

EUROCOPTER  
DIRECTION TECHNIQUE SUPPORT  
13725 MARGNANE CEDEX FRANCE

CIVIL VERSION(S): B, B1, B2, B3, BA,  
BB, D  
MILITARY VERSION(S): L1

# SERVICE BULLETIN

**No. 63.00.08**

**SUBJECT: MAIN ROTOR DRIVE**

Poly V trapezoidal type belt installation on hydraulic pump drive

Corresponds to MOD 079555, 079558, 079559 and 079563

LIST OF APPROVED REVISIONS	REVISION No. 1 APPROVED
No. 0: 02-27	Date: May 07, 2004

## **1. PLANNING INFORMATION**

### **1.A. EFFECTIVITY**

#### **1.A.1. Helicopters**

Helicopters of AS 350 type, versions B, B1, B2, B3, BA, BB, D and L1.

#### **1.A.2. Component(s) affected**

Hydraulic pump drive assembly.

### **1.B. ASSOCIATED REQUIREMENTS**

Not applicable.

### **1.C. REASON**

To improve hydraulic pump drive operation.

To reduce maintenance time and DMCs at belt level (OTL: 1,500 hours or 6 years).

The purpose of Revision 1 is to:

- Take into account all clients feedback.
- Allow the use of parts which are already mounted on the aircraft.
- Re-adjust the belt tension.
- Note in paragraph 1.E. the compliance recommendation.

### **1.D. DESCRIPTION**

Change of belt and drive pulley types.

### **1.E. COMPLIANCE**

- EUROCOPTER recommends compliance with this Service Bulletin.
- Revision 1 does not supersede compliance with Revision 0.

#### **1.E.1. At the works**

##### **1.E.1.a. On aircraft**

- As of 1<sup>st</sup> of January 2001 for Revision 0.
- As of 1<sup>st</sup> of January 2004 for Revision 1.

**NOTE**

*This date is indicated for reference only. Consult the certificate of conformity (or RIC) to identify the actual modification status of the aircraft.*

1.E.1.b. On spares

As of 1<sup>st</sup> of January 2001.

1.E.2. Retrofit action on the operator's site

1.E.2.a. On aircraft

By the operator(s): Before 31 December 2004.

1.E.2.b. On spares

Before installation on aircraft.

**1.F. APPROVAL**

Approval is limited to civil version helicopters subject to an Airworthiness Certificate.

1.F.1. Approval of modifications

The information or instructions relate to Modification 079555 which was approved on November 14, 2000 under the authority of DGAC Design Organisation Approval No. F.JA01.

The information or instructions relate to Modification 079558 which was approved on March 07, 2002 under the authority of DGAC Design Organisation Approval No. F.JA01.

The information or instructions relate to Modification 079559 which was approved on February 04, 2004 under the authority of DGAC Design Organisation Approval No. F.JA01.

The information or instructions relate to Modification 079563 which was approved on March 03, 2004 under the authority of DGAC Design Organisation Approval No. F.JA01.

1.F.2. Approval of the Service Bulletin

The technical information contained in this Service Bulletin No. 63.00.08 Revision 0 was approved on May 27, 2002 under the authority of DGAC Design Organisation Approval No. F.JA01.

The technical information contained in this Service Bulletin No. 63.00.08 Revision 1 was approved on May 07, 2004 under the authority of DGAC Design Organisation Approval No. F.JA01.

**1.G. MANPOWER**

- Qualification: 1 mechanic.
- Time: 25 hours approximately.

**1.H. WEIGHT AND BALANCE**

- Weight: Not applicable.
- Moment: Not applicable.

**1.I. EFFECT ON ELECTRICAL LOADS**

Not applicable.

**1.J. SOFTWARE MODIFICATION EMBODIMENT STATE**

Not applicable.

**1.K. REFERENCES**

- Illustrated Parts Catalog (IPC): 63.10.11.02.
- Maintenance Manual (MET):  
Work Cards: 29.10.10.401, 53.00.00.403, 63.00.00.401.
- Standard Practices Manual (MTC):  
Work Cards: 20.02.05.403, 20.02.06.404, 20.02.08.101, 20.04.03.401, 20.07.02.201, 20.07.03.406,  
20.07.03.408, 20.08.05.102, 29.00.00.301.
- Repair Manual (MRR):  
Work Card: 63.20.00.727.

