



THE GLIDING FEDERATION OF AUSTRALIA

GFA AD-638
(ISSUE 1)

GFA AIRWORTHINESS DIRECTIVE

TYPE AFFECTED: DISCUS-2T Serial No's 1 to 40
DISCUS-2cT Serial No's 1 to 30
VENTUS-2cT Serial No's 1 to 179

SUBJECT: Cracks in Engine Mounting Pylon.

BACKGROUND: Cracks have been found in the steel tubes adjacent to the welding seams.

DOCUMENTATION: The EASA has issued AD 2006-0227-E, and Schempp-Hirth has issued Technical Notes 825-38 (Ventus) and 863-13 (Discus) and associated Appendix dated 19 July 2006. The content of these TN's is identical except for the aircraft type and serial no's. Copies of the TN and Appendix are attached & form part of this AD.

ACTION REQUIRED: Carry out the following actions in accordance with the attached TN. & Appendix.

1. PYLON INSPECTION: to be performed at every Daily Inspection.
2. INSTAL SPACERS BETWEEN RUBBER MOUNTS OF THE LOWER ENGINE SUSPENSION AND PYLON: to be performed at the next Form II inspection, but no later than 31 December 2006.
3. REPLACE PYLON- if necessary.

WEIGHT AND BALANCE: Negligible.

IMPLEMENTATION: EFFECTIVE DATE of this AD is 01 September 2006.
Action 1 may be performed by the holder of a current Daily Inspection rating applicable to the type, or higher G1109 authorization.
Actions 2 & 3 may be carried out by the holder of a current GFA Airworthiness Authority Section 2, approved for replacement of components, or higher G1109 authorization.

COMPLIANCE: The requirements of this GFA Airworthiness Directive are mandatory. This Directive is issued pursuant to the Rules and Regulations of the Gliding Federation of Australia Inc.

SIGNED:

John G Virey

SENIOR TECHNICAL OFFICER AIRWORTHINESS



For and on behalf of:

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OF AUSTRALIA INC.

SCHEMPP-HIRTH
Flugzeugbau GmbH.
Kirchheim/Teck

Technische Mitteilung Nr.
Technical Note No.
863 - 13 825 - 38

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GEGENSTAND: Motorträger
SUBJECT: Engine mounting structure (pylon)

BETROFFEN: Motorsegler Discus-2T (Geräte-Nr. EASA.A.050)
Werknummern 1 bis 40

Motorsegler Discus-2cT (Geräte-Nr. EASA.A.050)
Werknummern 1 bis 30

AFFECTED: Powered Sailplane Discus-2T (TC-No. EASA.A.050) **VENTUS-2cT**
Serial numbers 1 to 40 **SERIAL NOS. 1 TO 179**

Powered Sailplane Discus-2cT (TC-No. EASA.A.050)
Serial numbers 1 to 30

DRINGLICHKEIT: Maßnahme 1 bei jeder Vorflugkontrolle
Maßnahme 2 bis zur nächsten Jahresnachprüfung,
spätestens bis zum 31.12.06

Maßnahme 3 Bei Bedarf

URGENCY: Action 1 on every daily inspection
Action 2 up to the next annual inspection, latest December 31, 2006
Action 3 if necessary

VORGANG: Bei einem Motorträger wurden Risse in den Trägerrohren
neben den Schweißnähten festgestellt. Vorbeugend werden
Maßnahmen ergriffen, um weitere Schäden zu vermeiden.

REASON: On a pylon cracks in the steel tubes next to welding seams were found. In advance
actions are taken to avoid further damage.

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ACTIONS:

1. Pylon inspection:

Check pylon tubes at the welding seams of the lower engine mount for cracks - see photographs enclosed to the Appendix of this Technical Note. Clean the affected areas at first if necessary.

Important note:

Attention is to be paid to the visual check of the pylon on the „Daily Inspection“ specified in the Flight Manual.

