

P-RAMN HANDRAIL

WITH OPTIONAL S.S. END CAPS

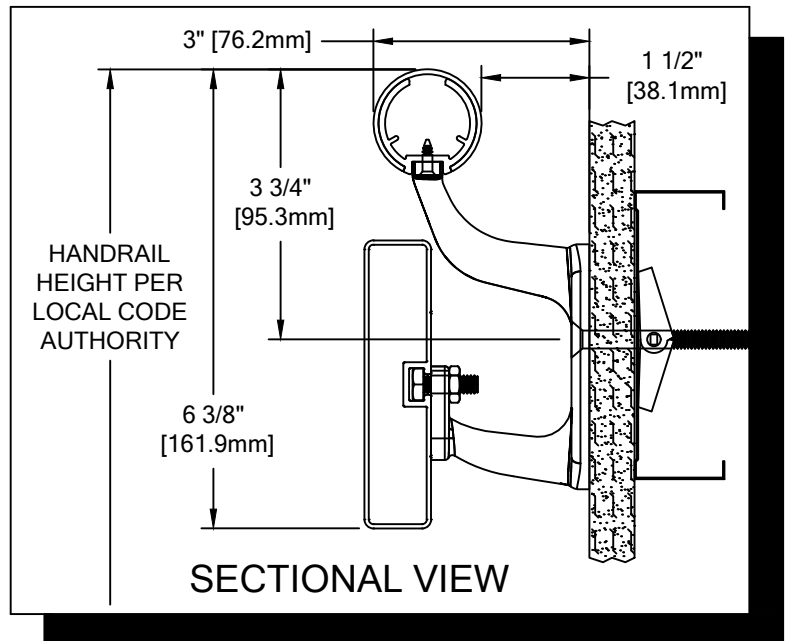
PLEASE READ

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

THIS INSTRUCTION SHEET IS INTENDED TO PROVIDE A SPECIFIC GUIDE TO FOLLOW FOR THE INSTALLATION OF THIS P-RAMN 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-RAMN 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-RAMN HANDRAIL PLEASE CALL THE FACTORY IN THE USA AT (800) 233-8493 OR EMAIL IWPTECHSUPPORT@C-SGROUP.COM. IN CANADA CALL (888) 895-8955.

