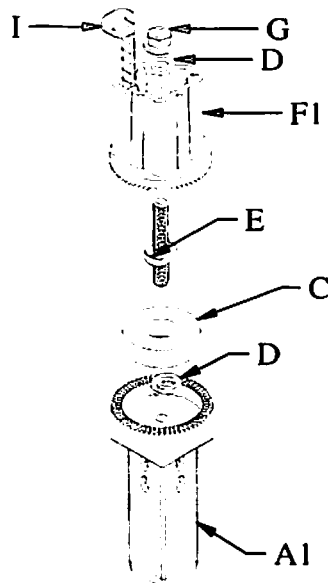
2 of 3

10/1/11

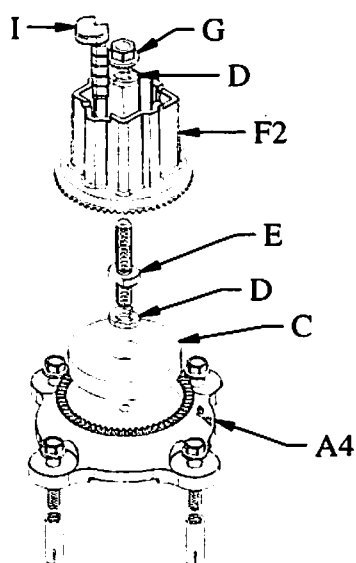




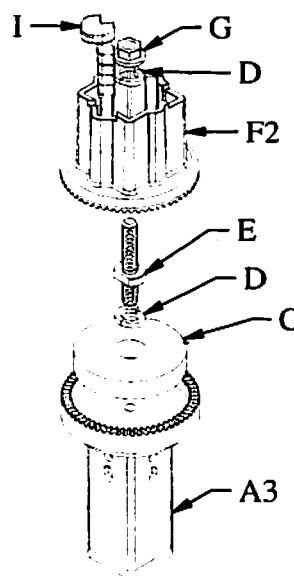
Small Surface Mount



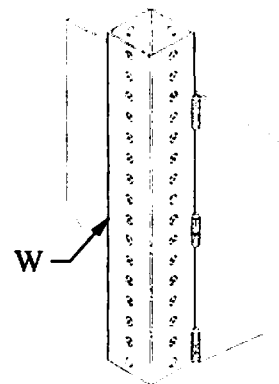
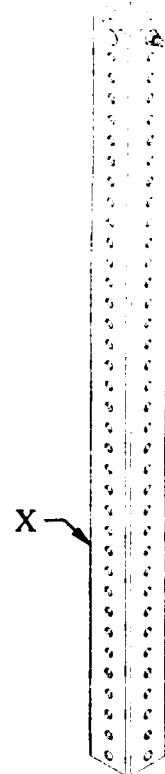
Small Stem Base Mount



Large Surface Mount



Large Stem Base Mount



Note: The Small Cast Square Top (F1) will hold either a 1-3/4 inch [44 mm] or a 2 inch [51 mm] square post and the Large Cast Square Top (F2) will hold either a 2-1/4 inch [57 mm] or a 2-1/2 inch [63 mm] square post. The same Kleen Break Hardware (C, D, E, and G) is used on all assembly options. The same Wedge (I) is used on all assembly options, but must be inserted at a posts corner. An Anchor extension (X) may be used to facilitate installation as well as a Soil Bearing Wing Sleeve (W) for firm soil installations.

Kleen Break Omni-directional Breakaway Sign Post Coupler for Square Posts



SSC08a-c

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