BRITISH GLIDING ASSOCIATION

BGA TECHNICAL COMMITTEE

TECHNICAL NEWSHEET TNS 5/6/94

PART 1 Airworthiness "AGGRO". Please add to the BGA 1994 Red Pages.

1.1. KA6CR - Canopy Lock Spring Too Weak - Canopy blew off (undamaged!) during a winch launch. Check canopy catches for effective functioning. (Rattlesden G.C.).

1.2. Mosquito - Water Ballast Tanks, treated with REGMACLOR Swimming Pool Paint. Subsequently dump valves found corroded, possibly by paint solvents? (G.A. Ford I/C/678).

1.3. Blaniks (L13). Cracking of Wing Ribs at Station 13 - Inboard of Speed Brakes. Sketch from GFA (Australia) attached for action.

1.4. Valentin TAIFUN CRACKS in FLAP LEVER - LBA AD 94-114 (herewith) requires ACTION.

1.5. M-T Propellers Erosion Strips - not secured. LBA AD/94-098 (herewith) requires ACTION. (Fitted to some SF25E's, Dimona's etc).

1.6. Kestrel Rudder Drives continue to crack at weld. Sketch from Stu Hoy - herewith.

1.7. OLYMPIA 460 - Elevators Not Secured - Positive control check disclosed that Port Outer Elevator hinge-pin split-pin and nut found missing! Check all such gliders as soon as possible. (Reported by Lincolnshire G.C. - Strubby).

1.8. PIK 20E - Failure of Earth Bonding Connection at base of the Pylon, caused intermittent malfunction of electrical services. Reported by S.A. (USA).

1.9. JANTAR 1 Replacement of Spar Root Pivots

Service Bulletin 028/87 requires replacement of main spar pivots at 1500 hours on all SZD-38A sailplanes having serial numbers X-108, X-109 and B608-B689.

Service Bulletin 036-89 "Extention of Life to 4500 Hrs" extends the life on those sailplanes on which the action in Bulletin 028/87 has been complied with. Serial No's B-617, B-673, B-687 and B-688 are listed in SB 036-89.

The printing quality of the above SB's is very poor. The message is that WING ROOT SPAR PIVOTS should be replaced before 1500 Hrs! (Grateful thanks to Martin Carolan - Severn Valley Sailplanes - 0860 542028).

1.10. Centrair 101 Series - Reduction in VRA (Rough Air Speed) from 170 to 163 Kmph (Serial No's as listed in Bulletin 101-17 herewith. Change placards from 91K to 87K!

1.11. Bendix Magnetos FAA A/D 94-06-09 (herewith) "Teledyne Continental Motors" requires Action on SC-20, SC 200 and S-1200 Magnetos as listed in AD, to eliminate defective capacitors, which may make Magneto's "LIVE"!

1.12. T61(F) Venture Propeller Hub detached (on the ground). The correct method of installing the hub is by preheating to 80 degrees as detailed in AD 101 G-0602-1 (extract herewith). The Propeller bolts should be torqued up to 11 lbs/ft - (This S.L.M.G. had two previous propeller tip strikes!).

PART 2 GENERAL INFORMATION

2.1. Oxygen Cylinders should be tested every 4 years (Ref CAP 562 Leaflet 5-9-(Para 5.9) "Civil Aircraft Airworthiness Information & Procedures". Oxygen cylinders installed in aircraft are exempt Health & Safety Regulation 2/69 (1989) effective 1/7/94, by Schedule 2 of that same Regulation.

2.2. Adhesives (Glues!) Report on integrity of glued joints after 22 years exposure (from Royal Norwegian Council for Scientific Research) makes a useful contribution to the state-of-the-art. Casein gets a good report, but avoid acid based adhesives!.

Dick Stratton
Chief Technical Officer

Luftfahrt-Bundesamt
-AD-Department-

Airworthiness Directive

In case of any difficulty, reference should be made to the German original issue

94-114 Valentin (TAIFUN)

Date of issue: April 21, 1994

Affected powered gliders:
German Type Certificate No.: 818

VALENTIN
Taifun 17 E and 17 E II
- S/No's.: all

Subject:
Replacement of the flap lever by a modified construction with identical function.

