



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

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

Refer to: HSA-10/SS-68G

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

Dear Mr. Leahy:

Thank you for your email message requesting Federal Highway Administration (FHWA) acceptance of a modification to our previous action on your company's SB10 slip base. The SB10 Slip Base was originally accepted in our letter SS-68D (February 22, 1999), and modified in letter SS-68E (December 9, 1999) as a component of a breakaway sign support system for use on the National Highway System (NHS). You requested that we find a three-post installation using the SB-10 slip base acceptable for use on the NHS under the provisions of National Cooperative Highway Research Program (NCHRP) Report 350 "Recommended Procedures for the Safety Performance Evaluation of Highway Features."

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.

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. We then found the identical breakaway design using "10 inch" (254 mm) triangular slip plates acceptable by extrapolation via the letters referenced above. The larger base (the "SB10") would accommodate a 3 inch (76.2 mm) square tube sign support and was accepted for a single support installation only.

Your present request is that the SB10 base be acceptable for use under the same conditions as the SB8, that is, up to three posts (of the same maximum size and weight as permitted for the SB8) within a 2.1 meter span. In addition, you requested that a dual post support using the SB10 be accepted providing the weight of posts plus sign does not exceed that for the triple post SB8.

The following facts were considered :

- a.) The velocity change during the crash test of the single post support was extremely low.
- b.) Conventional dual post omni-directional slip bases have been tested with successful results, even when using more massive supports and sign panels.
- c.) The mass of the dual and triple post supports for which you requested acceptance is no greater than the mass of the triple post support using the SB8 base.

In light of these facts the FHWA concurs in your request. 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, 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-68G 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 SB10 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

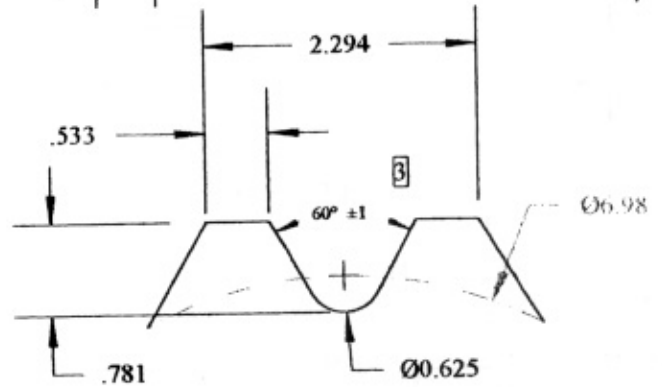
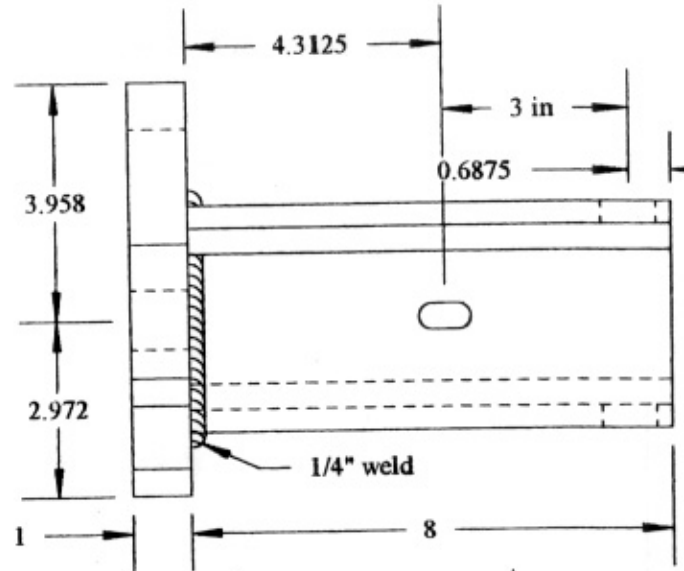
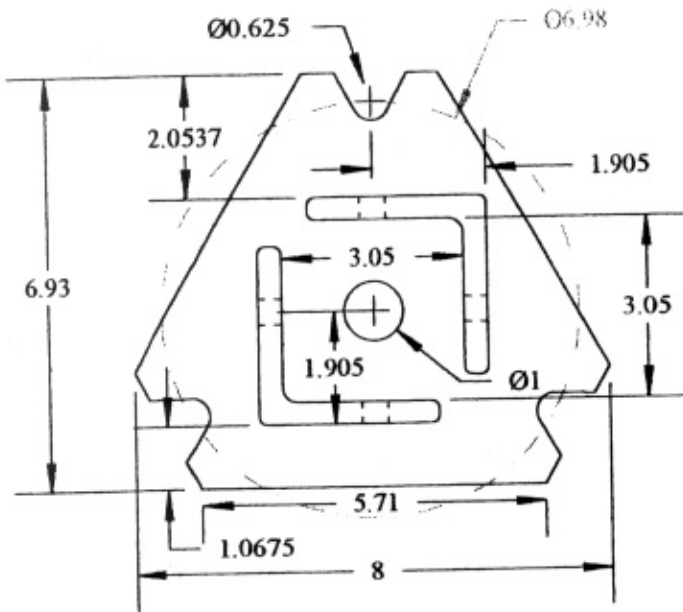
Enclosure

