

WHEELCHAIR LIFT SLIDING DOOR UPPER ARM REPLACEMENT

Prevost vehicles

DESCRIPTION

On the vehicles affected by this bulletin, perform the replacement of the existing WCL sliding door upper arm.

MODEL YEAR(S) AND VEHICLES INVOLVED

NOTICE TO SERVICE CENTERS	
Verify vehicle eligibility by checking warranty bulletin status with SAP or Vehicle Warranty Information tool found on Prevost-Systems tab of the Volvo Trucks Dealer Portal	
Model	VIN 
X3-45 Commuter Model Year : 2012	From 2PCG33495CC73 <u>5053</u> up to 2PCG33495CC73 <u>5232</u> incl.
This bulletin does not necessarily apply to all the above-mentioned vehicles, some vehicles may have been modified before delivery. The owners of the vehicles affected by this bulletin will be advised by a letter indicating the Vehicle Identification Number (VIN) of each vehicle concerned.	

The above list of VIN was valid at the time of publishing this document. Please refer to SAP for most recent information about outstanding vehicles

MATERIAL NEEDED

Kit #2800281 includes the following parts:

Part No.	Description	Item	Qty
D280303	INSTALLATION DIAGRAM	-	1
2800202	UPPER ARM ASSEMBLY, WCL SLIDING DOOR	①	1
2800282	UPPER CARRIAGE	②	1
288460	WHEEL	③	2
502681	NUT, HEX NYRT N500 M6-1.0 G8	④	3
500877	WASHER FL N500 .250x.562x.065	⑤	1
507378	FLANGE BEARING	⑥	2
502780	SCREW, CAP HEX SS NSS M8x25	⑦	2
5001699	WASHER, BELLEVILLE SPR N500 8.2X22X1.4	⑧	2
5001815	SCREW, CAP HEX N500 M6-1 X 30 G 8.8	⑨	3
500356	WASHER, LOCK N500 6.1x16x0.9	⑩	3
2800215	SQUARE, SLIDING DOOR	⑪	1

Date	Expiration	Release	Page
10.2012	10.2014	2	2(30)

Additional tools and components:

Part No.	Description	Qty
288588	SHIM 18GA (required for shimming catch striker base)	a/r
2800296	SHIM 24GA (required for shimming catch striker base)	a/r
286421	SHIM (to be placed between upper rail support and mounting bracket)	6
680739	SYNTHETIC GREASE, RED	1
500440	WASHER, FLAT 0.25 X 0.562	1
504339	RIVET, POP SS 1/8x3/8"	1
506264	FOAM TAPE (to be used if the double face adhesive tape bonding breaks)	1
685353	TORQUE SEAL	1

NOTE

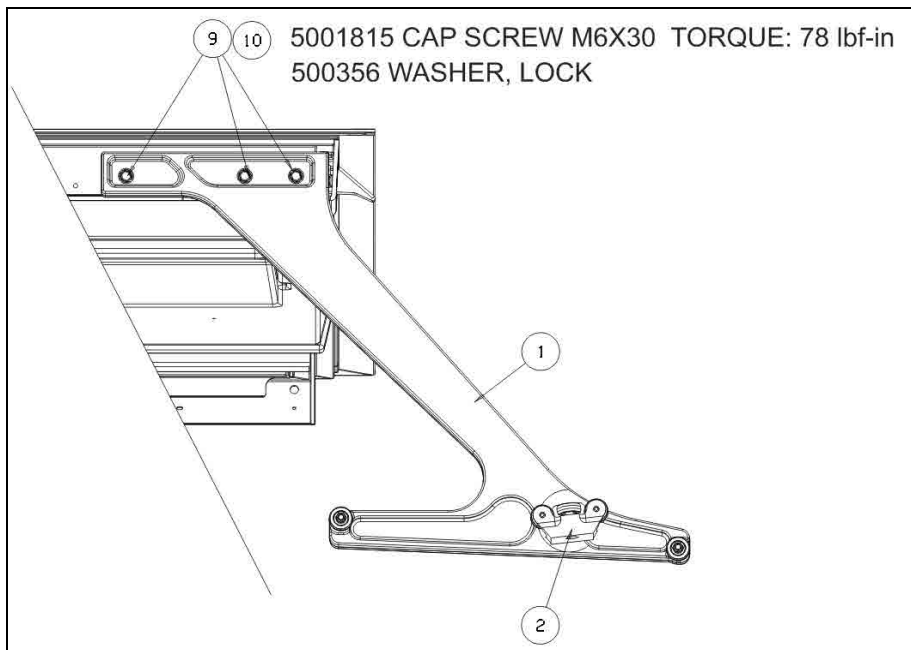
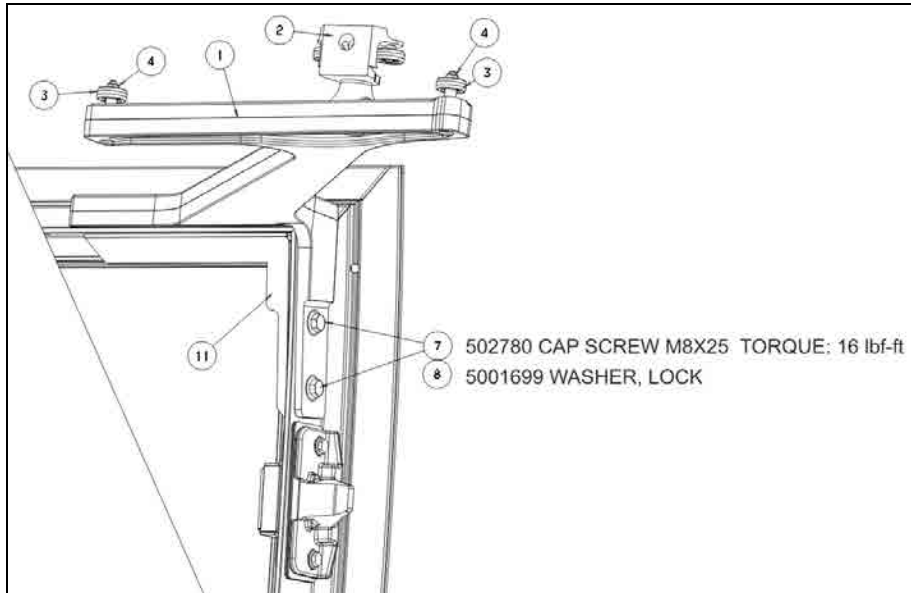
Material can be obtained through regular channels.

