	Service Bulletin	
	Flight Design GmbH Sielminger Str. 51 D-70771 L.-Echterdingen Tel.: +49(0)7021 80460-0 Fax: +49(0)7021 80460-69 E-Mail: airworthiness@flightdesign.com	SB-ASTM-CTLS-06 SB-ASTM-MC__-02 Revision 00

Service Bulletin

Tow Bar Markings and Operation

SB-ASTM-CTLS-06
SB-ASTM-MC__-02

Repeating Symbols:

Please pay attention to the following symbols throughout this document emphasizing particular information.

- ▲ **Warning:** Identifies an instruction, which if not followed may cause serious injury or even death.
- **Caution:** Denotes an instruction which if not followed, may severely damage the aircraft or could lead to suspension of warranty.
- **Note:** Information useful for better handling.

1 Planning Information


1.1 Affected Aircraft

Type: CT / MC
 Model: CTLS; CTLS-HL; MC;
 Serial Number: CTLS: F-10-01-01; F-10-01-02; F-10-01-03; F-10-01-05;
 F-10-01-16; F-10-01-17; F-10-02-05; F-10-02-06;
 F-10-02-07; F-10-02-08; F-10-02-10; F-10-03-01;
 F-10-03-11; F-10-04-03; F-10-04-04; F-10-05-06;
 F-10-05-10; F-10-05-11; F-10-06-02; F-10-06-03;
 F-10-06-04; F-10-06-10; F-10-07-05; F-10-07-06;
 F-10-07-07; F-10-07-10; F-10-07-12; F-10-08-05;
 F-10-08-06; F-10-08-07; F-10-08-11; F-10-08-12;
 F-10-09-04; F-10-09-05; F-10-09-06; F-10-10-10;
 F-10-10-11; F-10-11-07; F-10-12-03; F-10-12-12;
 F-10-12-13; F-10-12-14; F-11-01-07
 CTLS-HL: F-10-01-12;
 MC: A-09-01-31; A-10-01-32; A-10-04-31;
 A-10-07-31; A-10-10-31

Applicable Countries: Not limited

1.2 Concurrent Documents

- none -

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1.3 Reason

The tow bar interface at the nose gear allows easy moving of the aircraft by hand. As the nose wheel is steered, the stops must be considered. Especially in cases where towing vehicles are used, when the end stops are not observed properly, the nose gear and rudder control systems can be damaged.

1.4 Subject

Inspection of condition of the nose gear and rudder control systems.

Application of markings showing the allowed steering range while towing.

Adding of a specific Supplement to the Aircraft Operating Instructions of the aircraft.

1.5 Compliance

When the tow bar interface has been used: The inspection according to chapter 3.1 is mandatory before the next flight.

When the tow bar interface has never been used: The inspection according to chapter 3.1 is mandatory latest 30 days following the issue date of this SB.

If the inspection shows damage of the element of the nose gear steering or rudder control system its replacement is required according to chapter 3.2 and it is mandatory before the next flight.

If there is no deformation, installation of the requested marks according to 3.3 is mandatory before next use of the tow bar interface, latest at the next annual inspection.

▲ Warning: Non-compliance with these instructions could result in further damages, personal injuries or death.

1.6 Approval

This SB is approved by the aircraft manufacturer i.a.w. ASTM F2483-05 for conduct on aircraft as defined in 1.1. Subsequent to complete and correct conduct of this SB the aircraft will still meet the requirements of the applicable ASTM design and performance specification.

1.7 Type of Maintenance

Inspection as per 3.1: Line.

Replacement of control system components (when necessary) as per 3.2: Heavy.

Application of markings as per 3.3: Heavy.

1.8 Personnel Qualifications


Inspection as per 3.1 may be done by pilot/owner.

Application of markings as per 3.3 may be done by pilot/owner.

Replacement task as per 3.2:

National maintenance and inspection regulations as applicable for heavy maintenance apply.

For US LSA aircraft: Repairman, Light Sport Aircraft-Maintenance (RLSA-M) – holds a repairman certificate (light sport aircraft) with a maintenance rating, A&P, IA or an FAA repair station.

