

**Mitteilung  
über die  
Ergänzung der Musterzulassung**

**Nr.:**  
**0540/ 539**  
**539a**  
**539b**

Revision: 2

<b>EMZ-Inhaber:</b>	Hermann Liese Flugtechnik
<b>Änderung:</b>	Schalldämpfer-Anlage Liese-R74x8x100
<b>Muster/Baureihe:</b>	Cessna 172K, -L, -M, -N, -P, F172L, -M, -N, -P, -R
<b>Geräte-Kennblatt Nr.:</b>	539, 539a, 539b

**Die Musterzulassung des o.a. Luftfahrzeuges wird durch folgende Angaben ergänzt:**

Die Verwendung der o.a Anlage nach Umrüstanweisung "Schalldämpferanlage Liese-R74x8x100 für das Flugzeug Cessna-172", Ausgabe Juni 1994 oder jeder späteren Ausgabe, ist für die o.a. Baureihen zugelassen.

**Der Einbau ist auf die Baureihen**

- 172K, -L, -M, -N, -P, F172L, -M, -N, -P mit Motor Lycoming O-320-E2D, -H2AD bzw. -D2J
  - 172R mit Motor Lycoming IO-360-L2A
- beschränkt.

Die Verträglichkeit dieser Änderung mit anderen zugelassenen Änderungen ist nicht geprüft. Ihre Eignung für das einzelne Luftfahrzeug ist von dessen Änderungs- und Ausrüstungszustand abhängig.

Unterlagen sind zu beziehen bei:

Hermann Liese Flugtechnik  
Truderingerstr. 2  
82008Unterhaching

**Announcement  
of the  
Aircraft Certification Supplement**

**Nr.:**  
**0540/ 539**  
**539a**  
**539b**

Revision: 2

Holder of the EMZ (STC):	Hermann Liese Flugtechnik
Changes:	Silencer System Liese-R74x8x100
Aircraft/Model:	Cessna 172K, -L, -M,-N, -P, F172L, -M, -N, -P, -R
LBA-Data Sheet Nr.:	539, 539a, 539b

**The Type Certification of the o.m. Aircraft/Model is supplemented by the following statements:**

The use of the o.m. system according to " Installation Manual Silencer System LIESE-R74x8x100 for the a/c Cessna-172", Issue June 1994 or all later issues, is certified for the o.m. models.

**The installation is limited to the following models of the Cessna 172**

- \* 172K, -L, -M, -N, -P, F172L, -M,-N, -P with engine Lyc. O-320-E2D, -H2AD resp. -D2J
- \* 172R with engine Lyc. IO-360-L2A

The compatibility of this change with other certified modifications has not been checked. The suitability for certain aircraft depends on the state of modification and equipment of this aircraft.

Documents can be obtained from:

Hermann Liese Flugtechnik  
Truderingerstr. 2  
D-82008 Unterhaching  
Germany

**INSTALLATION MANUAL**  
**MUFFLER SYSTEM LIESE - R74x8x100**  
**( U.S.Patent No. 5,703,338 )**

**for the Aircraft**

**C E S S N A - 1 7 2 / F 1 7 2**

**LBA-Data-Sheet Nr.: 539, 539a and 539b**

**Valid for model Cessna 172-K,-L,-M,-N und -P**  
**and Cessna F 172-L,-M,-N und -P**  
**with Lycoming O-320-E2D, -H2AD und -D2J**  
**and Cessna 172 R with Lycoming IO-360-L2A**  
**equipped with standard McCauley fixed pitch propeller**  
**or MTV-18-C/175-36 constant speed propeller.**

**Translation of the german LBA approved manual, Issue July 1997 and**  
**changes for Issue Febr. 2012.**

This modification is based on the standard configuration of the basic aircraft.  
Before installation of this modification it must be checked that no previous  
installed modifications create a conflict with this modification in respect  
to the airworthines of the aircraft.

**1. List of valid pages:**

<b>Contens</b>	<b>Page</b>	<b>Issue</b>
<b>1. List of valid pages</b>	<b>1</b>	<b>2/12</b>
<b>2. Description</b>	<b>2</b>	<b>7/97</b>
<b>3. Installation</b>	<b>2</b>	<b>7/97</b>
<b>4. Weight and c.g.</b>	<b>2</b>	<b>7/97</b>
<b>5. Flight Manual ( AFM )</b>	<b>2</b>	<b>7/97</b>
<b>6. Maintenance instruction</b>	<b>3</b>	<b>2/12</b>
<b>7. Installation Drawing</b>	<b>4 - 5</b>	<b>7/97</b>
<b>8. Part List</b>	<b>6</b>	<b>7/97</b>

## **2. Description:**

The Muffler System LIESE-R74x8x100 for the aircraft model Cessna (F)172-K to -R mainly consists of two noise-reduction elements integrated into the original muffler of the aircraft.

The modification of the mufflers is done at the production company of the LIESE-Silencers.

The conversion on the aircraft is done by exchanging the original muffler with a modified muffler.

The total additional mass of the LIESE-Muffler is 1.0 Kg ( 2.2 lbs ) at station -0.5 m ( -19.7 " ).