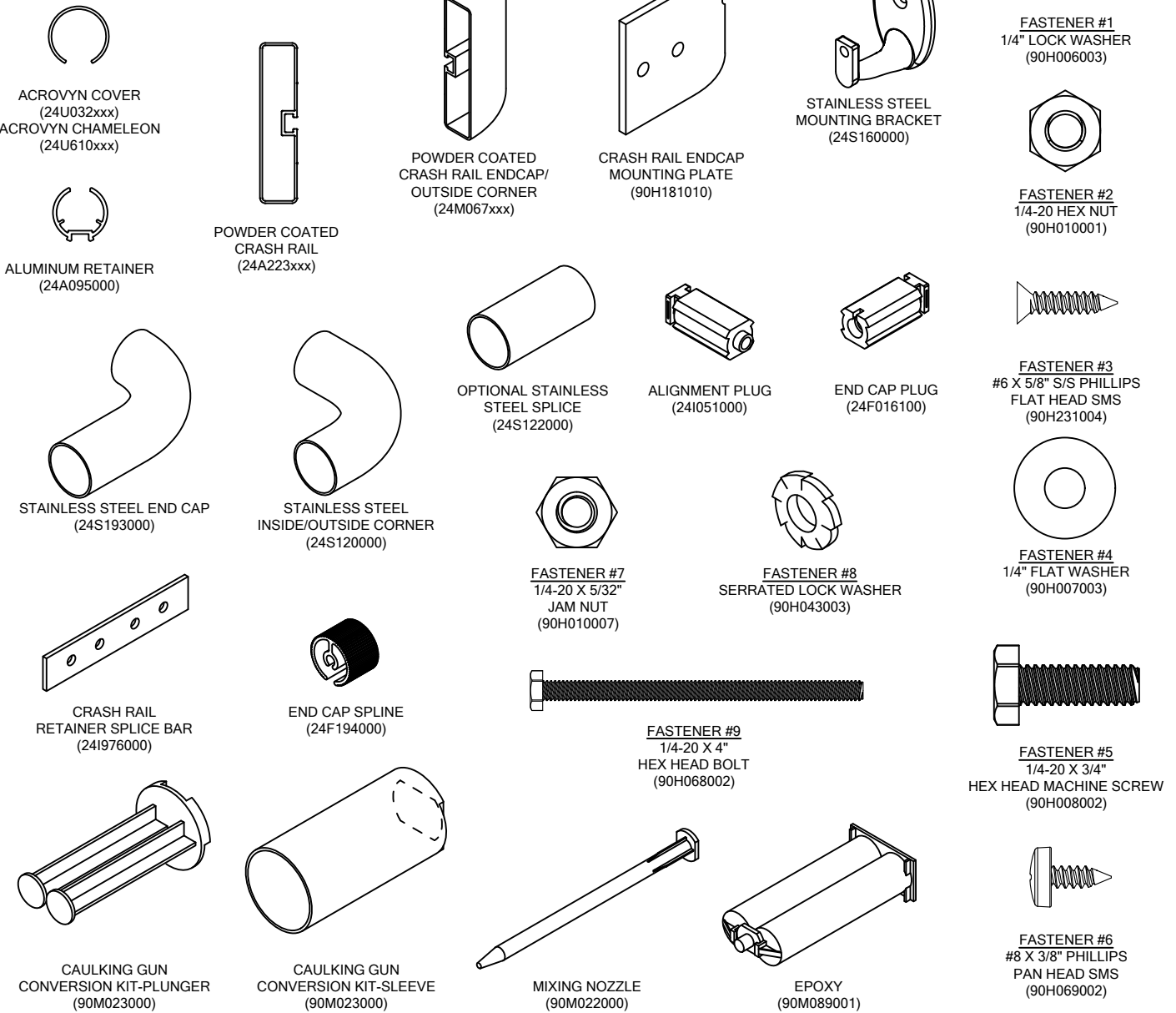


IMPORTANT NOTES

1. ALL LINEAL MATERIAL TO BE SUPPLIED IN STOCK LENGTHS. POWDER COATED HANDRAIL IN 12'-0", AND ALUMINUM AND ACROVYN IN LENGTHS UP TO 20'-0". 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.
2. ALL DIMENSIONS ARE TYPICAL.
3. 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 STUDS PLEASE CONSULT THE LOCAL AUTHORITY HAVING JURISDICTION.
4. INSTALL OUTSIDE CORNERS FIRST.
5. INSTALL LONGEST RUN OF HANDRAIL FIRST.
6. ALUMINUM RETAINER SPLICE SHOULD NOT EXCEED 3" [76.2mm] DISTANCE FROM A BRACKET.
7. THE DISTANCE BETWEEN AN ACROVYN SPLICE JOINT AND AN ALUMINUM RETAINER SPLICE JOINT SHOULD NOT BE LESS THAN 12" [304.8mm].
8. MATERIAL MUST REACH 65°F MIN. TO 75° MAX. 24 HOURS PRIOR TO INSTALLATION. THIS IS ESSENTIAL TO MINIMIZE EXPANSION AND CONTRACTION.
9. MAY REQUIRE USE OF FIRE PUTTY WHEN INSTALLED ON FIRE WALL WITH TOGGLE BOLTS. REFERENCE INSTRUCTIONS 24FIREPUTTY FOR FIRE PUTTY INSTALLATION.
10. THIS HANDRAIL REQUIRES A MINIMUM OF 2 MOUNTING BRACKETS PER UNIT. THE MINIMUM END CAP-TO-END CAP HANDRAIL LENGTH IS 15 3/4" [400mm].
11. FOR MORE INFORMATION ON P-RAMN HANDRAIL SEE OUR WEBSITE AT www.c-sgroup.com.

