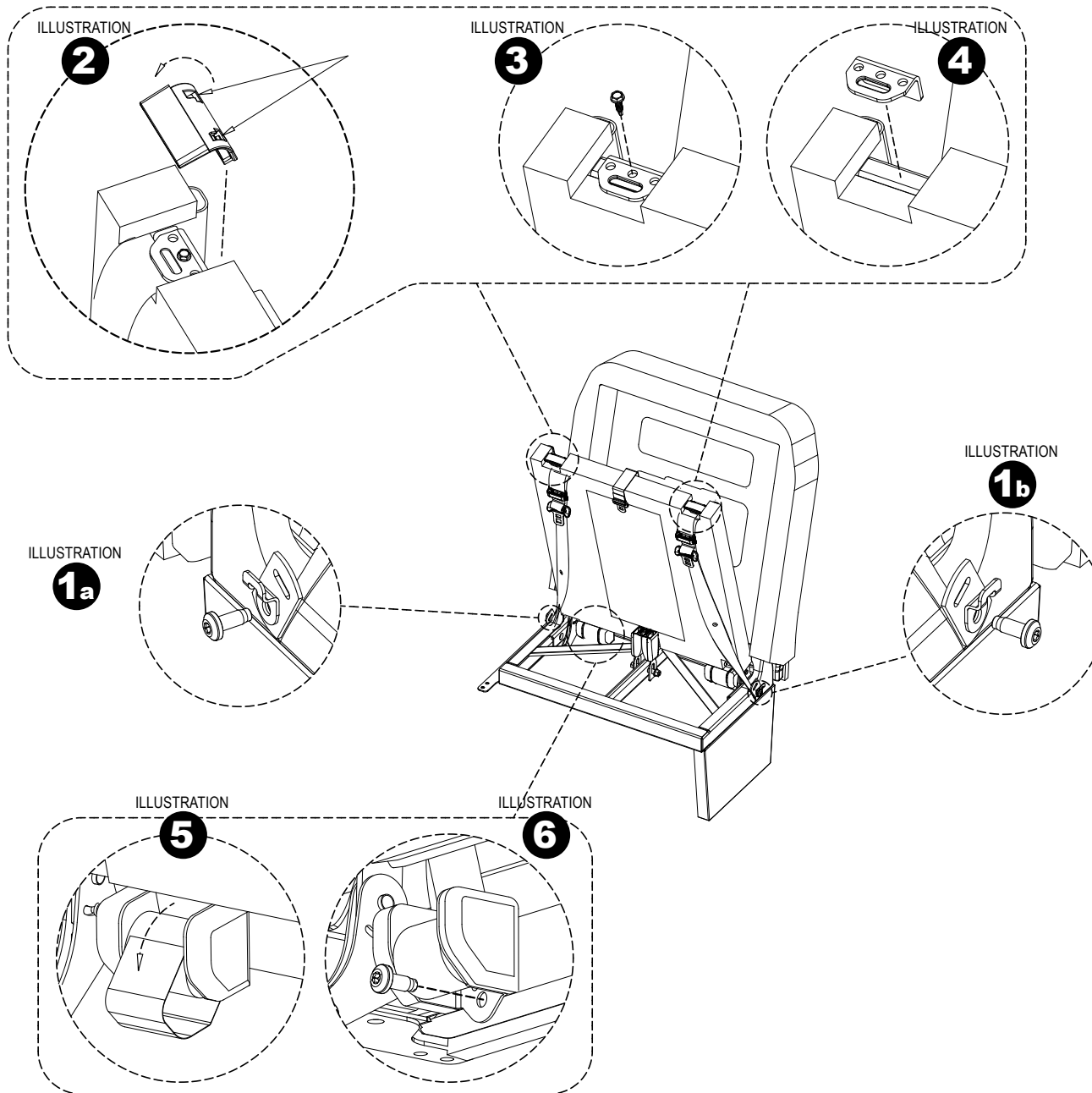
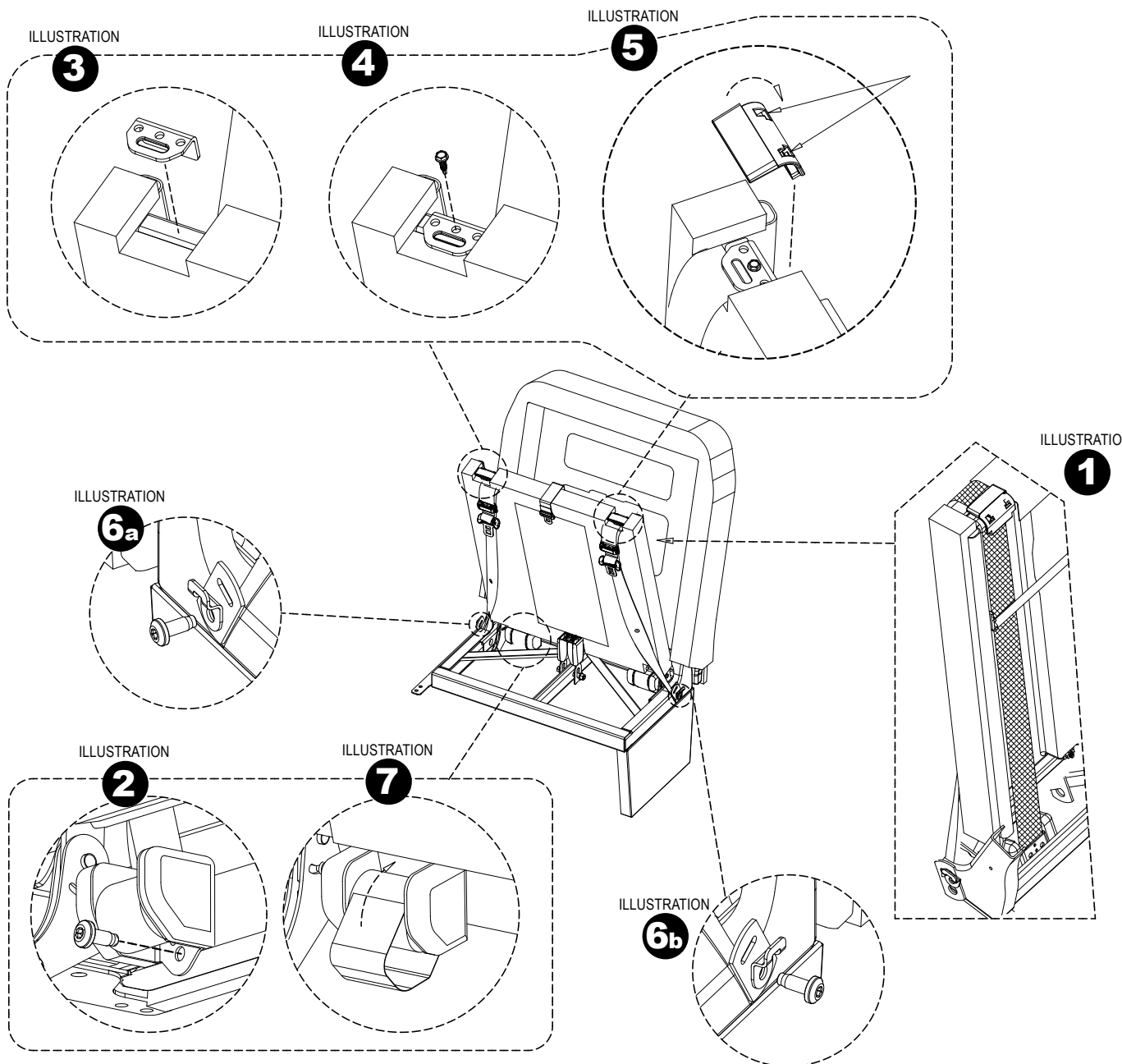