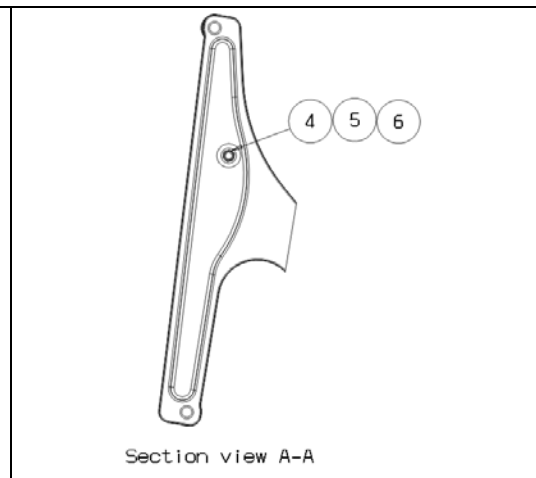
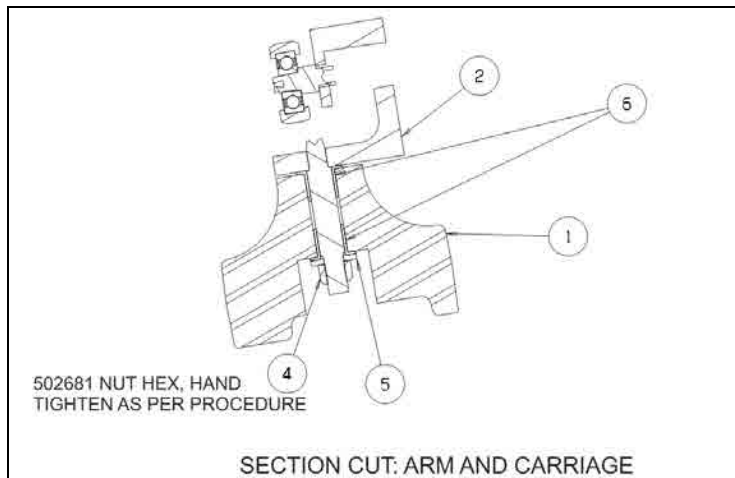
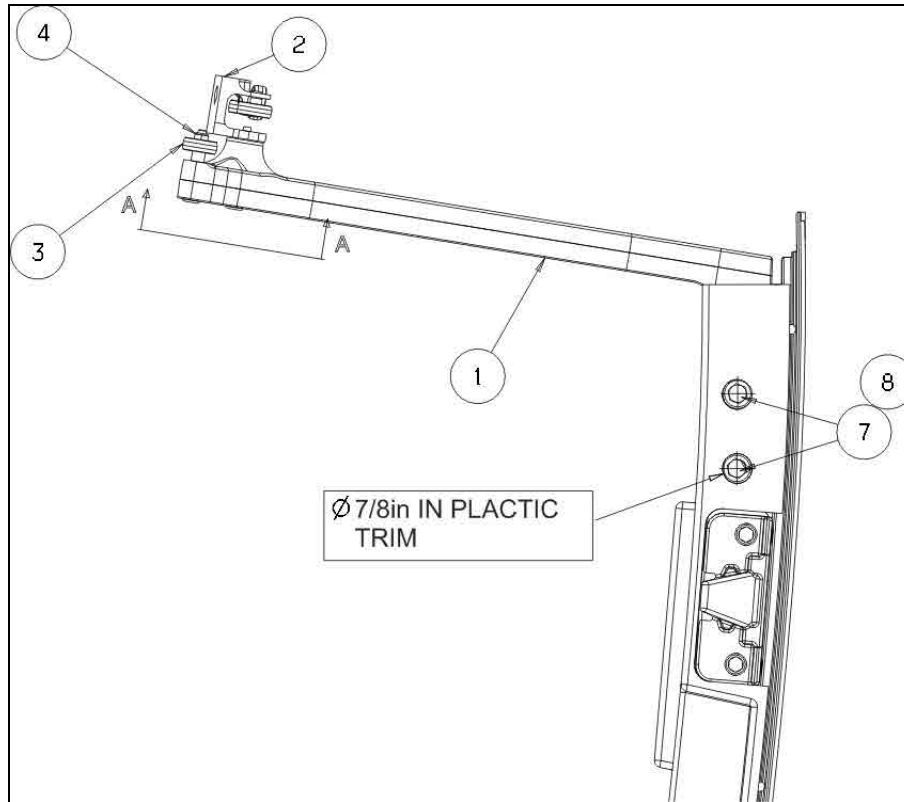
REQUIRED TOOLS

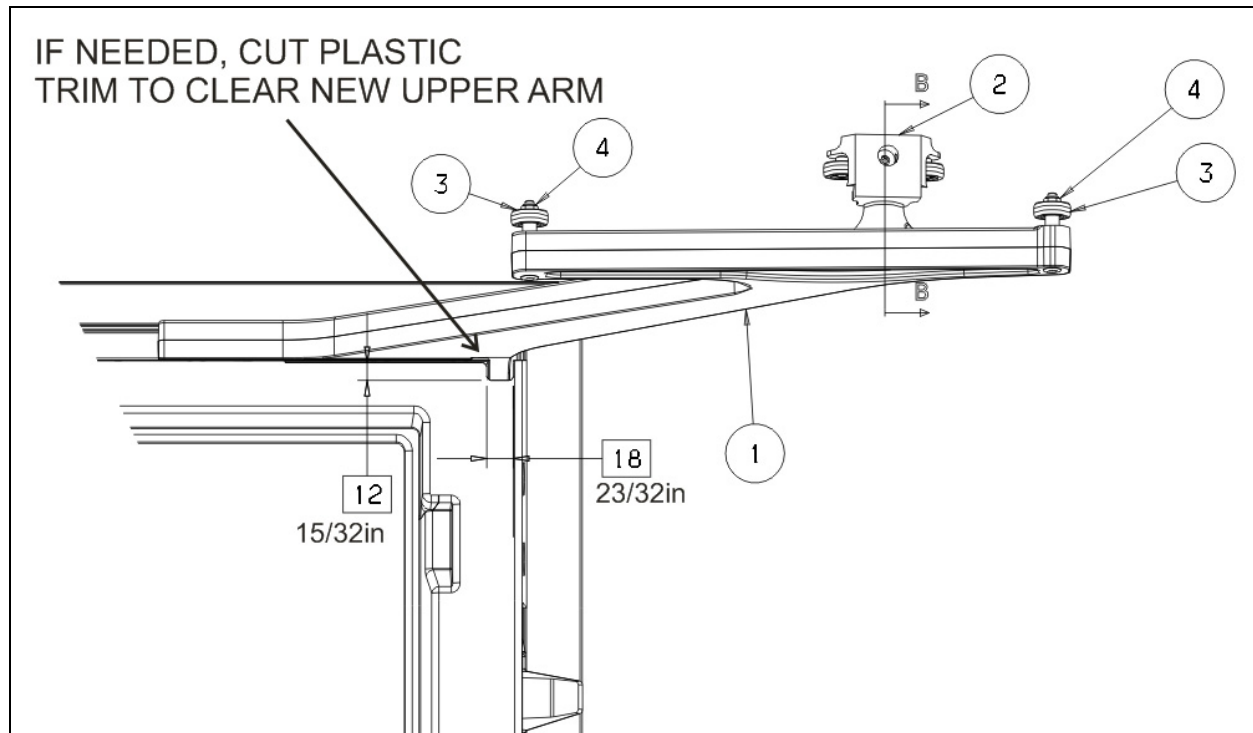
CORDLESS DRILL & BITS 	PRY BAR 
DRILL BITS Ø3/8", Ø 1/8", Ø 7/8" 	METRIC RATCHET AND SOCKET SET 
LARGE FLAT SCREW DRIVER 	TORQUE WRENCH 
PHILLIPS SCREWDRIVER 	RULER 
METRIC OPEN END WRENCH SET 	RIVETER 
CENTER PUNCH 	CUTTER 

Date	Expiration	Release	Page
10.2012	10.2014	2	4(30)

PARTS IDENTIFICATION







PROCEDURE



DANGER

Park vehicle safely, apply parking brake, stop engine and set battery master switch(es) to the OFF position prior to working on the vehicle.

This procedure is suitable for wheelchair lift sliding door height properly adjusted when closed

PREPARATION

- 1) Remove seven (7) pieces of finishing trim.

Plastic panel in the first overhead compartment located aft of the sliding door (7 screws, 3 different lengths).



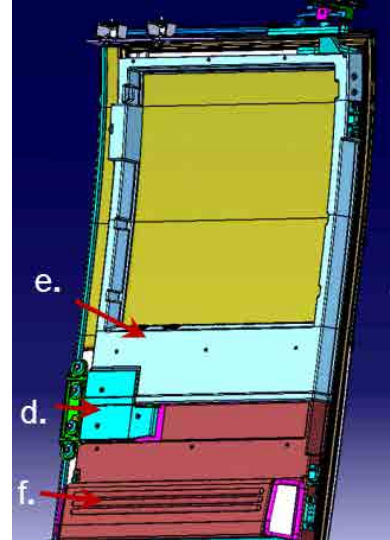
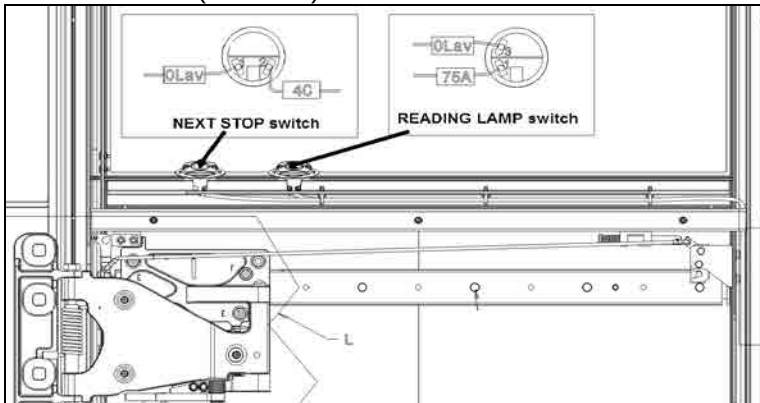
Upper plastic trim fore of the sliding door (5 screws).