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1.9 Release to Service

When damages detected:

- Conduct of this SB must be logged in the aircraft log book with date and signature of the responsible Person according to national regulations.
- Conduct of this SB must be inspected and confirmed by an aircraft inspector according to the national applicable regulations for the country of registry of the aircraft directly after completion of the replacement work.

When no damage is detected:

- Aircraft is released to Service when the conduct of the inspection is logged with its result in the aircraft log book with date and signature of the responsible person conducting the inspection.
- Conduct of this SB must be inspected and confirmed by an aircraft inspector according to the national applicable regulations for the country of registry of the aircraft at the next annual inspection.

1.10 Weight and Balance

n/a

1.11 References

Latest issues of:

- [1] Flight Design CTLS Maintenance and Inspection Procedures Manual
- [2] Flight Design CTLS-HL Maintenance and Inspection Procedures Manual
- [3] Flight Design MC Maintenance and Inspection Procedures Manual
- [4] AZ 0430 0003 Supplement Tow Bar Interface and Operation to the Aircraft Operating Instructions (AOI)

1.12 Superseded Documents


- none -

1.13 Contact Details

For further information on conduct of this SB, or to report any Safety of Flight or Service Difficulty issues contact your Distributor responsible for your country. Your Distributor can be located via the Flight Design website: www.flightdesign.com under "Dealer Location".

Specific contact in USA:

Flight Design USA
 P.O. Box 325 South Woodstock, CT 06267
 Tel: 860 963 7272 / Fax: 860 963 7152
 Web: www.flightdesignUSA.com
 E-Mail: airworthiness@flightdesignUSA.com

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In cases where the local distributor is not known or available contact Flight Design GmbH directly: airworthiness@flightdesign.com.

1.14 Disclaimer

This Service Bulletin has been generated with utmost care. Nevertheless errors and misunderstandings can never be fully excluded. In case of any doubts the applicant of this Service Bulletin is requested to contact Flight Design immediately to clarify the issue.

2 Resources

2.1 Parts

“No Power Tugs” sticker.

2.2 Materials

1. ORACAL 951 series red film, or 3M red film or another red film with similar adhesive properties and robustness for environmental influences.

2.3 Tools

- none -

2.4 Special tools

- none -

2.5 Manpower


The inspection task can be performed within approximately 1 hour (working time).

The replacement work depends on the level of observed damage.

The application of markings can be performed within approximately 30 minutes (working time).

2.6 Cost

“No Power Tugs” sticker will be provided by Flight Design free of charge.

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3 Instructions

3.1 Inspection

Refer to the applicable of [1], [2] or [3] for more details on the actual conduct of the inspection.

Make sure the two master breaker switches are in “off” position.

Remove the engine cowlings.

Remove the lower center instrument panel and move it to the side.

▲Warning: When you remove or install the lower center panel take special care not to damage the electric installation. Damages to the electric installation can result in short circuit and fire, seriously endangering the aircraft and the occupants.

Inspect the following parts visually for signs of damage (bends, deformations):

- Pedals;
- Centering Device of the rudder control system;
- Stops of the rudder control system;
- Levers of the pedals;
- Nose gear control rods;
- Rod ends of the nose gear steering rods;
- Rocker arm at the top end of the nose gear.

Installation of the removed parts is in the reversed order to the removal.


3.2 Replacement of Damaged Parts

In case any damage to the components listed above is detected, those must be replaced in accordance with an applicable of [1], [2] and [3]. Make sure the control system for the nose wheel steering is adjusted correct. Check and (if necessary) adjust the rudder deflection angles in accordance with an applicable of [1], [2] and [3].

3.3 Application of Markings showing the Allowed Steering Range while Towing

Install the markings only after potentially damaged parts have been exchanged and the adjustment steps of the nose wheel steering system are completed.

Prepare three pieces of red film, in accordance with Fig 1.

