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2926 Piper Drive
Vero Beach, Florida, U.S.A. 32960

SERVICE No. 1194 BULLETIN

PIPER CONSIDERS COMPLIANCE MANDATORY

Date: July 15, 2008

(M)

SUBJECT:

PERIODIC REPLACEMENT OF NOSE BAGGAGE DOOR COMPONENTS

MODELS AFFECTED:

PA-23-250 Aztec
PA-E23-250 Aztec
PA-31 Navajo
PA-31-300 Navajo
PA-31-325 Navajo
PA-31-350 Chieftain & T-1020
PA-31P Navajo
PA-31P-350 Mojave
PA-31T Cheyenne/Cheyenne II
PA-31T1 Cheyenne I/IA
PA-31T2 Cheyenne IIXL
PA-31T3 Cheyenne T-1040
PA-42 Cheyenne III
PA-42-720 Cheyenne IIIA
PA-42-1000 Cheyenne 400LS

SERIAL NUMBERS AFFECTED:

27-2000 through 27-4916; 27-7304917 through 27-7554168; 27-7654001 through 27-8154030
27-2505 through 27-4916; 27-7304917 through 27-7554168
31-2 through 31-900; 31-7300901 through 31-8312019
31-2 through 31-900; 31-7300901 through 31-8312019
31-7400990; 31-7512001 through 31-8312019
31-5001 through 31-5004; 31-7305005 through 31-8553002
31P-1 through 31P-80; 31P-7300110 through 31P-7730012
31P-8414001 through 31P-8414050
31T-7400002 through 31T-8120104
31T-7804001 through 31T-8104073; 31T-8104101;
31T-8304001 through 31T-8304003; 31T-1104004
through 31T-1104017
31T-8166001 through 31T-8166076; 31T-1166001
through 31T-1166008
31T-8275001 through 31T-8475001; 31T-5575001
42-7800001 through 42-8001106
42-8301001; 42-8301002; 42-5501003 through 42-5501060 (except 42-5201024; 42-5501028; 42-5501032; 42-5501034 through 42-5501038)
42-5527002 through 42-5527044

COMPLIANCE TIME:

PART I – REPLACEMENT: Initial compliance to coincide with the next regularly scheduled maintenance event, but not to exceed the next one hundred (100) hours time in service. Thereafter, recurring inspections and replacement of life-limited parts, as identified in this Service Bulletin and listed in Tables 1, 2 and 3, shall occur at each one thousand (1,000) hours time in service.

PART II – LUBRICATION AND INSPECTION: At each one hundred (100) hours time in service, starting from completion of **Part I** of this Service Bulletin.

(OVER)

ATA: 5230

APPROVAL:

The technical content of this Service Bulletin has been shown to comply with the applicable Federal Aviation Regulations and is FAA approved.

PURPOSE:

There have been field reports of nose baggage doors that have not been properly latched or locked securely due to undetected wear. Left uncorrected, this could lead to the inadvertent opening of the nose baggage door during flight, which could adversely affect the flight characteristics of the airplane.

As delivered from the factory (and when in compliance with SB 604A, as applicable), the door latching mechanism and lock assembly provides a safe, reliable means of retaining the nose baggage door closed during flight. Investigation has revealed several common aging-fleet related conditions that can impair the integrity of the door latching mechanism and lock assembly. These identified conditions are: Worn/non-conforming key locks, worn/corroded clevis pins, bent/deformed/non-conforming baggage door brackets, and damaged/corroded door locking springs.

This Service Bulletin provides for the mandatory recurring inspection of the door latching mechanism and lock assembly, and establishes a life-limit on safety-critical door components.

INSTRUCTIONS:

Refer to the appropriate Piper Illustrated Parts Catalog, Maintenance Manual, and Figure 1 of this Service Bulletin while performing the operations described below.

Note: Some Parts Catalogs and Maintenance Manuals will use the term "forward baggage door" in place of "nose baggage door".

