



**Piper Aircraft, Inc.**  
 2926 Piper Drive  
 Vero Beach, FL, U.S.A. 32960

# SERVICE NO. 1375B BULLETIN

## PIPER CONSIDERS COMPLIANCE MANDATORY

Date: February 21, 2023

(S)

Service Bulletin (SB) 1375B supersedes SB 1375A for bolt hole inspections. However, if any of the four factory original screws in the upper flange were replaced with oversize fasteners as part of compliance with SB1375A, contact Piper for disposition.

**WARNING:** SB 1375A SPECIFIED INCORRECT REPLACEMENT SCREWS FOR THE UPPER FLANGE. ACCORDINGLY, IF ANY OF THE FOUR FACTORY ORIGINAL SCREWS IN THE UPPER FLANGE WERE REPLACED WITH OVERSIZE FASTENERS AS PART OF COMPLIANCE WITH SB1375A, THE AIRCRAFT MAY NO LONGER BE AIRWORTHY, CONTACT PIPER FOR DISPOSITION.

**SUBJECT:** PERIODIC REPLACEMENT OF MAIN LANDING GEAR ATTACHMENT HARDWARE

**REASON FOR REVISION:** SB 1375B corrects fastener call outs, model names, revises instructions, and updates formatting.

<p><b><u>MODELS AFFECTED:</u></b>          PA-28-140 Cherokee 140</p> <p>PA-28-150/-160 Cherokee 150/160</p> <p>PA-28-180 Cherokee 180</p> <p>PA-28-235 Cherokee 235</p> <p>PA-28-236 Dakota</p> <p>PA-28-151 Warrior</p> <p>PA-28-161 Cadet</p> <p>PA-28-161 Warrior II</p> <p>PA-28-161 Warrior III</p> <p>PA-28-180 Archer</p> <p>PA-28-181 Archer II</p> <p>PA-28-181 Archer III</p> <p>PA-28-181 Piper Pilot 100i</p> <p>PA-28-201T Turbo Dakota</p>	<p><b><u>SERIAL NUMBERS AFFECTED:</u></b>          28-20001 through 28-26946; 28-7125001 through 28-7725290</p> <p>28-03; 28-1 through 28-4377, and 28-1760A</p> <p>28-03; 28-671 through 28-5859;          28-7105001 through 28-7205318</p> <p>28-10001 through 28-11378; 28-7110001 through 28-7710089; 28E-11</p> <p>28-7911001 through 28-8611008; 2811001 through 2811050</p> <p>28-7415001 through 28-7715314</p> <p>2841001 through 2841365</p> <p>28-7716001 through 28-8616057; 2816001 through 2816109</p> <p>2816110 through 2816119; 2842001 and up</p> <p>28-E13; 28-7305001 through 28-7505260</p> <p>28-7690001 through 28-8690056; 28-8690061;          28-8690062; 2890001 through 2890205</p> <p>2890206 through 2890231; 2843001 through 2843999;          2881001 and up</p> <p>28020001 and up</p> <p>28-7921001 through 28-7921095</p>
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ATA/JASC: 3210

(OVER)

**MODELS AFFECTED** (continued):

PA-32-260 Cherokee Six 260

PA-32-300 Cherokee Six 300

PA-32-301 Saratoga

PA-32-301T Turbo Saratoga

PA-32-301FT Piper 6X

PA-32-301XTC Piper 6XT

**SERIAL NUMBERS AFFECTED** (continued):

32-03; 32-04; 32-1 through 32-1297; 32-7100001 through 32-7800008

32-15; 32-21; 32-40000 through 32-40974; 32-7140001 through 32-7940290

32-8006002 through 32-8606023; 3206001 through 3206019; 3206042 through 3206044; 3206047; 3206050 through 3206055; 3206060

32-8024001 through 32-8424002

3232001 through 3232074

3255001 through 3255051

**COMPLIANCE TIME:**

For affected aircraft which have accrued 2,000 hours time in service (TIS) or seven (7) calendar years TIS, initial compliance is to coincide with the next regularly scheduled maintenance event, but not to exceed the next 100 hours TIS.

Thereafter, compliance shall be at a recurring interval of 2,000 operating hours TIS or 7 calendar years TIS, whichever occurs first.

**APPROVAL:**

The engineering aspects of this service document have been shown to comply with the applicable Federal Aviation Regulations and are FAA approved.

**PURPOSE:**

A review of service history reveals that for the affected aircraft, the landing gear mounting hardware is subject to metal fatigue, hole wear and corrosion. Failure of this hardware could result in a landing gear collapse. Hole wear may cause fretting fatigue cracking.

This service bulletin provides instructions for the recurring replacement of this hardware and bolt hole inspection.

**INSTRUCTIONS:****NOTES:**

- Temporary removal of some interior components and/or access panels may be required in order to accomplish the instructions described in this service letter.
- Prior to inspection, wipe surfaces clean using a soft cloth dampened with isopropyl alcohol, mineral spirits, naphtha, or other suitable cleaning agent compatible with cured paints and primers.
- Refer to the appropriate section of the applicable Airplane Maintenance Manual or Service Manual for the procedures to jack the airplane and for model-specific instructions for the removal and installation of the main landing gear.
- These instructions apply to both the left and right sides of the aircraft.

