

SERVICE INFORMATION

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IMPORTANT INFORMATION

STANDARDIZATION OF PROPELLER SHAFTS/BOLT PATTERN ON ROTAX 912

4 KUL 94

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The following information details changes in prop shafts used on the ROTAX 912. Special attention should be given to the changes which have affected prop hub bolt pattern and centering collar (see sketch 1 page 4).

(A) **INTRODUCTION**

THIS INFORMATION IS INTENDED TO ASSIST THE AIRCRAFT DESIGNER, MANUFACTURER AND BUILDER TO ACHIEVE CORRECT OPERATING CONDITIONS AND ASSEMBLY FOR THE ENGINE AND CONSEQUENTLY OPTIMUM PERFORMANCE AND RELIABILITY.

(B) **TECHNICAL DATA AND GENERAL INFORMATION**

IN ADDITION TO THESE INSTALLATION INSTRUCTIONS PLEASE REFER TO:

- OPERATORS MANUAL
- ENGINE DATA SHEET
- POWER, TORQUE AND FUEL CONSUMPTION CURVES
- SPARE PARTS LIST
- ENGINE INSTALLATION CHECK LIST

1. Definition of engine type ROTAX 912

a) Non-certified engine ROTAX 912 UL DCDI, model 94 version

- **Standard type 912 UL 2 DCDI, model 94:**

The designation "2" refers to design of propeller shaft 837 285, similar to enclosed sketch 2, showing sectional view of gearbox on engine 912 F2 DCDI with overload clutch, available as an option on 912 UL 2 DCDI.

- **Version ROTAX 912 UL 3 DCDI, model 94:**

The designation "3" refers to design of prop shaft 837 282 suitable for installation of a Woodward hydraulic governor 886 730. For arrangement see enclosed sketch 3, showing gearbox of ROTAX 912 F3 DCDI with overload clutch (required also on ROTAX 912 UL 3 DCDI).

- **Version ROTAX 912 UL 4 DCDI, model 94:**

The designation "4" refers to prop shaft 837 287 which is the same as prop shaft 837 282 expect for the plug 244 980 preventing engine oil from escaping. Gearbox housing in engine side is closed too, by cover 810 305. Sketch 4 shows engine 912 F4 DCDI with overload clutch which is also available as an option for the 912 UL 4 DCDI.

2. Changes relevant for installation

- a) Version 2 (UL, A, F) will be supplied in future, scheduled for production from Sept. 94 onwards
- starting with engine no. 4.153.100 on 912 UL DCDI, model 94
 - starting with engine no. 4.380.600 on 912 A DCDI, model 95
- with the standard propeller shaft 837 285. The prop flange is furnished with 3 pitch circles (see sketch 1).

P.C.D. 75 mm ± 0.15 mm, 6 holes 8 mm dia + 0.2 mm, equi-spaced

P.C.D. 80 mm ± 0.15 mm, 6 holes 11.5 dia. equi-spaced.

P.C.D. 101.6 mm ± 0.15 mm (4"), 6 holes 13 mm dia + 0.018 mm/-0.025 mm, equi-spaced.

- hub diameter (prop centering) 47 mm - 0.5 mm instead of 34.9 mm - 0.05 mm
- height of prop centering 8.5 mm instead of 8.0 mm
- thickness of prop flange 10 mm instead of 8 mm up to now.

The standard supply of the propeller shaft 837 285 is without the collar nuts.

Collar nuts are available in two designs at a surcharge:

- collar nut M8, 842 632 (with round collar)
- collar nut 5/16", 842 635 (with hexagonal collar)

The collar nuts are planned to be pressed into propeller flange holes 13 mm dia. +0.018 mm/-0.025 mm, on P.C.D. 101.6 mm ± 0.15 mm (4") (see sketch 5 and 6).

Version 2 can be used with a vacuum pump, type Airborne 211 CC, 886 330, by subsequent installation of the vacuum drive set.

