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Registration no 2002/022837/07  
Approved Maintenance Organisation AMO1264  
Manufacturing Organisation M677

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**SERVICE BULLETIN**

#0015

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**(The Airplane Factory (Pty) Ltd. considers compliance with all Service Bulletins mandatory)**

**RELEASE DATE:** 07/08/2019

**EFFECTIVE DATE:** 07/08/2019

**SUBJECT:** Modification to main axle mounts

**MODELS AFFECTED:** Sling TSi Serial Numbers  
RTF: 129s, 132s, 135s  
QB : 148sk, 152sk, 154sk, 155sk, 161sk

**COMPLIANCE TIME:** Before or at next scheduled mandatory periodic inspection ("MPI")

**LABOUR TIME:** 3 hours

**DESCRIPTION AND PURPOSE:**

The Sling TSi main landing gear wheels should ideally be vertical to the ground when the aircraft is loaded. When this is not the case, compression and wear of the composite rear spat bracket on the main landing gear results as shown in Figure 1(a). In addition, the wheels of the main gear tilt inwards such that heat generated during braking causes heat damage to the landing gear leg as shown in Figure 1(b).

Modifications must be made to ensure a new axle angle is created so that the main landing gear wheels are vertically aligned to the ground when fully loaded. These include adding a spacer wedge (Part number UN-SPC-001-C-X-0) and washer (Part number UN-WSR-007-X-X-0) to the axle assembly. For the prevention of heat damage, the main landing gear must be wrapped with a heat shield (Part number UN-HSD-001-X-X-0) in the region prone to heat damage.

The main spat covers may require slight modifications to accommodate the new axle angle that results from insertion of the spacer wedge.

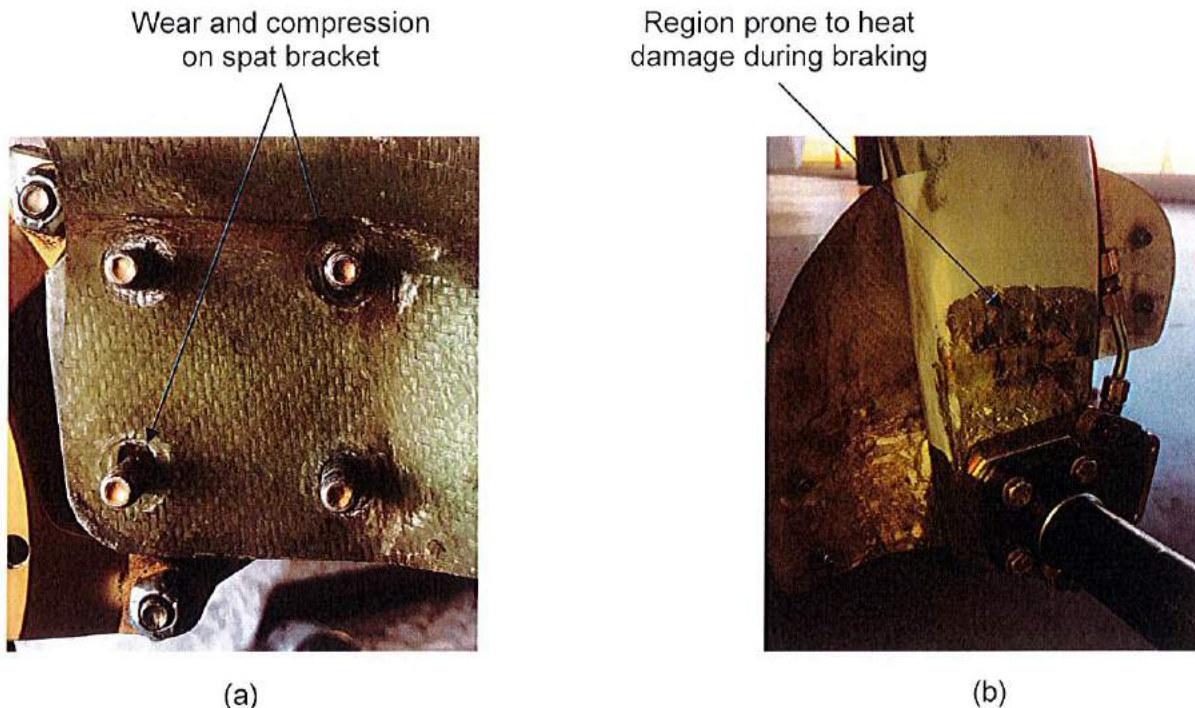


Figure 1 – Wear on rear wheel spat bracket and heat damage to landing gear leg

#### **MATERIAL COST AND RESPONSIBILITY:**

All parts must be ordered from the local dealer or distributor and work must be performed by persons appropriately qualified to make structural changes and repairs to Sling aircraft. The Airplane Factory AMO (Johannesburg, South Africa) is available to perform the required work on all aircraft delivered to its premises.