Reason:
Cracks were found in an annual inspection along the welded joints of the flap lever on a powered sailplane model Taifun 17 E.
A rupture of the flap lever can cause a serious malfunction of the main- and flap controls.

Action:
Visual inspection of the flap lever and replacement of the lever in accordance with Ingineurbüro Schmiderer Service Bulletin.

Compliance:
Inspection must be done before the next flight and follwing at each 25 h-inspection.
Replacement has to be carried out at latest on July 01, 1994.

Technical publication of the manufacturer:
Ingineurbüro Schmiderer Service Bulletin No.28-818, dated April 05, 1994 which becomes herewith part of this AD and may be obtained from Messrs.

Ingenieurbüro A. Schmiderer
Jahnstrasse 17

D-72516 Scheer
Federal Republic of Germany

Accomplishment and log book entry:
Action to be accomplished by an approved service station and to be checked and entered in the log by a licensed inspector.

Luftfahrt-Bundesamt
-AD-Department-

Airworthiness Directive

In case of any difficulty, reference should be made to the German original issue

94-098 MT-Propeller

Date of issue: 19. April 1994

Affected propellers:
MT-PROPELLER

German Type Certificate No.:

32.110/12	Fixed Pitch MT series,
32.130/53	Variable Pitch MTV-1 series,
32.130/54	Variable Pitch MTV-3 series,
32.130/55	Variable Pitch MTV-2 seires,
32.130/57	Variable Pitch MTV-6 series,
32.130/65	Variable Pitch MTV-9 series,
32.130/67	Variable Pitch MTV-12 series,
32.130/68	Variable Pitch MTV-20 series,
32.130/70	Variable Pitch MTV-15 series,
32.130/73	Variable Pitch MTV-11 series,
32.130/74	Variable Pitch MTV-17 series,
32.130/75	Variable Pitch MTV-18 series,
32.130/77	Variable Pitch MTV-10 series,
32.130/78	Variable Pitch MTV-14 series,
32.130/82	Variable Pitch MTV-22 series,
32.130/83	Variable Pitch MTV-24 series,
32.130/84	Variable Pitch MTV-7 series,
32.130/86	Variable Pitch MTV-21 series and
-without-	Variable Pitch MTV-5 series.

Subject:
Propeller - avoid sudden loss of metal erosion sheet. Replacement of PU erosion strip.

Reason / Action:
To aviod sudden loss of the metal erosion sheet in flight, which can lead to heavy vibrations due to unbalance, preflight- and 50/100 hour inspections are to be performed properly. Missing or damaged PU erosion strip must be replaced in accordance with MT-Propeller Service Bulletin.

Compliance:
Before next flight.

Technical publication of the manufacturer:
MT-Propeller Service Bulletin No. 8 dated March 17, 1994 which becomes herewith part of this AD and may be obtained from Messrs.

MT-Propeller Entwicklung GmbH
Airport Straubing-Wallmühle

D - 94348 Atting

Federal Republic of Germany

Accomplishment and log book entry:
Action to be accomplished by an approved service station and to be checked and entered in the log by a licensed inspector.

THE GLIDING FEDERATION OF AUSTRALIA

GFA AD 426
(ISSUE 1)

GFA AIRWORTHINESS DIRECTIVE

TYPE AFFECTED: L13 Blanik and L13 A1 Blanik All serial numbers.