Item d - center hinge plastic cover (3 screws).

Item e - plastic trim around sliding door window pane (6 screws). Proceed with care. Before taking away the finishing panel, disconnect the NEXT STOP switch and READING LAMP switch harnesses. (NEXT STOP switch: circuits 4C & 0LAV), (READING LAMP switch: circuits 75A & 0LAV).

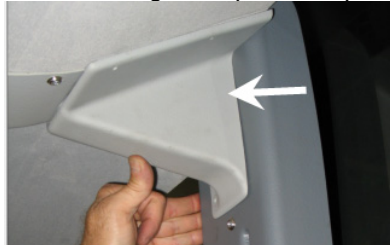
Item f - Air duct (6 screws).



Plastic trim covering the side post located fore of the sliding door (4 screws).

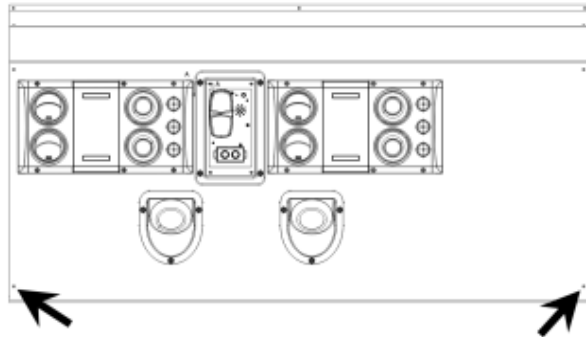


Upper plastic cover, aft of sliding door (5 screws).

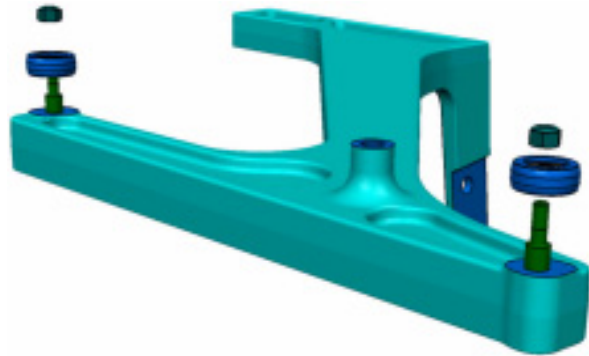


Date	Expiration	Release	Page
10.2012	10.2014	2	8(30)

- 2) In order to ease access, remove 2 screws (1 on each side) found on the wheelchair area overhead panel. In addition to the screws, this panel is maintained with double face adhesive tape. **Do not** pull too much on this panel as you may break the bonding.



- 3) Install the wheels #288460 on the arm using nuts #502681. Nut #502681 is provided with a nylon insert, for this reason, a tightening torque cannot be specified or achieved precisely.



ADJUSTING THE SLIDING DOOR POSITION

- 4) In order to guaranty best results, properly adjust door position. Assure that the top right of the sliding door window pane is as flush as possible (*even surfaces*) with the adjacent (fore) window pane.

At 3" from the top edge, check that the window panes are on the same plane. A maximum recess of $\pm 5/64$ " ($\pm 2\text{mm}$) between the window panes is acceptable.

checking for a recess with a metal ruler >



STEP COMPLETED

BY:



If an adjustment is required, shift the window pane either towards the inside or the outside as follows:

- Open the sliding door. Locate the upper pin striker.
- Using a marker pen, mark the pin striker and the washer position in order to keep a position reference.
- Loosen the pin striker slightly.
- Move the pin striker either in or out as required in order to correct an excessive recess of the window pane.



- e) Also, make sure that the pin striker height is correct. The pin striker should be centered with the catch jaws.
- f) Tighten pin striker to **60 lbf-ft.**
- g) Apply torque seal.

	PIN STRIKER TIGHTENED TO PROPER TORQUE (IF APPLICABLE)	BY:
--	---	------------

	TORQUE SEAL APPLIED (IF APPLICABLE)	BY:
--	--	------------

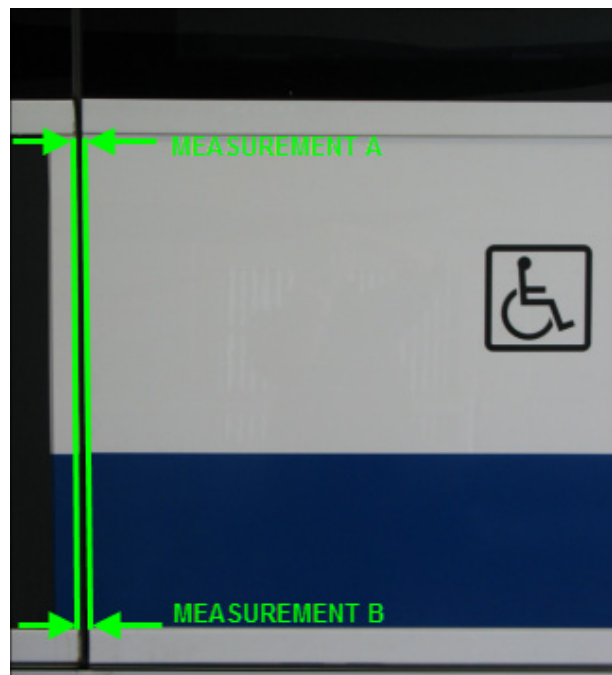
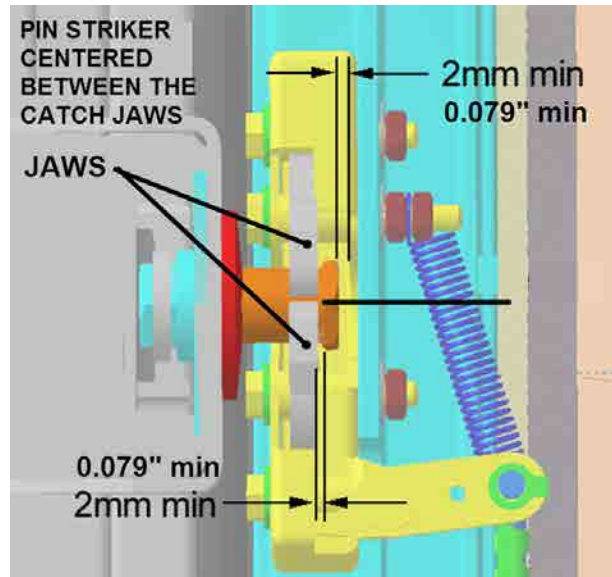
- 5) Similarly, check the lower catch and pin striker and make sure that the pin striker is centered in the middle of the catch jaws. Do not apply torque seal to lower pin striker at this point.

	PIN STRIKER TIGHTENED TO PROPER TORQUE (IF APPLICABLE)	BY:
--	---	------------

- 6) By visual inspection, check proper parallelism of the sliding door vertical edge in comparison to the nearby body panel edge.