P-RAMN HANDRAIL

COMPONENTS & WALL FASTENERS

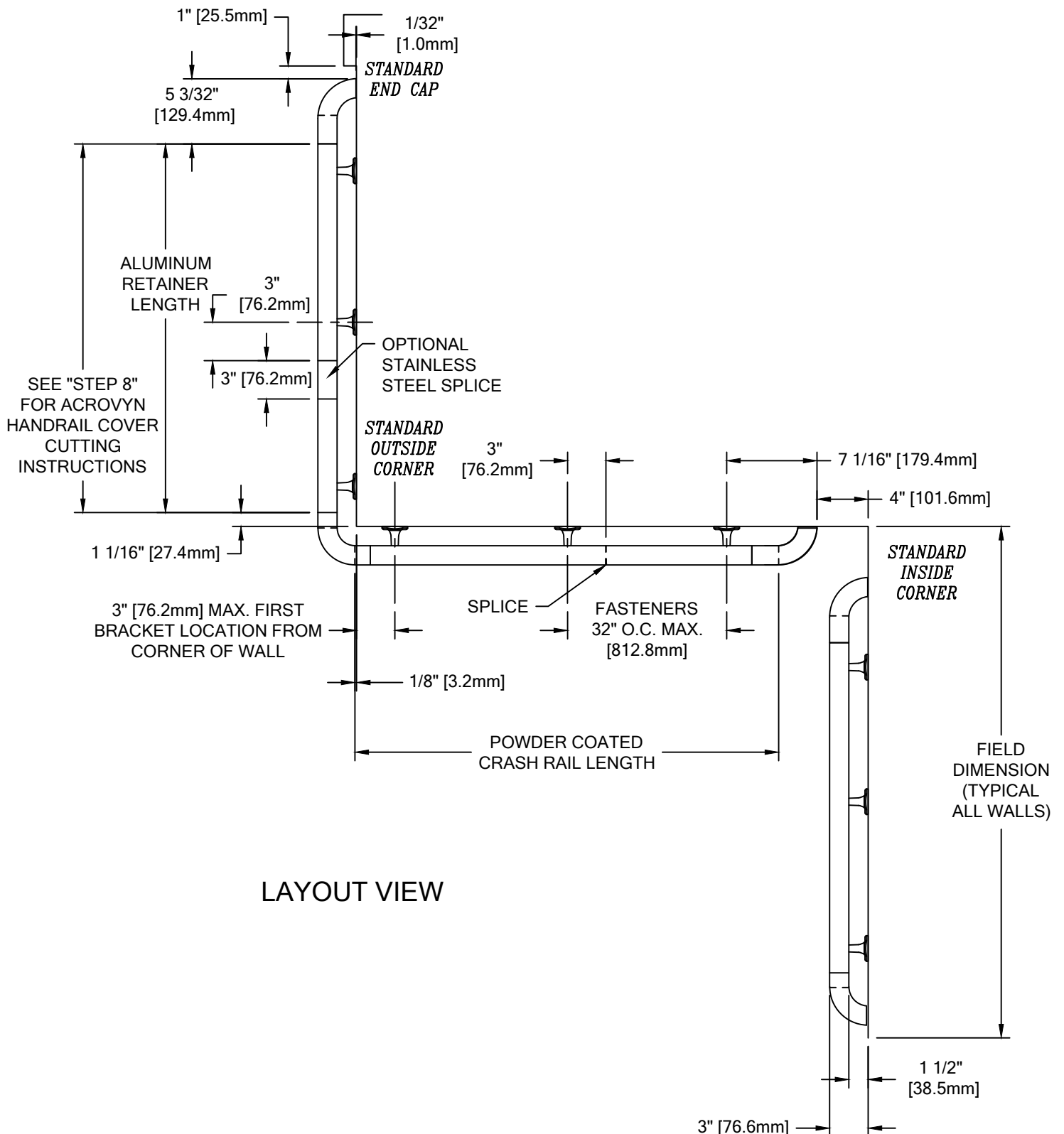


WALL CONDITION	SPECIFIED FASTENER	DRILL DIAMETERS		CS PART NUMBER
		WALL	RETAINER	
STEEL STUD/GYPSUM WALL	1/4-20 X 3\" S/S FLAT HEAD BOLT WITH TOGGLE	3/4"	N/A	90H184002
CONCRETE/CONCRETE BLOCK	1/4\" X 1 3/4\" S/S FLAT HEAD MASONRY ANCHOR	3/16"	N/A	90H390000
WOOD STUD/GYPSUM WALL	#14 X 3\" S/S PHILLIPS 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\" TOGGLE 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	90H286001



