

Installation, Operation & Maintenance Manual

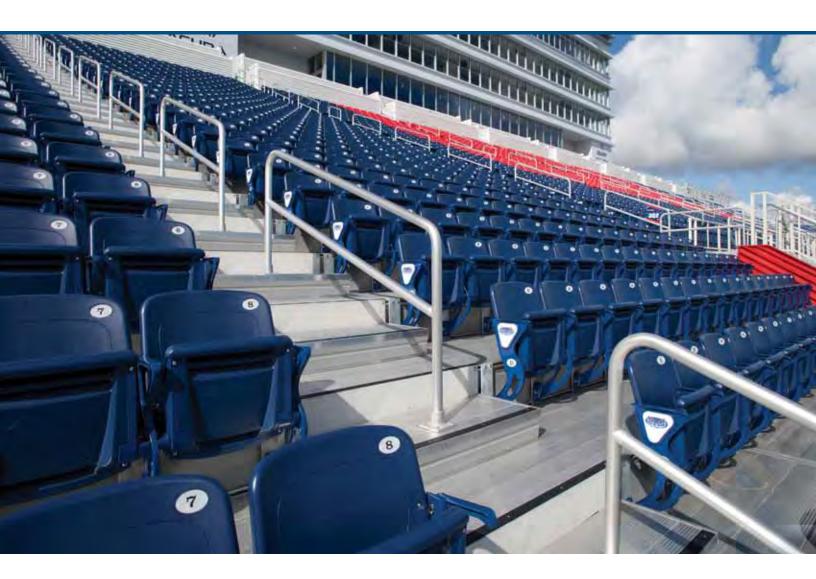




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SECTION 1: COMPONENT DRAWING DESCRIPTIONS

Figure 1 is a layout of chair reference lines found on the submittal plan of seating.

Figure 2 is a layout showing several examples of chair spacing, using centerline between aisles. Reference submittal drawings for chair quantities and sizes for your installation.

Figure 3 is a detail of a hole location template for floor-mounted stanchions.

Figure 4 is a detail of a transfer gage for mounting stanchions on curved risers.

- Figure 5 is an illustration of the perpendicular line and radius layout method using a drop chart. Reference the submittal plan for chair layout and row spacing of your installation.
- Figure 6A is an exploded view of a typical Floor Mount Fusion Chair. Figures 13, 14 & 15 provide a complete listing of standard indoor and outdoor hardware.
- Figure 6B details the hardware required for installing floor mount stanchions to wood floors.
- Figure 6C details the hardware required for anchoring floor mount stanchions to concrete floors.
- Figure 6D details the hardware required for anchoring floor mount stanchions to steel floors.

- Figure 7A is an exploded view of a typical Low Riser Mount Fusion Chair anchored to concrete. Figures 13, 14 & 15 provide a complete listing of standard indoor and outdoor hardware.
- Figure 7B is an exploded view of a typical Low Riser Mount Fusion Chair attached to steel. Figures 13, 14 & 15 provide a complete listing of standard indoor and outdoor hardware.
- Figure 8 is an exploded view of a typical Low & High Riser Mount Fusion Chair anchored to concrete. Figures 13, 14 & 15 provide a complete listing of standard indoor and outdoor hardware.

Figure 9A details the installation of seat numbers and row letters.

Figure 9B details the installation of the ADA label for armless end stanchions.

Figure 10 details the installation of Logo plates and graphic Logos.

Figure 11 details the installation of skid base chairs to wood floors.

Figure 12 details the installation of skid base chairs to concrete floors.

Figures 13, 14 & 15 are isometric views of assembly hardware. The drawings depict both indoor and outdoor hardware, as well as some hardware that is common to both. Reference the order-shipping schedule for the assembly hardware supplied for your installation.

SECTION 2: LAYOUT INFORMATION

INTRODUCTION

The accompanying job prints will be used to locate and install the chairs. These prints show the spacing and length of each row. The two (2) lines shown per row are the back of the back (small arc) and the seat mounting slot centerline (chair size line). See Figure 1 (Chair size line) for more details.

Upon receipt of materials, please utilize the shipping schedule to verify that all listed components are on site. The earlier any discrepancies are detected, the greater the possibility they can be corrected without affecting the installation schedule.

2-1 DETERMINING LOCATIONS FOR ANCHOR DRILLING

2-1-1 Floor Mount Layout:

If installation has pre-defined aisle locations, omit Procedures e, f, g, h.

a. Locate seating area center- line and mark on floor.

- **b.** Locate and mark first-row chair size line on seating area centerline.
- c. Repeat chair size line marking from front to rear at required spacing. If it is a radius installation, the Row Spacing Dimension will have to be added to the first row radius to calculate each successive row. This is necessary to maintain concentric arcs with consistent spacing between rows.

NOTE: If a wall, railing or other obstruction defines the last row, reverse above procedure and work from rear to front.

- **d.** Mark the chair size line in each direction from the seating centerline for each row. (See SECTION 2-1-3 and 2-1-4 for perpendicular line and radius layout procedure).
- **e.** In the center section, mark the lengths of the first and last rows on the chair size lines.
- **f.** Connect these two points from front to rear. The resulting line represents one side of the aisle.
 - 1. Assumes row ends align. Review specific application requirements.
- **g.** Mark the widths of aisles at front and rear and connect these points.
- **h.** Repeat until all sections and aisles are marked.
- i. Locate and mark standard centerlines in each direction from the seating area centerline. (See SECTION 2-1-5 for spacing layout information). The end standard centerlines will be approximately 2" from the aisle line, depending on accessories. This will be taken up by the width of the armrest (or accessory) after installation. Reference the seating plan for details.

<u>NOTE:</u> To produce straight aisles, maintain even row ends.

- i. Repeat for each row until all standards are located.
- **k.** Make hole locations templates (See Figure 3), place over standard centerline and mark hole locations.
- **I.** Check for proper chair placement and hole layout before drilling.
- **m.** Drill holes see SECTION 3 and accompanying job prints for anchor information.
- **n.** Clean holes and set anchors per manufacturer's specifications.

2-1-2 Riser Mount Layout:

If installation has aisle steps, begin at Procedure **g**. If installation has no aisle steps, proceed as follows:

- **a.** Locate seating area centerline and mark on floor.
- **b.** Mark the chair size line on the floor parallel to riser face in each direction from the seating centerline for each row. Refer to job plans for the chair size line to riser face dimension.
- **c.** In the center section, mark the lengths of the first and last rows on the chair size lines.
- **d.** Connect these points from front to rear. This locates one side of the aisle.
 - 1. Assumes row ends align. Review specific application requirements.
- **e.** Mark the widths of aisles at front and rear and connect these points.
- **f.** Repeat until all sections and aisles are marked.
- g. Locate and mark standard centerlines in each direction from the seating area centerline. (See SECTION 2-1-5 for spacing layout information). The end standard centerlines will be approximately 2" from the aisle line, depending on accessories. This will be taken up by the width of the armrest (or accessory) after installation. Reference the seating plan for details.

NOTE: To produce straight aisles, maintain even row ends.

- **h.** Repeat for each row until all standards are located.
- i. Make transfer gauge (See Figure 4), place over floor centerline and transfer standard centerline mark to riser face.
- NOTE: On straight rows, the transferred width will be the same, on concave curves and spanned angles, the distance will be larger and on convex curves, the distance will be smaller.
- NOTE: On straight rows with no spanned angles, mark standard centerlines directly on riser face. On straight rows with spanned angles, standard centerline marks can be transferred with a carpenter's square.
 - j. Mark hole locations on riser face as shown on job plans.
 - **k.** Check for proper chair placement and hole layout before drilling.

