

VINGE, ROR OG L'HOTELLIER KOBLINGER

Generelt

Moderne flytyper har automatiske rorkoblinger, men eldre fly har vinge og ror koblinger av forskjellig design som kan monteres feil. De som monterer fly må ha gode kunnskaper om montering. Det blir gjort feil en gang i blant som ofte er pga manglende opplæring og kunnskaper.

Referanser [EASA Safety Publications Tool \(europa.eu\)](https://www.easa.europa.eu)

- EASA SIB No: 2012-04 L'Hotellier Ball and Swivel Joints Quick Connectors – Positive Check of Control Surfaces
- EASA SIB No.: 2019-07 Sailplane Rigging – Procedures, Inspections and Training.

Vår sterke anbefaling for seilfly er:

1. Alle som skal montere seilfly må ha praktisk opplæring i vinge og ror koblinger.
2. En monterer, kobler, sikrer og signerer for montering.
3. En annen kontrollerer til slutt og signerer for DI. (Kameratsjekk.)
4. Positiv rorkontroll.

L'Hotellier koblinger

L'Hotellier koblinger. Fire typer.

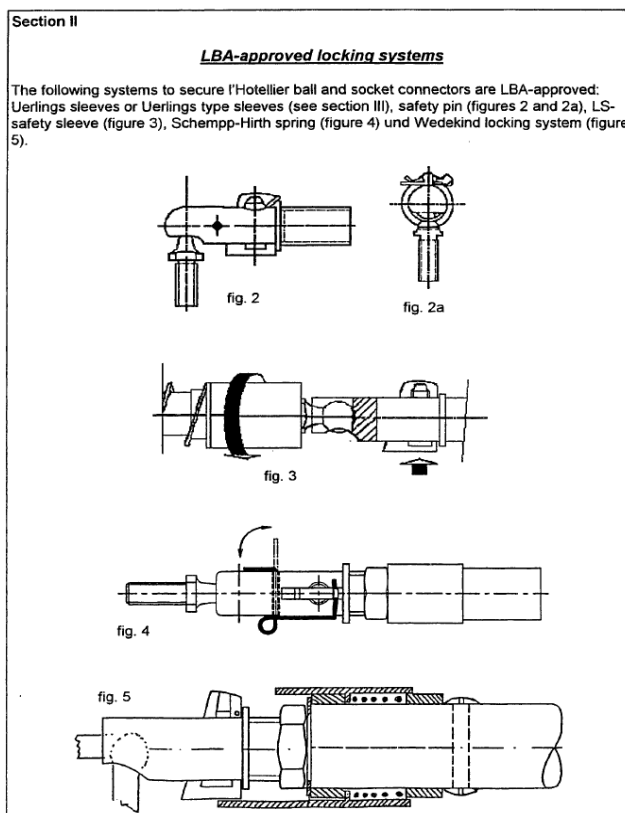


Fig 2 og 2A. Låsepinne settes inn i låseplata

Fig 3. Låsehylse skrues over låseplata

Fig 4. Låsetråd settes inn i låseplata

Fig 5. Fjærbelastet låsehylse skyves over låseplata.

L'Hotellier koblinger. Grease.

Under hver montering smøres koblingen med grease av god kvalitet. Det vil si all fett av et anerkjent merke som tåler kulde. => -20°C

Sailplane Rigging – Procedures, Inspections and Training

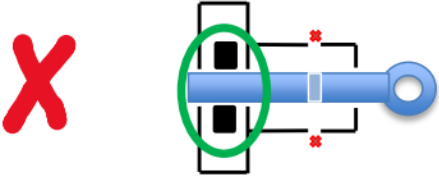
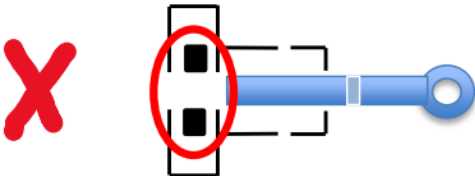
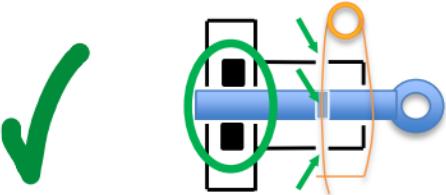
EASA SIB No.: 2019-07

Følgende bilder er kopiert fra EASA SIB No.: 2019-07 som har en god beskrivelse av feil som er gjort og hva som bør gjøres for å hindre neste hendelse.

