

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

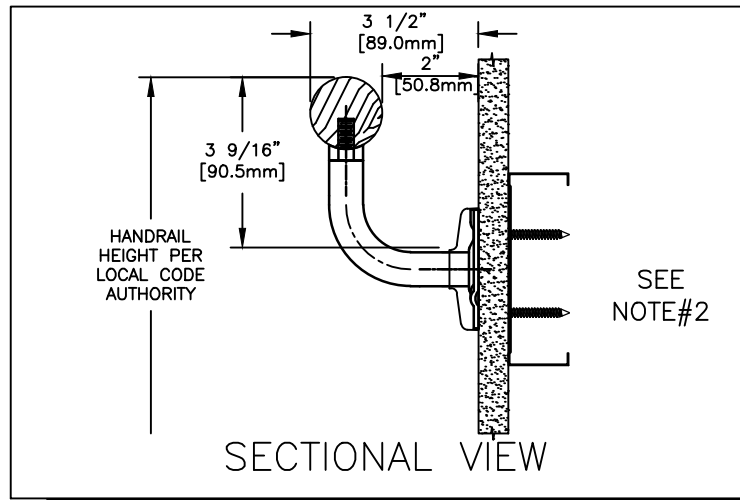
PLEASE READ

PLEASE READ THESE INSTRUCTIONS THOROUGHLY PRIOR TO BEGINNING THE HRWS-6C HANDRAIL INSTALLATION!

THIS INSTRUCTION SHEET IS INTENDED TO PROVIDE A SPECIFIC GUIDE TO FOLLOW FOR THE INSTALLATION OF HRWS-6C HANDRAIL. CONTAINED WITHIN IS THE TECHNICAL INFORMATION AND INSTALLATION TECHNIQUES REQUIRED TO COMPLETE AN EFFICIENT, NEAT AND LONG-LASTING INSTALLATION.

HRWS-6C HANDRAIL MUST BE INSTALLED IN ACCORDANCE WITH THESE INSTRUCTIONS! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY VOID ANY PRODUCT WARRANTIES AND RESULT IN AN UNSUCCESSFUL INSTALLATION. FOR SPECIFIC QUESTIONS REGARDING THE INSTALLATION OF HRWS-6C HANDRAIL PLEASE CALL THE FACTORY AT (800) 233-8493 OR IN CANADA (888) 895-8955.

INSPECT ALL MATERIALS FOR DAMAGE OR MISSING PARTS. IF YOU DISCOVER DAMAGED OR MISSING MATERIALS, IN THE USA PLEASE NOTIFY THE FACTORY AT (800) 233-8493, AND IN CANADA (888) 895-8955.



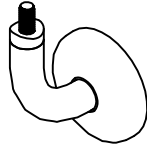
IMPORTANT NOTES

1. DUE TO WOOD BEING A NATURAL PRODUCT, COMPONENTS MAY GROW AND SHRINK AT DIFFERENT RATES. BECAUSE OF THIS, C/S HAS DESIGNED THIS HANDRAIL TO UTILIZE A BEVEL AS SHOWN IN THESE INSTRUCTIONS (SEE FIGURE 1). THIS BEVEL MUST BE APPLIED AT ALL WOOD JOINTS AND MUST MATCH FACTORY BEVEL ON END CAPS.
2. DUE TO THE NATURE OF WOOD, COMPONENT COLORS MAY VARY. SORT WOOD COMPONENTS AND MATCH PARTS BY COLOR.
3. ALL LINEAR MATERIAL TO BE SUPPLIED IN STOCK LENGTHS. WOOD IN 7'-0" TO 12'-0" VARIABLE, AND ALUMINUM IN 20'-0" LENGTHS. THIS MATERIAL IS TO BE FIELD CUT USING QUALITY EQUIPMENT TO INSURE THAT ALL CUTS ARE SQUARE. WHEN CUTTING MATERIAL SECTIONS, C/S RECOMMENDS USING AN 80-100 TOOTH CARBIDE TIPPED SAW BLADE OR EQUIVALENT, TO MINIMIZE CHIPPING AND MAINTAIN JOINT ALIGNMENT.
4. ALL DIMENSIONS ARE TYPICAL.
5. FOR DRYWALL/PLASTER WALL CONSTRUCTION, IT IS RECOMMENDED FOR FASTENERS TO BE ENGAGED INTO METAL/WOOD STUDS TO MAINTAIN MAXIMUM PULLOUT STRENGTH.
6. INSTALL OUTSIDE CORNERS FIRST.
7. INSTALL LONGEST RUN OF HANDRAIL FIRST.
8. ALUMINUM RETAINER SPLICE SHOULD NOT EXCEED 3" [76.2mm] DISTANCE FROM A BRACKET.
9. THE DISTANCE BETWEEN A WOOD SPLICE JOINT AND AN ALUMINUM RETAINER SPLICE JOINT SHOULD NOT BE LESS THAN 12" [304.8mm]
10. MATERIAL MUST REACH 65°F MIN. TO 75°F MAX. 24 HOURS PRIOR TO INSTALLATION. THIS IS ESSENTIAL TO MINIMIZE EXPANSION AND CONTRACTION OF MATERIAL.
11. MAY REQUIRE USE OF FIRE PUTTY WHEN INSTALLED ON FIRE WALL WITH TOGGLE BOLTS.
12. THIS HANDRAIL REQUIRES A MINIMUM OF 2 MOUNTING BRACKETS PER UNIT.
13. FOR OSHPD REQUIREMENTS; USE 20 GA. STEEL STUD, 20 GA. INTERMEDIATE HORIZONTAL STUD 5/8" GYPSUM WALLBOARD.