## Removal of the 3-Point Restraint System



- 1) Follow the procedure for "Seat Cushion Removal".
- 2) Follow the procedure for "SmartFrame Tilting".
- 3) Remove the bolt (T50 or Hex) from side of seat which is located at the end of the shoulder harness web. (See Illustration 1a & 1b)
- 4) Insert a small standard screwdriver into one of the slots located at the top of the black plastic web guide. Gently pry the screwdriver forward, separating the web guide from the web guide bracket. (See Illustration 2)
- 5) Remove the self-tapping hex head screw from the web guide bracket, separating the bracket from the top of the SmartFrame. (See Illustration 3 & 4)
- 6) Remove the web cover from the retractor by gently prying the upper edge forward with fingers. Continue to pull web cover until fully removed. (See Illustration 5)
- 7) Remove the bolt (T50 or Hex) holding the retractor to the seat frame. (See Illustration 6)
- 8) Allow the retractor and restraint assembly to lower to the floor, feeding the restraint system between the SmartFrame and the stationary back until the entire restraint system is free of the seat.

## Assembling the 3-Point Restraint System



1) Remove the contents from the shipping box. Ensure the following components have been included:

- Restraint System (PN A38388 for LATCH equipped seats or A38399 for non-LATCH)
- One 7/16-20 x 1-1/8" Torx Drive bolt (T-50) affixed to retractor with retainer
- One 7/16-20 x 3/4" Hex head bolt affixed to shoulder harness end fitting with retainer
- Tether bracket (LATCH equipped seats only)
- One #10x 3/4" self-tapping sheetmetal screw
- Plastic retractor web cover

2) Grasping the shoulder harness end fitting, feed the restraint system from the bottom of the seat frame between the SmartFrame and the stationary back. Pull all the webbing hardware portion of the restraint system up and over the SmartFrame. NOTE: If additional webbing is needed from the retractor spool, hold retractor in a 90/90 (installed) orientation, and pull gently on webbing. If retractor locks, allow a small amount of web to spool into the retractor, then pull on the web. (See Illustration 1)

3) Align the retractor base over the mounting hole of the seat frame and thread the retractor bolt into the threaded hole. **Torque the retractor bolt to 28-32 ft-lb.** (See Illustration 2)

4) Looking down from the top of the SmartFrame, align the webbing from the retractor to the SmartFrame, ensuring that there are no twists in the webbing.

5) Align the web guide bracket to the top of the SmartFrame over the mounting hole and insert the #10 self-tapping screw. **Torque screw to 6-8 ft-lb.** (See Illustration 3 & 4)

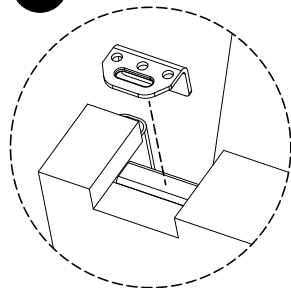
6) Align plastic web guide over the web guide bracket, aligning the pins protruding from the bottom side of the web guide into the holes located on the top of the web guide bracket. Using a rubber or wooden mallet, strike the web guide with a short tap between the removal slots on the top edge, driving the web guide down. **USE CAUTION. STRIKING TOO HARD MAY PERMANENTLY DAMAGE THE WEB GUIDE.** Ensure that the web guide has snapped into place, looking for proper alignment and soundness of fit. (See Illustration 5)

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## Assembling the 3-Point Restraint System

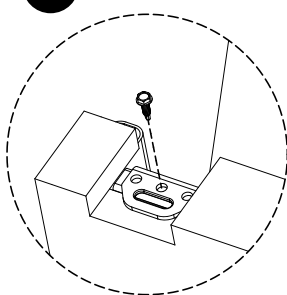
ILLUSTRATION

3



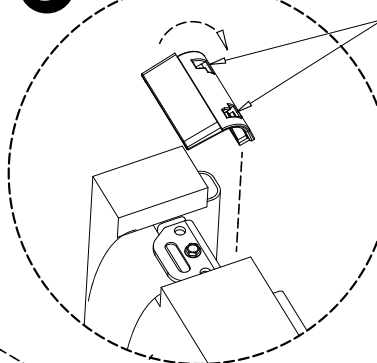
ILLUSTRATION

4



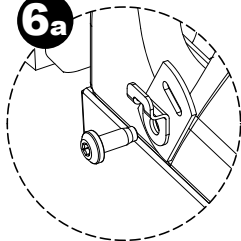
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5



