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Manufacturing Organisation M677

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

RELEASE DATE: 2020/07/28

EFFECTIVE DATE: 2020/07/28

SUBJECT: Insufficient swaging of oval sleeves on the rudder cables

MODELS AFFECTED: All Sling aircraft – Manufactured before effective date 2020/07/28

COMPLIANCE TIME: At the next MPI (Mandatory Periodic Inspection)

LABOUR TIME: 2 hours

DESCRIPTION AND PURPOSE:

The Service Bulletin provides the instructions for the inspection of crimp widths on the rudder cable oval sleeves as internal quality checks have shown that some cables may have been insufficiently swaged.

Insufficient swaging of oval sleeves could result in the rudder cable slipping out of the oval sleeve and subsequent loss of directional control of the aircraft.

The Service Bulletin also requires that inspections be carried out on all kit-built aircraft still under construction prior to first flight.

PARTS AND CONSUMABLES LIST:

a) Corrosion-preventive compound or grease. You may use any one of the following:
   i) MIL-C-16173 Grade 4 compounds such as Esgard PL-4, Tectyl 846 Class, Nox-Rust X-110 and Nox-Rust 110 DLS
   ii) Molykote DX paste
   iii) PPG JC5A corrosion inhibitive jointing compound
   iv) LPS 3® premier rust inhibitor (Part# 09-26300)
   v) CorrosionX (Part# 09-00926)
   vi) Or any other suitable corrosion-preventive compound / grease that prevents moisture ingress

MATERIAL COST AND RESPONSIBILITY:

Sling Aircraft AMO (Johannesburg, South Africa) is available to perform the inspection on all aircraft delivered to its premises. Make use of the following contact details for cost related queries: Airworthiness@slingaircraft.com or Technical@slingaircraft.com.

TOOLS REQUIRED:

Note: Early year models used M3 dome head cap screws on centre fuselage inspection covers. M4 dome cap screws are used on later models. Use 2 mm and 2.5 mm Allen keys for M3 and M4 dome head cap screws respectively.

a) Sharp blade
b) Lococloc® go-no go sleeve gauge (Part# 13-03814).
(A vernier caliper may be used in the absence of the Lococloc® go-no go sleeve gauge.)
c) 2 mm / 2.5 mm Allen key (as above)
d) Brush for application of corrosion-preventive compound / grease

INSTRUCTIONS:

Inspection:

1. All compressions on the oval sleeve (crimps) must be gauged across their major axis with a Locoloc® go-no go sleeve gauge as shown in Figure 1.
2. Use the 1/8" oval sleeve slot on the Locoloc® go-no go sleeve gauge as shown in Figure 2. The crimps should pass into the slot easily.
3. The accessible oval sleeves on the rudder cable are located at the rudder (shown in Figure 3 to Figure 5) and at the pedals (shown in Figure 6). To access oval sleeves at the rudder pedals, use the 2 mm / 2.5 mm Allen key to remove the centre console inspection covers.
4. Prior to inspection, use the sharp blade to cut the heat shrink off the oval sleeves at the rudder and at the rudder pedals.
5. The vernier caliper may be used in the absence of a Locoloc® go-no go sleeve gauge. Tighten the lock screw on the vernier caliper to the limiting width of 8.90 mm (0.350 in) and gauge every crimp (three crimps on each sleeve) as shown in Figure 5 and Figure 6(b). Each crimp should pass into the locked jaws easily.
6. Figure 4 shows the inspection of the RH (right hand) oval sleeve at the rudder using the Locoloc® go-no go sleeve gauge and Figure 5 shows the inspection of the RH oval sleeve with the vernier caliper.
7. Figure 6(a) shows the inspection of the oval sleeve at the LH rudder pedal using the Locoloc® go-no go sleeve gauge and Figure 6(b) shows the inspection of the oval sleeve with the vernier caliper.
8. In addition, ensure that the length of the free end cable (see Figure 1 and Figure 4) is more than 3.0 mm.