Person(s) implementing the work are required to follow the instructions set out below and refer to the attached drawing(s) before attempting any work on the airframe.

#### **PARTS AND CONSUMABLES LIST:**

- a) 8 x AN4-26A bolts
- b) 8 x AN4 nyloc nuts
- c) 4 x AN4 washers
- d) 2 x UN-SPC-001-C-X-0 (Axle spacer wedge)
- e) 2 x UN-WSR-007-X-X-0 (Undercarriage double washer)
- f) 2 x UN-HSD-001-X-X-0 (Undercarriage heat sleeve)
- g) 1 metre x HW-WLC-001-X-X-1 (0.025 mm diameter locking wire)
- h) Fuchs Renolit M 2 EP grease

#### **TOOLS REQUIRED:**

- a) 2.5 mm Allen key
- b) 3 mm Allen key
- c) 1/2" spanner
- d) 7/16" socket and spanner

- e) 38 mm socket
- f)  $\frac{3}{8}$ " Drive Torque wrench 6 – 30NM
- g) Long nose pliers
- h) Wing stand

## INSTRUCTIONS:

1. Loosen the AN5 bolt on the outer side of the main spat and remove the bolt and washer.
2. Proceed to remove the wheel spats on the main landing gear by loosening all the button head screws.
3. Jack the aircraft with the wing stand, placing it directly under a wing rib before performing further work.
4. Remove the cotter pin located on the castle nut and pull out the spacer bush from wheel axle.
5. Remove the two bolts that secure the brake pads to the brake caliper assembly.
6. Proceed to loosen main axle nut and remove the main wheel and the main axle bearings by sliding them along the axle.
7. Remove the main AN4 bolts that assemble the wheel axle to the main landing gear leg.
8. Wrap the heat shield (Part number UN-HSD-001-X-X-0) around the landing gear leg in the region indicated in Figure 2. Use the locking wire to keep it in place as shown in Figure 3.
9. Replace the four main bolts with AN4-26A bolts (placing AN4 washers under the bolt head) after fitting the axle wedge (Part number UN-SPC-001-C-X-0) between the main gear leg and axle as shown in Figure 2. **Ensure that the thicker side of the wedge faces upwards as shown.**
10. On the inner side of the main gear leg, refit the rear wheel spat bracket (Part number UN-CMP-008-R-F-0) and then the new undercarriage double washer (Part number UN-WSR-007-X-X-0) as shown in Figure 2.
11. Before fastening the new AN4 nyloc nuts onto the AN4-26A bolts, insert AN4 washers and ensure the bolt shanks do not protrude once assembly is completed according to Figure 2. If any of the shanks are visible, insert additional AN4 washers then tighten to 7N.m.
12. Apply grease onto the inner wheel bearing and fit it onto the wheel, then slide the tyre and wheel assembly onto the axle. Apply grease on outer bearing, fit to wheel and return the bolts that assemble the brake caliper. Insert the spacer bush through the wheel axle.
13. Install and tighten the axle nut until all play is out of assembly. Rotate the wheel back and forth while tightening the nut to help seat the bearings. When all play is out, and the wheel rotates freely, tighten to the next slot and insert cotter pin.

The rubber seal on the tapered roller bearing should remain stationary while the wheel rotates around it. If the seal is spinning on the axle, tighten the nut further until the seal stops spinning with the wheel.

14. Refit spats when work is completed as per original assembly instructions.

**DIAGRAM(S):**

The diagram and quantities in the table below specify **one half** of the main gear.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	UN-CMP-S03-C-X-0	Main landing gear	1
2	CUSLSA020	Sling main wheel, brake and axle assembly	1
3	HW-ANL-040-X-X-0	AN 4 Locknut	4
4	UN-CMP-002-R-F-0	Main outer gear spat, Outer, Right	1
5	HW-MTL-010-X-X-0	M10 Nyloc nut	2
6	UN-CMP-008-R-F-0	Rear wheel spat bracket, Right	1
7	HW-ANW-400-X-X-0	AN4 Washer - Thick	2
8	HW-ANB-426-X-X-0	AN4-26A bolt	4
9	<b>UN-SPC-001-C-X-0</b>	<b>Axle Spacer Wedge</b>	<b>1</b>
10	<b>UN-WSR-007-X-X-0</b>	<b>Undercarriage Double Washer</b>	<b>1</b>