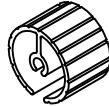
HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET



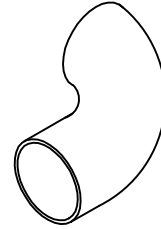
WOOD HANDRAIL
(24W354xxx)



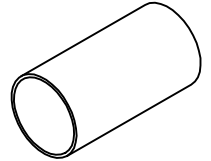
STAINLESS STEEL
MOUNTING BRACKET
(24S272000)



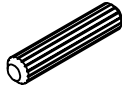
1" END CAP SPLINE
(24F194000)



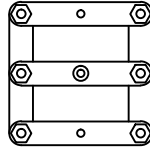
STAINLESS STEEL ENDCAP
(24S119000)



STAINLESS STEEL SPLICE
(24S122000)



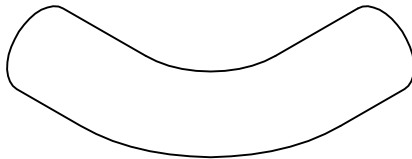
WOODEN DOWEL PIN
(24W507037)



END CAP DRILL JIG
(90F010004)



END CAP DRILL JIG
CENTER ARM FOR
WOOD SPLICE
(90H165010)



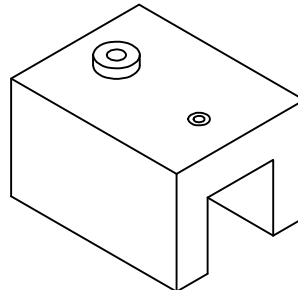
STAINLESS STEEL INSIDE/OUTSIDE CORNER
(24S120000)



FASTENER #1
#14 X 2 1/2"
HEX WASHER HEAD
SHEET METAL SCREW
(90H437002)



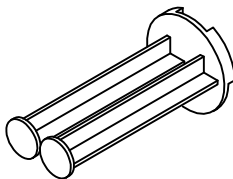
8MM X 1.25MM PLUG TAP
(90H086010)



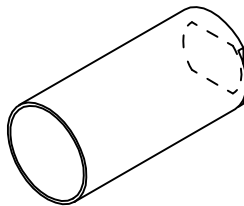
MOUNTING BRACKET JIG
(90H196010)



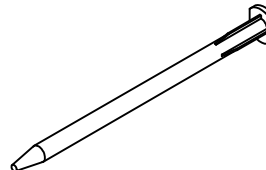
FASTENER #2
SERRATED
LOCK WASHER
(90H043003)



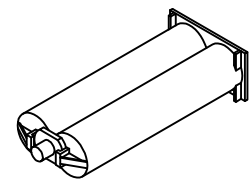
CAULKING GUN
CONVERSION KIT
PLUNGER
(90M023000)



CAULKING GUN
CONVERSION KIT
SLEEVE
(90M023000)



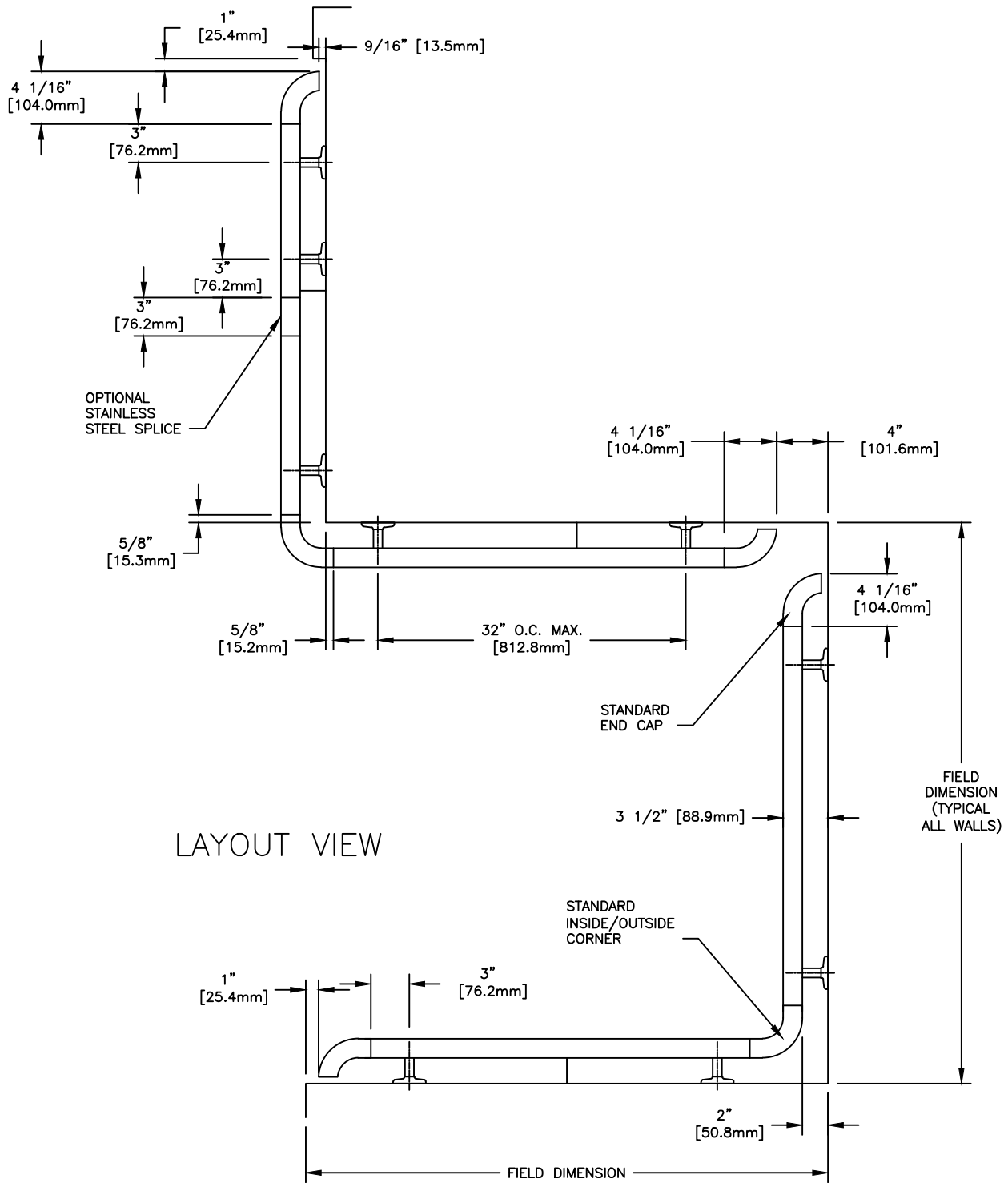
MIXING NOZZLE
(90M022000)



EPOXY
(90M089001)

WALL CONDITION	SPECIFIED FASTENER	DRILL DIAMETERS		C/S PART NUMBER
		WALL	RETAINER	
STEEL STUD/GYPSUM WALL	#10 X 2" PHILLIPS FLAT HEAD SHEET METAL SCREW	1/16"	N/A	90H431002
CONCRETE/CONCRETE BLOCK	1/4" X 2 1/4" HEX HEAD MASONRY	3/16"	N/A	90H027004
WOOD STUD/GYPSUM WALL	#9 X 2 1/4" PHILLIPS WAFER HEAD DRYWALL SCREW	N/R	N/A	90H421002
FOR OSHPD: USE 20 GA. STEEL STUD, 20 GA. INTERMEDIATE HORIZONTAL STUD 5/8" GYPSUM WALLBOARD	1/4-20 X 3" FLAT HEAD BOLT 1/4" TOGGLER WING (SEE NOTE 3 PAGE 4)	1/2"	N/A	90H282002 90H062004