PART I

1. Unlock nose baggage door, and lift door to the open position. Verify condition and function of nose baggage door electrical switches, as applicable. With electrical power applied to aircraft, verify that the cockpit annunciator light associated with the nose baggage door position functions properly, as explained in the appropriate flight manual. Verify proper functioning of nose baggage compartment interior light.
2. Remove nose baggage door from aircraft per Maintenance Manual instructions. Remove and discard existing clevis pins from the upper forward and aft door hinges.
3. Remove inner door cover; retain screws and cover for reinstallation. Examine door cover and door mechanical components for any visible damage, corrosion and wear; repair or replace on condition.
4. Verify compliance with SB 604A, if applicable. The BAGGAGE DOOR HANDLE BRACKET, Piper part number 28467-003 must be installed over the BAGGAGE DOOR HANDLE BRACKET, Piper part number 30580-000.
 - The correct part is Piper part number 28467-003, and is made of steel. If the 28467-003 bracket is not installed, then the aircraft is not in compliance with SB604A.
 - If there is a bracket in place, but the part number is 28467-002, then the aircraft is not in compliance with SB604A. Incorrect part number 28467-002 is made of aluminum. For confirmation, place a magnet against the 28467 series part that is installed. A magnet will stick to the correct part number 28467-003, but will not stick to the incorrect part number 28467-002.
5. Remove and discard springs common to BAGGAGE DOOR LATCH TUBE ASSEMBLY, as applicable. Refer to appropriate Illustrated Parts Catalog and Table 1, 2, or 3 for applicability and location. (Springs not shown in Figure 1.)

INSTRUCTIONS: (Continued)

6. Remove and discard existing clevis pins that join the BAGGAGE DOOR LATCH TUBE ASSEMBLY to the forward and aft BAGGAGE DOOR LATCH ASSEMBLY.
7. Remove and discard existing clevis pin common to the BAGGAGE DOOR LATCH TUBE ASSEMBLY and the FORWARD BAGGAGE DOOR HANDLE.

Note: Some Aircraft may have a ROLL PIN installed at this location. If roll pin is present carefully drive out roll pin and replace it with hardware specified in this service bulletin.

8. Remove and discard existing PINS (2 places) common to the BAGGAGE DOOR HANDLE BRACKET and the FORWARD BAGGAGE DOOR HANDLE.
9. Inspect the BAGGAGE DOOR HANDLE BRACKET, Piper part number 28467-003 for damage and replace on condition. Verify that the 28467-003 conforms to critical dimensions shown in Figure 2.
10. Remove and discard existing FORWARD BAGGAGE DOOR LOCK. Order and install KIT – LOCK ASSEMBLY, Piper part number 88409-002, one each.

Note: Piper part number 88409-002 provides complete parts and instructions to assemble a direct replacement key lock for the nose baggage door. Make sure a key is inserted into the lock at all times when the lock is being reworked per the kit instructions, because the existence of the key in the lock captures and retains numerous small internal parts when the outer lock cylinder is removed. Disassembly of the lock without the key inserted could allow these small parts to fall free from the lock and become lost.

11. Reassemble all components except door cover, and reinstall nose baggage door on aircraft using new components specified in table 1, 2, or 3, as applicable. Verify proper adjustment of the forward and aft BAGGAGE DOOR LATCH ASSEMBLY per Maintenance Manual instructions. Lubricate moving parts with general purpose, low temperature lubricating oil conforming to MIL-PRF-7870C or equivalent. Lubricate key lock with PTFE dry lubricant such as part number MS-122DF (aerosol spray can, which can be purchased from Miller Stephenson Chemical Company) or equivalent.

Note: The liquid carrier for PTFE dry lubricant (which evaporates on contact) will attack any acrylic based plastic (Lucite), polycarbonate (Lexan), polystyrene and its copolymer (ABS), and cellulose acetate. Therefore, avoid contact with the door cover or any other plastic parts while the PTFE dry film lubricant is in the (initial) liquid form.

12. Reinstall door cover.
13. For initial (first-time) compliance with Part I of this Service Bulletin, follow instruction 13A. After initial compliance with Part I of this Service Bulletin, follow instruction 13B.
 - A For first-time compliance with Part I of this Service Bulletin: Order and install KIT – PLACARD – NOSE BAGGAGE DOOR, Piper part number 88451-002, which includes parts and instructions for installing a P/N 100700-079 Placard on the Nose Baggage Door Handle.
 - B After the first-time compliance with Part I of this Service Bulletin has been accomplished: Inspect the P/N 100700-079 Placard, which is installed directly above the Nose Baggage Door Handle, to verify security and legibility, and replace on condition by ordering and installing KIT – PLACARD – NOSE BAGGAGE DOOR, Piper part number 88451-002.
14. Place a copy of Page 10 of this Service Bulletin in the aircraft's appropriate flight manual (AFM or POH), where it shall remain until the content of the Service Bulletin included at the next revision to the flight manual.
15. Make a logbook entry indicating compliance with **Part 1** of this Service Bulletin.