- I. Drill holes see SECTION 3 and accompanying job prints for anchor information
- **m.** Clean holes and set anchors per manufacturer's specifications.

2-1-3 Perpendicular Line Layout for Straight Row Chairs: (See Figure 5)

- **a.** Start at the first row chair size line mark on seating area center line and strike a 4'- 0" arc on the floor at approximately right angles on both sides.
- **b.** Measure 3'-0" back from first radius point and mark new radius point.
- **c.** Strike a 5'-0" arc from the new center point intersecting previously marked 4'-0" arc.
- **d.** Mark a straight line through row mark and intersecting arc marks to form a line perpendicular to seating area centerline.
- **e.** If longer arcs for greater accuracy are desired, multiply each of the above figures by the same number and substitute.

REF.: 3'-0", 4'-0", 5'-0" multiplied by 3 would give 9'-0", 12'-0", and 15'-0".

2-1-4 Radius Line Layout for Curved Row Chairs: (See Figure 5)

- **f.** Mark at 1'-0" intervals along straight perpendicular line created by steps a through **e**.
- **g.** At the above intervals, measure down at right angles the required distance as shown on drop chart and mark.
- **h.** Bend a flexible board or metal strip to touch each of the drop points and mark resulting arc.
- i. Drop chart radii are in increments of 1'-0". Reference drop chart, provided under separate cover. If other radii are required, measure appropriate distance either side and strike new arc.

<u>2-1-5 Chair Spacing Layout Procedure:</u> (See Figure 2 for example)

TWO CONDITIONS AFFECT THE PLACEMENT OF CHAIRS BETWEEN AISLES.

- **a.** There is an even quantity of chairs in the row.
- **b.** There is an odd quantity of chairs in the row.

There are three rules for Condition a.

- 1. All chairs are the same size = Position standard centerline on row centerline.
- **2.** Two sizes of chairs of even quantity each = Position standard centerline on row centerline.
- 3. Two sizes of chairs of odd quantity each = Position standard centerline 1/2"

 from centerline of row towards the side where largest quantity of small chairs are located.

There are two rules for Condition b.

- **1.** All chairs are the same size = Chair straddles centerline of row.
- 2. Two sizes of chairs with an odd and even quantity = Chair with odd quantity straddles centerline of row.

SECTION 3: ANCHORING

3-1 RISER MOUNT STANCHION ATTACHMENT TO CONCRETE RISER

3-1-1 Required Hardware:

Riser Mount Stanchions - See Figures 7A & 8A

3-1-2 Required Concrete Specifications:

- a. Minimum concrete compressive strength:
 - Normal weight stone aggregate 3000 PSI
 - Lightweight aggregate 5000 PSI
- **b.** Minimum concrete thickness (riser section):
 - 4 1/2" min. thickness with the first 3", along the face, clear of any obstructions (meshing, reinforcing bar, etc.).

3-1-3 Adhesive Anchor Installation Instructions:

- **a.** Drill 7/16" diameter hole using masonry drill, which meets ANSI B94.12-1977 to a full depth of 3". See Figures 7A & 8A for anchor attachment details.
- **b.** Clean hole to remove concrete particles and dust by blowing the hole using compressed air, then brushing the hole using a wire brush, then blowing the hole a second time using compressed air. **PROPER**

BRUSHING AND BLOWING OF THE HOLES IS CRITICAL TO PERFORMANCE OF THE ANCHORS.

- c. Dispense adhesive into hole per manufacturers instructions and Hussey Seating Company's Adhesive Anchor Installation Procedure. Insert the threaded rods into the holes to proper embedment depth using a twisting motion to eliminate air pockets and fully coat the rods.
- **d.** Allow adhesive to cure 24 hours before installing chairs.
- **e.** Install stanchions and secure using heavy stanchion washer, lock washer and nut.
- f. After the chair is assembled (see Section 4 for Chair Assembly Procedure), tighten nuts to a torque of 13-18 ft-lbs. Excessive torque on the bolts will cause bond failure of the adhesive. (Impact wrenches can be used to install and tighten nuts, but care must be taken not to over-torque the nuts.)

3-2 FLOOR MOUNT STANCHION ATTACHMENT TO CONCRETE FLOORS

3-2-1 Required Hardware:

Floor Mount Stanchions - See Figure 6A

3-2-2 Required Concrete specifications:

- **a.** Minimum concrete compressive strength:
 - Normal weight stone aggregate 3000 PSI
 - Lightweight aggregate 5000 PSI
- **b.** Minimum concrete thickness (tread section):
 - 4" min. thickness with the top 2" clear of any obstructions (meshing, reinforcing bar, etc.).

3-2-3 Mechanical Anchor Installation Instructions:

- **a.** Drill 1/4" diameter hole using masonry drill, which meets ANSI B94.12-1977 to a minimum depth of 2". See Figure 6C
- **b.** Blow the hole clean using compressed air.
- **c.** Drive anchor into hole using the Hussey setting tool part # 2086735. The tool sets the embedment depth to 2" and leaves 1 1/4" of the anchor exposed.
- **d.** Install the stanchions (see Section 4 for Chair Assembly Procedure) and set the anchors after chair is assembled, by tightening to an

installation torque of 8 ft-lbs. IT IS CRITICAL TO THE PERFORMANCE OF THE FLOOR MOUNT ANCHOR TO APPLY THE APPROPRIATE INSTALLATION TORQUE.

e. After the chair is assembled and the anchors are set, snap the top of the anchor off, if necessary, by working the top back and forth with the setting tool until it snaps.

3-3 FLOOR MOUNT STANCHION ATTACHMENT TO WOOD FLOOR

3-3-1 Required Hardware (Indoor only):

a. Anchor: 1/4" x 1 1/2" lag screw Hussey part #: 1034331

b. Washer: 1/4" I.D. x 5/8" O.D. flat type A, stainless steel Hussey part #: 1032778

3-3-2 Required Wood Specifications:

a. Floor must be 1 1/2" minimum thickness.

3-3-3 Anchor Installation Instructions:

- **a.** Layout the wood floor and mark all fastener locations (See Section 2).
- **b.** Drill 3/16" diameter anchoring holes to a 1 1/4" minimum depth.
- **c.** Align stanchion with the drilled anchor holes.
- **d.** Place the washer onto the lag screw. Insert the lag screw through the stanchion foot and into the drilled anchor hole. Secure stanchion with lag screws at four (4) places.

3-4 CAST IRON OR STEEL STANCHION ATTACHMENT TO STEEL FLOOR

3-4-1 Required Hardware:

- **a.** Anchor: 1/4" 20 x 1 1/4" Taptite hex head self-threading bolts Hussey part # 1026090 (for indoor and outdoor).
- **b.** Washer: 1/4" I.D. x 5/8" O.D. flat type A, stainless steel Hussey part #: 1032778
- c. Lock Washer: 1/4" split lock washer.

Hussey part #: 1042330 (zinc plated, for indoor). Hussey part #: 1005235 (stainless steel, for outdoor).