After inspection:

9. Apply the corrosion-preventive compound (grease) to the oval sleeve and around the cable where the heat shrink was removed as shown in Figure 7. You may use a brush to apply grease and wipe the excess off (see Figure 7).
10. Reinstall the inspection covers at the pedals.
11. Report findings of crimp widths that are larger than recommended to Sling Aircraft. Use the following contact information: Airworthiness@slingaircraft.com or Technical@slingaircraft.com

Heat shrink tubing:

It is not necessary to fit new heat shrink tubing after inspection as the corrosion-preventive compound / grease will provide the environmental protection the rudder cable requires. If, however, one should choose to do so, new heat shrink tubing may be fitted on the oval sleeves at the rudder, in which event the following procedure should be used.

12. One 12.7 mm x 6.4 mm (diameter x shrunk diameter) heat shrink tubing 100 mm long (Sling Aircraft part number EC-HTS-011-X-X-0) is required. Cut the heat shrink tubing into two equal 50 mm long tubes for each oval sleeve at the rudder.

13. Slide the 50 mm tubing over the thimble (see thimble in Figure 1). Insert the jaws of a long nose pliers approximately 20 mm into the tubing and expand slightly for easier fitment over the thimble.
14. The heat shrink tubing should cover the section of cable shown in Figure 7. Gradually heat the tubing circularly, moving a heat source around the cable until heat shrink fits snugly around the oval sleeve and free end of the cable.
15. Corrosion-preventive compound should still be applied on oval sleeves and cables at the pedals as stated in step 9.

PICTURES:

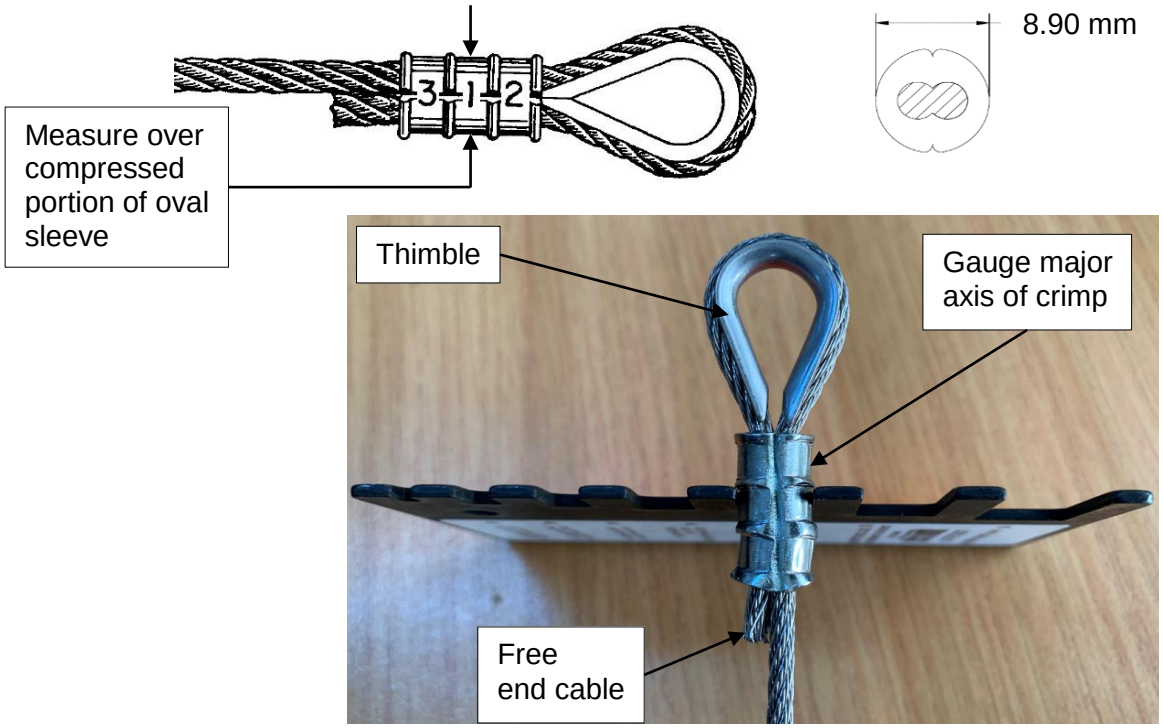

Figure 1 - Gauge the major axis of compressed oval sleeve

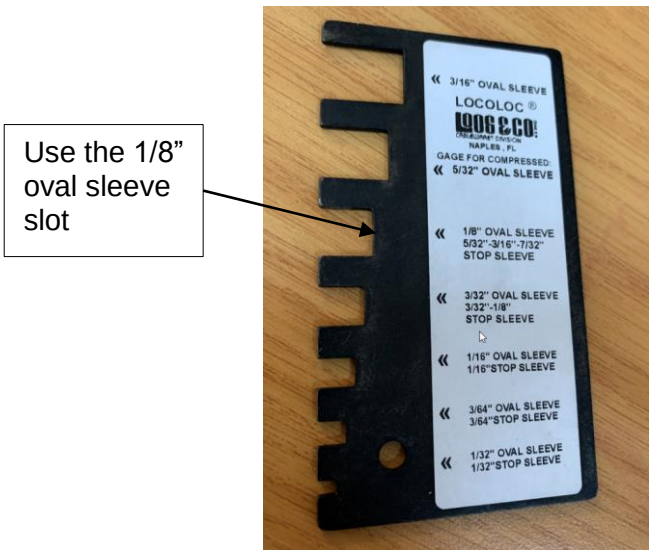

Figure 2 – 1/8" oval sleeve slot on Lococloc® go-no go sleeve gauge