Unit of measure - Inches
 Do not scale drawing - work to dimensions
 All tolerances +/- .005 unless otherwise noted

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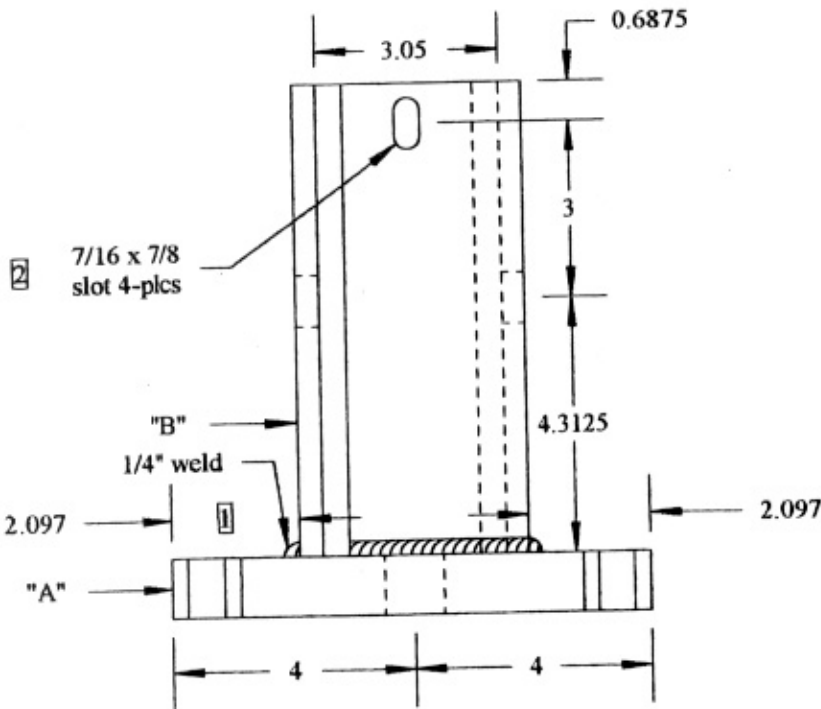
Development & Mfg. Co. Inc

7350 W. St. Rt. 104 Auburn, IL 62615



PROVIDED WITH 2 EA GRADE 8 HEX BOLTS(3/8"-16 X 4 1/2"),
 2 EA GRADE 8 SERRATED FLANGE NUTS(3/8"-16) &
 2EA. 3/8" STEEL FLAT WASHERS

1. Surface "A" to be 90 degrees to Surface "B".
2. Punch 1 slot on opposite sides{point & flat of triangle} 11/16", on center, from top of surface "B". Punch one slot on opposite sides{opposite point & flat of triangle} 3-11/16", on center, from top of surface "B".
3. Notches to be deburred to a smooth finish.



REVISIONS

NOTES

PROPRIETARY PRINT
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MATERIALS

"A": 1" A-36 Plate.
 "B": 3" x 3" x 3/8" A-36 structural angle.

FINISH

ASTM A123/A153 Hot Dip Galvanizing.

PART#

SB10-300AG

DATE

6-12-98

DRAWING#

10100

PRODUCT NAME

Large Slip Base Top - 10" Triangle

DESCRIPTION

Top Half of Slip Base to receive 3" square x 7 ga. Tube.