3-4-2 Required Steel Specifications:

- **a.** Steel floor thickness to be 1/4" minimum to 3/8" maximum.
- **b.** Steel riser grade to be A36 or higher.

3-4-3 Anchor Installation Instructions:

- a. Layout the steel floor and mark all fastener locations (See Section 2).
- **b.** Center punch fastener locations and pilot drill holes using a 3/16" diameter drill bit.
- **c.** Finish-drill holes for the Taptite fasteners to recommended hole diameter of 0.228" (drill size #1).
- d. Assemble flat washer and lock washer onto Taptite fasteners. Position stanchions on the steel floor with attachment slots/holes in alignment with drilled holes in floor. Using ratchet or impact driver, insert lead threads of Taptite bolt into drilled hole. Hold constant pressure on fastener and tighten. After chair assembly is complete, tighten fastener to the specified torque of 10-12 ft-lbs torque.

3-5 STANCHION ATTACHMENT TO STEEL RISER.

3-5-1 Required Hardware:

- **a.** Anchor: 3/8" 16 x 1 1/2" Taptite Hex head self-threading bolts Hussey part #: 1003089 (zinc plated, for indoor). Hussey part #: 1040645 (JS500, for outdoor).
- **c.** Washer: .406 I.D. x .875 O.D. x 0.11 thick, flat, stainless steel. Hussey part #: 2114238.
- b. Lock Washer: 3/8" split lock washer.Hussey part #: 1000781 (zinc plated, for indoor).

Hussey part #: 1016920 (stainless steel, for outdoor)

3-5-2 Required Steel Specifications:

- **a.** Steel riser thickness to be 1/4" minimum to 3/8" maximum.
- **b.** Steel riser grade to be A36 or higher.

3-5-3 Anchor Installation Instructions:

a. Layout the steel riser and mark all fastener locations (See Section 2).

- **b.** Center punch fastener locations and pilot drill holes using a 3/16" dia. drill bit.
- **c.** Finish-drill holes for the Taptite fasteners to recommended hole diameter of 11/32" (0.344).
- **b.** Assemble flats washer and lock washers onto Taptite fasteners. Position stanchions against steel riser with attachment slots/holes in alignment with drilled holes in riser. Using ratchet or impact driver, insert lead threads of Taptite bolt into drilled hole. Hold constant pressure on fastener and tighten. After chair assembly is complete, tighten fastener to the specified torque of 35-40 ft-lbs.

3-6 ANCHOR TESTING

3-6-1 Anchor Procedure and Frequency:

Hussey Seating Company recommends that installers test at least 2% of the anchors installed in a random manner to verify that required anchor loads are met. Refer to the Hussey Seating Company Anchor Test Manual for the recommended test procedure and specified anchor load requirements.

3-7 ANCHOR INSTALLATION ASSISTANCE

3-7-1 Anchor Product & Installation Procedure Inquiries:

Questions regarding standard anchor products can be directed to either the anchor manufacturer, ITW Ramset / Redhead Inc, at 1-800-899-7890, or to Hussey Seating Company at 1-800-341-0401.

3-7-2 ETO Anchor Product Offerings:

Engineered-to-order anchor product options are available from Hussey Seating Co. in cases where standard anchors do not meet the project requirements or when an alternative anchor provides benefits without a reduction in ultimate anchor loads. Contact Hussey Seating Company at 1-800-341-0401 to review ETO options.

SECTION 4: CHAIR ASSEMBLY

4-1 ASSEMBLY OF FLOOR MOUNT AND RISER MOUNT CHAIRS

4-1-1 Assembly of Floor Mount Chairs: (Figure 6A)

- **a.** Place standards over anchor-bolts and attach loosely with nuts and washers.
- **b.** Attach backs and cup holders (if required) loosely to stanchions with 1/4" Phillips truss head machine screw, flat washer and flange nuts.
- **c.** Attach seats loosely to standards with 5/16" hex washer head machine screws and flange nuts.
- d. Align all parts in each row and securely tighten hardware. Recommended back bolt torque is 20-25 <u>inch</u>-lbs (approximately 2 ft-lbs). Recommended seat bolt torque is 13-18 ft-lbs.
- NOTE: If adequate care is taken, parts can be securely tightened as they are positioned in place.
- <u>CAUTION</u>: Tighten back bolts sufficient to deform plastic under head approximately 1/16". Do not allow end of screw to project more than 1/8". <u>DO NOT OVER TIGHTEN.</u>
 - **e.** Check seat spring lift action and if sluggish loosen seat mounting hardware and adjust hinge bracket to eliminate binding.
 - **f.** Remove excess anchor bolt protrusion.
 - **g.** Attach seat number and row letter plates. (See Figure 9A)
 - **h.** Touch up paint and clean as required.

4-1-2 Assembly of Riser Mount Chairs: (Figures 7A, 7B & 8A)

- **a.** Position standards over anchor studs and finger tighten nuts.
- **b.** Attach backs and cup holders (if required) loosely to stanchions with 1/4" Phillips truss head machine screw, flat washer and flange nuts.
- **c.** Attach seats loosely to standards with 5/16" hex washer head machine screws and flange nuts
- d. Align all parts in each row and securely tighten hardware. Recommended back bolt torque is 20-25 <u>inch</u>-lbs (approximately 2 ft-lbs). Recommended seat bolt torque is 13-18 ft-lbs.
- NOTE: If adequate care is taken, parts can be securely tightened as they are positioned in place.

- <u>CAUTION</u>: Tighten back bolts sufficient to deform plastic under head approximately 1/16". Do not allow end of screw to project more than 1/8". DO NOT OVER TIGHTEN.
 - **e.** Check seat spring lift action and if sluggish loosen seat mounting hardware and adjust hinge bracket to eliminate binding.
 - **f.** Attach seat number and row letter plates. (See Figure 9A)
 - g. Touch up paint and clean as required.

SECTION 5: CHAIR MAINTENANCE

5-1 INSPECTING AND MAINTAINING INSTALLED CHAIRS

5-1-1 Safety Inspection:

- **a.** Since it is possible that chair parts may loosen with time and usage, Hussey Seating Co. recommends that the following components be checked every six months:
 - 1. Back bolts (connection between chair back and Stanchion).
 - 2. Seat mounting bolts (connection between seat and Stanchion).
 - **3.** Floor anchors (connection between Stanchion and floor).

NOTE: All replacement hardware should be equal (in size and quality) to original hardware. Hussey Seating Company will not be held liable for use of improper hardware. Please contact the factory for additional information or conditions not covered by this manual.

5-1-2 Inspection Methods:

- **a.** The easiest and quickest method of inspection for loose connections is performed as follows:
 - Chair Backs: Try to move chair back from side to side and front to back. Note any loose connections and tighten accordingly.
 - 2. Seats: Actuate seat up and down and also try to move from side to side. Note any loose connections and tighten accordingly.
 - **3.** Stanchions: Grasp the chair armrest and try to move from side to side. Note any loose connections and tighten accordingly.

5-1-3 Plastic:

a. Polyethylene shells can be cleaned with commercially available cleaning compounds specifically made for use on polyethylene. Hussey Seating Co. uses "Oakite Speedet" with 50% water added.

5-1-4 Fabric:

- **a.** Clean 100% nylon fabrics with standard upholstery/fabric cleaners specified for use on nylon fabrics. Follow cleaner manufacturer's recommended procedures.
- **b.** Hussey Seating Co. uses "Texize K2R Spot Remover." Use per manufacturer's directions in a hidden area to determine effects for your type of fabric.