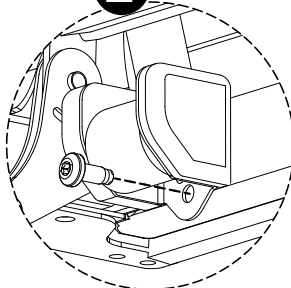
ILLUSTRATION

6a



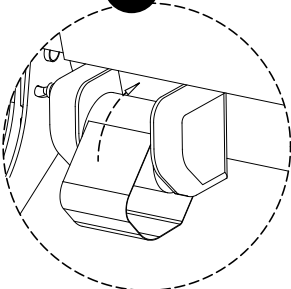
ILLUSTRATION

2



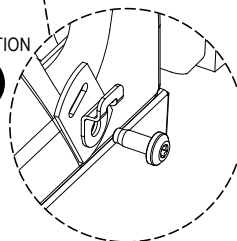
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7



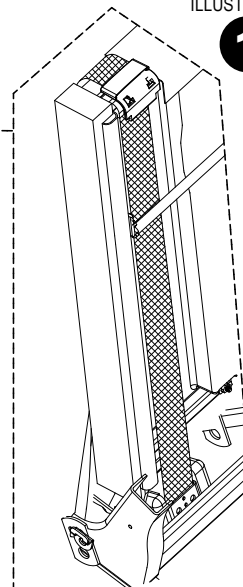
ILLUSTRATION

6b



ILLUSTRATION

1



### CONTINUED FROM PAGE 1

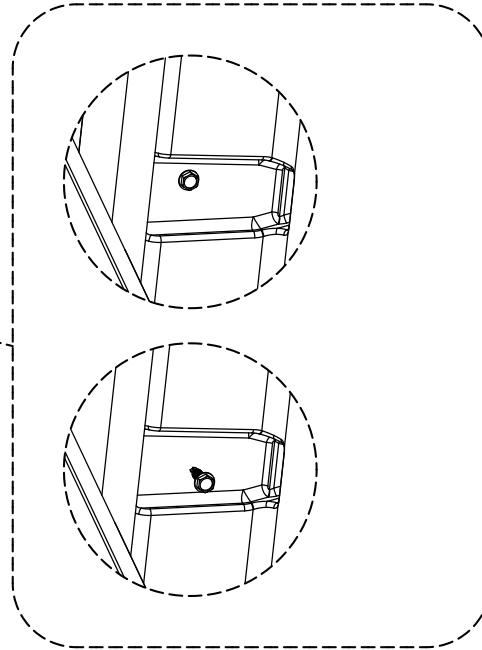
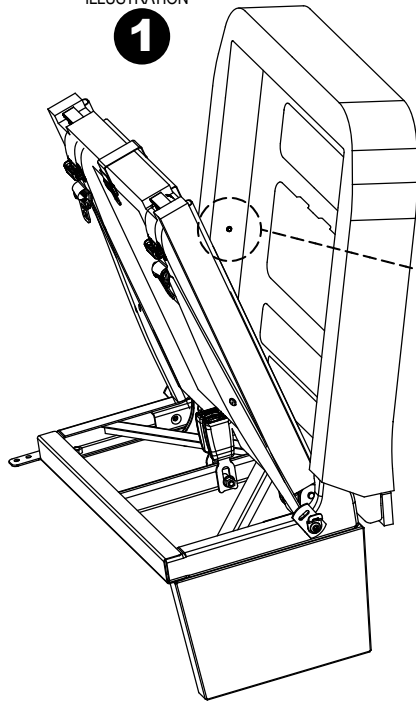
- 7) Align the remainder of the shoulder harness webbing, ensuring that there is no twisting.
- 8) Align the shoulder harness end fitting over the frame mounting hole located on the side of the frame. Thread the 7/16-20 hex head bolt in the hole. **Torque to 28-32 ft-lb.** (See Illustration 6a & 6b)
- 9) If the seat has the LATCH feature, insert the tether bracket under the head of the 7/16-20 hex head bolt before attaching it to the seat frame side. While tightening the bolt, ensure that the tether bracket remains in the up position. (See Illustration 6a & 6b)
- 10) Align retractor web cover over the retractor. Starting at the bottom (bolt) side of the retractor, snap the cover into place, working along the sides toward the top. (See Illustration 7)
- 11) Remove the webbing clip which is attached to the web between the retractor and the web guide.
- 12) **IMPORTANT:** Ensure all bolts and screws are in place and torqued properly.
- 13) **IMPORTANT:** Ensure all webbing is free of twists.
- 14) Push the SmartFrame into the stationary frame firmly until flush.
- 15) **IMPORTANT:** Replace the 7/16-20 bolt (T50 or Hex Gr8) into the front of the hinge assembly; **Torque to 28-32 ft-lb.** Repeat for the other hinge assembly.
- 16) Replace the seat cushion onto the seat frame. Turn all four clips into the locking position.
- 17) Sit in seat and fasten 3-point restraint system. **IMPORTANT:** Ensure proper functioning of web retraction and tongue insertion into buckle.
- 18) Unfasten 3-point restraint system. **IMPORTANT:** Ensure proper retraction of webbing into the retractor.