## **3. Installation:**

- 1. Remove the lower engine cowling.**
- 2. Remove the muffler according to the maintenance instructions of the aircraft manufacturer.**
- 3. Before the installation of the modified muffler with integrated LIESE-Silencer clean the inside of the connection pipes to the cylinders at the end connecting to the muffler at a length of about 2.5 ". The connection pipes must slide over the connection stubs on the muffler without excessive force.**
- 4. Install the modified muffler with integrated LIESE-Silencer according to the maintenance instructions of the aircraft manufacturer and take care of the following points:**
  - 4.1. Slide the 4 sealing rings ( Part 11 ) over the connecting stubs of the muffler before the installation of the muffler ( according to the drawing on page 5 of this manual ).**
  - 4.2. On installation make sure that the connecting pipes to the cylinders slide over the connection stubs of the muffler.**
  - 4.3. Before the installation of the 4 clamps near the muffler fasten the 8 nuts connecting the upper end of the pipes to the 4 cylinder flanges.**

**Without the 4 clamps installed make sure the correct, stress free installation by checking the possibility of about 1/4 " lateral movement of the muffler.**

**Canted or missaligned connections will result in excessive forces during operation due to heat expansions of the components and may cause cracks in the flanges of the muffler.**

**Therefore the connecting stubs of the muffler and the connecting pipes to the cylinders must be properly aligned before the final installation of the 4 clamps.**
  - 4.4. After mounting the 4 clamps the position of the 4 sealing rings ( Part 11 ) must be according to the drawing on page 5 of this manual**
- 5. Performe a engine ground run and check muffler installation.**
- 6. Mount the lower engine cowling according to the maintenance instructions of the aircraft manufacturer.**
- 7. Notify the Muffler LIESE-R74x8x100 as additional equipment with 1.0 Kg ( 2.2 lbs ) at station -0.5 m ( 19.7 " ).**
- 8. Confirme the performed modification in the log book of the aircraft.**

## **4. Weight and c.g.:**

Due to the small additional mass of the LIESE-Muffler System and the negligible c.g.-shift a new weight-c.g. measurement is not necessary.

## **5. Flight Manual ( AFM ):**

The modification to the LIESE-Muffler system has no effects on the handling of the Cessna 172 aircraft. Therefore no changes to AFM are required.

## **6. Maintenance Instruction:**

To maintain the airworthiness of the aircraft with the LIESE-Muffler system the following maintenance instruction at every 50 hours inspection must be observed. Therefore cut out the following page and add it to the maintenance instructions of the modified airplane.

