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Registration no 2002/022837/07
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Manufacturing Organisation M677

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SERVICE BULLETIN

#0023

(Sling Aircraft (Pty) Ltd. considers compliance with all Service Bulletins mandatory)

RELEASE DATE: 01/06/2023

EFFECTIVE DATE: 01/06/2023

SUBJECT: Incorrect Nose Gear Bolt Replacement

MODELS AFFECTED: **Factory built aircraft serial numbers:**

Sling 2 – 352, 353, 354, 358, 359

Sling 4 TSi – 378s, 386s, 395s

Kit and quick build aircraft serial numbers:

Sling 2 – 355k, 367k, 368k, 385k

Sling 4 TSi – 137sk, 218sk, 288sk, 290sk, 293sk, 324sk, 327sk, 339sk, 348sk, 360sk, 367sk, 368sk, 371sk, 372sk, 376sk, 377sk, 382sk, 385sk, 287sk, 388sk, 390sk, 397sk, 399sk, 402sk, 404sk, 406sk, 407sk, 409sk, 410sk, 412sk, 418sk, 419sk, 420sk, 422sk, 425sk, 428sk, 431sk, 436sk, 437sk, 438sk, 447sk, 449sk, 450sk, 451sk, 452sk, 459sk, 460sk, 465sk, 466sk, 473sk, 474sk

COMPLIANCE TIME: Next MPI (Mandatory Periodic Inspection) or annual inspection, whichever comes first. Alternatively, this Service Bulletin may be performed immediately by the pilot / kit builder.

LABOUR TIME: 30 minutes

1. DESCRIPTION AND PURPOSE:

As a consequence of incorrect supply, certain aircraft Sling aircraft nose gear axle bolts have been fitted and/or supplied, such bolts having too long a thread. This results in the threaded section of the bolt being loaded. This Service Bulletin is to instruct owners of the affected models to replace the affected bolt. This Service Bulletin also contains instructions on how to remove and install the bolt, should it be installed already.

Note:

- The applicable aircraft Maintenance Manual and Construction Manual must be adhered to at all times.
- Refer to AC 43- Aircraft Inspection and Repair, when inspecting and replacing components.

1.1. MASS DATA:

N/A

1.2. ELECTRICAL LOAD DATA:

N/A

1.3. SOFTWARE MODIFICATIONS:

N/A

1.4. REFERENCES:

- a) Sling 2 & Sling LSA Maintenance Manual (DC-MAM-002-X-B)
- b) Sling 4 TSi Maintenance Manual (DC-MAM-001-X-F)

1.5. PUBLICATIONS AFFECTED:

N/A

2. MATERIAL INFORMATION:

2.1. PARTS AND CONSUMABLES LIST:

- a) 1 X M16 x 175 Allen cap bolt, Grade 12.9 (HW-MCB-612-X-X-0)

2.2. TOOLS REQUIRED:

- a) 3 mm Allen key / hex drive
- b) 2.5 mm Allen key / hex drive
- c) 14 mm Allen key / hex drive
- d) 24 mm Spanner
- e) Loctite 222
- f) Torque seal

2.3. MATERIAL RESPONSIBILITY:

Sling Aircraft (Pty) Ltd. will provide the required hardware, listed in Section 2.1.

2.4. LABOUR RESPONSIBILITY:

Sling Aircraft AMO 1264 (Johannesburg, South Africa) is available to perform the required work on all aircraft delivered to its premises. The aircraft may be flown to an aircraft maintenance organisation for the work to be carried out. Person(s) implementing the work are required to follow instructions set out below and refer to the supplementary documentation listed in Section 1.4 as needed. Sling Aircraft cannot accept any responsibility for the quality of work performed in implementing this service bulletin, if the work is not performed by Sling Aircraft AMO 1264 (Johannesburg, South Africa).

All work carried out on the aircraft with respect to this service bulletin (Service Bulletin #0023) may be performed by the kit builder. Refer to the legal requirements of the governing aviation authority of the country where the actions, as detailed by this service bulletin, are to be carried out.