5-1-5 Lubrication:

a. All chairs have been pre-lubricated at the factory and should not require any further lubrication for the life expectancy of the product.

5-1-6 Powder Coat:

- a. Touch up original manufacturer's finish coating with an approved touch up paint in accordance with Hussey Seating Company's Powder Coat Touch-Up Procedure whenever damage has occurred during shipment or installation. Color to match the original manufacturer's color.
- **b.** Refer to job plans for possible special finish.

5-1-7 Building Code:

Facility owners are responsible for insuring the seating system conforms to applicable building codes, including the American's with Disabilities Act (A.D.A.). Alteration of a seating system must be done in compliance with code. The local governing code official will provide official interpretation to ensure compliance. Hussey Seating Company can provide assistance by providing code interpretation, but it is the local code official that will address local codes, as well as national codes.

5-1-8 Cleaning Procedure:

Specified Cleaning Procedure: All cast-iron and plastic components should be cleaned within a maximum of one (1) month from the facilities latest use. Components that are not cleaned one month from use may stain permanently. Cast-iron and plastic

components should be cleaned with BULK SOL NO. 31 mixed at a three (3) percent concentration with water. The cleaning solution temperature must be between 100°-125° F. High pressure washers may be used to clean these components, but the nozzle pressure must not exceed 1200 P.S.I. The nozzle of the washer must not be placed closer than five (5) feet from the component. After cleaning with BULK SOL NO. 3, the components must be rinsed with tap water at ambient temperature. The rinse process must not exceed 1200 P.S.I. and be applied no closer than five (5) feet from the components.

SECTION 6: ACCESSORIES

6-1 REMOVABLE SKIDS (see Figures 11 & 12)

6-1-1 Installation - Concrete Floor: (see Figure 12)

- **a.** Place Skid on floor using chair size line to position.
- **b.** Mark floor to locate skid-mounting holes.
- **c.** Remove skid and drill anchor holes as specified by Figure 12.
- **d.** Clean holes thoroughly, install and set drop-in anchors.
- **e.** Tip the skid on its' side and install stanchions firmly to skids using hardware specified in Figure 12. Recommended stanchion attachment bolt torque is 10-12 ft-lbs.
- **f.** Secure skid to drop in anchors located in the floor.
- **g.** Assemble seats and backs onto the stanchions.

6-1-2 Installation - Wood Floor: (see Figure 11)

- a. Place Skid on floor using chair size line to position.
- **b.** Mark floor to locate skid-mounting holes.
- **c.** Remove skid and center the floor socket with the nut facing up over the skid mounting hole marks.
- d. Mark the outline of the floor socket and the socket mounting holes.
- **e.** Rout or bore a recess for the floor sockets, see Figure11 for outline and drilling instructions).
- **f.** Clean holes thoroughly and install the floor socket using supplied hardware.

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¹ **BULK SOL NO. 3** is a product of Bulk Chemicals incorporated.

- **g.** Tip the skid on its' side and install stanchions firmly to skids using hardware specified in Figure 12. Recommended stanchion attachment bolt torque is 10-12 ft-lbs.
- **h.** Secure skid to floor socket using supplied hardware.
- i. Assemble seats and backs onto the stanchions.

6-2-1 Logo Installation: (see Figure 10)

- **a.** Place outer Logo plate over upper stanchion opening facing out towards aisle with alignment arrow pointing up.
- **b.** Place inner Logo plate over upper stanchion opening facing away from aisle with alignment arrow pointing up and attach to the outer Logo plate with three screws.
- **c.** For Graphic Logos, Clean the surface of the outer Logo plate with Isopropyl Alcohol and let dry before adhering graphic Logo.

6-3-1 ADA Label Installation: (see Figure 9B)

a. Clean surface of armless stanchion (as shown on figure 9B) and adhere the ADA Label.

SECTION 7: CUSTOMER ASSISTANCE

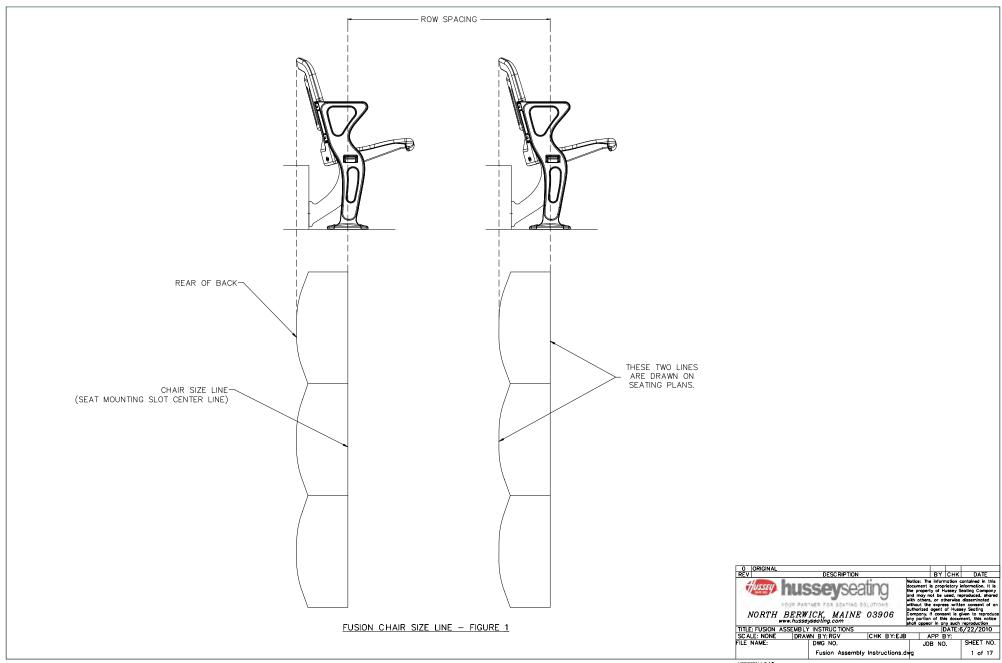
7-1 Customer Contact:

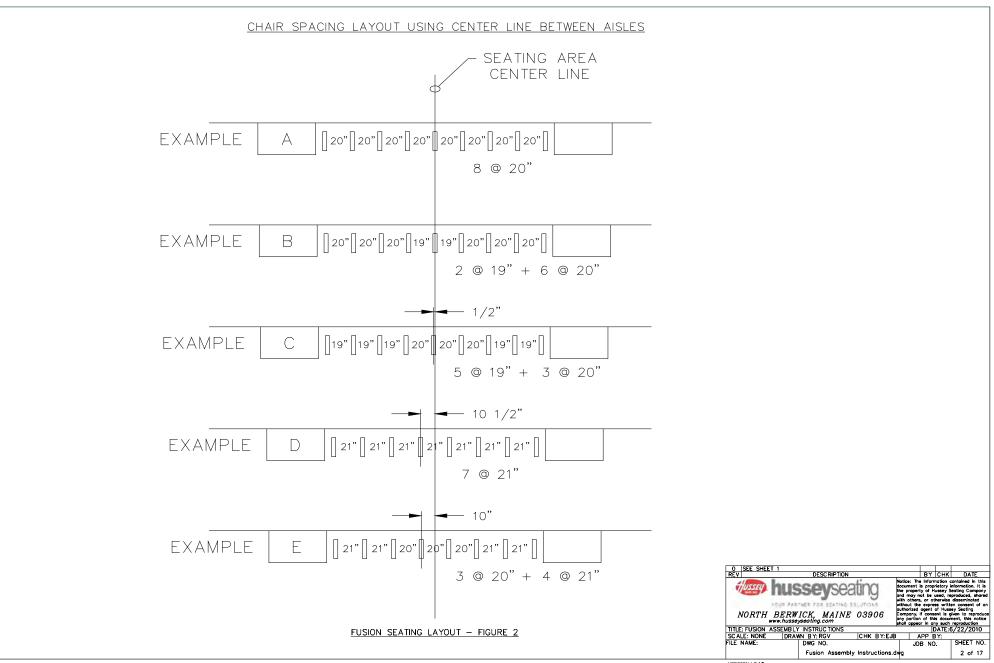
For material discrepancies and / or questions regarding installation procedures, please contact:

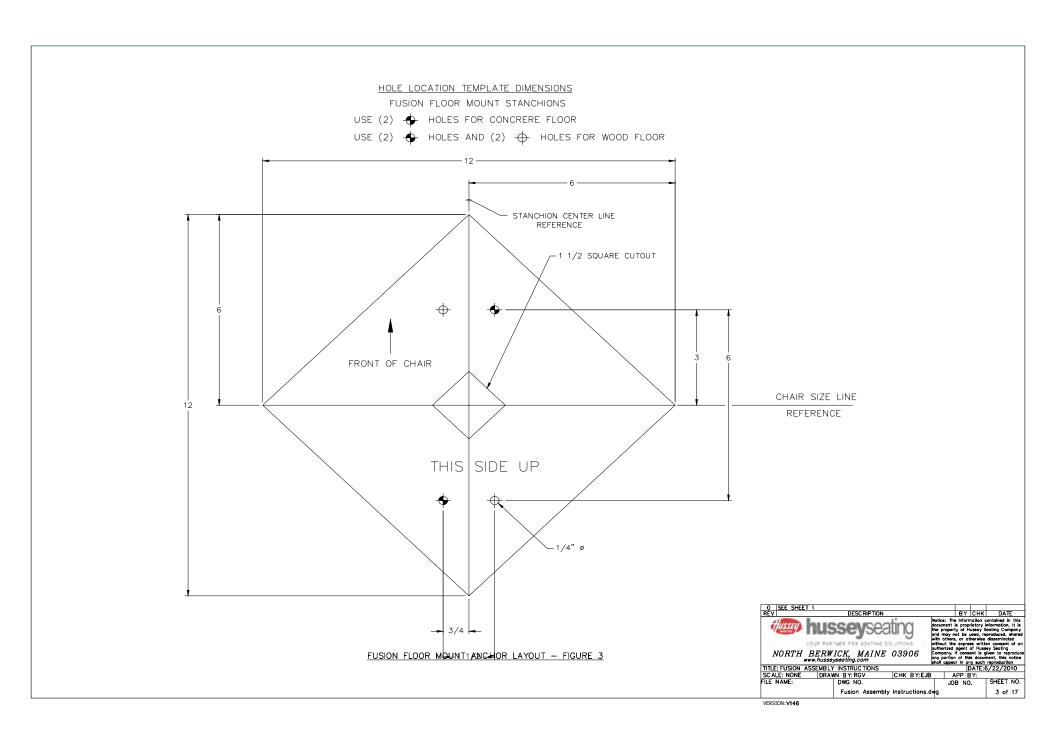
Customer Service Department Hussey Seating Company 38 Dyer Street Ext. North Berwick, ME 03906

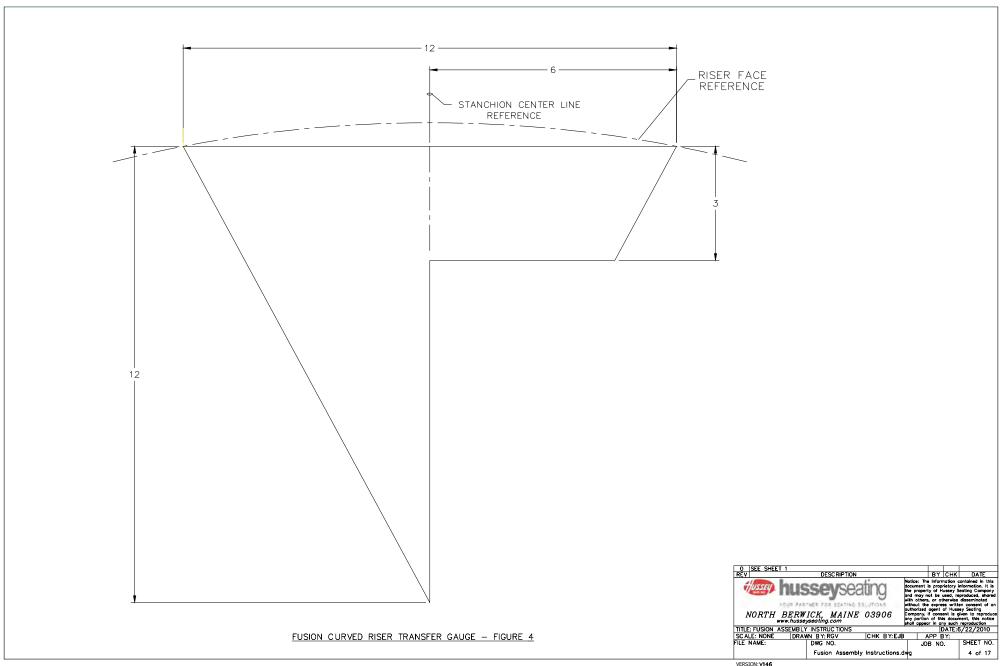
Phone: 1-800-341-0401

Early Detection, Reporting and Correction of potential problems is our best defense to prevent injury or product damage.