Version 2 may be converted to Version 3 by replacing prop shaft 837 285 with 837 282 and installing overload clutch (on UL engines only).

b) Version 3 (UL, A, F):

The flange bolt pattern of prop shaft 837 282 is identical to version 2 and version 4, but specially designed for operation with Woodward hydraulic governor 886 730. Operation with a vacuum pump is not possible with version 3.

c) Version 4 (UL, A, F):

The prop shaft 837 287 is the same as in version 3 but plugged with plug cover 244 980. This version can be used for operation with vacuum pump, type Airborne 211 CC, 886 330, by additional installation of vacuum drive set or with Woodward hydraulic governor 886 730 by subsequent removal of plug in prop shaft and fitting with governor and specific components.

The propeller shaft 837 285 on version 2 and prop shaft 837 282 on version 3 and prop shaft 837 287 on version 4 is planned as substitute for all prop shaft fitted previously at production start in September 94 with engine no. 4.153.100 for 912 UL DCDI, model 94, and with engine no. 4.380.600 for 912 A DCDI, model 95. All these propeller shafts will now be supplied with the standardized hole pattern as per sketch 1.

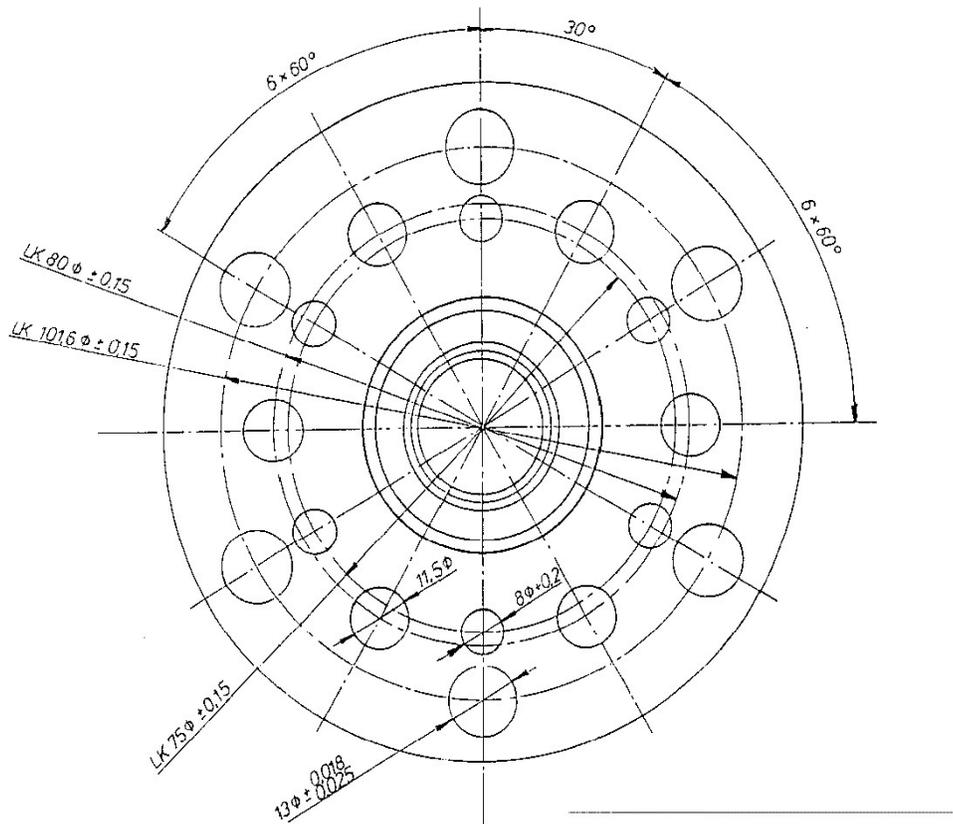
d) Warning:

If you don't understand a section of this information or if you are not otherwise able to carry out the requested checks or repair, please contact your nearest authorized Rotax aircraft engine distributor.

DANGER!

FAILURE TO COMPLY WITH THIS RECOMMENDATION COULD RESULT IN ENGINE DAMAGE AND PERSONAL INJURY!

SKETCH 1



ROTAX 912 PROPELLER HUB BOLT PATTERN
AS OF THE FOLLOWING SERIAL NUMBERS: UL SERIES: 4153100; A SERIES: 4380600

The propeller shaft is furnished with 3 pitch circles.

