

STANDARD BUS BAR BOLTING ARRANGEMENTS
ENGINEERING CONSIDERATIONS

1. GENERAL

1.01 This Section establishes the bolting arrangements for copper to copper, copper to aluminum, or aluminum to aluminum bus bar joints.

1.02 Mfg. Spec. 5858, "Bus Bar Joining Procedure," shall be referenced on all drawings for bus bars and on all miscellaneous bus bar layouts. Mfg. Spec. 5858 illustrates how to assemble and tighten the

nuts, washers and fasteners to bus bars; these illustrations need not be repeated on drawings.

2. BOLTING ARRANGEMENTS FOR BOLTED BUS BAR JOINTS

2.01 Refer to Table 1 for hole sizes and key to dimensions shown in Figure 1.

2.02 Table 2 provides ordering information of fasteners for the various bus bar combinations.

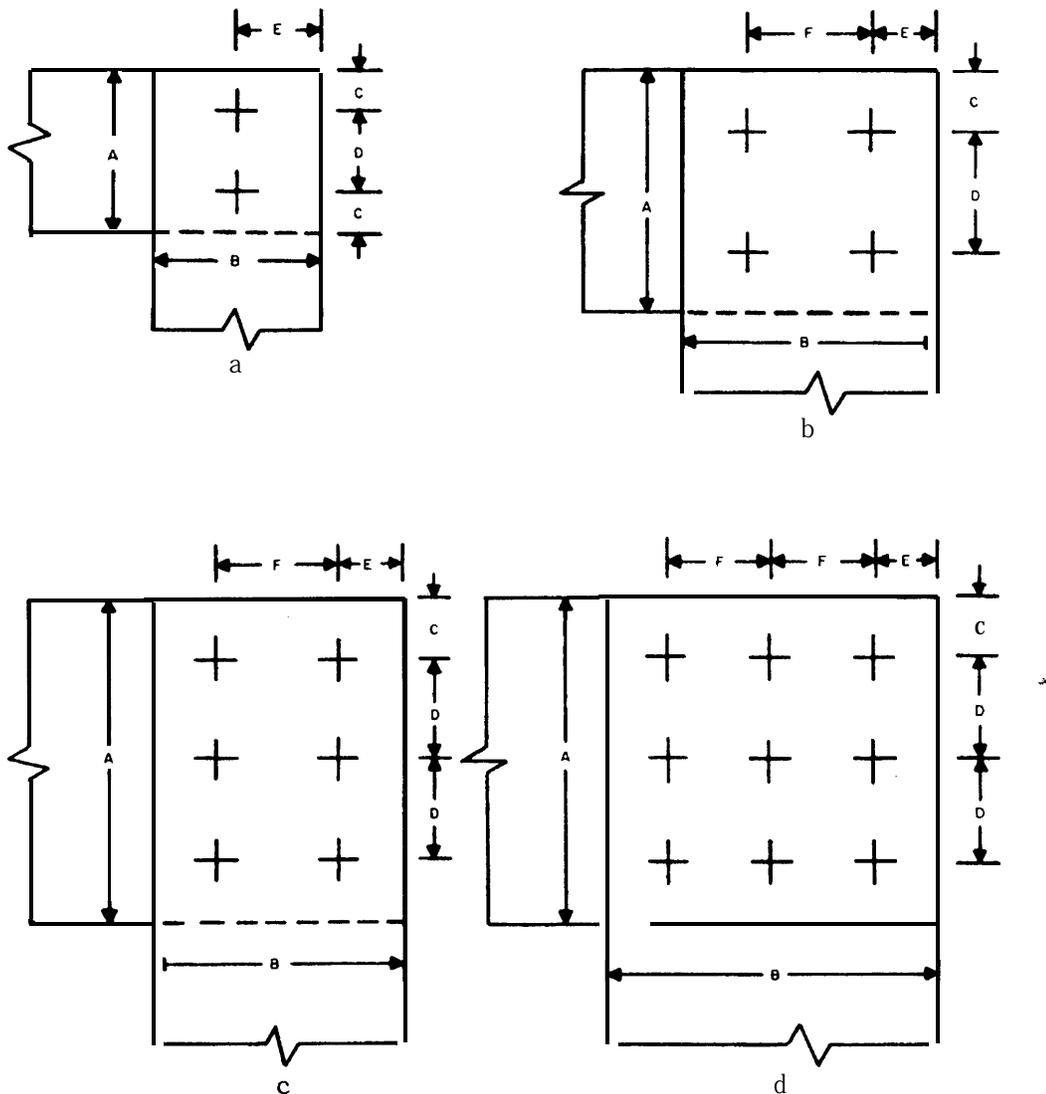


Figure 1. Bus Bar Configurations and Bolt Hole Locations.