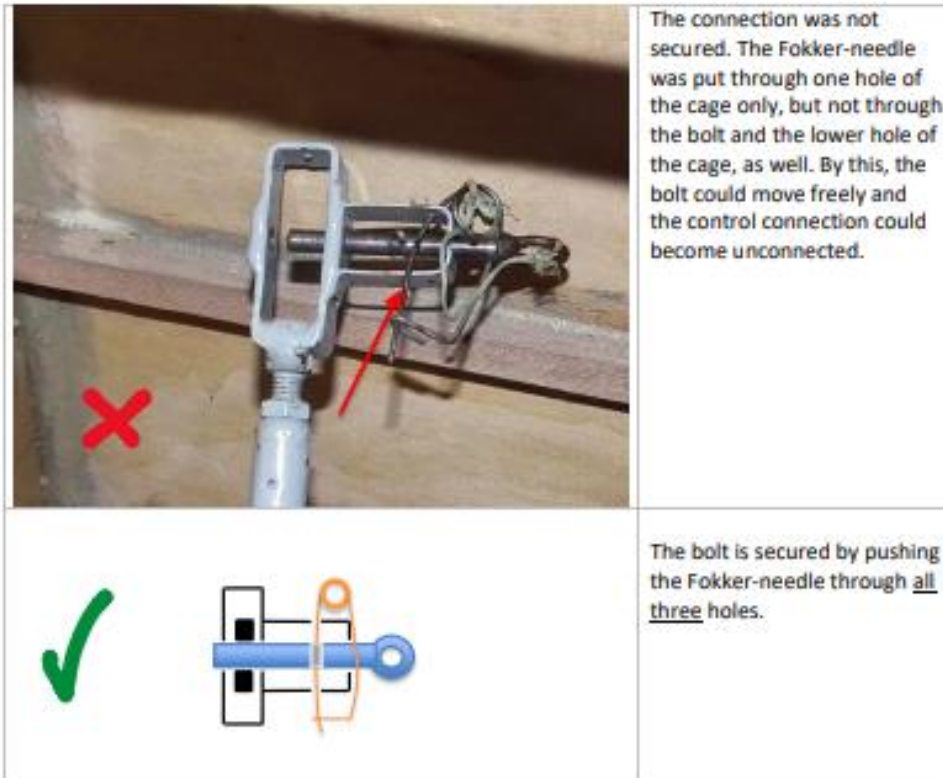
Tekstene i SIB No.: 2019-07 er ikke kopiert. De bør lese for å få en god forståelse av hendelser og feil som har hendt.

Principle of engage and secure

To engage means e.g. that a bolt is inserted into a bushing. In this condition, the connection is able to transmit forces, but the bolt can move out of the bushing again, therefore the connection is not secure. All connections need to be engaged and secured.

	
<p>Engaged but <u>not</u> secured.</p>	<p>The bolt moved away from its engaged position, and the control is unconnected.</p>
	<p>The Fokker-needle needs to be pushed through both holes of the cage and the hole of the bolt.</p>
<p>Engaged and secured.</p>	

		<p>The bolt needs to be engaged and secured against rotation.</p>
	<p>Horizontal stabilizer engaged in its aft fitting but forward fitting not engaged.</p> <p style="font-size: 2em; color: red; text-align: center;">X</p>	
	<p style="font-size: 2em; color: green; text-align: center;">✓</p> <p>Horizontal stabilizer properly engaged.</p>	



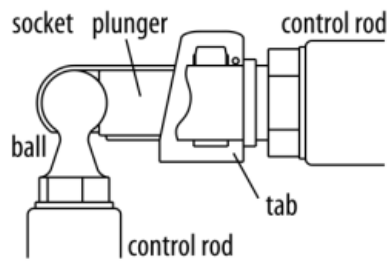
Note: Connections, which are not properly secured, cannot be detected by positive control checks. The proper securing can be verified only by a manual inspection through turning, pulling, or shaking of the bolt and further visual inspection.