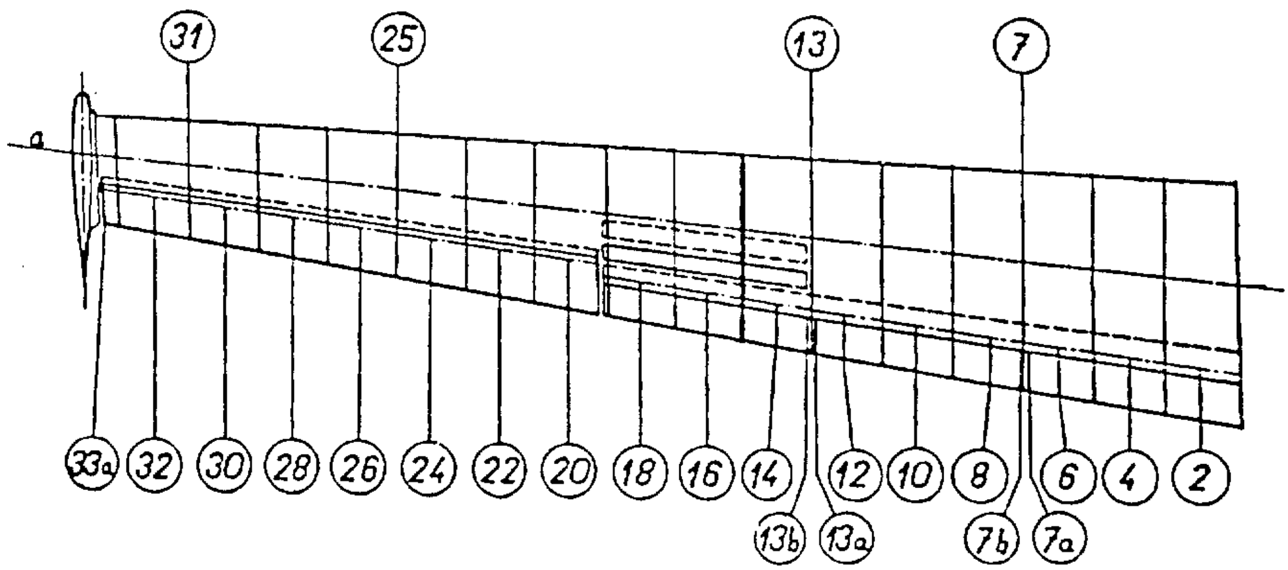
SUBJECT: Cracking of wing Ribs.

BACKGROUND: During a routine inspection cracking was noted in the flange of the wing rib and the stiffeners at the flush skin joint at station 13.

Further inspection of other Blaniks showed that 7 out of 9 inspected gliders had cracking of some degree at this station. Inspection of the ribs at other stations with flush skin joints also showed minor cracking at station 7.

The Flush Joints at Stations 25 and 31 are the same detail design as stations 7 and 13 and so are possible cracking sites.

