



RECOMMENDED DETAILS FOR HOT-DIP GALVANIZED STRUCTURES

A MANUAL FOR ENGINEERS & FABRICATORS,
CONTAINING WORKING DRAWINGS AND DETAILS
FOR HOT-DIP GALVANIZED STRUCTURES

American Galvanizers Association

RECOMMENDED DETAILS FOR GALVANIZED STRUCTURES

The information presented in this publication has been prepared in accordance with recognized engineering principles and is for general information only. While it is believed to be accurate, this information should not be used or relied upon for any specific application without competent professional examination and verification of its accuracy, suitability, and applicability by a licensed professional engineer, designer, or architect. The publication of the material contained herein is not intended as a representation or warranty on the part of the American Galvanizers Association or the American Institute of Steel Construction or of any other person named herein that this information is suitable for any general or particular use or of freedom from infringement of any patent or patents. Anyone making use of this information assumes all liability arising from such use.

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: KSW
DATE: 5-9-83		TRACED BY: R.S.H.
TITLE PAGE		
PUBLICATION NO.	MA - 3A	DRAWING NUMBER 1

<u>DRAWING</u>	<u>NO.</u>	<u>TITLE</u>
	1	TITLE PAGE
	2	INDEX
	3	GENERAL NOTES
	4	FRAMED BEAM CONNECTIONS
	5	WEB STIFFENER
	6	COMBINATION SECTION - WIDE FLANGE & CHANNEL
	7	COMBINATION SECTION - TWO CHANNELS
	8	COMBINATION SECTION - CHANNEL & ANGLE
	9	COMBINATION SECTION - CHANNEL & ANGLE
	10	COMBINATION SECTION - WIDE FLANGE & CHANNEL
	11	DOUBLE ANGLES
	12	GUSSETED CONNECTION - WELDED
	13	GUSSETED CONNECTION - BOLTED
	14	MOMENT SPLICE AT RIDGE
	15	BRACKET PLATE
	16	SIMPLE COLUMN BASE (BASE PLATE SHOP WELDED)
	17	SIMPLE COLUMN BASE (BASE PLATE FIELD WELDED)
	18	MOMENT RESISTING COLUMN BASE (BASE PLATE FIELD WELDED)
	19	MOMENT RESISTING COLUMN BASE (BASE PLATE SHOP WELDED)
	20	COLUMN SPLICES - BOLTED
	21	BUTT PLATE COLUMN SPLICE - BOLTED
	22	BUTT PLATE COLUMN SPLICE - WELDED
	23	BOX TRUSS

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE NONE	APPROVED BY:	DRAWN BY KSW
DATE 8-8-83		TRACED BY RSH
INDEX		
PUBLICATION NO. MA-3A		DRAWING NUMBER 2

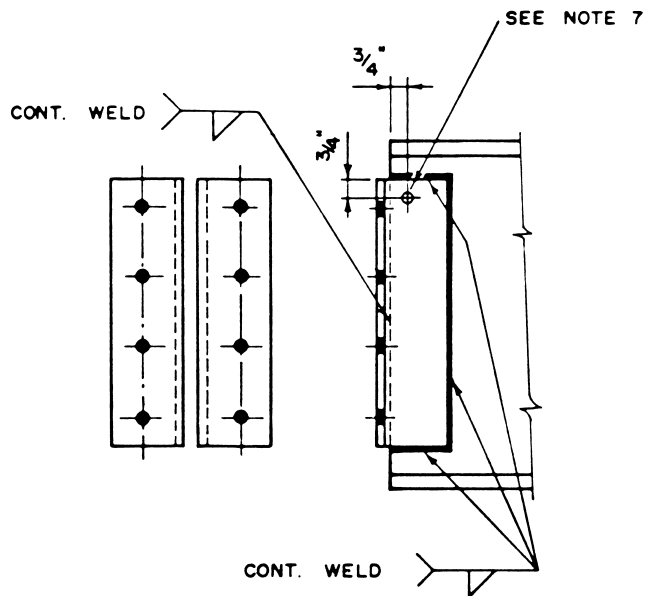
1. THE CONTENTS OF THIS PUBLICATION ARE THE RESULT OF A WIDESPREAD SURVEY CONDUCTED AMONG AGA MEMBERS. SOME GALVANIZERS MAY PREFER DIFFERENT DETAILS, BASED UPON THEIR OWN EXPERIENCES, TO ACHIEVE DESIRED RESULTS IN THE GALVANIZED PRODUCT.
2. CERTAIN DETAILS CALL FOR WELDING AFTER GALVANIZING. MORE INFORMATION CONCERNING WELDING AND SUBSEQUENT TOUCH-UP OF GALVANIZED STEEL IS AVAILABLE FROM THE AMERICAN GALVANIZERS ASSOCIATION, INC. IF POSSIBLE, STEELWORK SHOULD BE DESIGNED TO BE BOLTED, RATHER THAN WELDED AFTER GALVANIZING.
3. WELDING SYMBOLS ARE THOSE DEFINED IN AWS A2.4-79. SHOP WELDING SYMBOLS ARE USUALLY ACCOMPANIED BY A NOTATION "INTERMITTENT" OR BY "CONT." MEANING CONTINUOUS IN THE ABSENCE OF ANY OTHER NOTATION IT IS ASSUMED THAT THE WELD WILL BE CONTINUOUS.
4. CLASS I DETAILS ARE THOSE CONSISTING OF PARTS THAT ARE JOINED TOGETHER BY A FULL SEAL WELD, OR PARTS WHICH ARE BOLTED TOGETHER AFTER GALVANIZING. THIS CLASS REPRESENTS THE HIGHEST DEGREE OF CORROSION PROTECTION THAT IS ATTAINABLE, BUT DOES REQUIRE MORE FABRICATION COST.
5. CLASS II DETAILS ARE THOSE CONSISTING OF OVERLAPPING PARTS THAT ARE JOINED TOGETHER BY SEAL WELDING AND WHICH HAVE AN OVERLAP AREA THAT IS LARGE ENOUGH TO NEED VENTING IN ACCORDANCE WITH THE APPROXIMATE GUIDELINES OF NOTE 7. A VERY HIGH DEGREE OF CORROSION PROTECTION IS AVAILABLE WITH THESE DETAILS, ALTHOUGH NOT QUITE EQUAL TO CLASS I. MORE WORK IS REQUIRED THAN IS CUSTOMARY FOR NORMAL FABRICATION STANDARDS. IT SHOULD BE NOTED THAT CLASS II CAN BE UPGRADED TO CLASS I BY PLUGGING VENTS AFTER GALVANIZING.
6. CLASS III DETAILS DO NOT INCLUDE SEAL WELDING AND MAY REQUIRE ONLY SLIGHTLY MORE FABRICATION EFFORT THAN NORMALLY EMPLOYED ON A NON-GALVANIZED STRUCTURE. CLASS III DETAILS ENABLE THE GALVANIZING TO PROVIDE A DEGREE OF CORROSION PROTECTION THAT MEETS OR EXCEEDS THE PROTECTION PROVIDED BY MOST INDUSTRIAL COATINGS TO IDENTICAL DETAILS.
7. PIN HOLES MAY EXIST IN SEAL WELD AROUND OVERLAPS IN CLASS I DETAILS. LIQUIDS FROM GALVANIZERS CLEANING BATHS MAY PASS THROUGH THE PIN HOLE AND ENTER THE OVERLAP AREA, WHERE IT WILL REMAIN AS IT IS IMMERSSED IN THE MOLTEN ZINC. POSSIBILITY OF EXPLOSION EXISTS AS THE TRAPPED LIQUID VAPORIZES AND EXPANDS AT A TEMPERATURE OF APPROXIMATELY 850°F. DANGER OF EXPLOSION

IS MORE ACUTE FOR LARGER OVERLAPPED AREAS. IT IS RECOMMENDED THAT THE FABRICATOR PROVIDE A VENT IN ONE OF THE OVERLAPPING PLATES ACCORDING TO THE FOLLOWING GUIDELINES. LOCATION OF VENTS NEED NOT BE EXACT, PROVIDED THAT THEY ARE IN THE SAME GENERAL LOCATION AS SHOWN ON THE DRAWING. ARRANGEMENTS MAY BE MADE FOR INSTALLATION OF VENT HOLES BY THE GALVANIZER.

<u>OVERLAPPED AREA (SQ. IN.)</u>	<u>VENTING REQUIREMENTS</u>
LESS THAN 16	NONE
MORE THAN 16 AND LESS THAN 64 WHEN STEEL IS $1/2$ " THICK OR LESS.	ONE $3/8$ " DIA. HOLE, OR LEAVE 1" OF WELD UNDONE ADJACENT TO SAME LOCATION.
MORE THAN 16 AND LESS THAN 64 WHEN STEEL IS MORE THAN $1/2$ " THICK.	NONE
MORE THAN 64 AND LESS THAN 400.	ONE $1/2$ " DIAMETER HOLE, OR LEAVE 2" OF WELD UNDONE ADJACENT TO SAME LOCATION.
EACH INCREMENT OF 400	ONE $3/4$ " DIAMETER HOLE, OR LEAVE 4" OF WELD UNDONE ADJACENT TO SAME LOCATION.