<u>Model</u>	<u>Page No.</u>	<u>Item to be checked</u>
Discus-2T	4.3.3	4f)
Discus-2cT	4.3.3	4f)
VENTUS-2cT	4.3.3	4f)

2. Installation of spacers between rubber mounts of the lower engine suspension and the pylon:

If no cracks are detected on the pylon or if a new pylon of original design according to drawing HM03-10.251 is installed spacers must be installed between the rubber mounts of the lower engine suspension and the pylon according to the working instructions enclosed to this Technical Note.

Note: If a new designed pylon (drawing M03RT841) according TN 863-14 is installed this action is not applicable. **825-37**

3. Pylon replacement

If damage (cracking) is found, the pylon must be replaced. For this purpose the pylon must be removed and returned to the manufacturer. Please also forward the engine operation time of the affected pylon to the manufacturer.

If a new pylon of original design according to drawing HM03-10.251 is installed action 2 is not applicable.

Note: Option: Instead of installing a new pylon of original design according to drawing HM03-10.251 it is possible to install a new designed pylon according to drawing M03RT841 according to the following Technical Notes:

Discus-2T: TN 863-14
Discus-2cT: TN 863-14
VENTUS-2cT TN 825-37

If a new designed pylon according to drawing M03RT841 is installed action 2 of this Technical Note must not be accomplished. This option requires several modifications on the engine mountings.

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Technische Mitteilung Nr.
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MATERIAL:

- Anhang zur Technischen Mitteilung Nr. 825-38 und Nr. 863-13
- Distanzscheibensatz ZRT007:
 Teil 1 (1mm), Teil 2 (0,75mm), jeweils 2 Stk.
- Bei Bedarf: Motorträger HM03-10.251 oder M03RT841

MATERIAL:

- Appendix to Technical Note No. 825-38 and No. 863-13
- Spacer set ZRT007: Part 1 (1mm), part 2 (0.75mm), 2 pieces each.
- If necessary: Engine mounting structure (pylon) HM03-10.251 or M03RT841

GEWICHT:

Gewichtsveränderung vernachlässigbar.

WEIGHT:

Change of weight negligible

SCHWERPUNKTLAGE: Keine Änderung

C.G. POSITION: Alteration negligible

Hinweis:

1. Zu Maßnahme 1: Die vorgeschriebene Inspektion kann von einer sachkundigen Person durchgeführt werden.
2. Die Maßnahme 2 ist von einem Luftfahrttechnischen Betrieb mit entsprechender Berechtigung durchzuführen und im Bordbuch zu bescheinigen.
3. Zu Maßnahme 3: Wenn aufgrund von Rissbildung ein Ausbau des Triebwerks erforderlich ist, muss der Wiedereinbau des Motorträgers und des Triebwerks in einem Luftfahrttechnischen Betrieb mit entsprechender Berechtigung durchgeführt und im Bordbuch bescheinigt werden.

NOTE:

1. Action 1: The specified inspection may be accomplished by an experienced person.
2. Action 2 must be accomplished by an approved service station and must be entered in the log book.
3. Action 3: If cracking is found and the engine pylon has to be removed the reinstallation of the power plant must be accomplished by an approved service station and must be entered in the log book.

Kirchheim/Teck, 19. Juli 2006
 Kirchheim/Teck, July 19, 2006

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 (J. Krauter)