FIGURE 1
LOCATION OF FLUSH SKIN JOINTS

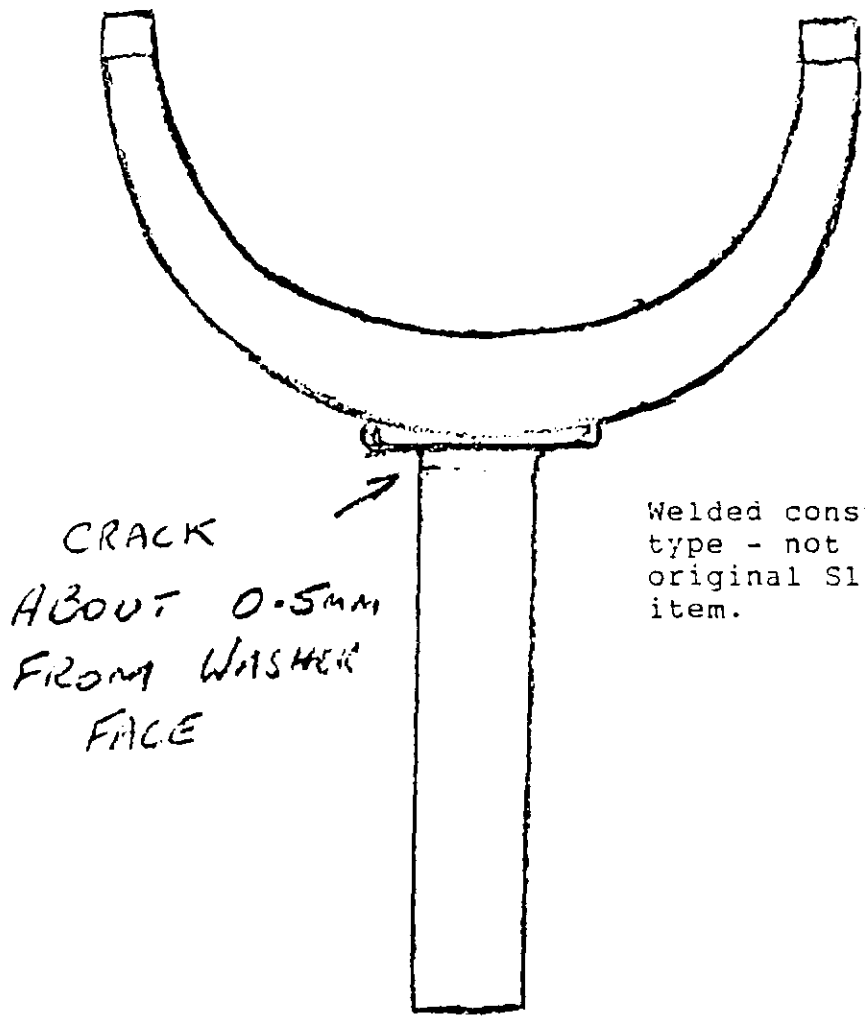


The extent of the cracking was such that the worst wing was very near to failure.

DOCUMENTATION: Aviation and General Engineering Report 941 Issue 2.

SIGNED:	For and on behalf of:
CHIEF TECHNICAL OFFICER AIRWORTHINESS	THE GLIDING FEDERATION OF AUSTRALIA

KESTREL RUDDER DRIVE



Welded construction type - not the original Slingsby item.

TELEDYNE CONTINENTAL MOTORS
AIRWORTHINESS DIRECTIVE
FINAL RULE OF PRIORITY LETTER
APPLIANCE
SMALL AIRCRAFT & ROTORCRAFT

BENDIX MAGNETOS

94-06-09 Teledyne Continental Motors: Amendment 39-8895. Docket 94-ANE-12.

Applicability: Teledyne Continental Motors (TCM) (formerly Bendix) magnetos new and rebuilt TCM Model SC-20, Part Number (P/N) 10-500XXX-X series; Model SC-200, P/N 10-600XXX-X series; and Model S-1200, P/N 10-349XXX-X series, magnetos with Serial Numbers S/N) J2793XXX(R) through J3193XXX(R), K0193XXX(R) through K3093XXX(R) and L0193XXX(R) through L2293XXX(R) inclusive, with capacitor, P/N 10-349276, with date code 93-40 or 93-42. In addition, all TCM Model SC-20, P/N 10-500XXX-X series; SC-200, P/N 10-600XXX-X series; and S-1200, P/N 10-349XXX-X series, magnetos that have capacitor, P/N 10-349276, identified with date code 93-40 or 93-42, installed after October 27, 1993. Also, any TCM or Bendix magneto regardless of serial number that was fitted after October 27, 1993, with capacitors P/N 10-349276, sold as individual replacement parts with date code 93-40 or 93-42. These magnetos are installed on but not limited to reciprocating engine powered Beech, Cessna, Maule, Mooney, Piper, and Robinson aircraft.

NOTE: The "X" represents numbers in the P/N and S/N that have no significance in determining applicability; only the first five digits are needed. The "(R)" at the end of the S/N indicates a rebuilt magneto. The absence of an "R" indicates a new magneto.

Compliance: Required as indicated, unless accomplished previously.

To prevent possible injury or death to ground personnel due to a non-grounded magneto, accomplish the following:

NOTE: WARNING: Do not move propellers by hand on engines that may contain affected capacitors until the inspection procedures required by this airworthiness directive (AD) are completed. Ground personnel should avoid the propeller arc.