WEIGHT

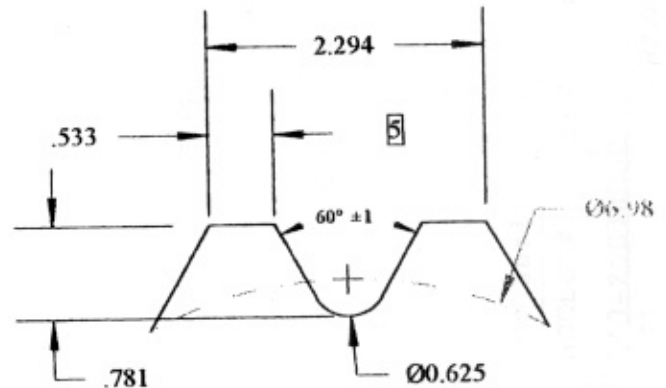
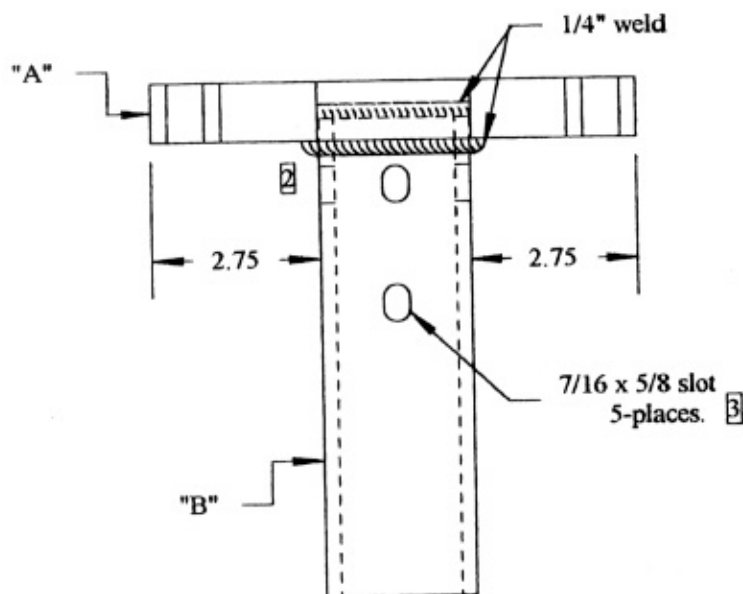
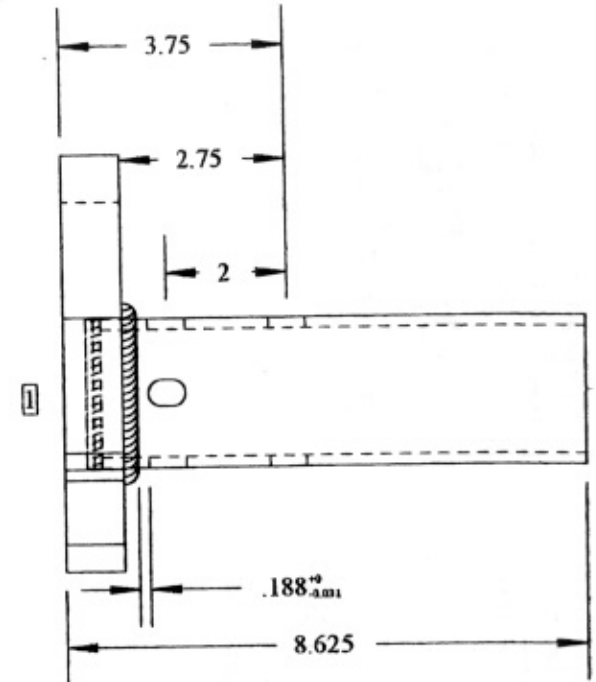
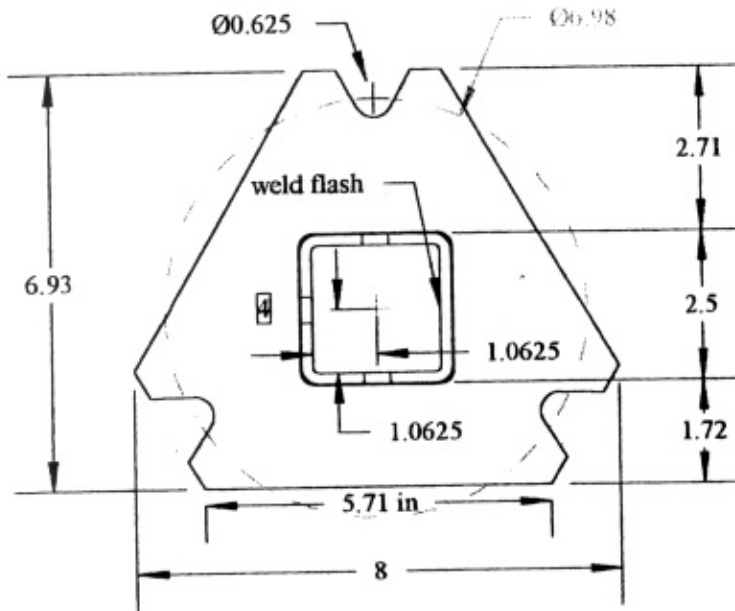
20.22 lbs.

