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INSTRUCTIONS

for

CONTINUED AIRWORTHINESS

for

PASSENGER SLIDING DOOR KITS

STC: SR01040AT

407-600-201, L/H
407-600-202, R/H

for

BELL HELICOPTER TEXTRON MODEL 407 HELICOPTERS

Report Number AA-01157
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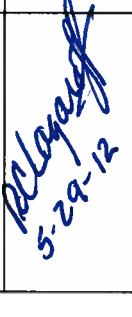
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INSTRUCTIONS FOR CONTINUED AIRWORTHINESS PASSENGER SLIDING DOOR KITS

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1.0 INTRODUCTION

These instructions contain the information necessary for inspection and maintenance of **AERONAUTICAL ACCESSORIES 407-600-201 (L/H) / 407-600-202 (R/H) PASSENGER SLIDING DOOR KITS**, installed on Bell Helicopter Textron model 407 helicopters in accordance with STC SR01040AT.

1.1 DISTRIBUTION

These instructions are provided with each Passenger Sliding Door Kit. Any airworthiness or flight safety revisions will be immediately made available to all affected Passenger Sliding Door Kit owners.

1.2 REVISION

A Log of Revision section is included in these instructions and will be utilized to document all changes. Change recommendations should be submitted to:
Aeronautical Accessories, Bell Helicopter Piney Flats
P.O. Box 3689
Bristol, TN 37625-3689
Email: techsupport@aero-access.com

2.0 DESCRIPTION

The Aeronautical Accessories Passenger Sliding Door Kit is designed to increase the aircraft versatility and enhance such operations as newsgathering, aerial photography, law enforcement, and rescue/EMS operations. The kit includes all components necessary to convert the standard, hinged door to the sliding configuration. Once the Sliding Door is unlatched by utilizing the standard door opening handle, the door is designed to slide aft along the externally mounted Upper and Lower Track assemblies to the full open position. In the full open position, the Sliding Door provides unobstructed access to the passenger cabin. The aircraft may be flown with the Sliding Door/s open to a maximum of 80 KIAS and the door/s may be opened or closed during flight at airspeeds up to 40 KIAS.

3.0 CONTROL, OPERATION INFORMATION**WARNING**

NEVER USE DOOR BRACKETS OR TRACKS AS STEPS OR HAND-HOLDS AS PERMANENT DAMAGE MAY BE CAUSED TO THE AIRFRAME AND KIT PARTS.

WARNING

THE DOOR AJAR WARNING INDICATOR KIT IS DESIGNED TO INDICATE IF THE DOOR IS LOCATED IN THE DOOR FRAME OF THE AIRCRAFT OR NOT. IT DOES NOT ASSURE POSITIVE LATCHING OF BOTH UPPER AND LOWER AFT DOOR LATCHES. IT IS THE RESPONSIBILITY OF THE OPERATOR TO ENSURE THAT ALL DOOR LATCHES ARE FULLY ENGAGED AND SECURE PRIOR TO GROUND RUN AND FLIGHT.

1. The proper procedure for **OPENING** the Passenger Sliding Door from the **OUTSIDE** of the helicopter is as follows:
 - Unlatch and pull the aft end of the door outboard fully with the Exterior handle.
 - Slide the door fully back to the Stops.
2. The proper procedure for **CLOSING** the Passenger Sliding Door from the **OUTSIDE** of the helicopter is as follows:
 - Using the Exterior Handle, slide the door fully forward.
 - Push inward on the Exterior Handle to latch.
3. The proper procedure for **OPENING** the Passenger Sliding Door from the **INSIDE** of the helicopter is as follows:
 - Unlatch and push the door fully outboard with the Aft Interior handle.
 - Using the Forward Interior handle, slide the door fully back to the Stops.
4. The proper procedure for **CLOSING** the Passenger Sliding Door from the **INSIDE** of the helicopter is as follows:
 - Using the Forward Interior handle, slide the door fully forward.
 - Pull inward on the Aft Interior handle to latch.

For additional information, refer to Section 4.5.5, Post Adjustment Door Operation Check.

4.0 MAINTENANCE INSTRUCTIONS**4.1 PREFLIGHT CHECK**

The Passenger Sliding Door Kit shall receive a Preflight Visual Check. Inspect for proper installation of hardware, any unusual wear patterns, corrosion and/or damage (scratches, nicks, dents).

NOTE

If any damage or malfunction is noted during the Preflight Check, refer to Section 4.3 Repair or Section 5.0 Troubleshooting Information.

The Preflight Check consists of the following items:

1. Check the Door for general condition and security.
2. Open and Close the Door to check for proper latch function and smooth door actuation.
3. Check the Brackets and Tracks for attaching hardware security.
4. Check the Windows for condition and security.

4.2 300 HOUR/ANNUAL INSPECTION

Inspections shall be performed every 300 hours and/or annually, whichever comes first. Inspection may be incorporated into progressive maintenance programs, as appropriate.

NOTE

If any damage or malfunction is noted during the inspection, refer to Section 4.3 Repair or Section 5.0 Troubleshooting Information.

1. Check for security of attachments: loose, missing, or cracked fasteners. Inspect the Track mounting inserts for looseness or voids. Check for proper torque (see Table 1) of Upper Door Bracket attachment hardware.

TABLE 1. STANDARD TORQUE VALUES

Fastener Size	Torque (In-Lbs)
8-32	12-15
10-32	20-25
1/4-28	50-70

2. Check for indications of corrosion.

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The indications of corrosion are 1) corrosion deposits (a white or gray powder on aluminum or rust colored deposits on steel), 2) pits in the aluminum or steel surface, 3) blisters, bulging, or flaking of protective coatings.

3. Check for scratches, nicks, dents in the surface/finish.
 - a. Abrasive wear to .032 inch depth is unacceptable. Dents and/or scratches which do not exceed .032 inch depth may be polished out; however the surface coating on the Lower Track will be damaged as a result causing discoloration and an increase in resistance to operation.
 - b. Scratches, voids, dents, and delaminations in the side body fairing that are 0.25 inch or less in size are negligible. These damages may be drilled out and filled with adhesive.
 - c. A visual inspection of the carbon fiber panels during scheduled airframe inspections is sufficient.
 - d. The maximum area of damage in the aft fuselage skins, which does not require the copper mesh to be repaired, is 1.0 inch in diameter.
4. Check for damage/cracks in the Track Assembly parts particularly around slots and fastener zones.
5. Check for damage/cracks in Injector/Catch locations particularly around weld joints, slots, and fastener zones.
6. Inspect Rollers and Slide Inserts.
 - a. Inspect Rollers and Slide Inserts for damage or excessive wear. Wear is acceptable as long as the door functions properly; if not, replace parts accordingly.
 - b. Loose Bolt: Roller Assembly bolts should be loose enough to allow the Roller Assemblies to rotate freely in the track during operation. If the Roller Assemblies are found to be excessively loose, check to see if excessive wear has occurred; if so and the door still functions properly then replace the Bolt with the appropriate length and install with cotter pin per Figure 3.
7. Inspect Stop Assembly for missing or damaged Bumpers, the condition of rubber parts, the condition of the Keeper Assembly, missing or damaged Wedges, and the tightness of fasteners per Table 1.
8. Inspect Door Ajar Warning Indicator System for proper operation. Maximum gap between Switch Actuator and Switch Assembly to be .400 inches.

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9. Inspect for missing or illegible Placards and/or Decals. Replace as required.
10. Inspect the Catches for proper engagement, wear, and attachment. Adjust them for proper fit. Inspect the Catches and Injectors for wear or cracking. Replace worn or damaged part as required. Check torque on attaching hardware per Table 1.
11. Inspect Interior Trim for condition and proper attachment, replacing parts as required. All door trim parts should be securely installed with screws/rivnuts to prevent fluttering or loss during flight with the doors open.
12. Inspect Door Handle(s) for integrity and proper alignment.

Utilize the Inspection Record provided in Appendix A to document inspection completion.

4.3 REPAIR

Repair scratches, nicks, dents, or corrosion as follows:

1. Lightly polish the affected area using an abrasive pad (very fine texture). Take care to remove as little of the component protective coatings as possible.
2. For aluminum components, after corrosion or damage repair: Clean repaired area with isopropyl alcohol, brush Alodine bare aluminum areas per MIL-DTL-5541 or equivalent, and paint area to match existing finish.

CAUTION

Painting of the Upper and Lower Tracks must be done sparingly. Paint build up in certain areas may adversely affect Sliding Door operation.

3. For steel components, after corrosion or damage repair: Prime with a rust prohibitive primer (Epoxy Polyamide Primer) and paint area to match existing finish.

4.4 CLEANING REQUIREMENTS

Any dirt, sand, or debris should be cleaned from Passenger Sliding Door components using a mild, nonabrasive soap (Recommended: Arrow – Magnolia Fleet Wash). Any dirt, sand, or debris should be cleaned from the Passenger Sliding Door window using a mild, nonabrasive soap (Recommended: Brilliance by Norel Plastic). Wipe surfaces dry with a nonabrasive cloth or paper before cleaning agent evaporates.

4.5 ADJUSTMENTS**4.5.1 DOOR BRACKETS**

1. Adjustment of the angular orientation of the forward Upper Door Bracket to primarily roll on the outboard wheel will result in best door performance. Adjustment of the angular orientation of the aft Upper Door Bracket to primarily slide on the inboard side of the Slide Wheel will result in best door performance.
2. Adjust the vertical angle of the door by altering the location of the Lower Track. The Lower Track Assembly brackets are slotted to allow vertical adjustment. It is permissible to slot the brackets to allow horizontal adjustment of the Lower Track as required. The sliding door will function best when the optimum vertical angle of the door is found, which will depend on the particular helicopter on which the Passenger Sliding Door Kit is installed. It may be necessary to slightly bend the lower track as required to ensure that the Lower Door Brackets stay hooked in all locations during transition.
3. The Door Bracket Assemblies should not contact the fuselage at any location other than the door itself. If contact occurs it will be necessary to remove the Door Bracket Assembly and carefully bend it as required to eliminate contact. Re-install the Door Bracket Assembly (see step 1 for readjustment as required).
4. The force required to push the door forward from the fully open and stopped/wedged position can be adjusted by bending the Keeper portion of the forward Lower Door Bracket Assembly slightly up or down where it contacts the Wedge. If necessary, it is permissible to trim the most inboard edge of the Keeper enough to clear the fuselage if contact occurs. Vertical adjustment of the door can be made by adding a Washer between the Roller Assemblies and the Upper Door Brackets, ensuring adequate thread length remains.

4.5.2 LATCHES

1. If the door is not completely flush with the fuselage or the Injector impacts the Catch in a location other than the slot during opening or closing, adjust the angular orientation of the catch by bending it slightly for best Injector engagement. If required, it is permissible to add washers (a maximum of 3) under the Latch as long as after washer installation, the Latch is still engaging the hinge bushings at that location, and the Latch fastener lengths are still adequate. Torque bolts according to Table 1.
2. Aft latches should lock simultaneously when the door is closed. If not, adjust the location of the aft latch pins to make the aft portion of door flush with fuselage and enable the door to latch properly.

WARNING

THE AFT LATCH IS A DOUBLE-CLICK TYPE. ADJUST LATCH PINS SO THAT BOTH CLICKS ENGAGE SECURELY FOR PROPER CLOSURE OF THE DOOR. SEE BHT MAINTENANCE MANUAL FOR PROPER CARE AND MAINTENANCE OF THE AFT DOOR LATCHES.

4.5.3 SPACERS

Adjust the Spacer to fit flush on the helicopter skin by carefully removing material where they encounter rivets/protrusions and heating as required for best fuselage contour fit. If rivet lengths are found to be short due to aircraft variation, locally procure a sheet of Kydex or Lexan thinner than the provided Spacer and trim it to be a replacement for the Spacer (Longer rivets of this specification are generally not available).

4.5.4 DOOR SEALS

If the door Seal is found to leak after kit installation, it is recommended to apply sealant (AMS-S-8802) around each Door Bracket Doubler on the inside of the door flange to help seal out moisture. If leaks persist it may be necessary to cut the door seal just above the upper hinge and at the joint located at the end of the bottom of the door. Carefully remove the seal from the door frame and re-install on the door. The following materials may be obtained should the door seal be damaged during removal: Seal (BHT P/N 120-199-2), Tape (BHT P/N 9731-75), and Adhesive (BHT P/N 299-947-152TICL1).

4.5.5 POST ADJUSTMENT DOOR OPERATION CHECK

With proper adjustment, the Sliding Door should function such that:

1. During the final stages of closing, the door's lower front edge should contact the rubber door seal snugly, but without excessive force, which could result in damage to the seal.
2. The door should initially pop out of the door frame approximately 1 inch to 2 inch after pulling up on the door handle so that a little extra pull outboard and aftward will result in the door opening with minimum resistance.
3. The door, in the closed position, should fit vertically and horizontally, and the outer surface of the door should be flush with the surface of the airframe as if it were still on hinges.
4. The grooved wedge stop installed on the Lower Track should smoothly wedge the forward Lower Door Bracket/Keeper snugly without binding the door in any other location. The Keeper may be trimmed, if required, to clear the lower fuselage.

5. The aft Lower Door Bracket should contact the aft Lower Track Stop with the door in the most aft position (the upper aft door bracket against the upper track stop).
6. The wedges installed with the aft Lower Track Stop should smoothly wedge the Aft Lower Door Bracket snugly (glue the wedges to the track if necessary).
7. The interior trim should not interfere with the operation of the door, and no part of the door should contact the outside of the fuselage while the door is being opened or closed.
8. The door should transition smoothly with an average applied force of approximately 5 pounds or less.
9. Resistance in one location may be caused by door frame or track bracket contact in an alternate location. Check clearance all around the door prior to making any permanent part changes.

4.5.6 TRACKS

1. Upper Track

After the Insert installation is complete, the Upper Track Assembly is essentially frozen. If the Rivets used to fasten the aft baseplate to the airframe are found to be too short for proper installation, it will be necessary to locally procure a thinner sheet of Kydex or Lexan to replace the Spacer. This type of modification will be required only on airframes that have unusually thick skins in this area. The choice of using a thinner spacer is best because longer rivets of this specification are not generally available, and seldom install properly in this material.

2. Lower Track

- a. Verify that the Lower Track Assembly is located as noted in Figure 6. Measure from the edge of the side body assembly to the edge of the Lower Track Brackets, and to the aft crosstube support.
- b. Loosening the Lower Track Assembly fasteners, and then sliding the door forward and aft will often offer significant clues to where the Lower Track Assembly should be located on your airframe. The objective is to orient the Lower Track Assembly as parallel as possible to the Upper Track Assembly so that a minimum amount of binding between the two tracks is achieved. Cautious slotting of some Lower Track and Lower Track Bracket holes may offer significant performance improvements. It is possible to tape relocated parts in-place prior to any permanent modification to evaluate door performance improvements.

