

P-RWM HANDRAIL

WITH OPTIONAL S.S. END CAPS

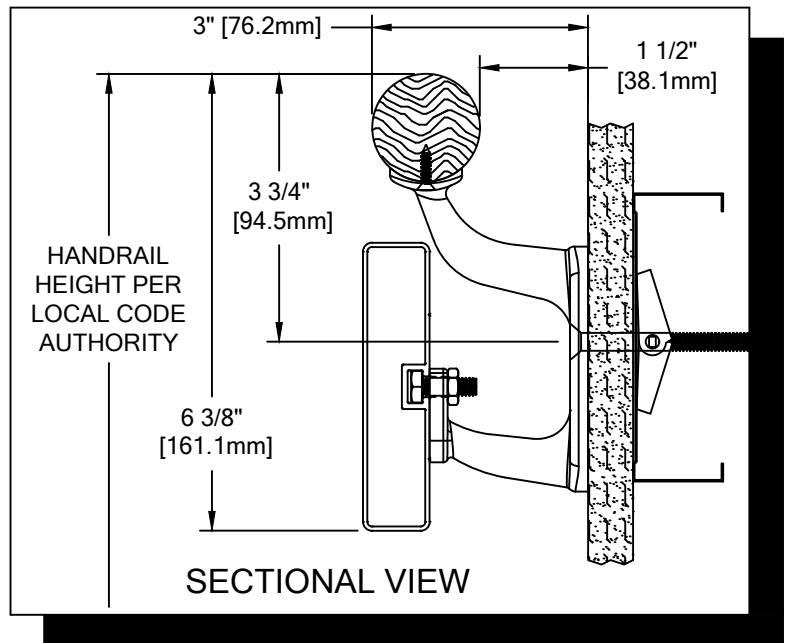
PLEASE READ

PLEASE READ THESE INSTRUCTIONS THOROUGHLY PRIOR TO BEGINNING THE P-RWM HANDRAIL INSTALLATION!

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

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 FOR CUSTOMER SERVICE.

P-RWM 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 THIS P-RWM HANDRAIL PLEASE CALL THE FACTORY IN THE USA AT (800) 233-8493 OR EMAIL IWPTECHSUPPORT@C-SGROUP.COM. IN CANADA CALL (888) 895-8955.



IMPORTANT NOTES

1. DUE TO WOOD BEING A NATURAL PRODUCT, COMPONENTS MAY GROW AND SHRINK AT DIFFERENT RATES. BECAUSE OF THIS, CS 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.
2. DUE TO THE NATURE OF WOOD, COMPONENT COLORS MAY VARY. SORT WOOD COMPONENTS AND MATCH PARTS BY COLOR.
3. ALL LINEAL MATERIAL TO BE SUPPLIED IN STOCK LENGTHS. WOOD IN 7'-0" TO 12'-0" VARIABLE, AND POWDER COATED CRASH RAIL IN 12'-0" LENGTHS. THIS MATERIAL IS TO BE FIELD CUT USING QUALITY EQUIPMENT TO INSURE THAT ALL CUTS ARE SQUARE. WHEN CUTTING MATERIAL SECTIONS, CS 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. IF DURING INSTALLATION YOU ENCOUNTER SPECIAL WALL CONDITIONS THAT DO NOT ALLOW FOR DIRECT ATTACHMENT TO THE STUDS PLEASE CONSULT THE LOCAL AUTHORITY HAVING JURISDICTION.
6. INSTALL OUTSIDE CORNERS FIRST.
7. INSTALL LONGEST RUN OF HANDRAIL FIRST.
8. HANDRAIL AND CRASH RAIL SPLICES SHOULD NOT EXCEED 3" [76.2mm] DISTANCE FROM A BRACKET.
9. 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.
10. MAY REQUIRE USE OF FIRE PUTTY WHEN INSTALLED ON FIRE WALL WITH TOGGLE BOLTS. REFERENCE INSTRUCTIONS 24FIREPUTTY FOR FIRE PUTTY INSTALLATION.
11. THIS HANDRAIL REQUIRES A MINIMUM OF 2 MOUNTING BRACKETS PER UNIT. THE MINIMUM END CAP-TO-END CAP HANDRAIL LENGTH IS 14 3/8" [365.1mm].
12. FOR MORE INFORMATION ON P-RWM HANDRAIL SEE OUR WEBSITE AT www.c-sgroup.com.