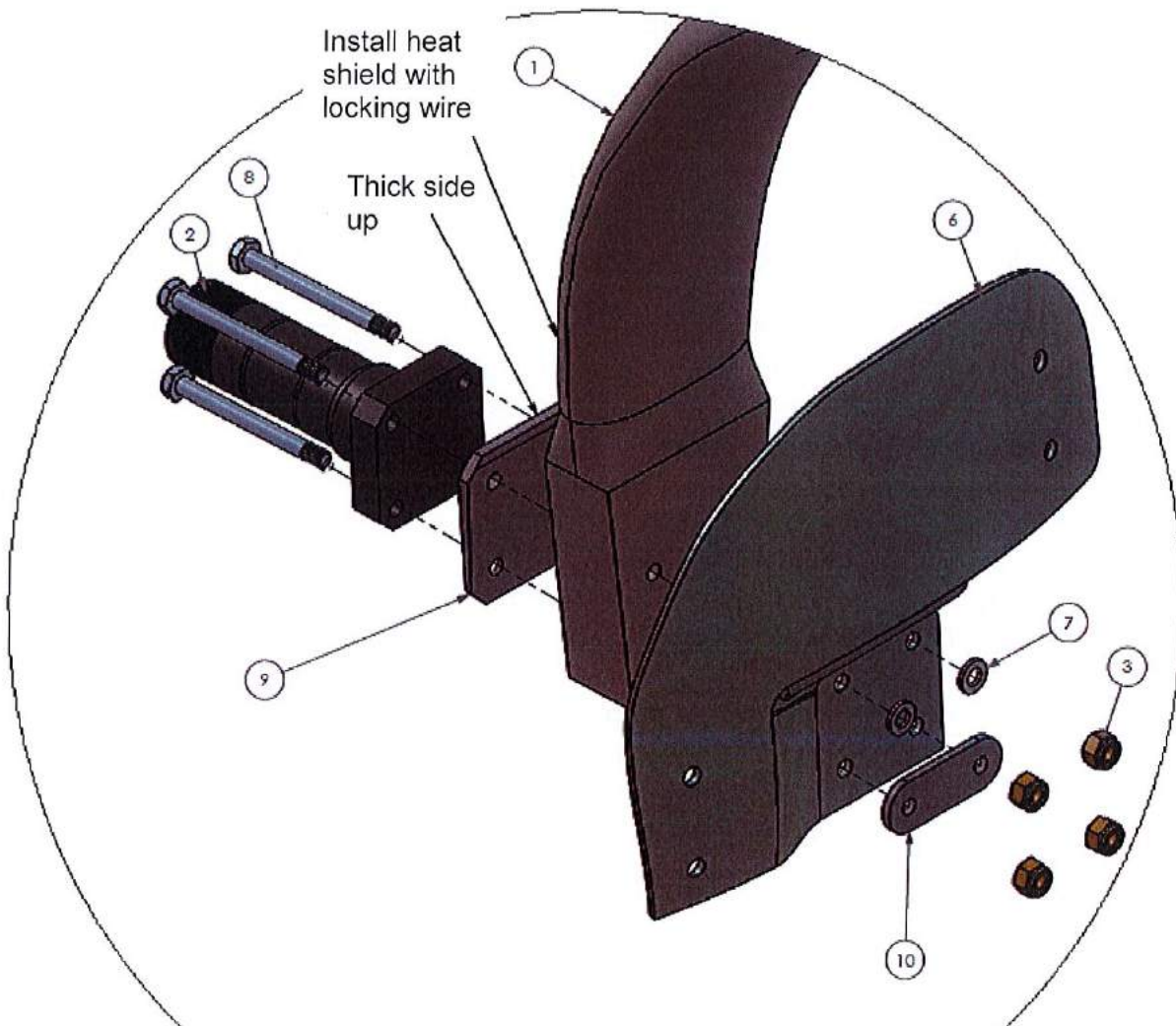


Figure 2 – Installation of order of axle spacer wedge and undercarriage double washer

Locking  
wire



Figure 3 – Installed heat shield

Signed on this the 7<sup>th</sup> day of August 2019

A handwritten signature in black ink, appearing to read 'A. Pitman'.

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MR ANDREW PITMAN  
ACCOUNTABLE MANAGER  
THE AIRPLANE FACTORY (M677)