	STEP COMPLETED	BY:
--	-----------------------	------------

If in doubt, a difference not exceeding 1/8" (3mm) between measurement A and B is acceptable



Date	Expiration	Release	Page
10.2012	10.2014	2	11(30)

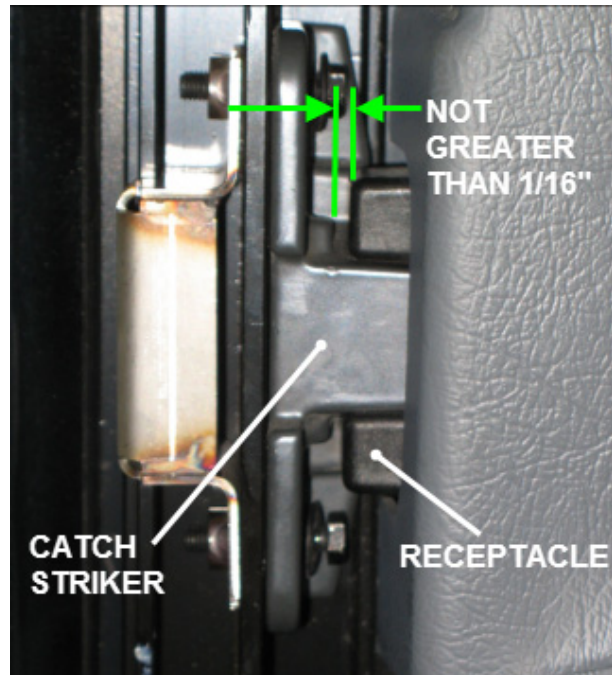
- 7) Check if the lower and upper aft catches are properly adjusted. If they are, the striker will fully engage in the receptacle and the measurement between the striker and the receptacle will not exceed 1/16". If the gap exceeds 1/16", one (1) shim or a combination of shims should be added.

Shims: #288588 (18GA, 0.0478")
#2800296 (24GA, 0.0239")

- 8) Parallelism is adjusted by rotating the door within the opening. To do so, add or remove shims under the door striker base. Shims can be added or removed at the upper striker or the lower striker independently.

The catch and striker define both vertical (height) and horizontal (position within opening) position of the door

tighten striker base mounting bolts to 84 lbf-in

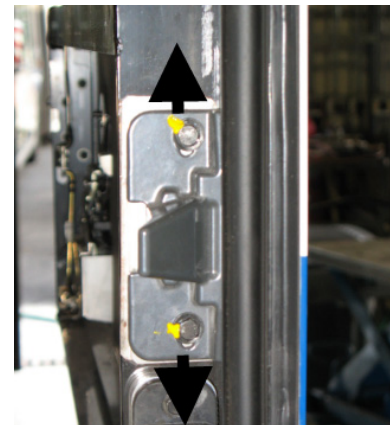


- a) By visual inspection, check for proper sliding door height. To do so, compare the door lower **aft corner edge** height with the adjacent body panel.

Raise or lower the door height as required.

For example, if the door must be raised 1/8", proceed as follows:

- b) Open the sliding door.
- c) Loosen the lower and upper catch striker mounting bolts (2 bolts). Move down both strikers 1/8". Tighten the striker base mounting bolts.
- d) Close the door fully latched and make sure that the height adjustment is correct. If not, repeat the previous steps and check one again.
- e) With the door closed, from the inside, inspect both strikers position in relation with the catch receptacles. One of the strikers might not be leaning on the receptacle. If this is the case, keep the door closed. Using an open end wrench, loosen the striker base mounting bolts. Firmly press down on the striker. Tighten the mounting bolts and apply torque seal.



***tighten striker base mounting bolts to
84 lbf-in***

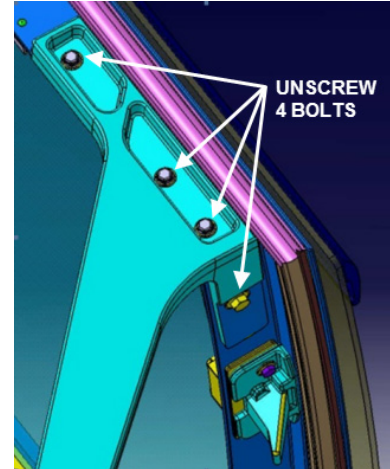
	STRIKER BASE BOLTS PROPERLY TIGHTENED (IF APPLICABLE)	BY:
---	---	-----

	TORQUE SEAL APPLIED (IF APPLICABLE)	BY:
---	--	-----

Date	Expiration	Release	Page
10.2012	10.2014	2	13(30)

REMOVAL OF THE EXISTING UPPER ARM

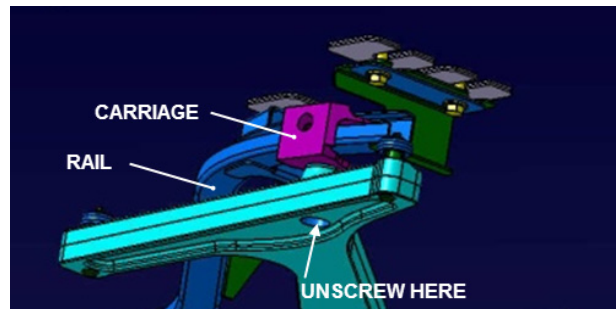
- 9) Open the sliding door fully latched.
- 10) Disconnect the existing upper arm from the top of the sliding door (3 bolts on the top to be removed and 1 bolt on the side). Discard fasteners.



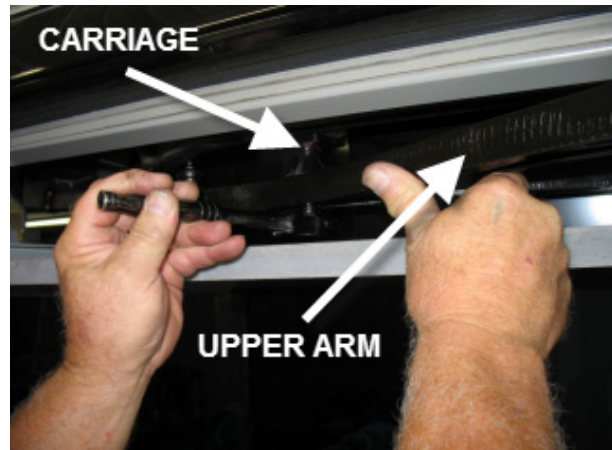
CAUTION: MAKE SURE THAT THE SLIDING IS LATCHED. THE SLIDING DOOR WILL SELF-SUPPORT BUT AVOID MOVING IT USELESSLY. AVOID PULLING, PUSHING OR LEANING AGAINST THE SLIDING DOOR WHEN THE UPPER ARM IS NOT PRESENT.



- 11) Dismount the carriage from the arm.



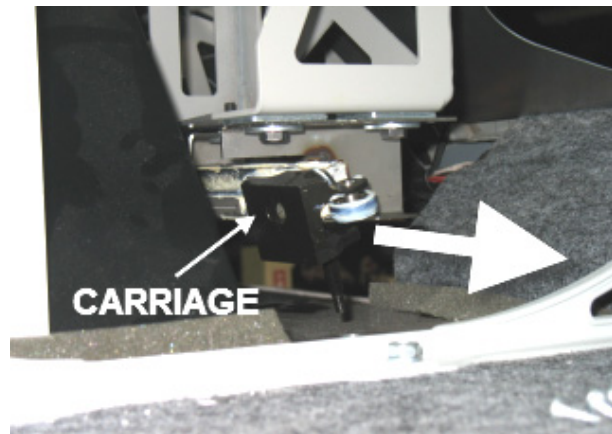
Date	Expiration	Release	Page
10.2012	10.2014	2	14(30)



- 12) Remove the carriage from the rail. To do so, roll the carriage along the rail while accessing from the first overhead compartment, aft of the sliding door.

accessing from the first overhead compartment, aft of the sliding door >

- 13) Slide the new carriage into the rail.



NEW CARRIAGE INSTALLED

BY:

INSTALLATION OF THE NEW UPPER ARM

14) Mount the two (2) flange bearings #507378 (item 6) onto the new upper arm.