P-RAMN HANDRAIL

LAYOUT VIEW



LAYOUT VIEW



P-RAMN HANDRAIL

TYPICAL HANDRAIL ASSEMBLY

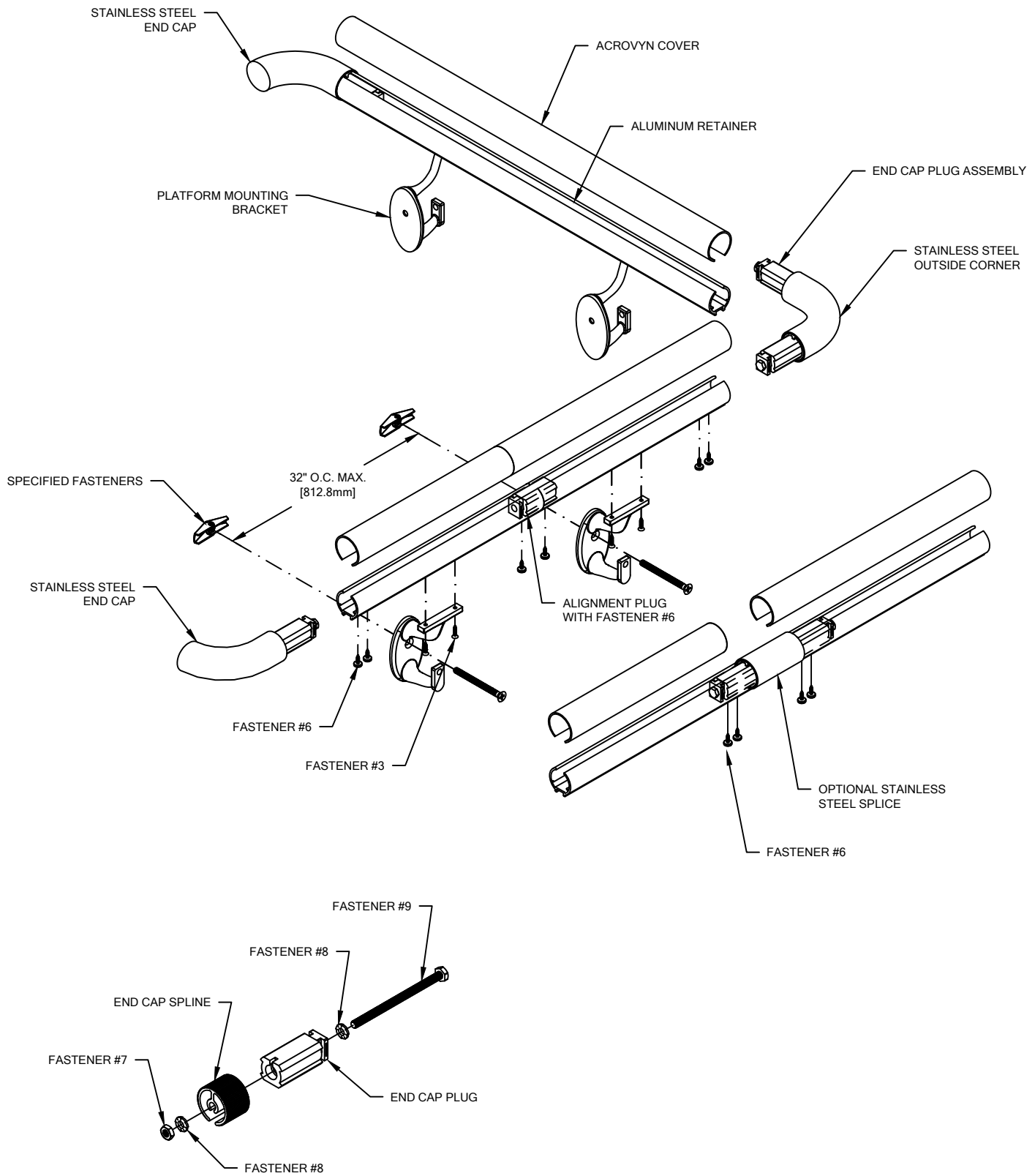


FIGURE 1.
END CAP PLUG
ASSEMBLY

P-RAMN HANDRAIL

TYPICAL HANDRAIL ASSEMBLY

1. USING "LOCAL CODE" REQUIREMENTS, ESTABLISH HANDRAIL 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.
3. INSTALL MOUNTING BRACKETS USING APPROPRIATE FASTENERS. DO NOT OVER TORQUE FASTENERS. USE A LEVEL TO ENSURE THAT THE BRACKETS ARE LEVEL.

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

4. CUT THE CONTINUOUS ALUMINUM RETAINER TO LENGTH USING THE REQUIRED DEDUCTIONS (SEE LAYOUT VIEW).

NOTE: IT IS RECOMMENDED THAT THE ACROVYN COVER AND ALUMINUM RETAINER BE CUT WITH AN 80-100 TOOTH CARBIDE TIPPED SAW BLADE OR EQUIVALENT.

5. ATTACH END CAPS AND INSIDE/OUTSIDE CORNERS (A FLAT SURFACE IS REQUIRED):
 - LOOSELY ASSEMBLE THE END CAP PLUG AS SEEN IN FIGURE 1.
 - INSERT END CAP PLUG INTO THE RETAINER AND ALIGN THE END CAP SPLINE WITH THE END OF THE RETAINER (END CAP SPLINE SHOULD BE INSERTED INTO GROOVED SLOT OF END CAP PLUG). ONCE ALIGNED TIGHTEN THE END CAP PLUG ASSEMBLY.
