



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

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

February 23, 2005

In Reply Refer To: HSA-10/SS-127

Mr. Nick Calvi
Ultimate Highway Products, Inc.
P. O. Box 7
10650 Fern Avenue
Stanton, California 90680

Dear Mr. Calvi:

Thank you for your letter of October 22, 2004, requesting the Federal Highway Administration (FHWA) acceptance of revisions to your company's Slip-Mate slip base as a breakaway sign support system for use on the National Highway System (NHS). Accompanying your letter were drawings of the proposed changes. You requested that we find the revised Slip-Mate breakaway base acceptable for use on the NHS under the provisions of the NCHRP Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features." You also requested that products formally tested and accepted under the "Western Highway Products" name and sold by your company be recognized as "Ulti-Mate" products.

Introduction

Testing of the supports with the original Slip-Mate device was in compliance 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' Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.

Testing

The original Slip-Mate was a three-bolt omni-directional slip base system – the revisions do not affect this. The 1/2-inch triangular plates measure 6 inches on each side of the triangle. A 1/2-inch thick polypropylene ball bearing housing is placed between the two plates to provide reduced friction. (This is necessary for a smaller system to avoid the problem of the signpost bending before the slip base can separate.) To either slip plate is welded a 2x2 inch by 1/4-inch square steel tube. The upper tube is 18 inches long and is welded to the top slip plate to receive the 12 gage, 2 1/4 x 2 1/4-inch square perforated square steel sign support. This tube is extended so as to contact the vehicle's bumper with a significant cross-section of steel. The



lower tube is 6 inches long and is welded to the bottom plate and is inserted in and fastened to the tube and sleeve combination in the foundation. The slip base bolts are 1/2-inch diameter x 2 1/2-inch long hex head steel bolts with nuts and washers. They are torqued to 40-foot pounds. The anchor for the system consisted of a 2 1/4-inch square, 36-inch long 12 gage perforated square steel tube (PSST) with a 2 1/2-inch square, 18-inch long 12 gage perforated strengthening sleeve with a soil stabilize bracket measuring 13 inches by 10 inches attached with two 5/16-inch corner bolts. The system was installed in the NCHRP Report 350 "Standard" soil. The sign used in the test was a 36 x 60-inch rectangular sign attached to the support post with four 3/8-inch drive rivets. It was mounted 5 inches below the top of the 144-inch tall post. The weight of the sign and the post was 60 pounds above the slip plane. The device was accepted in the FHWA acceptance letter SS-100 dated November 21, 2001.

Requested Modifications and Findings

You requested the following modifications to the tested Slip-Mate breakaway device:

- Increase the triangular steel plate thickness from 1/2-inch to 5/8-inch
- Cut square holes in the upper and lower plates such that the 2-inch PSST may be inserted half way into the plate. Fillet weld all around on the lower and upper joint areas.
- Weld 1/16-inch thick gasket to 3/8-inch thick gasket in place of adhesive. This will help to keep the stainless steel ball bearings in place.

We concur with your assertion that these changes should have no adverse affect on the breakaway performance of the Slip-Safe system. Therefore, the modifications to 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, when proposed by a State.

Ulti Mate and Western Highway Products

Previously your company sold the Slip-Mate and other Ulti-Mate products under the name of "Western Highway Products." You requested that all devices that were accepted under the Western Highway Products name be formally recognized as Ulti-Mate products sold under the company name of Ultimate Highway Products, Inc. The FHWA hereby acknowledges this as it applies to the following acceptance letters issued to Western Highway Products:

SS-100	November 21, 2001	Slip Mate breakaway base
SS-62	June 3, 1996	Ulti Mate perforated square steel tube sign supports
WZ-155	June 9, 2003	Type III Barricades
WZ-155 Revised	November 28, 2003	Type III Barricades

Please note the following standard provisions that apply to the 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 the FHWA and the NCHRP Report 350.
- To prevent misunderstanding by others, this letter of acceptance, designated as number SS-127 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.
- Some UltiMate products are patented devices and considered "proprietary." When proprietary devices are *specified by a highway agency* for use on Federal-aid projects they: (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. These provisions do not apply to exempt non-NHS projects. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is enclosed.
- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent holder. The acceptance letter is limited to the crashworthiness characteristics of the candidate device, 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,