P.C.D. 75 mm ± 0.15 mm, 6 holes 8 mm dia + 0.2 mm, equi-spaced

P.C.D. 80 mm ± 0.15 mm, 6 holes 11.5 dia. equi-spaced.

P.C.D. 101.6 mm ± 0.15 mm (4"), 6 holes 13 mm dia + 0.018 mm/-0.025 mm, equi-spaced.

- hub diameter (prop centering) 47 mm - 0.5 mm instead of 34.9 mm - 0.05 mm
- height of prop centering 8.5 nun instead of mm
- thickness of prop flange 10 mm instead of 8 mm up to now.

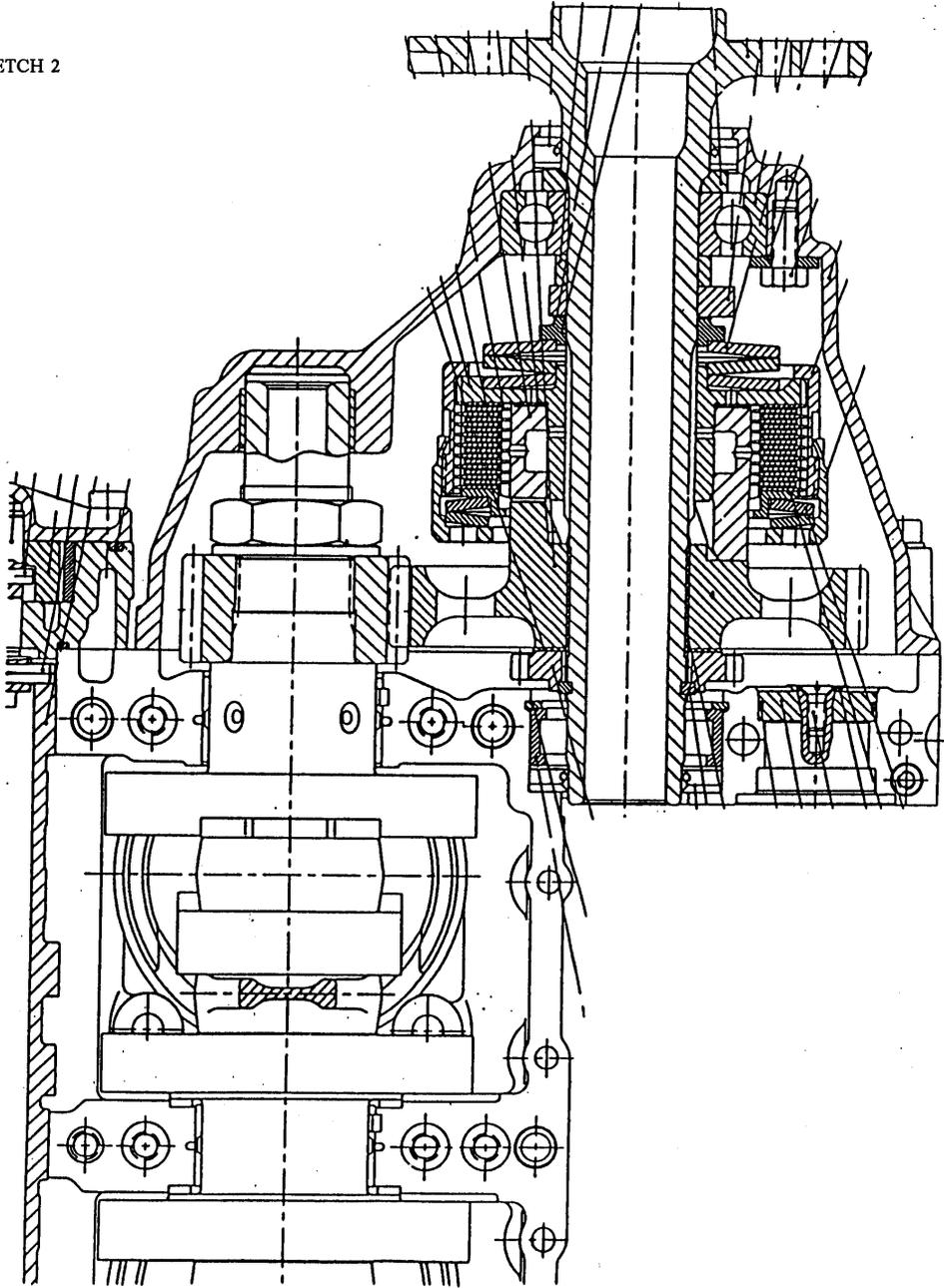
The standard supply of the propeller shaft 837 285 is without the collar nuts.