- c. Ensure that the lower forward corner of the passenger door is not contacting the door frame too far aft and/or so hard that it might cause damage to the rubber door seal. If this is occurring the door will sometimes be mistakenly diagnosed as binding in the upper aft roller location. If this is occurring, loosen the forward end of the Lower Track and open and close the door a few times to get a feel for where the door wants the Lower Track Assembly to be during transition. Problems in this area are typically caused by the forward Lower Track inserts being installed too far inboard on the belly of the aircraft. If the door seems to operate better with the track moved outboard, it may be necessary to slot or relocate the holes in the flange at the forward end of the Lower Track, (minimum edge distance must be maintained). Fill the original hole locations in the flange with sealant (AMS-S-8802) as required. Install the Screws and torque in accordance with Table 1.

WARNING

IT IS THE INSTALLER'S RESPONSIBILITY TO MAINTAIN ADEQUATE EDGE DISTANCE ON ALL MODIFIED PARTS. BE SURE AN ALTERATION IS NECESSARY PRIOR TO ANY DRILLING OR GRINDING OPERATION BECAUSE SIGNIFICANT STRUCTURAL DEGRADATION CAN BE CAUSED BY INAPPROPRIATE MODIFICATION.

4.5.7 TRIM PANELS**NOTE**

The following instructions apply to new, replacement trim panels only.

The proper modification of the interior trim is extremely important for the successful completion of this installation. Trim panels should fit flush with the handle trim spacers and the door and window surfaces after trimming. Any deformation or loading of the trim panels is a sign of improper trimming. The panels should be carefully trimmed to fit as well as they did prior to the installation of the Passenger Sliding Door Kit parts. Be very careful during the modification process because the OEM trim panels are made of Lexan and are very brittle. They are very susceptible to cracking if flexed too much. The following goals should be worked towards during the trim modification process:

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1. The holes for the Aft Interior Handle are located approximately in the corner of the trim panel and the plastic fits flush against the Trim Spacers attached to the handle assembly.
2. The beaded edge of the trim panel fits flush against the window.
3. Holes for the Interior Handles should not be noticeable from the inside or outside of the helicopter. Any gaps caused by slotting of holes during the adjustment phase should be carefully filled and painted to match the trim color.
4. The trim panel should not contact the painted outside of the airframe aft of the passenger door during transition.
5. The trim around the forward latch locations should not cause any interference with opening and closing the door.
6. No sharp or jagged edges are to be allowed. Use sandpaper to smooth the trimmed edge.
7. Ensure that the Door Trim Assembly fits flush with the door panel and covers any holes cut in the door trim location formerly covered by the armrest.

This is a very critical portion of the installation. If needed, replacement trim panels may be obtained from Aeronautical Accessories Bell Helicopter Piney Flats.

5.0 TROUBLESHOOTING INFORMATION

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
Passenger Door does not open properly when the door handle is actuated.	Lower Door Brackets are not adjusted optimally	The forward Lower Door Bracket should be bent so that it pulls outboard against the track when the door is closed. The aft Lower Door Bracket should be bent so that it presses inboard against the track when the door is closed. The door should initially pop open approximately 1 inch to 2 inch after the door handle has been actuated. This pre-tensioned condition in the Lower Door Brackets when the door is closed must be maintained for optimal door operation
	Aft door latches are not functioning properly	Check actuation of the latches. They should engage and release smoothly and completely. Carefully remove any ice, dirt, or debris that may have built up around or in the latch mechanisms. The aft latch is a double-click type. Adjust latch pins so that both clicks engage securely for proper locking of the door. See BHT maintenance manual for proper care and maintenance of the aft door latches
	Ice, dirt, or other foreign debris is obstructing the door and/or the Upper Door Bracket Roller Assemblies	Carefully remove any ice or debris that may have built up around the door frame and latches. Carefully remove any ice, dirt, or debris that may have built up around Passenger Sliding Door Kit parts, with special emphasis on the slot in the bottom of the upper track and the Roller Assemblies. A light film of lubricant, such as WD-40, may be applied after the cleaning process
	Roller Assemblies / Upper Door Brackets are damaged or have missing hardware	Check the condition of the Upper Door Brackets, the forward Upper Roller Assembly, and the aft Upper Roller Assembly. All fasteners should be installed and in good condition. Roller parts should be free of chips, gouges, cracks, or excessive wear. Replace parts as required
	Interior trim on the door and/or the door frame is obstructing the door	The interior trim should not interfere with the operation of the door at any time during operation. Check all trim fasteners for security and replace any missing ones as required. Verify that the door is properly located in the door frame with respect to the surface of the fuselage and the door frame opening. Re-adjust the door to achieve proper location as required. The modification to the door trim accomplished as part of the initial installation process for the Passenger Sliding Door Kit(s) should be adequate throughout the service life of the kit(s). However, if the problem persists, or new trim panels are installed in the aircraft, determine what portion of the trim is causing contact and carefully grind/cut as required to achieve proper clearance

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
Passenger Door does not open properly when the door handle is actuated. (Cont)	Forward Injectors and Catches are obstructing the door	Check all trim fasteners around the forward side of the passenger door and door frame for security and replace any missing ones as required. Nothing should be protruding between these two surfaces that might interfere with the door rotation and transition during opening and closing. Verify that the door is properly located in the door frame with respect to the surface of the fuselage and the door frame opening. Re-adjust the door to achieve proper location as required. The modification to the Injectors and Catches accomplished as part of the initial installation process for the Passenger Sliding Door Kit(s) should be adequate throughout the service life of the kit(s), however, if the problem persists, determine what portion of the Injector/Catch fit is causing the obstruction. If the Injector impacts the Catch in a location other than the slot, adjust the Catch by bending it until the best door fit and function is reached. Ensure that the Injector is rounded and smooth on its forward surface to ensure smooth injection and withdrawal during door operation. Careful rounding of the surface of the Injector is permitted as required to achieve proper smoothness. Replace damaged or excessively worn parts as required
	Forward lower corner of the door contacts the door sill very hard causing a binding in the system	This condition could occur if the Lower Door Brackets have been altered or replaced. The forward Lower Door Bracket should be bent so that it pulls outboard against the track when the door is closed. The aft Lower Door Bracket should be bent so that it presses inboard against the track when the door is closed. The door should initially pop open approximately 1 inch to 2 inch after the door handle has been actuated. This pre-tensioned condition in the Lower Door Brackets, when the door is closed, must be maintained for optimal door operation

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
Door does not transition smoothly from the short to long Upper Track slot	Fasteners that retain the aft Roller Assembly are loose, damaged, or lost	Adjust fasteners as required. Do not over-tighten the ¼ inch bolt and castellated nut fastening the Roller Assemblies to the Upper Door Brackets. This fastener should only be tightened to the point where it is snug and then have a Cotter Pin installed. A light film of lubricant such as WD-40 may be applied to aid the transition process
	Flanged Bushing, Roller, or Washer is damaged or excessively worn	Check Roller Assembly for damage and wear and replace parts and fasteners as required. Do not over-tighten the bolts
	Ramp built into the Upper Track slot is damaged	The ramp is actually a portion of the Upper Track slot flange that has been very carefully bent upward into the track tube. This ramp is critical to the proper function of the Passenger Sliding Door Kit(s) because it lifts the Aft Roller Assembly off the outboard flange, over and across the long track slot, and then lets it down on the forward flange of the short track slot. If this portion of the track is damaged significantly enough (bent down, cracked, broken out completely) to obstruct door function or allow the Roller Assembly to come out of it, the Upper Track Assembly will require replacement
	Swing Link Roller fastened to aft Upper Door Bracket is over-tightened, damaged, lost, or excessively worn	Adjust fasteners as required. Do not over-tighten the ¼ inch bolt and nut fastening the Roller to the Swing Arm. This fastener should only be tightened to the point where the Roller turns without resistance, but is not so loose as to jiggle. A light film of lubricant such as WD-40 may be applied to aid the transition process
The aft end of the door has become very loose during transition	Fasteners that retain the aft Roller Assembly are too loose, or are damaged	Adjust fasteners as required. Do not over-tighten the ¼ inch bolt and castellated nut fastening the Roller Assemblies to the Upper Door Brackets. This fastener should only be tightened to the point where it is snug and then have a Cotter Pin installed. Replace any damaged or excessively worn parts.
	Flanged Bushing, Roller, or Washer is damaged or excessively worn	Check Roller Assembly for damage and wear and replace parts and fasteners as required. Do not over-tighten the bolts
The Roller Assembly attached to the aft Upper Door Bracket does not transit into the short slot in the Upper Track	Swing Link and/or Roller located on the inboard side of the Upper Track tube is damaged or is missing	Replace any damaged or excessively worn parts. If the Swing Link Roller has been worn down it will allow the primary Roller located inside the track slot to make contact with the point that separates the long and the short slots. If this is occurring, the Swing Link Roller must be replaced immediately to prevent significant damage to the track point. If the Swing Link itself is bent it should be immediately replaced for the same reason

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
Aft Roller Assembly parts are being damaged	Ramp built into the transition point between the short and long track slots is damaged	The ramp is actually a portion of the Upper Track slot flange that has been very carefully bent upward into the track tube. This ramp is critical to the proper function of the Passenger Sliding Door Kit(s) because it lifts the Aft Roller Assembly off the outboard flange, over and across the long track slot, and then lets it down on the forward flange of the short track slot. If this portion of the track is damaged significantly enough (bent down, cracked, broken out completely) to obstruct door function or allow the Roller Assembly to come out of it, the Upper Track Assembly will require replacement
	Swing Link Roller fastened to aft Upper Door Bracket is damaged, lost, or excessively worn	Replace any damaged or excessively worn parts. If the Swing Link Roller has been worn down it will allow the primary Roller located inside the track slot to make contact with the point that separates the long and the short slots. If this is occurring the Swing Link Roller must be replaced immediately to prevent significant damage to the track point. If the Swing Link itself is bent it should be immediately replaced for the same reason
	Point separating the short and the long slots is damaged	Evaluate the function of the forward Roller Assembly and the aft Roller Assembly as they transit past the point. If only minor to no interference is encountered between the rollers and the point, the point may be carefully sanded to remove any burrs or sharp edges. If serious interference is encountered or it is possible for the aft Roller Assembly to come out of the track, contact the manufacturer immediately, the Upper Track Assembly will require replacement
Forward Roller Assembly Guide is damaged or cracked	Contact is being made between the Guide and the weld fillet at the forward end of the slot in the Upper Track	Depending on variations from aircraft to aircraft, during initial kit installation the inboard side of the Guide may have been sanded down to avoid contact with the weld fillet. If this part has been replaced without being similarly sanded, it may cause a hard contact resulting in a cracked or broken Guide. Inspect the contact location and determine what portion of the Guide should be sanded. Remove the forward Roller Assembly from the forward Upper Door Bracket and sand the Guide as required
Door requires a great deal of effort to move along tracks	Ice, dirt, or other foreign debris is obstructing the door and/or the Upper Door Bracket Roller Assemblies	Carefully remove any ice, dirt, or debris that may have built up around Passenger Sliding Door Kit(s) parts with special emphasis on the slot in the bottom of the Upper Track and the Roller Assemblies. A light film of lubricant such as WD-40 may be applied after the cleaning process
	Forward Upper Roller Assembly Guide is damaged or lost and the rollers have turned 90° in the Upper Track	Replace the damaged or lost Guide. Depending on variations from aircraft to aircraft, during initial kit installation the inboard side of the Guide may have been sanded down to avoid contact with the weld fillet. If this part is replaced without being similarly sanded it may cause a hard contact resulting in a cracked or broken Guide. Inspect the contact location and determine what portion of the Guide should be sanded if any. Remove the forward Roller Assembly from the forward Upper Door Bracket and sand the Guide as required
	Roller Assemblies have been tightened too tight and are causing binding with the track	Do not over tighten the ¼ inch bolt and castellated nut fastening the Roller Assemblies to the Upper Door Brackets. This fastener should only be tightened to the point where it is snug and then have a Cotter Pin installed

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
The door progressively becomes harder to move as it moves forward or aft on the tracks	Ice, dirt, or other foreign debris is obstructing the door and/or the Upper Door Bracket Roller Assemblies	Carefully remove any ice, dirt, or debris that may have built up around Passenger Sliding Door Kit(s) parts with special emphasis on the slot in the bottom of the upper track and the Roller Assemblies. A light film of lubricant such as WD-40 may be applied after the cleaning process
	Tracks are no longer parallel due to Upper Track or aircraft fuselage damage	The Upper Track Assembly should be horizontally straight along its length and parallel to the Lower Track. There should be no unusual puckers, deformations, or cracks in the fuselage around Upper Track mounting points. Evaluate the Lower Door Brackets as the door transits along the tracks for proper engagement with the Lower Track. If only minor to no misalignment between the Slide Inserts (located in the bottom of the lower Door Brackets) and the Lower Track is encountered, this does not constitute a serious problem. If serious deflection or damage (dents, cracks, broken weld joints, etc.) is noticed in the Upper Track and/or it is possible for the aft Lower Door Bracket to become detached from the Lower Track, the Upper Track Assembly will require replacement. <u>WARNING</u> <u>NEVER</u> USE DOOR BRACKETS OR TRACKS AS STEPS OR HAND HOLDS AS PERMANENT DAMAGE MAY BE CAUSED TO THE AIRFRAME AND KIT PARTS.
	Tracks are no longer parallel because the Lower Track or aircraft fuselage has become misaligned or is damaged	The Lower Track Assembly should be horizontally straight along its length and parallel to the Upper Track. There should be no unusual puckers, deformations, or cracks in the fuselage around Lower Track mounting points. Evaluate the Lower Door Brackets as the door transits along the tracks for proper engagement with the Lower Track. If only minor to no misalignment between the Slide Inserts (located in the bottom of the lower Door Brackets) and the Lower Track is encountered this does not constitute a serious problem. Loosen the fasteners between the Lower Track and its support brackets and relocate it as required for best function. Slight bending of the Lower Track is permissible to straighten it back out in the case of minor inadvertent bending. Any re-bending must be done with the track removed from the aircraft to prevent damage to the belly. If the black anodize coating on the Lower Track has been cracked or flaked as a result of bending and/or it is possible for the aft Lower Door Bracket to become detached from the Lower Track, the Lower Track will require replacement. <u>WARNING</u> <u>NEVER</u> USE DOOR BRACKETS OR TRACKS AS STEPS OR HAND HOLDS AS PERMANENT DAMAGE MAY BE CAUSED TO THE AIRFRAME AND KIT PARTS.