 - DRILL 1/8" DIAMETER PILOT HOLE THROUGH THE BOTTOM OF THE RETAINER AND END CAP PLUG, 5/8" [15.9mm] AND 1 1/4" [31.8mm] FROM THE END OF THE RETAINER FOR #8 X 3/8" PHILLIPS PAN HEAD SMS.
 - ATTACH END CAP PLUG TO RETAINER WITH THE ABOVE MENTIONED SCREW, UP THROUGH THE BOTTOM OF THE RETAINER.
 - TO PROTECT FINISHED SURFACES FROM ADHESIVE DURING ASSEMBLY APPLY MASKING TAPE TO EXTERIOR SURFACE OF END CAP (OR INSIDE/OUTSIDE CORNER).
 - USING 100 GRIT SANDPAPER, SAND THE INTERIOR SURFACE OF THE END CAP. CLEAN THE INTERIOR SURFACE OF END CAP WITH ISOPROPYL (RUBBING) ALCOHOL.
 - DRY FIT THE ALUMINUM SPLINE BEFORE APPLYING ADHESIVE. ONCE TESTED REMOVE AND APPLY 1/8" BEAD OF ADHESIVE TO SANDED, INTERIOR SURFACE (REFERENCE CAULKING GUN CONVERSION KIT FIGURES 4 & 5) AND PERMANENTLY ATTACH TO ALUMINUM SPLINE.
 - CAUTION: SERRATED LOCK WASHER MUST BE SECURELY TIGHTENED AND EMBEDDED INTO ALUMINUM SPLINE TO PREVENT ATTACHED END CAP FROM ROTATING.
 - THE ADHESIVE ONLY ALLOWS FOR 8 TO 12 MINUTES OF WORKING TIME. INSTALL END CAP (OR INSIDE/OUTSIDE CORNER) OVER ALUMINUM SPLINE. FOR A PROPER SEAM, STAINLESS STEEL END CAP (OR INSIDE/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.

