

REPAIR INSTRUCTIONS NO. RI-GROB-001

I. TECHNICAL DETAILS

1. Aircraft affected:

Model	TCDS	S/N
ASTIR CS	306	1001-1536
ASTIR CS 77	306	1601-1844
ASTIR CS JEANS	306	2001-2248
STANDARD ASTIR II	306	5001-5061 (S)
CLUB ASTIR II	306	5002-5061 (C)
G 102 STANDARD ASTIR III	306	5501-5652 (S)
G 102 CLUB ASTIR III	306	5501-5652 (C)
G 102 CLUB ASTIR IIIb	306	5501-5652 (Cb)
SPEED ASTIR II	320	4001-4027
SPEED ASTIR IIb	320	4028-4107
TWIN ASTIR	315	3000-3291
TWIN ASTIR TRAINER	315	3088-3291 (T)
G 103 TWIN II	315	3501-3729
G 103 TWIN II	315	3730-3878
G 103A TWIN II ACRO	315	3544-3878 (K)
G 103A TWIN II ACRO *	315	33879-34078 (K)
G 103C TWIN III ACRO	315	34101-34203
G 103C TWIN III	315	36001-36014
G 103C TWIN III SL	869	35002-35051
G 109	817	6001-6159
G 109B	817	6200-6445
G 109B	817	6501-6575

2 Subject:

ATA-Code: 51
Standard Practices and Structures – General -
Approved Repair Instructions according to EU-VO 1702/2003, Part 21, Subpart M

3. Introduction

This Repair Instruction is issued for the purpose to prevent single approvals for commonly used standard repairs, which are not covered in the corresponding Maintenance Manuals. Standard Repairs are repairs, that restore the original design without change by application of approved splice ratios, materials und curing procedures. Following the information listed in para. 1.8 „Accomplishment/ Instructions“ repairs may be regarded as approved by the manufacturer in the sense of the EASA regulation 21 A.433.

4. Accomplishment/ Instructions

4.1. Required documents:

For repairs on sailplanes and powered sailplanes the following documents, latest issue, are accepted as instructions for continued airworthiness and repairs in the sense of EU Commision 1702/ 2003 part 21, subpart M:

- Drawings and/ or instructions of the manufacturer
- "Grundlagen der Luftfahrzeugtechnik in Theorie und Praxis", Band II publisher TÜV Rheinland GmbH, ISBN Nr.: 3-88585-001-X
- "Grundlagen der Luftfahrzeugtechnik in Theorie und Praxis", Band V: Segelflugzeuge und Motorsegler, Verlag TÜV Rheinland GmbH, ISBN Nr.:3-8249-0351-2
- R.C. Stafford-Allen „Standard Repair to Gliders“, publisher British Gliding Association
- "Kleine Fiberglas-Flugzeug-Flickfibel", publisher Ursula Hänle
- Seminardruck "Faserverbundwerkstoffe im Segelflugzeugbau", Fortbildungsseminar des DAeC an der Fachhochschule Rosenheim
- "Aircraft Inspection and Repair" FAA AC 43.13-1A or new FAA issue FAA AC 43.13-1B

NOTE: It should be noted, that in addition to this document the national legal regulations for maintenance and airworthiness review must be observed.

4.2 Applicable splice ratios

In addition to the information given in the Repair Instructions of the Maintenance Manuals this Repair Instruction gives additional information about applicable splice ratios to guarantee that the correct ratios are used during repairs.

The splice ratios are as follows:

- glass cloth 50:1 (92110, 92125, 92140)
- UD glass cloth 60:1 (92145, 92146)
- glass roving 80:1
- carbon cloth 100:1 (98141)
- carbon roving 120:1
- UD carbon cloth 120:1 (CC756)
- aramide cloth (Kevlar) 60:1

4.3 Applicable resin/ hardener – systems

Note: The originally approved resin/ hardener systems are listed in the corresponding Repair Instructions of the Maintenance Manual. If these are no longer available the following resin/ hardener systems are approved as alternatives:

A. Resin L 285 / hardener H 285/ 286/ 287 (Fa. Scheufler)

Mixing ratio:

	L 285 : H 285 /286 / 287
Parts by weight	100 : 38 - 40

Curing process:

- o Curing: 24 h at room temperature or 2,5 h at 55°C
- o Post curing: > 12 h at 55°C + 5°C

B. Resin EPR L20 / hardener EPH (Fa. Bakelite)

Resin	Hardener	Hardener old name	Mixing ratio
L20	EPH196	VE2896	100 : 18
	EPH573	VE2723	100 : 23
	EPH960	SL	100 : 34
	EPH960/75	SL75	100 : 32
	EPH960/50	SL50	100 : 31
	EPH960/25	SL25	100 : 29
	EPH101	H91	100 : 27

Curing process:

- 24 hours at room temperature and 15 hours at 60°C
- or
- 3 hours at 30°C-40°C and 10 hours at 60°C

Caution: In addition to this information the latest manufacturer instructions must be observed!

5. Approval Note:

The technical information contained in this document has been approved under the authority of EASA Design Organisation Approval No. EASA.21J.030.

6. Mass (Weight) and CG:

Influence of repair on weight and balance has to be assessed and if required a new weight report and control surface weight and balance report (Residual Moment!) must be issued.

II. PLANNING INFORMATION

7. Material & Availability:

Required material may be ordered on request.

8. Special tools:

N/A

III. REMARKS

1. Repairs of spar caps made from GFRP or CFRP are only permitted with instructions from the TC holder and using original material (composite material supplied by the manufacturer or the TC support organization).
Metal fittings and composite parts, which can be manufactured only in special moulds or device, which are required for a repair, may be purchased only by the manufacturer or the TC support organization.
2. The repair must be supervised by a licensed inspector according to the national regulations. The inspector may decide, whether sufficient documents and information is available for the planned repair. If additional information is required, this must be ordered from the TC holder or the TC support organization.
3. All actions must be filed in the inspection documents and the aircraft logbook by an authorized aircraft inspector.
4. If you have sold your aircraft in the meantime, would you kindly pass this information on to the new owner and forward his address and aircraft S/N to us.
5. For further assistance please contact:

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