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
The Keeper makes contact with the Lower Track other than at the grooved wedge	Upper Track has been deformed or mis-located	The Upper Track Assembly should be horizontally straight along its length and parallel to the Lower Track. There should be no unusual puckers, deformations, or cracks in the fuselage around Upper Track mounting points. Evaluate the Lower Door Brackets as the door transits along the tracks for proper engagement with the Lower Track. If only minor to no misalignment between the Slide Inserts (located in the bottom of the lower Door Brackets) and the Lower Track is encountered, this does not constitute a serious problem. If serious deflection or damage (dents, cracks, broken weld joints, etc.) is noticed in the Upper Track and/or it is possible for the aft Lower Door Bracket to become detached from the Lower Track, the Upper Track Assembly will require replacement. <u>WARNING</u> NEVER USE DOOR BRACKETS OR TRACKS AS STEPS OR HAND HOLDS AS PERMANENT DAMAGE MAY BE CAUSED TO THE AIRFRAME AND KIT PARTS.
	Lower Track has been deformed or mis-located	The Lower Track Assembly should be horizontally straight along its length and parallel to the Upper Track. There should be no unusual puckers, deformations, or cracks in the fuselage around Lower Track mounting points. Evaluate the Lower Door Brackets as the door transits along the tracks for proper engagement with the Lower Track. If only minor to no misalignment between the Slide Inserts (located in the bottom of the lower Door Brackets) and the Lower Track is encountered, this does not constitute a serious problem. Loosen the fasteners between the Lower Track and its support brackets and relocate it as required for best function. Slight bending of the Lower Track is permissible to straighten it back out in the case of minor inadvertent bending. Any of the Lower Track is permissible to straighten it back out in the case of minor inadvertent bending. Any re-bending must be done with the track removed from the aircraft to prevent damage to the belly. If the black anodize coating on the Lower Track has been cracked or flaked as a result of bending and/or it is possible for the aft Lower Door Bracket to become detached from the Lower Track, the Lower Track will require replacement. <u>WARNING</u> NEVER USE DOOR BRACKETS OR TRACKS AS STEPS OR HAND HOLDS AS PERMANENT DAMAGE MAY BE CAUSED TO THE AIRFRAME AND KIT PARTS.
Water leaks past door seal	Doublers added to the inside door flange are causing a gap in the seal	If the door seal is found to leak after Passenger Sliding Door Kit installation, it is recommended to apply sealant (AMS-S-8802) around each Door Bracket Doubler on the inside of the door flange to help seal out moisture
	Door seal has been damaged	Replace any damaged or missing door seal. See BHT maintenance manual for proper care and maintenance of the door seals
Forward Lower Door Bracket has become detached from Lower Track	Keeper and/or its fasteners have been damaged or lost	Inspect the Keeper and its rivets for condition and security. The Keeper should be bent in such a manner so that it only contacts the grooved Wedge installed on the Lower Track during normal operations. Any other contact should be avoided

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
Aft Lower Door Bracket has become detached from Lower Track	Tracks are no longer parallel because the Lower Track has become misaligned or is damaged	The Lower Track Assembly should be horizontally straight along its length and parallel to the Upper Track. There should be no unusual puckers, deformations, or cracks in the fuselage around Lower Track mounting points. Evaluate the Lower Door Brackets as the door transits along the tracks for proper engagement with the Lower Track. If only minor to no misalignment between the Slide Inserts (located in the bottom of the lower Door Brackets) and the Lower Track is encountered, this does not constitute a serious problem. Loosen the fasteners between the Lower Track and its support brackets and relocate it as required for best function. Slight bending of the Lower Track is permissible to straighten it back out in the case of minor inadvertent bending. Any re-bending must be done with the track removed from the aircraft to prevent damage to the belly. If the black anodize coating on the Lower Track has been cracked or flaked as a result of bending and/or it is possible for the aft Lower Door Bracket to become detached from the Lower Track, the Lower Track will require replacement. <u>WARNING</u> <u>NEVER</u> USE DOOR BRACKETS OR TRACKS AS STEPS OR HAND HOLDS AS PERMANENT DAMAGE MAY BE CAUSED TO THE AIRFRAME AND KIT PARTS.
	Tracks are no longer parallel because the Upper Track has been damaged causing the door to sag and the lower door bracket to drop below the track flange	The Upper Track Assembly should be horizontally straight along its length and parallel to the Lower Track. There should be no unusual puckers, deformations, or cracks in the fuselage around Upper Track mounting points. Evaluate the Lower Door Brackets as the door transits along the tracks for proper engagement with the Lower Track. If only minor to no misalignment between the Slide Inserts (located in the bottom of the lower Door Brackets) and the Lower Track is encountered, this does not constitute a serious problem. If serious deflection or damage (dents, cracks, broken weld joints, etc.) is noticed in the Upper Track and/or it is possible for the aft Lower Door Bracket to become detached from the Lower Track, the Upper Track Assembly will require replacement. <u>WARNING</u> <u>NEVER</u> USE DOOR BRACKETS OR TRACKS AS STEPS OR HAND HOLDS AS PERMANENT DAMAGE MAY BE CAUSED TO THE AIRFRAME AND KIT PARTS.
The lower fuselage is scratched or gouged	Lower Door Bracket Keeper is making contact with the lower fuselage	If scratches or gouges are found in the lower fuselage near the forward end of the Lower Track, slide the door forward along the tracks and verify contact between the keeper and the fuselage. Slide the door to its most aft position to verify that the keeper snugly wedges itself on the grooved wedge installed on the top surface of the Lower Track

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
Exterior surface of aircraft is scratched aft of the passenger door	Interior surface of the passenger door is making contact with the fuselage aft of the passenger door	Move the door forward and aft while watching for contact between the inside of the door and the fuselage. Particular attention should be focused on the interior trim, trim screws, interior handles, or anything else that might have been installed on the inside of the door. Re-fasten loose trim and tighten screws as required. Do not over tighten trim screws as it might cause damage to the trim (cracks). If contact persists between the door and the fuselage inspect the Lower Track. Has its location been altered inward? Re-locate the track back to its original location as required. It is possible for the door to be flexed to the point where the aft latch striker can make contact with the aft fuselage. This is the purpose of the Striker Guard installed on the fuselage. Relocate the Striker Guard as required for best protection of the fuselage. This part has been bonded on with sealant (AMS-S-8802). If the Striker Guard is missing, it should be replaced
The door bumps up as it is closed and drops down as it is opened	Aft Roller Assembly has been damaged or parts of it have become mis-located or lost	Ensure the door is fitting in the door frame properly. Check Roller Assembly for damage and wear and replace parts and fasteners as required. Do not over-tighten the bolts
	Aft latches have become misaligned with the door	The aft latch is a double-click type. Adjust latch pins so that both clicks engage securely for proper locking of the door. See BHT maintenance manual for proper care and maintenance of the aft door latches
	Interior trim on the door and/or door frame is obstructing the door	The interior trim should not interfere with the operation of the door at any time during operation. Check all trim fasteners for security and replace any missing ones as required. Verify that the door is properly located in the door frame with respect to the surface of the fuselage and the door frame opening. Re-adjust the door to achieve proper location as required. The modification to the door trim accomplished as part of the initial installation process for the Passenger Sliding Door Kit(s) should be adequate throughout the service life of the kit(s), however, if the problem persists, or new trim panels are installed in the aircraft determine what portion of the trim is causing contact and carefully grind/cut as required to achieve proper clearance
The forward end of the door bumps up as it passes the short upper track slot	Forward Roller Assembly attached to the forward Upper Door Bracket is contacting the track slot ramp	Carefully bend the Upper Door Bracket so that the Roller Assembly rolls primarily on the outboard roller. This will allow the inboard roller to pass over the ramp bent into the inboard flange of the Upper Track slot at the short slot location. The Upper Door Bracket must be removed from the door before bending because it is .125 inch stainless steel and the stress of bending it while still installed on the door would cause damage to the door flange
The forward end of the door bumps all along the Upper Track slot	Rollers on the forward Roller Assembly have been damaged or excessively worn	Inspect Rollers for gouges, cracks, and excessive wear. Replace parts as required. Snap Rings must be replaced if they have been removed from the axle for any reason
	Ice, dirt, or other foreign debris is obstructing the Roller Assemblies	Inspect Roller Assembly for any foreign material wrapped around rollers or axle. Inspect the slot and the inside of the Upper Track tube for ice, dirt, or other foreign material. Remove any debris and clean the track as required. A light film of lubricant such as WD-40 may be applied after the cleaning process

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
The forward surface of the door is not flush with the fuselage	Fasteners that retain the Injector are loose, damaged, or lost	Re-torque/replace fasteners as required in accordance with Table 1
	Fasteners that retain the Catch are loose, damaged, or lost	Re-torque/replace fasteners as required in accordance with Table 1
	Catch has been damaged	If the Catch has been bent, re-bend it to the proper location where the surface of the door is flush with the door frame. If the Catch is cracked or excessively worn, replace it
Upper Track is loose	Fasteners that retain the Upper Track are loose, damaged, or lost	Check all fasteners for security and torque. Re-torque as required in accordance with Table 1. Check all inserts installed in the roof of the aircraft for security. Replace any damaged or loose insert in accordance with BHT maintenance procedures for this aircraft
	Upper Track weld joint has been broken	The Upper Track Assembly will require replacement
Lower Track is loose	Fasteners that retain the Lower Track are loose, damaged, or lost	Check all fasteners for security and torque. Re-torque as required in accordance with Table 1. Check all inserts installed in the belly of the aircraft for security. Replace any damaged or loose insert in accordance with BHT maintenance procedures
The Lower Track is found to have scratches, abrasion, or excessive wear	Rubber bonded to the lower surface of the Keeper has been damaged, lost, or excessively worn	Remove the remaining portions of the old pad completely and clean the surface of the Keeper with isopropyl alcohol. Obtain a replacement rubber pad and bond it to the keeper with Loctite 495 Superglue
	Slide Inserts installed in the bottom end of the Lower Door Brackets have been damaged, lost, or are excessively worn	Remove the remaining portions of the old Slide Inserts completely and clean the inside surface of the Lower Door Bracket with isopropyl alcohol. Obtain a replacement Slide Insert and bond it into the bracket with Loctite 495 Superglue
The Flanged Bushing portion of the aft Roller Assembly has been broken into two parts, a bushing and a washer	Roller on the Swing Link is too loose, has been damaged, or is lost. This condition allows the vertical bolt in the aft Roller Assembly to pound against the point with the Flange Bushing	Evaluate the function of the forward Roller Assembly and the aft Roller Assembly as they transit past the point. If only minor to no interference is encountered between the rollers and the point the point may be carefully sanded to remove any burrs or sharp edges. If serious interference is encountered or it is possible for the aft Roller Assembly to come out of the track, the Upper Track Assembly will require replacement. Replace any lost or damaged parts as required
The point separating the short and the long slot in the Upper Track is damaged	Roller on the Swing Link is too loose, has been damaged, or is lost. This condition allows the vertical bolt in the aft Roller Assembly to pound against the point	Evaluate the function of the forward Roller Assembly and the aft Roller Assembly as they transit past the point. If only minor to no interference is encountered between the rollers and the point the point may be carefully sanded to remove any burrs or sharp edges. If serious interference is encountered or it is possible for the aft Roller Assembly to come out of the track, the Upper Track Assembly will require replacement. Replace any lost or damaged parts as required

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
The door in the closed position vibrates during flight	Forward or aft latches may be misaligned and/or their fasteners may be loose, damaged, or lost	Inspect all fasteners for condition and torque. Inspect Injectors and Catches for security and condition. Replace any parts exhibiting cracks or excessive wear. The aft latch is a double-click type. Adjust latch pins so that both clicks engage securely for proper locking of the door. See BHT maintenance manual for proper care and maintenance of the aft door latches
	Door seals are damaged or lost	Replace damaged or lost door seals
The door in the open position vibrates during flight	Upper and/or Lower Track Stops are not engaged by the Upper and/or Lower Door Brackets	Check the condition of the rubber portions of the stops, the wedges installed on the lower track, the Slide Insert installed in the aft Lower Door Bracket, the Keeper installed on the inboard side of the forward Lower Door Bracket, and the rubber pad bonded to the bottom of the Keeper. Replace any damaged, excessively worn, or lost parts as required
The door makes a clicking sound just at the end of the transition to the open position	Wedges that are part of the Aft Lower Track Stop have delaminated from the Lower Track and are catching on the Slide Insert	Carefully clean the Lower Track directly under the Wedges (one on the outboard and one on the inboard sides of the Lower Track) with isopropyl alcohol or equivalent. Wipe dry before alcohol evaporates. Apply a thin coat of Loctite 495 Superglue and clamp the Wedges against the Lower Track
The Door Ajar Annunciator indicates that the door is open when it is not	Electrical provisions are cut or damaged in a manner that prevents a closed circuit	Repair the damaged wiring. Check circuit continuity in Switch Assembly with door in the open and the closed positions. The Switch Assembly circuit should close when the door/Switch Actuator is in the fully closed position, and open when the door/Switch Actuator is opened
	Switch Assemblies or Switch Actuators are loose, mis-located, or damaged	Check circuit continuity in the Switch Assembly with the door in the open and the closed positions. The Switch Assembly circuit should close when the door/Switch Actuator is in the fully closed position, and open when the door/Switch Actuator is opened. Relocate or replace any Switch Assembly and/or the Switch Actuator that is not functioning properly
	Switch Actuator is missing.	Replace the Switch Actuator
	Door is not completely closed	Verify that the door is completely in the door frame and that all of the latch points are fully and completely engaged. Adjust latches as required
The Door Ajar Annunciator does not indicate that the door is open when it is	Electrical provisions are cut or damaged in a manner that causes a short circuit	Repair the damaged wiring. Check circuit continuity in the Switch Assembly with the door in the open and the closed positions. The Switch Assembly circuit should close when the door/Switch Actuator is in the fully closed position, and open when the door/Switch Actuator is opened
	Switch Assemblies are damaged	Check circuit continuity in the Switch Assembly with the door in the open and the closed positions. The Switch Assembly circuit should close when the door/Switch Actuator is in the fully closed position, and open when the door/Switch Actuator is opened

TABLE 2. TROUBLESHOOTING INFORMATION

Problem	Probable Cause	Remedy
The Door Ajar Annunciator indicates that the door is intermittently open and closed	Electrical provisions are cut or damaged in a manner that causes an intermittent short or closed circuit	Check circuit continuity in the Switch Assembly with the door in the open and the closed positions while jiggling the wiring. The Switch Assembly circuit should stay closed when the door/Switch Actuator is in the fully closed position, and stay open when the door/Switch Actuator is opened. Repair any damaged wiring as required
	Switch Assemblies or the Switch Actuators are loose, located incorrectly, or damaged	Check circuit continuity in the Switch Assembly with the door in the open and the closed positions. The Switch Assembly circuit should stay closed when the door/Switch Actuator is in the fully closed position, and stay open when the door/Switch Actuator is opened. Relocate or replace any Switch Assembly and/or the Switch Actuator that is not functioning properly
	Switch Actuator is missing	Replace the Switch Actuator
	Door is not completely closed	Verify that the door is completely in the door frame and that all of the latch points are fully and completely engaged. Adjust latches as required
The inner door handles are loose	Handle fasteners are loose, damaged, or missing	Replace any damaged or missing parts as required. Torque screws in accordance with Table 1
The outer door handles are loose	Handle fasteners are loose, damaged, or missing	Replace any damaged or missing parts as required. Torque screws in accordance with Table 1
The door makes a grinding sound when it is opened and closed	Ice, dirt, or other foreign debris is obstructing the door and/or the Upper Door Bracket Roller Assemblies	Carefully remove any ice or debris that may have built up around the door frame and latches. Carefully remove any ice, dirt, or debris that may have built up around Passenger Sliding Door Kit(s) parts with special emphasis on the slot in the bottom of the upper track and the Roller Assemblies. A light film of lubricant such as WD-40 may be applied after the cleaning process

6.0 REMOVAL AND REPLACEMENT INFORMATION**6.1 REMOVAL – PASSENGER SLIDING DOOR KIT****6.1.1 REMOVAL OF UPPER DOOR BRACKETS AND UPPER DOOR DOUBLERS**

1. Remove and retain the Screws and Trim Washer installed through the door for the Exterior Handle.
2. Remove the interior trim fasteners and trim from the door to gain access to the Upper Door Brackets and retain.
3. Remove the Screws and Nuts from the brackets and retain.
4. Remove the Upper Door Brackets carefully separating the sealant (AMS-S-8802) layer without damaging the door.
5. Remove the Upper Door Doublers carefully separating the sealant (AMS-S-8802) layer without damaging the door.
6. Removal complete.