**1.L. OTHER DOCUMENTS CONCERNED**

Illustrated Parts Catalog (IPC).  
Maintenance Manual (MET).

**1.M. INTERCHANGEABILITY AND MIXABILITY OF PARTS****1.M.1. Interchangeability**

Belt and pulley assembly to be installed as replacement for another belt and pulley assembly. Full mechanical interchangeability is ensured.

**1.M.2. Mixability**

Not applicable.

## 2. ACCOMPLISHMENT INSTRUCTIONS

### 2.A. GENERAL

- Comply with safety instructions on aircraft parked in maintenance workshop or facilities as per Work Card 20.07.02.201 (MTC).
- Comply with rules of practice for aircraft repair and maintenance as per Work Card 20.08.05.102 (MTC).
- Comply with general instructions on bearing and spherical bearing fitting and swaging as per Work Card 20.02.08.101 (MTC).
- Instructions for intervention on aircraft electrical network and use of electrical ground power supplies as per Work Card 20.07.03.406 (MTC).
- Aircraft visual check after an inspection or intervention as per Work Card 20.07.03.408 (MTC).
- Assembly by bolts and nuts as per Work Card 20.02.05.404 (MTC).
- Safetying and locking of assemblies as per Work Card 20.02.06.404 (MTC).
- Corrosion prevention and treatment as per Work Card 20.04.03.401 (MTC).
- Assembly of rings and bushes on support items as per Work Card 20.02.05.403 (MTC).
- General instructions "Hydraulics" as per Work Card 29.00.00.301 (MET).

#### **NOTE 1**

*The indicated torque values are dry tightening torques.*

### 2.B. OPERATIONAL PROCEDURE

#### 2.B.1. Preliminary steps

- Shut down all electrical power supplies as per Work Card 20.07.03.406 (MTC).
- Remove LH and RH engine and MGB cowlings as per Work Card 53.00.00.403 (MET).
- Implement suitable access means.

#### 2.B.2. Replacement of drive pulleys and hydraulic pump pulley bearing (Figures 1, 2, 3)

##### 2.B.2.a. Work preparation (Figures 1 and 2)

- Loosen belt (a) as per Work Card 63.00.00.401 (MET) and disengage.
- Remove hydraulic pump without disconnecting pipes as per Work Card 29.10.10.401 (MET).
- Remove engine-MGB link as per Work Card 63.00.00.401 (MET) to obtain access to drive pulley (c) and scrap nuts and bolts (Figure 2).
- Remove belt (a).

2.B.2.b. Replacement of MGB-engine link drive pulley (Figures 1 and 2)

- Remove drive pulley (c) and retain nuts and bolts.
- Install drive pulley (1) as replacement, with retained nuts and bolts, as per Work Card 63.00.00.401 (MET).
- Install casing (z) on MGB as per Work Card 63.00.00.401 (MET).

**NOTE 2**

- If kit used is 350A35-0201-71 (§ 3.C.1.a.) comply with paragraph 2.B.2.c.
- If kit used is 350A35-0201-72 (§ 3.C.1.b.) comply with paragraph 2.B.2.d.

2.B.2.c. Replacement of hydraulic pump drive assembly (Figure 1)

- Remove hydraulic pump drive assembly (p) and retain nuts and bolts.
- Replace by hydraulic pump drive assembly (3) with retained nuts and bolts.
- Tighten to torque only after adjusting belt tension as per Work Card 63.00.00.401 (MET).

