*Supercedes F-236, Dated Sept 18, 1984

INSTALLATION AND CONTINUED AIRWORTHINESS INSTRUCTIONS

Schweizer 1D112 Series Tow Release Hook Assembly

SUBJECT: INSTALLATION OF TOW RELEASE ASSEMBLY, POST INSTALLATION INSPECTION, PRE FLIGHT INSPECTION, AND 100 HOUR/ANNUAL INSPECTION

AIRCRAFT AFFECTED: All tow aircraft equipped with 1D112 series tow release

TIME OF COMPLIANCE:

PART I: Shall be accomplished after installation

PART II: Shall be accomplished prior to the first flight of each day

PART III: Shall be accomplished at each 100 hour/ Annual inspection

OVERVIEW: The .1 revision changes include the addition of continued airworthiness instructions

PREFACE: Parts I through III list instructions for installation inspection, a daily inspection, and a 100/Annual inspection of the tow release assemblies used on the affected aircraft. It should be noted that Part I need not be accomplished if installation was previously performed in accordance with the instructions from the previous revision of this form. Any discrepancies observed while performing the inspection procedures listed in this form requires the tow assembly to be removed from service until the situation is resolved

PART I – INSTALLATION INSPECTION

These assemblies are furnished in two design configurations to accommodate various bolts on/or weld on applications, as may be necessary.

The hook assembly installation must be accomplished in accordance with the requirements of chapter 8, Section 2 of the FAA Advisory Circular No. AC43.13-2A.

WARNING

The 1D112-15 and -16 tow-release hooks were designed specifically for airplane towing of sailplanes and banners. USE OF THESE TOW-RELEASES FOR ANY OTHER PURPOSE AND/OR IN INSTALLATIONS NOT APPROVED BY THE MANUFACTURER IS PROHIBITED AND CAN RESULT IN INJURY TO PERSONS AND/OR DAMAGE TO PROPERTY. THESE TOW-RELEASE HOOKS ARE SPECIFICALLY NOT APPROVED FOR HANG-GLIDER APPLICATIONS AND MUST NOT BE USED FOR THAT PURPOSE.

WARNING

Proof Load

To assure proper release operation, the drawing requires that each tow hook assembly is to be proof tested. If the structure, to which the tow hook assembly is to be attached has not previously been proven by static test, the proof test must be accomplished after attachment of assembly to structure. This will be necessary where the -16 assembly is used, as weld on configuration does not otherwise provide a means of holding the hook assembly while testing.

The proof test entails a total of two release-effort readings taken at the 1D112-8 arm assembly as shown. One reading while a 600lb. Load is applied to the hook, the other with zero static load applied to hook as shown in table I and figure 1.

If the release load cannot be obtained within the specified range, the rubber block, release hook or bushing maybe worn or deformed. The rubber block should be replaced and the test should be repeated. If the release load still cannot be obtained replace 1D112-5 spacer (Fig 2) with 1D112-11 spacer and repeat the test.

WARNING

FAILURE TO ACCOMPLISH THIS CHECK COULD RESULT IN OPERATIONAL FAILURE OF RELEASE SYSTEM CAUSING INJURY TO PERSONS AND/OR DAMAGE TO PROPERTY.