INSTRUCTIONS: (Continued)

PART II

1. At each 100 hours time in service, remove the inner door cover of the nose baggage door. Inspect all door latching and locking components for condition, corrosion and rigging. Verify that the key can only be removed from the key lock when the key is in the locked position. Lubricate components as described in this Service Bulletin, and reinstall cover.
2. Verify that the aircraft's flight manual (AFM or POH, as appropriate) includes either one of the following:
 - A copy of Page 10 of this Service Bulletin, as directed in **Part I**, Step 14.
 - A revision has been made to the Flight Manual, which incorporates the content of Page 10 of this Service Bulletin.
3. Inspect the P/N 100700-079 Placard, which is installed directly above the Nose Baggage Door Handle, to verify security and legibility, and replace on condition by ordering and installing KIT – PLACARD – NOSE BAGGAGE DOOR, Piper part number 88451-002.
4. Make a logbook entry indicating compliance with **Part II** of this Service Bulletin.

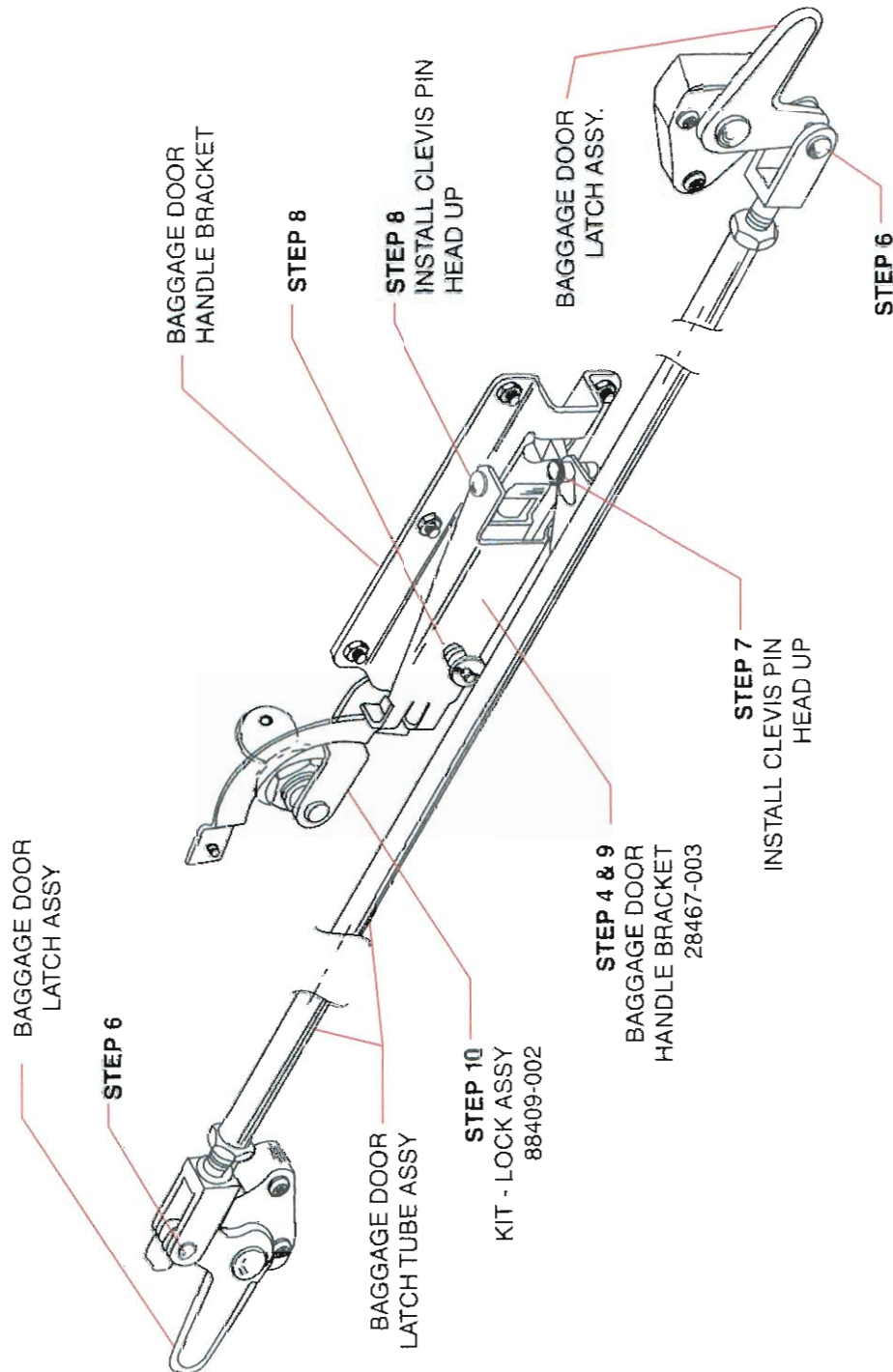


FIGURE 1

INSIDE VIEW OF TYPICAL FORWARD BAGGAGE DOOR LATCH

REFER TO TABLES 1, 2 OR 3 FOR MODEL - SPECIFIC HARDWARE

FOR ALL CLEVIS PINS THAT CALL OUT AN AN960 WASHER, PLACE WASHER UNDER COTTER PIN.