The main landing gear (MLG) are attached to the aircraft with threaded fasteners that pass through mounting flanges on the strut cylinder and the upper and lower flanges of the main wing spar, as depicted in the illustration below. On some of the affected aircraft, additional threaded fasteners pass through the web of the main wing spar.

Replace the MLG mounting hardware as described below.

1. Place the aircraft on jacks.
2. Remove the fairing from around the strut cylinder housing and the access plate located on the bottom of the wing and to the rear of the housing by removing attaching screws.
3. Remove the MLG and discard all of the threaded fastener stack ups (which includes screws, bolts, nuts, and washers) that attach the MLG to the main wing spar. (See Figure 1.)

4. Bolt Hole Inspection

**NOTE:** Unless stated otherwise, all dimensions are in inches.

- a. Temporarily remove paint to achieve an accurate measurements during inspection. Remove paint using chemical processes only. Abrasives or other mechanical methods for paint removal will hide the existence of any cracks, making it impossible to do an accurate inspection.
- b. Measure the bolt holes common to the main wing spar and the MLG cylinder (four holes through the lower spar flange, four hole through the upper spar flange and two through the spar web). Compare measured holes sizes against the acceptable maximum hole sizes shown in Table 1.
  - If all bolt holes do not exceed the values shown in Table 1, then no modification is required. Proceed to Step 7.
  - If one or more bolt holes exceed the values shown in Table 1, it may be possible to replace the factory original hardware with a 1/64 or 1/32 oversize repair bolt. Proceed to Step c.

**NOTE:** If bolts have signs of damage, they must be replaced and an eddy current inspection performed on the corresponding bolt holes in the spar. A qualified NDT level III inspector is required to perform this inspection to ensure the spar does not have crack indications.

- c. For replacement of factory original hardware with oversize repair bolts (where applicable), refer to Table 2 for part numbers and hole sizes. Procure oversize repair bolts locally as required. If the bolt hole cannot be cleaned up within the tolerances specified in Table 2, some other repair is required.

**NOTE:** Where specified below, the thickness of the spar web and the width and thickness of the spar flange shall be measured with tools capable of accuracy to +/- 0.0005 inches.

**TABLE 1  
MAXIMUM BOLT HOLE SIZES  
FACTORY SUPPLIED, CLOSE TOLERANCE BOLTS**

Nominal Bolt Size	Maximum Allowable Bolt Hole
1/4	0.2510

**TABLE 2  
PART NUMBERS AND HOLE SIZES OVERSIZE REPAIR BOLTS**

Nominal Bolt Size	Repair Bolt Size	Repair Bolt Code <sup>(1)</sup>	Mating Washer (Under Bolt Head)	Minimum Bolt Hole Size	Maximum Bolt Hole Size
1/4	1/64 oversize shank	NAS6204-X	MS14226-64YC416	0.2654	0.2664
	1/32 oversize shank	NAS6204-Y	MS14226-32YC416	0.2810	0.2820

(1) Grip dash numbers (-X and -Y) are measured in increments of 0.0625 inches.

- 1) For oversize holes in the spar web, measure the local thickness of the spar web near the affected bolt hole.
  - If the web thickness measures at least 0.0907, a 1/64 oversize bolt is permissible.
  - If the web thickness measures at least 0.0908, a 1/32 oversize bolt is permissible.
- 2) For oversize holes in the spar flange, measure the local thickness of the spar flange near the affected screw hole.
  - If the flange thickness measures at least 0.2694, a 1/64 oversize repair bolt is permissible.
  - If the flange thickness measures at least 0.2713, a 1/32 oversize repair bolt is permissible.

If the spar flange thickness measures less than 0.2694, it may still be possible to address the discrepant condition with an oversize repair bolt. The following method requires an accurate measurement of the width of the spar flange; to gain access, the temporary removal of rivets common to the spar and the lower wing skin may be required.

Use the following formula:

$$D = W - (0.5942 \div T)$$

*D = Maximum permissible reworked hole size, as calculated.*

*W = Measured width of the flange near the affected hole.*

*T = Measured thickness of the flange near the affected hole.*

- If D does not exceed 0.2664, a 1/64 oversize repair bolt is permissible.
- If D does not exceed 0.2820, a 1/32 oversize repair bolt is permissible.