6.1.2 REMOVAL OF LOWER DOOR BRACKETS AND LOWER DOOR DOUBLERS

1. Remove and retain the Screws and Trim Washer installed through the door for the Exterior Handle.
2. Remove the interior trim fasteners and trim from the door to gain access to the Lower Door Bracket doublers and fasteners.
3. Remove the Screw and Nut Strips from the lower door flange for the forward and aft Lower Door Brackets and retain.
4. Remove the Lower Door Bracket carefully separating the sealant (AMS-S-8802) layer without damaging the door.
5. Remove the Lower Door Doubler carefully separating the sealant (AMS-S-8802) layer without damaging the door.
6. Removal complete.

6.1.3 REMOVAL OF UPPER TRACK ASSEMBLY

1. Carefully drill out the Rivets fastening the Upper Track Assembly aft baseplate.

WARNING

CARE SHOULD BE TAKEN DURING THE FASTENER REMOVAL PROCESS. THIS TYPE OF MONEL RIVET INSTALLED IN GRAPHITE/EPOXY WILL HAVE THE TENDENCY TO SPIN DURING THE DRILL OUT PROCESS, RESULTING IN DAMAGE TO THE HOLE. CAREFULLY GRIND THE HEAD OFF THE RIVET, DRILL THE CENTER TO A POINT BELOW THE SURFACE OF THE AIRFRAME, AND THEN PUNCH THE REMAINING PORTION OUT.

2. Remove the fifteen (15) Screws and Washers fastening the Upper Track Assembly (seven places in the forward baseplate and the eight places in the center baseplate) and retain.
3. Remove the Upper Track Assembly by carefully separating the sealant (AMS-S-8802) layer between the Spacers installed between the Upper Track Assembly baseplates and the fuselage.
4. Removal complete.

6.1.4 REMOVAL OF LOWER TRACK ASSEMBLY

1. Remove the fourteen (14) Screws fastening the Lower Track Assembly brackets and retain.
2. Remove the Lower Track Assembly by carefully separating the sealant (AMS-S-8802) layer between the brackets and the lower fuselage.
3. Removal complete.

6.1.5 REMOVAL OF FORWARD DOOR CATCH AND INJECTOR

1. Remove and retain the Screws and Trim Washer installed through the door for the Exterior Handles.
2. Remove the interior trim (refer to Section 6.1.6) from the passenger door and forward passenger door frame and retain fasteners.
3. Remove the Screws fastening the upper and lower Injectors installed on the forward door frame.
4. Remove the Screws, Washers, and Nuts fastening the upper and lower Catches installed on the forward edge of the door.
5. Remove the Catches by carefully separating the sealant (AMS-S-8802) layer between them and the door flange.
6. Remove complete.

6.1.6 REMOVAL OF DOOR TRIM ASSEMBLY

1. Remove the black trim from the Handle and retain the fastener. Detach the Cover by removing the two (2) Screws installed through the outer door handle.
2. Remove the Door Trim Assembly by separating the Velcro between it and the door.
3. Remove the upper and lower Trim Panels from the passenger door and retain fasteners.
4. Removal complete.

6.1.7 REMOVAL OF EXTERIOR DOOR HANDLES

1. Remove and retain the two (2) Screws and Trim Washers installed through the door for the forward exterior handle.
2. Remove the Exterior Handle by carefully separating the sealant (AMS-S-8802) layer between it and the door.
3. Perform Steps 1 and 2 for the aft Exterior Handle location.
4. Removal complete.

6.1.8 REMOVAL OF INTERIOR DOOR HANDLES

1. Loosen the two Screws fastening the forward Interior Handle at the same time and remove the Handle, Spacers, and Screws as a unit.
2. Loosen the two Screws fastening the aft Interior Handle at the same time and remove the Handle, Spacer, Trim Spacers, and Screws as a unit.
3. Remove the passenger door interior trim and retain fasteners.
4. Remove and retain the Screws and Trim Washers installed through the door for the Exterior Handles.
5. Drill out the six (6) Rivets fastening the Doubler Assembly to the door.
6. Remove the Doubler Assembly from the door by carefully loosening the sealant (AMS-S-8802) between them without damaging the door.
7. Perform steps 4 through 6 for the aft handle location.
8. Removal complete.

6.2 INSTALLATION – PASSENGER SLIDING DOOR KIT**6.2.1 INSTALLATION OF INTERIOR DOOR HANDLE**

1. Apply sealant (AMS-S-8802) on the contacting surface of the Doubler Assemblies and install on the door with the rivet holes lining up from previous installation.
2. Fasten each Doubler Assembly to the door, using six (6) Rivets (MS20426AD3-2).
3. Retrieve the retained Screws and Trim Washers and install through the door for the Exterior Handles.
4. Retrieve the retained fasteners and install the passenger door interior trim.
5. Retrieve the retained Handle, Spacer, Trim Spacers, and Screws, and install the aft Interior Handle. Torque fasteners per Table 1.
6. Retrieve the retained Handle, Spacer, Trim Spacers, and Screws, and install the forward Interior Handle. Torque the Screws per Table 1.
7. Replacement complete.

6.2.2 INSTALLATION OF EXTERIOR DOOR HANDLE

1. Apply sealant (AMS-S-8802) to the contacting surface of the Exterior Handle.
2. Retrieve the retained Screws and Trim Washers and install through the door for the forward exterior handle. Torque fasteners per Table 1.
3. Perform steps 1 through 2 for the aft Exterior Handle location.
4. Replacement complete.

6.2.3 INSTALLATION OF DOOR TRIM ASSEMBLY

1. Retrieve the retained fasteners and install the upper and lower Trim Panels in the passenger door.
2. Adhere the Door Trim Assembly to the door with the application of the existing Velcro.
3. Retrieve the retained Screws and install the Cover. Retrieve the retained fastener and install the black Trim to the Handle.
4. Replacement complete.

6.2.4 INSTALLATION OF FORWARD DOOR CATCH AND INJECTOR

1. Retrieve the retained Screws, Washers, and Nuts, and install the upper and lower Catches on the forward door frame. Torque fasteners per Table 1.
2. Retrieve the retained Screws and install the upper and lower Injectors on the forward door frame. Torque fasteners per Table 1.
3. Retrieve the retained fasteners and install the interior trim (Section 6.2.3) to the passenger door and the forward passenger door frame.
4. Retrieve the retained Screws and Trim Washer, and install through the door for the Exterior Handles. Torque fasteners per Table 1.
5. Replacement complete.

6.2.5 INSTALLATION OF LOWER TRACK ASSEMBLY

1. Apply sealant (AMS-S-8802) between the contacting surfaces of the Lower Track Assembly Brackets and the lower fuselage.
2. Retrieve the retained Screws and install the Lower Track Assembly brackets. Torque fasteners per Table 1.
3. Replacement complete.

6.2.6 INSTALLATION OF UPPER TRACK ASSEMBLY

1. Apply sealant (AMS-S-8802) between the contacting surfaces of the Upper Track Assembly baseplates, the Spacers, and the fuselage.
2. Retrieve the retained Screws and Washers and install the Upper Track Assembly (seven places in the forward baseplate and eight places in the center baseplate). Torque fasteners per Table 1.
3. Install the Upper Track Assembly aft baseplate, using Rivets (CR3523-4-8).
4. Replacement complete.

6.2.7 INSTALLATION OF LOWER DOOR BRACKETS AND LOWER DOOR DOUBLERS

1. Apply sealant (AMS-S-8802) between the contacting surfaces of the Lower Door Doublers, the Lower Door Brackets, and the door.
2. Retrieve the retained Screws and Nut Strips, and fasten the forward and aft Lower Door Brackets, matching up to the hole locations drilled in the previous installation. Torque fasteners per Table 1.

3. Install the interior trim with retained fasteners.
4. Replacement complete.

6.2.8 INSTALLATION OF UPPER DOOR BRACKETS AND UPPER DOOR DOUBLERS

1. Apply sealant (AMS-S-8802) between the contacting surfaces of the Upper Door Doublers, the Upper Door Brackets, and the door.
2. Retrieve the retained Screws and Nuts, and install on the forward and aft Upper Door Brackets, matching up to the hole locations drilled in the previous installation. Torque fasteners per Table 1.
3. Install the interior trim with retained fasteners.
4. Replacement complete.

7.0 APPLICATION OF PROTECTIVE TREATMENTS

1. For aluminum components, after corrosion or damage repair: Clean repaired area with isopropyl alcohol, brush Alodine bare aluminum areas per MIL-DTL -5541 or equivalent, and paint area to match existing finish.

CAUTION

Painting of Upper and Lower Tracks must be done sparingly. Paint build up in certain areas may adversely affect Sliding Door operation.

2. For steel components, after corrosion or damage repair: Prime with a rust prohibitive primer (Epoxy Polyamide Primer) and paint area to match existing finish.

8.0 STRUCTURAL FASTENER DATA

For Hardware identification and torque values see Figures 1 thru 11 and Table 1.

9.0 SPECIAL TOOLS NEEDED

Torque wrench

10.0 RECOMMENDED OVERHAUL PERIODS

No component overhaul required for this type design change.

11.0 AIRWORTHINESS LIMITATIONS

No airworthiness limitations associated with this type design change.

12.0 PARTS BREAKDOWN

Tables 3 thru 12 contain Parts Breakdown data for the model 407 Passenger Sliding Door Kits.

The column Availability Code (AV Code) specifies the procurement status for each part. The codes to identify if a part is procurable, procedure details to get an assembly or local manufacture code are as follows:

AV Code	Details
0	Nonprocurable part
1	Procurable part
2	Procure as detail parts only
3	Procurable as Next Higher Assembly
4	Local manufacture. Contact Aeronautical Accessories, Bell Helicopter Piney Flats Product Support Engineering (PSE)
5	Part replacement requires a fixture or special equipment. Contact PSE
6	Non-stock procurable part

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS PASSENGER SLIDING DOOR KITS

**TABLE 3. PARTS BREAKDOWN, 407-600-201 (L/H) / 407-600-202 (R/H)
PASSENGER SLIDING DOOR KIT**

Qty -201	Qty -202	Part Number	Description	AV Code
1		407-604-201	Track Assembly, Upper L/H	1
	1	407-604-202	Track Assembly, Upper R/H	1
1		407-605-201	Track Assembly, Lower L/H	1
	1	407-605-202	Track Assembly, Lower R/H	1
1	1	407-609-101	Handle Assembly	1
1	1	407-609-102	Handle Assembly	1
2	2	407-651-125	Door Bracket Doubler	1
1		407-651-203	Lower Door Bracket Assembly, Forward L/H	1
1	1	407-651-206	Keeper Assembly	1
4	4	407-651-207	Nut Strip Assembly	1
1		407-651-221	Door Bracket, Upper Aft L/H	1
	1	407-651-222	Door Bracket, Upper Aft R/H	1
1	1	407-651-229	Spacer	1
1	1	407-651-230	Spacer	1
2	2	407-651-231	Lower Door Bracket Doubler	1
2	2	407-651-232	Spacer	1
1		407-651-233	Door Bracket, Upper Forward L/H	1
	1	407-651-234	Door Bracket, Upper Forward R/H	1
1	1	407-651-237	Template	1
2	2	407-652-201	Injector	1
2	2	407-652-221	Catch	1
1	1	407-652-131	Striker Guard	1
1	1	407-654-204	Stop Assembly, Upper	1
	1	407-651-204	Lower Door Bracket Assembly, Forward R/H	1
1	1	407-656-201	Roller Assembly, Forward	1
1	1	407-656-202	Roller Assembly, Aft	1
1	1	407-656-232	Wedge	1
1	1	407-660-002	Door Ajar Indicator Kit	1
6	6	099-094-104	Decal – No Step	1
6	6	099-094-114	Decal – No Step	1
2	2	099-859-001	Syringe, 60cc	1
1	1	206-572-211	Handle Assembly	1
1	1	206-594-225	Decal, External	1
1	1	206-594-227	Decal, Internal	1
1	1	206-594-325	Decal, External	1
1	1	206-594-327	Decal, Internal	1
12	12	80-005-2-8	Insert	1
5	5	80-005-2-10	Insert	1
12	12	80-005-2-16	Insert	1
3	3	MS21209-F4-20	Helicoil (Alt: 3591-4CN-0500)	1

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PASSENGER SLIDING DOOR KITS**