NOTE: TO AID IN LOCATING THE END CAPS CORRECTLY, CUT A 4" [101.6mm] SECTION OF COVER FROM SCRAP AND SNAP IT ON THE RETAINER. LOCATE THE CAP SO IT ALIGNS FLUSH WITH TOP AND BOTTOM OF THE COVER.

6. DRILL 1/16" PILOT HOLES INTO THE RETAINER FOR MOUNTING BRACKET ATTACHMENT. MOUNTING BRACKETS ARE TO BE LOCATED 3" [76.2mm] FROM EACH END OF THE RETAINER AND 32" [812.6mm] ON CENTER ALONG LENGTH, AS REQUIRED.
7. FASTEN THE ALUMINUM RETAINER TO THE WALL BRACKETS IN SUCCESSION BY INSERTING TWO #6 X 5/8" S/S PHILLIPS FLAT HEAD SHEET METAL SCREWS THROUGH THE UNDERSIDE OF BRACKET INTO THE RETAINER. CAUTION: OVER-TORQUEING MAY CAUSE THE FASTENERS TO STRIP.
8. CUT THE ACROVYN COVER THE THE PROPER LENGTH. THE COVER LENGTH IS DETERMINED BY MEASURING THE DISTANCE BETWEEN THE INSTALLED END CAPS AND/OR INSIDE/OUTSIDE CORNER ASSEMBLIES.

NOTE: IT IS RECOMMENDED THAT THE ACROVYN COVER BE CUT SLIGHTLY LONGER (1/32" [0.8mm] UP TO 5'-0" [1.5m], 1/16" [1.6mm] OVER 5'-0" [1.5m]) THAN THE MEASURED DISTANCE. THIS ADDITIONAL LENGTH WILL PROVIDE FOR A TIGHTER COVER-TO-END CAP FIT.

9. STARTING AT ONE END, SNAP THE ACROVYN COVER ONTO THE RETAINER ALONG THE LENGTH OF THE HANDRAIL.

NOTE: MANUFACTURING RECOMMENDS ALL PRINTED "PRODUCT IDENTIFICATION" ON THE REAR OF THE ACROVYN PROFILE SHALL BE ORIENTED IN THE SAME DIRECTION DURING INSTALLATION TO ENSURE PROPER ALIGNMENT AT SPLICE BUTT JOINTS.

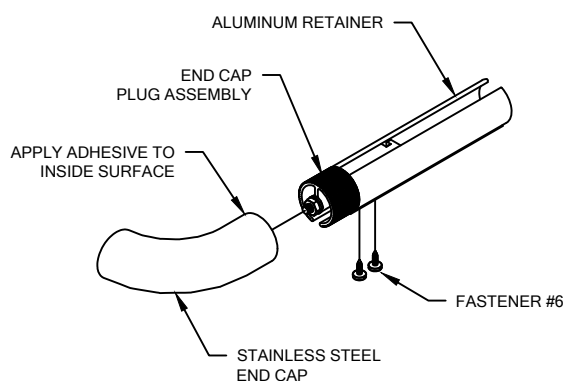


FIGURE 2.