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET



HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

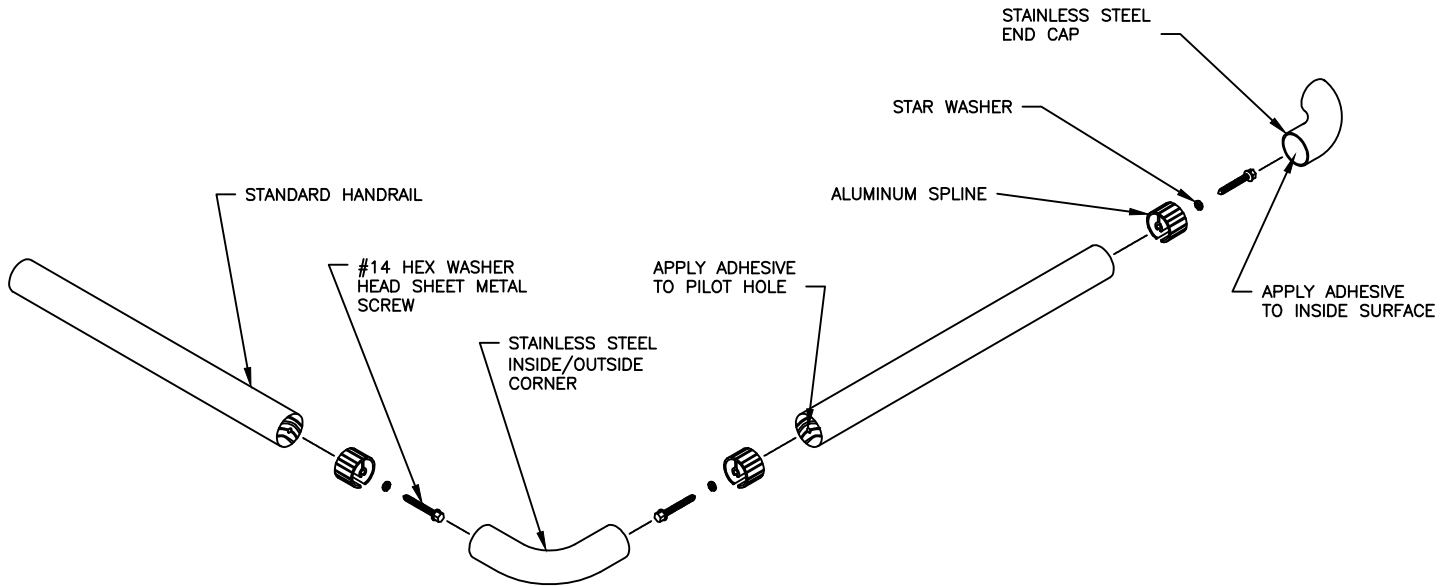


FIGURE 1.
ATTACHING END CAP AND
INSIDE/OUTSIDE CORNERS

DUE TO THE NATURE OF WOOD,
COMPONENT COLORS MAY VARY.
SORT WOOD COMPONENTS AND
MATCH PARTS BY COLOR.

NOTE:

All wood material to be supplied in 7'-0" to 12'-0" variable lengths. This material is to be field cut using QUALITY equipment to ensure that all cuts are square. When cutting wood sections, C/S recommends using a carbide triple tooth blade to minimize chipping and maintain joint alignment. We suggest longest handrail runs be installed first.

1. USING "LOCAL CODE" REQUIREMENTS, ESTABLISH HANDRAIL HEIGHT ABOVE FINISHED FLOOR. DEDUCT 3-9/16" [90.5mm] AND SNAP A CHALK LINE AT THAT HEIGHT. THIS MARKS THE LOCATION OF THE HOLE FOR THE MOUNTING BRACKET FASTENERS. REFER TO SECTIONAL VIEW.
2. CUT WOODEN HANDRAIL TO MEET EACH SPECIFIC WALL CONDITION. REFER TO PLAN LAYOUTS FOR PROPER DEDUCTIONS. IF HANDRAIL HAS BEEN CUT TO ORDER, MOVE TO STEP #5.
3. EASE WOOD EDGES ON CUT HANDRAIL END SLIGHTLY WITH 150 GRIT SANDPAPER (SEE FIGURE 3) TOUCH UP SANDED EDGES WITH STAIN PENCIL.
4. TO PROTECT FINISHED SURFACES FROM ADHESIVE DURING ASSEMBLY, APPLY MASKING TAPE TO END OF HANDRAIL'S FINISHED WOOD SURFACE.
5. INSTALL HANDRAIL SPLICE IF REQUIRED (SEE FIGURES 5 & 8). FOR OPTIONAL STAINLESS STEEL SPLICE REFER TO FIGURE 9.

