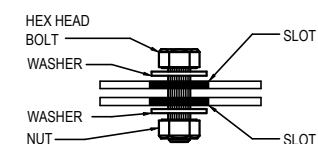


## GENERAL

- A00010 - WASHER REQUIREMENTS ERECTOR NOTE
- A00020 - FIELD WELD REQUIREMENTS
- A00030 - STANDARD ANGLE SCHEDULE
- A00100 - STANDARD FASTENER SCHEDULE

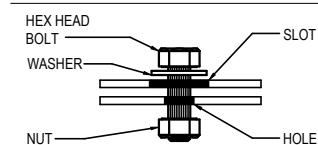
A00010 - WASHER REQUIREMENTS ERECTOR NOTE

[Download the DWG file by clicking here.](#)



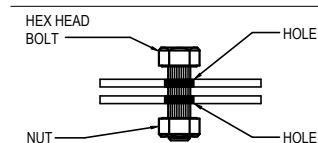
**SLOT TO SLOT CONNECTIONS**

WASHERS REQUIRED ON BOTH SIDES OF MATERIAL IF SLOTS ARE ON BOTH SIDES. (EXCEPTION: SEE DETAIL AT RIGHT FOR LAPPED ZEE MEMBERS)



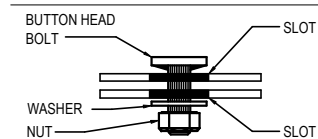
**SLOT TO HOLE CONNECTIONS**

ONE WASHER REQUIRED ON SLOTTED SIDE ONLY.



**HOLE TO HOLE CONNECTIONS**

NO WASHERS REQUIRED WHEN SLOTS ARE NOT USED.



**SLOT TO SLOT CONNECTIONS**

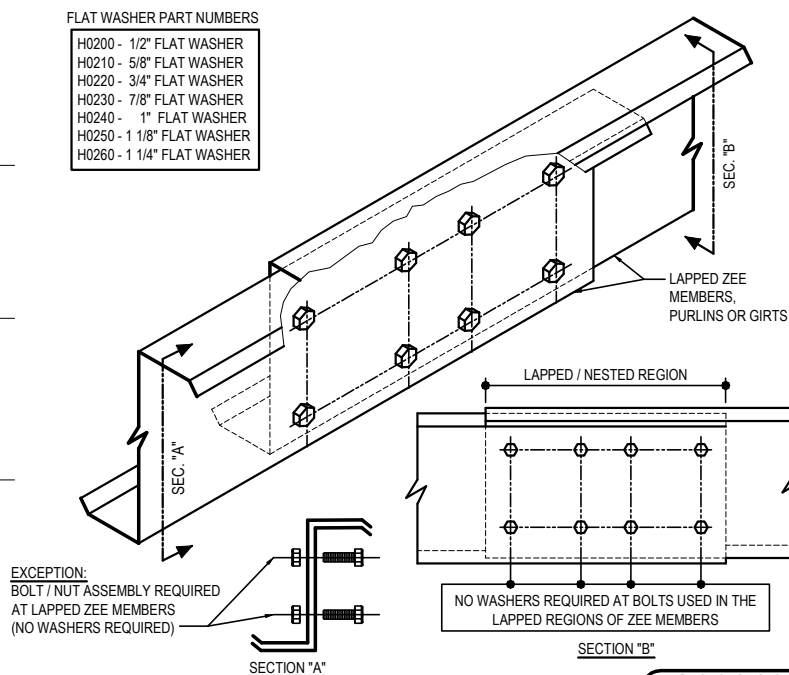
WASHER REQUIRED AT NUT SIDE ONLY FOR BUTTON HEAD BOLTS. (BUTTON HEAD BOLTS HAVE MATERIAL GRABBING FINS UNDER THE HEAD, A WASHER IS NOT NEEDED ON BOLT HEAD SIDE).