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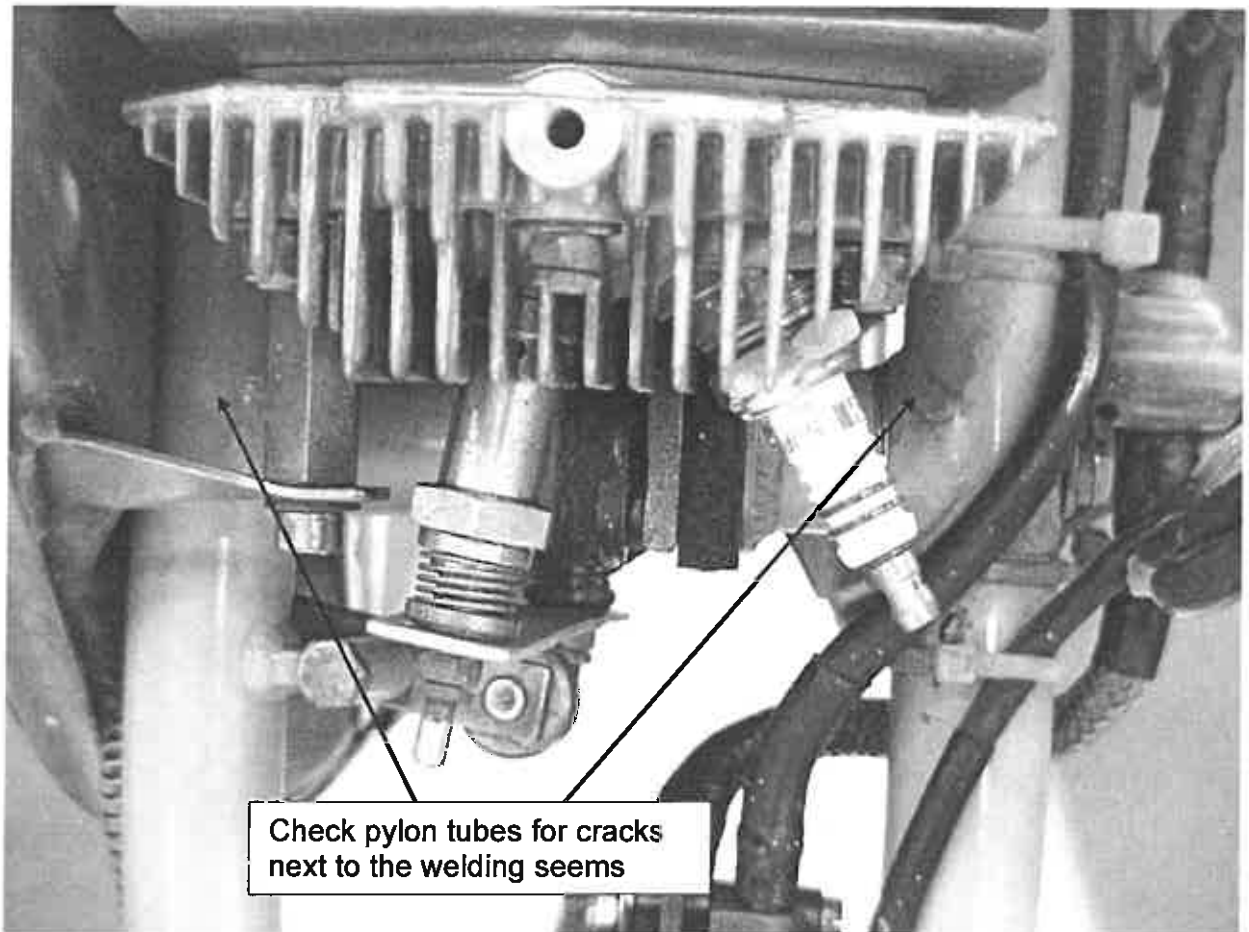
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Front view of pylon