(a) Within the next 10 hours time in service after the effective date of this AD, inspect affected magnetos for the presence of capacitor P/N 10-349276, in accordance with the Detailed Instructions, paragraphs 1, 1.1, and 1.2 of TCM Critical Service Bulletin (CSB) 641, dated February 1, 1994, and, if necessary, replace with a serviceable part as follows:

(1) If the capacitor is marked with a date code other than 93-40 or 93-42, reinstall the capacitor in the magneto and metal stamp the letter "E" in accordance with the Identification paragraph of TCM CSB641, dated February 1, 1994, to show compliance with this AD. No further action is required.

(2) If the capacitor is marked with either date code 93-40 or 93-42, replace with a serviceable capacitor of the same P/N but with a date code other than 93-40 or 93-42, and metal stamp the letter "E" in accordance with the Identification paragraph of TCM CSB641, dated February 1, 1994, to show compliance with this AD.

(b) Prior to installation, inspect uninstalled capacitor, P/N 10-349276, and replace, if necessary, with a serviceable part, in accordance with the Detailed Instruction, paragraph 2.1 of TCM CSB641, dated February 1, 1994.

NOTE: TCM Critical Service Bulletin CSB94-1 dated February 1, 1994, and Lycoming Service Bulletin 517 dated February 25, 1994, refers to this subject.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Atlanta Aircraft Certification Office. The request should be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Atlanta Aircraft Certification Office.

NOTE: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Atlanta Aircraft Certification Office.

S.N.CentrAir TNS 5/6/94 AERODROME 36300 LE BLANC	TNS 5/6/94 BULLETIN de SERVICE N° : 101-17 Rév.1	
	PLANEURS CENTRAIR 101 101A 101P 101AP	Page 1/1

APPLICABILITE : PLANEUR PEGASE AYANT LES NUMEROS DE SERIE 101001 à 101039 et 101041 ET N'AYANT PAS SUBI LA MODIFICATION MAJEURE 101-02 (Augmentation du diamètre de la prise d'air du cockpit dans le nez du planeur de Ø26 à Ø36 mm)

OBJET : REDUCTION DE LA VITESSE MAXIMALE EN AIR AGITE (Vra), DE LA VITESSE DE MANOEUVRE (Va) ET DE LA VITESSE MAXIMALE DE REMORQUAGE (Vt)

DELAI : 3 MOIS

Les premiers planeurs Pégase fabriques par Centrair sont équipes d'une prise d'air dans le nez du planeur de Ø26 mm, alors que tous les suivants ont une prise d'air de Ø36 mm.

Or la forme des prises d'air du cockpit influence le fonctionnement de la prise de pression totale qui y est integrée et donc les indications de l'anemometre. Ainsi, en volant côte à côte à la même vitesse reelle, un planeur n'ayant pas subi la modification majeure 101-02 a une vitesse indiquee plus faible qu'un autre ayant subi cette modification.

Afin de standardiser la vitesse réelle maximale en air agite sur l'ensemble des planeurs 101 - 101A - 101P - 101AP, il est nécessaire de réduire sur les planeurs en objet Vra, Va et Vt de 170 à 163 km/h.

Pour les planeurs concernés, il est donc demandé d'effectuer les modifications suivantes :

- **Manuel de vol et manuel d'entretien** : Réduction des vitesses Vra, Va et Vt de 170 à 163 km/h (modification incluse dans la révision 3 de l'édition 3 du manuel de vol et révision 8 de l'édition 2 du manuel d'entretien).

- **Pictogramme** : Réduction des vitesses Vra, Va et Vt de 170 à 163 km/h.

- **Marquage anémomètre** :
  * fin de l'arc vert : 163 km/h (au lieu de 170)
  * début de l'arc jaune : 163 km/h (au lieu de 170)

STE NOUVELLE CENTRAIR	ACCEPTATION DSAC	Classification RECOMMANDE POUR INFORMATION ☐
Sal : 51.17.37.36		

Longterm durability of structural adhesives for wood

Results after 22 years exposure

This is a summary of the article on the previous pages. The longterm durability of 14 different adhesives (table 1) is being investigated. The experiment is described in detail in ref.(1), which is a progress report after 2 years exposure.