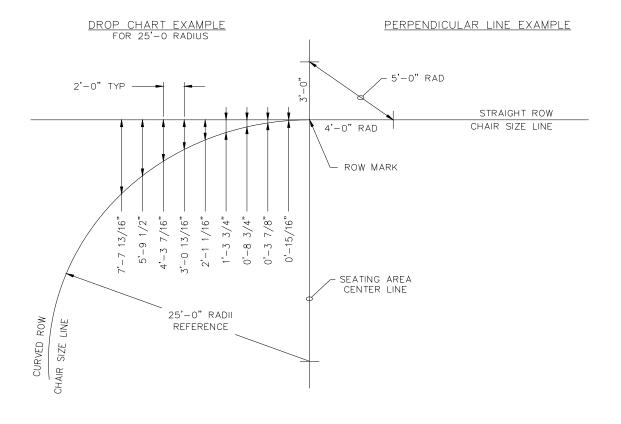








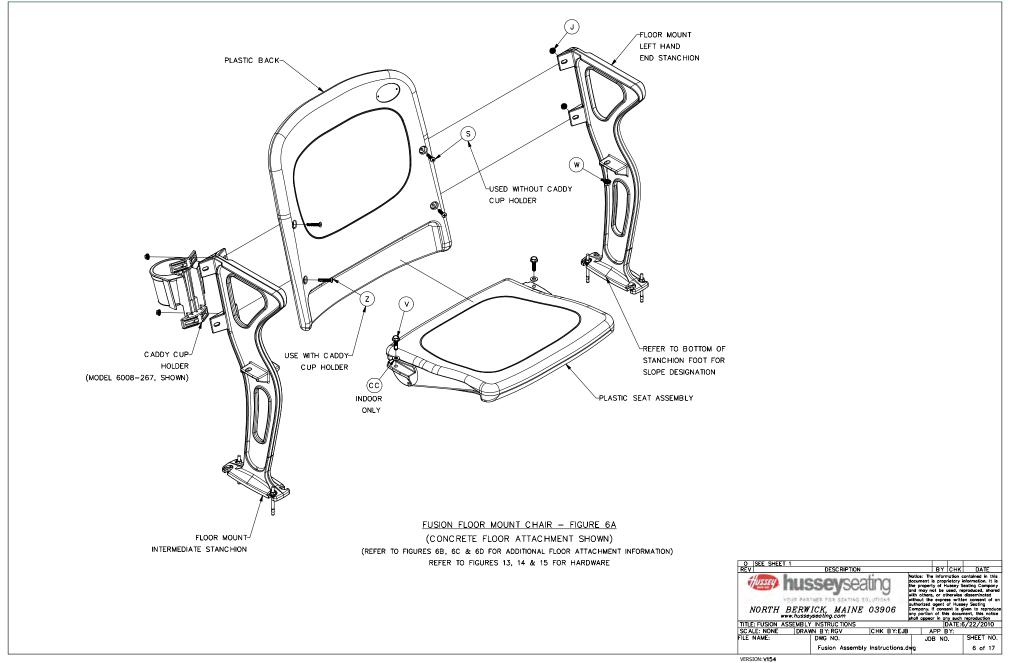
PERPENDICULAR LINE AND RADIUS LAYOUT PROCEDURES

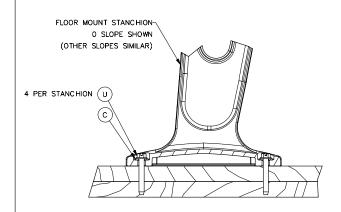


NOTE: DROP CHART UNDER SEPARATE COVER

FUSION RADIUS LAYOUT PROCEDURE - FIGURE 5

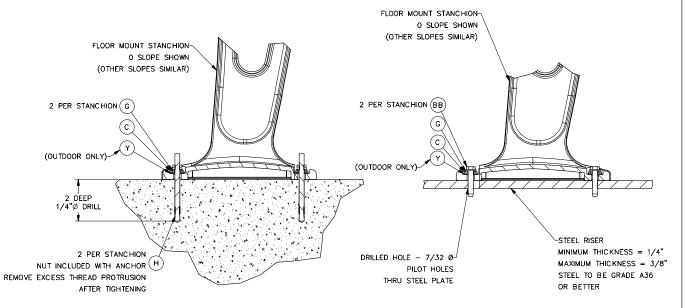






FUSION WOOD FLOOR MOUNT ATTACHMENT - FIGURE 6B

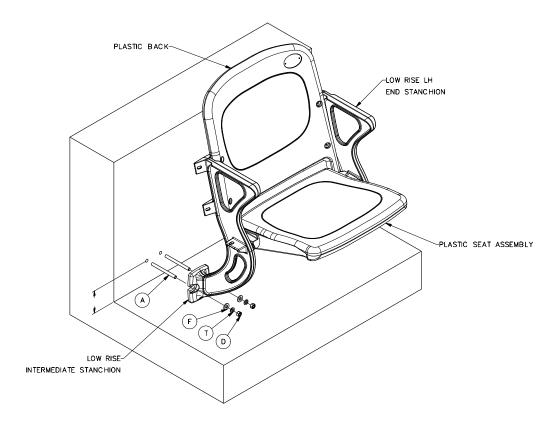
REFER TO FIGURES 13, 14 & 15 FOR HARDWARE

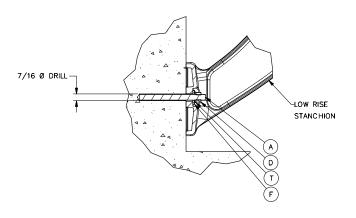


FUSION CONCRETE FLOOR MOUNT ATTACHMENT - FIGURE 6C REFER TO FIGURES 13, 14 & 15 FOR HARDWARE FUSION STEEL FLOOR MOUNT ATTACHMENT — FIGURE 6D

REFER TO FIGURES 13, 14 & 15 FOR HARDWARE







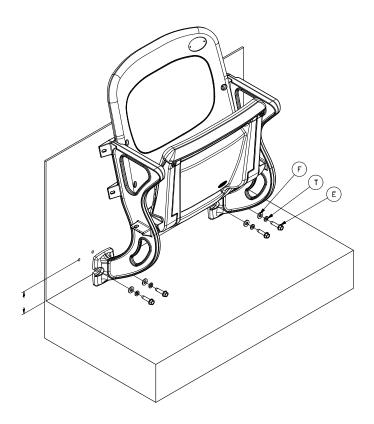
FUSION CONCRETE RISER MOUNT ATTACHMENT DETAIL

FUSION CONCRETE LOW RISER MOUNT INSTALLATION — FIGURE 7A

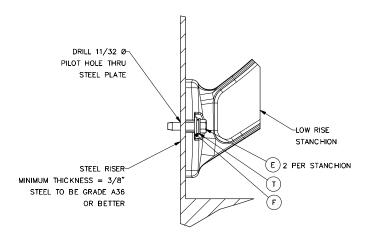
REFER TO FIGURE 6A FOR SEAT AND BACK HARDWARE

REFER TO FIGURES 13, 14 & 15 FOR HARDWARE



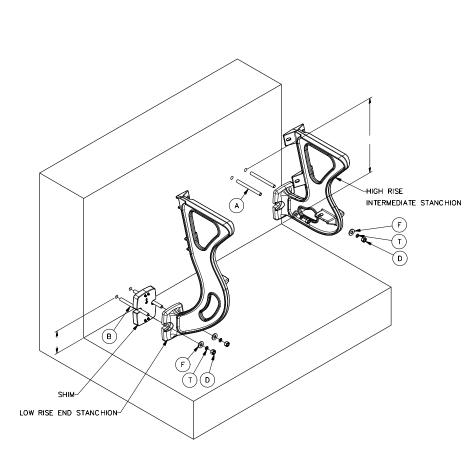


FUSION STEEL LOW RISER MOUNT INSTALLATION — FIGURE 7B
REFER TO FIGURES 13, 14 & 15 FOR HARDWARE
(SEE FIGURE 7A FOR ASSEMBLY HARDWARE)



FUSION STEEL RISER MOUNT ATTACHMENT DETAIL

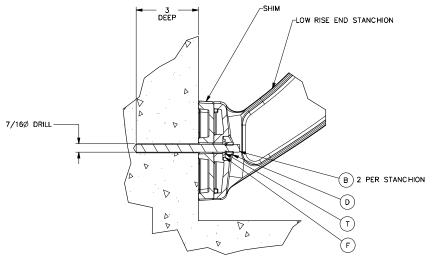




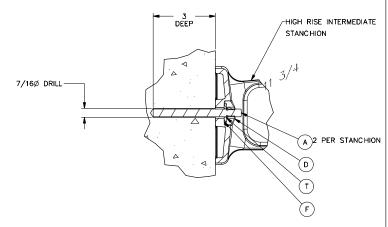
FUSION CONCRETE RISER MOUNT INSTALLATION (LOW RISE END WITH HIGH RISE INTERMEDIATE - FIGURE 8