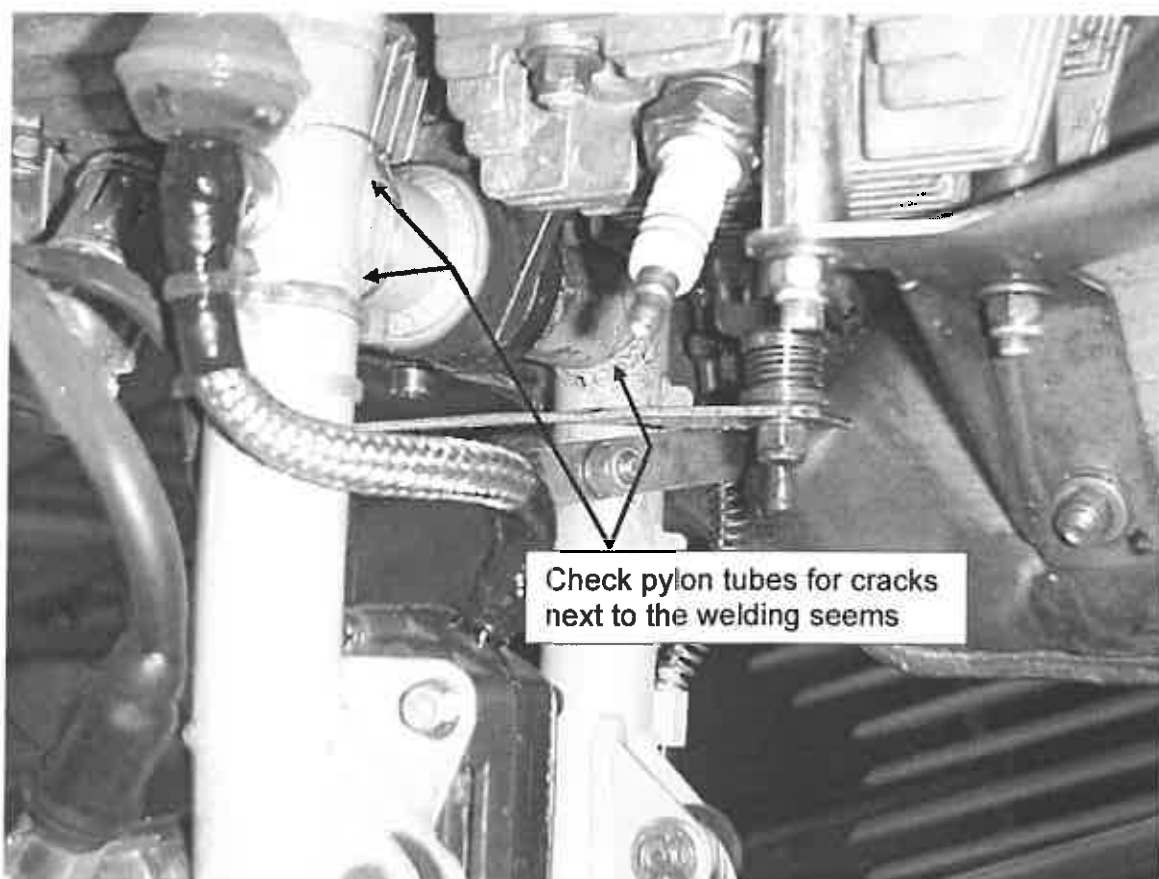


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Rear view of pylon



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<p><u>Concerning action 3:</u> <u>If cracks are found on the pylon inspection:</u></p> <p><u>a) Removal of the pylon:</u></p> <ol style="list-style-type: none"> 1. Remove power plant unit (engine with prop) in accordance with the relevant information of the Flight Manual: Ventus-2cT, section 4.2.3 Discus-2T, section 4.2.3 Discus-2cT, section 4.2.3 2. Disconnect cable actuating the de-compression valves at the lever on the pylon - soldering the cable strands prior to removal is recommended. 3. Remove diaphragm pump from engine mount. 4. Disconnect upper end of telescoping spindle as given in the Maintenance Manual Ventus-2cT, page 5.6 Discus-2T, page 5.6 Discus-2cT, page 5.6 5. Remove gas strut as given in the Maintenance Manual Ventus-2cT, page 5.7 Discus-2T, page 5.7 Discus-2cT, page 5.7 6. Disconnect cable actuating the engine doors from pylon. 7. Disconnect engine retaining cables from pylon. 8. Measure depth of set screw on limit switch „extended“ and remove set crew. 9. Remove bolts attaching the pylon to the pivoting shaft. <p><u>b) Installation of a new pylon of original design according to drawing HM03-10.251:</u> Reverse preceding steps for re-installation, see also item 2) of this Appendix. Install power plant in accordance with the relevant information of the Flight Manual Ventus-2cT, section 4.2.3 Discus-2T, section 4.2.3 Discus-2cT, section 4.2.3</p> <p><u>c) Installation of a new design pylon according to drawing M03RT841:</u> Optional it is possible to install a new designed pylon according to drawing M03RT841 according to the following Technical Notes: Ventus-2cT: TN 825-39 Discus-2T: TN 863-13 Discus-2cT: TN 863-13</p> <p>This option requires several modifications on the engine mountings.</p>		