**WASHER REQUIREMENTS ERECTOR NOTE**

(UNLESS NOTED OTHERWISE ON DRAWINGS)

**FLAT WASHER PART NUMBERS**

H0200 - 1/2" FLAT WASHER
H0210 - 5/8" FLAT WASHER
H0220 - 3/4" FLAT WASHER
H0230 - 7/8" FLAT WASHER
H0240 - 1" FLAT WASHER
H0250 - 1 1/8" FLAT WASHER
H0260 - 1 1/4" FLAT WASHER



**A00010**

Detailer Notes:

1) N/A

A00020 - FIELD WELD REQUIREMENTS

[Download the DWG file by clicking here.](#)

**FIELD WELD REQUIREMENTS ERECTOR NOTE**

(UNLESS NOTED OTHERWISE ON DRAWINGS)

ALL FIELD WELDING MUST BE PERFORMED BY AWS/CWB CERTIFIED WELDERS WHO ARE QUALIFIED FOR THE WELDING PROCESSES AND POSITIONS INDICATED. ALL WORK MUST BE COMPLETED AND INSPECTED IN ACCORDANCE WITH THE APPLICABLE AWS/CWB SPECIFICATIONS. WELD ELECTRODES USED FOR THE SMAW (OR STICK) WELD PROCESS MUST BE 70 KSI/483 MPa MATERIAL AND LOW HYDROGEN CONTENT.

**FIELD WELDING GALVANIZED STEEL RECOMMENDATIONS**

**PREPARATION OF WELD AREA**

AWS D-19.0, WELDING ZINC COATED STEEL, CALLS FOR WELDS TO BE MADE ON STEEL THAT IS FREE OF ZINC IN THE AREA TO BE WELDED. FOR GALVANIZED STRUCTURAL COMPONENTS, THE ZINC COATING SHOULD BE REMOVED AT LEAST ONE TO FOUR INCHES (2.5-10 CM) FROM EITHER SIDE OF THE INTENDED WELD ZONE AND ON BOTH SIDES OF THE WORKPIECE. GRINDING BACK THE ZINC COATING IS THE PREFERRED AND MOST COMMON METHOD; BURNING THE ZINC AWAY OR PUSHING BACK THE MOLTEN ZINC FROM THE WELD AREA ALSO ARE EFFECTIVE.

**TOUCH-UP OF WELD AREA**

WELDING ON GALVANIZED SURFACES DESTROYS THE ZINC COATING ON AND AROUND THE WELD AREA. RESTORATION OF THE AREA WILL BE PERFORMED IN ACCORDANCE WITH ASTM A 780, STANDARD PRACTICE FOR REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS, WHICH SPECIFIES THE USE OF PAINTS CONTAINING ZINC DUST, ZINC-BASED SOLDERS OR SPRAYED ZINC. ALL TOUCHUP AND REPAIR METHODS ARE CAPABLE OF BUILDING A PROTECTIVE LAYER TO THE THICKNESS REQUIRED BY ASTM A 780.

**SAFETY & HEALTH**

WHEN WELDING DIRECTLY ON GALVANIZED STEEL IS UNAVOIDABLE, OSHA PERMISSIBLE EXPOSURE LIMITS (PELS) MAY BE EXCEEDED AND EVERY PRECAUTION, INCLUDING HIGH-VELOCITY CIRCULATING FANS WITH FILTERS, AIR RESPIRATORS AND FUME-EXTRACTION SYSTEMS SUGGESTED BY AWS, SHOULD BE EMPLOYED.

FUMES FROM WELDING GALVANIZED STEEL CAN CONTAIN ZINC, IRON AND LEAD. FUME COMPOSITION TYPICALLY DEPENDS ON THE COMPOSITION OF MATERIALS USED, AS WELL AS THE HEAT APPLIED BY THE PARTICULAR WELDING PROCESS. IN ANY EVENT, GOOD VENTILATION MINIMIZES THE AMOUNT OF EXPOSURE TO FUMES.

PRIOR TO WELDING ON ANY METAL, CONSULT ANSI/ASC Z-49.1, SAFETY IN WELDING, CUTTING AND ALLIED PROCESSES, WHICH CONTAINS INFORMATION ON THE PROTECTION OF PERSONNEL AND THE GENERAL AREA, VENTILATION AND FIRE PREVENTION.