P-RWM HANDRAIL

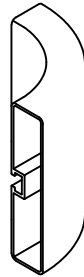
COMPONENTS & WALL FASTENERS



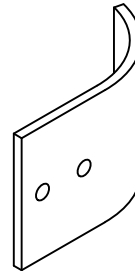
WOOD HANDRAIL
(24W354xxx)



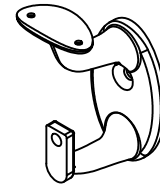
POWDER COATED
CRASH RAIL
(24A223xxx)



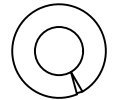
POWDER COATED
CRASH RAIL END CAP/
OUTSIDE CORNER
(24M067xxx)



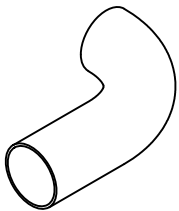
CRASH RAIL END CAP
MOUNTING PLATE
(90H181010)



STAINLESS STEEL
MOUNTING BRACKET
(24S157000)



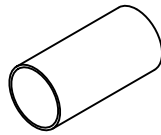
FASTENER #1
1/4" LOCK WASHER
(90H006003)



STAINLESS STEEL END CAP
(24S193000)



STAINLESS STEEL
OUTSIDE CORNER
(24S120000)



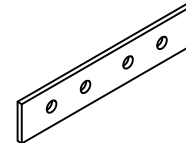
OPTIONAL STAINLESS
STEEL SPLICE
(24S122000)



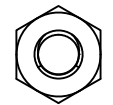
WOOD DOWEL PIN
(24W507037)



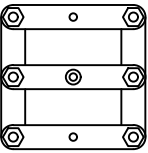
END CAP SPLINE
(24F194000)



RETAINER SPLICE BAR
(24I976000)



FASTENER #2
1/4-20 HEX NUT
(90H010001)



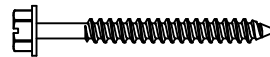
END CAP DRILL JIG
(90F010004)



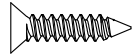
END CAP DRILL JIG
CENTER ARM FOR
WOOD SPLICE
(90H165010)



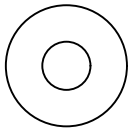
FASTENER #6
SERRATED LOCK WASHER
(90H043008)



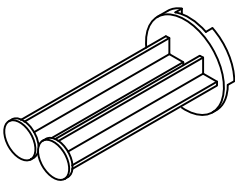
FASTENER #7
#14 X 2 1/2"
HEX WASHER HEAD
SHEET METAL SCREW
(90H437002)



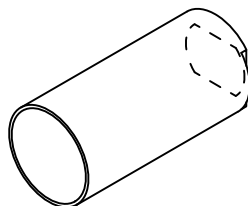
FASTENER #3
#6 X 5/8" S/S PHILLIPS
FLAT HEAD SMS
(90H231004)



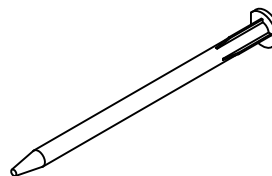
FASTENER #4
1/4" FLAT WASHER
(90H007003)



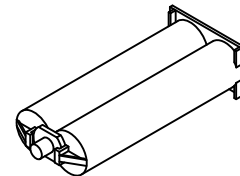
CAULKING GUN
CONVERSION KIT
PLUNGER
(90M023005)



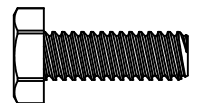
CAULKING GUN
CONVERSION KIT
SLEEVE
(90M023005)



MIXING NOZZLE
(90M022006)



EPOXY
(90M089003)