Concerning action 2:**If no cracks are found on the pylon inspection or in case of installation of a new pylon according to drawing HM03-10.251 :****Installation of spacers:**

1. Check that the engine is attached at the upper suspension points and that the upper rubber mounts are adjusted correctly. Then disassemble the lower engine suspension and remove the bolt following the working instructions from the Flight Manual, see:

Ventus-2cT, section 4.2.3

Discus-2T, section 4.2.3

Discus-2cT, section 4.2.3

2. Determine the distance between the flanges of the pylon with a slide gauge (see sketch 1, dimension „a“). When measuring dimension „a“ the rubber mounts between the pylon flanges must be loose or may be compressed only slightly.
3. Now the gap between the pylon flanges and the rubber mounts is adjusted by fitting on both sides of the rubber mounts suitable spacers between the pylon flanges and the rubber mounts. The gap is adjusted in a way that after the lower engine suspension bolt is tightened the distance between the flanges is readjusted to the dimension „a“ from the released pylon.

The necessary spacers are selected according to the table below:

Dimension „x“ = a-26,5mm („x“ = a-1.043 in.)	Thickness of the spacers to be installed:
2,0mm ≥ x > 1,5mm (0.0787 in. ≥ x > 0.05906 in.)	2 x 1,0 mm
1.5mm ≥ x > 1,0mm (0.05906 in. ≥ x > 0.03937 in.)	2 x 0,75mm
1.0mm ≥ x > 0,5mm (0.03937 in. ≥ x > 0.01969 in.)	1 x 1,0 mm, to be installed on the left hand side

Install the spacers with some grease. If dimension „x“ should be beyond the range given in the table above please contact the manufacturer before you take any further action.

4. When the spacers have been installed insert the lower attachment bolt. Tighten the bolt so far that the rubber mount is compressed to the dimensions listed in the Flight Manual (s. sketch 2, dimension 26,5mm±0,5mm resp. 1.043in.±0.01969 in.):

Ventus-2cT, section 4.2.3

Discus-2T, section 4.2.3

Discus-2cT, section 4.2.3

Check that the engine and the exhaust have sufficient clearance to the engine mounting structure (pylon). Retract the engine and check that the engine travels into the engine bay without collision with the fuselage and that the doors close completely. In case of interference check you may also install the spacers only on one side of the rubber mounts.

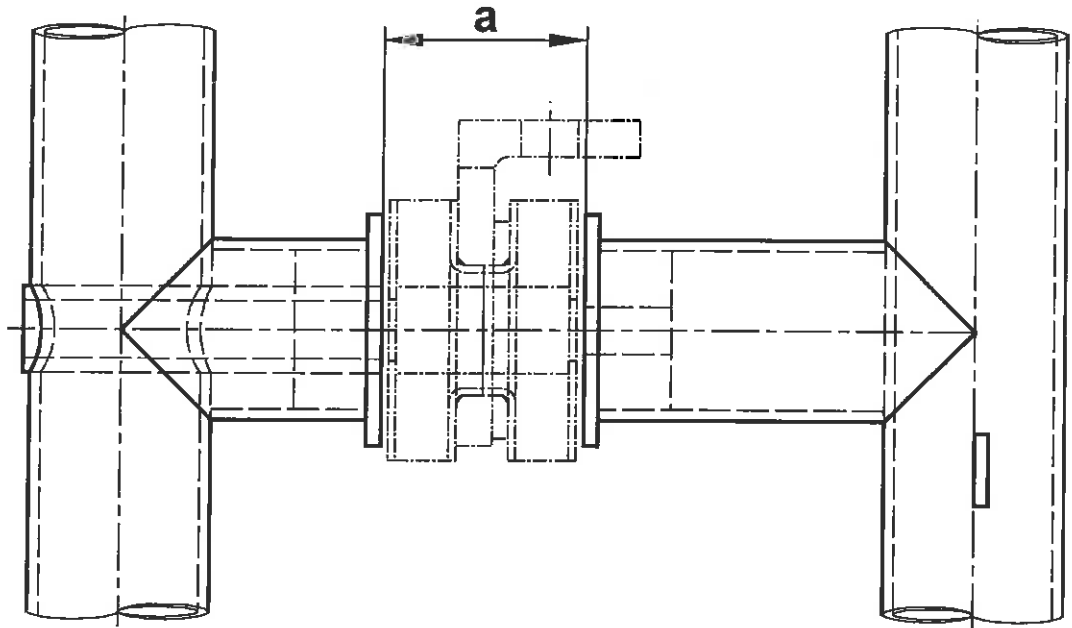
5. Secure the lower attachment bolt with securing wire.