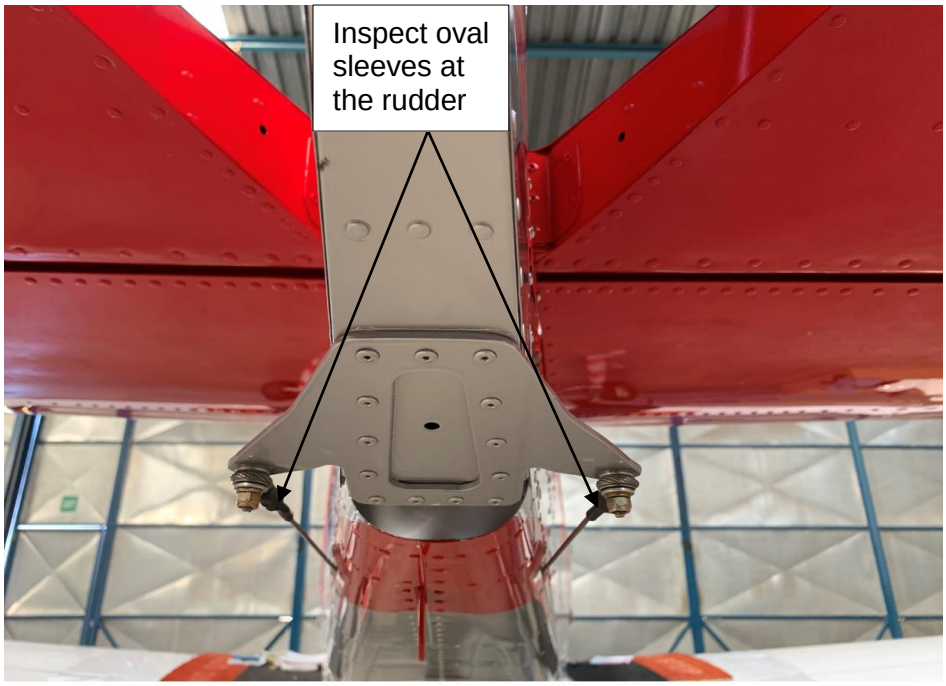

Figure 3 – Oval sleeves at rudder

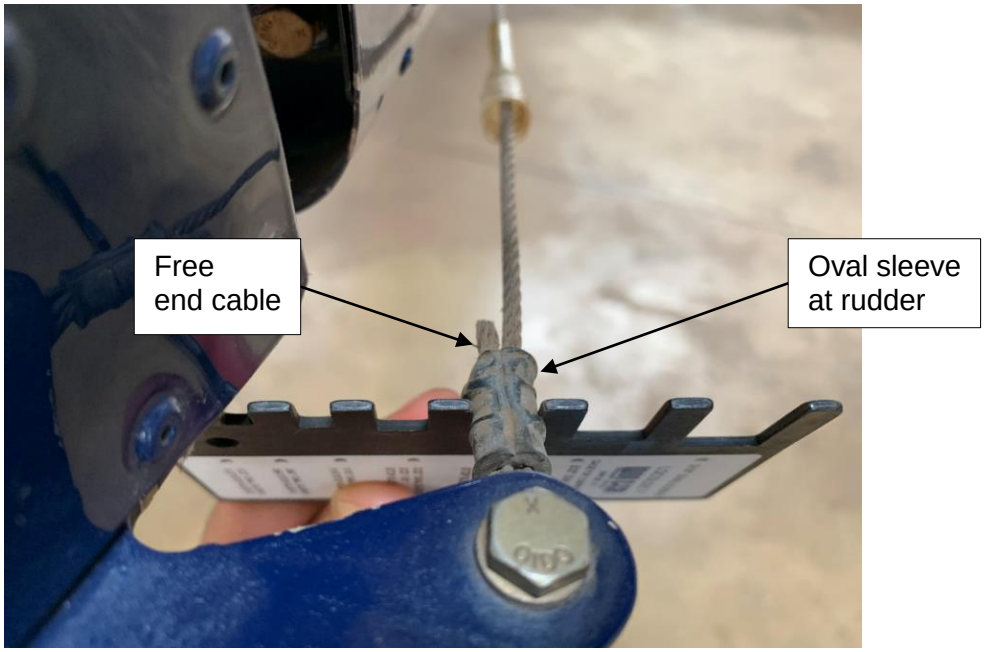

Figure 4 – Gauging RH oval sleeves at the rudder with the Lococloc® go-no go sleeve gauge