Table 1. Fastening Dimensions for Figure 1.

<u>A</u>	<u>B</u>	<u>FIG.</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>HOLE SIZE</u>	<u>REMARKS</u>
2	1	1a	1/2	1	1/2		13/32	
2	1-1/2	1a		1	1		13/32	
2	2	1a	1/2	1-1/4	1/2		13/32	
2-1/2	1	1a	5/8				13/32	
2-1/2	1-1/2	1a	5/8	1-1/4	3/4		13/32	
2-1/2	2	1a	5/8	1-1/4	1		13/32	
2-1/2	2-1/2	1a	5/8	1-1/4	1-1/4		13/32	
3	1	1a	3/4	1-1/2	1/8		13/32	
3	1-1/2	1a	3/4	1-1/2	3/4		13/32	
3	2	1a	3/4	1-1/2	1		13/32	
3	2-1/2	1a	3/4	1-1/2	1-1/4		13/32	
3	3	1b	3/4	1-1/2	3/4	1-1/2	13/32	
4	2	1a	1	2	1		17/32	
4	2-1/2	1a	1	2	1-1/4		17/32	
4	3	1b	1	2	1/4	1-1/2	13/32	
5	4	1b	11-1/4	22-1/2	1	2	17/32	
5	2-1/2	1a	1-1/4	2-1/2	1-1/4		17/32	
5	3	1b	1-1/4	2-1/2	3/4	1-1/2	13/32	
5	4	1b	1-1/4	2-1/2	1		17/32	
5	5	1b	1-1/4	2-1/2	1-1/4	1-1/2	17/32	
6	2	1a	1-1/2	3	1		17/32	
6	2-1/2	1a	1-1/2	3	1-1/4		17/32	
6	3	1b	1-1/2	3	3/4	1-1/2	17/32	
6	4	1b	1-1/2	3	1	2	17/32	
6	5	1b	1-1/2	3	1-1/4	2-1/2	11/16	
6	4	1b	1-1/2	3	1-1/2	3	11/16	
8	5	1c	1-1/4	2-3/4	1	2	17/32	
8		1c	1-1/4	2-3/4	1-1/4	2-1/2	17/32	
8	6	1c	1-1/4	2-3/4	1-1/2	3	11/16	
8	8	1d	1-1/4	2-3/4	1-1/4	2-3/4	11/16	
10	4	1c	1-1/2	3-1/2	1	2	17/32	
10	5	1c	1-1/2	3-1/2	1-1/4	2-1/2	11/16	
10	6	1c	1-1/2	3-1/2	1-1/2	3	11/16	
10	8	1d	1-1/2	3-1/2	1-1/4	2-3/4	11/16	
10	10	1d	1-1/2	3-1/2	1-1/2	3-1/2	11/16	

Table 2. Ordering Information for Bus Bar Fasteners.