WARNING

TABLE I

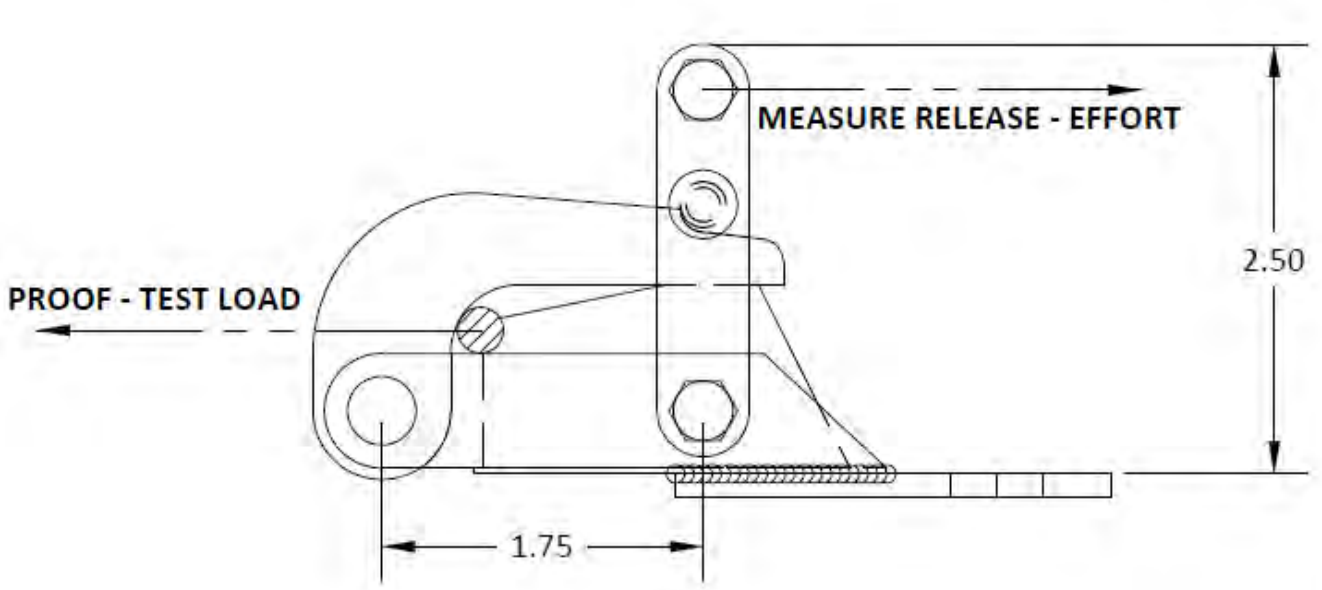
Test	Load	Release Effort
1	600 lbs	60 lbs (max.)
2	0 lbs.	4 lbs. (min) – 10 lbs. (max)

Maintenance Record Requirements

A. Statements substantiating compliance with the testing requirements specified here in must be entered and certified in appropriate log or other type of record in compliance with FAR 91.173.

B. This form shall be retained as part of the permanent aircraft maintenance records and must be transferred with the aircraft at time of sale in compliance with FAR 91.173(b)(2).

FIGURE 1



Inspection

A. Perform Tests 1 & 2 from Table I to ensure proper release effort

B. Check for any damage, cracks, or non-conforming parts. If any damage or non-conforming parts are found, replace parts, and then perform test 2 again.

C. Refer to Table 2.

D. If tow hook dimensions are not within limits specified in figure 2, either rework the tow hook to obtain dimensions or replace it with a new or serviceable, used tow hook.

E. Proper engagement of the tow hook into the release arm is shown in Figure 1, View A, and Figure 4. Excessive wear of the tow hook step could result in improper engagement. Figure 2 of this bulletin provides inspection data and wear limits for the tow hook. Tow hooks which do not meet the specified limits must either be reworked to obtain dimensions (as specified in Figure 2) or replaced.

F. Inspect tow hook for wear in accordance with Figure 2.

CAUTION

ALL AIRCRAFT REPAIRS AND REWORK MUST BE ACCOMPLISHED WITHIN THE GUIDELINES ESTABLISHED BY AC 43.13

G. Engage tow hook into release arm. Ensure that the tow hook properly engages as shown in Figure 1.

PART II – PREFLIGHT INSPECTION

NOTE

- Figure 1 shows the proper attachment of the tow hook into the release arm. Note that the step of the tow hook should seat against the release arm. The tow hook step must fully engage the release arm to allow the release assembly to function properly. The tow hook must not be allowed to extend through the release arm beyond the step on the hook as shown in Figure1.
- The tow rope must not be allowed to wrap around the release arm or any part of the tow plane. It must extend, unobstructed, directly aft from the tow plane to the sailplane.

A. Perform a thorough visual inspection of the tow release assembly and associated components in accordance with the daily inspection requirements listed in Table 2 of this bulletin.

B. If any defects are noted, repair or replace faulty components prior to next flight.

C. Attach tow line to tow hook and apply tension on line in direction of tow.

D. With tension on tow line, pull the release control on the instrument panel and check for proper release of tow line.

E. If tow line does not release properly, troubleshoot tow release assembly and perform necessary repairs.

F. Reattach tow lines to tow hook and check for retention of tow line as follows.

1. Apply a moderate tug on the tow line in the direction of tow.
2. Inspect the release assembly to ensure that it has remained completely closed.
3. If the release assembly has opened, even partially, ground aircraft and troubleshoot release assembly. Repair or replace faulty component (s) as required.

PART III – 100 HOUR/ANNUAL INSPECTION

A. Perform a thorough inspection of tow release assembly in accordance with 100 hour/annual inspection requirements listed in Table 2.