Unit of measure - Inches
 Do not scale drawing - work to dimensions
 All tolerances +/- .005 unless otherwise noted

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Development & Mfg. Co. Inc

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PROVIDED WITH 2 EA GRADE 8 FLANGE BOLTS(3/8"-16 X 3 1/2")
 & 2 EA GRADE 8 SERRATED FLANGE NUTS(3/8"-16)

NOTES:

1. Insert Surface "B" 3/8" into Surface "A".
2. Surface "A" to be 90 degrees to surface "B" (+/- 1/2 Degree).
3. Punch 2 slots on opposite sides (point & flat of triangle) 1 1/4" & 3 3/4" from top of surface "B". Punch 1 slot opposite weld flash 1 1/4" from top of surface "B".
4. Square hole in surface "A" to be 2.53" (+.01/-0).
5. Notches to be deburred to a smooth finish.

REVISIONS

NOTES:

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MATERIALS

"A": 1" A-36 Plate.
 "B": 2 1/2" x 2 1/2" x 1/4" Wall ASTM
 A500B Tube.

FINISH

ASTM A123/A153 Hot Dip
 Galvanizing.

PART#

SB10-250300BG

DATE

4-28-98

DRAWING#

10200

PRODUCT NAME

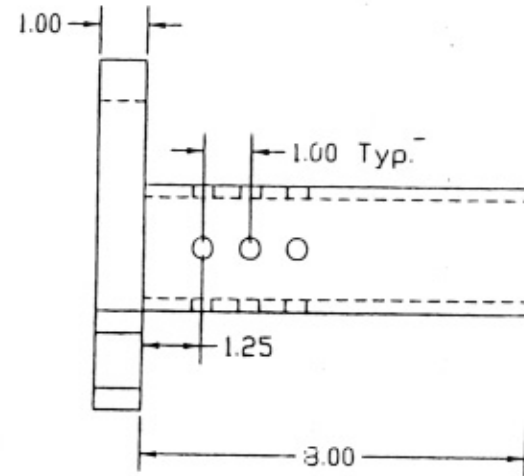
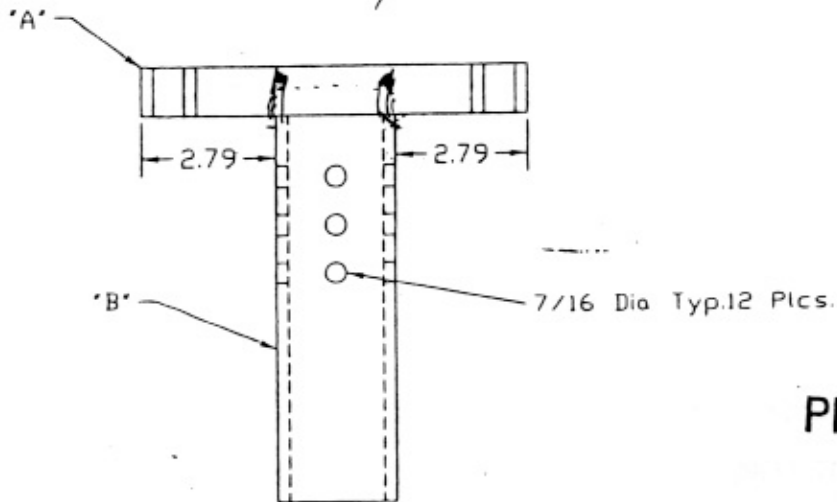
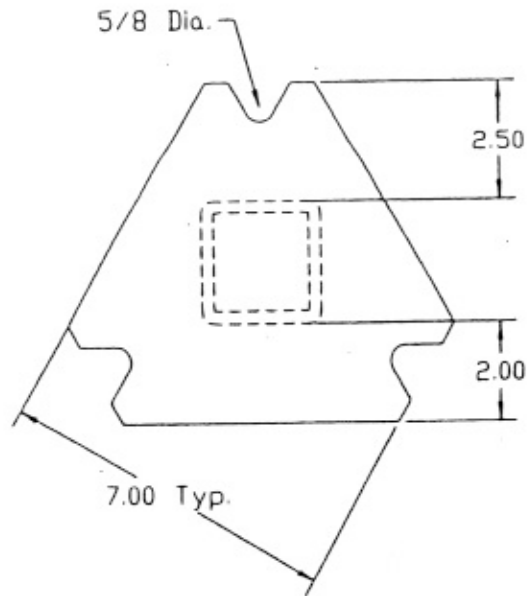
Large Slip Base Bottom - 10" Triangle

DESCRIPTION

Bottom Half of Slip Base fits HDA250 & TWA250 Series
 Anchors.