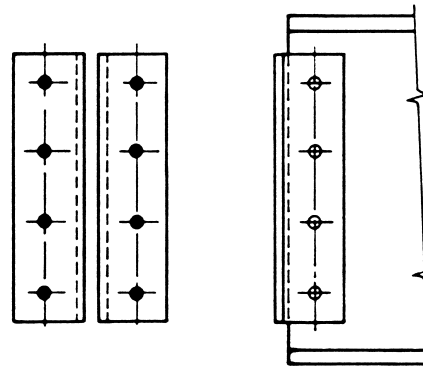
8. EMISSIONS FROM THE UNSEALED OVERLAPS OF CLASS II AND CLASS III DETAILS MAY CAUSE A STAIN ON THE SURFACE OF THE COATING. THIS APPLIES WHETHER THE COATING IS A PAINT OR GALVANIZING. THIS STAIN IS USUALLY SUPERFICIAL AND WILL DISAPPEAR IN TIME AS THE GALVANIZING WEATHERS.
9. MOISTURE STEAMING FROM UNSEALED OVERLAPS IN CLASS II AND CLASS III JOINTS MAY RESULT IN SLIGHT BARE SPOTS ALONG THE LINE OF THE EXHAUST. IF TOUCH-UP OF THESE IS REQUIRED IT MAY BE ACCOMPLISHED BY ANY OF THE MATERIALS DESCRIBED IN ASTM A 780 "STANDARD PRACTICE FOR REPAIR OF HOT DIP GALVANIZED COATINGS". A COPY OF WHICH IS AVAILABLE FROM AMERICAN GALVANIZERS ASSOCIATION, INC.
10. AFTER GALVANIZING, FINISHED ENDS OF COLUMN SECTIONS SHALL BE SPOT FILED TO REMOVE PROJECTIONS.

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: KSM
DATE: 5-9-83		TRACED BY: RSM
GENERAL NOTES		
PUBLICATION NO. MA-3A		DRAWING NUMBER 3



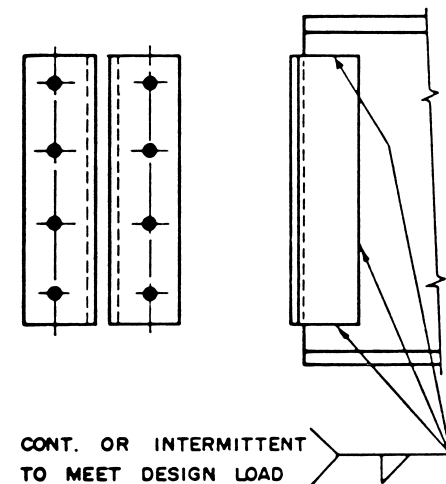
CLASS I

IF NO VENT HOLE IS REQUIRED PER NOTE 7



CLASS I

BOLT AFTER GALVANIZING



CLASS III

CLASS II

IF VENT HOLE IS REQUIRED

REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION (1980)
PART 4 - PAGE 24; PART 4 - PAGE 31

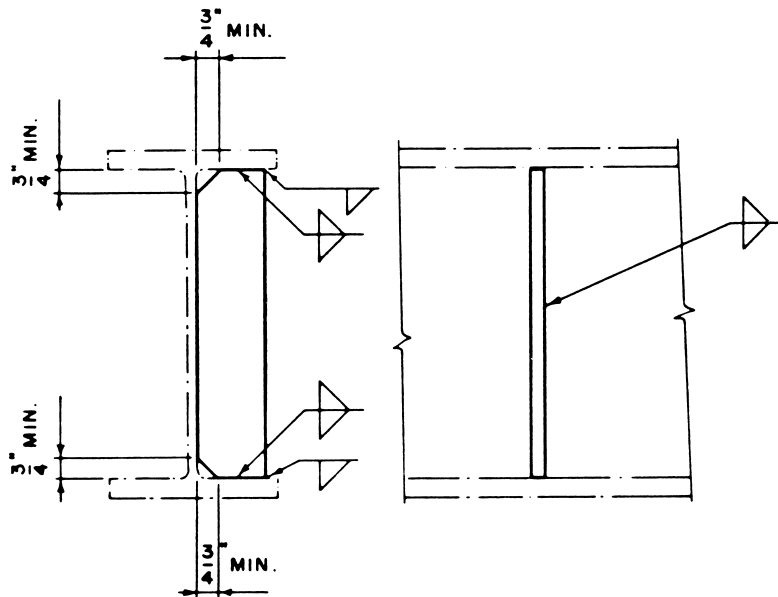
AMERICAN GALVANIZERS ASSN.
AURORA, CO

SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 3-9-83		TRACED BY: R.S.H.

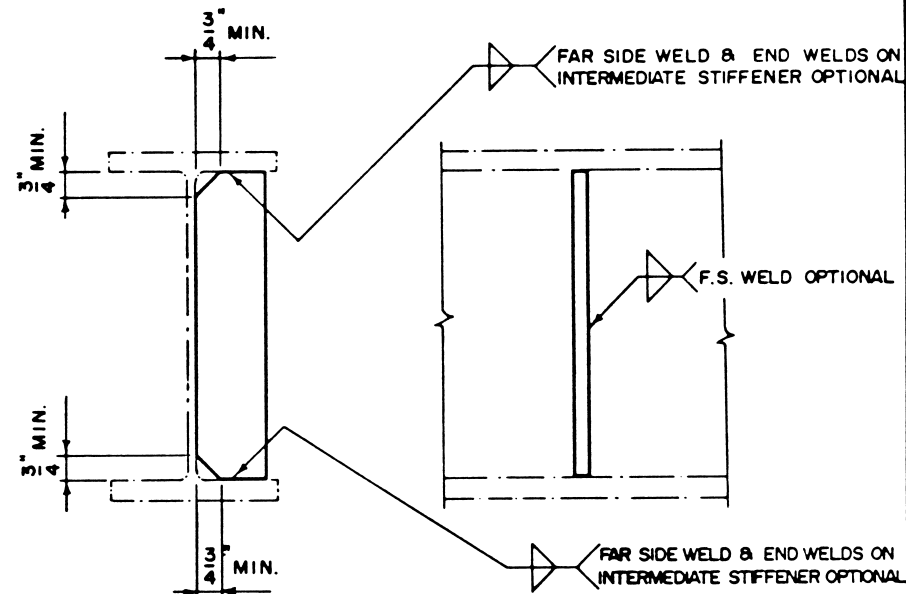
FRAMED BEAM CONNECTIONS

PUBLICATION NO. MA-3A

DRAWING NUMBER
4



CLASS I



USE CONT. OR INTERMITTENT WELD AS REQUIRED TO MEET DESIGN LOAD.

CLASS III

NOTE FOR BOTH CLASSES: BEVEL WELD MAY BE USED INSTEAD OF
FILLET WELD, AT DESIGNER'S OPTION.

AMERICAN GALVANIZERS ASSN.
AURORA, CO

SCALE: **NONE**
DATE: **5-9-83**

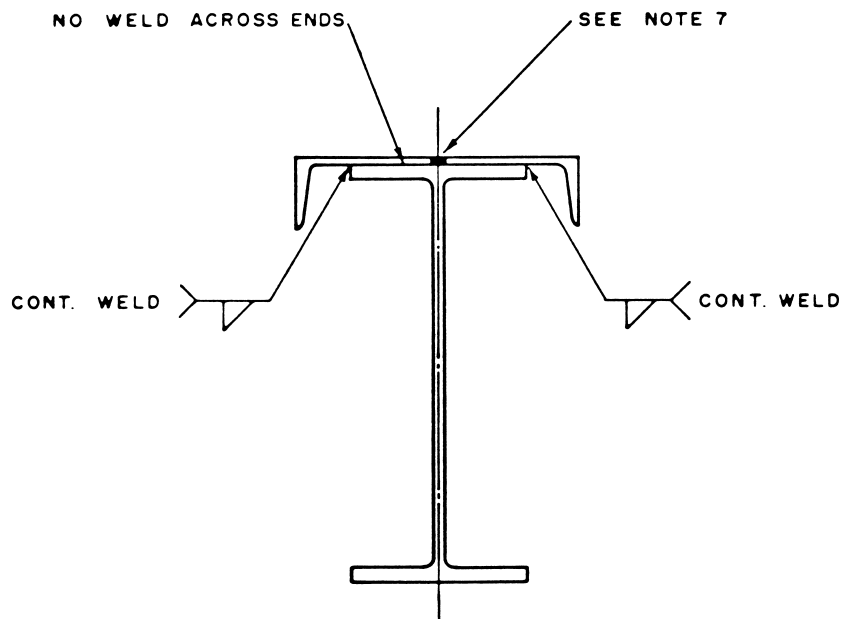
APPROVED BY:

DRAWN BY: **KSW**
TRACED BY: **RSM**

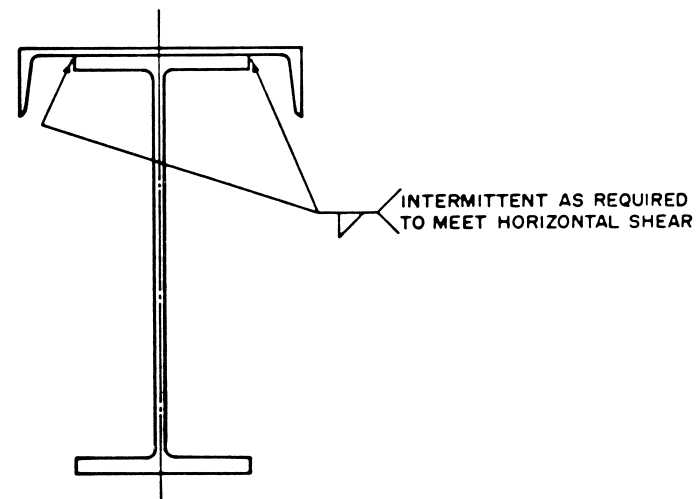
WEB STIFFENER

PUBLICATION NO. MA-3A

DRAWING NUMBER
5



CLASS II

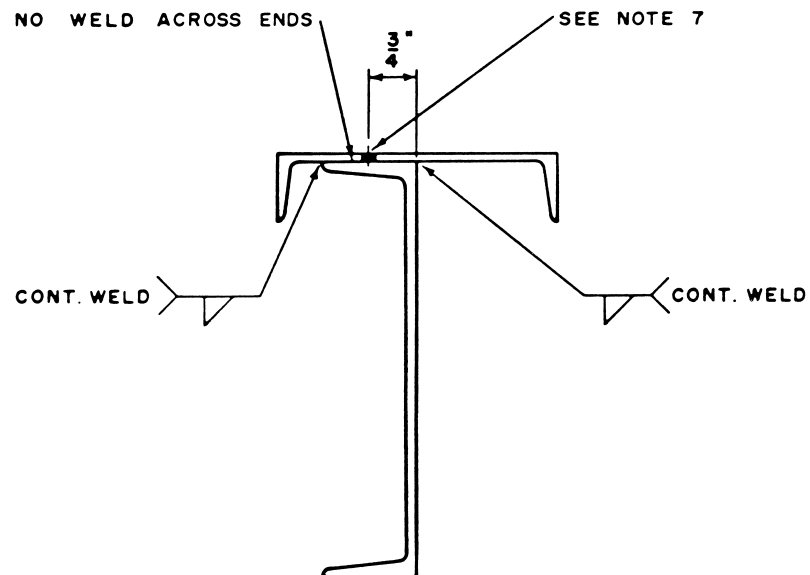


CLASS III

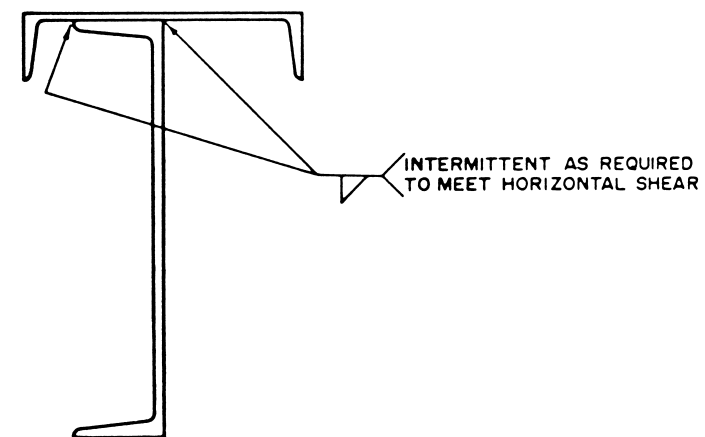
CAUTION: THIS SECTION IS SUBJECT TO WARPAGE
AND MAY REQUIRE STRAIGHTENING AFTER GALVANIZING. TO
MINIMIZE WARPAGE REFER TO THE RECOMMENDATIONS OF
A.G.A.

REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION (1980)
PART I - PAGES 80 & 81

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 6 - 9 - 83		TRACED BY: R.S.H.
COMBINATION SECTION - FLANGE & CHANNEL		
PUBLICATION NO. MA-3A		DRAWING NUMBER 6



CLASS II

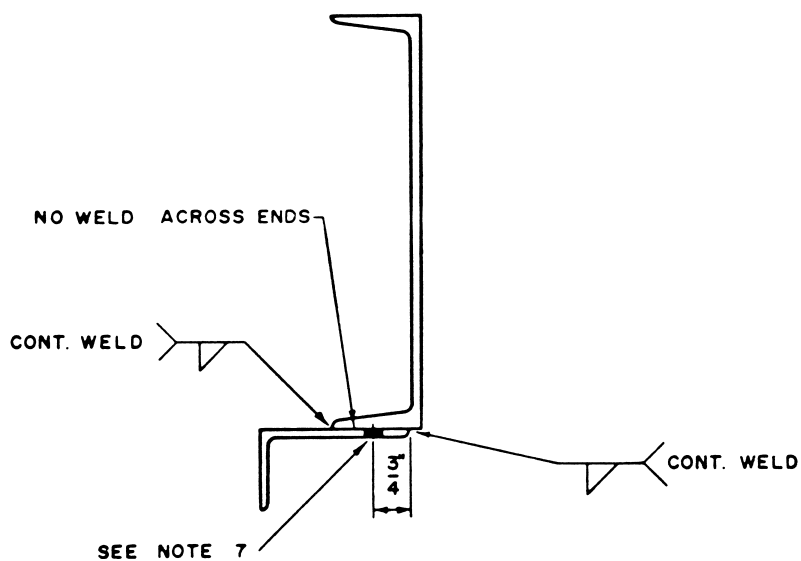


CLASS III

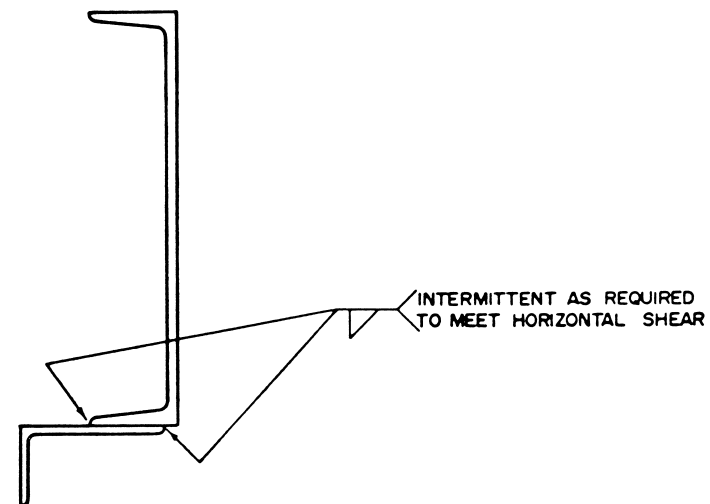
CAUTION: THIS SECTION IS SUBJECT TO WARPAGE AND MAY REQUIRE STRAIGHTENING AFTER GALVANIZING. TO MINIMIZE WARPAGE REFER TO THE RECOMMENDATIONS OF A.G.A.

REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION (1980)
PART I - PAGES 82 & 83

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 8-9-83		TRACED BY: R.S.H.
COMBINATION SECTION - TWO CHANNELS		
PUBLICATION NO. MA-3A		DRAWING NUMBER 7



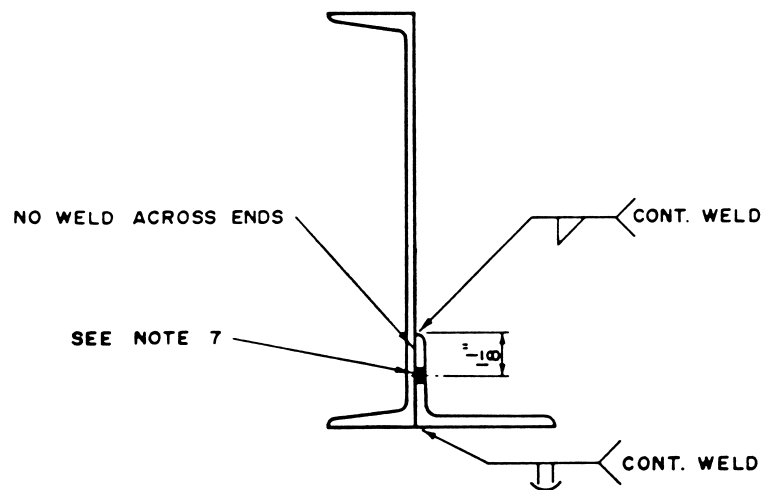
CLASS II



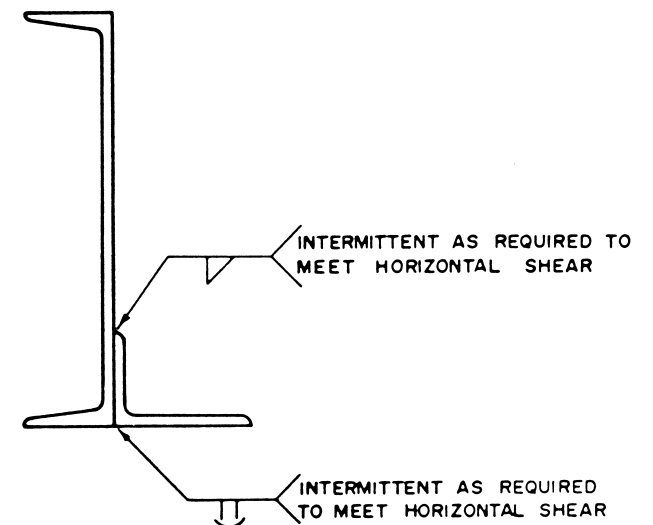
CLASS III

CAUTION : THIS SECTION IS SUBJECT TO WARPAGE AND MAY REQUIRE STRAIGHTENING AFTER GALVANIZING. TO MINIMIZE WARPAGE REFER TO THE RECOMMENDATIONS OF A.G.A.