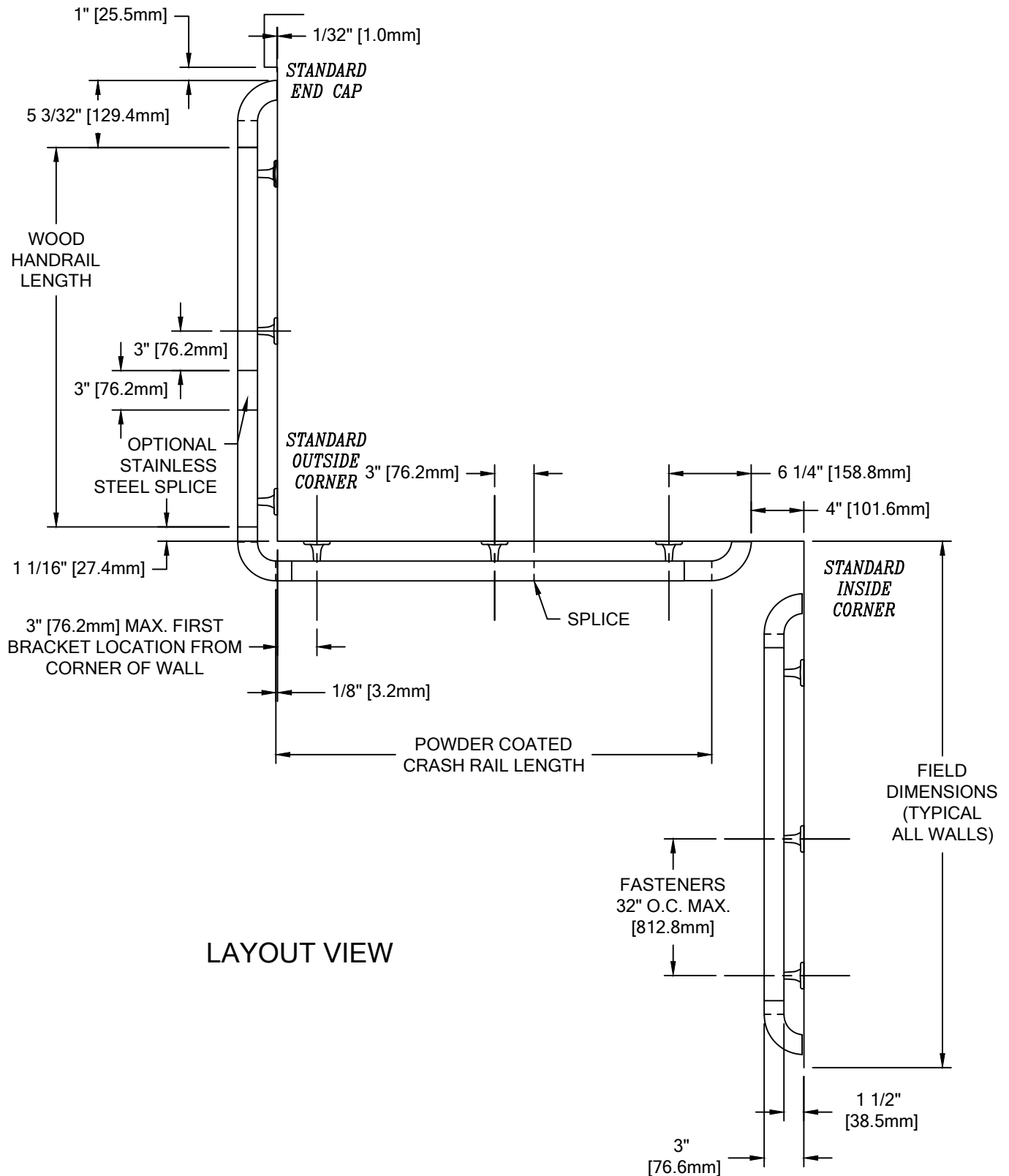


FASTENER #5
1/4-20 X 3/4" HEX HEAD
MACHINE SCREW
(90H008002)

WALL CONDITION	SPECIFIED FASTENER	DRILL DIAMETERS		CS PART NUMBER
		WALL	RETAINER	
STEEL STUD/GYPSUM WALL	1/4-20 X 3" S/S FLAT HEAD BOLT WITH TOGGLE	3/4"	N/A	90H184002
CONCRETE/CONCRETE BLOCK	1/4" X 1 3/4" S/S FLAT HEAD MASONRY ANCHOR	3/16"	N/A	90H390000
WOOD STUD/GYPSUM WALL	#14 X 3" S/S PHILLIPS FLAT HEAD WOOD SCREW	7/32"	N/A	90H538004
20 GA. STEEL STUD/GYPSUM WALL (OSHDP)	1/4 - 20 X 3" S/S FLAT HEAD BOLT 1/4" TOGGLER WING 3M MOLDABLE FIRE PUTTY	1/2"	N/A	90H063002 90H062004 90M012000
16 GA. MIN STEEL STUD AND 16 GA. MIN STEEL STRAPPING / GYPSUM WALL CONSTRUCTION REQUIRED (TEK SCREWS)	#14 X 3" PHILLIPS FLAT HEAD SELF DRILLING S/S TEK SCREW	N/A	N/A	90H230003