## Back Panel Removal

(for upholstery or foam replacement)

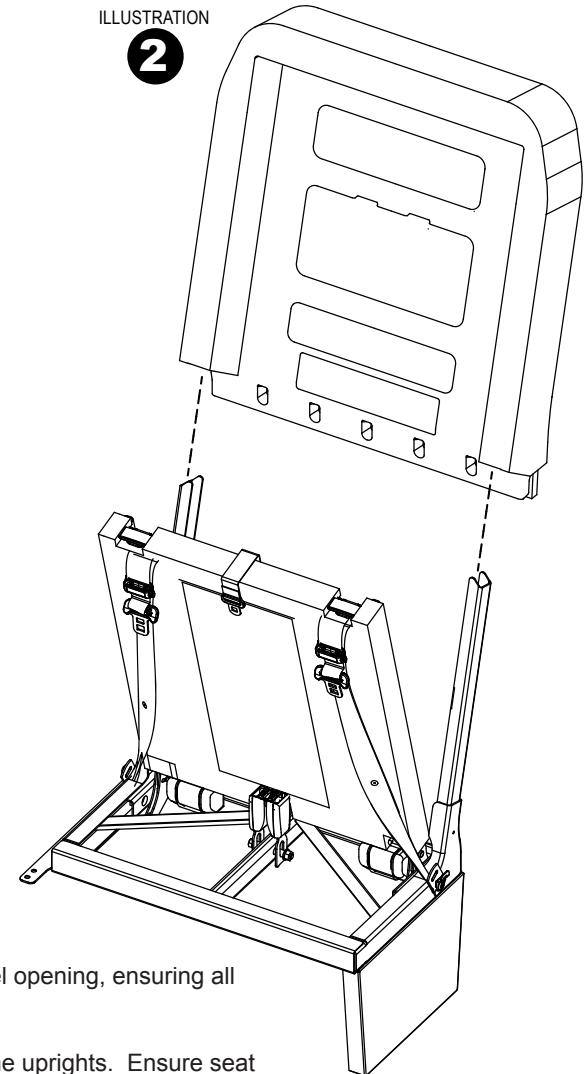
ILLUSTRATION

**1**



ILLUSTRATION

**2**



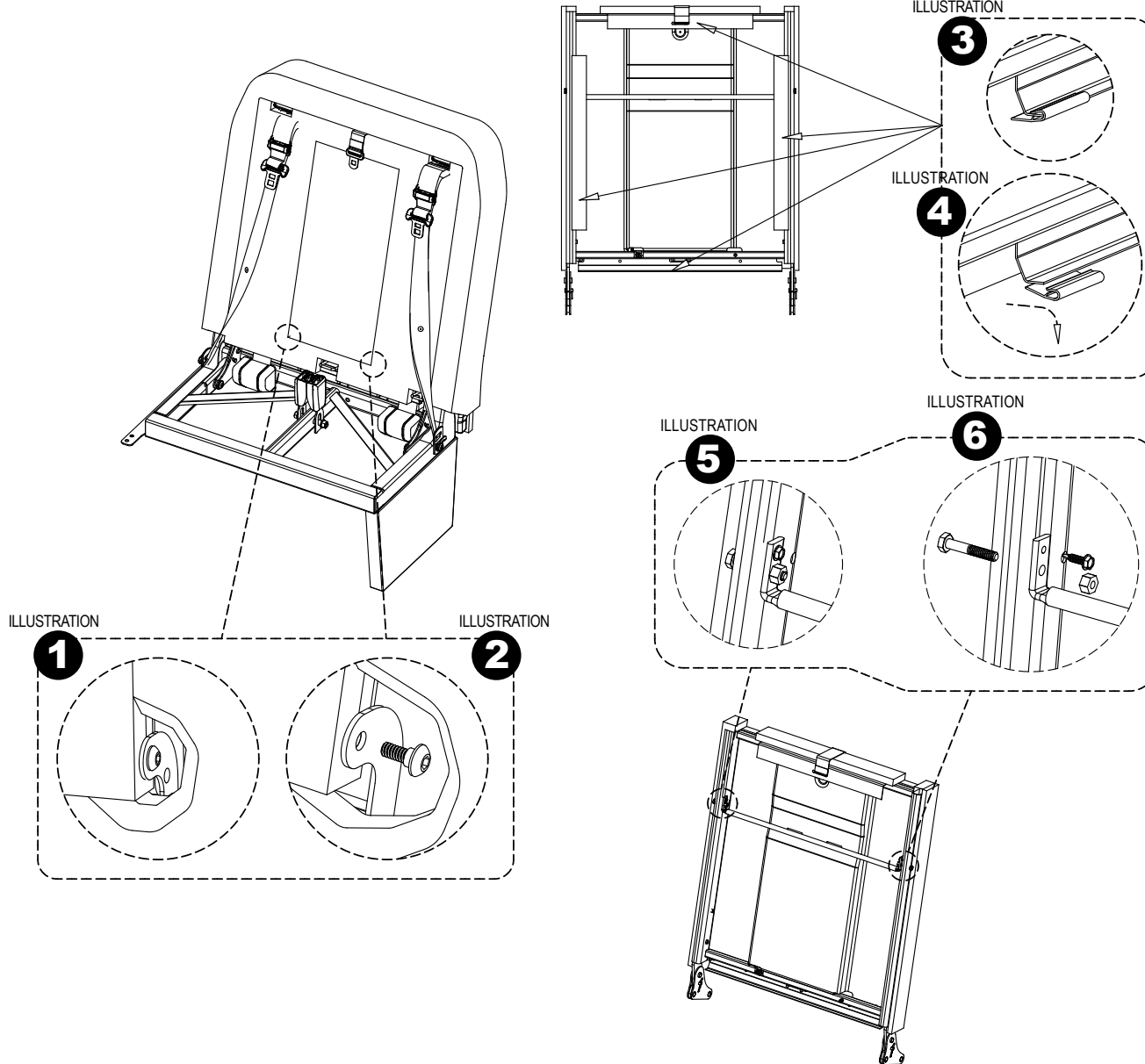
- 1) Follow the procedure for "Seat Cushion Removal".
- 2) Follow the procedure for "SmartFrame Tilting".
- 3) Locate back panel attachment screws, inside vertical edge, under upholstery. Remove screws (5/32 drive). (See Illustration 1)
- 4) Pull back panel up and off outer frame uprights. (See Illustration 2)
- 5) Remove old upholstery and/or foam, retaining silk film for replacement.
- 6) Pull new foam and cover onto plastic back panel, starting at the top and working towards bottom. Seat hook & loop fastener around perimeter.