**TABLE 3. PARTS BREAKDOWN, 407-600-201 (L/H) / 407-600-202 (R/H)
PASSENGER SLIDING DOOR KIT**

Qty -201	Qty -202	Part Number	Description	AV Code
2	2	MS24693C295	Screw	1
16	16	MS27039C1-12	Screw	1
10	10	AN525-10R8	Screw	1
4	4	AN525-10R9	Screw	1
4	4	AN525-10R16	Screw	1
24	24	MS24693-C273	Screw	1
5	5	120-079-6-8	Screw	1
2	2	AN525-416R16	Screw	1
4	4	MS27039C1-24	Screw (Alt: AN3C14A)	1
4	4	MS24693C285	Screw	1
6	6	90-003-3	Nut	1
4	4	MS21042L3	Nut	1
5	5	MS27130A-7	Rivnut (Alt: NAS1329A06-75)	1
56	56	NAS1149D0332J	Washer	1
5	5	140-017-6SC	Washer (Alt: 601-6)	1
15	15	NAS1149CN432R	Washer (Alt: AN960C4)	1
10	10	NAS1149C0432R	Washer	1
4	4	NAS1149C1165R	Washer (Alt: AN960C11)	1
12	12	CR3523-4-2	Rivet	1
9	9	CR3523-4-3	Rivet	1
5	5	CR3523-4-4	Rivet	1
15	15	CR3523-4-8	Rivet	1
4	4	MS20470AD4-6	Rivet	1
4	4	MS24665-153	Cotter Pin	1
4	4	SS-48192-K1110	Plug Button (Alt: 9563K42)	1
2	2	NAS-451-43	Plug Button	1
7		601-8	Trim Washer	1
6		120-079-10-12	Trim Screw	1
2		120-079-8-12	Trim Screw	1
4		MS20427M3-7	Rivet	1
1		099-009-004	Footman's Loop (Alt: 99-009-4)	1
1		206-446-195	Door Strap Assembly	1
1		206-446-183	Litter Door Strap Pocket	1
1		407-651-208	Doubler Assembly	1
2	2	099-050-121	Adhesive (Magnobond 6398 A&B)	1
4	4	MS21083N3	Nut	1
2	2	601-10	Trim Washer	1
2	2	NAS1836-3-08M	Insert (Alt: D1836-3-08M)	1
1		407-651-205	Lower Door Bracket Assembly, Aft L/H	1
	1	407-651-209	Lower Door Bracket Assembly, Aft R/H	1
1	1	407-658-102	Cover Assembly	1
1		407-658-103	Door Trim Assembly	1
	1	407-658-104	Door Trim Assembly	1
2	2	099-094-106	Decal – No Handle	1
2	2	099-094-116	Decal – No Handle	1
2	2	MS27039C1-09	Screw	1

AERONAUTICAL ACCESSORIES

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PASSENGER SLIDING DOOR KITS**

**TABLE 4. PARTS BREAKDOWN, 407-604-201 (L/H) / 407-604-202 (R/H)
TRACK ASSEMBLY, UPPER**

Qty -201	Qty -202	Part Number	Description	AV Code
1		407-604-211	Track Assembly, Upper L/H	1
	1	407-604-212	Track Assembly, Upper R/H	1
3	3	099-094-114	Decal – No Step	1
2	2	099-094-116	Decal – No Handle	1

**TABLE 5. PARTS BREAKDOWN, 407-604-211 (L/H) / 407-604-212 (R/H)
TRACK ASSEMBLY, UPPER**

Qty -211	Qty -212	Part Number	Description	AV Code
1		407-653-221	Track, Upper L/H	1
	1	407-653-222	Track, Upper R/H	1
1		407-653-223	Track, Upper Center Post L/H	1
	1	407-653-224	Track, Upper Center Post R/H	1
1		407-653-227	Track, Upper Aft Post L/H	1
	1	407-653-228	Track, Upper Aft Post R/H	1
1	1	407-653-229	Track, Upper Center Base Plate	1
1		407-653-231	Track, Upper Aft Base Plate L/H	1
	1	407-653-232	Track, Upper Aft Base Plate R/H	1
1		407-653-233	Track, Upper Forward Base Plate L/H	1
	1	407-653-234	Track, Upper Forward Base Plate R/H	1

**TABLE 6. PARTS BREAKDOWN, 407-605-201 (L/H) / 407-605-202 (R/H)
TRACK ASSEMBLY, LOWER**

Qty -201	Qty -202	Part Number	Description	AV Code
1	1	407-651-225	Lower Track Bracket, Aft Lower	1
1	1	407-651-226	Lower Track Bracket, Aft Upper	1
1	1	407-651-227	Lower Track Bracket, Center Lower	1
1	1	407-651-228	Lower Track Bracket, Center Upper	1
1		407-653-225	Track, Lower L/H	1
	1	407-653-226	Track, Lower R/H	1
1	1	407-654-205	Stop Assembly, Lower	1
6	6	NAS1149D0363J	Washer (Alt: AN960JD10)	1
6	6	MS21042L3	Nut	1
6	6	AN525-10R9	Screw	1
3	3	099-094-114	Decal – No Step	1

**TABLE 7. PARTS BREAKDOWN, 407-609-101 / 407-609-102
INTERIOR HANDLE ASSEMBLY**

Qty -101	Qty -102	Part Number	Description	AV Code
1	1	407-658-101	Interior Handle Mount	1
1	1	407-658-121	Interior Handle	1
2		407-658-122	Spacer	1
2		MS27039C1-21	Screw	1
	2	MS27039C1-09	Screw	1
2		407-658-125	Trim Spacer	1

**TABLE 8. PARTS BREAKDOWN, 407-651-203 (FWD, L/H) / 407-651-204 (FWD, R/H) /
407-651-205 (AFT, L/H) / 407-651-209 (AFT, R/H) LOWER DOOR BRACKET ASSEMBLY**

Qty -203	Qty -204	Qty -205	Qty -209	Part Number	Description	AV Code
1				407-651-223	Lower Door Bracket, Forward L/H	1
	1			407-651-238	Lower Door Bracket, Forward R/H	1
		1		407-651-239	Lower Door Bracket, Aft L/H	1
			1	407-651-240	Lower Door Bracket, Aft R/H	1
1	1	1	1	407-656-229	Slide Insert	1

**TABLE 9. PARTS BREAKDOWN, 407-656-201 (FWD) / 407-656-202 (AFT)
ROLLER ASSEMBLY**

Qty -201	Qty -202	Part Number	Description	AV Code
	1	407-656-221	Flanged Bushing	1
	1	407-656-222	Slide Wheel	1
2		407-656-223	Roller	1
1		407-656-224	Guide	1
	1	407-656-225	Washer	1
1		407-656-226	Eye Bolt	1
1		407-656-227	Axle	1
	1	407-656-228	Roller	1
	1	407-656-231	Swing Link	1
2		MS16624-4025	Retaining Ring	1
3	4	NAS1149C0432R	Washer	1
1	1	AN310C4	Nut	1
	1	MS21044N4	Nut	1
	1	AN525-416R16	Screw	1
	1	AN4C13	Bolt	1

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PASSENGER SLIDING DOOR KITS**

**TABLE 10. PARTS BREAKDOWN, 407-658-103 (L/H) / 407-658-104 (R/H)
DOOR TRIM ASSEMBLY**

Qty -103	Qty -104	Part Number	Description	AV Code
1		407-658-127	Door Trim, L/H	1
	1	407-656-128	Door Trim, R/H	1
55in	55in	SJ3571 WHT LP 1	1-inch White Velcro, Loop	1
55in	55in	SJ3571 WHT HK 1	1-inch White Velcro, Hook	1

TABLE 11. PARTS BREAKDOWN, 206-572-211 HANDLE ASSEMBLY

Qty	Part Number	Description	AV Code
1	206-572-212	Handle	1
2	MS21209-F1-15	Locking Helicoil (Alt: 3591-3CN-0285)	1

**TABLE 12. PARTS BREAKDOWN, 407-660-002
DOOR AJAR WARNING INDICATOR KIT**

Qty	Part Number	Description	AV Code
1	407-660-051	Wiring Provisions Kit	1
2	206-597-300	Switch Assembly	1
2	206-596-281	Switch Actuator	1
1	206-597-221	Sliding Door Ajar Annunciator	1
2	MS20600AD4W3	Rivet (Alt: CR3523-4-3)	1
6	MS20600AD4W2	Rivet (Alt: CR3523-4-2)	1
8	320559	Splice (AMP)	1
2	36154	Terminal Rings (AMP)	1
8	PLT.7M-C	Nylon Cable Tie Mount (Panduit) (Alt: 89F2504)	1
8	AMB1M-A-C	Nylon Cable Tie (Panduit) (Alt: 89F229)	1
240in	M23053/5-304-0	Heatshrink Tubing (Alt: AMS-DTL-23053/5)	1
1	SDCR-1	Diode (Alt: 1N4005)	1
1	407-660-121	Decal *for 407GX Model only	1