Test results after 6, 10 and 15 years are given in ref. (2), (3), (4) and (5).

This report contains test results after 22 years natural ageing indoor and under roof outdoor, using test pieces as shown in fig. 1.

As for dry block shear strength (ASTM D 905-49) results are given in table 2 and fig. 3 and 4.

The changes from 15 to 22 years exposure are small and all the glues except no 11 acid phenolic still have satisfactory shear strength when judged by NS 3470 (7) see table 3.

Results of ASTM Delamination tests are given in fig. 2, and evaluation in table 3.

The RF (10) and RF - PF's (12, 14) still have satisfactory wet strength when judged by the requirements in ref. (6).

The wet strength of the UF's, and especially nos 5, 8 and 9, haved decreased since the 15- years testing.

Nos 3, 4, 7 and 9, however, still meet the requirements of the Norwegian Glulam Control (6).

Acid phenolic has also now given poor results, probably due to acid damage to the wood.

The longterm trends for the glue types seem to be (fig. 4):

Caseins:

Stable, at a high level of dry strength and wood failure.

RF and RF-PF:

Dry shear strength and wet strength stable at a high level.

UF's:

Dry shear strength seems to have stabilized at a somewhat reduced, but still adequate level.

Wet strength (fig 2) is decreasing.

Acid PF:

Unsuitable, probably due to acid damage.

If these results are compared with those of accelerated exposures carried out in the beginning of the experiment (2), there is good correlation as far as glue types are concerned.

If comparison is made for the various brands of UF-glues, the correlation is better for the 22 years than for the 15-years results, although not perfect.

The investigation continues, and a final report is planned to appear ca. 1995.

This research has been supported by The Royal Norwegian Council for Scientific and Industrial Research.

References

1. Raknes, E.: Norsk Skogindustri 22 (4) 1968, 119

2. Raknes, E.: Norsk Skogindustri 25 (11), 1971, 325

3. Raknes, E.: Norsk Skogindustri 30 (6), 1976, 168

4. Raknes, E.: Norsk Skogindustri 35 (10), 1981, 260, 270

5. Raknes, E.: Durability of Structural Wood Adhesives after 15 years Aging. I & EC Products Res. & Development 22, 1983, 662.

6. Production Manual for Making Laminated Constructions. Norsk Treteknisk Institutt, Oslo 1975.

7. Norsk Standard 3470. Prosjektering av trekonstruksjoner. Beregning og dimensjonering. NSF 1979

5. Raknes, E.: Durability of Structural Wood Adhesives after 15 years Aging. I & EC Products Res. & Development 22, 1983, 662.

6. Norsk Limtrekontroll: Produksjonsforskrift for limtre.

7. Norsk Standard 3470. Prosjektering av trekonstruksjoner. Beregning og dimensjonering. NSF 1979

...est 30%, skjærstyrke u. 60 kp/cm²)
..., shear strength below 60 kp/cm²)

6	10	15	22
15.0	1.7	2.3	3.8

Starter unit

77 The removal and installation of the starter unit is fully described in Chap 48.

Propeller

78 The removal and installation of the propeller is described in Chap 47. Should the propeller be damaged as result of a ground accident a crankshaft run-out check must be performed on the engine (Chap 12).

Propeller rear hub plate (fig 4)

79 The propeller rear hub plate is an interference fit on the crankshaft therefore it should be heated to 80°C before assembly. Where limited facilities exist the following procedure can be adopted:

79.1 Have a suitable vessel close at hand (a plastic bowl) place the rear hub into it, cover with boiling water, then leave for 1 or 2 min.

79.2 Insert the woodruff key into its slot in the crankshaft. Retrieve rear hub plate from the hot water using a suitable piece of wood, then using cloths to protect the hands, refit the hub plate ensuring correct seating on the crankshaft.