2.B.2.d. Replacement of hydraulic pump drive assembly pulley and bearing (Figures 1 and 3)  
(Installation alternative for § 2.B.2.c. using existing parts)

- Remove retaining ring (b).
- Extract pulley (d) with tooling (Y).
- Remove nuts (g), washers (e) and bolts (f).
- Remove driving flange (h).
- Remove elastomeric cap (i).
- Remove flexible coupling (j).
- Remove coupling sleeve (k).
- Remove retaining ring (l) and extract bearing (m) from pulley (d) with tooling (Z).
- Scrap items (b, d, g, i, j, l, m).
- Clean removed parts with White Spirit.
- Carry out visual inspection as per Work Card 20.04.03.401 (MTC) and dimensional check of all parts featuring wear traces as per Work Card 63.20.00.727 (MTC).
- Place retaining ring (19) into pulley (20) bottom and grease bearing (25) (post-MOD 079558) with grease (27).
- Heat bearing (25) to 80° C max and fit onto pulley (20) with tooling (Z), allow parts to cool down to room temperature.
- Fit elastomeric cap (22) into coupling sleeve (k), from cap (22) to the splines.
- Install coupling sleeve (k).
- Install flexible coupling (23).
- Install driving flange (h) onto pulley (20).
- Pack inside of sleeve (k) with grease (26).
- Fit bolts (f), washers (e), nuts (21).
- Torque nuts (21) to the prescribed torque.
- Fit retaining ring (24).
- Heat assembly to 80°C max and fit into support (n) as per Work Cards 20.02.08.101 and 20.02.05.403 (MTC).
- Fit retaining ring (19).

#### 2.B.2.e. Reinstallation of the various items (Figures 1 and 2)

- On hydraulic pump, fit seal (4) to replace the existing seal.
- Install hydraulic pump on pump drive assembly (o) with retained nuts and bolts as per Work Card 29.10.10.401 (MET).
- Install "Poly V" trapezoidal belt (2).
- Install engine-MGB link as per Work Card 63.00.00.401 (MET) with new nuts and bolts (5 to 18) (Figure 2).
- Adjust "Poly V" belt (2) tension:
  - Secure a dial gauge on transmission deck.
  - Fit the dial gauge feeler by inserting a locally manufactured shim under the belt (Figure 1 detail D).
  - Exercise a load of  $0,8 \text{ daN} \pm 0,2 \text{ daN}$  with a spring balance, as close as possible to the dial gauge.
  - The deflection under load must be 2,5 to 3 mm.
- Torque as per Work Card 63.00.00.401 (MET).

#### 2.B.3. Functional tests

Carry out a functional test as per Work Card 29.00.00.301 (MET).

#### 2.B.4. Final steps

- Install LH and RH engine and MGB cowlings as per Work Card 53.00.00.403 (MET).
- Carry out aircraft visual check after an inspection or intervention as per Work Card 20.07.03.408 (MTC).
- Remove access platforms and lifting devices.
- Restore the electrical power supplies as per Work Card 20.07.03.406 (MTC).

### 2.C. IDENTIFICATION

Record compliance with this Service Bulletin Revision 1 in the aircraft documents.  
Record embodiment of modifications 079555, 079558, 079559 and 079563 on Individual Inspection Log Book (RIC).  
Update Logbook and EQUIPMENT LOG CARDS (FME).

### 2.D. OPERATING AND MAINTENANCE INSTRUCTIONS

#### 2.D.1. Operating instruction(s)

Not applicable.

#### 2.D.2. Maintenance instruction(s)

Maintenance is defined as per Maintenance Program (PRE).



