



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

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

March 7, 1995

Refer to: HNG-14/SS-17A

Mr. Tauhid Husain
Product Manager
Transpo Industries, Inc.
20 Jones Street
New Rochelle, New York 10801-6024

Dear Mr. Husain:

Thank you for your February 28 letter to Mr. Nicholas Artimovich requesting extension for the Federal Highway Administration's (FHWA) acceptance of your Company's "Type A" Break-Safe sign support system to use with square steel tubes. Drawings of the Type A system are enclosed.

As noted in our acceptance letter of January 8, 1990, to Mr. Arthur M. Dinitz, which you cited, our acceptance of the Type A system was based on Test Number TP-8, which was conducted using an "AUX8" system. This strong-soil-mounted system supported back-to-back U-channel posts; each designated "four pounds-per-foot" by Franklin Steel Company. The tested system, like all of Transpo's Type A systems, uses four of your "Small 5/8-11 UNC 2A & 2B" couplings. The extruded aluminum Type A brackets vary somewhat, depending on whether the system is supporting back-to-back U-channel, square steel tubes, structural shapes or round pipes. We believe the Type A systems are similar enough so as not to require additional crash testing as long as the sign posts can adequately transfer the shearing force of the impacting vehicle to the couplings. We will consider this requirement satisfied if the elastic moment capacity of the signpost is comparable to the tested back-to-back U-channel post.

The tested single support Type A system was mounted in "strong" soil. We believe that this also qualifies an accepted Type A system for use when mounted on a concrete foundation. Further testing will be required, however, if you wish to have any Type A small sign support systems qualified for use in "weak" soil, or for multiple posts within a 2.1 meter span.

Summarizing, based upon our review of the data we have on file, we conclude that the square steel tube Type A single small sign support system will meet breakaway

requirements when the elastic moment capacity of the steel tube is at least as great as that of the crash tested back-to-back U-channel post.

Therefore, your company's Type A small sign support described above and shown on the enclosed drawings is acceptable for use on the National Highway System, subject to the limitations described above, if proposed by a State.

Our acceptance is limited to the breakaway characteristics of the couplings and does not cover their structural features. Presumably, you will supply potential users with sufficient information on structural design and installation requirements to ensure proper performance. We anticipate that the States will require certification from Transpo Industries Inc., that the couplings furnished will meet the FHWA change in velocity requirements and have essentially the same composition, mechanical properties, and geometry as the couplings used in the certification test.

The Break-Safe couplings are proprietary. Thus, to be used in a Federal-aid highway project: (a) they must be supplied through competitive bidding with equally suitable unpatented items; (b) the State highway agency must certify that they are essential for synchronization with existing highway facilities or that no equally suitable alternate 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,

Jerry L. Poston, Chief
Federal-Aid and Design Division

2 Enclosures

Supplement to Geometric and Roadside Design Acceptance Letter Number SS-17

GENERAL NOTES

Meets a 11 AASHTO "Standard specifications for structural supports for highway signs, luminaires and traffic signals."

Fasteners are installed with lockwashers or locknuts and do not have specific torque requirements. Fasteners should be made as tight as possible with conventional wrenches.

Square and level individual components to minimize need for shimming.

No more than two shims underneath any one coupling and no more than three shims underneath any two couplings.

INSTALLATION NOTES

Wrench sizes required: 7/8", 1", 1-1/16"

BRACKET ASSEMBLY

Assemble brackets to post with bolts provided. Square and tighten. (Items ① ② ③ ④)

ANCHOR ASSEMBLY

Assemble coupling anchors ⑤ to installation complete (not shown).

Lower entire anchor assembly into fresh concrete and vibrate into position so that the tops of the individual anchors ⑥ are flush with the finished top surface of the footings.

COUPLING ASSEMBLY

Suspend post over footing and insert special bolts ⑦ through brackets ①.

Below bracket thread couplings ⑧ all the way onto special bolts ⑦ but leave loose enough to line up with anchors ⑥.

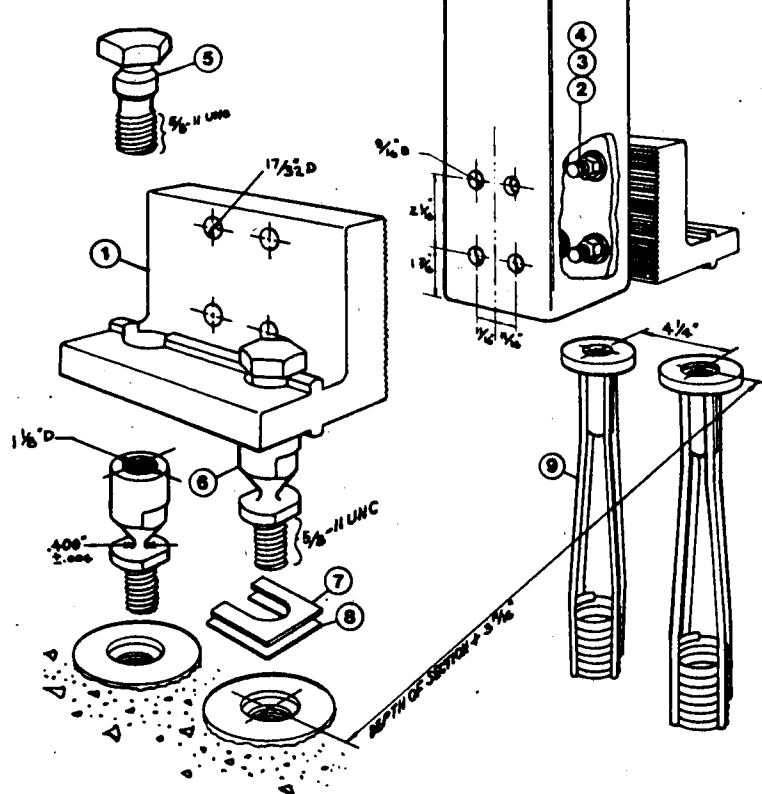
Lower post with couplings ⑧ onto anchors and thread couplings ⑧ down into anchors ⑥. Tighten.