P-RWM HANDRAIL

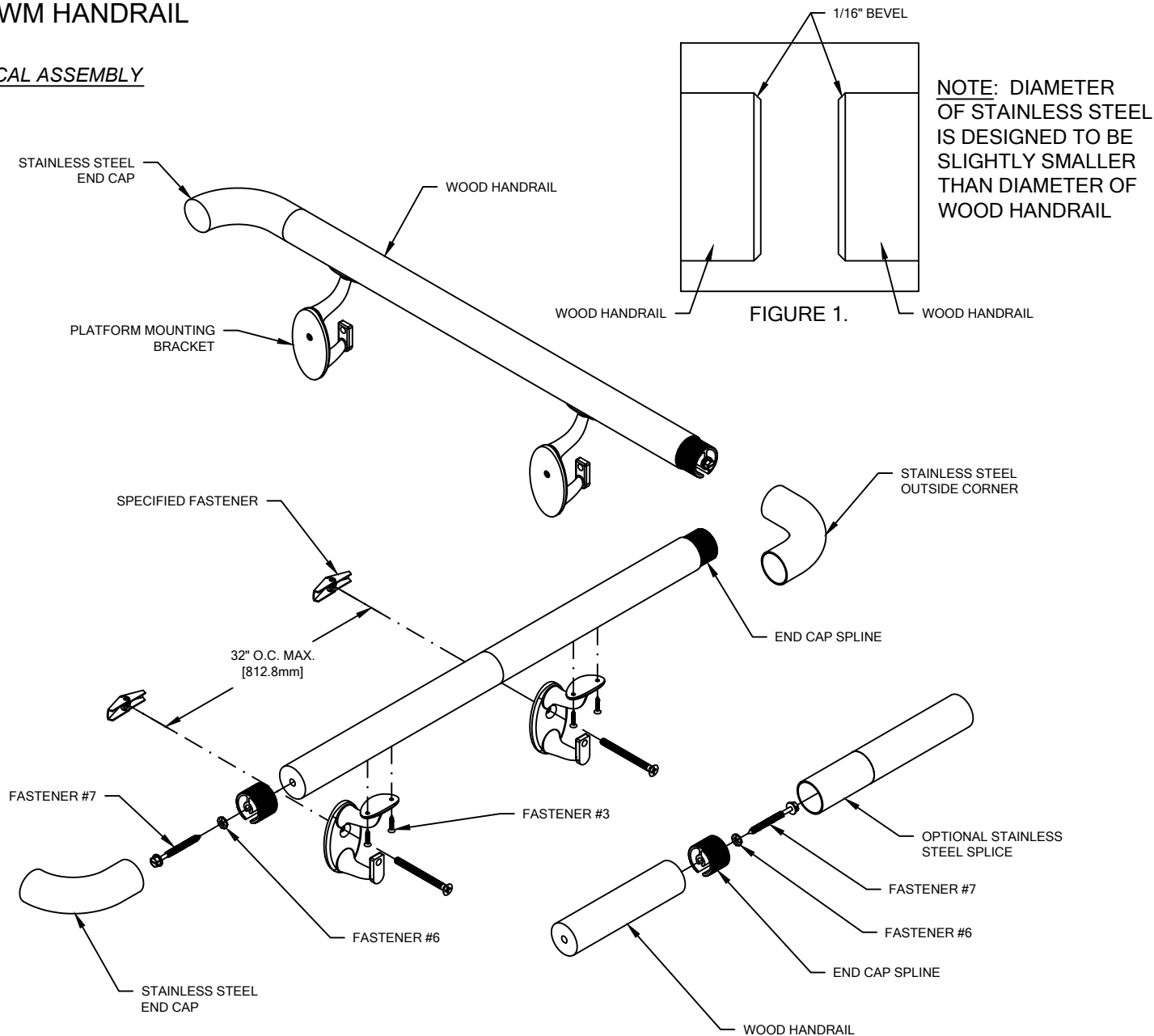
LAYOUT VIEW



LAYOUT VIEW

P-RWM HANDRAIL

TYPICAL ASSEMBLY



1. USING "LOCAL CODE" REQUIREMENTS, ESTABLISH HANDRAIL HEIGHT ABOVE FINISH FLOOR. DEDUCT 3 3/4" [95.3mm] AND SNAP A CHALK LINE AT THAT HEIGHT. THIS MARKS THE LOCATION OF THE HOLE FOR THE MOUNTING BRACKET FASTENERS.
2. DRILL CLEARANCE HOLES IN WALL SURFACE FOR MOUNTING HARDWARE. REFERENCE CHART ON PAGE 2 FOR CORRECT DRILL DIAMETERS.

NOTE: SEE LAYOUT VIEW TO AID IN MOUNTING BRACKET LOCATION.

3. INSTALL MOUNTING BRACKETS USING APPROPRIATE FASTENERS. USE A LEVEL TO ENSURE THAT THE BRACKETS ARE LEVEL.
4. CUT THE WOOD HANDRAIL TO LENGTH USING THE REQUIRED DEDUCTIONS (REFERENCE LAYOUT VIEW). BEVEL THE HANDRAIL EDGES SLIGHTLY WITH 150 GRIT SANDPAPER. TOUCH UP SANDED EDGES WITH STAIN MARKER. (SEE FIGURE 1 ABOVE).

NOTE: IT IS RECOMMENDED THAT WOOD HANDRAIL BE CUT WITH AN 80-100 TOOTH CARBIDE TIPPED SAW BLADE OR EQUIVALENT.