NOTE: IT MAY BE NECESSARY TO USE A FILE AND EASE THE BOTTOM EDGE OF THE STAINLESS STEEL END CAP. (SEE FIGURE 3)

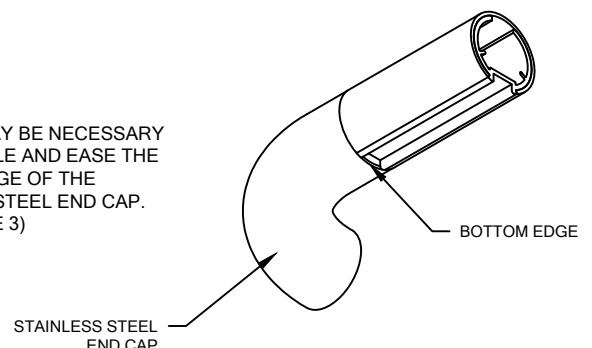
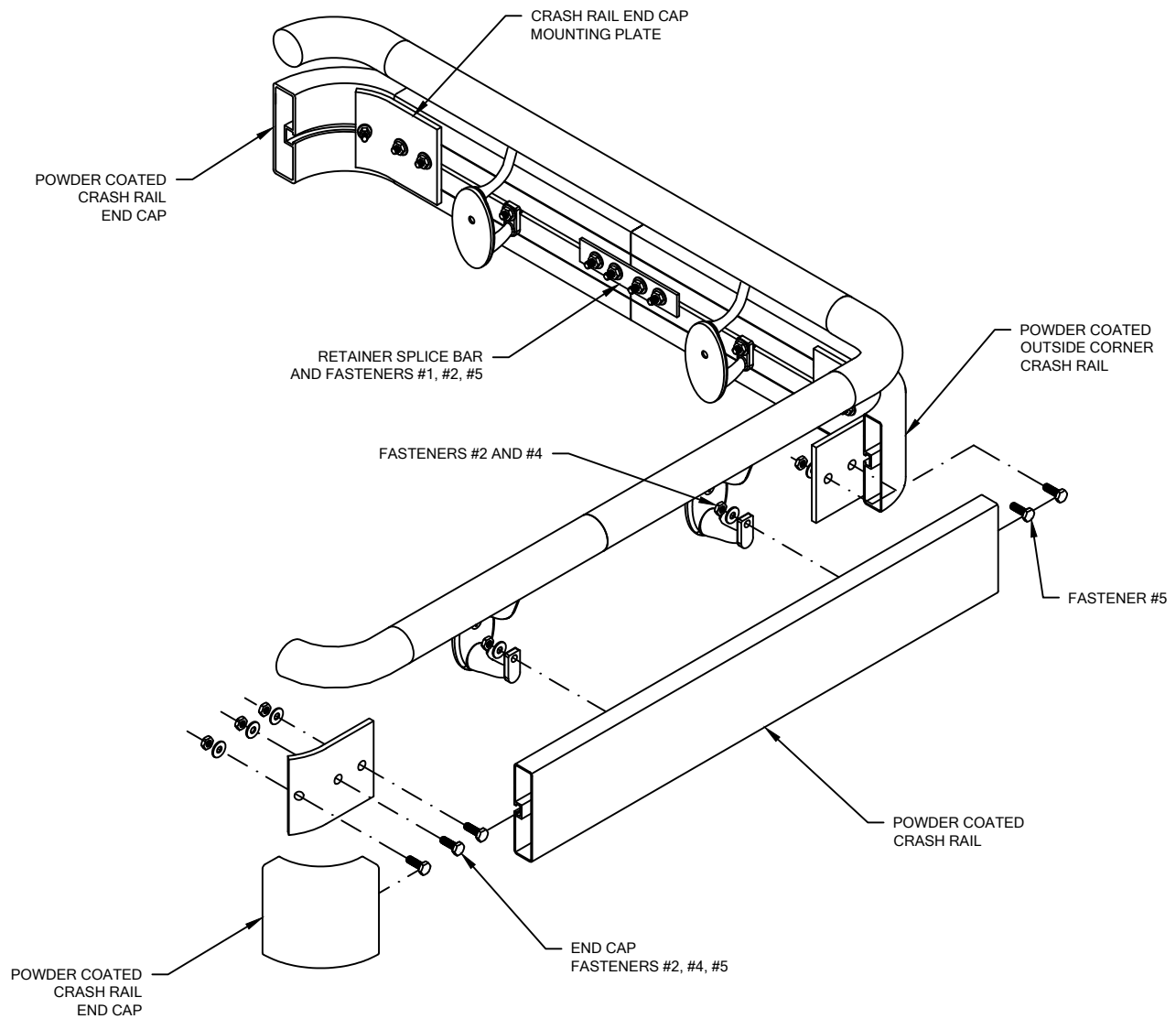