INFORMATION COURTESY OF AMERICAN GALVANIZERS ASSOCIATION

A00020

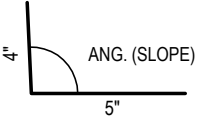

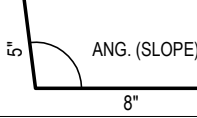
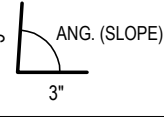
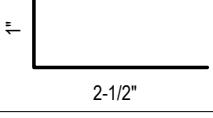
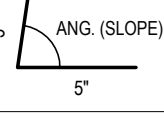
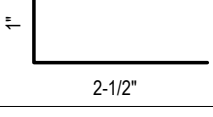
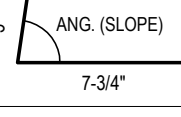
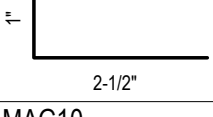
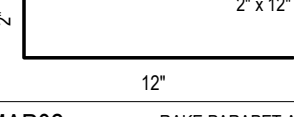
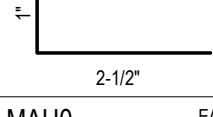
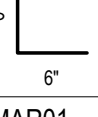


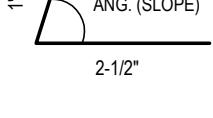

**Detailer Notes:**

1) N/A

A00030 - STANDARD ANGLE SCHEDULE

[Download the DWG file by clicking here.](#)

**STANDARD ANGLE SCHEDULE**

<p><u>MAE0</u></p> 	<p>EAVE ANGLE GALVANIZED 4" x 5" x 120"</p>	<p><u>MAL01</u></p> 	<p>LINER LOW EAVE ANGLE GALVANIZED 6" x 7-3/4" x 120"</p>
<p><u>MAF0</u></p> 	<p>EAVE ANGLE GALVANIZED 5" x 8" x 120"</p>	<p><u>MAL0</u></p> 	<p>LINER EAVE ANGLE GALVANIZED 3" x 3" x 120"</p>
<p><u>MAG01</u></p> 	<p>GIRT ANGLE GALVANIZED 1" x 2-1/2" x 12"</p>	<p><u>MAL</u></p> 	<p>LINER EAVE ANGLE GALVANIZED 3" x 5" x 120"</p>
<p><u>MAG02</u></p> 	<p>GIRT ANGLE GALVANIZED 1" x 2-1/2" x 24"</p>	<p><u>MAL1</u></p> 	<p>LINER EAVE ANGLE GALVANIZED 3" x 7-3/4" x 120"</p>
<p><u>MAG03</u></p> 	<p>GIRT ANGLE GALVANIZED 1" x 2-1/2" x 30"</p>	<p><u>MAP01</u></p> 	<p>RAKE PARAPET ANGLE GALVANIZED 2" x 12" x 120"</p>
<p><u>MAG10</u></p> 	<p>GIRT ANGLE GALVANIZED 1" x 2-1/2" x 120"</p>	<p><u>MAP02</u></p> 	<p>RAKE PARAPET ANGLE GALVANIZED 6" x 6" x 120"</p>
<p><u>MAH0</u></p> 	<p>EAVE STRUT ANGLE GALVANIZED 1" x 2-1/2" x 12"</p>	<p><u>MAR01</u></p> 	<p>RAKE ANGLE GALVANIZED 3" x 5" x 242"</p>
<p><u>MAH1</u></p> 	<p>EAVE STRUT ANGLE GALVANIZED 1" x 2-1/2" x 12"</p>	<p><u>MAR02</u></p> 	<p>STANDING SEAM RAKE/ BASE ANGLE GALVANIZED 2" x 3" x 242"</p>






















A00030

Detailer Notes:

1) N/A

**A00100 - STANDARD FASTENER SCHEDULE**

Download the DWG file by clicking [here](#).