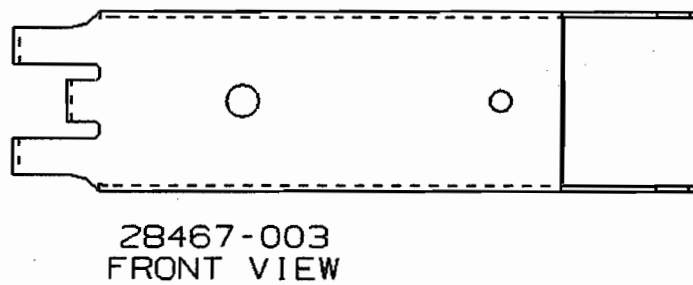
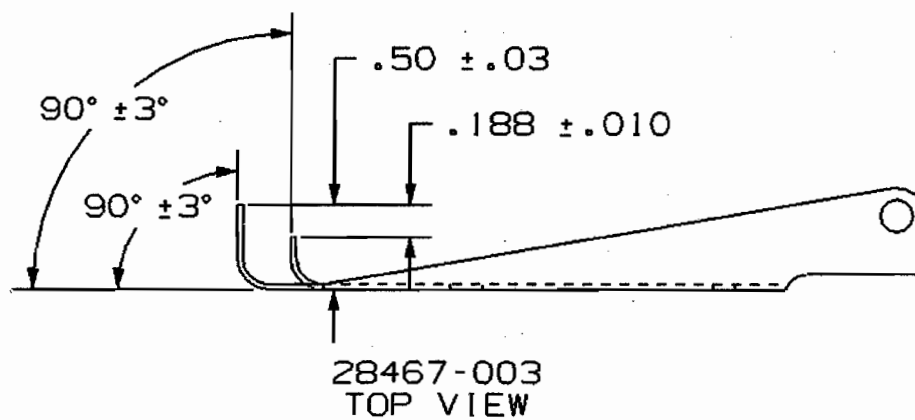


FIGURE 2

MATERIAL REQUIRED:**TABLE 1**

EFFECTIVITY: PA-23-250, and PA-E23-250

Step	QTY	Piper Code #	Nomenclature	Installed Location
2	2 (required)	424-182	PIN - (MS20392-2C27)	pins NOSE BAGGAGE DOOR to airframe, through the gooseneck hinges.
	2 (required)	407-564	WASHER - (AN960-10)	
	2 (required)	424-051	COTTER PIN - (MS24665-132)	
4, 9	1 (on condition)	28467-003	BAGGAGE DOOR HANDLE BRACKET	see Figure 1
5	2 (required)	487-383	SPRING (83302-047)	attaches to forward & aft ends of BAGGAGE DOOR LATCH TUBE ASSEMBLY
6	2 (required)	424-177	PIN - Clevis, Tube Assembly (MS20392-2C17)	pins the BAGGAGE DOOR LATCH TUBE ASSEMBLY to the forward and aft BAGGAGE DOOR LATCH ASSEMBLY
	2 (required)	407-584	WASHER - (AN960-10L)	
	2 (required)	424-051	COTTER PIN - (MS24665-132)	
7	1 (required)	424-148	PIN - (MS20392-1C23)	pins the FORWARD BAGGAGE DOOR HANDLE to the BAGGAGE DOOR LATCH ASSEMBLY
	1 (required)	407-581	WASHER - (AN960-4L)	
	1 (required)	424-052	COTTER PIN - (MS24665-134)	
8	1 (required)	424-186	PIN - Door handle hinge (MS20392-2C35)	pins the FORWARD BAGGAGE DOOR HANDLE to the BAGGAGE DOOR HANDLE BRACKET
	2 (on condition)	19513-053	WASHER - DOOR HANDLE SPACER	
	1 (required)	407-584	WASHER - (AN960-10L)	
	1 (required)	424-051	COTTER PIN - (MS24665-132)	
	1 (required)	487-458	SPRING (83302-067)	
	1 (required)	424-145	PIN - (MS20392-1C17)	
10	1 (required)	407-562	WASHER - (AN960-6)	replaces existing FORWARD BAGGAGE DOOR LOCK
	1 (required)	424-051	COTTER PIN - (MS24665-132)	
	1 (required)	88409-002	KIT - LOCK ASSEMBLY	
13	1 (required)	88451-002	KIT - PLACARD NOSE BAGGAGE DOOR	required for initial compliance with this Service Bulletin only. For subsequent compliance intervals, inspect and replace on condition.