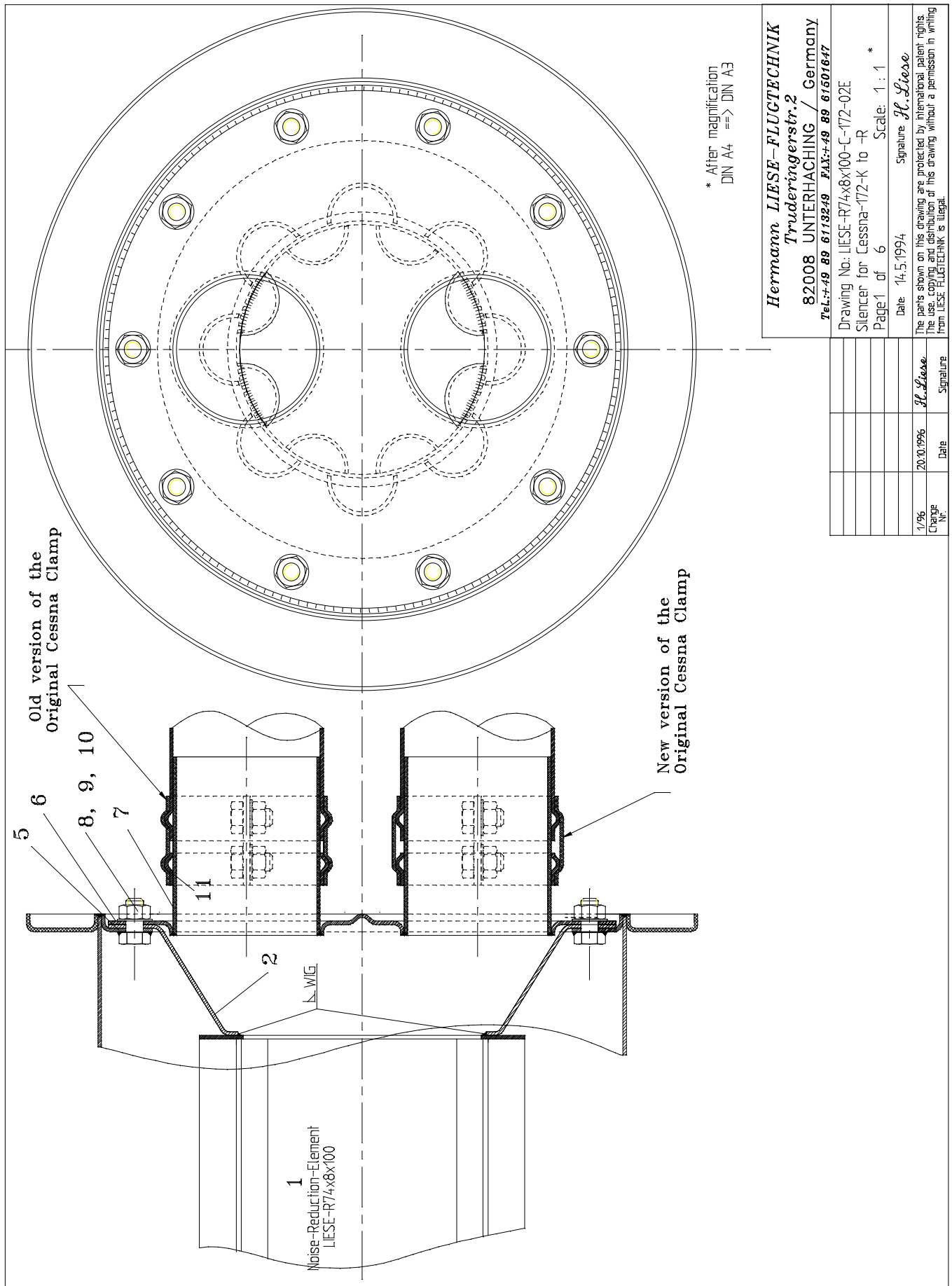
<p><b>Hermann LIESE FLUGTECHNIK</b> Truderingerstr. 2 <b>D-82008 UNTERHACHING</b> Tel.: +49 89 6113249 Fax.: +49 89 61501647</p> <p><b>General:</b> This airplane is equipped with a Muffler System LIESE-R74x8x100. To maintain the airworthiness of the aircraft the following maintenance must be performed at every 50 hours inspection.</p>	<p><b>Maintenance Instruction</b> <b>Cessna-(F)172-K to -R</b> for the <b>Muffler System LIESE-R74x8x100</b></p>
<b>MAINTENANCE INSTRUCTION</b>	
<p><b><u>50 h Inspection:</u></b></p> <ol style="list-style-type: none"><li><b>1. Check the bolted flange connection for tight fit and to be free of any leakage. Readjusts nuts ( M5 ) if necessary.</b></li><li><b>2. Remove one connection pipe between the cylinder at the left side of the muffler <u>or</u> inspect muffler with endoskop through the endpipe.</b><ol style="list-style-type: none"><li><b>2..1 Visually inspect the silencer to be free from deformation, internal damage and cracks. The lenghtwise cutted muffle tubes visable shall <u>not</u> be bent into or against the direction of the exhaust.</b></li><li><b>2.2. In all cases of damage of the muffler it shall be forwarded to: Firma BITZ FLUGZEUGBAU GmbH Ullrichsmahd 22 - 30 D-86179 AUGSBURG GERMANY</b></li></ol></li><li><b>3. Mount the connection pipe between the cylinder at the left side of the muffler and install the clamp.</b></li></ol> <p><b>Information about observed damages to the muffler system which could have an impact on aviation safety shall immediatly be forwarded to the Civil Aviation Authority and the producer:</b> <b>Firma Hermann LIESE FLUGTECHNIK</b> <b>Truderingerstr. 2</b> <b>D-82008 UNTERHACHING</b> <b>GERMANY</b> <b>Tel.: +49 89 6113249 Fax.: +49 89 61501647</b></p>	
Issue 2/12	

**7. Installation Drawing Page 1:**

\* After magnification  
 DIN A4 ==> DIN A3

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Drawing No: LIESE-R74x8x100-C-172-01E Silencer for Cessna-172-K to -R Page 1 of 1 Scale: 1 : 2 *					
Date: 20.1.1995 Signature: <i>J.Liese</i>					
The parts shown on this drawing are protected by international patent rights. The use, copying and distribution of this drawing without a permission in writing from LIESE FLUGTECHNIK is illegal.					
1/97	10.7.1997	<i>J.Liese</i>	Date	Signature	Signature
Change Nr.					

**7. Installation Drawing Page 2:**



**8. Part List: Schalldämpfer Z.Nr. LIESE-R74x8x100-C-172-02**

11	Dichtring	4	1.4841	Blatt 6	1.0x44x12
10	Stopfmutter	20	VA	LN 9161	M 5
9	Zahnscheibe	20	VA	DIN 6797-I	R 5
8	Schraube	20	VA	DIN 933	M 5 x 10
7	Anschlußstutzen	4	1.4841	Blatt 5	1.0x42x50
6	Flansch	2	1.4841	Blatt 5	1.0 dick
5	Befestigungsring	2	1.4841	Blatt 4	1.5 dick
4	Verbindungsrohr	1	1.4841	o.Z.	1,0x74x90
3	Verbindungsrohr	1	1.4841	o.Z.	1,0x72x90
2	Anschlußkonus	2	1.4841	Blatt 3	1.0 dick
1	Dämmelement	2		LIESE-DE-R74x8x100/1	
Nr	Benennung	Stck	Werkst.	Z-Nr/Norm	Abmessung