- 7) Tuck short flaps at bottom into panel opening, ensuring all foam is covered.
- 8) Replace back panel onto outer frame uprights. Ensure seat back height is returned to original position. (See Illustration 2)
- 9) Replace attachment screws. (See Illustration 1) Reattach the upholstery using the velcro.
- 10) Reverse remaining steps of "SmartFrame Tilting", and "Seat Cushion Removal".



## Integrated Child Seat Removal

(Harness System Replacement or Upholstery Replacement)



### REMOVAL

- 1) Follow the procedure for "Seat Cushion Removal".
- 2) Locate and remove the two 10-32 socket head bolts at the bottom hinge of the ICS assembly (NOTE: Use of a ball-tip allen wrench greatly facilitates this removal). (See Illustration 1 & 2)
- 3) Follow the procedure for "SmartFrame Tilting".
- 4) Expose the Smart Frame sides by prying off the vertical J-channel using fingers or a small screwdriver. (See Illustration 3 & 4) Locate the 1/4-20 hex head bolt and remove. Locate the sheetmetal screw beside the 1/4-20 bolt and remove. Repeat for both sides of the Smart Frame. (See Illustration 5 & 6)
- 5) Remove the shoulder bar, unthreading the ICS harness loops from the bar.
- 6) Pull ICS assembly clear from the bus seat.
- 7) The bottom foam and seat base/harness assembly is removed by opening the hook & loop closure and pulling out the seat base/harness assembly and foam. The upper foam is removed by prying apart the J-channel & arrow closure with fingers, then pulling out the foam.

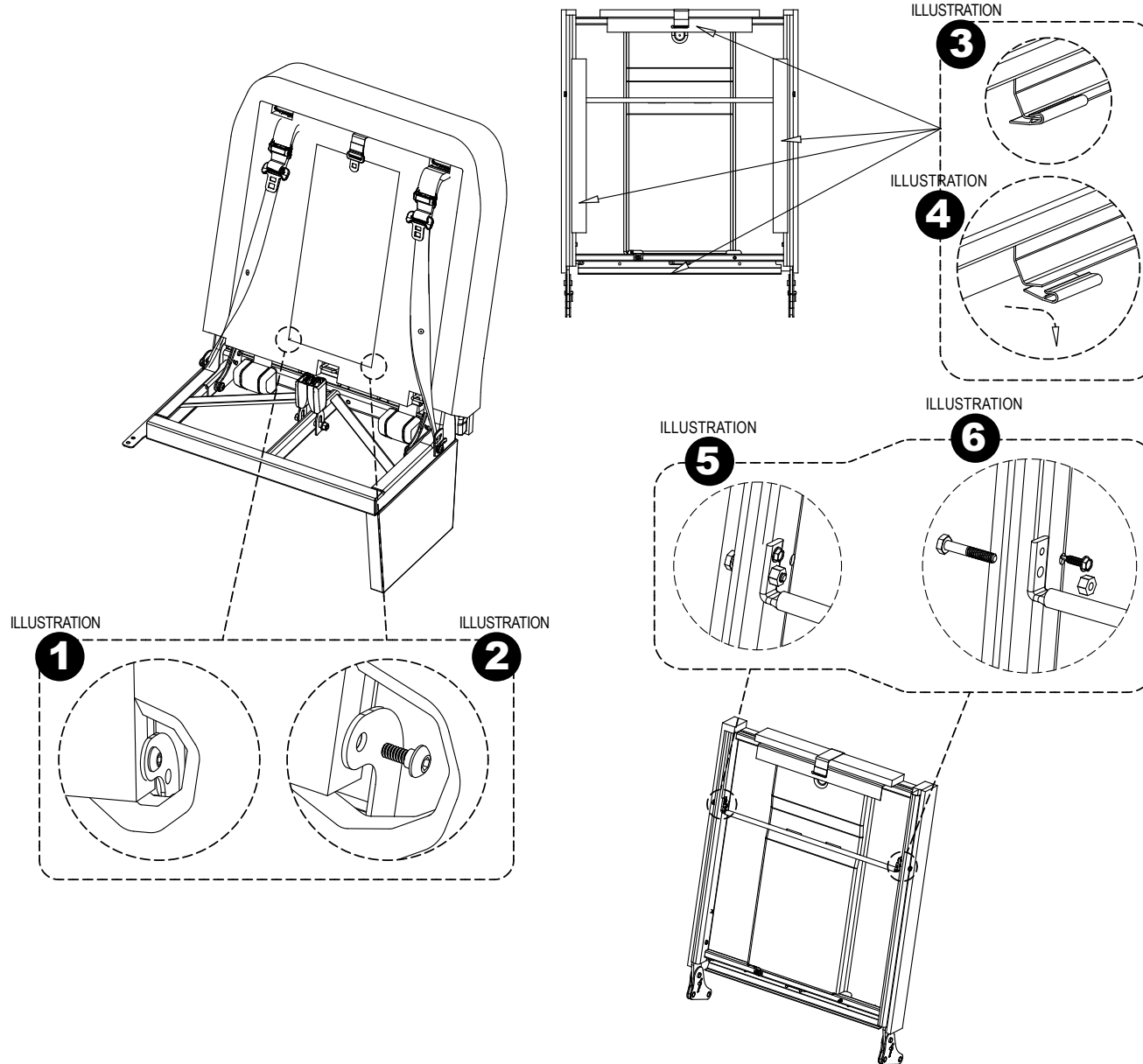
### REASSEMBLY

- 8) Replace the seat base/harness assembly or upholstery with new components.