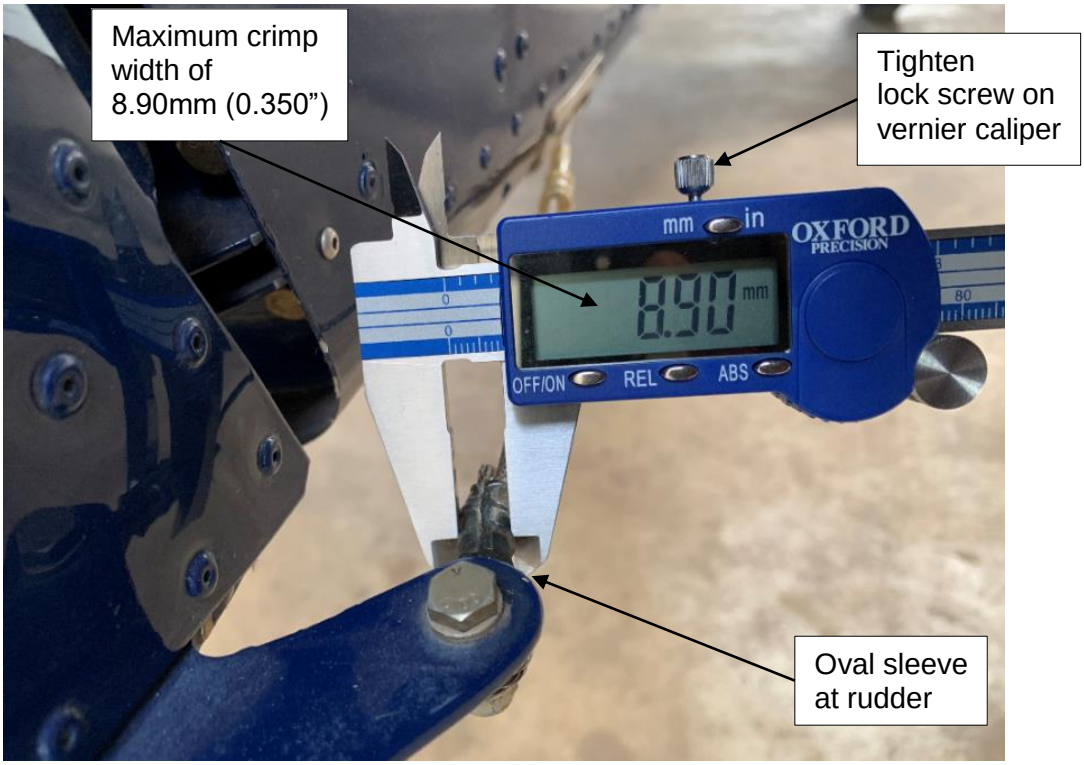

Figure 5 – Gauging RH oval sleeves at the rudder with the vernier caliper

(a) (b)

Figure 6 – Gauging LH oval sleeve at the rudder pedals with the Lococloc® go-no go sleeve gauge and vernier caliper

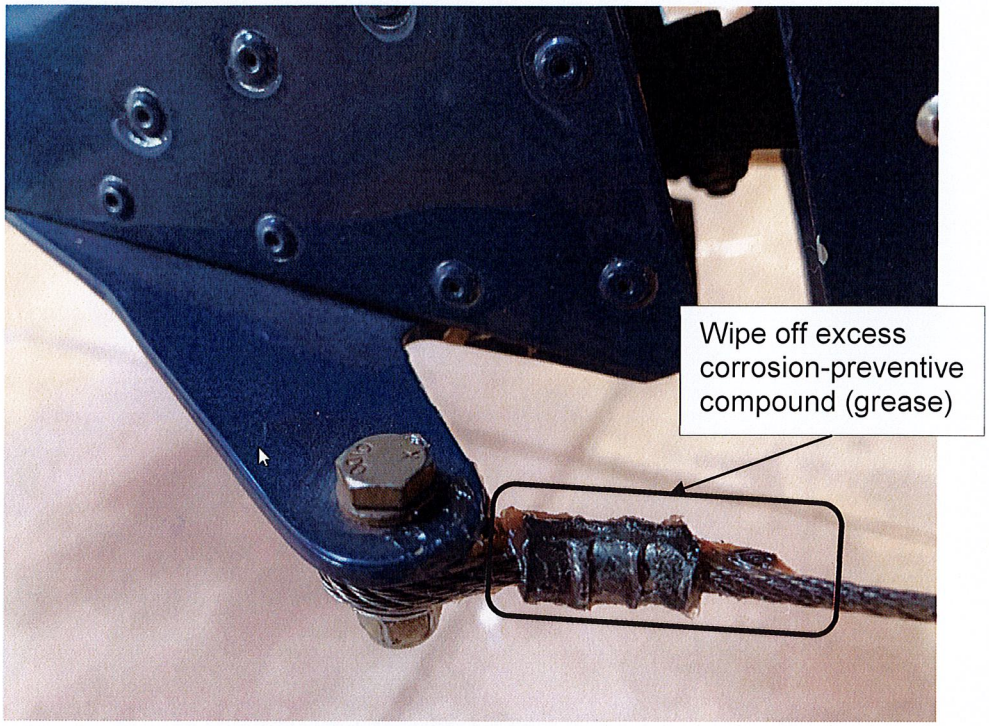

Figure 7 – Application of corrosion-preventive compound after inspection

Signed on this the 28 day of July 2020

ACCOUNTABLE MANAGER
MR ANDREW PITMAN