Tighten special bolts ⑦ with 1-1/16" wrench. NOTE! Do not place torque across necked down portion of coupling — wrench flats are provided on either side for proper tightening.

If post is not plumb, insert shims ⑨ and ⑩ between couplings ⑧ and anchors ⑥.

BILL OF MATERIALS

ITEM	DESCRIPTION	QTY	PART NO.
①	Bracket	1	8MMS4.5
②	Post	1	8MMS4.5
③	Lockwasher	2	8MMS4.5
④	Locknut	2	8MMS4.5
⑤	Coupling anchor	4	8MMS4.5
⑥	Special bolt	4	8MMS4.5
⑦	Special bolt	4	8MMS4.5
⑧	Coupling	4	8MMS4.5
⑨	Shim	2	8MMS4.5
⑩	Shim	2	8MMS4.5



type AS4-LP
break-safe™
TRAFFIC
BREAKAWAY SYSTEM FOR
GROUND MOUNTED
SKIN SUPPORTS
 ASSEMBLY NO. 8MMS4.5
 DATE 3-19-87

GENERAL NOTES

Meets all AASHTO "Standard specifications for structural supports for highway signs, luminaires and traffic signals."

Fasteners are installed with lockwashers or locknuts and do not have specific torque requirements. Fasteners should be made as tight as possible with conventional wrenches.

Square and level individual components to minimize need for shimming.

No more than two shims underneath any one coupling and no more than three shims underneath any two couplings.

INSTALLATION NOTES

Wrench size required: 7/8", 1", 1-1/16"

BRACKET ASSEMBLY

Assemble brackets to post with bolts provided. Square and tighten. (Items ① ② ③)

ANCHOR ASSEMBLY

Assemble coupling anchors ④ to installation template (not shown).

Lower entire anchor assembly into fresh concrete and vibrate into position so that the tops of the individual anchors ④ are flush with the finished top surface of the footings.

COUPLING ASSEMBLY

Suspend post over footing and insert special bolts ⑤ through brackets ①.

Slide bracket threaded couplings ⑥ all the way onto special bolts ⑤ but leave loose enough to line up with anchors ④.

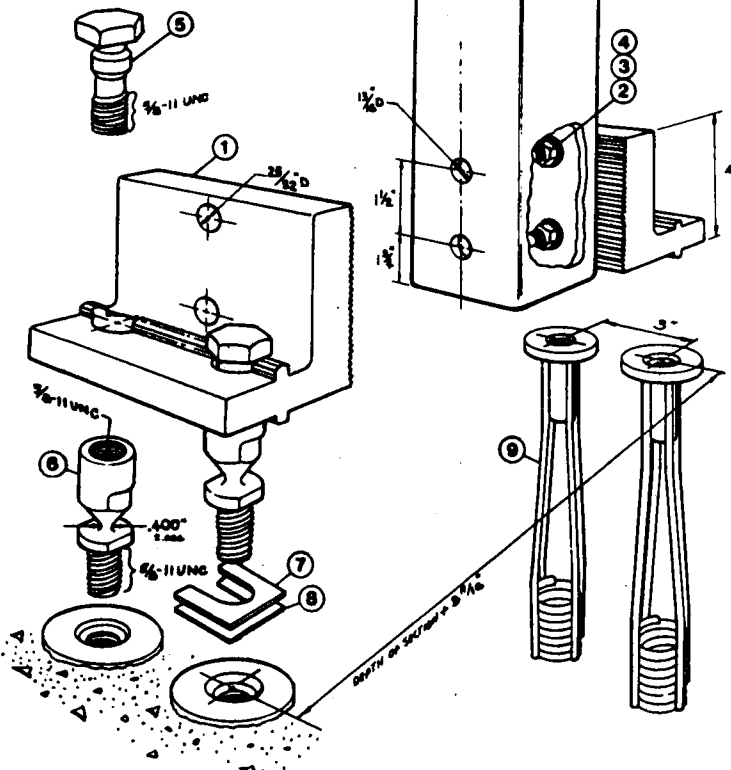
Lower post with couplings ⑥ onto anchors and threaded couplings ⑥ down into anchors ④. Tighten.

Tighten special bolts ⑤ with 1-1/16" wrench. NOTE: Do not place torque across notched down portion of coupling — wrench flats are provided on either side for proper tightening.

If post is not plumb, insert shims ⑦ and ⑧ between couplings ⑥ and anchors ④.

BILL OF MATERIALS

ITEM	DESCRIPTION	QTY	PART PART NO.
①	Bracket	2	BRAC-0130
②	Bolt	4	820525-1024
③	Lockwasher	4	STW000010
④	Nut	4	STW000010
⑤	Special Bolt	4	SBP-11 UNC 3/8" x 1 1/2" 304 SS
⑥	Coupling	4	COU-11
⑦	Shim	2	STW000010
⑧	Shim	2	STW000010
⑨	Anchor	4	ANCR-11



ASSEMBLY NO. SBMASS-2
 DATE 3-7
type AS3-2
 for 3" square tube
break-away
 BREAKAWAY SYSTEM FOR
 GROUND MOUNTED
 SIGN SUPPORTS
 TANEY