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## Integrated Child Seat Removal

(Harness System Replacement or Upholstery Replacement)

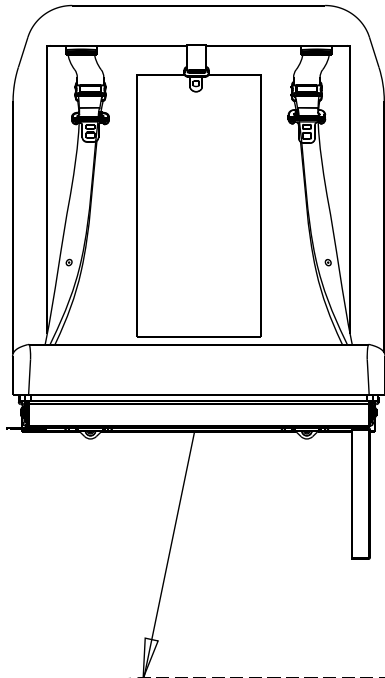


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- 9) Insert the foam into the upper pocket (NOTE: Use of the silk film around the leading edge of the foam will greatly ease the insertion). Close the pocket by inserting the arrow channel into the J-channel and squeeze together. The arrow channel should invert as it seats into the J-channel. The closure should lay smooth and snug when closed properly.
- 10) Insert the seat base/harness assembly together with the foam (NOTE: Use of the silk film around the leading edge of the foam will greatly ease the insertion). Close upholstery opening by fastening the hook & loop.
- 11) Attach ICS assembly to the SmartFrame by threading the 10-32 socket head bolts into hinge points (NOTE: Use of a ball-tip allen wrench greatly facilitates bolt turning). Seat the bolts to hand tight.
- 12) Arrange the harness assembly to ensure no twists in the webbing.
- 13) Thread each of the looped ends of the shoulder portion of the harness through the corresponding holes in the black plastic panel.
- 14) Thread the shoulder bar through all the looped ends. Reattach the 1/4-20 bolt and sheetmetal screw at each end.
- 15) Re-attach both sides of the upholstery J-channel to the SmartFrame.
- 16) Push SmartFrame back into the seatback cavity.
- 17) **IMPORTANT:** Replace the 7/16-20 Torx bolt (or hex head ) into the front of the hinge assembly, Torque to 28-32 ft-lb. Repeat for the other hinge assembly.
- 18) Replace the seat cushion onto the seat frame. Turn all four clips into the locking position.

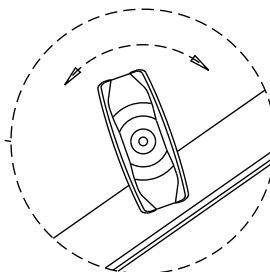
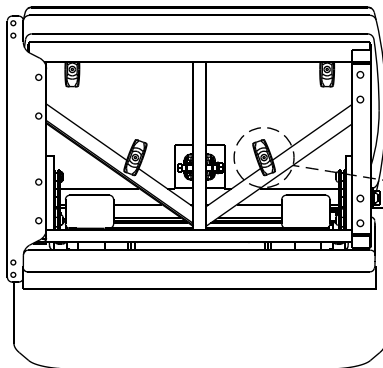
## Seat Cushion Removal

- 1) Looking at the bottom side of the seat cushion, rotate all four (4) of the retaining clips to a position which aligns parallel to respective outer frame edges. (See Illustration 1)
- 2) Pull up on cushion to remove from seat frame.