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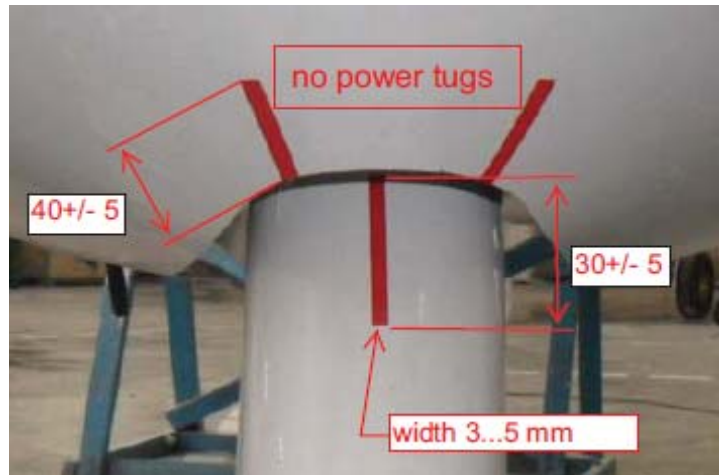


Fig 1.

Mark the center of the nose landing gear fairing. This marking must align with the tow bar (Fig 2).

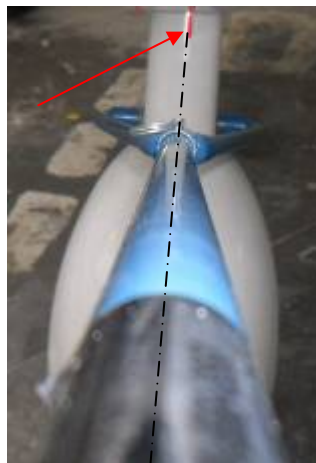


Fig 2.

Carefully turn the nose landing gear to the left, up to the stop. Mark this position on the cowling with the tape. This marking must align with the center mark on the nose wheel fairing (Fig 3).

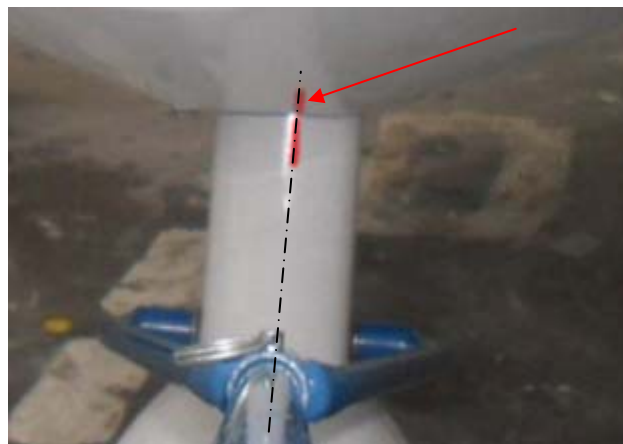



Fig 3.

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Do item 2 for the right side (Fig 8).

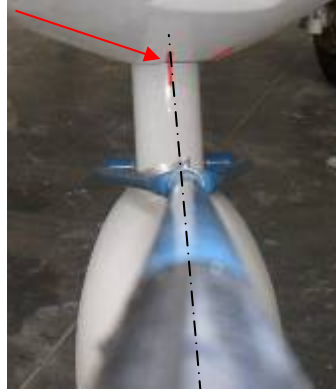


Fig 4.

Check the correctness of the markings: carefully turn the nose landing gear, looking along the tow bar and using the center marking on the nose wheel fairing. If the markings on the fairing and on the cowling align and the nose landing gear reaches the stops, then the markings are done correctly. In no case the stops shall be reached before the markings line up. It is acceptable when the markings line up just before the stop is reached.

5. Install the “No Power Tugs” sticker as shown on Fig 1.

3.4 Aircraft Operating Instructions Supplement

Enter S/N of your aircraft to the cover sheet of AOI Supplement [4]. Attach the supplement to the Aircraft Operating Instructions (AOI) of the aircraft.

3.5 Documentation

Conduct of the inspection must be logged in the aircraft log book with date and signature of the responsible Person conducting the inspection.

Conduct of the replacement work (when necessary) must be logged in the aircraft log book with date and signature of the responsible Person according to national regulations.

Conduct of the application of the markings must be logged in the aircraft log book with date and signature of the responsible Person according to national regulations.

4 Appendix

4.1 Changes to Previous Revision

Original Issue – no changes

4.2 Feedback Template

No specific feedback required