5. TO ENSURE PROPER ALIGNMENT OF HANDRAIL TO END CAP, USE THE END CAP DRILL JIG TO DRILL A PILOT HOLE FOR END CAP ATTACHMENT IN EACH END OF THE HANDRAIL. (SEE FIGURE 2)
 - LOCATE END CAP DRILL JIG OVER END OF WOOD HANDRAIL. POSITION END OF HANDRAIL TIGHT AGAINST BOTTOM OF DRILL JIG'S CENTER BAR.
 - CLOSE THE DRILL JIG TIGHT AGAINST THE OUTSIDE EDGE OF THE HANDRAIL.
 - DRILL A 5/32" PILOT HOLE (1 1/8" DEEP) IN END OF HANDRAIL.

P-RWM HANDRAIL

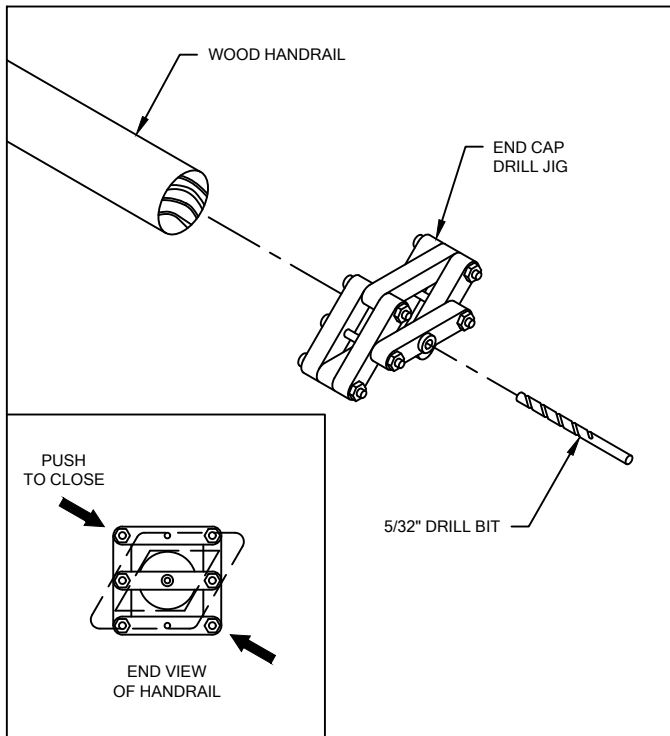


FIGURE 2.
END CAP/CORNER DRILL
JIG AND OPTIONAL SPLICE

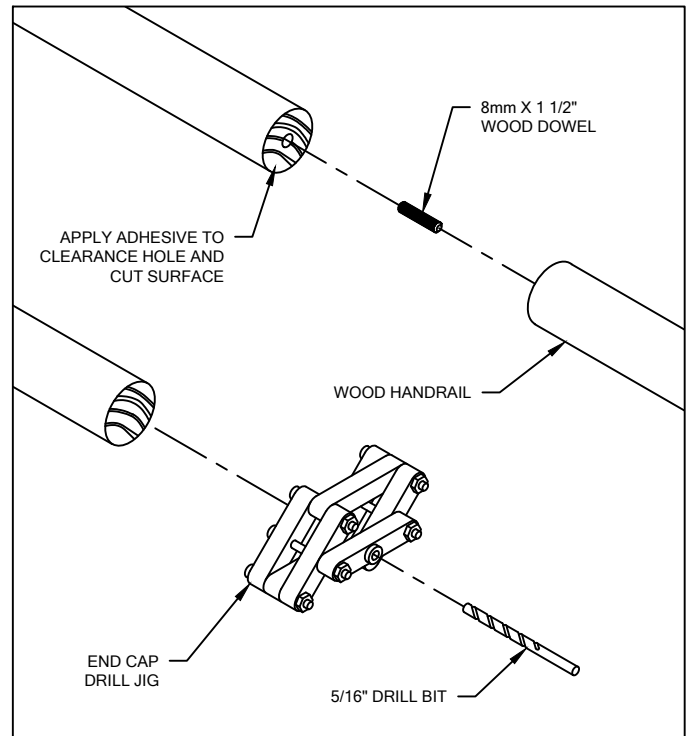


FIGURE 3.
WOOD DOWEL SPLICE
ASSEMBLY

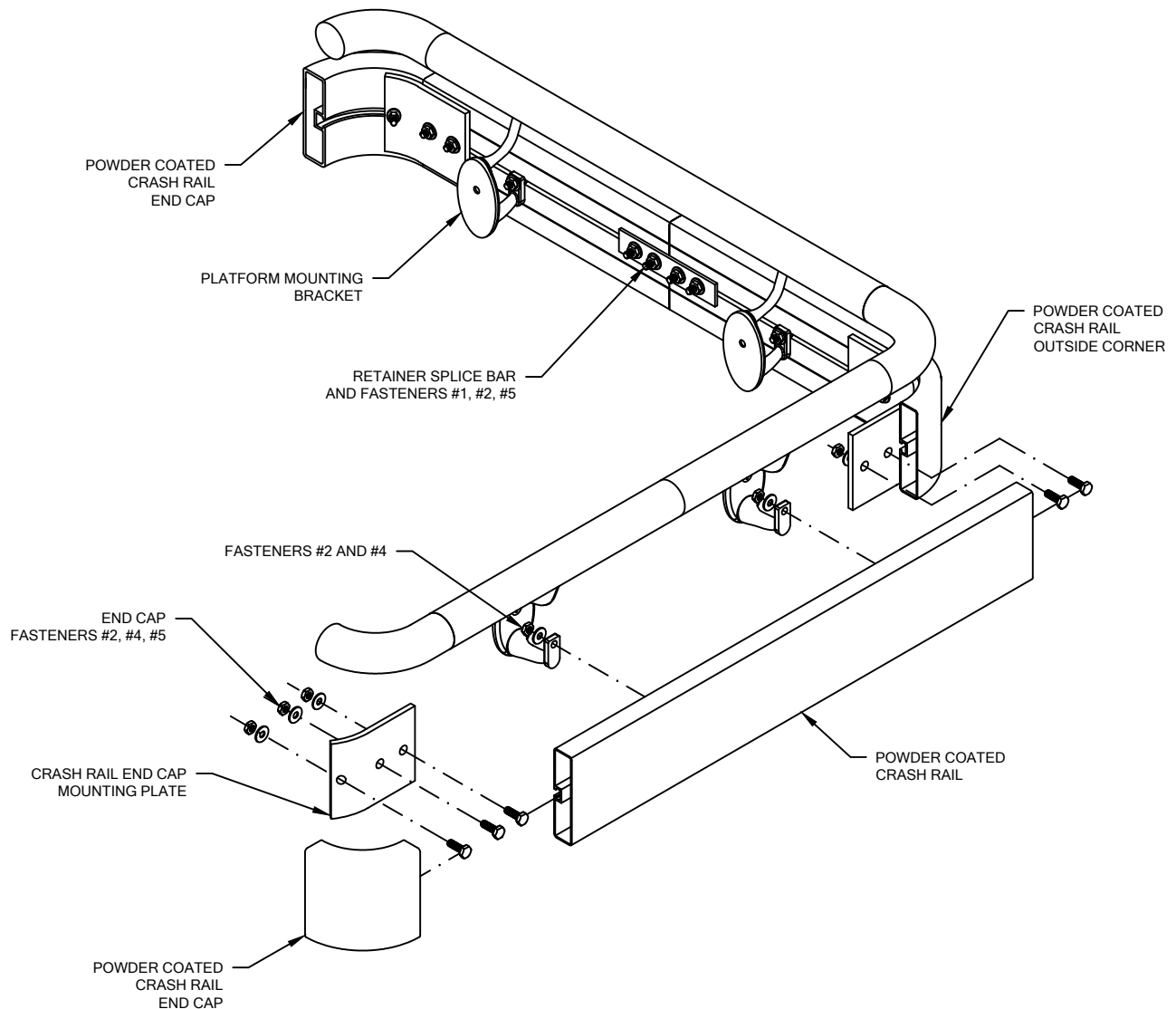
6. ATTACH STAINLESS STEEL END CAPS AND OUTSIDE CORNERS (A FLAT SURFACE IS REQUIRED):
 - TO PROTECT FINISHED SURFACES FROM ADHESIVE DURING ASSEMBLY APPLY MASKING TAPE TO END OF HANDRAIL'S FINISHED WOOD SURFACE AND EXTERIOR SURFACE OF END CAP (OR OUTSIDE CORNER).
 - CLEAN OUTER SURFACE OF ALUMINUM SPLINE WITH ISOPROPYL (RUBBING) ALCOHOL. ATTACH SPLINE TO THE END OF THE HANDRAIL USING THE #14 X 2 1/2" HEX WASHER HEAD SHEET METAL SCREW AND SERRATED LOCK WASHER. DRY FIT HANDRAIL TO END CAP (OR OUTSIDE CORNER) AND CHECK FOR A SEAMLESS TRANSITION BETWEEN WOOD AND METAL COMPONENTS.