VERIFY COMPLIANCE WITH PIPER SERVICE BULLETIN 604A AS APPLICABLE.

MATERIAL REQUIRED:

TABLE 2
EFFECTIVITY: PA-31, PA-31-300, PA-31-325, and PA-31-350

Step	QTY	Piper Code #	Nomenclature	Installed Location
2	1 (required)	424-182	PIN - (MS20392-2C29), install on fwd side	pins NOSE BAGGAGE DOOR to airframe, through the gooseneck hinges.
	1 (required)	424-183	PIN - (MS20392-2C31), install on aft side	
	2 (required)	407-564	WASHER - (AN960-10)	
	2 (required)	424-051	COTTER PIN - (MS24665-132)	
4, 9	1 (on condition)	28467-003	BAGGAGE DOOR HANDLE BRACKET	see Figure 1
5	2 (required)	487-316	SPRING (83302-023)	attaches to forward & aft ends of BAGGAGE DOOR LATCH TUBE ASSEMBLY
	1 (required)	487-371	SPRING (14635-003)	attaches to center of BAGGAGE DOOR LATCH TUBE ASSEMBLY
	2 (required)	424-176	PIN - Clevis, Tube Assembly (MS20392-2C15)	pins the BAGGAGE DOOR LATCH TUBE ASSEMBLY to the forward and aft BAGGAGE DOOR LATCH ASSEMBLY
6	2 (required)	407-584	WASHER - (AN960-10L)	
	2 (required)	424-051	COTTER PIN - (MS24665-132)	
7	1 (required)	424-148	PIN - (MS20392-1C23)	pins the FORWARD BAGGAGE DOOR HANDLE to the BAGGAGE DOOR LATCH ASSEMBLY
	1 (required)	407-581	WASHER - (AN960-4L)	
	1 (required)	424-052	COTTER PIN - (MS24665-134)	
	1 (required)	424-186	PIN - Door handle hinge (MS20392-2C35)	
8	2 (on condition)	19513-053	WASHER - DOOR HANDLE SPACER	pins the FORWARD BAGGAGE DOOR HANDLE to the BAGGAGE DOOR HANDLE BRACKET
	1 (required)	407-584	WASHER - (AN960-10L)	
	1 (required)	424-051	COTTER PIN - (MS24665-132)	
	1 (required)	487-458	SPRING (83302-067)	
	1 (required)	424-145	PIN - (MS20392-1C17)	
	1 (required)	407-562	WASHER - (AN960-6)	
	1 (required)	424-051	COTTER PIN - (MS24665-132)	
	1 (required)	88409-002	KIT - LOCK ASSEMBLY	
10	1 (required)	88451-002	KIT - PLACARD NOSE BAGGAGE DOOR	replaces existing FORWARD BAGGAGE DOOR LOCK
13	1 (required)			required for initial compliance with this Service Bulletin only. For subsequent compliance intervals, inspect and replace on condition.

VERIFY COMPLIANCE WITH PIPER SERVICE BULLETIN 604A AS APPLICABLE.