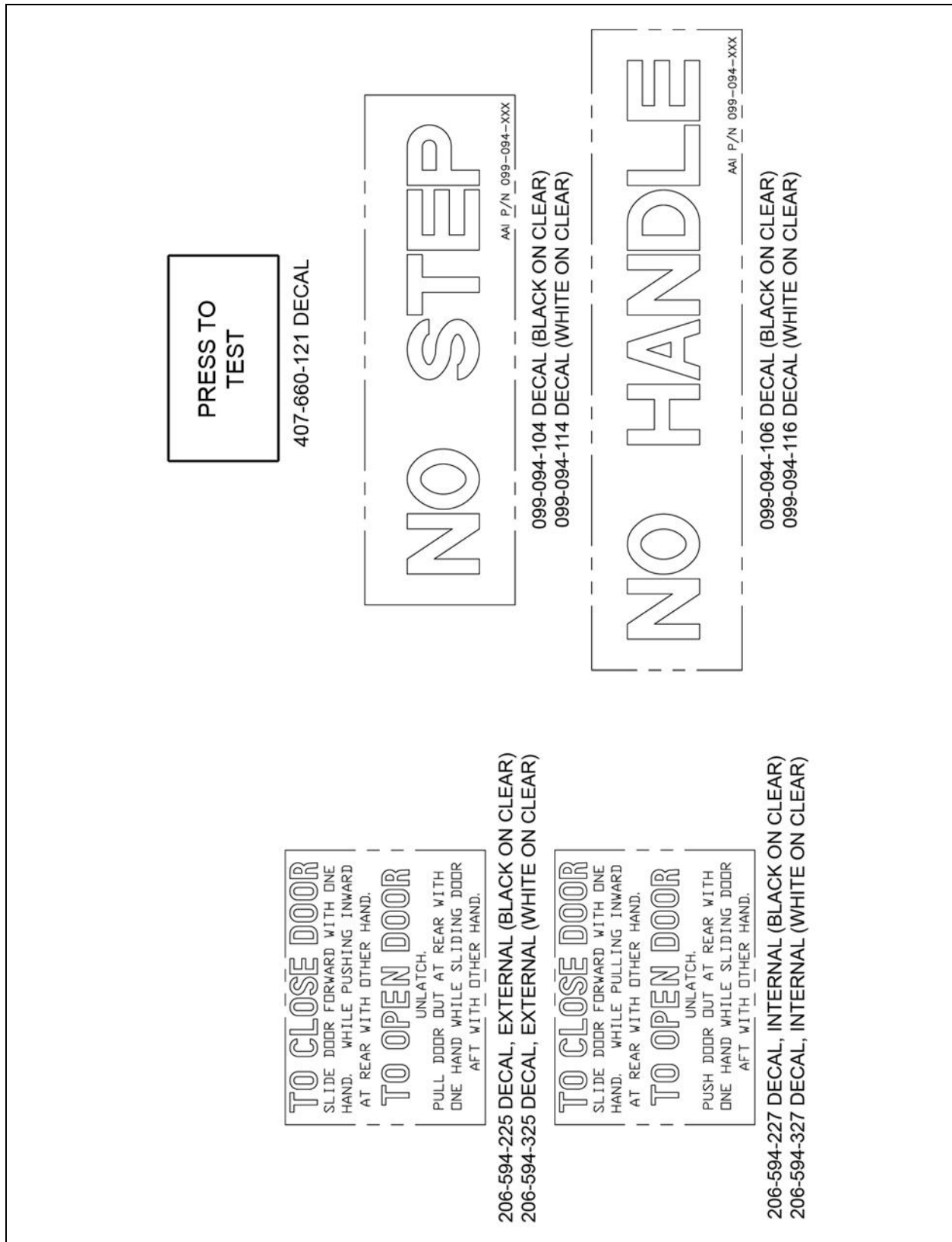


FIGURE 1. PASSENGER SLIDING DOOR DECALS

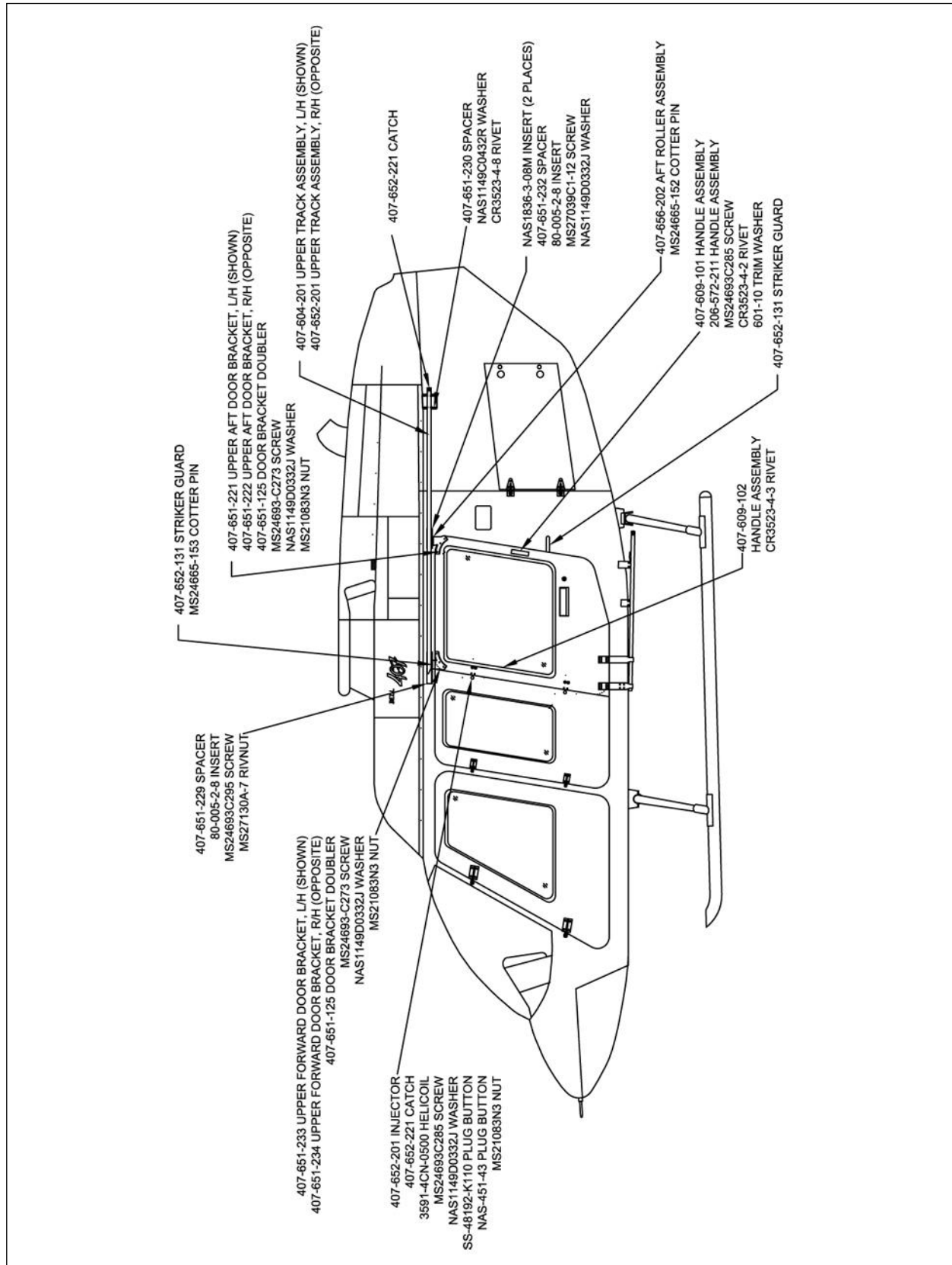


FIGURE 2 (SHEET 1 OF 2). PASSENGER SLIDING DOOR KITS

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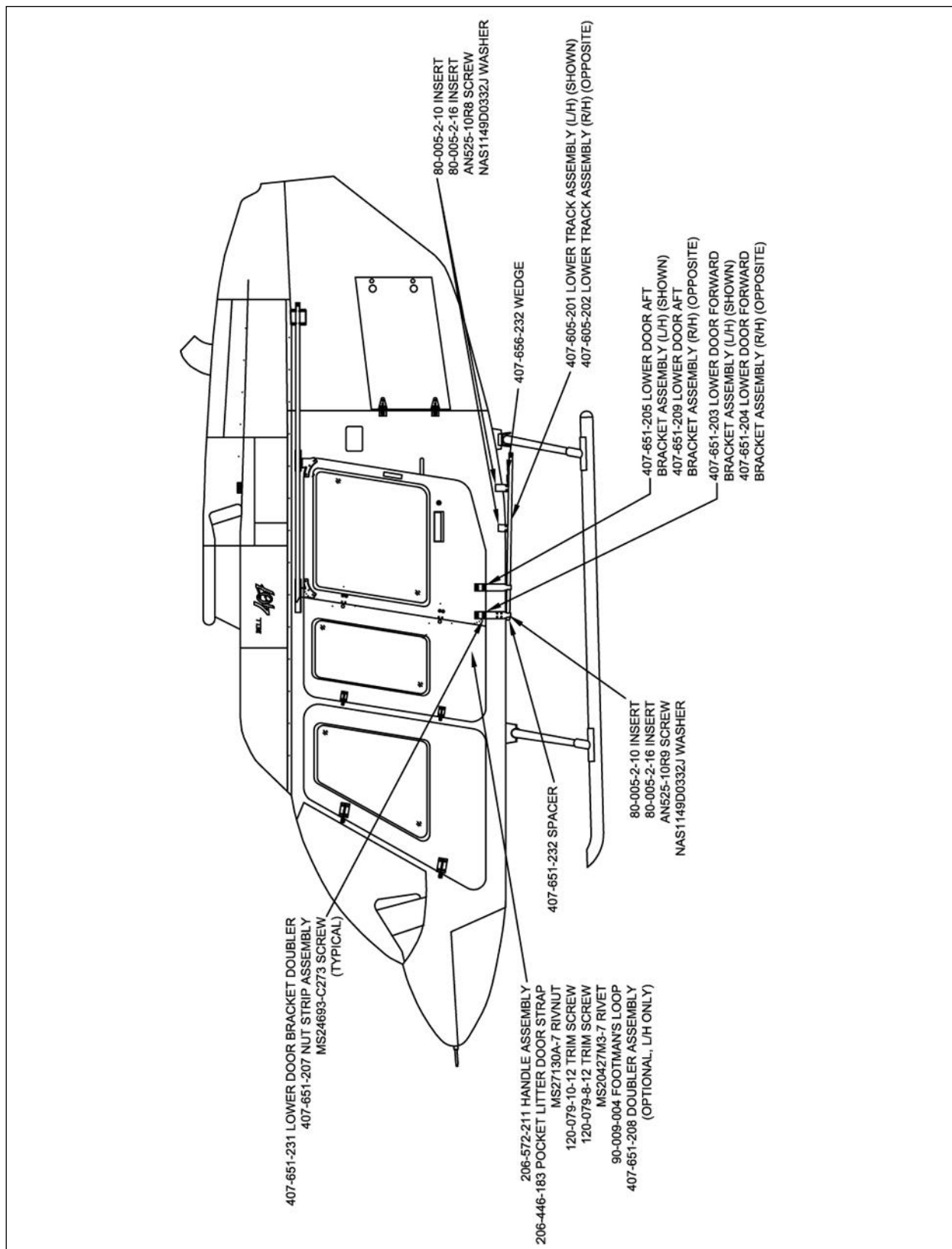