 - ONCE TESTED, FILL THE PILOT HOLE WITH ADHESIVE (REFERENCE CAULKING GUN CONVERSION KIT FIGURES 4 & 5) AND PERMANENTLY ATTACH ALUMINUM SPLINE. CAUTION: SERRATED LOCK WASHER MUST BE SECURELY TIGHTENED AND EMBEDDED INTO ALUMINUM SPLINE TO PREVENT ATTACHED END CAP FROM ROTATING.
 - USING 100 GRIT SANDPAPER, SAND THE INTERIOR SURFACE OF THE END CAP. CLEAN THE INTERIOR SURFACE OF THE END CAP WITH ISOPROPYL (RUBBING) ALCOHOL.
 - THE ADHESIVE ONLY ALLOWS FOR 8 TO 12 MINUTES OF WORKING TIME. INSTALL END CAP (OR OUTSIDE CORNER) OVER ALUMINUM SPLINE. FOR PROPER SEAM, STAINLESS STEEL END CAP (OR OUTSIDE CORNER) MUST BE TIGHTLY FITTED TO THE HANDRAIL. PARTS CAN BE HANDLED IN 1 1/2 HOURS AND WILL BE FULLY CURED AFTER 24 HOURS.
 - OPTIONAL STAINLESS STEEL SPLICE WILL BE INSTALLED IN THE SAME MANNER.
7. DRILL 1/16" PILOT HOLES INTO THE WOOD HANDRAIL FOR MOUNTING BRACKET ATTACHMENT. MOUNTING BRACKETS ARE TO BE LOCATED 3" [76.2mm] FROM EACH END OF THE RAIL AND 32" [812.8mm] ON CENTER ALONG LENGTH, AS REQUIRED.
8. FASTEN THE WOOD HANDRAIL TO THE WALL BRACKET IN SUCCESSION BY INSERTING TWO #6 X 5/8" PHILLIPS FLAT HEAD SHEET METAL SCREWS THROUGH THE UNDERSIDE OF THE BRACKET INTO THE WOOD HANDRAIL. CAUTION: OVER-TORQUING MAY CAUSE THE FASTENERS TO STRIP.