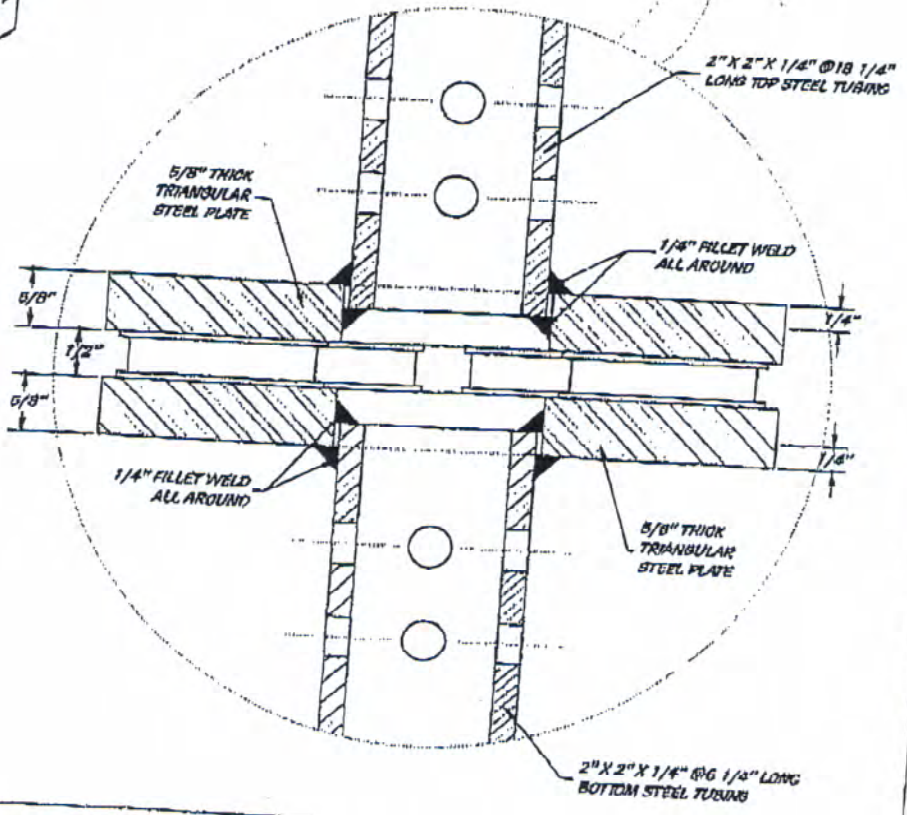
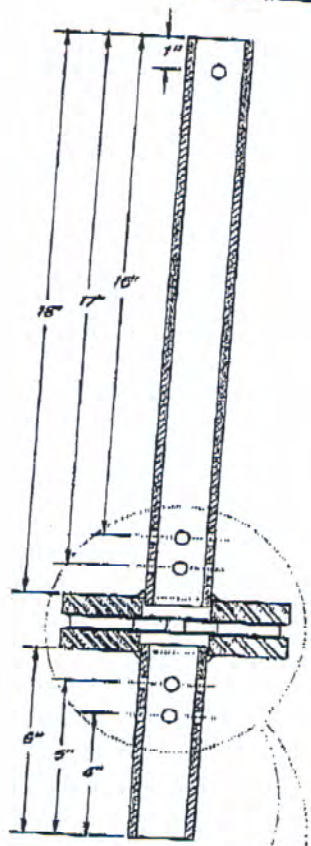
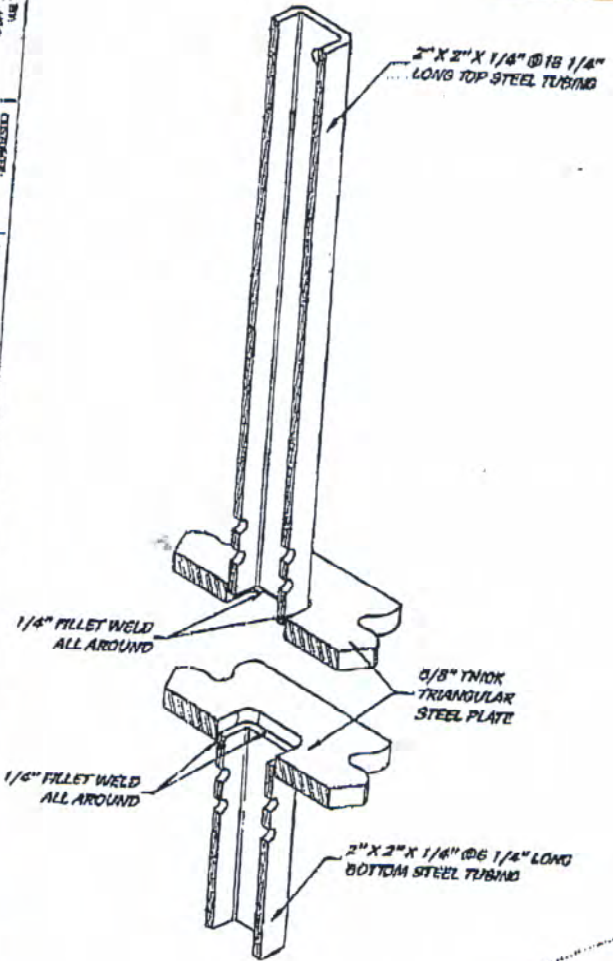
/Original Signed by Harry W. Taylor/