SEAT ASSEMBLY & BACK REMOVED FOR CLARITY (REFER TO FIGURE 6A FOR ASSEMBLY HARDWARE)

REFER TO FIGURES 13, 14 & 15 FOR HARDWARE

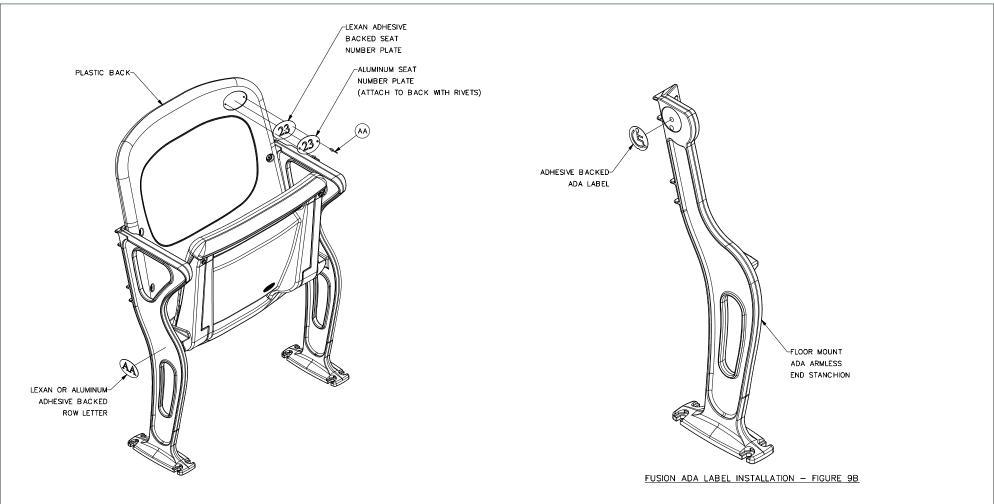


FUSION LOW RISE END WITH SHIM ATTACHMENT DETAIL



FUSION HIGH RISE INTERMEDIATE ATTACHMENT DETAIL

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tocument is proprietory information. It is properly of the property of the pro	. It is npony shared ted of on
NORTH BERWICK, MAINE 03906 Company. If consent is given to re; any portion of this document, this shall opped in any such reproduction.	oroduce notice
TITLE: FUSION ASSEMBLY INSTRUCTIONS DATE:6/22/20	010
SCIALE: NONE DRAWN BY: RGV CHK BY: EJB APP BY:	
TILE NAME: DWG NO. JOB NO. SHEET	NO.
Fusion Assembly Instructions.dwg 10 of	17



FUSION SEAT NUMBER & ROW LETTER INSTALLATION — FIGURE 9A
REFER TO FIGURES 13, 14 & 15 FOR HARDWARE

O SEE SHEET 1

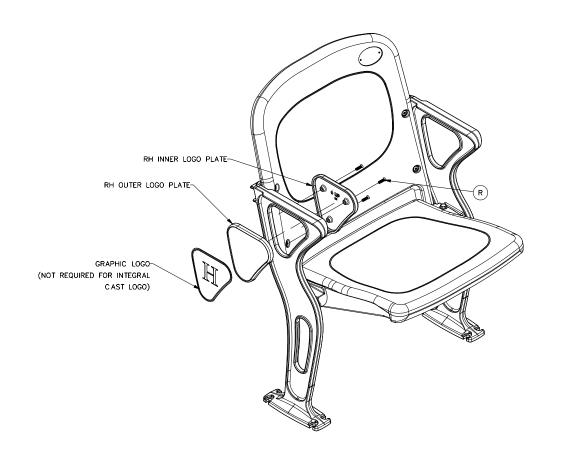
DESCRIPTION

NORTH BERWICK, MAINE 03906

TITLE: FUSION ASSEMBLY: NISTRUCTIONS

SC ALE: NONE | DRAWN BY:RCV | CHK BY:EJB | APP BY:

Fusion Assembly Instructions.d/mg | 11 of 17

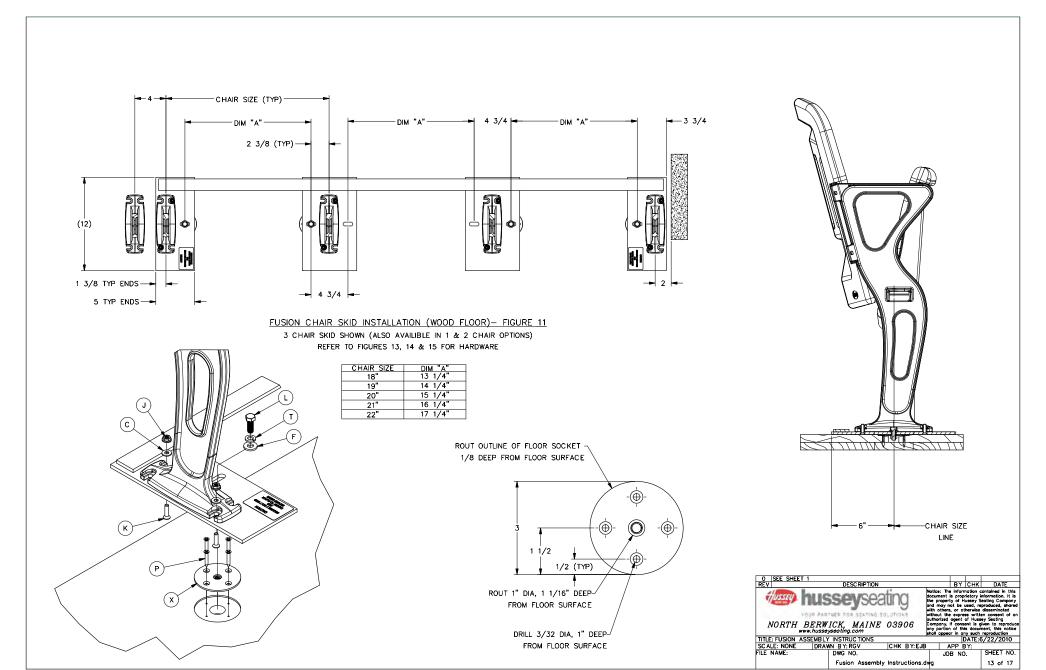


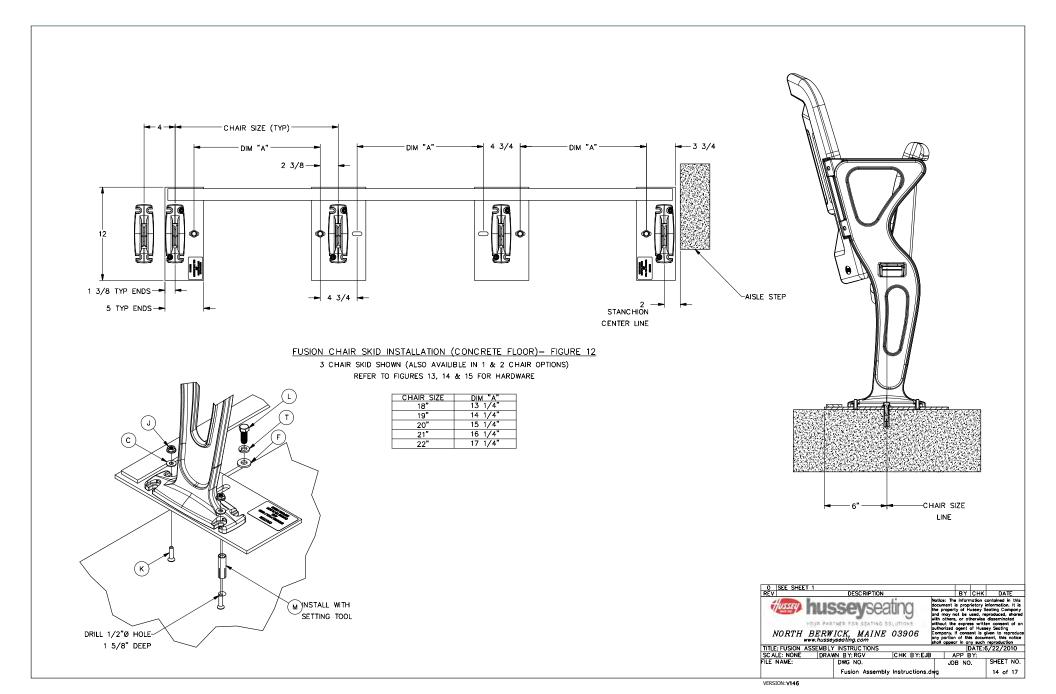
FUSION LOGO INSTALLATION — FIGURE 10

(GRAPHIC LOGO ASSEMBLY SHOWN. INTEGRAL CAST LOGO ASSEMBLY SIMILAR.)

REFER TO FIGURES 13, 14 & 15 FOR HARDWARE

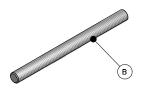








P/N 2035581 - ROD|THD|3/8-16UNC|FULL THD|.375 DIA|4.250 L|304 SS (OUTDOOR)
P/N 2035588 - ROD|THD|3/8-16|FULL THD|4.250 L|STL|ZP|G2 (INDOOR)



P/N 2035582 - ROD|THD|3/8-16UNC|FULL THD|.375 DIA|5.000 L|304 CRES (OUTDOOR)
P/N 2035578 - ROD|THD|3/8-16UNC|FULL THD|.375 DIA|5.000 L|STL|ZP|G2 (INDOOR)



P/N 1032778 - WASHER|FL|1/4|CRES|TYPE A

- (2) REQUIRED PER (CONCRETE FLOOR)
- (4) REQUIRED PER (WOOD FLOOR)



P/N 2035613 - NUT|ETO|HEX|3/8-16|CRES|WAXED (OUTDOOR)

P/N 1000746 - NUT|HEX|3/8-16|ZP (INDOOR)



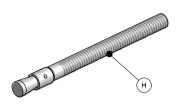
P/N 1040645 - TAPTITE|3/8-16|1.500 L|JS500 (OUTDOOR) P/N 1003089 - TAPTITE|3/8-16|1.500 L|ZP (INDOOR)



P/N 2114238 - WASHER|FL|.406 ID|.875 OD|.11 THK|CRES



P/N 1042330 - WASHER|SPLT LK|1/4|CRES (OUTDOOR)
P/N 1005235 - WASHER|SPLT LK|1/4|ZP|G2 (INDOOR)



 $P/N \ 2054616 - ANCHOR|1/4-20|3.250 \ L|304 \ CRES|RAMSET|TRUBOLT|WW-1432|W/ \ NUT \ (OUTDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|W/ \ NUT \ (INDOOR) \\ P/N \ 2018912 - ANCHOR|1/4-20|3.250 \ L|STL|ZP|RAMSET|TRUBOLT|WS-1432|WS-1432|WS-1432|WS-1432|WS-1432|WS-1$



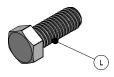
P/N 1038034 - NUT|FLG|1/4-20|CRES

INSTALLATION HARDWARE- FIGURE 13

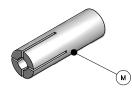




P/N 2024170 - MACHINE SCREW|PHIL FL HD|1/4-20|1.000 L|CRES (OUTDOOR)
P/N 1032004 - MACHINE SCREW|PHIL FL HD|1/4-20|1.000 L|ZP|G2 (INDOOR)



P/N 2089667 - MACHINE SCREW|HEX HD|3/8-16|1.000 L|CRES



P/N 2054619 - ANCHOR|3/8-16|1.625 L|18-8 CRES|RAMSET|MULTI-SET II|SRM-38|DROP-IN (OUTDOOR)
P/N 2018947 - ANCHOR|3/8-16|1.625 L|STL|ZP|RAMSET|MULTI-SET II|RM-38|DROP-IN (INDOOR)



P/N 2024170 - MACHINE SCREW|PHIL FL HD|1/4-20|1.000 L|CRES



P/N 1000857 - SCREW|PHIL FL HD|#10|1.250 L|ZP|G2|WD



P/N 2114230 - SCREW|SPNR FL HD|M5 X .8 X 20MM|CRES



P/N 2114102 - MACHINE SCREW|PHIL PAN HD|1/4-20|1.500 L|CRES|W/PATCHLK



P/N 1016920 - WASHER|SPLT LK|3/8|CRES (OUTDOOR)
P/N 1000781 - WASHER|SPLT LK|3/8|ZP|G2 (INDOOR)



P/N 1034331 - SCREW|HEX WSHR HD|1/4|1.750 L|ZP|TA|SLFT

INSTALLATION HARDWARE- FIGURE 14



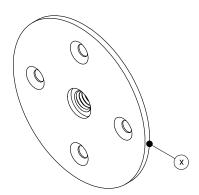


P/N 2084474 - MACHINE SCREW|HEX WSHR HD|5/16-18|1.500 L|CRES|PATCHLK|PLASTISOL UNDER HD (OUTDOOR)

P/N 1000664 - MACHINE SCREW|HEX HD|5/16-18|1.500 L|ZP|G5 (INDOOR)



P/N 1025861 - NUT|FLG|5/16-18|CRES (OUTDOOR)
P/N 1040033 - NUT|5/16-18|FLG LK|ZP|G2 (INDOOR)



P/N 1006320 - SOCKET|SKID|RMVBL|WD FLR|3.000 DIA|UNDERSTRUCTURE BLACK



P/N 2114224 - WASHER|FL|.281 ID|.625 OD|.060 THK|INSUL|HF|BLACK (OUTDOOR)



P/N 2088255 - MACHINE SCREW|PHIL TR HD|1/4-20|1.750 L|CRES|PATCHLK



P/N 2081069 - RIVET|POP|AD43ABS|ALM/ALM



P/N 1026090 - TAPTITE|HEX WSHR HD|1/4-20|1.250 L|JS500 FNSH



P/N 1000806 - WASHER|FL|5/16|ZP|G2 (INDOOR)

INSTALLATION HARDWARE- FIGURE 15









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The Hussey Seating Company story dates back to 1835 with William Hussey's tremendously successful plow design, and thus, the Hussey Plow Company was born. As times changed over the next sixty years, the family set about reinventing the business, evolving into the company that is now seating the world. Today, under the sixth generation of family leadership, Hussey Seating Company is proud to be known as the leading manufacturer of seating solutions throughout the world – in stadiums, arenas, schools, universities, colleges, places of worship and anywhere people gather.

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