FIGURE 2 (SHEET 2 OF 2). PASSENGER SLIDING DOOR KITS

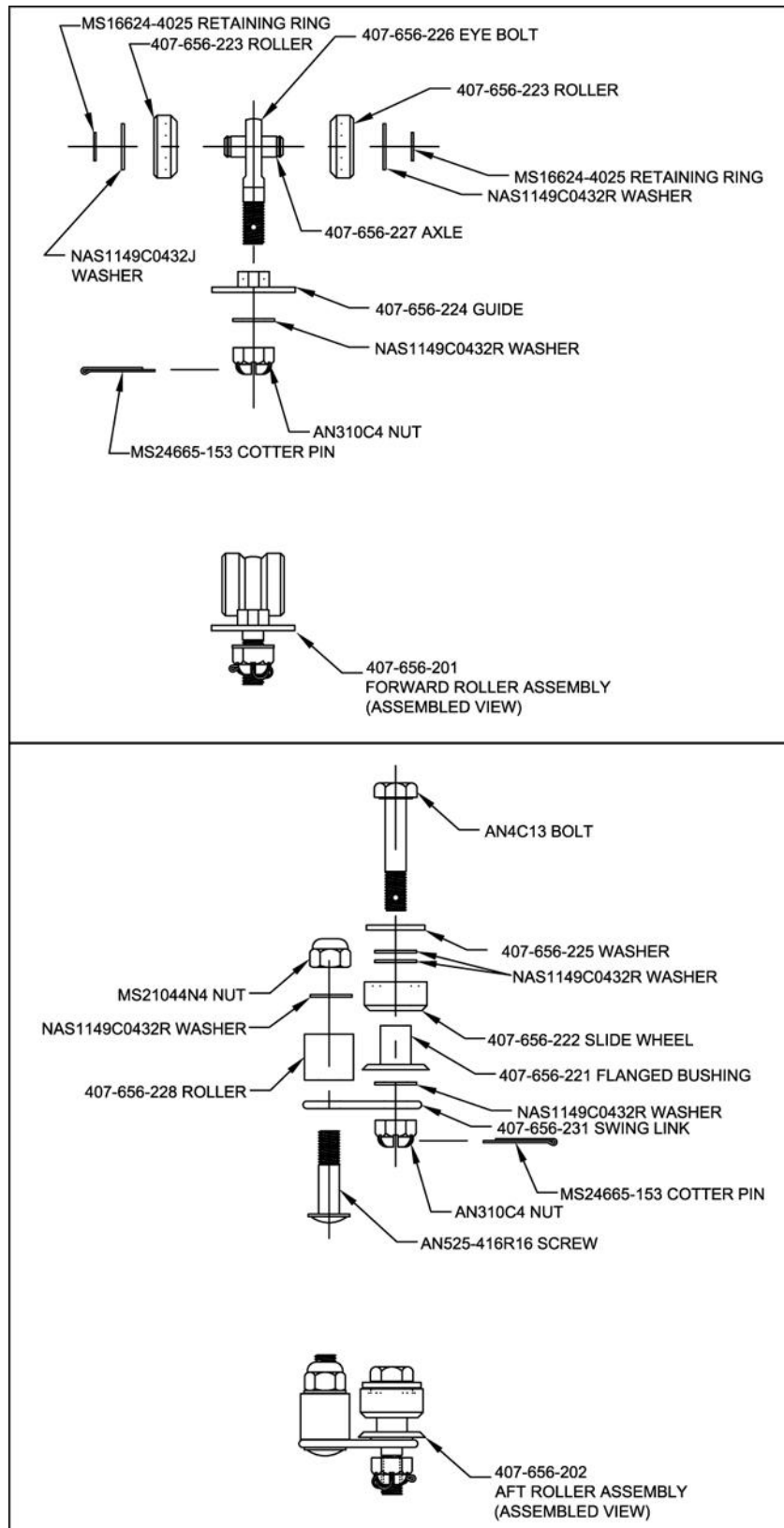


FIGURE 3. ROLLER ASSEMBLIES

AERONAUTICAL ACCESSORIES

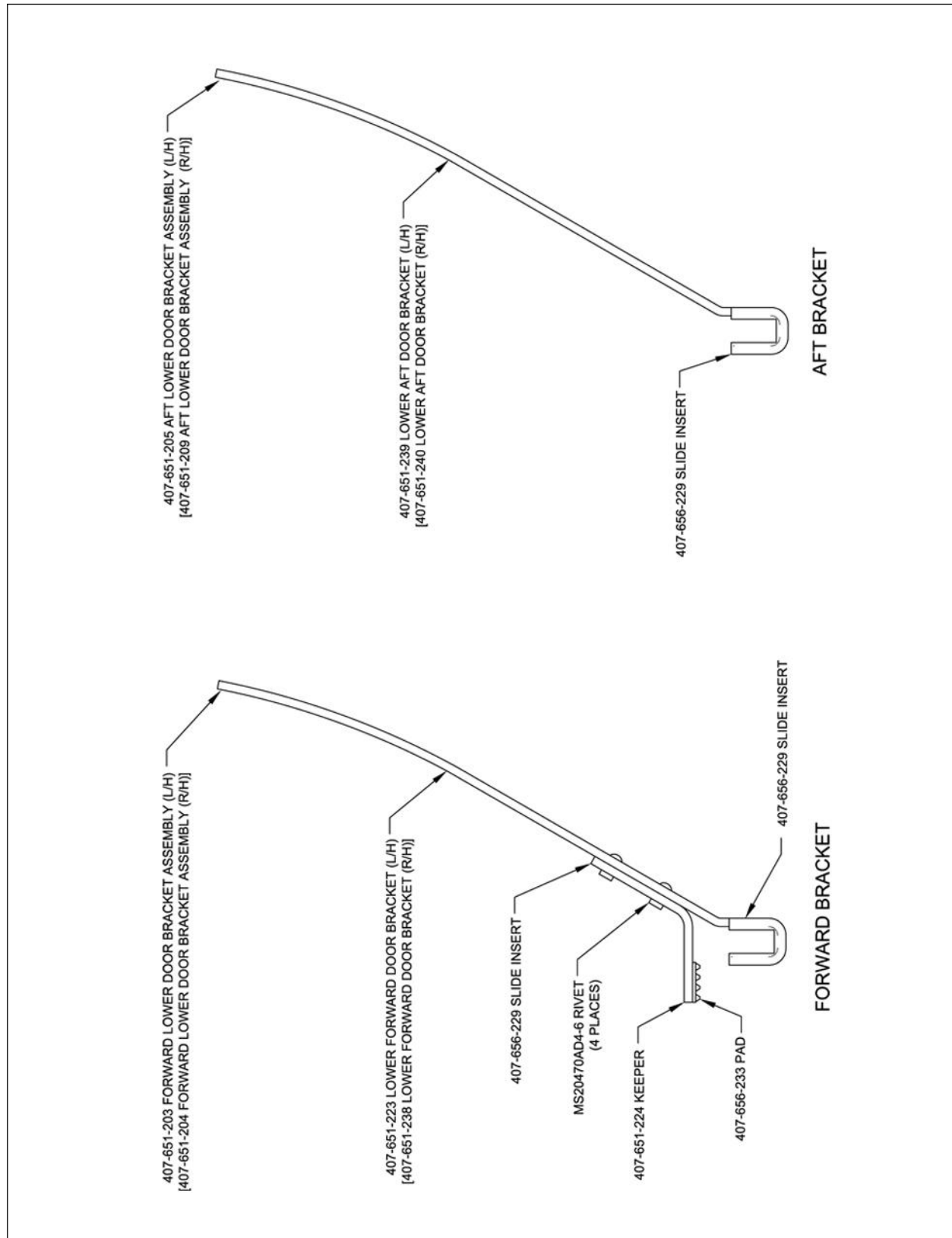


FIGURE 4. LOWER DOOR BRACKET ASSEMBLIES

AERONAUTICAL ACCESSORIES

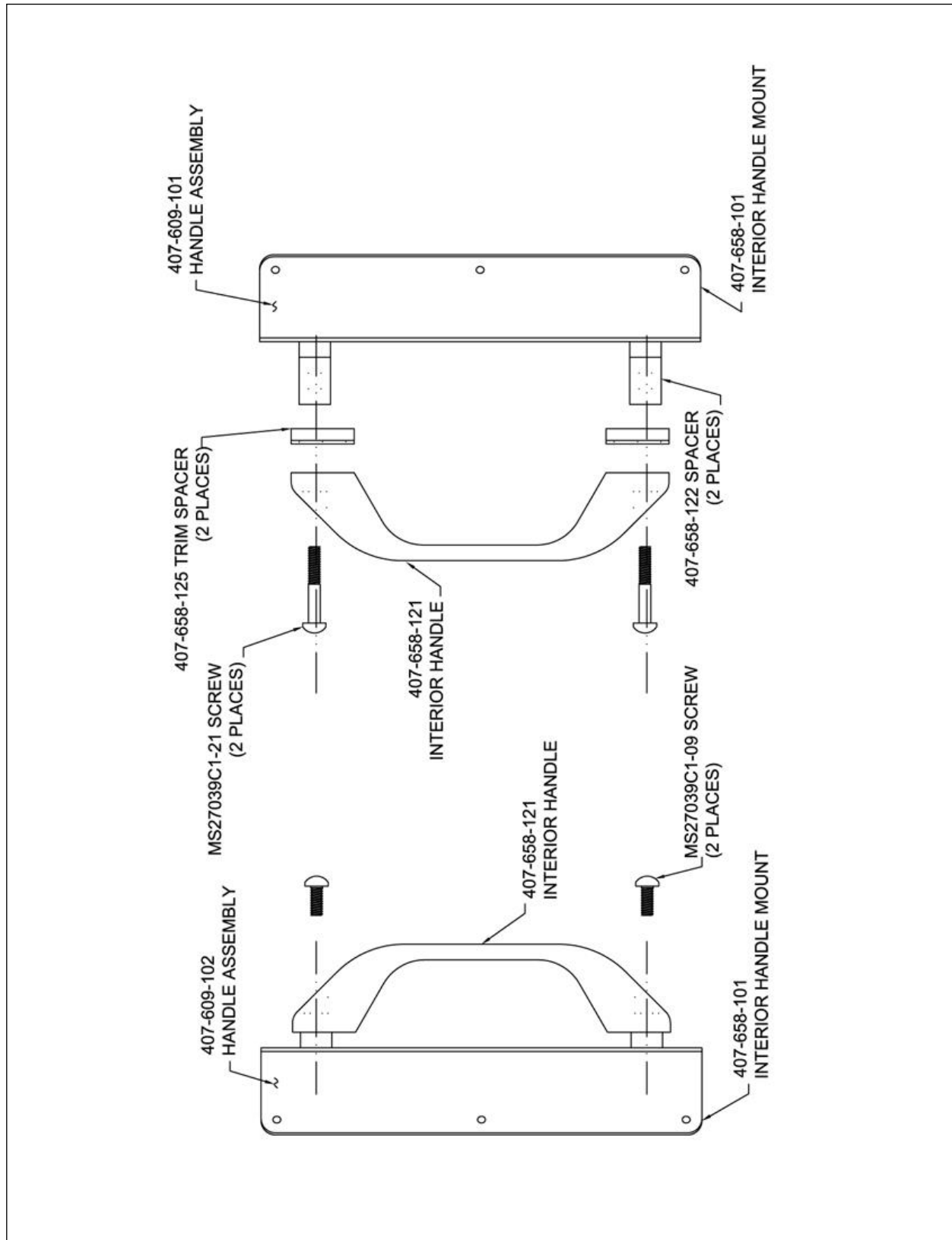


FIGURE 5. HANDLE ASSEMBLIES
AERONAUTICAL ACCESSORIES

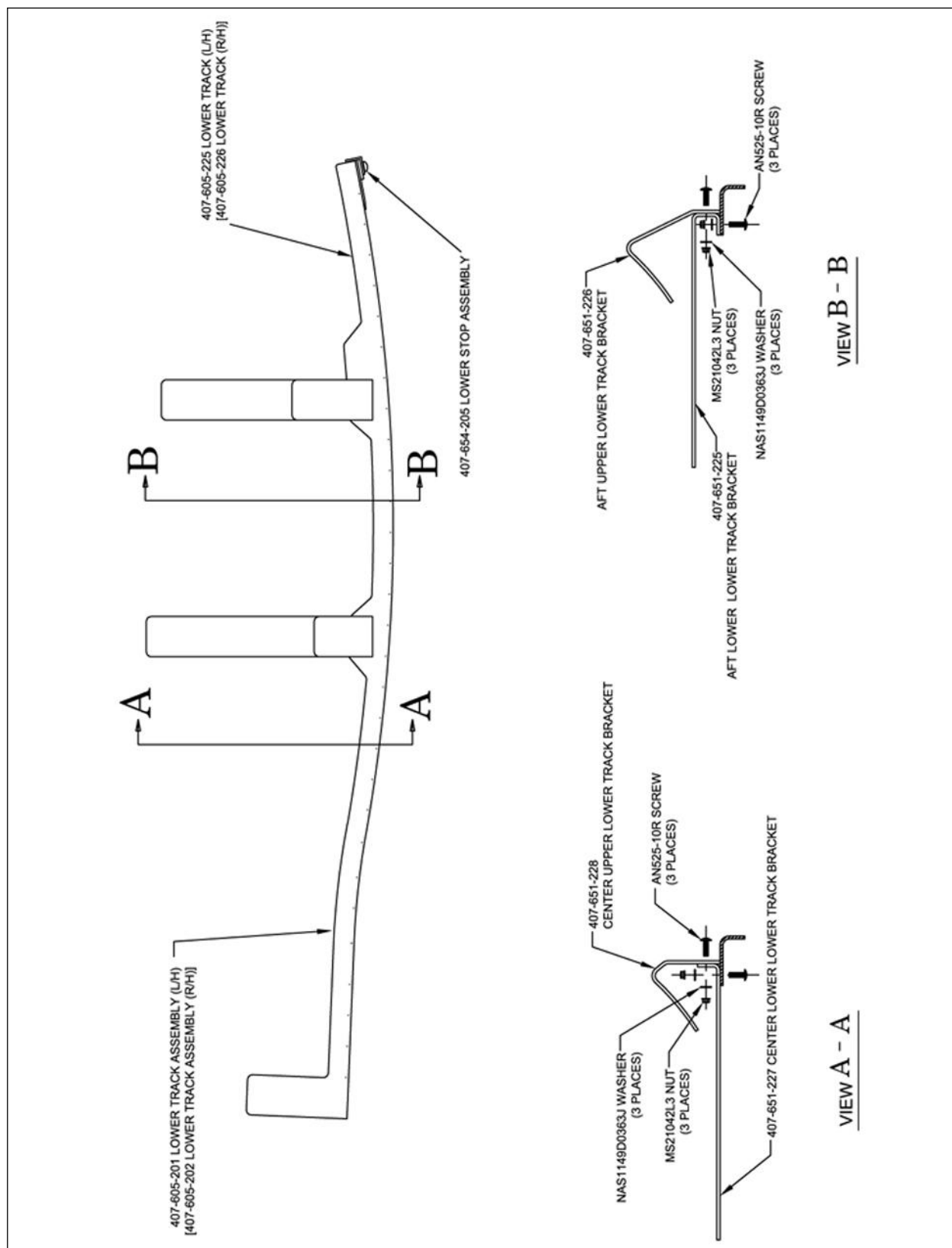


FIGURE 6. LOWER TRACK ASSEMBLIES

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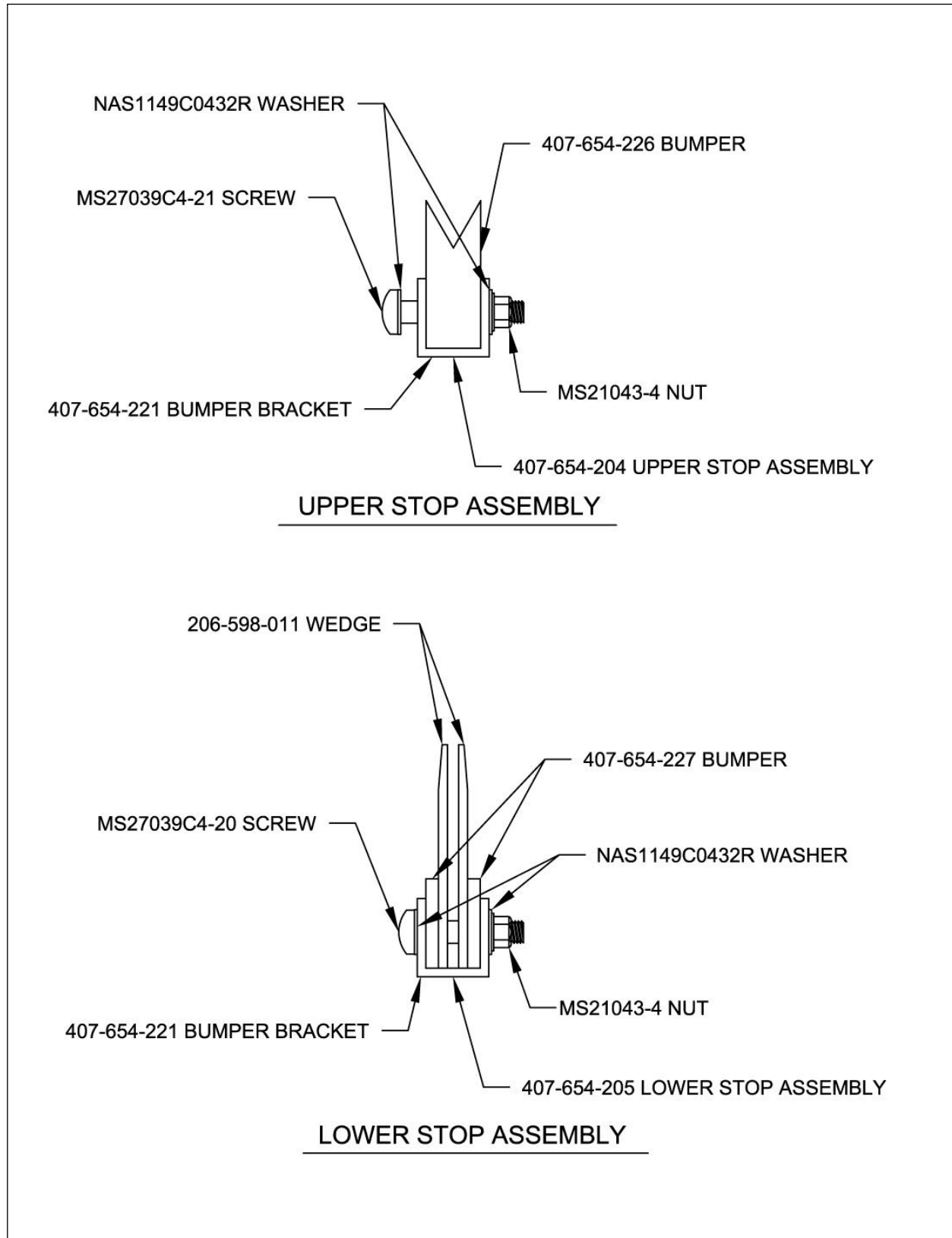
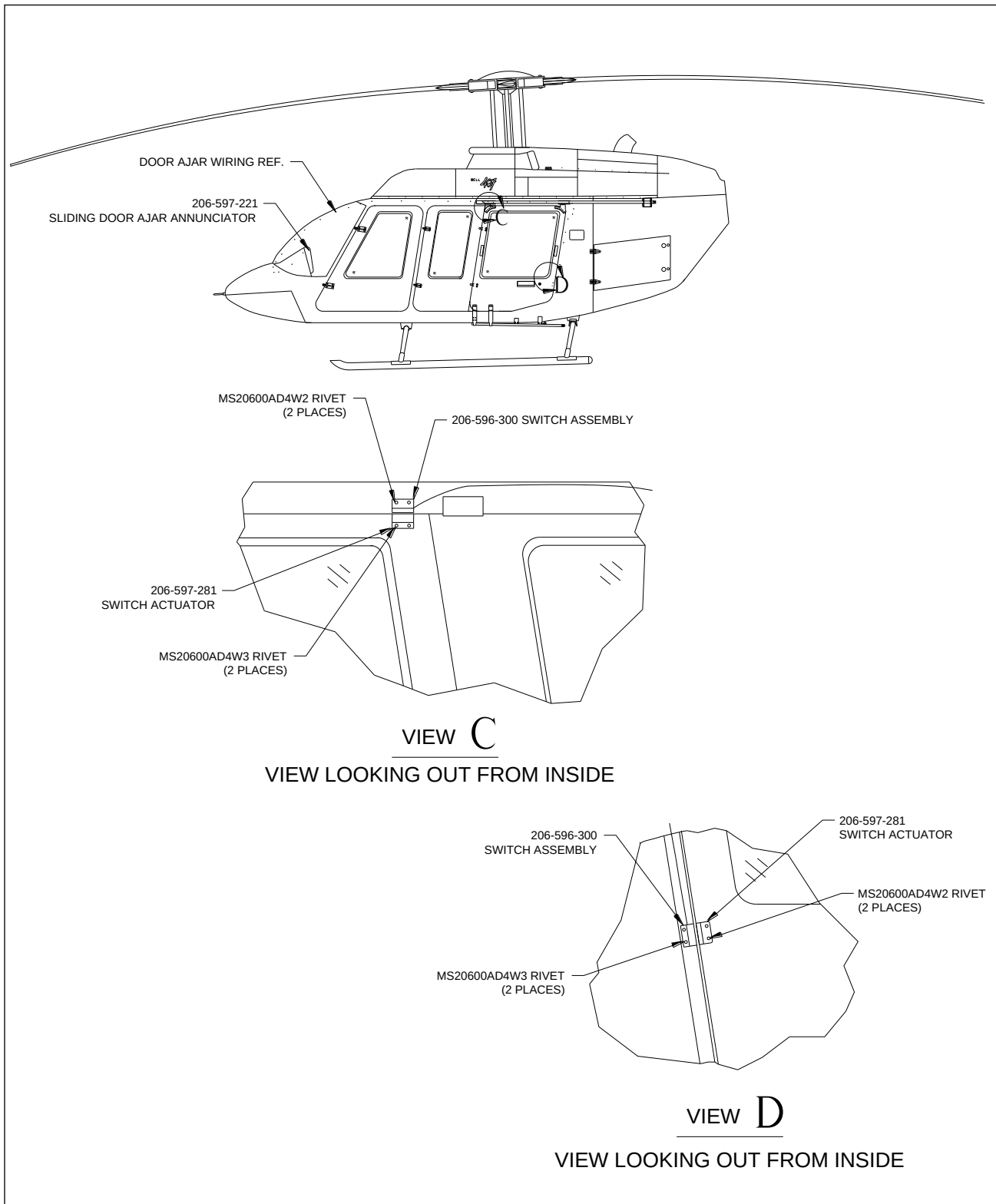


FIGURE 7. DOOR STOP ASSEMBLIES

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**FIGURE 8. DOOR AJAR WARNING INDICATOR SYSTEM
(L/H DOOR INSTALLATION SHOWN)**