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

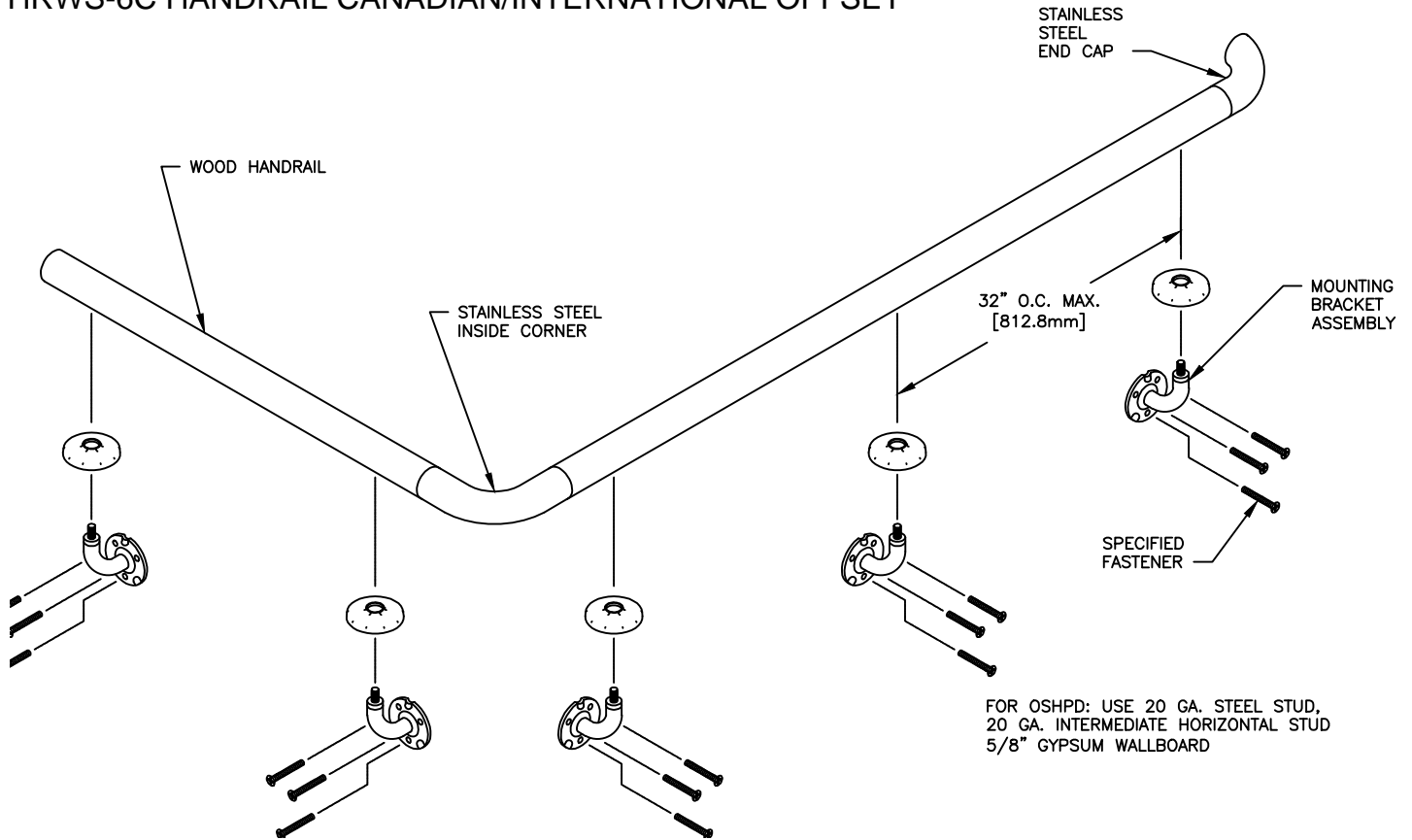


FIGURE 2.
ATTACHING MOUNTING BRACKETS

6. ATTACH MOUNTING BRACKET ASSEMBLIES (A FLAT SURFACE IS REQUIRED):
 - 6.1. REMOVE TAPE FROM WOODEN HANDRAIL AND STAINLESS STEEL END CAPS (OR INSIDE/OUTSIDE CORNERS).
 - 6.2. USING FLAT SURFACE ORIENT THE HANDRAIL (WITH END CAPS) UPSIDE DOWN. NOTE: ORIENT ANY IMPERFECTIONS IN THE WOODEN HANDRAIL ON DOWNWARD SIDE OF ASSEMBLY.
 - 6.3. DRILL PILOT HOLES IN BOTTOM SURFACE OF WOODEN HANDRAIL AS PER MOUNTING BRACKET DRILL JIG INSTRUCTIONS (SEE FIGURE 4). MOUNTING BRACKETS ARE TO BE LOCATED AT A MAXIMUM OF 32" [812.8mm] O.C. AND MUST BE 3" [76.2mm] FROM END OF WOODEN HANDRAIL AND 3" [76.2mm] FROM ONE END OF SPLICE. CAUTION: BE SURE THE HANDRAIL DOES NOT ROTATE WHEN DRILLING PILOT HOLE.
 - 6.4. BEFORE USING THE 21/64" BUSHING (TAP END OF MOUNTING BRACKET JIG) ON THE HANDRAIL'S FIRST PILOT HOLE, INSERT A 7/32" DRILL BIT THROUGH MOUNTING BRACKET DRILL JIG AND INTO PILOT HOLE. THIS STEP WILL HELP ENSURE HANDRAIL DOES NOT ROTATE WHEN DRILLING AND TAPPING FOR ADDITIONAL MOUNTING BRACKETS. A SECOND MOUNTING BRACKET DRILL JIG HAS BEEN PROVIDED TO DRILL AND TAP FOR ADDITIONAL MOUNTING BRACKETS.
 - 6.5. USING THE 21/64" BUSHING (TAP END OF MOUNTING BRACKET JIG), THREAD PILOT HOLE. USING AN 8mm X 1.25 TAP (PLUG CHAMFER TYPE RECOMMENDED). ATTACH MOUNTING BRACKETS. CAUTION: OVER TORQUEING MAY CAUSE DAMAGE TO WOODEN THREADS.
7. USE ASSEMBLED HANDRAIL AS A TEMPLATE TO DRILL CLEARANCE HOLES IN WALL SURFACE FOR MOUNTING HARDWARE BY LINING UP UPPER EDGE OF MOUNTING BRACKET WITH CHALK LINE. SEE SECTIONAL VIEW ON COVER PAGE.
8. ATTACH ENTIRE ASSEMBLY TO THE WALL USING APPROPRIATE FASTENERS.