PANEL CLIP & SECONDARY ATTACHMENT FASTENERS	FASTENER		SPECIFICATIONS	USAGE	NOTES	ROOF FASTENERS	FASTENER		SPECIFICATIONS	USAGE	NOTES	
	H1020		Self-Drilling Screw 1/4-14 x 1 1/4" TCP 3 w/o Washer 5/16" Head  Color: Available in "No Paint" Only	Panel Clips  Attach panel clips, rake angle clips, eave plate to purlins with insulation ≤ R19 Attach misc light gauge material to secondary	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.110 MIN / 0.250 MAX  Pre-Drill Diameter: 3/16" Ø		H1000		SELF-TAPPING SCREW (GOOF SCREW) 17-14 x 1" w/ Washer 5/16" UltraMate Head  Color: All Standard SMP & PVDF Check local plant stock inventory	"Goof Screw"  Used at locations on roof, where fastener has stripped out.	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch DO NOT use impacting tools <u>DRILLING CAPACITY</u> N/A	
	H1025		Self-Drilling Screw 1/4-14 x 2" TCP 3 w/o Washer 3/8" Head  Color: Available in "No Paint" Only	Panel Clips - Long  Attach panel clips, rake angle clips, eave plate to purlins with insulation >R19 and ≤ R38	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.110 MIN / 0.250 MAX  Pre-Drill Diameter: 3/16" Ø		H1026		Self-Drilling Screw 12-14 x 2" TCP 3 w/ Washer 5/16" UltraMate Head  Color: All Standard SMP & PVDF Check local plant stock inventory	Vented ridge -To accommodate the thickness of the Cor-A-Vent	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.090 MIN / 0.210 MAX  Pre-Drill Diameter: 3/16" Ø	
	H1070		Self-Drilling Screw 12-24 x 1 1/2" TCP 5 w/o Washer 5/16" Head  Color: Check w/ local plant	Panel Clips - Hot Roll  Attach panel clips, rake angle clips, eave plate to joist with insulation ≤ R19 Attach misc light gauge material to HFR secondary	<u>RECOMMENDED TOOL TYPES</u> 1800 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.250 MIN / 0.500 MAX  Pre-Drill Diameter: 3/16" Ø		H1030		Self-Drilling Screw 1/4-14 x 1 1/2" TCP 3 w/ Washer 5/16" UltraMate Head  Color: All Standard SMP & PVDF Check local plant stock inventory	Roof Structural  Used to attach roof panel, roof flashing, end laps and light gauge parts with insulation ≤ R16	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.110 MIN / 0.250 MAX  Pre-Drill Diameter: 3/16" Ø	
	H1075		Self-Drilling Screw 12-24 x 2" TCP 5 w/o Washer 5/16" Head  Color: Check w/ local plant	Panel Clips - Hot Roll - Long  Attach panel clips, rake angle clips, eave plate to joist with insulation > R19 and ≤ R38	<u>RECOMMENDED TOOL TYPES</u> 1800 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.250 MIN / 0.500 MAX  Pre-Drill Diameter: 3/16" Ø		H1035		Self-Drilling Screw 12-14 x 1 1/2" TCP 3 w/ Washer 5/16" UltraMate Head  Color: All Standard SMP & PVDF Check local plant stock inventory	Roof Structural - Long  Used to attach roof panel, roof flashing, end laps and light gauge parts with insulation = R19	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.050 MIN / 0.140 MAX  Pre-Drill Diameter: 5/32" Ø	
	H1079		Self-Drilling Screw SDI 12-24 x 1 1/2" #5 Drillite w/o Wash 5/16" Head (Painted Orange) (Vendor: Black & Decker)  Color: Available in "No Paint" Only	Used to attach deck to joist with high seismic loads  NOT to be used for roof clips  Available for Utah only	<u>RECOMMENDED TOOL TYPES</u> 1800 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.250 MIN / 0.500 MAX  Pre-Drill Diameter: 3/16" Ø		H1050		Self-Drilling Screw 1/4-14 x 7/8" TCP 1 w/ Washer 5/16" UltraMate Head  Color: All Standard SMP & PVDF Check local plant stock inventory	Roof Stitch  Used to attach roof trim end laps and trim to roof panel	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.035 MIN / 0.090 MAX  Pre-Drill Diameter: 1/8" Ø	