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.M.
DATE: 5-9-83		TRACED BY: R.S.H.
COMBINATION SECTION - CHANNEL & ANGLE		
PUBLICATION NO. MA-3A	DRAWING NUMBER 8	



CLASS II

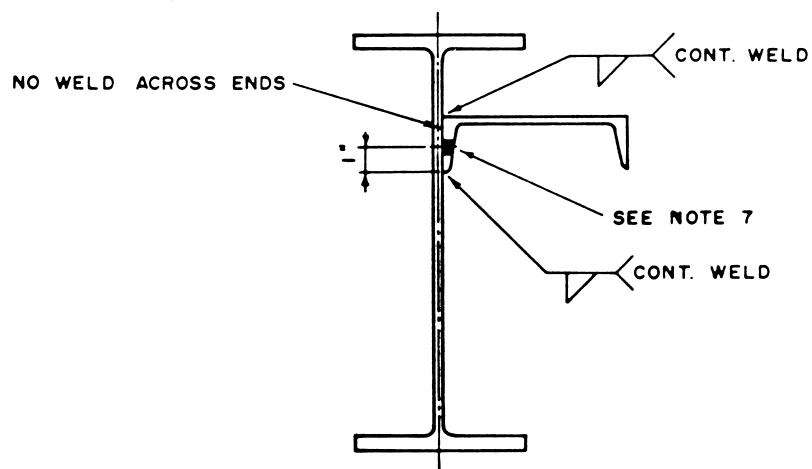


CLASS III

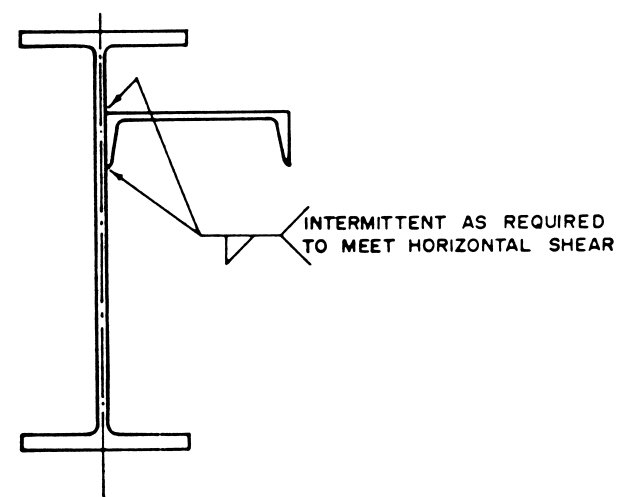
CAUTION: THIS SECTION IS SUBJECT TO WARPAGE AND MAY REQUIRE STRAIGHTENING AFTER GALVANIZING. TO MINIMIZE WARPAGE REFER TO THE RECOMMENDATIONS OF A.G.A.

REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION (1980)
PART I - PAGES 84 & 85

AMERICAN GALVANIZERS ASSN. AURORA, CO			
SCALE: NONE	APPROVED BY:	DRAWN BY: KSW	
DATE: 5-9-83		TRACED BY: RSM	
COMBINATION SECTION - CHANNEL & ANGLE			
PUBLICATION NO. MA - 3A		DRAWING NUMBER 9	



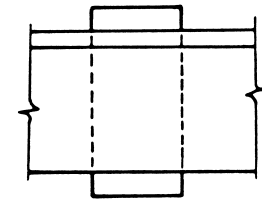
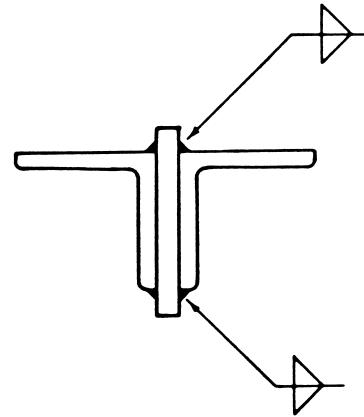
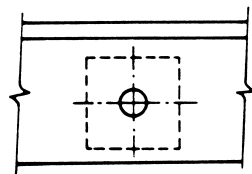
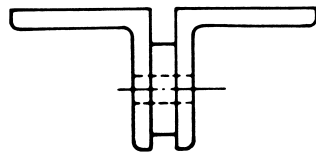
CLASS II



CLASS III

CAUTION: THIS SECTION IS SUBJECT TO WARPAGE AND
MAY REQUIRE STRAIGHTENING AFTER GALVANIZING. TO MINIMIZE
WARPAGE REFER TO THE RECOMMENDATIONS OF A.G.A.

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY K.S.W.
DATE: 3-9-83		TRACED BY: R.S.H.
COMBINATION SECTION - WIDE FLANGE & CHANNEL		
PUBLICATION NO. MA - 3A	DRAWING NUMBER 10	



CLASS I

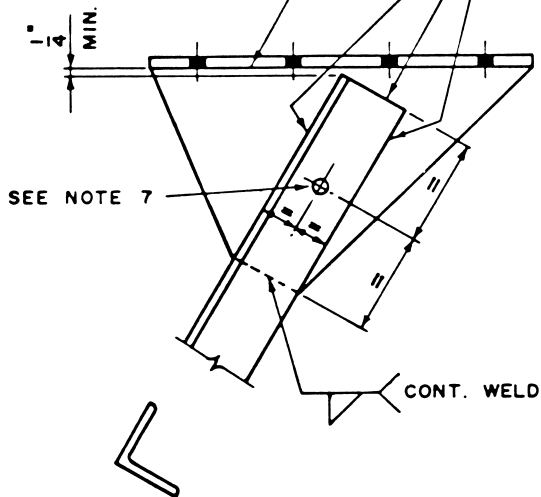
BOLT AFTER GALVANIZING

CLASS III

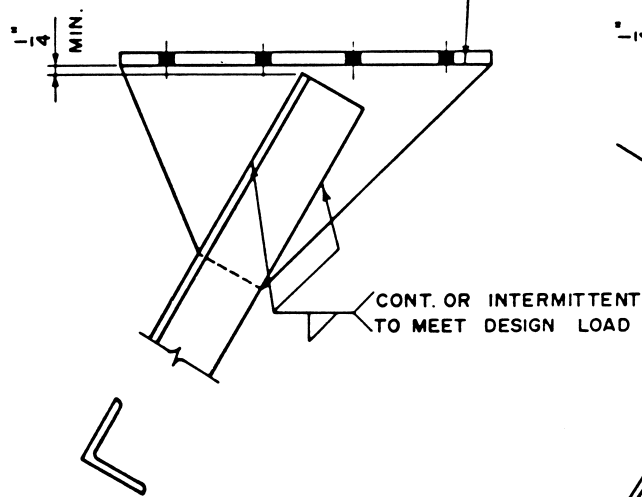
REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION (1980)
PART I - PAGES 72 - 77

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 5-9-83		TRACED BY: R.S.H.
DOUBLE ANGLES		
PUBLICATION NO. MA - 3A	DRAWING NUMBER 11	

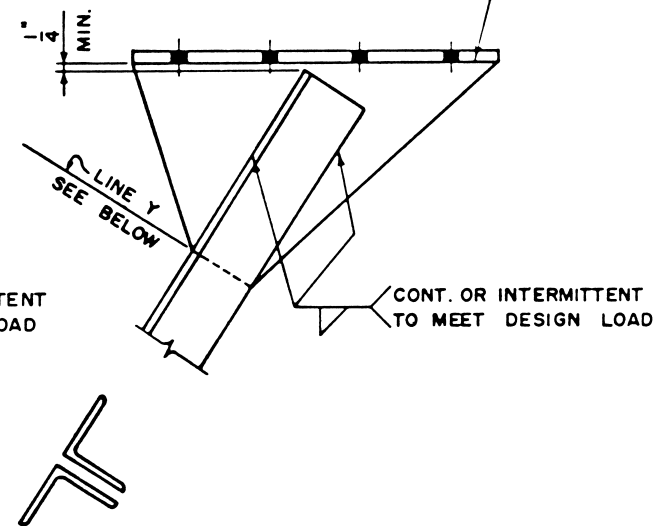
CONT. WELD FOR
CONNECTION FROM
PLATES*



SEE NOTE BELOW



SEE NOTE BELOW



NOTE: FOR CONNECTION FROM PLATES*
USE CONT. OR INTERMITTENT WELD
AS REQUIRED TO MEET DESIGN LOAD

CLASS I

IF NO VENT HOLE IS REQUIRED PER NOTE 7

CLASS II

IF VENT HOLE IS REQUIRED

(FOR GUSSETS USED WITH SINGLE SECTIONS)

CLASS III

CLASS III

(FOR GUSSETS USED WITH
COMBINED SECTIONS)

CLASS I IS NOT USUALLY ATTAINABLE FOR THIS
DETAIL WHEN COMBINED SECTIONS ARE USED,
EXCEPT WHEN GUSSET AND ANGLE DIMENSIONS
PERMIT A SEAL WELD ON BOTH ANGLES ALONG
"LINE Y". THEN SEE CLASS I FOR VENTING.

* CONNECTION MAY BE CUT FROM
W, M, OR S SHAPES AT
DESIGNER'S OPTION

REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION (1980)
PART 5 - PAGE 225

AMERICAN GALVANIZERS ASSN.
AURORA, CO

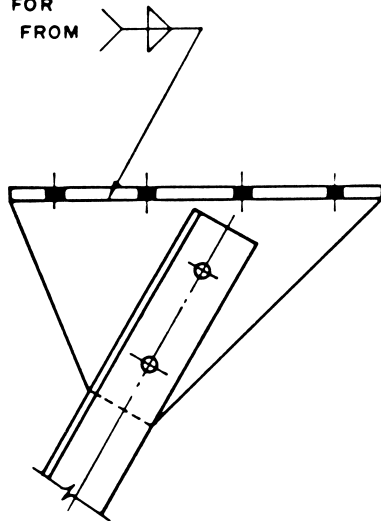
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 8-8-83		TRACED BY: R.S.H.