STEP COMPLETED	BY:
-----------------------	------------

15) Apply red synthetic grease #680739 on the carriage stud.



STEP COMPLETED	BY:
-----------------------	------------

16) Mount the new arm unto the carriage.
Use: 1x washer #5008777 (item 5)
1x nut #502681 (item 4)

- a) Tighten nut sufficiently to leave no play between the carriage and the flange bearing while not compressing the flange bearing too much in order to allow the carriage to rotate.



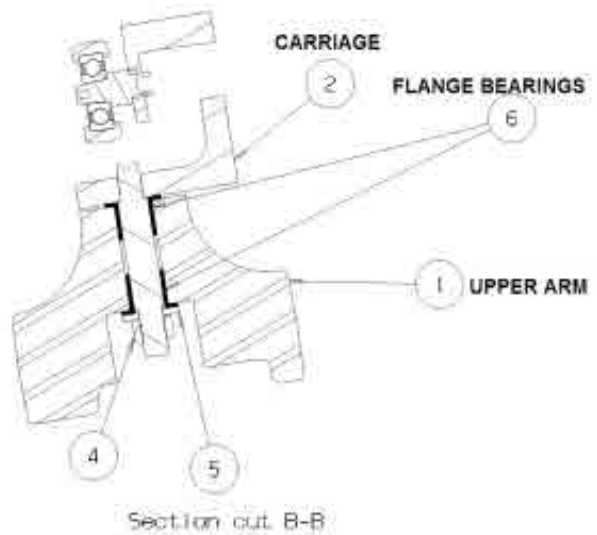
NUT PROPERLY TIGHTENED	BY:
-------------------------------	------------

17) An additional hole (under the existing one) must be drilled on the sliding door frame.

- a) Prior to do so, place a piece of masking tape as shown on the image in order to mark position of the hole to be drilled.

Keep the sliding door fully opened and latched.

- b) Using square #2800215 (item 11) and one or two M6 bolts #5001815 (item 9), temporarily mount the new arm onto the sliding door.
- c) Align the arm upper side hole (see image at right) with the corresponding hole on the sliding door frame.
- d) Using the lower hole found on the arm, mark position of the new hole on the piece of masking tape, as reference.



ALTERNATE METHOD WITH DRILLING JIG IF AVAILABLE. Bolt the drilling jig using one (1) M8 cap screw with drilling jig edges lined up with the vertical member to be drilled. Use the jig to drill a 1/8" pilot hole.

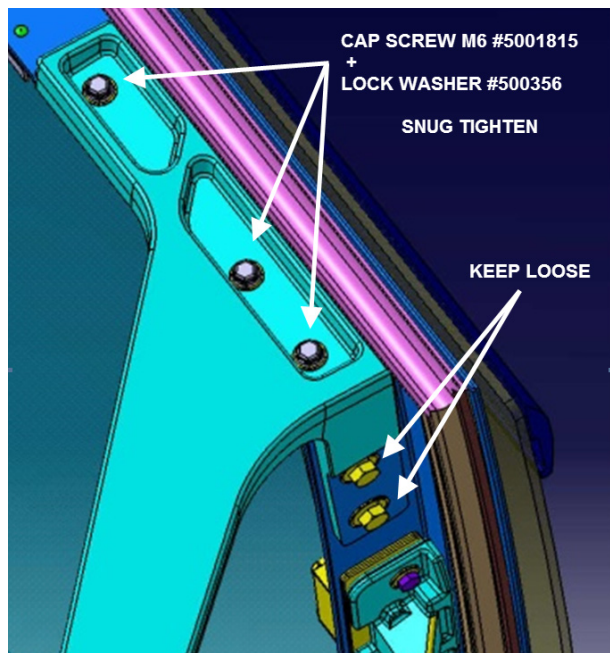


Date	Expiration	Release	Page
10.2012	10.2014	2	16(30)

- 18) Dismount the upper arm from the sliding door.
- 19) Use a center punch to mark the middle of the hole to be drilled.
- 20) Drill a 1/8" diameter pilot hole and then drill the new hole using a 3/8" (10mm) diameter drill bit. Remove the remaining piece of masking tape.

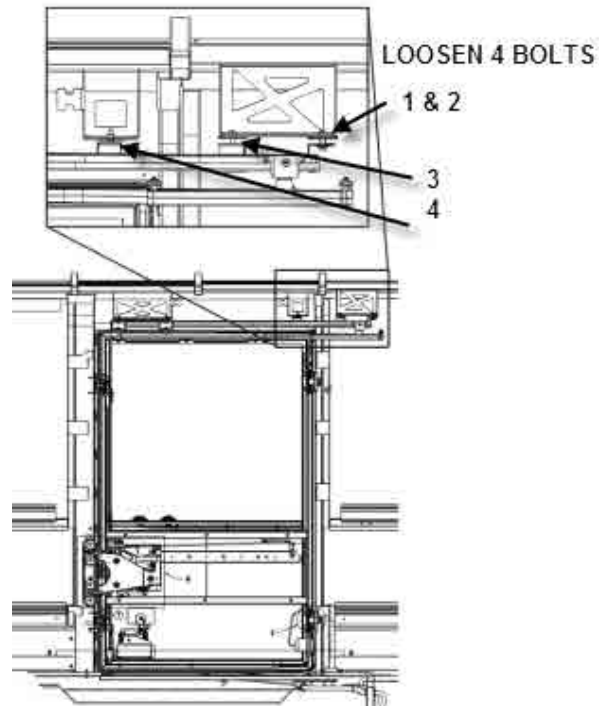


- 21) Reinstall the new arm onto the sliding door. Snug tighten the three (3) upper bolts #5001815 (item 9) while leaving the two (2) bolts on the side loose.
- 22) Keep the sliding door open.



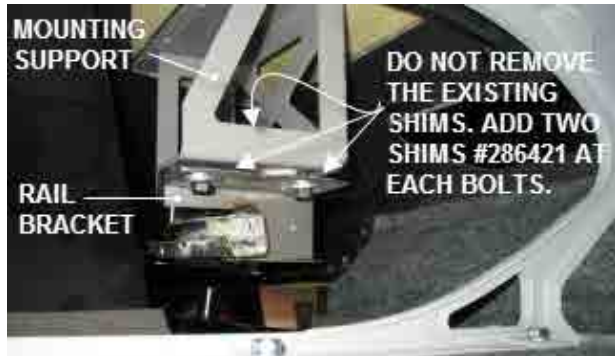
Date	Expiration	Release	Page
10.2012	10.2014	2	17(30)

- 23) Loosen the four (4) bolts securing the rail aft end brackets to mounting supports in order to lower the brackets about 5/32" (4mm).



- 24) If there are shims between the rail bracket and the mounting support, leave them in place, they must remain at their location.

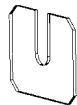
- 25) At each of the three bolts found on the aft bracket, add a stack of two shims #286421 (2mm thick each, for a total of 4mm) between the bracket and the mounting support. Once done, tighten the three bolts.



STEP COMPLETED

BY:

- 26) Close the sliding door fully latched.



SHIM #286421

- 27) From the overhead compartment, use a large screw driver to lever up between the rail and the carriage in order to take up the play between carrier wheels and the rail. While maintaining the leverage, ask a co-worker to tighten firmlly the two M8 bolts (item 9) located on the side of the door.



While maintaining the leverage, ask a co-worker to tighten firmly the two M8 bolts (item 9) located on the side of the door

28) Open the door and complete tightening of the two M8 bolts located on the side of the door to a torque of **16 lbf-ft** and apply torque seal.

