



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

400 Seventh St., S.W.
Washington, D.C. 20590

Refer to: HSA-10/SS-68H

Mr. Lawrence E. Leahy
President, Xcessories Squared
P.O.Box 135
Auburn, IL 62615

Dear Mr. Leahy:

Thank you for your July 19, 2001, letter requesting Federal Highway Administration (FHWA) acceptance of a modification to our previous action on your company's SB8 slip base. We had previously found your "SB8" breakaway slip bases acceptable for single post supports on September 18, 1996 (Geometric and Roadside Design Acceptance Letter SS-68) and for dual and triple post supports on December 20, 1996 (SS-68A). These designs used triangular plates measuring 8 inches (203 mm) on a side.

Your present request is that the SB8 base, with a revised concrete foundation, be found acceptable for use on the National Highway System (NHS) under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features." You submitted calculations showing the increased depth necessary to compensate for the smaller diameter concrete foundation in weak soil.

Introduction

Testing of breakaway supports is to conform with the guidelines contained in the NCHRP Report 350, Recommended Procedures for the Safety Performance Evaluation of Highway Features. Requirements for breakaway supports are those in the American Association of State Highway and Transportation Officials' (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

In light of the engineering analysis of the strength of soil necessary to adequately support the sign installation the FHWA concurs in your request to reduce the concrete footing diameter to 18 inches and increase the depth to 42 inches when used in weak soil (the worst case soil condition.) Therefore the devices described above and shown in the enclosed drawings for reference are acceptable for use as Test Level 3 devices on the NHS under the range of conditions tested, in either strong or weak soil, when proposed by a State.

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

- !** Our acceptance is limited to the crashworthiness characteristics of the devices and does not cover their structural features, nor conformity with the Manual on Uniform Traffic Control Devices.

- ! Any changes that may adversely influence the crashworthiness of the device 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 device being marketed is significantly different from the version that was crash tested, it reserves the right to modify or revoke its 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 they will meet the crashworthiness requirements of FHWA and NCHRP Report 350. To prevent misunderstanding by others, this letter of acceptance, designated as number SS-68H shall not be reproduced except in full. As this letter and the supporting documentation which support it become public information, it will be available for inspection at our office by interested parties.
- ! The SB8 slip base is or will be a patented product and is considered "proprietary." The use of proprietary devices specified on Federal-aid projects, except exempt, non-NHS projects: (a) must be supplied through competitive bidding with equally suitable unpatented items; (b) the highway agency must certify that they are essential for synchronization with 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, a copy of which is enclosed.

Sincerely yours,

Michael L. Halladay
Acting Program Manager, Safety

Enclosure

FHWA:HSA-10:NArtimovich:tm:x61331:12/19/01

File: SS68H-XcessoriesVirginiaFin.wpd

cc: HSA-10 (Reader, HSA-1; Chron File, HSA-10;
N. Artimovich, HSA-10)

**INSTALLATION INSTRUCTIONS FOR
ACCESSORIES SQUARED TRIANGULAR MULTI-DIRECTIONAL
SLIP BASE ASSEMBLY**

1. 3" X 3" heavy duty 3/16" anchor (J) to be buried plumb at proper distance from road and square with the road surface

NOTE: Slip Base may be pre-assembled and bolted into anchor prior to installing anchor in concrete (leave bottom hole in anchor 1/2" above the concrete).

2. Assemble top and bottom portions of slip base together placing bolt retainer between opposing surfaces.

A. Be sure the closed corners of the angled post receivers (C), are near corner to traffic flow and opposite corner away from traffic flow, while point of triangle is facing oncoming traffic.

B. Place steel washer (E) under head of securing bolt (H), then slide bushing (F) against washer.

C. Insert inverted bolt (H) from the bottom, up through corresponding hole in bolt retainer (G) with threads up.

D. Slide another bushing (F) down over threads.
Be sure to have a bushing on either side of bolt retainer.

E. Add steel washer (E) and Flanged nut (D) to bolt (H) with washer and nut resting on top of top plate (A). Secure finger tight.

F. Repeat steps B, C, D, & E for the other two bolts

G. Place 8" bottom stub (I) into 3" x 3" H.D. ground anchor (J) and secure with 2 large 5/16" corner bolts (L) and flanged lock nut (K).

H. Torque all 3 Flanged nuts (D) to 40 ft.lbs. by tightening each nut slightly until all bolts approach the recommended 40 ft.lbs. Then finish each nut to recommended torque.