GUSSETED CONNECTION - WELDED

PUBLICATION NO. MA - 3A

DRAWING NUMBER
12

CONT. WELD FOR
CONNECTION FROM
PLATES*

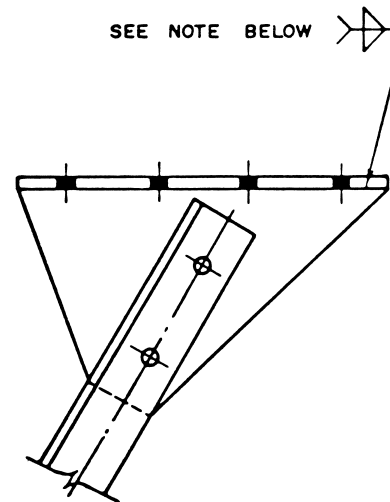


BOLT AFTER GALVANIZING

CLASS I

(FOR GUSSETS USED WITH SINGLE OR COMBINED SECTIONS)

SEE NOTE BELOW



BOLT AFTER GALVANIZING

CLASS III

(FOR GUSSETS USED WITH SINGLE OR COMBINED SECTIONS)

NOTE: FOR CONNECTION FROM PLATES*
USE CONT. OR INTERMITTENT WELD
AS REQUIRED TO MEET DESIGN LOAD

* CONNECTION MAY BE CUT FROM
W, M, OR S SHAPES AT DESIGNER'S
OPTION.

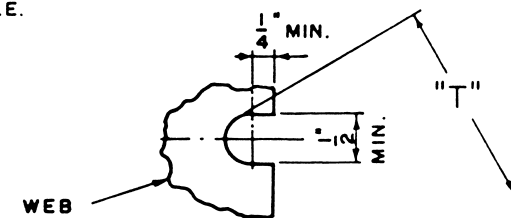
AMERICAN GALVANIZERS ASSN.
AURORA, CO

SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 5-9-83		TRACED BY: R.S.H.

GUSSETED CONNECTION - BOLTED

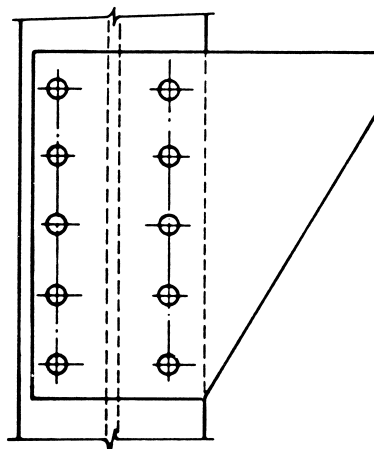
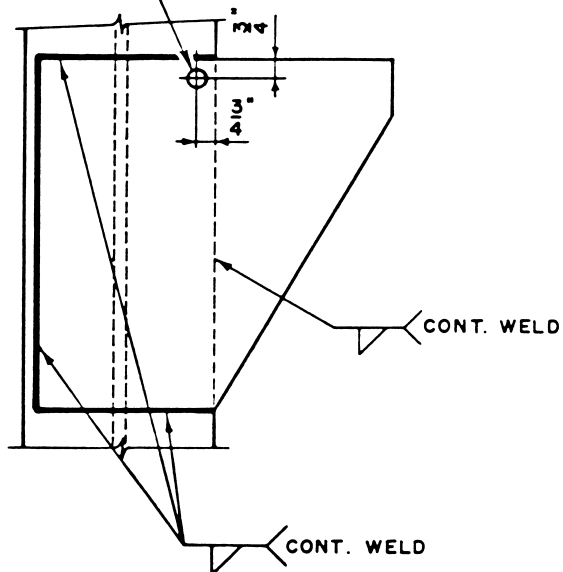
PUBLICATION NO. **MA - 3A**

DRAWING NUMBER
13

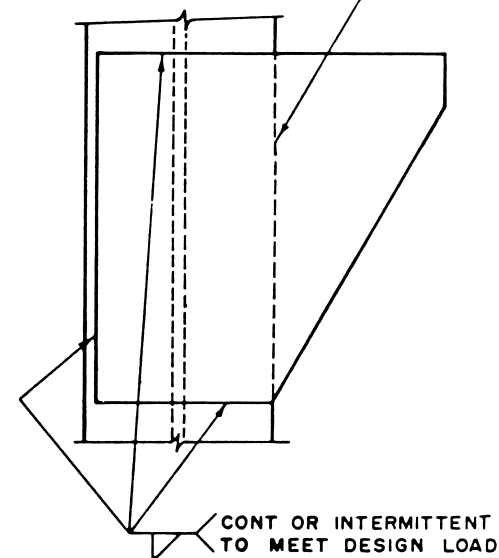


14

SEE NOTE 7
 & NOTE BELOW



CONT. OR INTERMITTENT
 TO MEET DESIGN LOAD



NOTE:

VENT HOLES (IF ANY) IN OTHER OVERLAP
 PLATES ON EITHER FLANGE OF THE COLUMN
 SHALL BE LOCATED CLOSE TO THE SAME
 EDGE, AS ABOVE, REGARDLESS OF WHICH
 WAY THE OTHER PLATE PROJECTS.

NOTE:

AMOUNT OF WELD IN THIS DETAIL
 MUST NOT EQUAL AMOUNT SHOWN
 FOR CLASS I DETAIL.

CLASS I

IF NO VENT HOLE IS REQUIRED PER NOTE 7

CLASS II

IF VENT HOLE IS REQUIRED

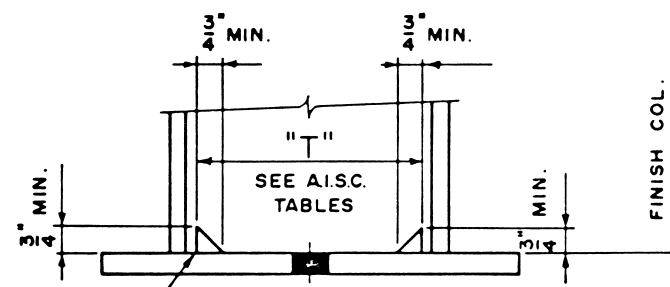
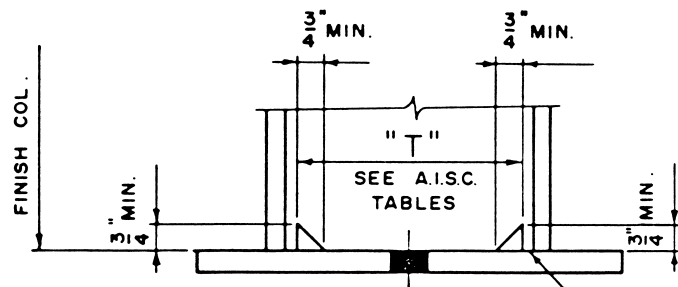
REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
 MANUAL OF STEEL CONSTRUCTION (1980)
 PART 4 - PAGES 61 AND 71

CLASS I

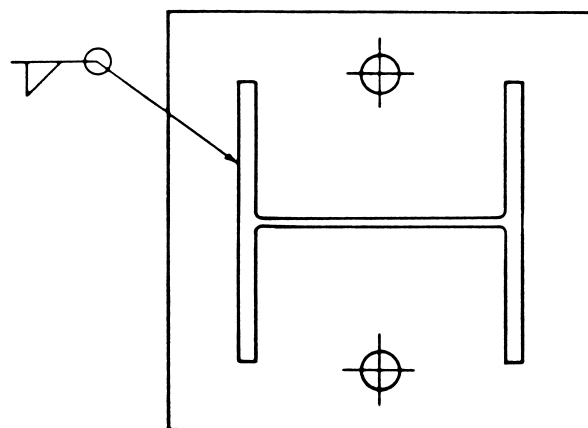
BOLT AFTER GALVANIZING

CLASS III

AMERICAN GALVANIZERS ASSN. AURORA, CO			
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.	
DATE: 8 - 9 - 83		TRACED BY: R.S.H.	
BRACKET PLATE			
PUBLICATION NO. MA - 3A			DRAWING NUMBER 15

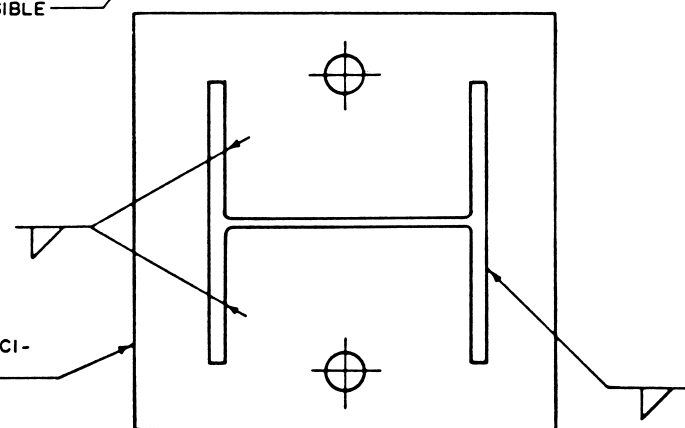


INSTEAD OF CUT - OUT, AS SHOWN,
A $\frac{1}{2}$ " DIA. HOLE OR NOTCH (SEE DETAIL)
MAY BE LOCATED AS CLOSE TO THE
EDGE OF THE "T" DISTANCE AS POSSIBLE