~for~

John R. Baxter, P.E.
Director, Office of Safety Design
Office of Safety

Enclosure

DWG. BY: L. MOG
 DATE: 4-27-04
 SCALE: AS SHOWN
 CHECKED BY: [blank]
 DATE: [blank]
 DRAWING NO. [blank]
 REVISIONS: [blank]
 PROJECT: SLIP-STREAM SECTION VIEW DETAILS



UHP
 Ultimate
 Heavy Products
 10680 Fern Ave, Stanton, CA 90680
 Voice 800-730-4339 fax 815-462-9562
 www.uhp-inc.com

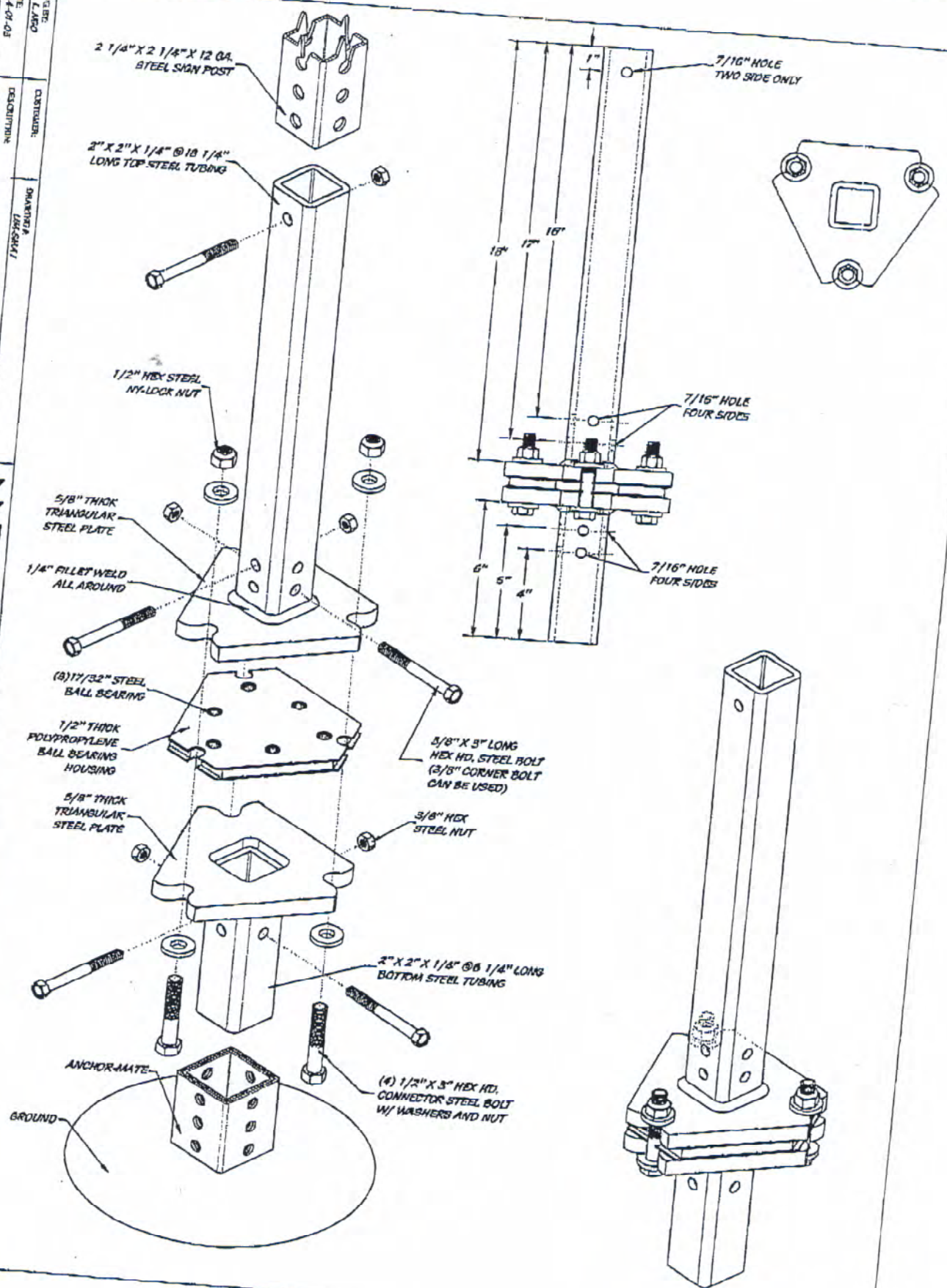
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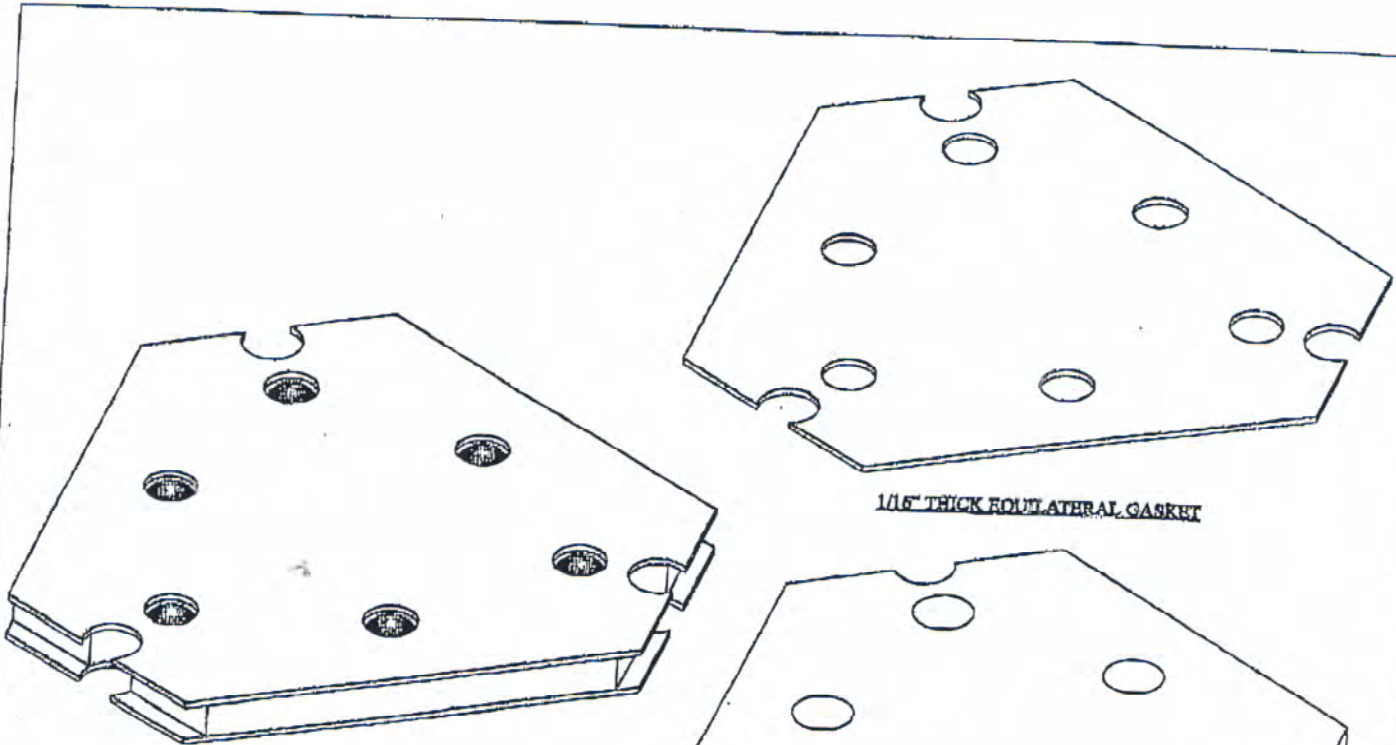
DATE: 4-01-03	SCALE: AS SHOWN	DESIGNER: SHANNON LARSEN	CUSTOMER: THE UTM-MATE TRIANGULAR SUP-MATE
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UFP
 Ultimate
 The UTM-Mate Product