FIGURE 3.

P-RAMN HANDRAIL

TYPICAL CRASH RAIL ASSEMBLY



10. CUT THE CONTINUOUS POWDER COATED CRASH RAIL TO LENGTH USING THE REQUIRED DEDUCTIONS (SEE 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.

11. 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 THE CRASH RAIL AND END CAP.
- ALIGN CRASH RAIL WITH END CAP SO THEY ARE FLUSH TOGETHER.
- SECURELY TIGHTEN ALL FASTENERS.

12. 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-RAMN HANDRAIL

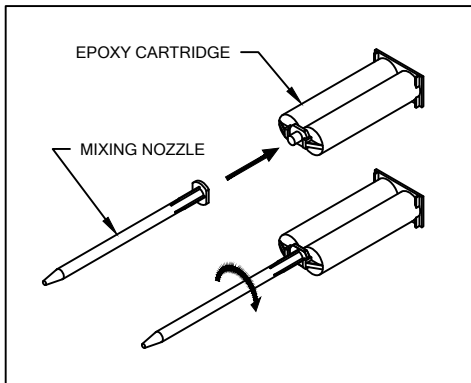


FIGURE 4.

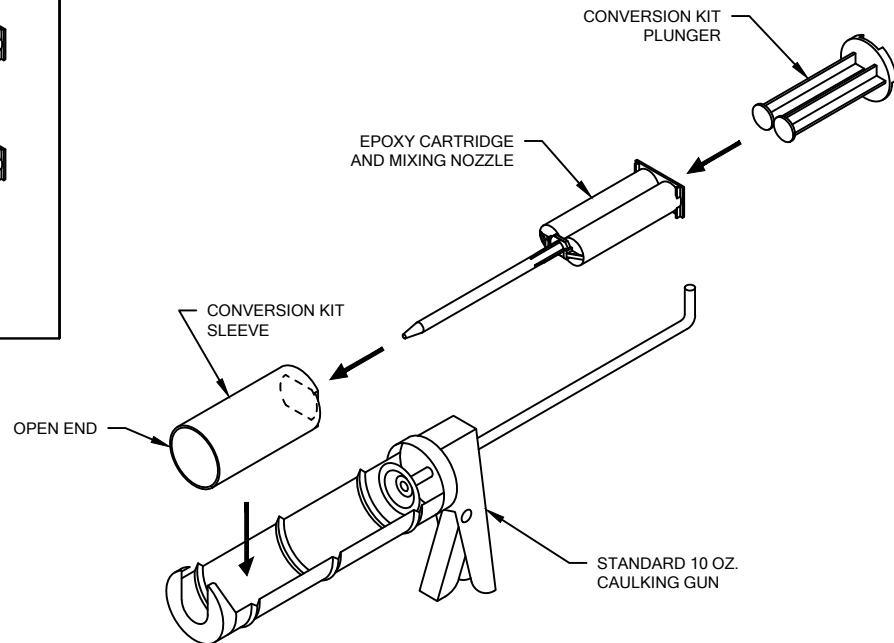


FIGURE 5.

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.

02/05/19