Collar nuts are available in two designs at a surcharge:

- collar nut M8, 842 632 (with round collar)
- collar nut 5/16", 842 635 (with hexagonal collar)

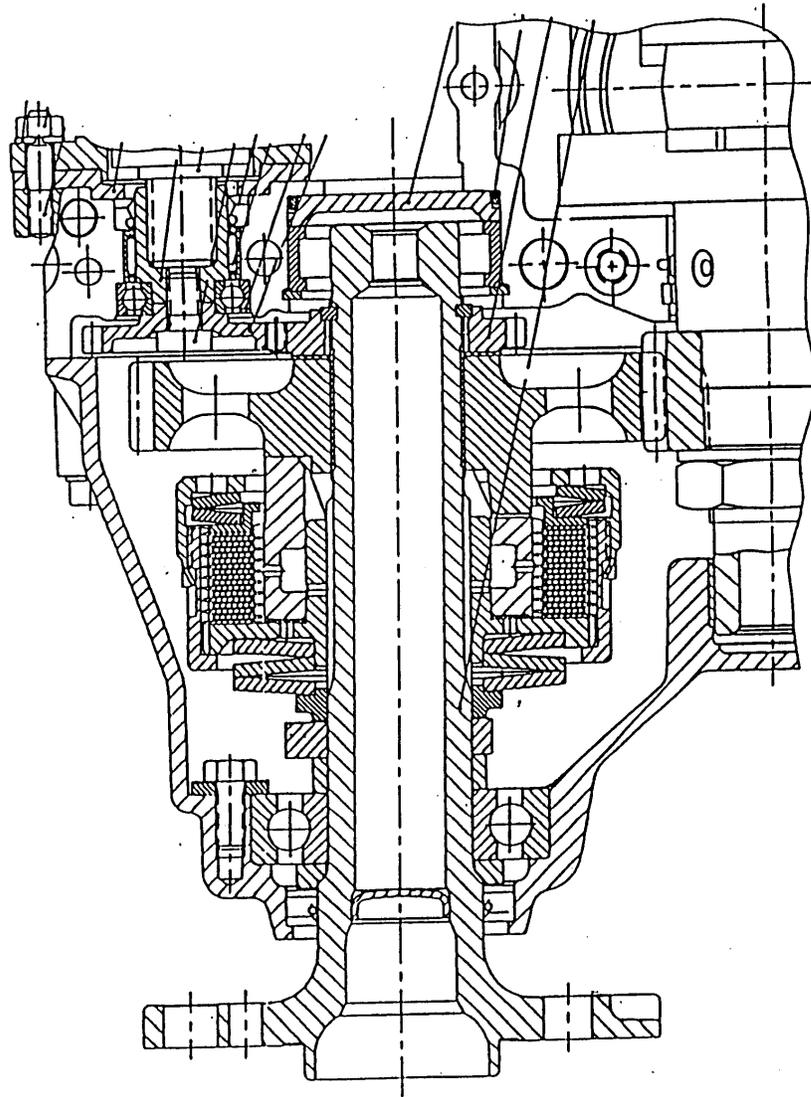
The collar nuts are planned to be pressed into propeller flange holes
13 mm dia. +0.018 mm/-0.025 mm, on P.C.D. 101.6 mm ± 0.15 mm (4").