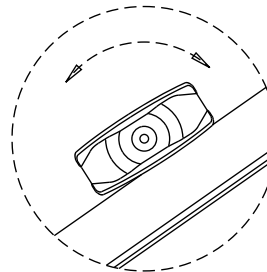


ILLUSTRATION

**1**

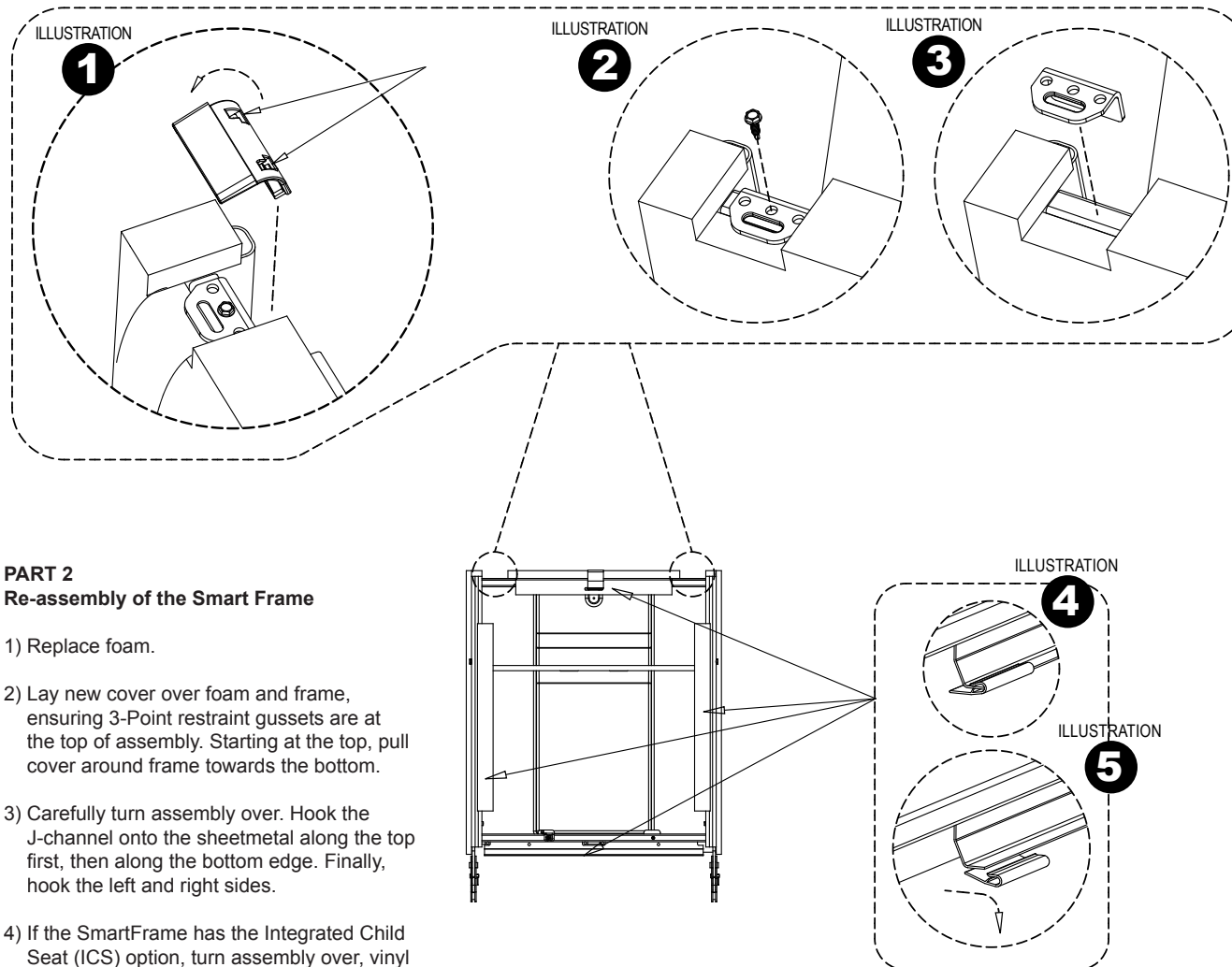


**Cushion  
Secured**



**Cushion  
Released**

## SmartFrame Upholstery and Foam Replacement



### PART 2 Re-assembly of the Smart Frame

- 1) Replace foam.
- 2) Lay new cover over foam and frame, ensuring 3-Point restraint gussets are at the top of assembly. Starting at the top, pull cover around frame towards the bottom.
- 3) Carefully turn assembly over. Hook the J-channel onto the sheetmetal along the top first, then along the bottom edge. Finally, hook the left and right sides.
- 4) If the SmartFrame has the Integrated Child Seat (ICS) option, turn assembly over, vinyl side up. Fasten the hook & loop edges of the cover around the perimeter of the ICS cavity.
- 5) Ensure all foam is completely covered as viewed from the front of the frame assembly.
- 6) Re-attached 3-Point restraints if so equipped. See steps 2 through 18 of "Assembling the 3-point Restraint System to a SafeGuard School Bus Seat" procedure. NOTE: Install the rear bolts of the pivot mechanism first to hold the Smart Frame assembly while attaching the restraint system to the outer frame.