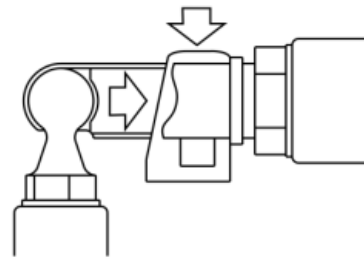
Disconnected elevator control



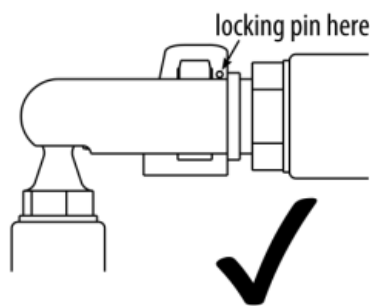
Disconnected elevator control



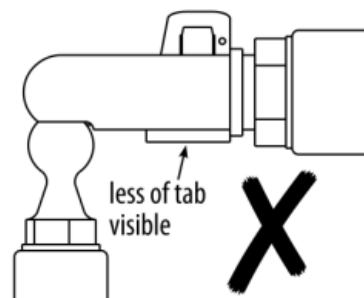
(a) Correct: cut-away shows how tab holds plunger in place



(b) Open: with tab depressed, plunger allows ball to be inserted or removed



(c) Correct: ball engaged, locking pin may be inserted



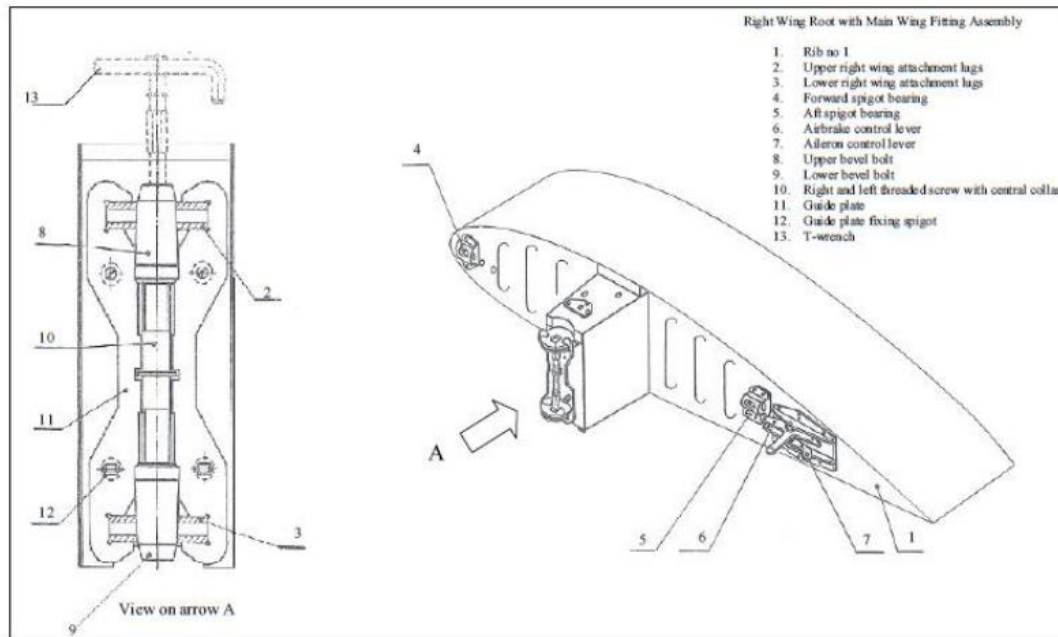
(d) Incorrect: ball not engaged, but locking pin may still be inserted

There are several common modifications to dispense with the locking pin.

	<p>The Wedekind locking sleeve slides outside the l'Hotellier fitting to secure the tab, but doesn't necessarily prevent partial engagement.</p>
	<p>The Uerlings sleeve and similar threaded sleeve used on LS-sailplanes rotate or unscrew over the coupling and cannot be moved into position, if the ball and socket are only partially engaged.</p>
	<p>Newer l'Hotellier connectors come with a pin on the top of the ball that becomes visible outside the socket, once the ball and socket are properly engaged. The pin allows also for a tactile inspection. The connection still needs to be secured.</p>

Remark: The maintenance instructions of l'Hotellier, in particular about ball wear need to be respected.

Note: To check the proper engagement of l'Hotellier connectors, a positive control check is strongly recommended.



Example of an expanding main pin wing connection.

Note: In case of sailplanes with expanding main pin wing connections, practice rigging should be carried out under the supervision of someone who is familiar with the sailplane type.