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

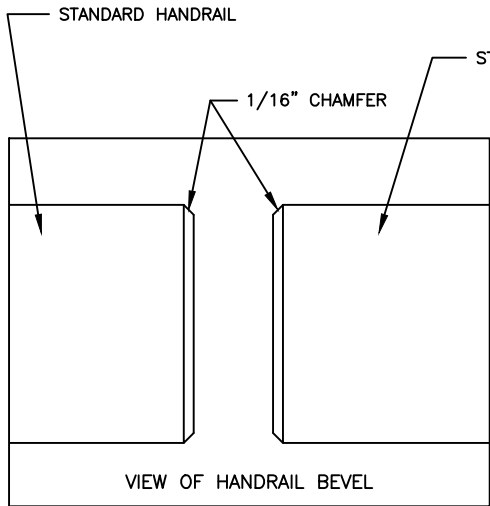


FIGURE 3.
HANDRAIL TO
HANDRAIL

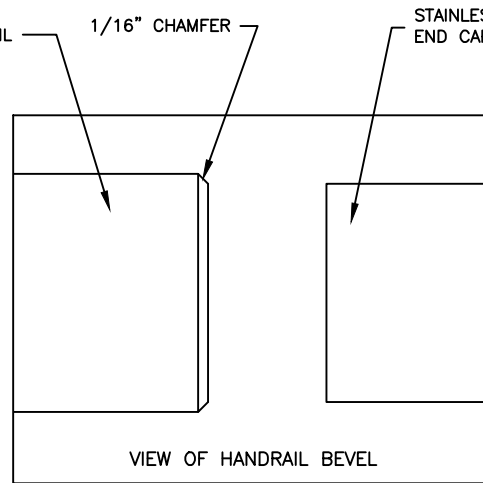


FIGURE 4.
HANDRAIL TO
STAINLESS STEEL

NOTE:
DIAMETER OF
STAINLESS STEEL IS
DESIGNED TO BE
SLIGHTLY SMALLER
THAN THE DIAMETER
OF WOOD HANDRAIL

9. ATTACH INSIDE/OUTSIDE CORNERS BEFORE ATTACHING NEXT SECTION OF HANDRAIL ASSEMBLY.
 - 9.1. DRILL PILOT HOLE AS PER DRILL JIG INSTRUCTIONS (SEE FIGURE 5).
 - 9.2. CLEAN OUTER SURFACE OF ALUMINUM SPLINE WITH ISOPROPYL (RUBBING) ALCOHOL. ATTACH SPLINE TO THE END OF HANDRAIL USING A #14 HEX/WASHER HEAD SCREW AND STAR WASHER. DRY FIT HANDRAIL TO INSIDE/OUTSIDE CORNER OR END CAP AND CHECK FOR A SEAMLESS TRANSITION BETWEEN WOOD AND METAL COMPONENTS. EASE WOOD EDGES SLIGHTLY WITH 150 GRIT SANDPAPER (SEE FIGURE 4) AND TOUCH UP SANDED EDGES WITH STAIN PENCIL.
 - 9.3. ONCE TESTED, FILL THE PILOT HOLE WITH ADHESIVE (REFERENCE CAULKING GUN CONVERSION KIT FIGURES 10 & 11) AND PERMANENTLY ATTACH ALUMINUM SPLINE. CAUTION: STAR WASHER MUST BE SECURELY TIGHTENED AND EMBEDDED INTO ALUMINUM SPLINE TO PREVENT ATTACHED END CAP FROM ROTATING.
 - 9.4. TO PROTECT FINISHED SURFACES FROM ADHESIVE DURING ASSEMBLY, APPLY MASKING TAPE TO END OF HANDRAIL'S FINISHED WOOD SURFACE AND ALSO TO EXTERIOR SURFACE OF INSIDE/OUTSIDE CORNER OR END CAP.
 - 9.5. USING 100 GRIT SANDPAPER, SAND THE INTERIOR SURFACE OF THE INSIDE/OUTSIDE CORNER OR END CAP. CLEAN THE INTERIOR SURFACE OF CORNER OR END CAP WITH ISOPROPYL (RUBBING) ALCOHOL. APPLY 1/8" BEAD OF ADHESIVE TO SANDED, INTERIOR SURFACE.
 - 9.6. THE ADHESIVE ONLY ALLOWS FOR 8 TO 12 MINUTES OF WORKING TIME. INSTALL INSIDE/OUTSIDE CORNER OR END CAP OVER ALUMINUM SPLINE. FOR A PROPER SEAM, STAINLESS STEEL COMPONENT MUST BE TIGHTLY FITTED TO WOOD SURFACE. PARTS CAN BE HANDLED IN 1-1/2 HOURS AND WILL BE FULLY CURED AFTER 24 HOURS. NOTE: ORIENT ANY IMPERFECTIONS IN THE WOODEN HANDRAIL ON DOWNWARD SIDE OF ASSEMBLY.
10. INSTALL END CAPS AS PREVIOUSLY DESCRIBED FOR INSIDE/OUTSIDE CORNERS. ROTATE END CAP UNTIL PARALLEL AND PROPERLY ORIENTED.

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

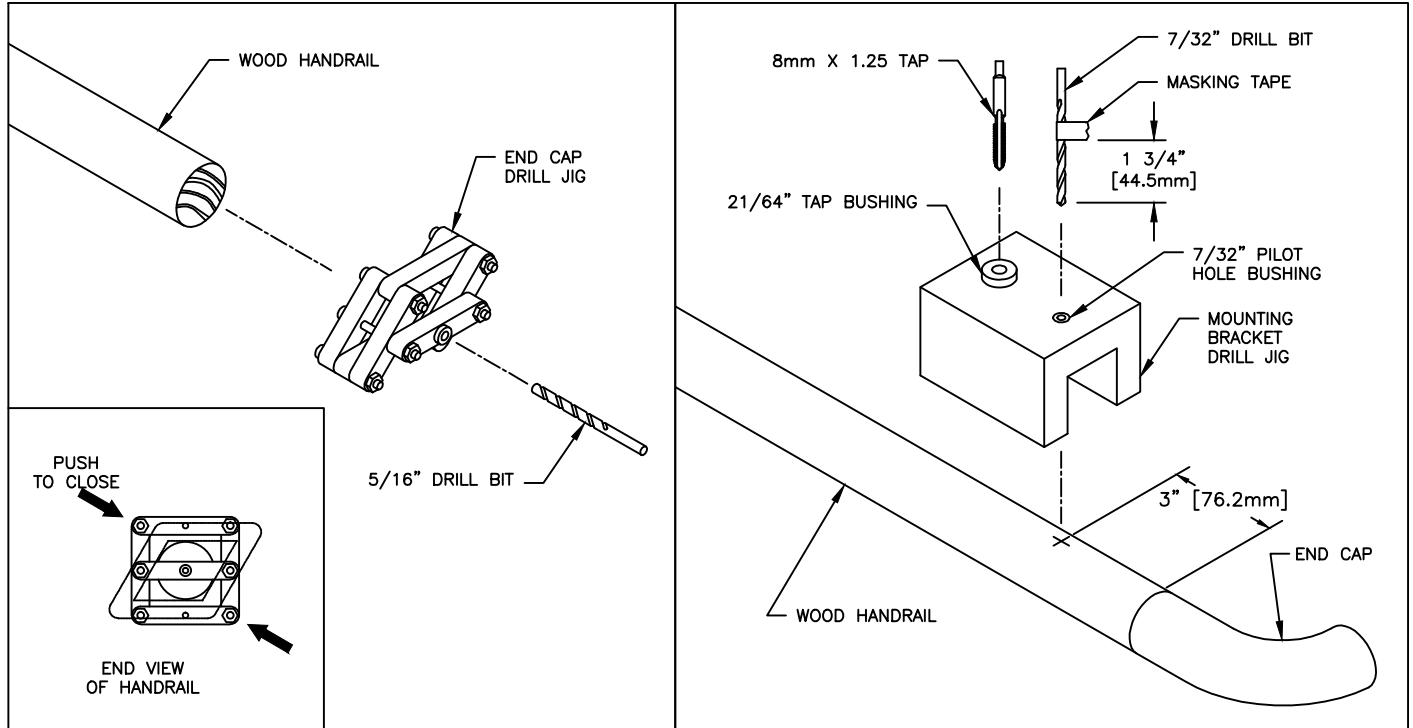


FIGURE 5.