WEIGHT

13.27
 lbs.



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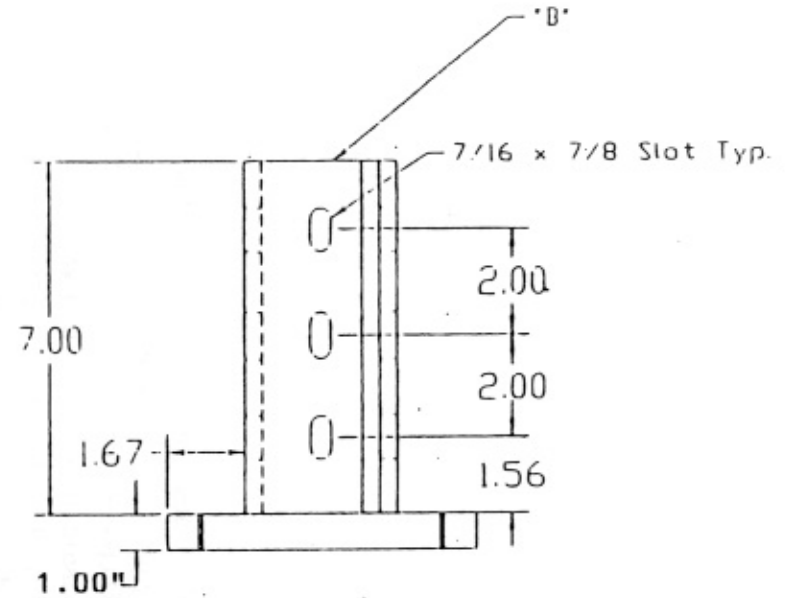
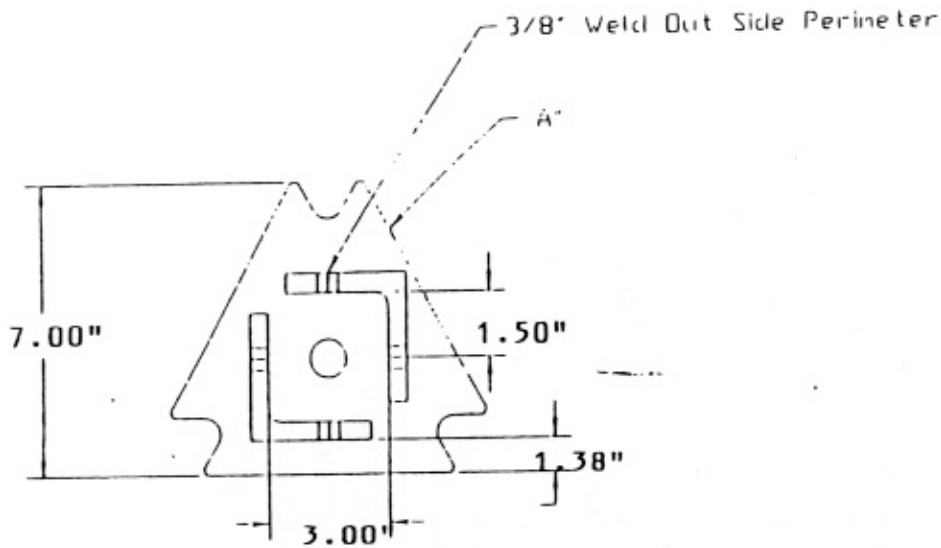
NOTES: Materials: 1" A-36 Plate
 2 1/2" x 2 1/2" x 5/16" Wall ASTM A500B Tube

Revision

PRODUCT NAME:		
10" Series Slip Base Bottom		
PRODUCT #:	DRAWING #:	CHECKED:
SB10-250300RG		
DATE:	DRAWN BY:	
7-1-97	SS	

Xcessories SQUARED
 Development & Mfg. Co. Inc.

* Traffic Sign Support Products *
 P.O. Box 135, 7350 W. St. Rt. 104
 Auburn, IL 62615
 Phone (217) 438-3535 * Fax (217) 438-3917



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NOTES :

Materials: 1" ASTM A-36 Plate
 3"x3"x3/8" A-36 Angle

Revision

PRODUCT NAME :
 10" Series Slip Base Top

PRODUCT # :	DRAWING # :	CHECKED :
SB10-300AG		

DATE :	DRAWN BY :
6-27-97	SS

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