MATERIAL REQUIRED:**TABLE 3**

EFFECTIVITY: PA-31P, PA-31P-350, PA-31T, PA-31T1, PA-31T2, PA-31T3, PA-42, PA42-720, and PA-42-1000

Step	QTY	Piper Code #	Nomenclature	Installed Location
2	2 (required)	424-188	PIN - (MS20392-2C41)	pins NOSE BAGGAGE DOOR to airframe, through the gooseneck hinges.
	2 (required)	407-564	WASHER - (AN960-10)	
	2 (required)	424-051	COTTER PIN - (MS24665-132)	
4, 9	1 (on condition)	28467-003	BAGGAGE DOOR HANDLE BRACKET	see Figure 1
6	2 (required)	424-176	PIN - Clevis, Tube Assembly (MS20392-2C15)	pins the BAGGAGE DOOR LATCH TUBE ASSEMBLY to the forward and aft BAGGAGE DOOR LATCH ASSEMBLY
	2 (required)	407-584	WASHER - (AN960-10L)	
	2 (required)	424-051	COTTER PIN - (MS24665-132)	
7	1 (required)	424-148	PIN - (MS20392-1C23)	pins the FORWARD BAGGAGE DOOR HANDLE to the BAGGAGE DOOR LATCH ASSEMBLY
	1 (required)	407-581	WASHER - (AN960-4L)	
	1 (required)	424-052	COTTER PIN - (MS24665-134)	
8	1 (required)	424-186	PIN - Door handle hinge (MS20392-2C35)	pins the FORWARD BAGGAGE DOOR HANDLE to the BAGGAGE DOOR HANDLE BRACKET
	2 (on condition)	19513-053	WASHER - DOOR HANDLE SPACER	
	1 (required)	407-584	WASHER - (AN960-10L)	
	1 (required)	424-051	COTTER PIN - (MS24665-132)	
	1 (required)	487-458	SPRING (83302-67)	
	1 (required)	424-145	PIN - (MS20392-1C17)	
	1 (required)	407-562	WASHER - (AN960-6)	
10	1 (required)	424-051	COTTER PIN - (MS24665-132)	replaces existing FORWARD BAGGAGE DOOR LOCK
13	1 (required)	88409-002	KIT - LOCK ASSEMBLY	required for initial compliance with this Service Bulletin only. For subsequent compliance intervals, inspect and replace on condition.
		88451-002	KIT - PLACARD NOSE BAGGAGE DOOR	

VERIFY COMPLIANCE WITH PIPER SERVICE BULLETIN 604A AS APPLICABLE.

Nose Baggage Door Operational Procedure

A copy of this page shall remain in the aircraft's appropriate flight manual (AFM or POH), until this content can be included at the next revision to the flight manual.

100700-079 AR

**CLOSE AND LOCK
NOSE BAGGAGE DOOR
BEFORE FLIGHT**

1. CLOSE DOOR FULLY AGAINST DOOR FRAME
2. PRESS DOOR HANDLE FLUSH WITH SKIN, AND
ROTATE KEY INTO LOCKED POSITION
3. REMOVE KEY
4. PUSH ON FORWARD END OF DOOR HANDLE, TO
CONFIRM THAT HANDLE IS LOCKED AND SECURE

Principle of Operation

Nose Baggage Door latching and locking mechanism

Field reports indicate that mechanics and operators could benefit from an understanding of how the latching and locking components work together to secure the Nose Baggage Door during flight.

Piper Service Bulletin 604A states in part:

... it is possible to close the door and turn the lock to the locked position without the lock tang [also known as locking cam] actually engaging the door handle. As a result, the door would not be properly secured and could possibly come open in flight...

Prior to implementation of SB604A, the described condition could conceivably occur if the key lock becomes sufficiently worn so as to allow the locking cam to fit behind the handle in the locked position, with the handle flush to the outer surface of the fuselage. This scenario would appear visually as a locked and secure configuration, when in fact the locking cam is not engaged in the Door Handle slot.

Note: The cockpit annunciator light associated with the nose baggage door is controlled by a frame-mounted switch that makes contact with the door when the door closes. There is no interaction between the annunciator light circuit and the door mechanisms for latching and locking. Thus, an annunciator light that is turned off confirms only that the door is in the closed position, and does not confirm that the door is latched or locked.

This concern is addressed by installing a kit, Piper part number 763-923 or 763-922 (see Piper Service Bulletin 604A for applicability), which (in part) calls for installation of the 28467-003 Baggage Door Handle Bracket (hereafter identified as "28467-003 Bracket"). Affected aircraft manufactured after publication of Service Bulletin 604A will have this bracket (and associated parts) installed at the factory.

Note: Refer to Figures 3 and 4 for a visual depiction of the descriptions that follow.

The 28467-003 Bracket is hinged at the forward end with a clevis pin common to the Door Handle and the 30580-000 Baggage Door Handle Bracket, and features three right-angle prongs at the aft (key lock) end. In the locked position (i.e., prepared for flight), the middle prong exerts contact pressure against the Door Handle (due to compression force from the coil spring which is mounted on the back of the 28467-003 Bracket), holding the adjacent upper and lower prongs inboard, clear from contact with the locking cam.

Normal opening sequence is as follows: A key is inserted into the key lock and turned, rotating the locking cam out of the slot in the Door Handle. When the key is rotated beyond approximately 40 degrees from the locked position, the coil spring acts to push the aft end of both the 28467-003 Bracket and the Door Handle outboard (open), by a distance of approximately one quarter (1/4) inch. With the 28467-003 Bracket in this outboard position, the upper prong now blocks the return path of the locking cam, preventing the locking cam from rotating back into the locked position unless the handle is pushed back into the fully latched position (thereby preventing the condition described in SB604A, noted above).