END CAP/CORNER DRILL JIG AND OPTIONAL SPLICE

FIGURE 6.

MOUNTING BRACKET DRILL JIG

DRILL JIG FOR END CAPS/CORNERS AND OPTIONAL STAINLESS STEEL SPLICE. REFER TO FIGURE 5.

1. LOCATE END CAP DRILL JIG OVER END OF WOODEN HANDRAIL. POSITION END OF HANDRAIL TIGHT AGAINST BOTTOM OF DRILL JIG'S CENTRAL BAR.
2. CLOSE THE DRILL JIG TIGHT AGAINST THE OUTSIDE EDGE OF THE HANDRAIL.
3. DRILL A 5/32" PILOT HOLE (1-1/8" DEEP) IN EACH END OF HANDRAIL.

DRILL JIG FOR MOUNTING BRACKET DRILL JIG INSTRUCTIONS. REFER TO FIGURE 6.

1. PLACE HANDRAIL ON A FLAT WORKING SURFACE AND ROTATE UNTIL BOTTOM OF HANDRAIL IS FACING UPWARD.
2. POSITION DRILL JIG OVER WOODEN HANDRAIL. THE DRILL JIG'S FEET MUST SIT FLAT ON LEVEL WORKING SURFACE. LOCATE CENTER OF 7/32" PILOT DRILL HOLE OVER CORRESPONDING LOCATION FOR MOUNTING BRACKET ASSEMBLY. NOTE: DIMENSION FROM CENTER OF EITHER HOLE TO END OF JIG IS 3" [76.2mm].
3. DRILL A 7/32" PILOT HOLE (ONLY 1" DEEP) IN BOTTOM OF HANDRAIL.

NOTE: TO HELP ENSURE PROPER DEPTH INTO BOTTOM OF HANDRAIL APPLY A PIECE OF MASKING TAPE AS A MARKER 1-3/4" [44.5mm] FROM THE END OF DRILL BIT.

4. POSITION TAP END OF MOUNTING BRACKET JIG OVER PREVIOUSLY DRILLED 7/32" PILOT HOLE. USE 21/64" DRILL BUSHING TO CORRECTLY THREAD PILOT HOLE WITH 8mm X 1.25 TAP (PLUG CHAMFER TYPE RECOMMENDED).

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

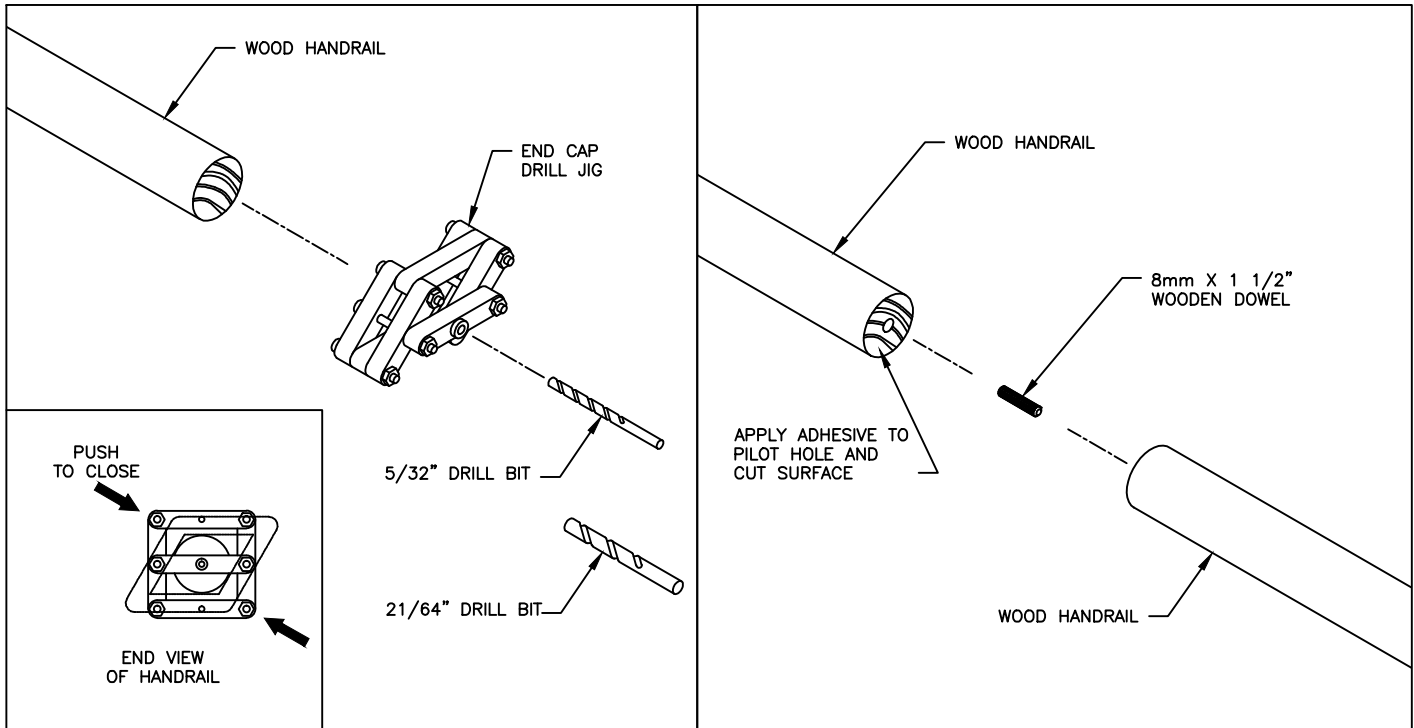


FIGURE 7.