SKETCH 2



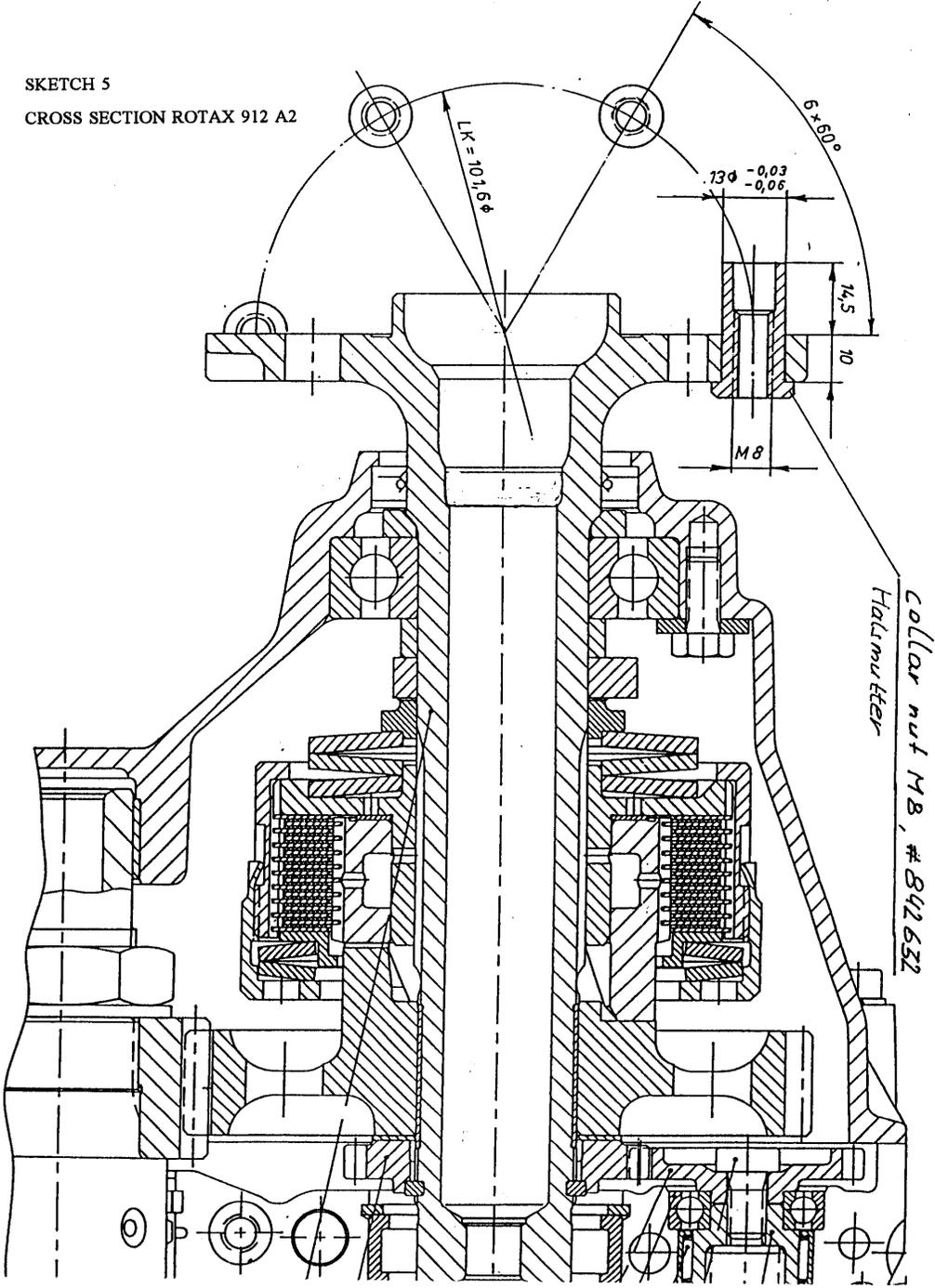
CROSS SECTION OF ROTAX 912 F2 WITH PROP SHAFT 837 285

SKETCH 4



CROSS SECTION OF 912 F4 WITH PROP SHAFT 837

SKETCH 5
CROSS SECTION ROTAX 912 A2



SKETCH 6
CROSS SECTION ROTAX 912 A3