As part of the normal door closing sequence, the aft end (nearest the key lock) of the Door Handle is pressed flush with the surface of the outer door. This action causes contact pressure between the Door Handle and the middle prong of the 28467-003 Baggage Door Handle Bracket. Both parts rotate together on a common hinge line, compressing the spring, and moving the upper prong inboard, out of the path of the locking cam.

With the Door Handle held flush as described above, the key may then be turned to the locked position, engaging the locking cam into the slot in the Door Handle. With the locking cam in the locked position, removal of the key prevents rotation of the locking cam, which in turn prevents the door handle from opening.

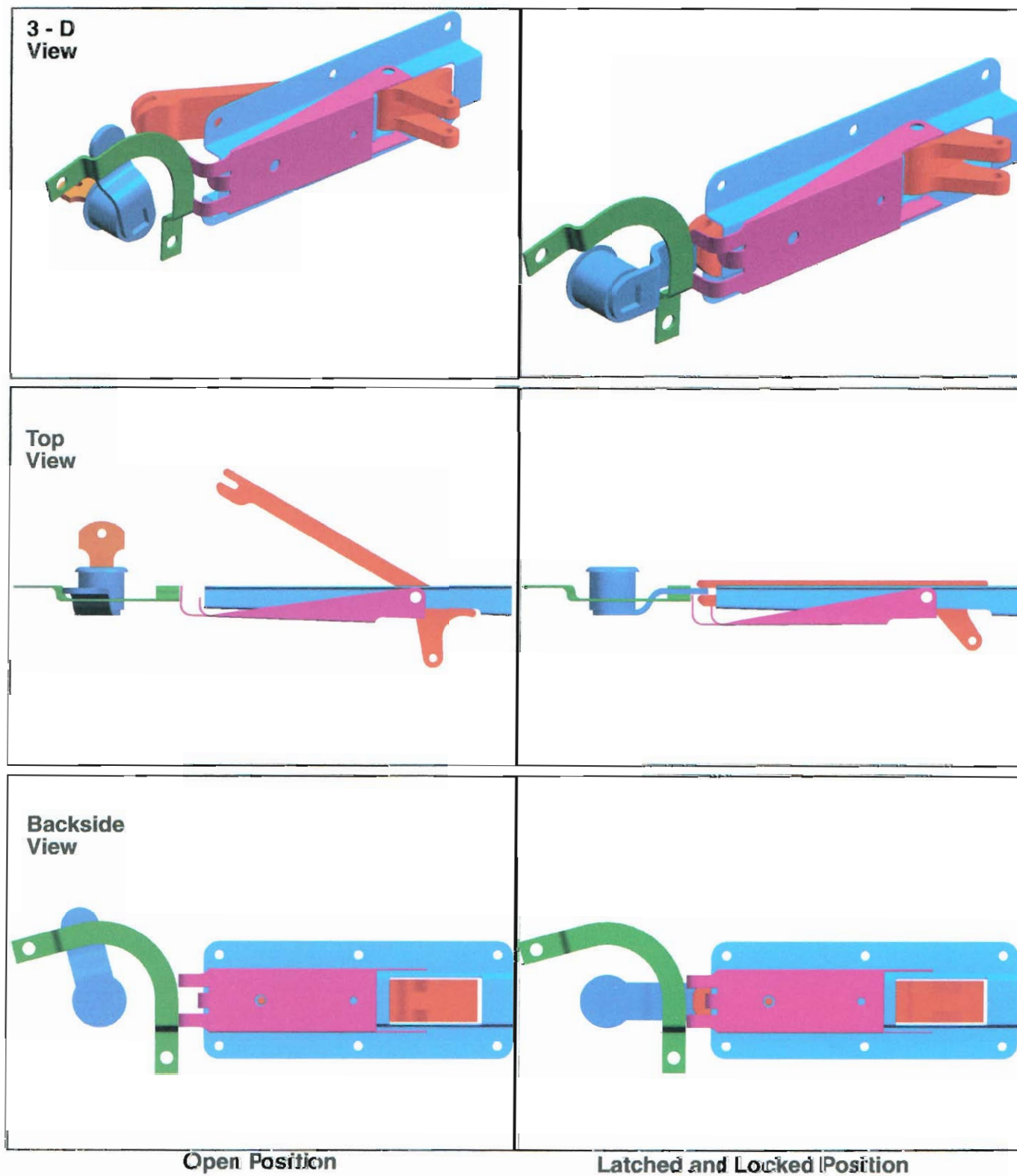


Figure 3
Door Latch Mechanism