WOOD DOWEL SPLICE DRILL JIG

FIGURE 8.

ASSEMBLING HANDRAIL SPLICE WITH DOWEL

DRILL JIG FOR WOOD DOWEL SPLICE. REFER TO FIGURE 7.

1. LOCATE SPLICE DRILL JIG OVER END OF WOODEN HANDRAIL. POSITION END OF HANDRAIL TIGHT AGAINST BOTTOM OF DRILL JIG'S CENTRAL BAR.
2. CLOSE THE DRILL JIG TIGHT AGAINST THE OUTSIDE EDGE OF THE HANDRAIL.
3. DRILL A 5/16" CLEARANCE HOLE (7/8" DEEP) IN END OF EACH HANDRAIL USED IN SPLICE.
4. USE THE 5/32" CLEARANCE HOLE AS A GUIDE (WITHOUT DRILL JIG) AND DRILL 21/64" CLEARANCE HOLE (1-1/8" DEEP) IN END OF EACH HANDRAIL USED IN SPLICE.

ASSEMBLE HANDRAIL SPLICE WITH DOWEL. REFER TO FIGURE 6.

1. EASE WOOD EDGES SLIGHTLY WITH 150 GRIT SANDPAPER (SEE FIGURE 3). TOUCH UP SANDED EDGES WITH STAIN PENCIL.
2. LOCATE HANDRAIL ON A FLAT WORKING SURFACE AND GLUE IN 8mm WOODEN DOWEL IN THE END OF EACH HANDRAIL THAT WILL CREATE A SPLICE. CHECK SEAM FOR TIGHT FIT BETWEEN SECTIONS OF HANDRAIL. TITEBOND WOOD GLUE IS RECOMMENDED FOR THIS APPLICATION.

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

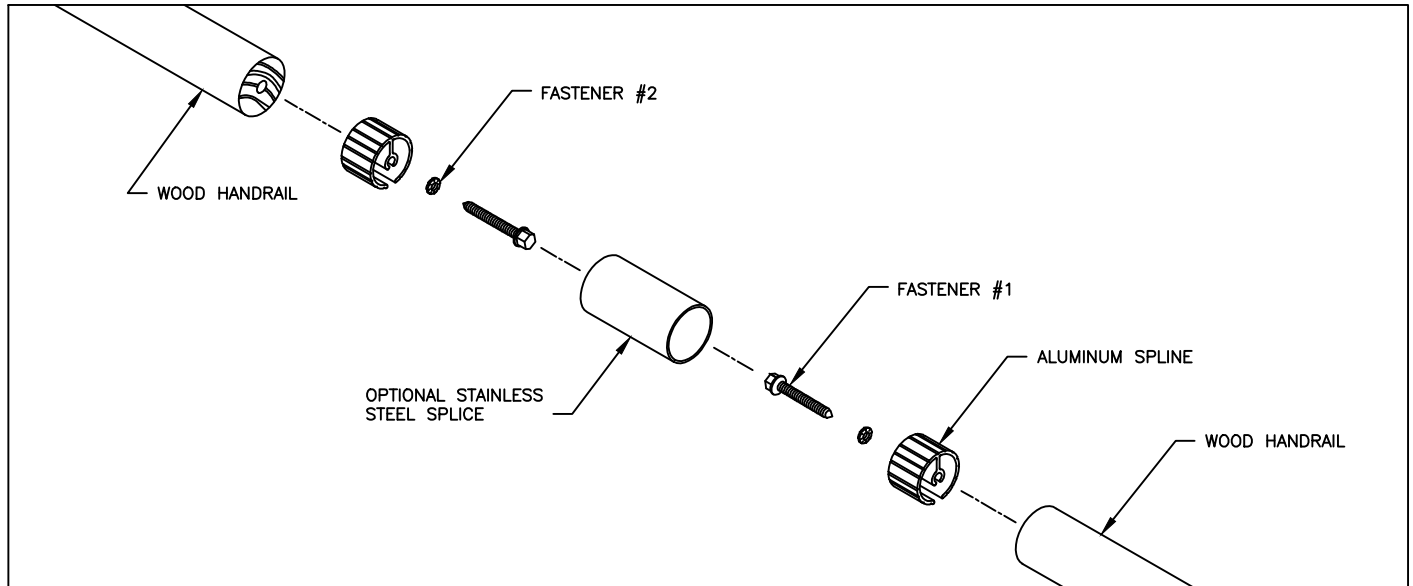


FIGURE 9.
OPTIONAL STAINLESS STEEL SPLICE

1. CUT WOODEN HANDRAIL TO MEET EACH SPECIFIC WALL CONDITION. DEDUCT 1-1/2" OFF EACH HANDRAIL FOR STAINLESS STEEL SPLICE. NOTE: FOR PROPER APPEARANCE, LOCATE SPLICE IN CENTER OF TWO SECTIONS OF HANDRAIL AND 3-INCHES AWAY FROM MOUNTING BRACKET LOCATION.
2. ATTACH STAINLESS STEEL SPLICE:
 - 2.1. DRILL PILOT HOLES AS PER OPTIONAL SPLICE DRILL JIG INSTRUCTIONS (SEE FIGURE 5).
 - 2.2. CLEAN OUTER SURFACE OF ALUMINUM SPLINE WITH ISOPROPYL (RUBBING) ALCOHOL. ATTACH SPLINE TO THE END OF HANDRAIL USING A #14 HEX/WASHER HEAD SCREW AND STAR WASHER. DRY FIT HANDRAIL TO STAINLESS STEEL SPLICE AND CHECK FOR A SEAMLESS TRANSITION BETWEEN WOOD AND METAL COMPONENTS. WHEN REQUIRED, EASE WOOD EDGES SLIGHTLY WITH 150 GRIT SANDPAPER (SEE FIGURE 4) AND TOUCH UP SANDED EDGES WITH STAIN PENCIL.
 - 2.3. ONCE TESTED, FILL THE PILOT HOLE WITH ADHESIVE (REFERENCE CAULKING GUN CONVERSION KIT FIGURES 8 & 9) AND PERMANENTLY ATTACH ALUMINUM SPLINE. CAUTION: STAR WASHER MUST BE SECURELY TIGHTENED AND EMBEDDED INTO ALUMINUM SPLINE, TO PREVENT ATTACHED END CAP FROM ROTATING.
 - 2.4. TO PROTECT FINISHED SURFACES FROM ADHESIVE DURING ASSEMBLY APPLY MASKING TAPE TO END OF HANDRAIL'S FINISHED WOOD SURFACE AND ALSO TO EXTERIOR SURFACE OF STAINLESS STEEL SPLICE.
 - 2.5. USING 100 GRIT SANDPAPER, SAND THE INTERIOR SURFACE OF STAINLESS STEEL SPLICE. CLEAN THE INTERIOR SURFACE OF STAINLESS STEEL SPLICE WITH ISOPROPYL (RUBBING) ALCOHOL. APPLY 1/8" BEAD OF ADHESIVE TO SANDED, INTERIOR SURFACE.
 - 2.6. THE ADHESIVE ONLY ALLOWS FOR 8 TO 12 MINUTES OF WORKING TIME. INSTALL STAINLESS STEEL SPLICE OVER ALUMINUM SPLINE. FOR A PROPER SEAM, STAINLESS STEEL COMPONENT MUST BE TIGHTLY FITTED TO WOOD SURFACE. PARTS CAN BE HANDLED IN 1-1/2 HOURS AND WILL BE FULLY CURED AFTER 24 HOURS. NOTE: ORIENT ANY IMPERFECTIONS IN THE WOODEN HANDRAIL ON DOWNWARD SIDE OF ASSEMBLY.
 - 2.7. CHECK STRAIGHTNESS OF HANDRAIL AND STAINLESS STEEL SPLICE.
 - 2.8. ATTACH SECOND HANDRAIL TO STAINLESS STEEL SPLICE AS PREVIOUSLY DESCRIBED.