Sling Aircraft is responsible for the labour costs relating to the actions as detailed in this Service Bulletin, for aircraft still under warranty. Sling Aircraft is not responsible for costs related to shipping, downtime, loss of income, etc.

2.5. COMPANY SUPPORT INFORMATION:

To request replacement parts, please use the following contact details:

sales@slingaircraft.com

Make use of the following contact details for any related technical queries:

airworthiness@slingaircraft.com or technical@slingaircraft.com

3. INSTRUCTIONS:

The threaded section on the nose gear bolt provided to the affected aircraft is too long. This results in the threaded section of the bolt being loaded and may make the bolt more likely to fatigue and/or possibly break with a rough landing. This bolt needs to be replaced with one of the correct thread length to ensure that the thread does not get loaded.

Figure 1 shows the correct nose gear bolt dimensions. The nose gear bolt (HW-MCB-612-X-X-0) dimensions should be checked and if the bolt's thread length is incorrect it must be replaced with a new bolt of the correct dimensions. These bolts can be ordered from Sling Aircraft.

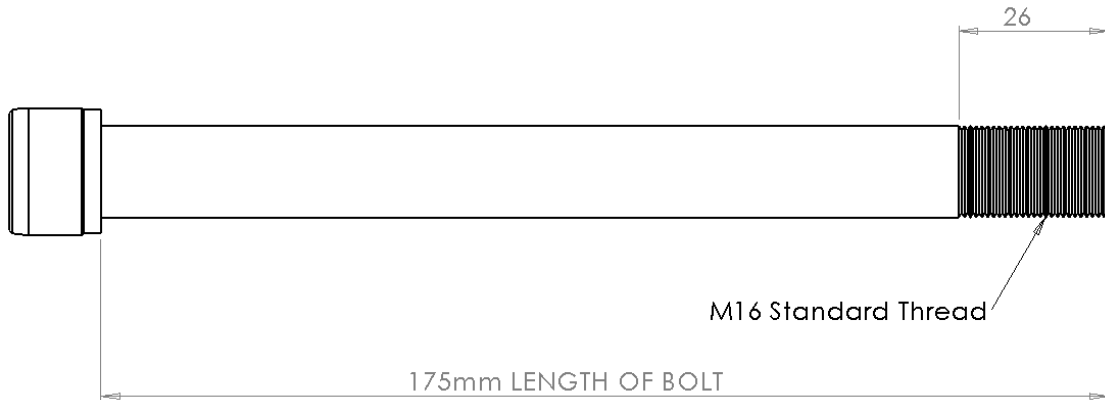


Figure 1: Correct Nose Gear Bolt thread length

Section 3.1 details how to remove the bolt from the nose gear and Section 3.2 details how to install the new bolt.

The relative maintenance manuals listed in Section 1.4 should be referenced as required.

3.1. Nose gear axle bolt removal

- Step 1: The nose gear spat needs to be removed. To separate the front and rear halves of the nose wheel spat by unscrewing the button head screws retaining the halves to each other and to the brackets on the nose gear. The fairing can now be removed from the gear.
- Step 2: Once the fairing has been removed, lift and support the front of aircraft in such a manner as to lift the nose wheel off the ground.
- Step 3: Unfasten the lock-nut (1) retaining the nose wheel.



Figure 2

- Step 4: Support the wheel and remove the axle bolt (2), washers (3). There should be enough pressure from the nose gear fork to hold the two bushes / spacers (4) in place. Replacement of the bolt will be easier if these bushes remain in place as you will not have to realign them.