BASE PLATE SHOP WELDED TO COLUMN
SHAFT BEFORE GALVANIZING

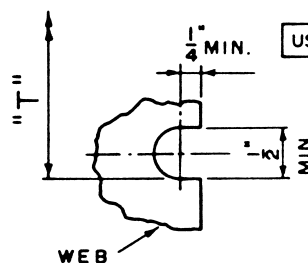
CLASS I



BASE PLATE SHOP WELDED TO COLUMN
SHAFT BEFORE GALVANIZING

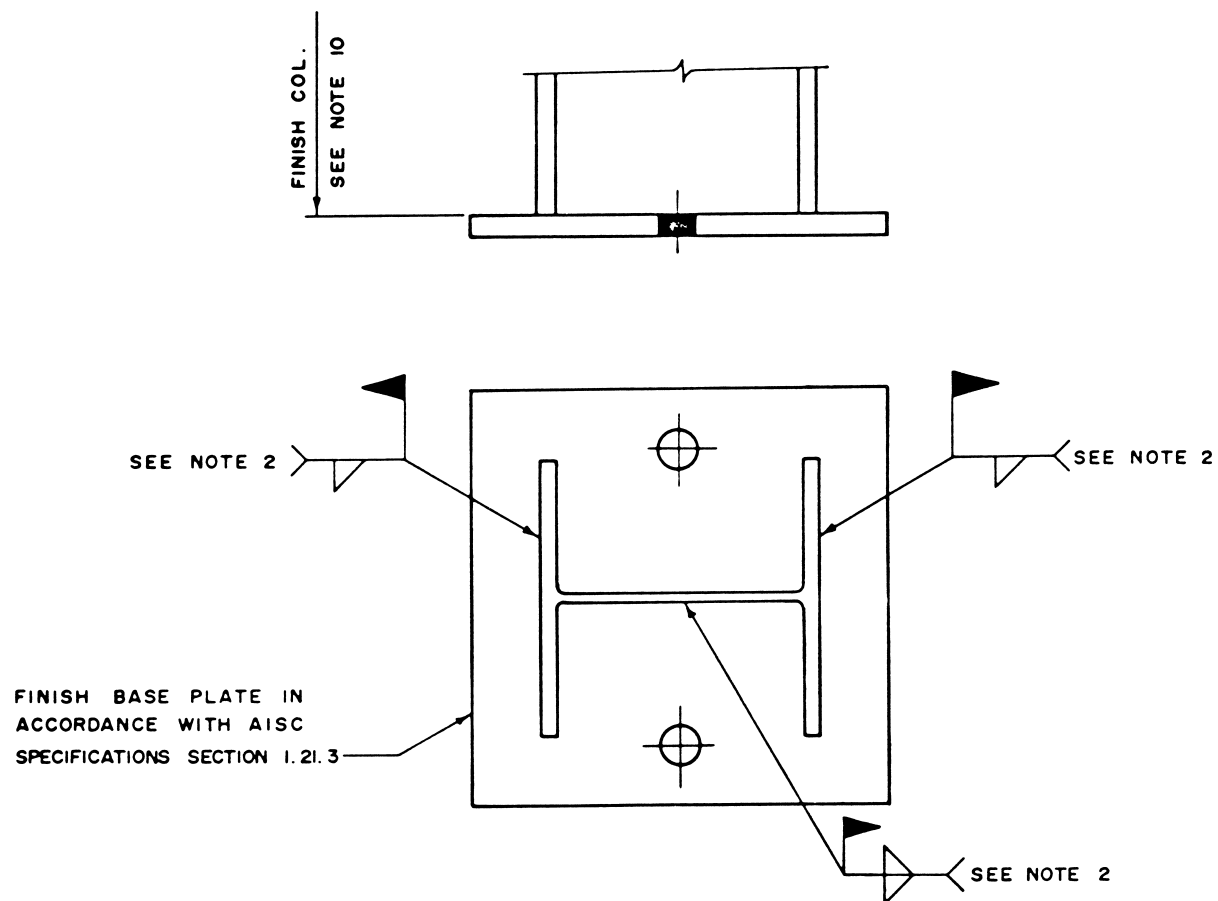
USE CONT. OR INTERMITTENT WELD AS REQUIRED TO MEET DESIGN LOAD.

CLASS III



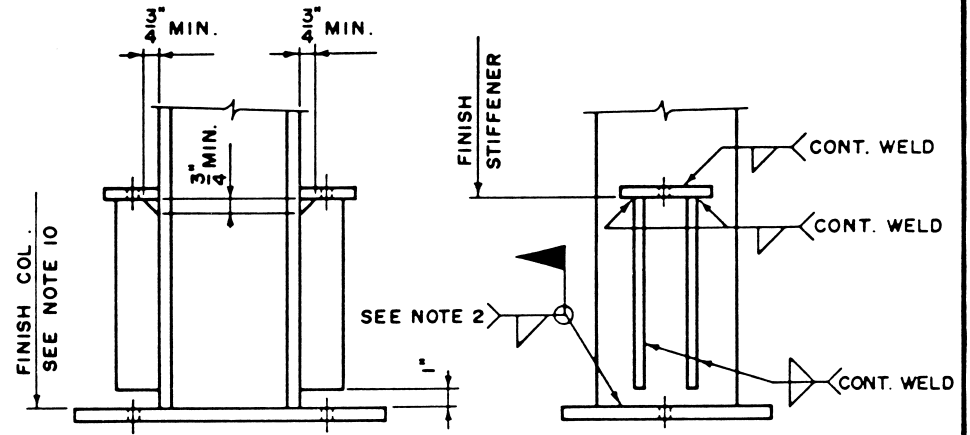
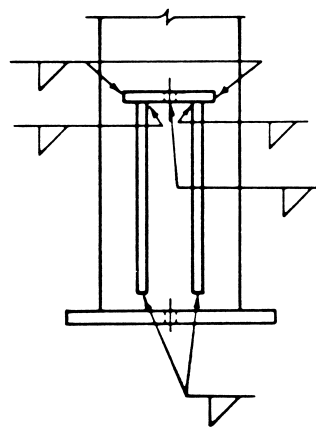
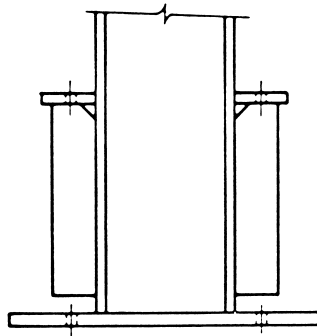
ALTERNATE DETAIL FOR
DRAIN IN WEB

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 8-8-83		TRACED BY: R.S.H.
SIMPLE COLUMN BASE (BASE PLATE SHOP WELDED)		
PUBLICATION NO. MA - 3A	DRAWING NUMBER 16	



CLASS I

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 8 - 9 - 83		TRACED BY: R.S.H.
SIMPLE COLUMN BASE (BASE PLATE FIELD WELDED)		
PUBLICATION NO. MA - 3A		DRAWING NUMBER 17



FINISH BASE PLATE IN ACCORDANCE WITH AISC SPECIFICATIONS SECTION I.21.3

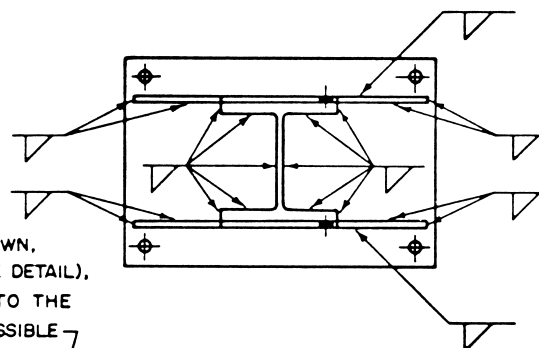
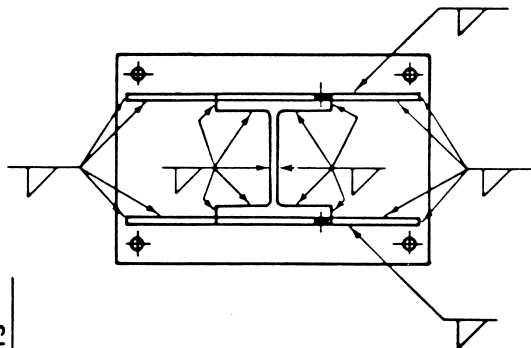
CLASS I

ALL DETAILS SHOWN FOR CLASS III ALSO
APPLY TO CLASS I

CLASS III

REF. AMERICAN INSTITUTE OF STEEL CONSTRUCTION
MANUAL OF STEEL CONSTRUCTION (1980)
PART 4 - PAGE 126

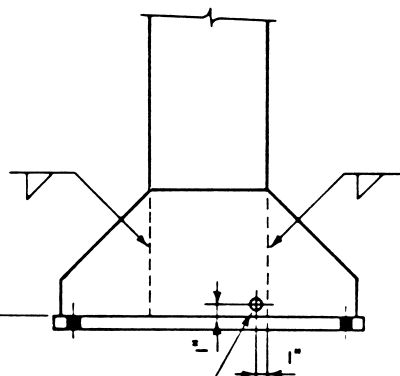
AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 5-9-83		TRACED BY: R.S.H.
MOMENT RESISTING COLUMN BASE (BASE PLATE FIELD WELDED)		
PUBLICATION NO.	MA - 3A	DRAWING NUMBER 18



INSTEAD OF CUT-OUT, AS SHOWN,
A $\frac{1}{2}$ " DIA. HOLE, OR NOTCH (SEE DETAIL),
MAY BE LOCATED AS CLOSE TO THE
EDGE OF THE "T" DISTANCE AS POSSIBLE

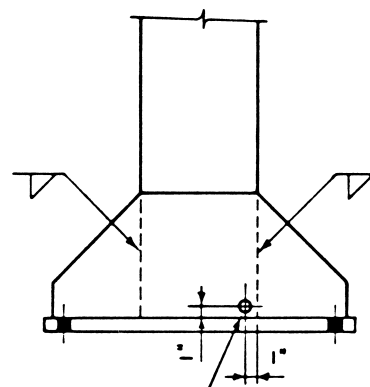
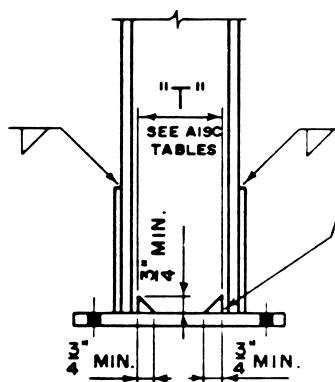
FINISH COLUMN & GUSSETS

FINISH COLUMN & GUSSETS



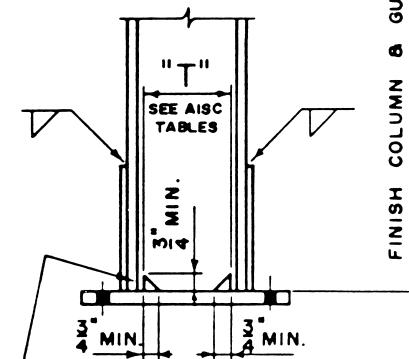
SEE NOTE 7

VENT HOLES (IF ANY) IN OTHER OVERLAP PLATES, ON
EITHER FLANGE OF THE COLUMN, SHALL BE LOCATED
CLOSE TO THE SAME EDGE, AS ABOVE, REGARDLESS
OF WHICH WAY THE OTHER PLATE PROJECTS.