HANDRAIL SPLICE ASSEMBLY WITH DOWEL

1. TO ENSURE PROPER ALIGNMENT OF HANDRAIL SPLICE, USE THE END CAP DRILL JIG TO DRILL A CLEARANCE HOLE FOR SPLICE ASSEMBLY IN EACH END OF THE HANDRAIL. (SEE FIGURE 3)
 - LOCATE SPLICE DRILL JIG OVER END OF WOOD HANDRAIL. POSITION END OF HANDRAIL TIGHT AGAINST BOTTOM OF DRILL JIG'S CENTER BAR.
 - CLOSE THE DRILL JIG TIGHT AGAINST THE OUTSIDE EDGE OF THE HANDRAIL.
 - DRILL A 5/16" CLEARANCE HOLE (7/8") DEEP IN END OF EACH HANDRAIL.
2. ASSEMBLE HANDRAIL SPLICE WITH WOOD DOWEL. (SEE FIGURE 3)
 - BEVEL THE HANDRAIL EDGES SLIGHTLY WITH 150 GRIT SANDPAPER. TOUCH UP SANDED EDGES WITH STAIN MARKER. (SEE FIGURE 1)
 - LOCATE HANDRAIL ON FLAT WORKING SURFACE AND INSERT 8mm WOOD DOWEL IN THE END OF EACH HANDRAIL THAT WILL CREATE A SPLICE. BEFORE APPLYING WOOD GLUE, DRY FIT COMPONENTS TOGETHER TO DOUBLE CHECK FIT. APPLY WOOD GLUE INTO THE HOLE AND CUT SURFACE OF THE HANDRAIL PRIOR TO HANDRAIL INSERTION. TITEBOND WOOD GLUE IS RECOMMENDED FOR THIS APPLICATION. WIPE OFF ANY EXCESS GLUE.

P-RWM HANDRAIL

TYPICAL CRASH RAIL ASSEMBLY



9. CUT THE CONTINUOUS POWDER COATED CRASH RAIL TO LENGTH USING THE REQUIRED DEDUCTIONS (REFERENCE LAYOUT VIEW).

NOTE: IT IS RECOMMENDED THAT CONTINUOUS POWDER COATED CRASH RAIL BE CUT WITH AN 80-100 TOOTH CARBIDE TIPPED SAW BLADE OR EQUIVALENT.

10. ATTACH POWDER COATED CRASH RAIL END CAPS AND OUTSIDE CORNERS:

- SLIDE 1/4-20 X 3/4" HEX HEAD BOLTS IN THE RECEIVER SLOT OF THE CRASH RAIL RETAINER FOR ALL WALL BRACKETS.
- PARTIALLY FASTEN 1/4-20 X 3/4" HEX HEAD BOLTS ONTO MOUNTING PLATE (NOTE THE ORIENTATION IN DRAWING ABOVE).
- SLIDE HEAD OF BOLTS INTO GROOVES OF CRASH RAIL AND END CAP.
- ALIGN CRASH RAIL WITH END CAP SO THEY ARE FLUSH TOGETHER.
- SECURELY TIGHTEN ALL FASTENERS.