Do not loosen the bolts as you will lose the arm pre-bend

☐	BOLTS M8 TIGHTENED TO PROPER TORQUE	BY:
--------------------------	--	------------

☐	TORQUE SEAL APPLIED	BY:
--------------------------	----------------------------	------------

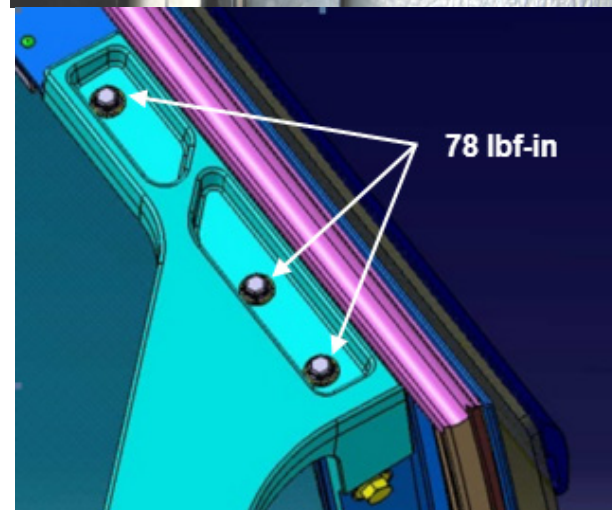


29) Complete tightening of the three M6 bolts found at the top of the sliding door. Apply torque seal.

torque: 78 lbf-in

☐	3 BOLTS M6 TIGHTENED TO PROPER TORQUE	BY:
--------------------------	--	------------

☐	TORQUE SEAL APPLIED	BY:
--------------------------	----------------------------	------------

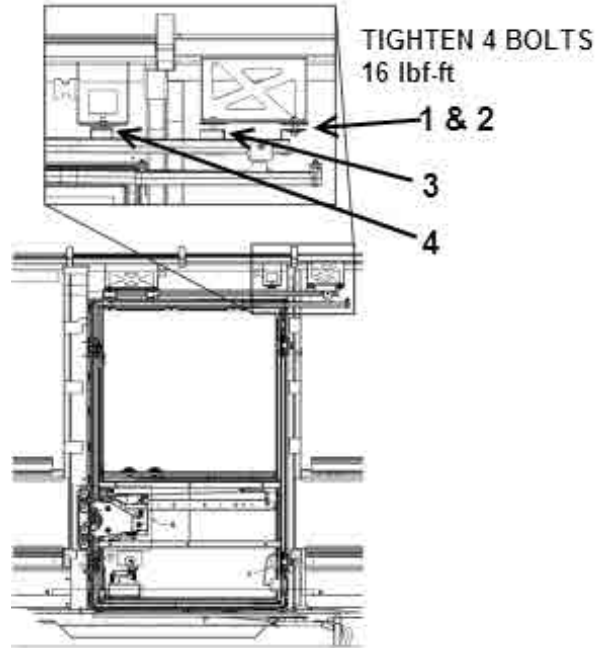


30) Loosen the three bolts securing the rail bracket to the mounting support and remove the previously added shims.

- 31) Pull the rail inwards at the aft rail bracket in order to take up the play between the rail and the carriage wheels. While maintaining application of the force, ask a co-worker to tighten the four bolts securing the rail bracket.

tighten bolts to a torque of 16 lbf-ft and apply torque seal

Opening and closing the sliding door a few times should demonstrate that the door remains fairly at the same level when the strikers disengage from the receptacles.



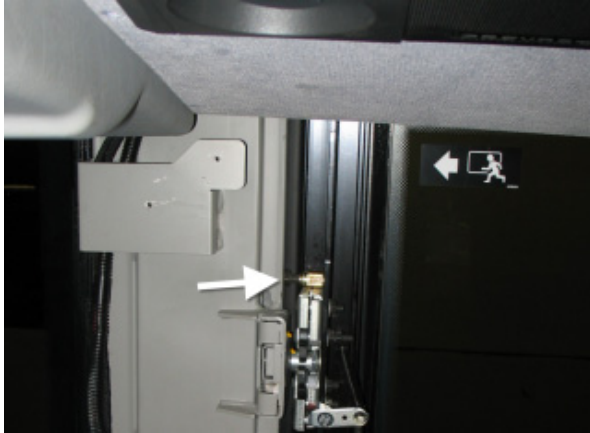
☐	4 BOLTS TIGHTENED TO PROPER TORQUE	BY:
☐	TORQUE SEAL APPLIED	BY:

Date	Expiration	Release	Page
10.2012	10.2014	2	20(30)

ADJUSTMENT OF CENTER HINGE

32) Close the door fully latched.

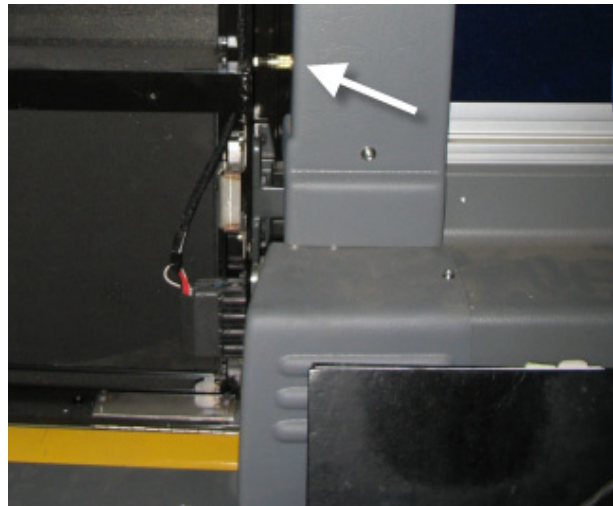
33) Place three (3) spacers where indicated on the images below. The purpose of these spacers is to maintain the door in position within the opening while performing the following steps.



FORE OF SLIDING DOOR



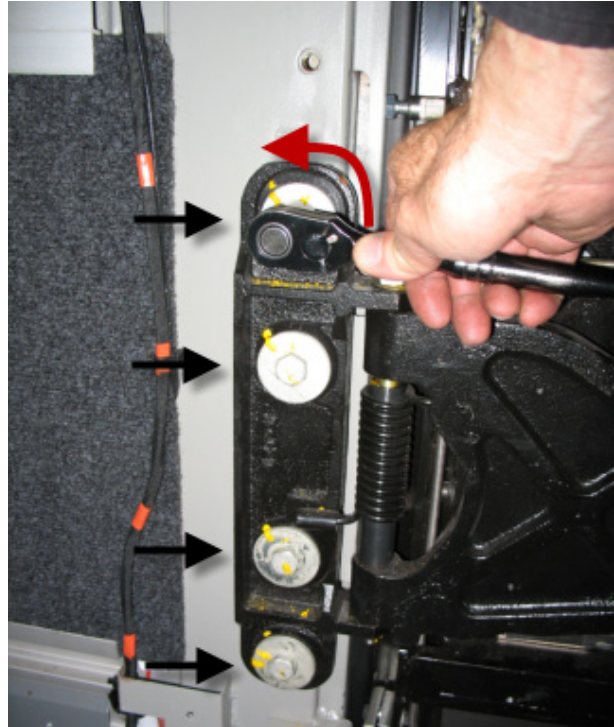
FORE OF SLIDING DOOR



AFT OF SLIDING DOOR

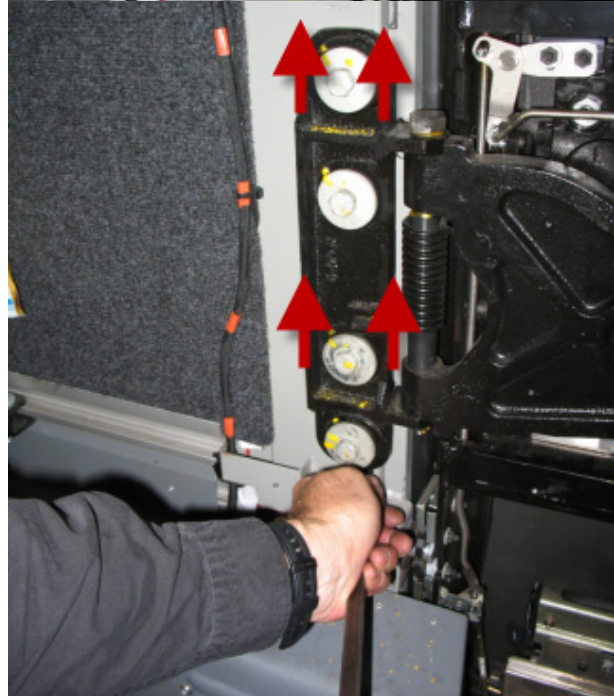
Date	Expiration	Release	Page
10.2012	10.2014	2	21(30)

- 34) Untighten (keep snug tighten) the center hinge mounting bolts (4 bolts).