Example: W = 2.4930, T = 0.2675

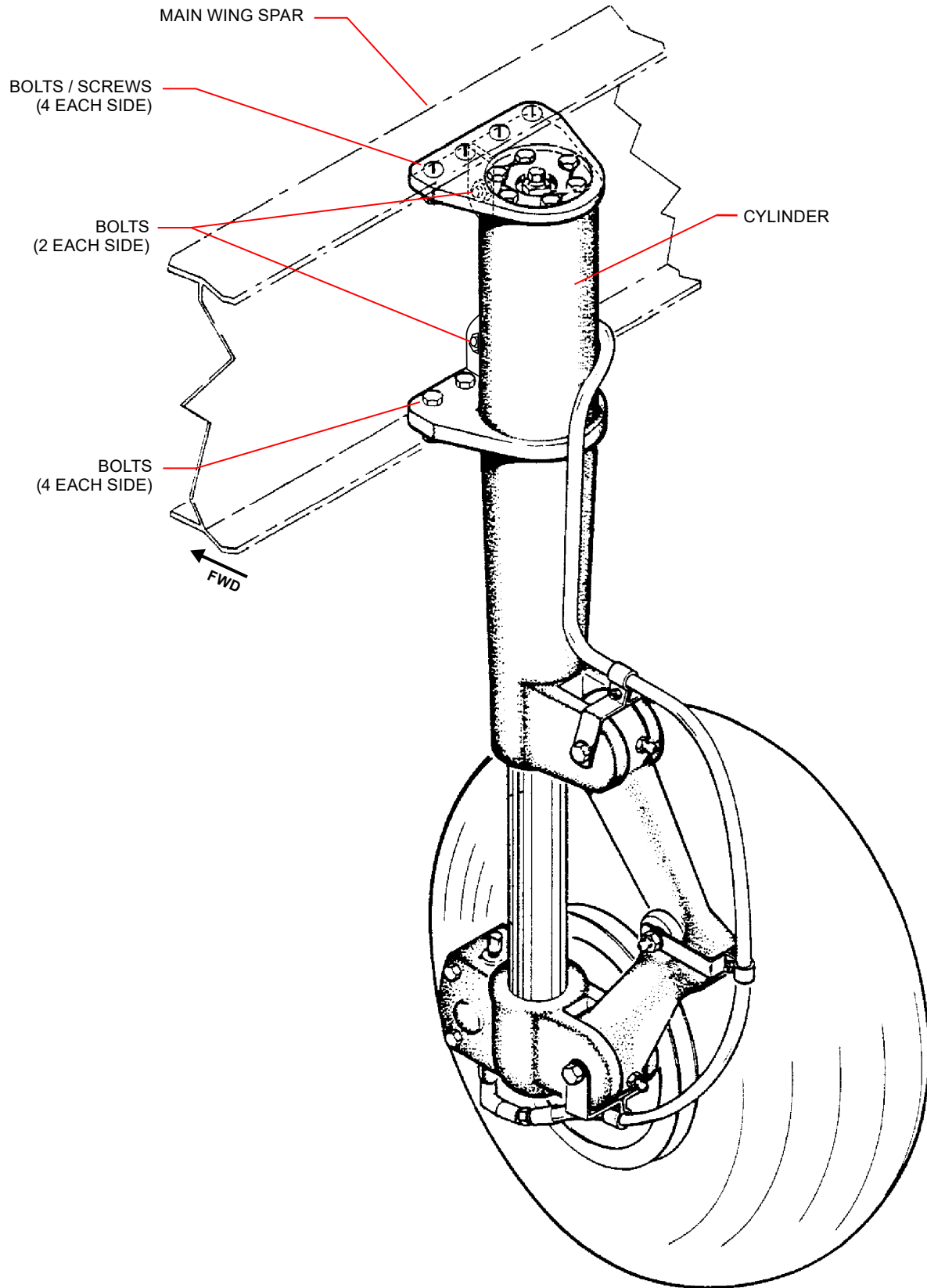
$$D = 2.4930 - (0.5942 \div 0.2675)$$

$$D = 2.4930 - 2.2213$$

$$D = 0.2717$$

In the example above, D = 0.2717. Since D exceeds 0.2664, a 1/64 oversize repair bolt is not permissible; but, since D does not exceed 0.2820, a 1/32 oversize repair bolt is permissible.

5. Order/procure new mounting hardware, per the applicable Piper Airplane Parts Catalog (IPC) and/or Table 2 as required. Install the MLG.
6. Apply primer/corrosion protection to reworked areas.
7. Reinstall the access plate onto the bottom of the wing and the fairing that surrounds the strut cylinder housing.
8. Remove the airplane from jacks.
9. Make a logbook entry documenting compliance with this service bulletin.



**MAIN LANDING GEAR (TYPICAL)**  
RIGHT SIDE SHOWN (LEFT SIDE OPPOSITE)

**Figure 1**  
Main Landing Gear – Mounting Hardware

**MATERIAL REQUIRED:** Per aircraft:

- Twenty (20) bolts/screws each, per the applicable Piper IPC and/or Table 2
- As required, washers and nuts, per the applicable Piper IPC and/or Table 2

**AVAILABILITY OF PARTS:** Procure locally and/or at your Piper Approved Service Center –  
Find your local service center at <https://www.piper.com/>

**EFFECTIVITY DATE:** This service bulletin is effective on February 27, 2023.

**SUMMARY:** Please contact your Piper Approved Service Center to make arrangements for compliance with this service bulletin in accordance with the compliance time indicated.

**NOTE:** Please notify the factory of any address/ownership corrections. Changes should include aircraft model, serial number, and 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  
or:  
CustomerService@piper.com  
Please include in subject line: "Aircraft ownership update"