79.3 Refit the washer and central retaining bolt. Torque load to 13.8 mkg (100 lbf ft), then wirelock to locking screw using 20 swg stainless steel locking wire.

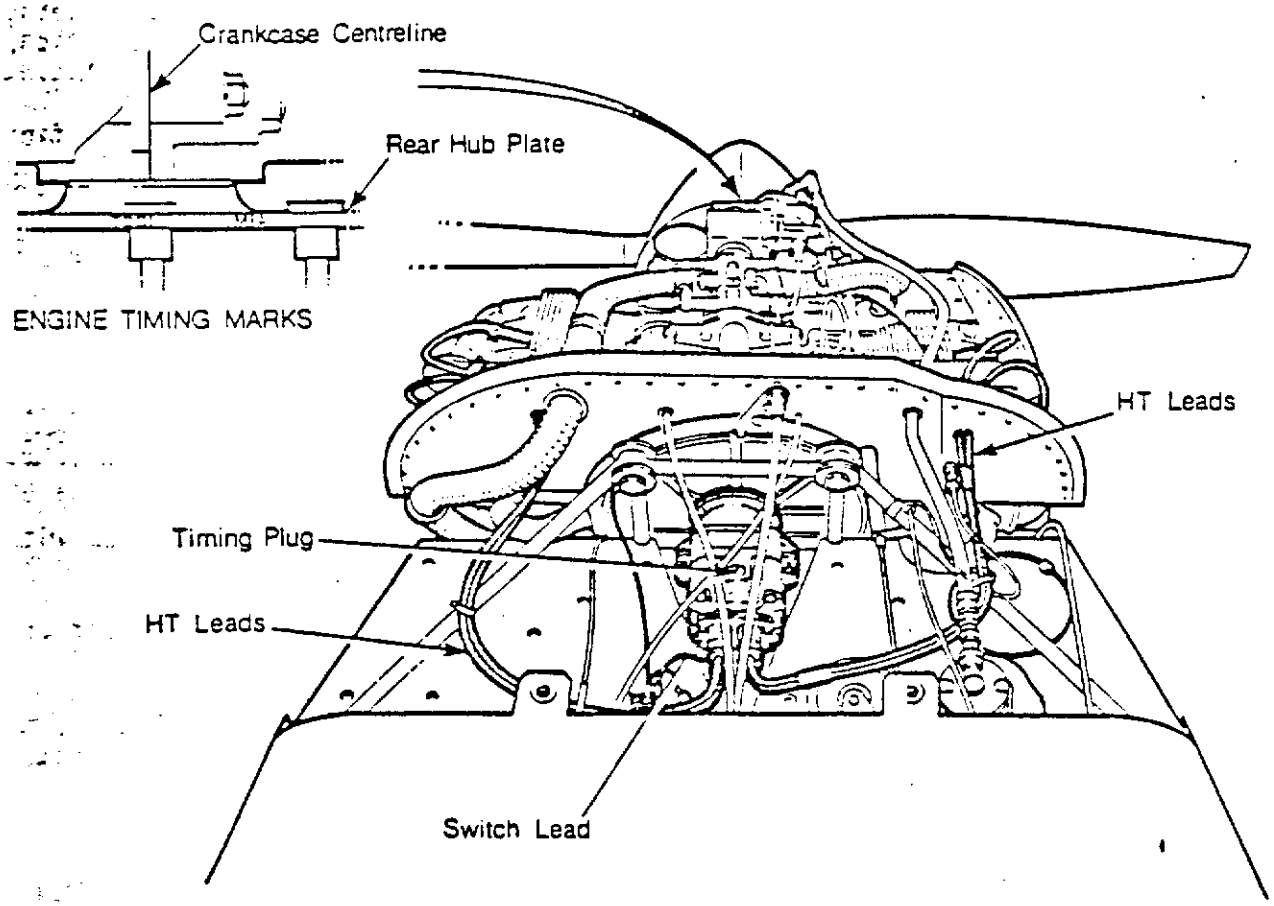


Fig. 23 Magneto installation and timing marks VE 068