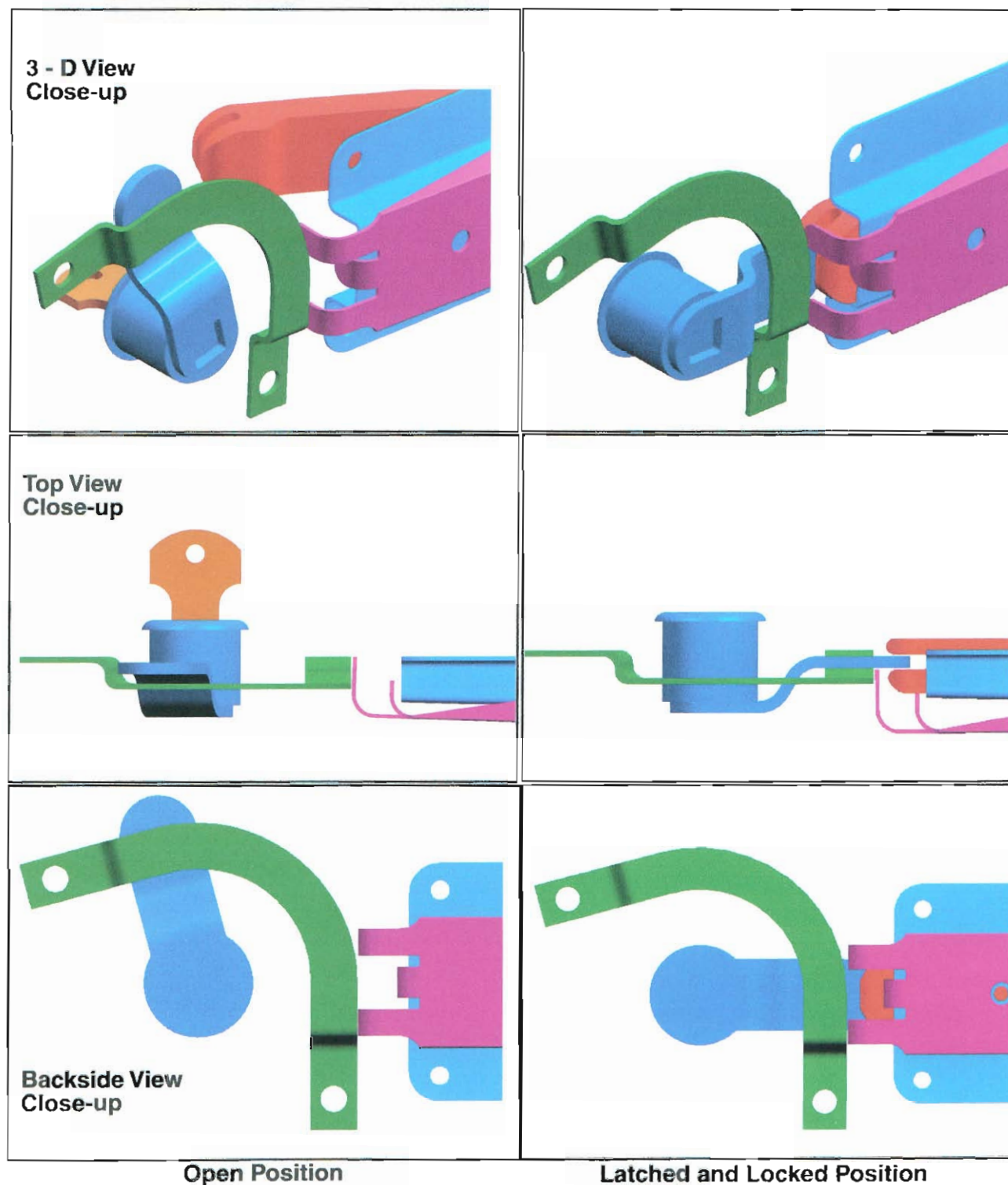


Figure 4
Door Latch Mechanism
Close-up View

MATERIAL REQUIRED: See Tables 1, 2 or 3 for the part numbers applicable to aircraft models.

AVAILABILITY OF PARTS: Your Piper Service Facility.

EFFECTIVITY DATE: This Service Bulletin is effective upon receipt.

SUMMARY: Please contact your Factory Authorized Piper Service Facility to make arrangements for compliance with this Service Bulletin in accordance with the compliance time indicated.

NOTE: If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify the factory of address/ownership corrections. Changes should include aircraft model, serial number, current owner's name and address.

Corrections and/or changes should be directed to:

PIPER AIRCRAFT, INC.
Attn: Customer Service
2926 Piper Drive
Vero Beach, FL 32960