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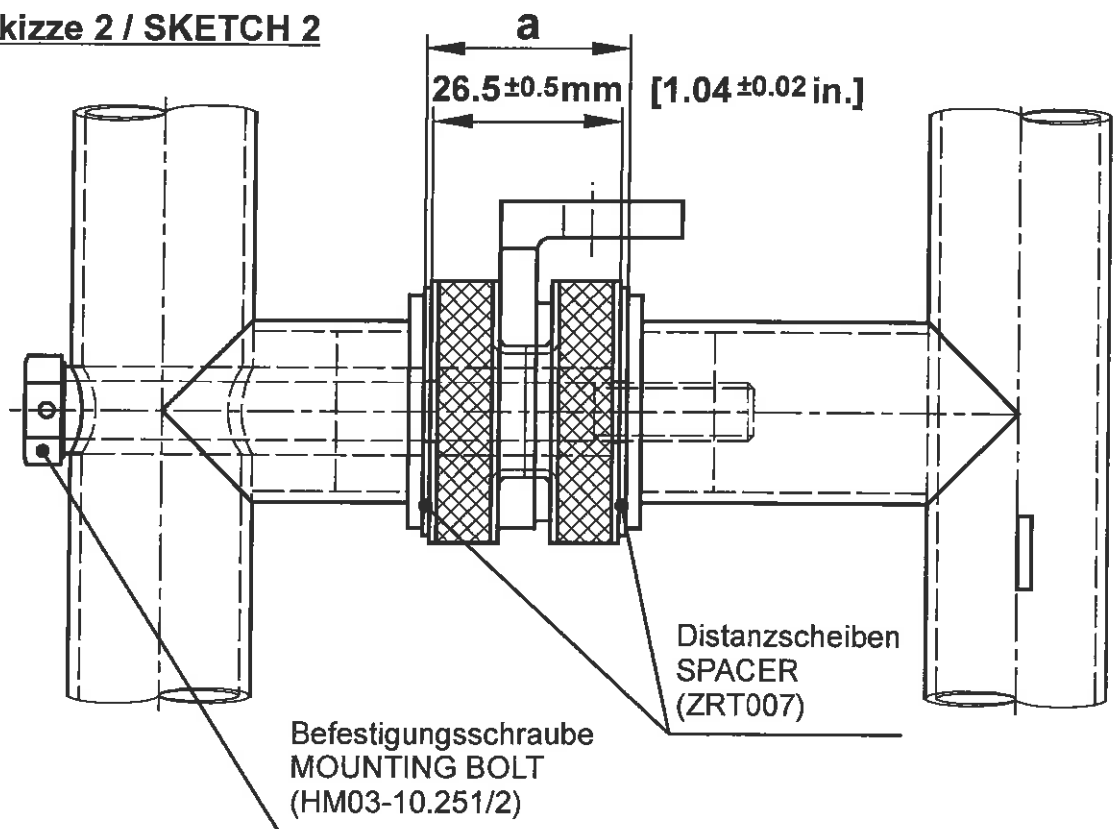
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Skizze 1 / SKETCH 1



Sketch 1: Lower engine suspension, dimension „a“ between the pylon flanges (Rubber mount loose)

Skizze 2 / SKETCH 2



Sketch 2: Complete assembly of the lower engine suspension with spacers installed and suspension bolt tightened.