

- Step 1:** Determine top of crash rail height and obtain the bracket offset from table in **fig 1a**. Snap a chalk line at the desired overall height minus the bracket offset, see **fig 1b**.
- Important:** Store material in a clean dry place where the temperature is maintained above 50°F (10°C). Walls and rooms should be maintained at a minimum of 65°F (18°C) for at least 48 hours prior to installation. Acclimate materials to normal building conditions for at least 24 hours before cutting and installing.
- Step 2:** All crash rail is pre-cut, pre-formed, and pre-drilled at the factory and should require no further modification. Contact factory if it is necessary to make adjustments.
- Step 3:** Layout crash rail according to location drawings provided with shipment. The location drawings indicate a number and letter “identifier” for each section of material. This identifier is stamped in an upper corner of the rear surface on each section of crash rail, see **fig 2b**. Remove peel-off protective film from the rear surface of crash rails.
Note: The rear surface is that surface opposite the countersinking, see **fig 2a**.
- Step 4:** Temporarily install mounting brackets on crash rail using standard hex nuts, see **fig 3a**. The flange of the bracket with larger access holes must face the rail, see **fig 3b**.
Note: Standard nuts are used to facilitate temporary installation of mounting brackets. Brackets must be in place in order to locate mounting holes on wall construction. After mounting hole locations are marked brackets are removed to allow installation of mounting hardware through access holes provided, see **fig 3b** and **step 5**. Installer may omit this step if it is desired to mount brackets without use of the clearance holes. If this step is omitted, use lock nuts provided.
- Step 5:** Hold crash rail temporarily in place and mark mounting hole locations on wall construction through holes in bracket, see **fig 3a**.
- Important:** To ensure the best fit at butt joints begin installation at corners working out toward wall returns. On multi-piece crash rails fully install each section before beginning installation of adjoining sections.
- Step 6:** After marking holes remove brackets from crash rail and mount brackets to wall with the appropriate hardware according to wall construction.
- Important:** Use caution when drilling mounting holes in wall so that proper bracket alignment is maintained. To facilitate final assembly of brackets and crash rail do not fully tighten brackets to wall until crash rail is in place and bolted to all brackets.
- Suggested hardware:**
- Drywall: Toggler® brand toggle bolts
 - Masonry: Plastic Alligator® insert
- Step 7:** Attach crash rail to installed brackets using stainless steel nylon lock nuts and stainless flat head machine screws provided. Tighten lock nuts to 10 ft-lbs maximum torque. Tighten fasteners to wall.
- Step 8:** Bracket spacing is determined by factory in advance in accordance with field measurements. There will be an additional bracket located at butt joints that do not coincide with typical bracket spacing, see **fig 4**.
- Step 9:** Remove peel-off protective film from front surface of crash rail.

Guidelines For Field Measurement

Step 1: 2180 series crash rail is manufactured in accordance with field dimensions provided by the customer. All crash rail is pre-cut, pre-formed, and pre-drilled at the factory and should require no further modification. Accuracy of field measurements is crucial to the success of final installation. Adhere to these guidelines when field measuring for 2180 series crash rail.

Step 2: All dimensions must represent actual field conditions from wall to wall, wall to obstruction, or obstruction to obstruction as noted below and pictured in the figures on this page. Do not adjust field measurements for clearance purposes or for any other reason. The factory will adjust dimensions to allow a 1" nominal clearance at all wall returns.

Important: All dimensions must be taken at the intended height of installation, see **fig C**. All dimensions must be rounded to the nearest 1/16".

Step 3: The figures below represent situations those commonly encountered when field measuring. These figures are not intended to represent all possible field conditions. Use these figures as a guideline for measuring to door openings, from corner to corner, from obstruction to obstruction, or for any combination of the above.

Important: Some dimensional limitations exist. For example, the shortest length of crash rail is limited by the dimensional combination of two brackets and two wall return bends. It is best to supply dimensions for all areas where crash rail is desired and allow the factory to advise if any feasibility issues exist.

Fig A: Dimensions taken from door jambs to corners and from corners to corners.

Fig B: Dimensions taken to an obstruction that is intended to interrupt the crash rail.

Fig C: Dimensions taken at the proper height above the floor.

Fig D: Dimensions taken at a condition where the crash rail is to be terminated short of the available wall space.