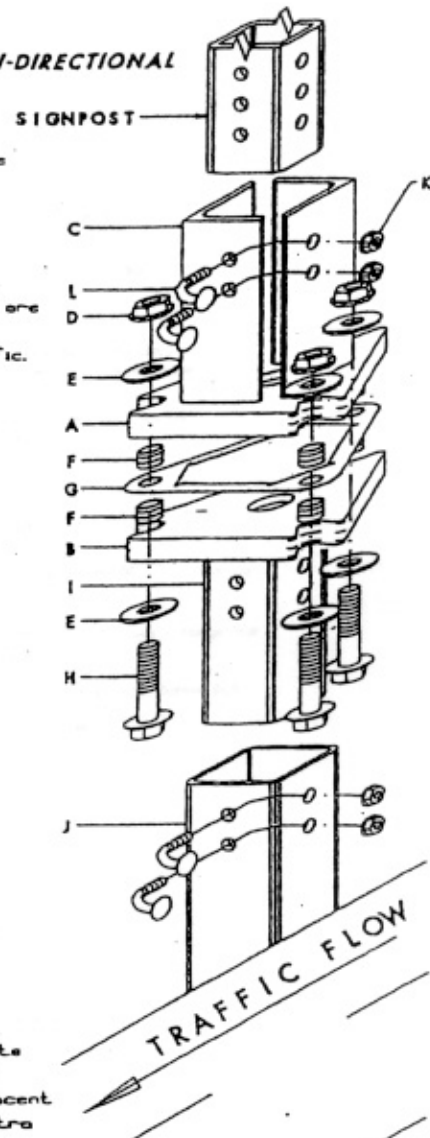
NOTE: Do not tighten any single bolt to recommended torque before tightening other bolts.

Place upright square signpost (with sign attached) completely into vertical angle receivers until holes in receivers and post line up.

A. Secure post into receiver by placing 4 large 5/16" corner bolts (L) across both open corners of receiver inserting through receiver and upright post and exiting through 90 degree adjacent wall. Secure with 5/16" flanged locking nuts (K). Peening of extra threads may deter theft. Removal of bolts after peening requires a hammer and cold chisel.

B. Loosening of corner bolts and tightening of opposite side bolts (before peening) may allow for minimal plumb adjustment.

NOTE: Top of triangle plate (B) shall never exceed 4" above ground level.



ACCESSORIES SQUARED	
P.O. Box 135, Auburn, IL 62615	
Ph. (217) 438-3535 * Fax (217) 438-3917	
Drawn: Shears	Scale 1" =
Date 21 Feb. 1996	
Name: Slip Base Assembly	
Part No. S88-250GI	A E1

Figure 3. Details of the triangular multi-directional slip base assembly.

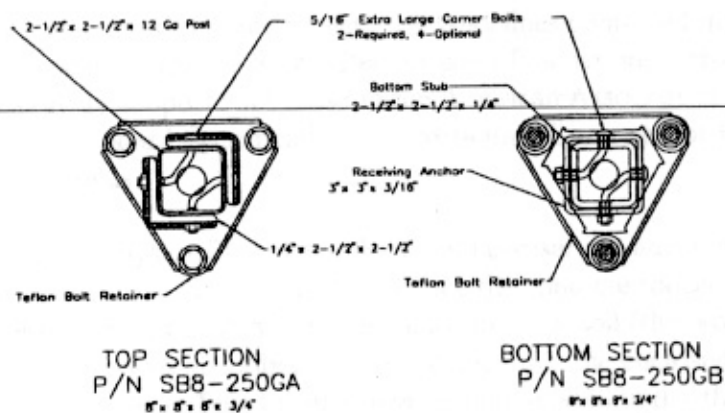
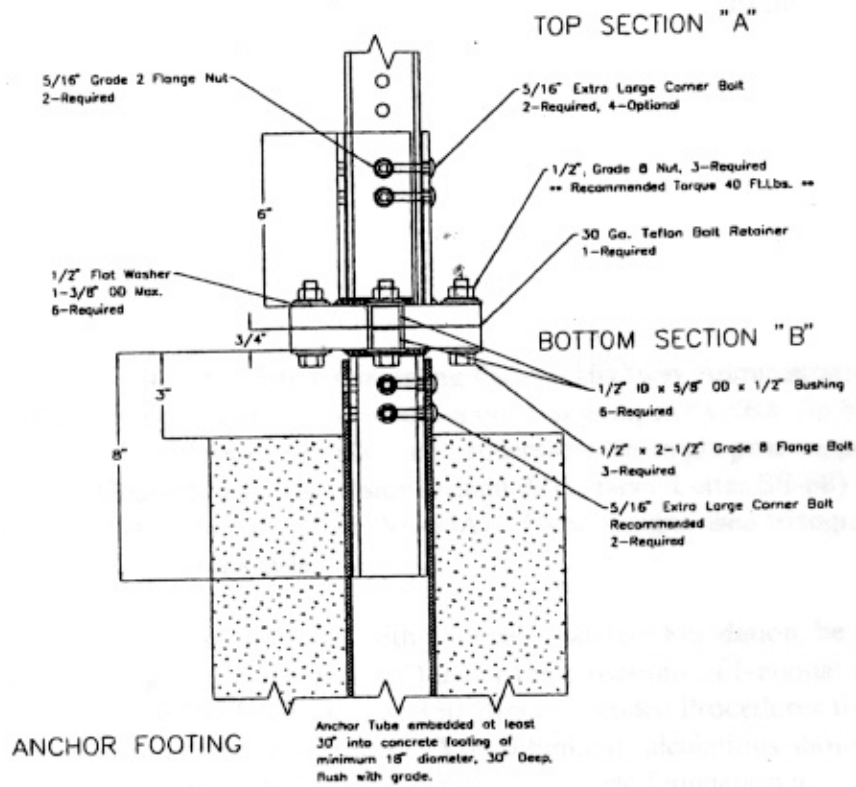


Figure 3. Details of the triangular multi-directional slip base assembly (continued).