Figure 3

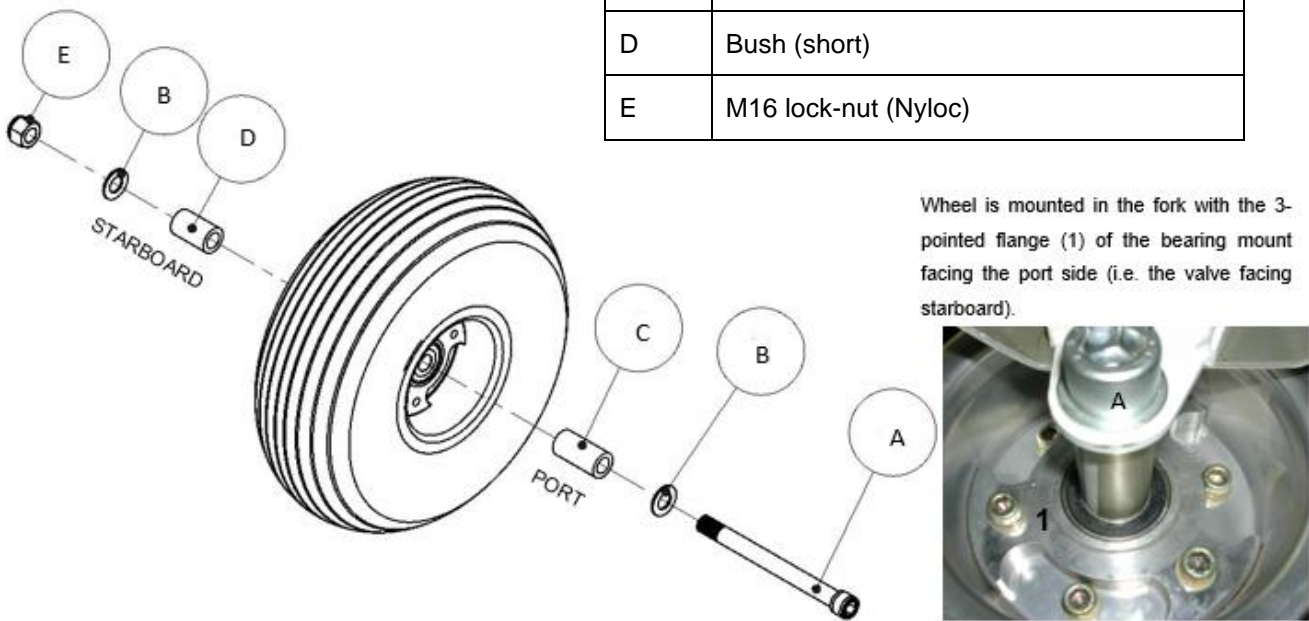
- Step 5: Remove the wheel from the fork (5).

If further detail about removing the nose gear fairing and bolt is required, consult Section 4.4.2 in DC-MAM-002-X-B for Sling 2, and Section 4.4.2 in DC-MAM-001-X-F for Sling 4 TSi.

3.2. Nose gear axle bolt replacement.

Step 1: In order to install the new replacement bolt with the correct thread length, reverse the procedure specified in Section 3.1. Ensure that the assembly of the wheel get reassembled correctly. Refer to the exploded view of the wheel axle assembly to ensure the components get placed in the correct positions, refer to Figure 4.

A	M16 x 175 mm Allen cap bolt, Class 12.9
B	M16 washer
C	Bush (long)
D	Bush (short)
E	M16 lock-nut (Nyloc)



Wheel is mounted in the fork with the 3-pointed flange (1) of the bearing mount facing the port side (i.e. the valve facing starboard).

Figure 4: Nose gear wheel assembly

- Step 2: Torque the M10 Allen cap bolt to 10.5 Nm.
- Step 3: Apply torque seal into the bolt.
- Step 4: Verify free rotation for the wheel.
- Step 5: Apply Loctite 222 to the failing screws and reinstall the nose gear fairing.

If further detail about replacing the nose gear fairing and bolt is required, consult Section 4.4.2 in DC-MAM-002-X-B for Sling 2, and Section 4.4.2 in DC-MAM-001-X-F for Sling 4 TSi.

Once the actions detailed in this service bulletin have been carried out, the aircraft's compliance to this service bulletin needs to be documented in the aircraft's airframe logbook.

Signed on this the 01 day of June 2023



ACCOUNTABLE MANAGER
MR JAMES PITMAN