SEE NOTE 7

IF FLANGE/GUSSET
OVERLAP IS SEAL
WELDED



INSTEAD OF CUT-OUT, AS SHOWN,
A $\frac{1}{2}$ " DIA. HOLE, OR NOTCH (SEE DETAIL),
MAY BE LOCATED AS CLOSE TO THE
EDGE OF THE "T" DISTANCE AS POSSIBLE

USE CONT. OR INTERMITTENT WELDS AS REQUIRED TO MEET DESIGN LOADS.

FINISH BASE PLATE IN ACCORDANCE WITH AISC
SPECIFICATIONS SECTION 1.21.3

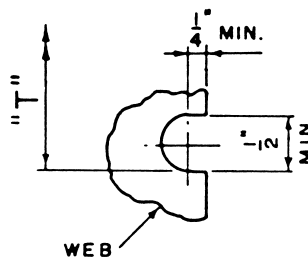
FINISH BASE PLATE IN ACCORDANCE WITH AISC
SPECIFICATIONS SECTION 1.21.3

CLASS I

IF NO VENT HOLE IS REQUIRED PER NOTE 7

CLASS II

IF VENT HOLE IS REQUIRED



ALTERNATE DETAIL FOR
DRAIN IN WEB

CLASS III

REF. FRITZ ENG. LAB., DEPT. OF CIVIL ENG., LEHIGH UNIV.
"STRUCTURAL STEEL DESIGN" (1964), THE RONALD PRESS CO.
CHAPTER 19 - PAGE 626

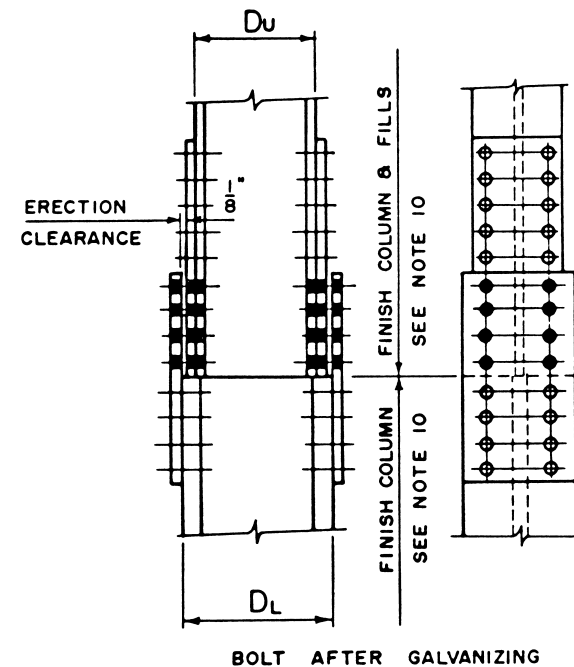
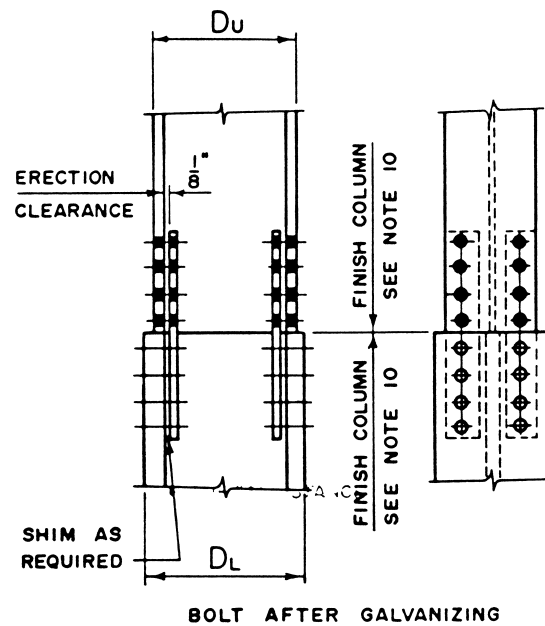
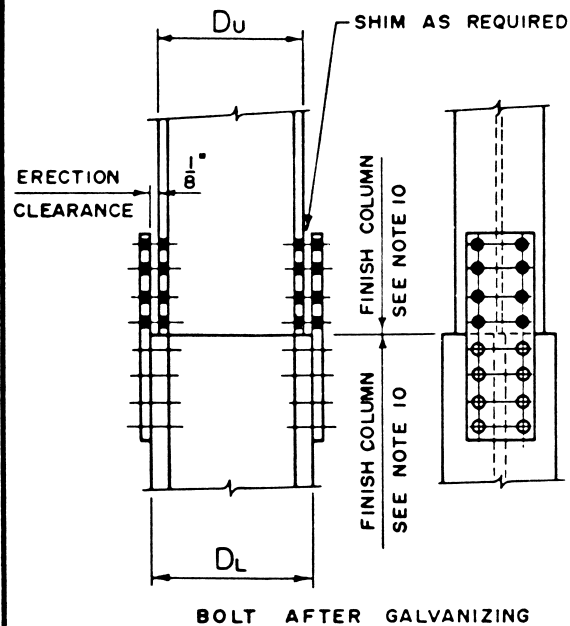
AMERICAN GALVANIZERS ASSN.
AURORA, CO

SCALE	NONE	APPROVED BY	DRAWN BY
DATE	5-9-83		K.S.W.
			TRACED BY
			R.S.H.

**MOMENT RESISTING COLUMN BASE
(BASE PLATE SHOP WELDED)**

PUBLICATION NO. MA-3A

DRAWING NUMBER
19

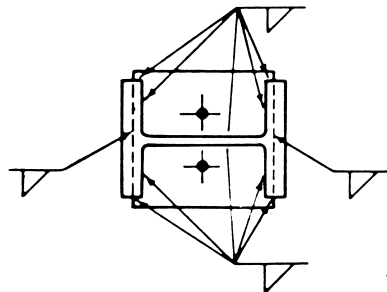
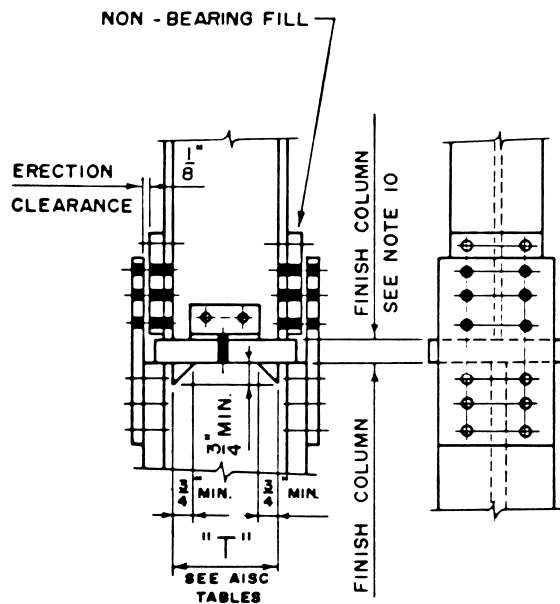


CLASS I

DEPTH OF D_u AND D_L NOMINALLY THE SAME

CLASS I

DEPTH D_u NOMINALLY 2" LESS THAN D_L

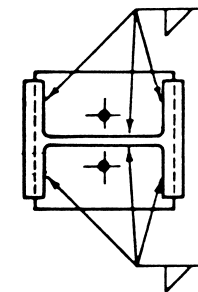
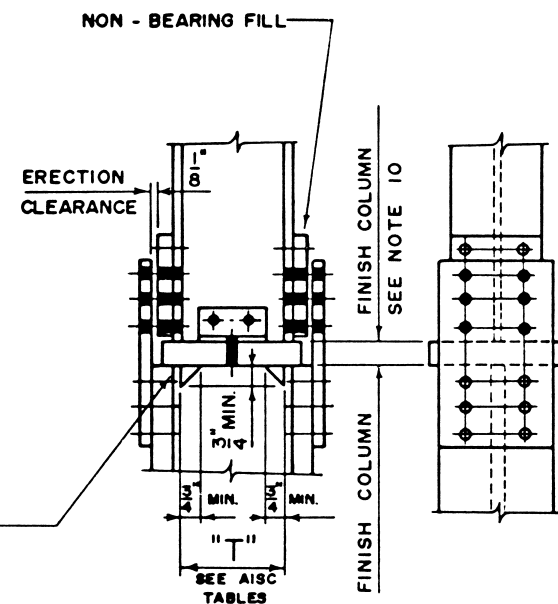