- 35) Using a pry bar or similar tool, lever up the center hinge mounting plate upwardly in order to take up plays between the hinge components.

The hinge's spring effect and the four bolts kept snugged should help in maintaining the mounting plate in raised position.



- 36) Using a pry bar or similar tool, pry the upper end of the center hinge mounting plate towards the aft of the vehicle. Tilt the upper end of the center hinge mounting plate in clockwise direction. While holding the center hinge in this new position, ask a co-worker to tighten the four (4) bolts in the following order to a torque of 43 lbf-ft and apply torque seal

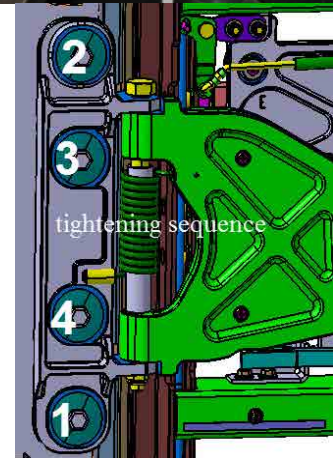
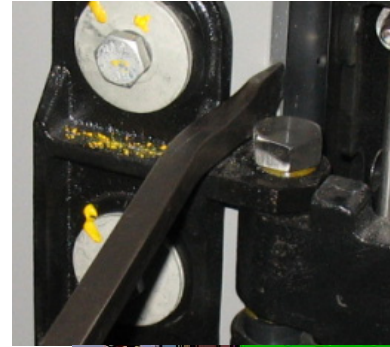


Date	Expiration	Release	Page
10.2012	10.2014	2	22(30)

#685353.

tighten to a torque of 43 lbf-ft

	4 BOLTS TIGHTENED TO PROPER TORQUE	BY:
	TORQUE SEAL APPLIED	BY:



37) Remove the three (3) spacers.



Date	Expiration	Release	Page
10.2012	10.2014	2	23(30)

OPTIONAL **PRYING AND TWISTING THE SLIDING DOOR**

Perform this part of the procedure only if the upper catch comes hardly in second position (fully latched) when closing the door

38) Open the sliding door.

39) Locate the lower pin striker.

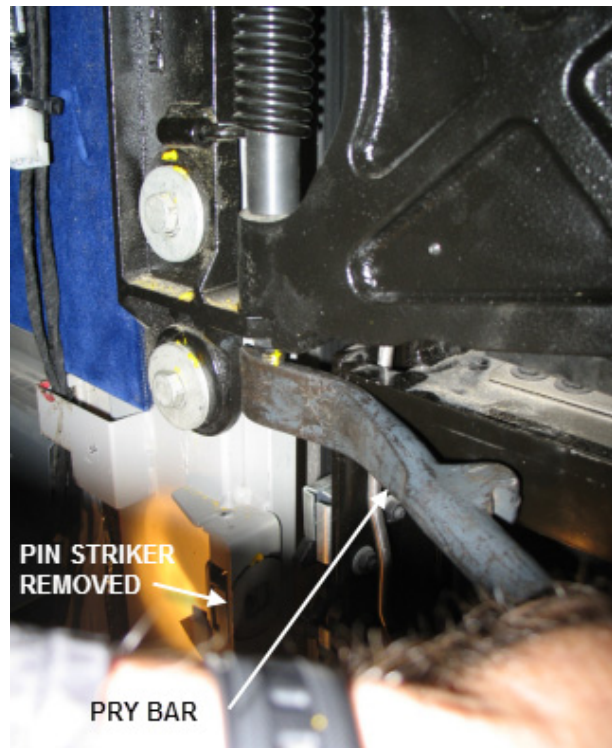
40) Using a marker pen, mark the pin striker and the washer position in order to keep a position reference.

41) Remove the lower pin striker.

42) Close the sliding door fully latched.

43) Using a pry bar or similar tool, pry the sliding door at the lower hinge mounting bolt level (see image at right) in order to twist the lower aft corner.

a) Place the pry bar where indicated on the image at right.



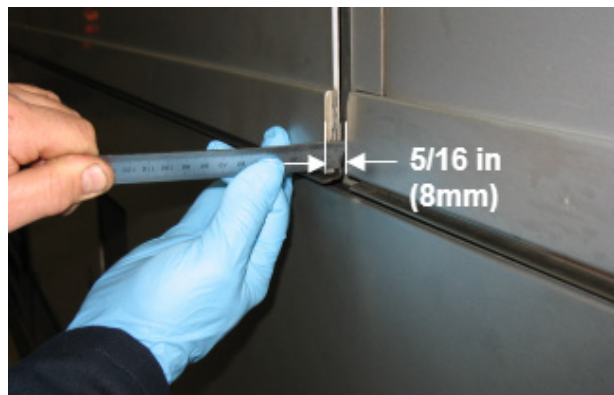
Date	Expiration	Release	Page
10.2012	10.2014	2	24(30)



- b) Pry the door. The bottom of the door may warp up to 4 inches and even more if needed. You must obtain a permanent change in shape of the door resulting from the application of sustained stress beyond the elastic limit.



- c) The goal is to obtain a permanent warping of 5/16" (8mm) at the bottom of the door with no pin striker in place.



Date	Expiration	Release	Page
10.2012	10.2014	2	25(30)

44) Reinstall the lower pin striker using the marks previously done to position properly.

45) Tighten the pin striker and apply torque seal.

tighten pin striker to: 60 lbf-ft



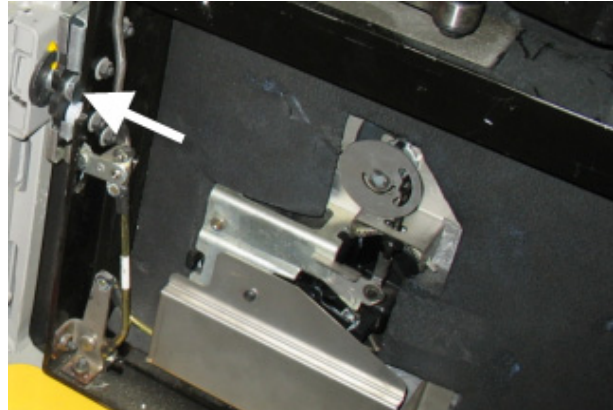
**PIN STRIKER TIGHTENED TO
PROPER TORQUE**

BY:



TORQUE SEAL APPLIED

BY:

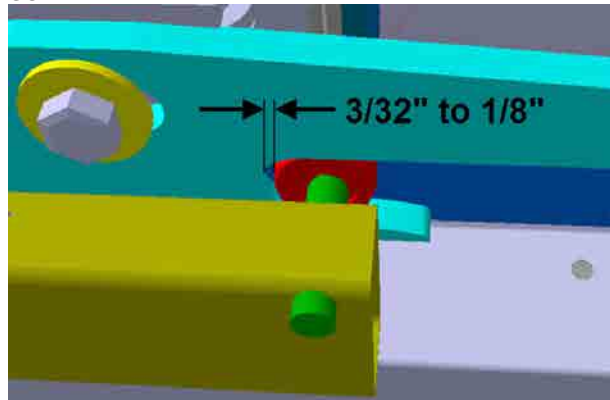


ADJUSTING THE UPPER ARM WHEELS GUIDE

46) Open the sliding door fully latched. Locate the guide above the overhead panel.