11. ATTACH POWDER COATED CRASH RAIL TO THE WALL BRACKETS:

- ALIGN HEX HEAD BOLT WITH MOUNTING BRACKETS.
- INSERT HEX HEAD BOLT INTO THE MOUNTING BRACKET HOLE.
- PLACE A 1/4" FLAT WASHER AND 1/4-20 HEX NUT ONTO THE HEX HEAD BOLT.
- TIGHTEN AS REQUIRED.

P-RWM HANDRAIL

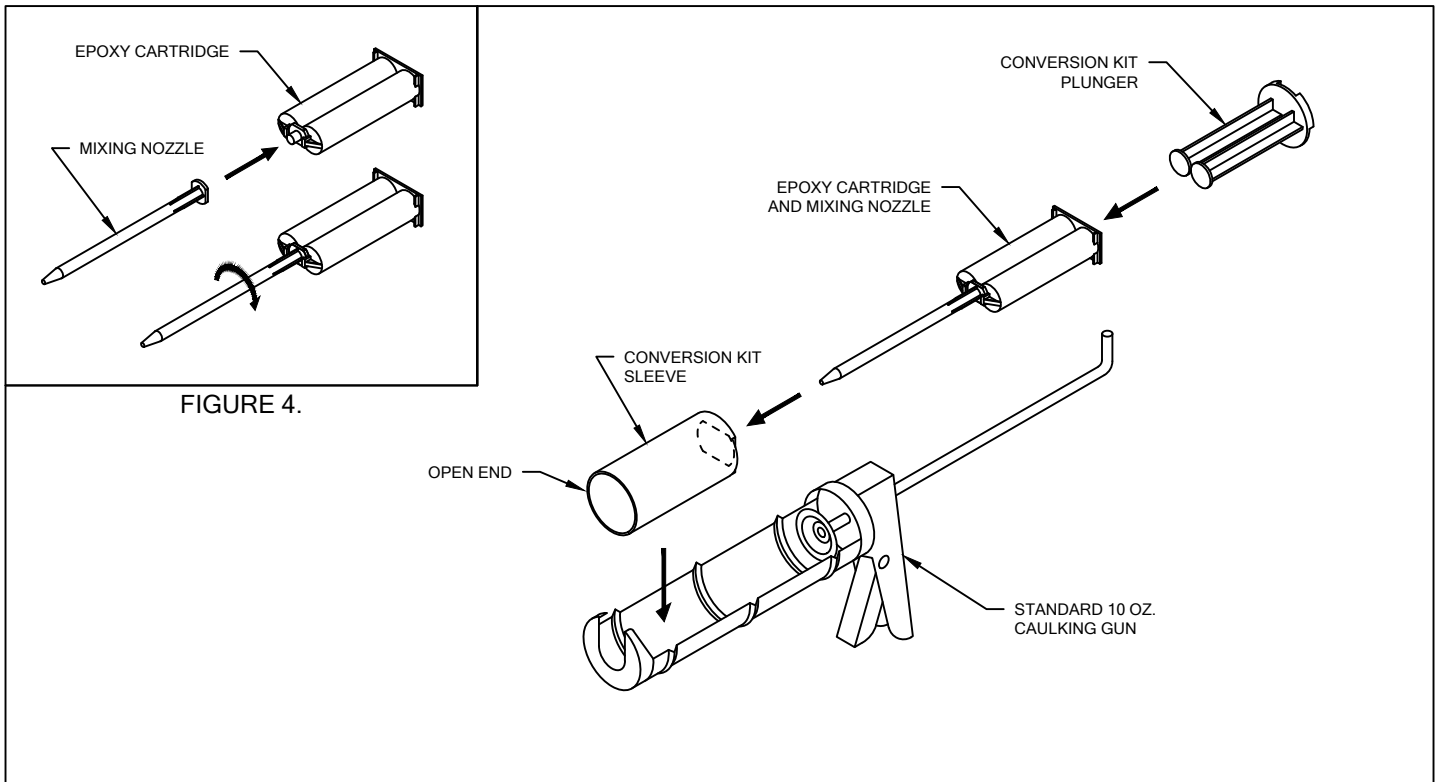


FIGURE 5.
CAULKING GUN CONVERSION KIT

EPOXY CARTRIDGE AND MIXING NOZZLE. REFER TO FIGURE 4.

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 5.

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 5. PLUNGER WILL ATTACH TO CIRCULAR PUSH PLATE ON CAULKING GUN.

03/21/2023