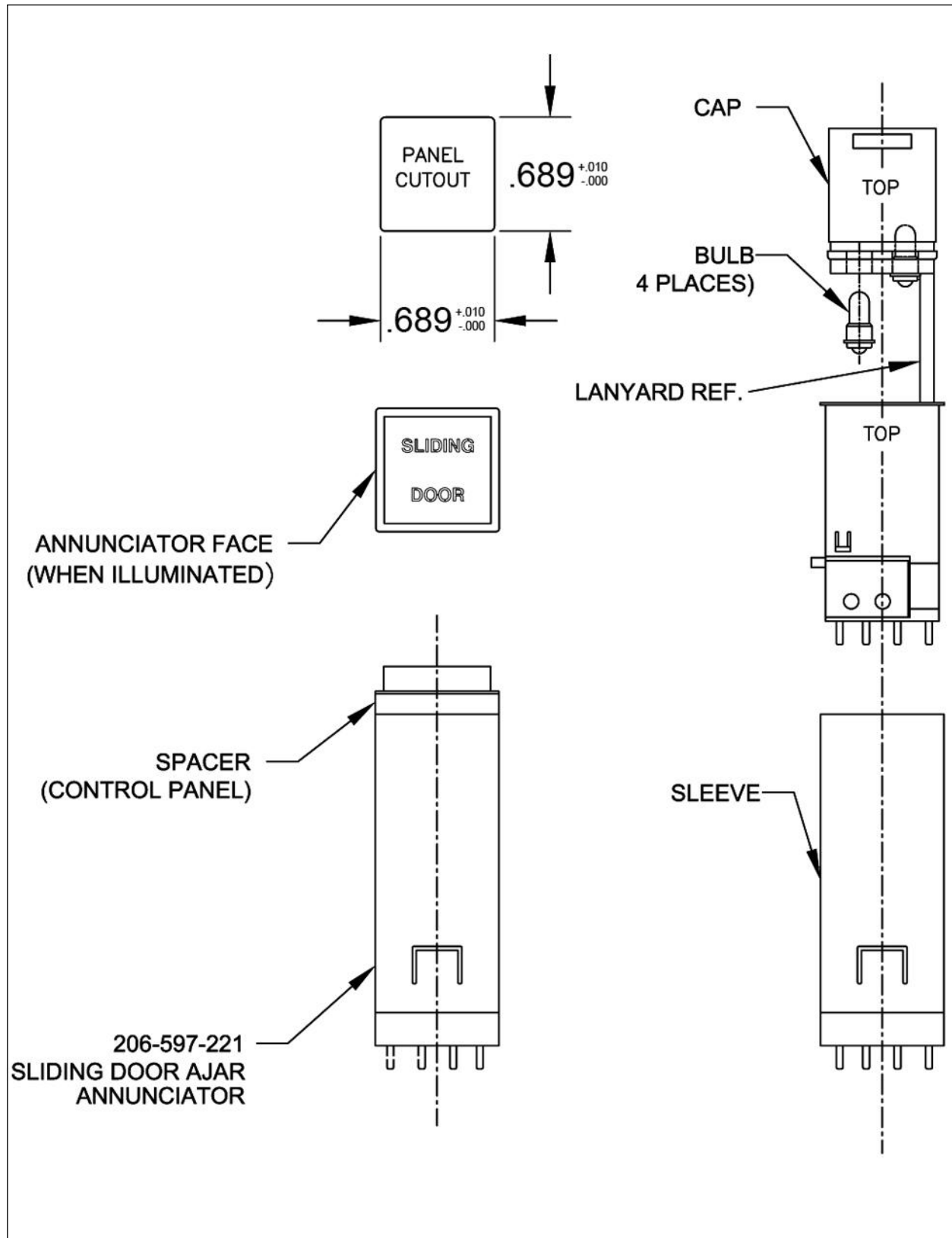


FIGURE 9. SLIDING DOOR AJAR ANNUNCIATOR

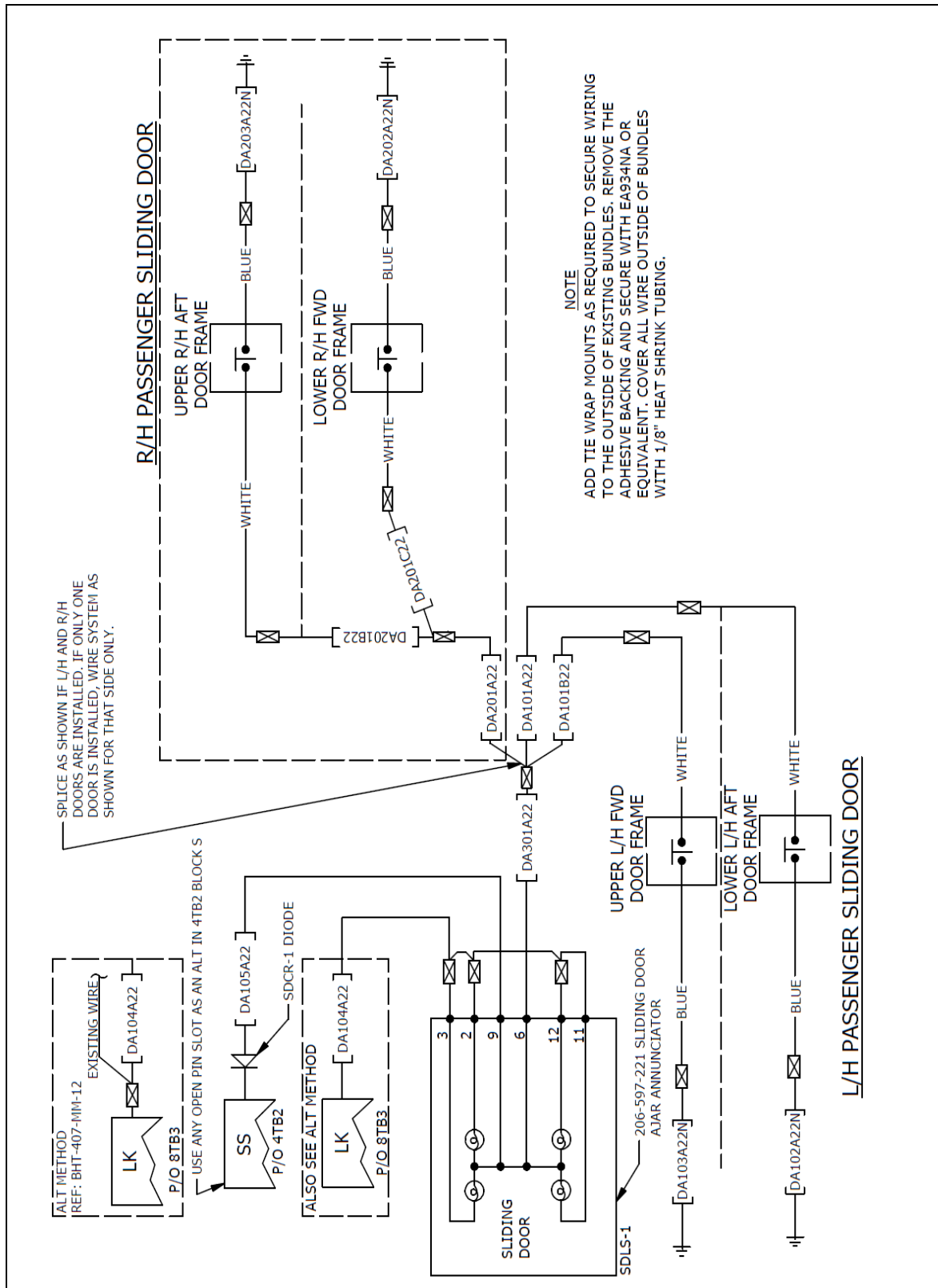


FIGURE 10. WIRING DIAGRAM FOR BHTCL MODEL 407 (S/N 53000 - 54299)

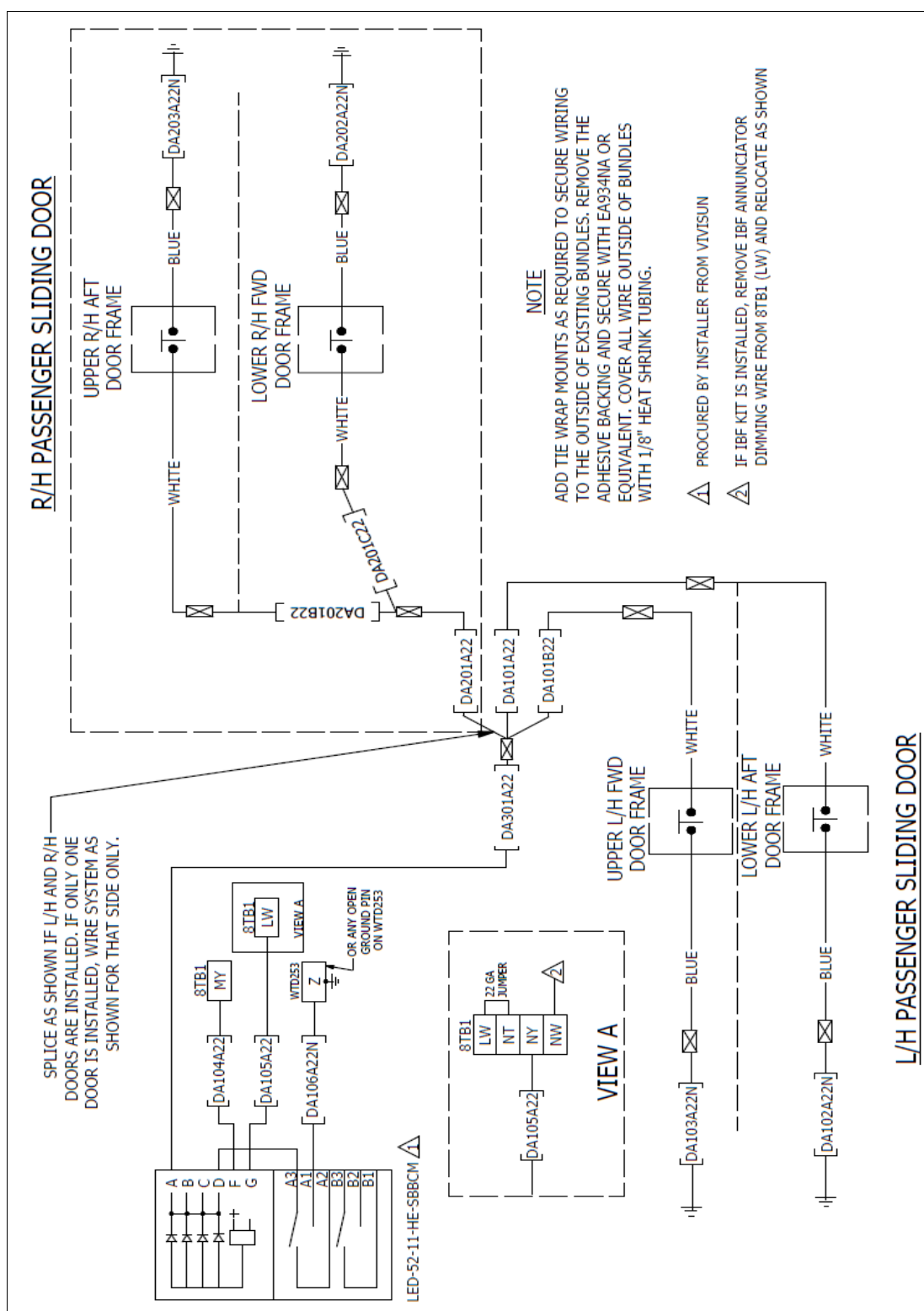


FIGURE 11. WIRING DIAGRAM FOR BHTCL MODEL 407GX (S/N 54300 – SUB)

APPENDIX A

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PASSENGER SLIDING DOOR KITS****300 HOUR/ANNUAL INSPECTION RECORD****Work Order Number:** _____**Registration Number:** _____**Serial Number:** _____**Total Time:** _____**Date:** _____

Inspections shall be performed every 300 hours and/or annually, whichever comes first. Inspection may be incorporated into progressive maintenance programs, as appropriate. Inspect the Passenger Sliding Door Kit(s) for the following conditions.

NOTE

If any damage or malfunction is noted during inspection, refer to Section 4.3 Repair or Section 5.0 Troubleshooting Information

1. Check for security of attachments: loose, missing, or cracked fasteners. Inspect the Track mounting inserts for looseness or voids. Check for proper torque (Table 1) of Upper Door Bracket attachment hardware. _____
2. Check for indications of corrosion. _____

NOTE

The indications of corrosion are: 1) corrosion deposits (a white gray powder on aluminum, and amber or brown powder on steel), 2) pits in the part surfaces, 3) blisters on the part surfaces.

3. Check for scratches, nicks, dents in the surface/finish.
 - a. Abrasive wear to .032 inch deep is unacceptable. Dents and/or scratches, which do not exceed .032 inch deep may be polished out, however the surface coating on the Lower Track will be damaged as a result causing discoloration and an increase in resistance to operation.
 - b. Scratches, voids, dents, and delaminations in the side body fairing that are 0.25 inch or less in size are negligible. These damages may be drilled out and filled with adhesive.
 - c. A visual inspection of the carbon fiber panels during scheduled airframe inspections is sufficient.
 - d. The maximum area of damage in the aft fuselage skins, which does not require the copper mesh to be repaired, is 1.0 inch in diameter. _____

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
PASSENGER SLIDING DOOR KITS**

4. Check for damage/cracks in the Track Assembly parts particularly around slots and fastener zones. _____
5. Check for damage/cracks in Injector/Catch locations particularly around weld joints, slots, and fastener zones. _____
6. Inspect Rollers and Slide Inserts.
 - a. Inspect Rollers and Slide Inserts for damage or excessive wear. Wear is acceptable as long as the door functions properly; if not, replace parts accordingly.
 - b. Loose Bolt: Roller Assembly bolts should be loose enough to allow the Roller Assemblies to rotate freely in the track during operation. If the Roller Assemblies are found to be excessively loose, check to see if excessive wear has occurred; if so and the door still functions properly then replace the Bolt with the appropriate length and install with cotter pin per Figure 3. _____
7. Inspect Stop Assembly for missing or damaged Bumpers, the condition of rubber parts, the condition of the Keeper Assembly, missing or damaged Wedges, and the tightness of fasteners per Table 1. _____
8. Inspect Door Ajar Warning Indicator System for proper operation. Maximum gap between Switch Actuator and Switch Assembly to be .400 inches. _____
9. Inspect for missing or illegible Placards and/or Decals. Replace as required. _____
10. Inspect the Catches for proper engagement, wear, and attachment. Adjust them for proper fit. Inspect the Catches and Injectors for wear or cracking. Replace worn or damaged part as required. Check torque on attaching hardware per Table 1. _____
11. Inspect Interior Trim for condition and proper attachment, replacing parts as required. All door trim parts should be securely installed with screws/rivnuts to prevent fluttering or loss during flight with the doors open _____
12. Inspect Door Handle(s) for integrity and proper alignment. _____

Signature _____ A & P No. _____

Signature _____ Inspector _____