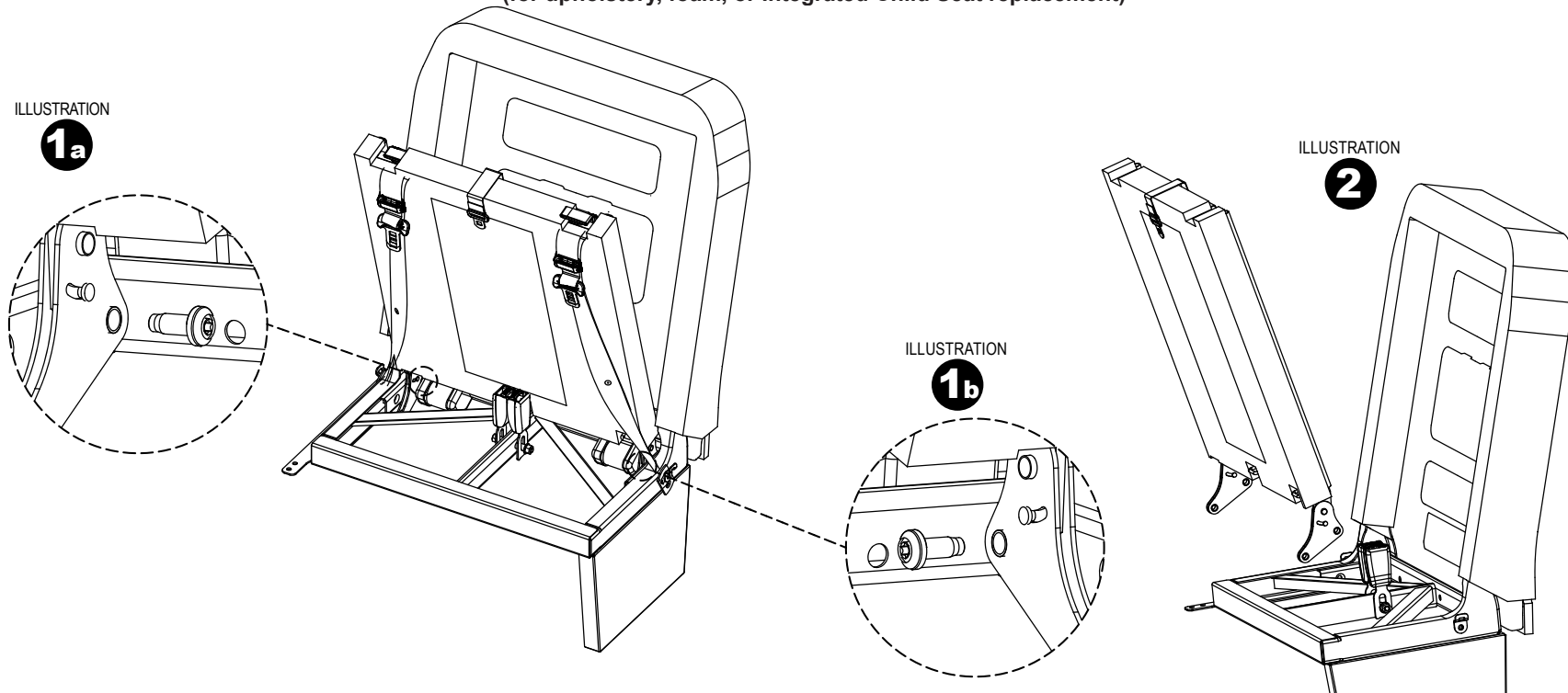
### PART 1

- 1) Follow the procedure for "Smart Frame Removal".
- 2) If 3-point restraint system is attached, complete Steps 3 through 4 Below; otherwise go directly to Step 5.
- 3) Insert a small standard screwdriver into one of the slots located at the top of the black plastic web guide. Gently pry the screwdriver forward, separating the web guide from the web guide bracket. (See Illustration 1)
- 4) Remove the self-tapping hex head screw from the web guide bracket, separating the bracket and whole restraint system from the top of the SmartFrame. (See Illustration 2 & 3)
- 5) Lay SmartFrame assembly on flat surface, vinyl side down.
- 6) Using fingertips or small standard screwdriver, pry plastic J-channel off of sheetmetal edges from all four (4) sides. (See Illustration 4 & 5)
- 7) If the SmartFrame has the Integrated Child Seat (ICS) option, turn assembly over, vinyl side up. Peel all four (4) edges of hook & loop fasteners from perimeter of the ICS cavity.
- 8) Peel vinyl cover away from foam and frame. Retain silk film located between the vinyl and foam for re-assembly.

- 9) Remove foam.

## SmartFrame Removal

(for upholstery, foam, or Integrated Child Seat replacement)



- 1) Follow the procedure for "Seat Cushion Removal".
- 2) If the seat contains lap-shoulder restraints, complete steps 3 through 5, otherwise go directly to step 6.
- 3) Remove the bolt from side of seat which terminates the end of the shoulder harness web.
- 4) Remove the web cover from the retractor by gently prying the upper edge forward with fingers. Continue to pull web cover until fully removed.
- 5) Using a T-50 Torx drive, remove the bolt holding the retractor to the seat frame.
- 6) Remove the two bolts (T50 Torx or Hex Head) located at each pivot mechanism. (See Illustration 1a & 1b)
- 7) Grasp assembly and separate from seat. (See Illustration 2)

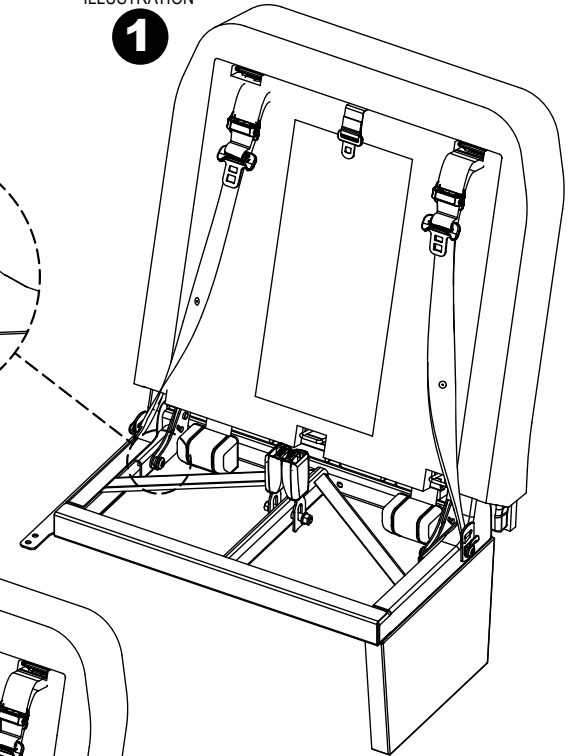


## SmartFrame™ Tilting

(for lap-shoulder restraint replacement or back panel access)

ILLUSTRATION

**1**



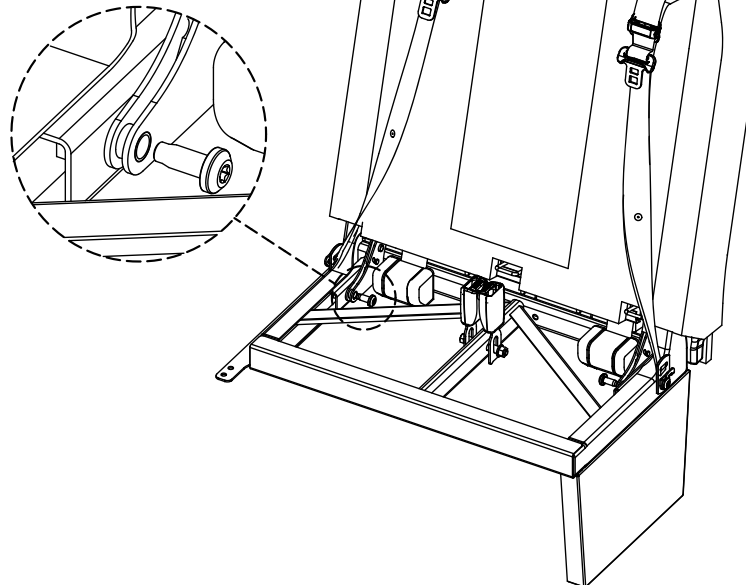
1) Follow the procedure for "Seat Cushion Removal".

2) Remove front bolt from each pivot assembly (T50 Torx or Hex Head bolt).  
(See Illustration 1 & 2)

3) Grasping upper edge of the SmartFrame, pull forward. Assembly will rotate, allowing access to back panel. (See Illustration 3)

ILLUSTRATION

**2**



ILLUSTRATION

**3**