HRWS-6C HANDRAIL CANADIAN/INTERNATIONAL OFFSET

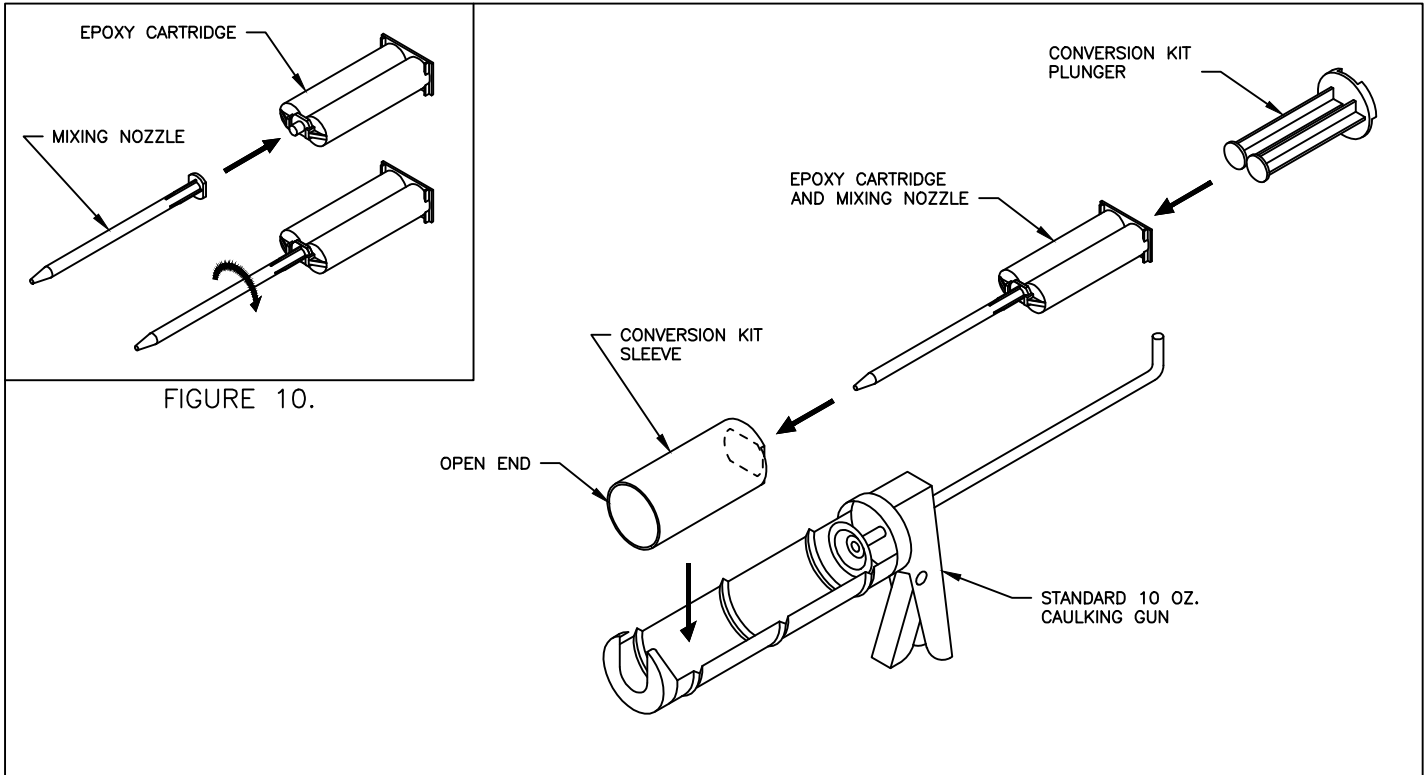


FIGURE 10.

FIGURE 11.

CAULKING GUN CONVERSION KIT

EPOXY CARTRIDGE AND MIXING NOZZLE. REFER TO FIGURE 8.

1. REMOVE CAP AND GASKET FROM THE END OF EPOXY CARTRIDGE BY TWISTING 90°.
2. INSTALL MIXING NOZZLE ON THE FRONT OF EPOXY CARTRIDGE AND LOCK IN PLACE BY TWISTING 90°.

CAULKING GUN CONVERSION KIT. REFER TO FIGURE 9.

1. INSERT EPOXY CARTRIDGE AND MIXING NOZZLE INTO OVAL OPENING OF SLEEVE. NOTE THE LOCATION OF OPEN END.
2. PLACE PLUNGER IN THE BACK END OF CARTRIDGE.
3. PLACE THE CONVERSION KIT, WITH MIXER NOZZLE AND EPOXY CARTRIDGE, IN A STANDARD 10 OZ CAULKING GUN AS SHOWN IN FIGURE 9. PLUNGER WILL ATTACH TO CIRCULAR PUSH PLATE ON CAULKING GUN.