B. Check dimensions of tow hook for compliance with figure 2.

C. Remove burrs or notches in tow hook to ensure proper release while maintaining minimum tolerance from figure 2.

D. Perform test 2, Refer to Part I, Inspect Part B.

E. Check for excessive tow release wear as shown in figure 2.

F. If defects are noted, repair or replace faulty component (s).

FIGURE 2

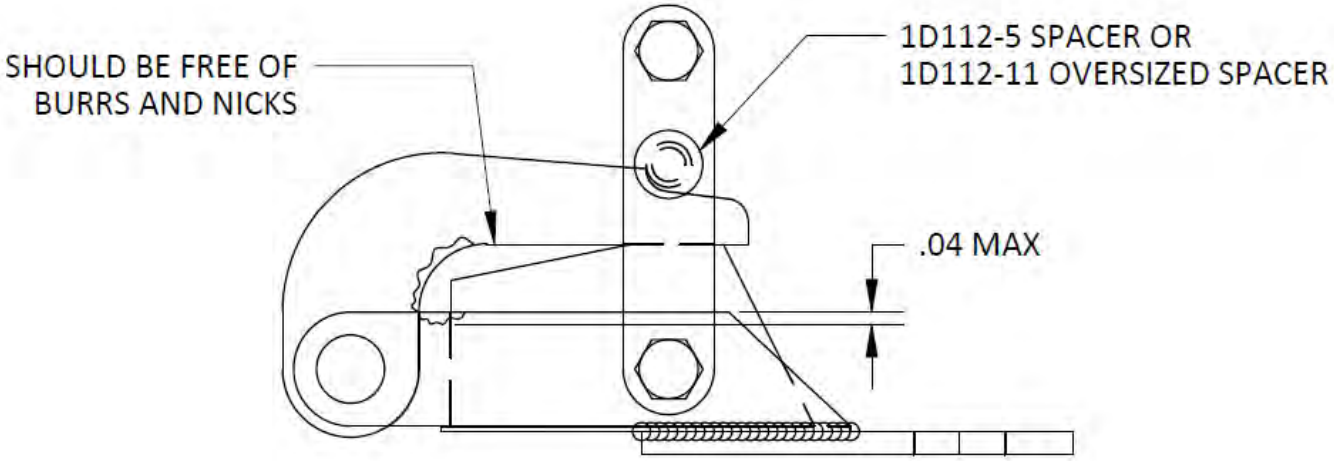
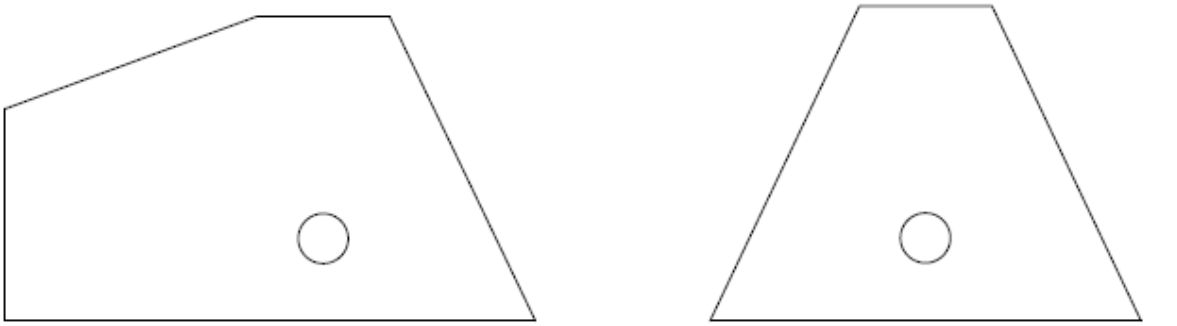


FIGURE 3



10186-1 RUBBER
ACCEPTABLE*

1D112-6/-12 RUBBER
UNACCEPTABLE

* Rubber should not be notched. Tow ring should compress into rubber when tow hook assembly is latched

TABLE 2 – DAILY, 100-HOUR, & ANNUAL INSPECTION

	Daily	100 Hour	Annual	Installation
Visually inspect release arm for damage, cracks, deformation, and freedom of movement on pivot bolt.	X	X	X	X
Inspect rubber for excessive cracking, wear, or deformation. Verify correct rubber configuration per Figure 3		X	X	X
Visually and physically inspect release arm & rubber for excessive wear which would allow the tow hook to engage beyond hook step.	X	X	X	X
Visually check tow hook for damage, cracks, deformation, and freedom of movement on pivot bolt.	X	X	X	X
Inspect tow hook pivot joint by displacing the tow hook laterally. Tow hook should not be able to be displaced outside the outer face of the release arm assembly.		X	X	X
Perform a release check for proper release tension in accordance with Figure 1.			X	X
Test 1, 600 lb. Load				X
Test 2, 0 (zero) lb. Load		X	X	X