47) When open and fully latched, a gap of 3/32" to 1/8" (about 2 to 3mm) must remain between the wheels (2) and the guide (see image at right).



gap of 3/32" to 1/8" (about 2 to 3mm)

48) If adjustment is required, loosen the two (2) guide mounting bolts and shift the guide as required. The guide is provided with slotted holes. Tighten mounting bolts to a torque of **43 lbf-ft** and apply torque seal.

Tighten mounting bolts to a torque of 43 lbf-ft

	BOLTS TIGHTENED TO PROPER TORQUE	BY:
	TORQUE SEAL APPLIED	BY:

Date	Expiration	Release	Page
10.2012	10.2014	2	27(30)

ADJUSTMENT OF CONTACT PLATE

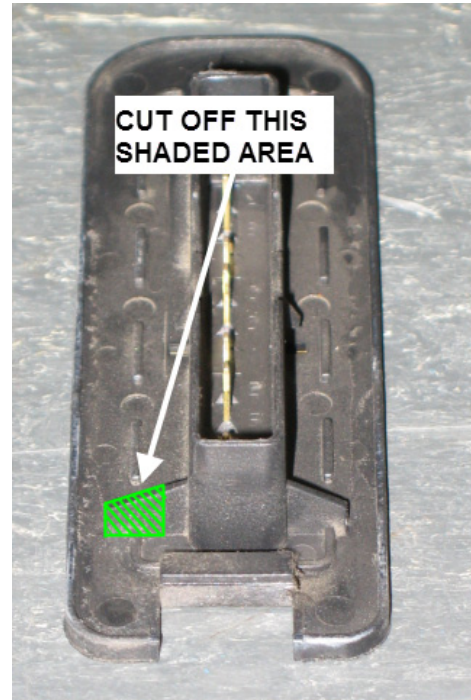
49) Unscrew at the bottom and remove the contact plate.

50) Pull gently to disengage the contact plate and electrical connector from the vertical post.

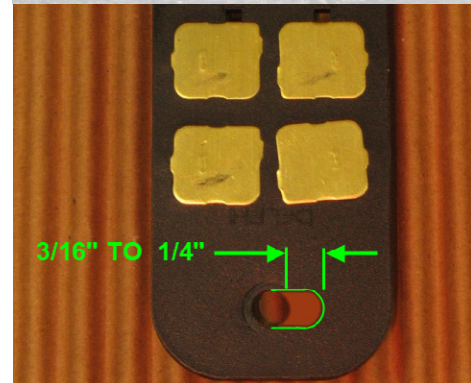
51) Unplug contact plate from the electrical connector.



52) At the back of the contact plate, cut off the piece of plastic as shown on the image with a cutter or similar tool.



53) Enlarge to hole (slot) between 3/16" to 1/4" as shown on the image.

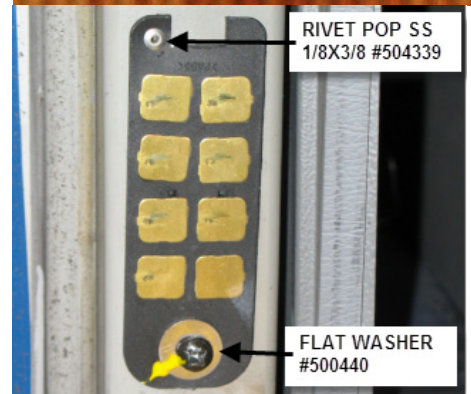


54) Reinstall the contact plate.

55) Position the contact plate properly. Add a flat washer 0.25 X 0.562 #500440.

56) Once properly positioned, drill a 1/8" diameter hole and fix the contact plate using a 1/8" pop rivet #504339.

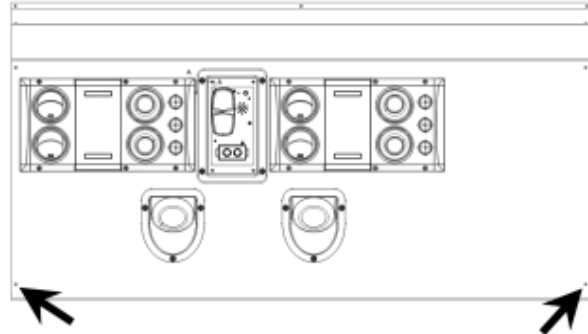
57) Apply torque seal on the screw.



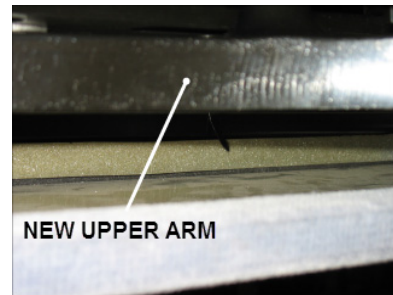
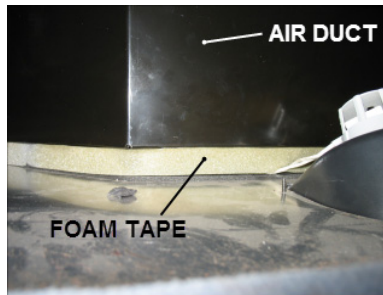
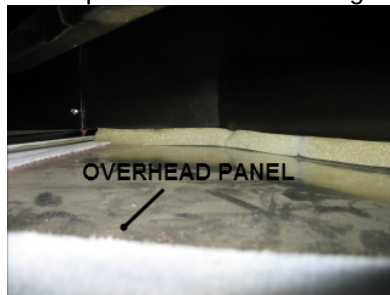
	ADJUSTMENT OF CONTACT PLATE PREFORMED	BY:
	TORQUE SEAL APPLIED	BY:

FINAL STEPS

58) Secure the overhead panel. Reinstall the two (2) screws previously removed. In addition to the screws, this panel is maintained with double face adhesive tape. Make sure that the adhesive tape bonding is good as this panel is a part of the air duct.



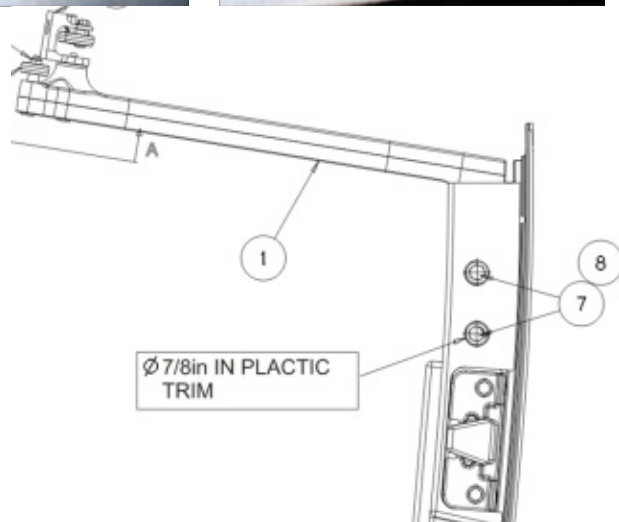
59) If the adhesive tape bonding is poor, apply foam tape #506264 along the air duct in order to prevent air from leaking.



60) Reinstall the seven (7) plastic finish trims removed at step 1.

61) Drill a 7/8" (22mm) diameter hole through the finishing trim to allow access to the newly added bolt (see image at right).

62) Clean the vehicle.



☐	FOAM TAPE APPLIED OR ADHESIVE TAPE BONDING IS GOOD	BY:
☐	VEHICLE CLEANED	BY:

Date	Expiration	Release	Page
10.2012	10.2014	2	30(30)

ESTIMATED TIME

This modification is covered by Prevost's normal warranty. We will reimburse you the parts and four hours (4.0) of labor upon receipt of a completed A.F.A. form on which you must specify as per "Special Bulletin 12-315".

OTHER

VBC Bulletin	n-a
Fail Code	18-05
Defect Code	09
System Condition	B
Causal Part	2800210

Prevost engages in a continuous program of testing and evaluating to provide the best possible product. Prevost, however, is not committed to, or liable for updating existing products.