	WALL FASTENERS	H1040 / H1041		Self-Drilling Screw 12-14 x 1 1/4" TCP 3 5/16" Head H1040 - w/o Washer H1041 - w/ Washer  Color: All Standard SMP & PVDF Check local plant stock inventory	Wall Structural  Used to attach wall panel, wall flashing and light gauge parts with insulation ≤ R13		<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.050 MIN / 0.140 MAX  Pre-Drill Diameter: 5/32" Ø	H1100		Pop Rivet 1/8" x 3/16" Stainless Steel Blind Pop Rivet  Color: All Standard SMP & PVDF Check local plant stock inventory	Used at trim laps, corner caps, and attaching trim to panel where stitch fasteners can't be used	<u>RECOMMENDED TOOL TYPES</u> Manual or electric rivet tool DO NOT use impacting tools
		H1045 / H1047		Self-Drilling Screw 12-14 x 2" TCP 3 5/16" Head H1045 - w/o Washer H1047 - w/ Washer  Color: All Standard SMP & PVDF Check local plant stock inventory	Wall Structural - Long  Used to attach wall panel, wall flashing and light gauge parts with insulation > R13 and ≤ R19		<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.090 MIN / 0.210 MAX  Pre-Drill Diameter: 3/16" Ø	H1110		Grommet Fastener 3/8" Diameter Stainless Grommet Seal  Color: Available in "No Paint" Only	Used at translucent panel to metal side lap connections	<u>RECOMMENDED TOOL TYPES</u> Torque adjustable clutch grommet tool DO NOT use impacting tools
		H1070 / H1071		Self-Drilling Screw 12-24 x 1 1/2" TCP 5 5/16" Head H1070 - w/o Washer H1071 - w/ Washer  Color: All Standard SMP & PVDF Check local plant stock inventory	Wall Structural -HR w/ Washer  Used to attach wall panel and trims to hot roll members with insulation ≤ R13		<u>RECOMMENDED TOOL TYPES</u> 1800 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.250 MIN / 0.500 MAX  Pre-Drill Diameter: 3/16" Ø	H1220		Self-Drilling Screw 12-14 x 1" TCP 3 Square / Phillips Pancake Head  Color: Available in "No Paint" Only	Pancake Screw  Used to attach panel clips and rake angle to purlins **ONLY WITH ZERO STANDOFF CLIPS	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.090 MIN / 0.210 MAX  Pre-Drill Diameter: 3/16" Ø
H1075			Self-Drilling Screw 12-24 x 2" TCP 5 w/o Washer 5/16" Head  Color: Check w/ local plant	Wall Structural -HR w/ Washer  Used to attach wall panel and trims to hot roll members with insulation > R13 and ≤ R19	<u>RECOMMENDED TOOL TYPES</u> 1800 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.250 MIN / 0.500 MAX  Pre-Drill Diameter: 3/16" Ø	H1223		Self-Tapping Fastener 10-14 X 1-1/2" Woodtite w/ Washer 1/4" Head  Color: All Standard SMP & PVDF Check local plant stock inventory	Wood Structural  Used to attach panel and trim to wood structure  Non-Stock Special Order Fastener	<u>RECOMMENDED TOOL TYPES</u> 2000-2500 RPM Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools		
H1060 / H1061			Self-Drilling Screw 1/4-14 x 7/8" TCP 1 5/16" Head H1060 - w/o Washer H1061 - w/ Washer  Color: All Standard SMP & PVDF Check local plant stock inventory	Wall Stitch  Used to attach wall trim end laps and trim to wall panel	<u>RECOMMENDED TOOL TYPES</u> 2000 RPM MAX Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools <u>DRILLING CAPACITY</u> 0.035 MIN / 0.090 MAX  Pre-Drill Diameter: 1/8" Ø	H1224		Self-Tapping Fastener 10-12 X 1" Square / Phillips Pancake Head  Color: Available in "No Paint" Only	Wood Clip Screw  Panel clips to wood  **Only 0" offset clips  Non-Stock Special Order Fastener	<u>RECOMMENDED TOOL TYPES</u> 2000-2500 RPM Torque adjustable clutch, 4 AMP or higher DO NOT use impacting tools		
						H2200		Insulation Retainer Washer 1/4 x 1-1/4" F8 Fender Washer (1 1/4" O.D. w/ 5/16" I.D.)  Color: Available in "No Paint" Only	Used in conjunction with H1020 fasteners to secure roof insulation. Reference routine trim details for specific applications.	<u>RECOMMENDED TOOL TYPES</u> N/A		
A00100												

A00100

**Detailer Notes:**

1) THIS DETAIL IS REQUIRED ON EVERY PROJECT.