10680 Fern Ave., Stanton, CA 90680
 Voice 800-730-4939 fax 815-482-9562
 www.ufp-inc.com

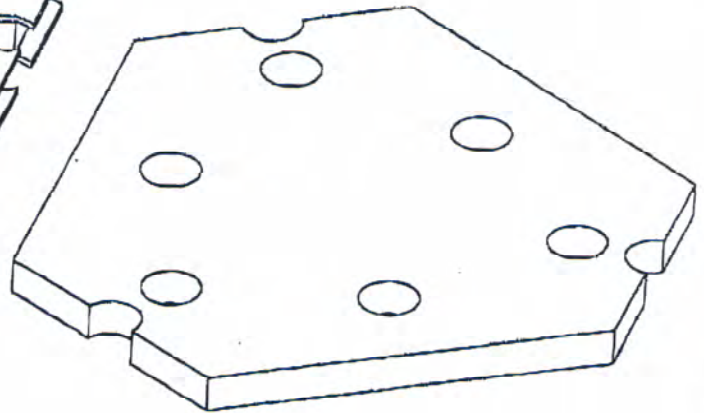
REVISION	DESCRIPTION	DATE



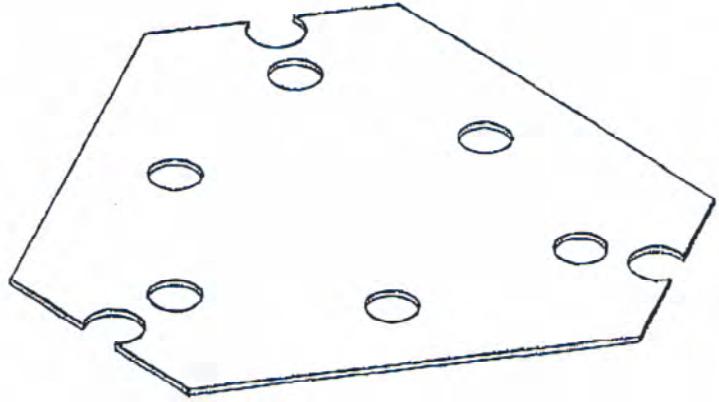


BALL BEARING ASSEMBLY

1/16" THICK EQUILATERAL GASKET



3/8" THICK EQUILATERAL GASKET



1/16" THICK EQUILATERAL GASKET



1/2" x 3" STAINLESS STEEL BOLT



1/2" x 1/8" THICK FLAT WASHER



1/2" STAINLESS STEEL NY-LOCK NUT



7/16" S/S BALL BEARING

HARDWARE FOR SLIP-MATE

DWG NO: L 460	CUSTOMER: SLIP-MATE	DWG NO: SLIP-MATE	DATE: 8/27/04	DESCRIPTION: HARDWARE FOR SLIP-MATE	UP Ultimate Highway Products	10680 Fern Ave. Stanton, CA 90680 voice 800-730-4939 fax 815-462-9582 www.uhp-inc.com	REVISIONS:	DATE:
MATERIAL: AS NOTED								