<u>ALUMINUM TO ALUMINUM BUS BAR JOINT</u>					
<u>HOLE SIZE</u>	<u>FASTENERS*</u>	<u>WASHERS</u>	<u>NUTS</u>	<u>FASTENER DESCRIPTION</u>	
13/32	D-760966 (HALCS)	D-17678-A	D-77426-A	HEXAGON ALUMINUM CAP SCREW	
17/32	D-760967 (HVY HALB)	D-1 7670-B	D-77426-B	HEAVY HEXAGON ALUMINUM BOLT	
11/16	D-760968 (HVY HALB)	D-1 7675-C	D-77426-C	HEAVY HEXAGON ALUMINUM BOLT	
*WITH EACH FASTENER ORDER 2 WASHERS AND 1 NUT.					
<u>ALUMINUM TO COPPER BUS BAR JOINT</u>					
<u>HOLE SIZE</u>	<u>FASTENERS*</u>	<u>WASHERS</u>	<u>BELLEVILLE SPG. WASHERS</u>	<u>NUTS</u>	<u>FASTENER DESCRIPTION</u>
13/32	D-761019 (HSCS)	D-1 7087-A	D-17679-B**	D-7753-A	HEXAGON STEEL CAP SCREW
17/32	D-761020 (HSCS)	D-17045-A	D-17679-C	D-7760-D	HEXAGON STEEL CAP SCREW
11/16	D-761021 (HSCS)	D-17062-D	D-17679-D	D-77076-B	HEXAGON STEEL CAP SCREW
*WITH EACH FASTENER ORDER 1 WASHER, 1 BELLEVILLE SPRING WASHER, AND 1 NUT.					
**USE D-17679-A IF A AND B SIZES SHOWN ON TABLE 1 ARE:					
			<u>A</u>	<u>B</u>	
			2	1	
			2	1-1/2	
			2-1/2	1	
			3	1	
<u>COPPER TO COPPER BUS BAR JOINT</u>					
<u>HOLE SIZE</u>	<u>FASTENERS*</u>	<u>WASHERS</u>	<u>NUTS</u>	<u>FASTENER DESCRIPTION</u>	
13/32	D-761019- (HSCS)	D-1 7007-A	D-7703-A	HEXAGON STEEL CAP SCREW	
17/32	D-761020 (HSCS)	D-17045-B	D-7760-D	HEXAGON STEEL CAP SCREW	
11/16	D-761021 (HSCS)	D-17062-D	D-77076-B	HEXAGON STEEL CAP SCREW	
*WITH EACH FASTENER ORDER 2 WASHERS AND 1 NUT.					
NOTE: REFER TO FASTENER DRAWING FOR APPROPRIATE SUFFIX FOR LENGTH.					

Table 2. Ordering Information for Bus Bar Fasteners.

<u>ALUMINUM TO ALUMINUM BUS BAR JOINT</u>					
<u>HOLE SIZE</u>	<u>FASTENERS*</u>	<u>WASHERS</u>	<u>NUTS</u>	<u>FASTENER DESCRIPTION</u>	
13/32	D-760966 (HALCS)	D-17678-A	D-77426-A	HEXAGON ALUMINUM CAP SCREW	
17/32	D-760967 (HVY HALB)	D-17678-B	D-77426-B	HEAVY HEXAGON ALUMINUM BOLT	
11/16	D-760968 (HVY HALB)	D-17678-C	D-77426-C	HEAVY HEXAGON ALUMINUM BOLT	
*WITH EACH FASTENER ORDER 2 WASHERS AND 1 NUT.					
<u>ALUMINUM TO COPPER BUS BAR JOINT</u>					
<u>HOLE SIZE</u>	<u>FASTENERS*</u>	<u>WASHERS</u>	<u>BELLEVILLE SPG. WASHERS</u>	<u>NUTS</u>	<u>FASTENER DESCRIPTION</u>
13/32	D-761019 (HSCS)	D-17087-A	D-17679-B**	D-7783-A	HEXAGON STEEL CAP SCREW
17/32	D-761020 (HSCS)	D-17045-A	D-17679-C	D-7760-D	HEXAGON STEEL CAP SCREW
11/16	D-761021 (HSCS)	D-17062-D	D-17679-D	D-77076-B	HEXAGON STEEL CAP SCREW
*WITH EACH FASTENER ORDER 1 WASHER, 1 BELLEVILLE SPRING WASHER, AND 1 NUT.					
**USE D-17679-A IF A AND B SIZES SHOWN ON TABLE 1 ARE: <u>A</u> <u>B</u>					
				2	1
				2	1-1/2
				2	2
				2-1/2	1
				3	1
<u>COPPER TO COPPER BUS BAR JOINT</u>					
<u>HOLE SIZE</u>	<u>FASTENERS*</u>	<u>WASHERS</u>	<u>NUTS</u>	<u>FASTENER DESCRIPTION</u>	
13/32	D-761019- (HSCS)	D-17087-A	D-7783-A	HEXAGON STEEL CAP SCREW	
17/32	D-761020 (HSCS)	D-17045-B	D-7760-D	HEXAGON STEEL CAP SCREW	
11/16	D-761021 (HSCS)	D-17062-D	D-77076-B	HEXAGON STEEL CAP SCREW	
*WITH EACH FASTENER ORDER 2 WASHERS AND 1 NUT.					
NOTE: REFER TO FASTENER DRAWING FOR APPROPRIATE SUFFIX FOR LENGTH.					