BOLT AFTER GALVANIZING

FINISH BEARING PLATE IN
ACCORDANCE WITH AISC
SPECIFICATIONS SECTION 1.21.3

CLASS I

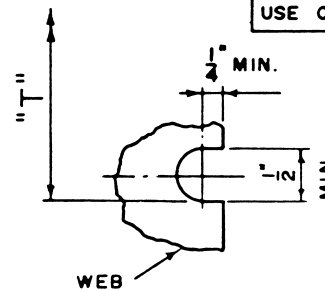
INSTEAD OF CUT-OUT, AS SHOWN,
A 1/2" DIA. HOLE OR NOTCH (SEE DETAIL)
MAY BE LOCATED AS CLOSE TO THE
EDGE OF THE "T" DISTANCE AS POSSIBLE



BOLT AFTER GALVANIZING

FINISH BEARING PLATE IN
ACCORDANCE WITH AISC
SPECIFICATIONS SECTION 1.21.3

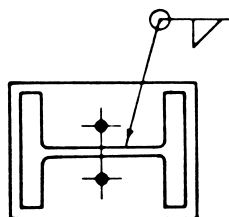
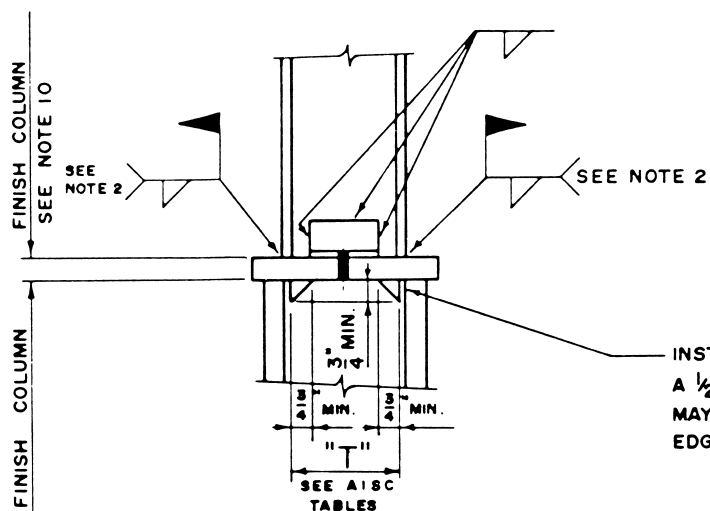
USE CONT. OR INTERMITTENT WELD AS REQUIRED TO MEET DESIGN LOAD.



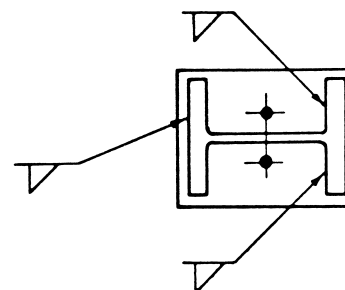
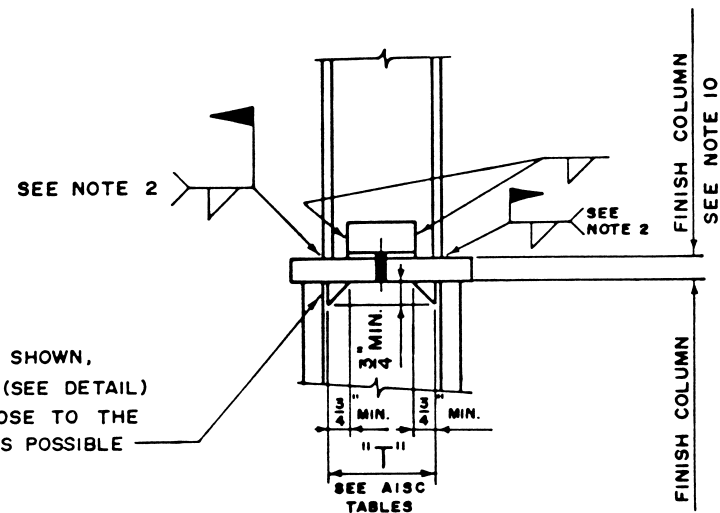
ALTERNATE DETAIL FOR
DRAIN IN WEB

CLASS III

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 8-9-83		TRACED BY: R.S.H.
BUTT PLATE COLUMN SPLICE - BOLTED		
PUBLICATION NO. MA - 3A	DRAWING NUMBER 21	



FINISH BEARING PLATE IN
ACCORDANCE WITH AISC
SPECIFICATIONS SECTION 1.21.3

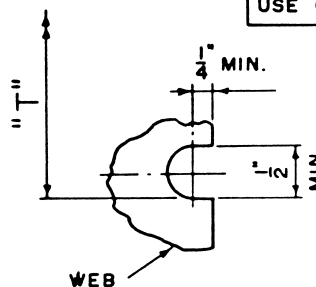


FINISH BEARING PLATE IN
ACCORDANCE WITH AISC
SPECIFICATIONS SECTION 1.21.3

INSTEAD OF CUT-OUT, AS SHOWN,
A 1/2\"/>

USE CONT. OR INTERMITTENT WELD AS REQUIRED TO MEET DESIGN LOAD

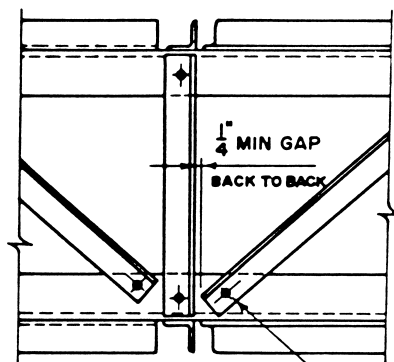
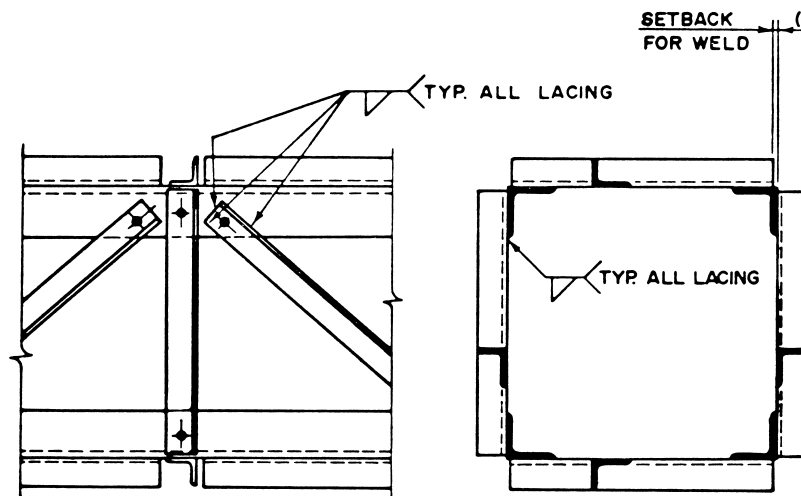
CLASS II



ALTERNATE DETAIL FOR
DRAIN IN WEB

CLASS III

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 8-9-83		TRACED BY: R.S.H.
BUTT PLATE COLUMN SPLICE - WELDED		
PUBLICATION NO. MA - 3A		DRAWING NUMBER 22



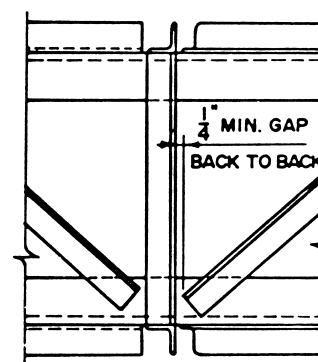
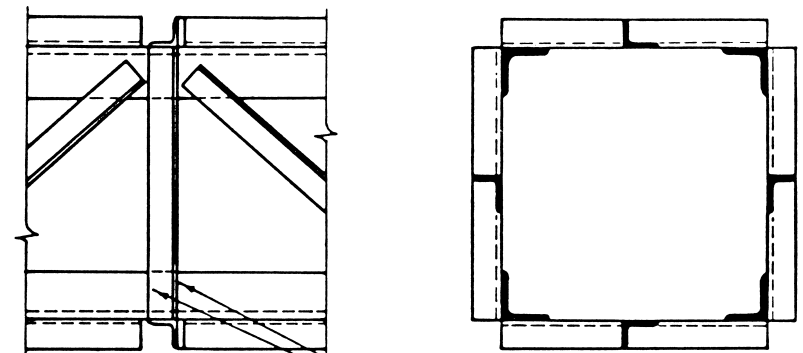
VENT HOLES, IF ANY, IN LACING SHALL BE LOCATED APPROXIMATELY AT THE CENTER OF EACH OVERLAP AREA. SEE NOTE 7

CLASS I

IF NO VENT HOLE IS REQUIRED PER NOTE 7

CLASS II

IF VENT HOLE IS REQUIRED



CLASS III

AMERICAN GALVANIZERS ASSN. AURORA, CO		
SCALE: NONE	APPROVED BY:	DRAWN BY: K.S.W.
DATE: 8-9-63		TRACED BY: R.S.H.
BOX TRUSS		
PUBLICATION NO. MA-3A		DRAWING NUMBER 23



AMERICAN GALVANIZERS ASSOCIATION
Protecting Steel for Generations

6881 South Holly Circle, Suite 108

Centennial, Colorado 80112

Phone: 800-468-7732

Fax: 720-554-0909

www.galvanizeit.org

aga@galvanizeit.org

© 2002