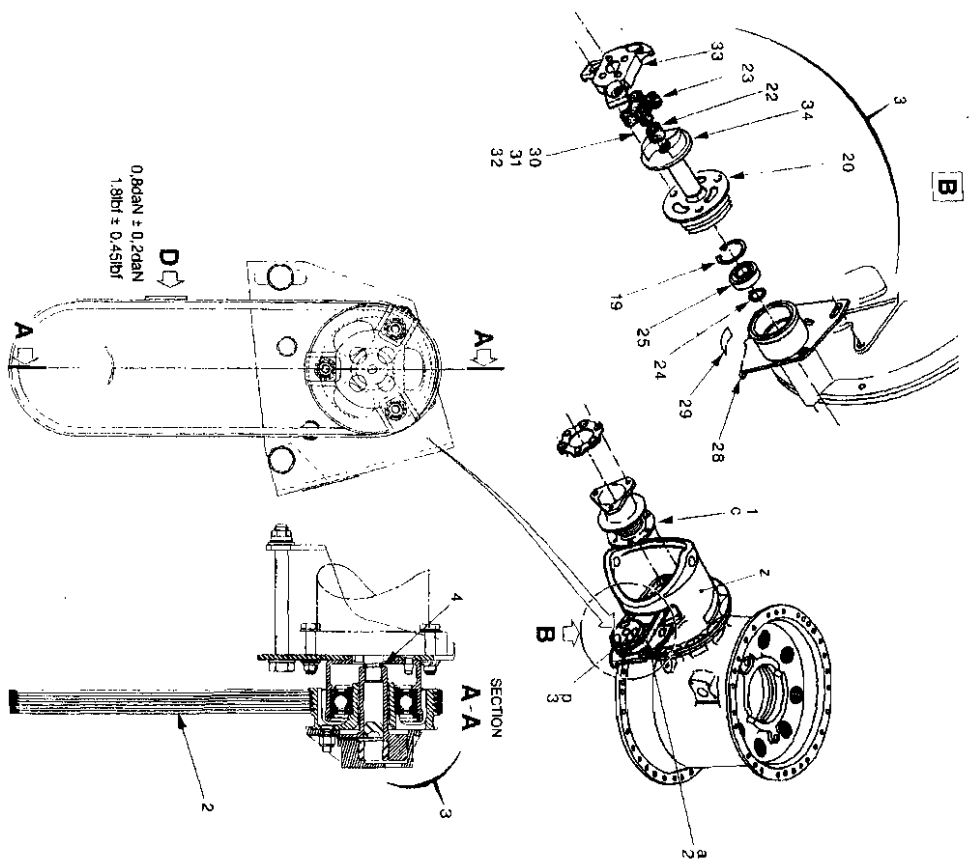
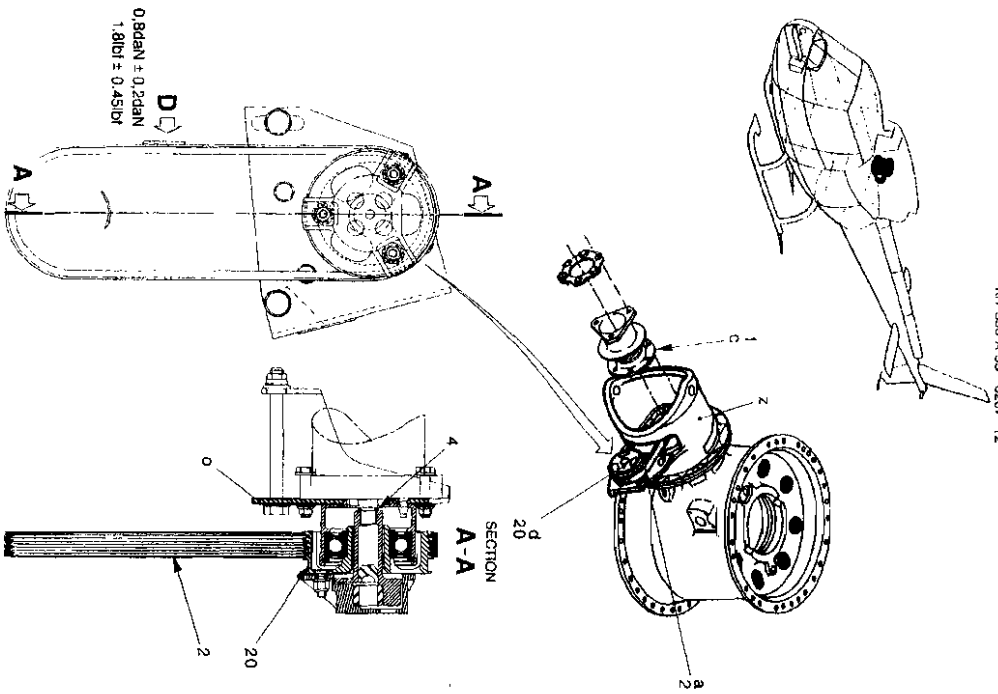


Figure 1



**eurocopter**  
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SERVICE BULLETIN AS350

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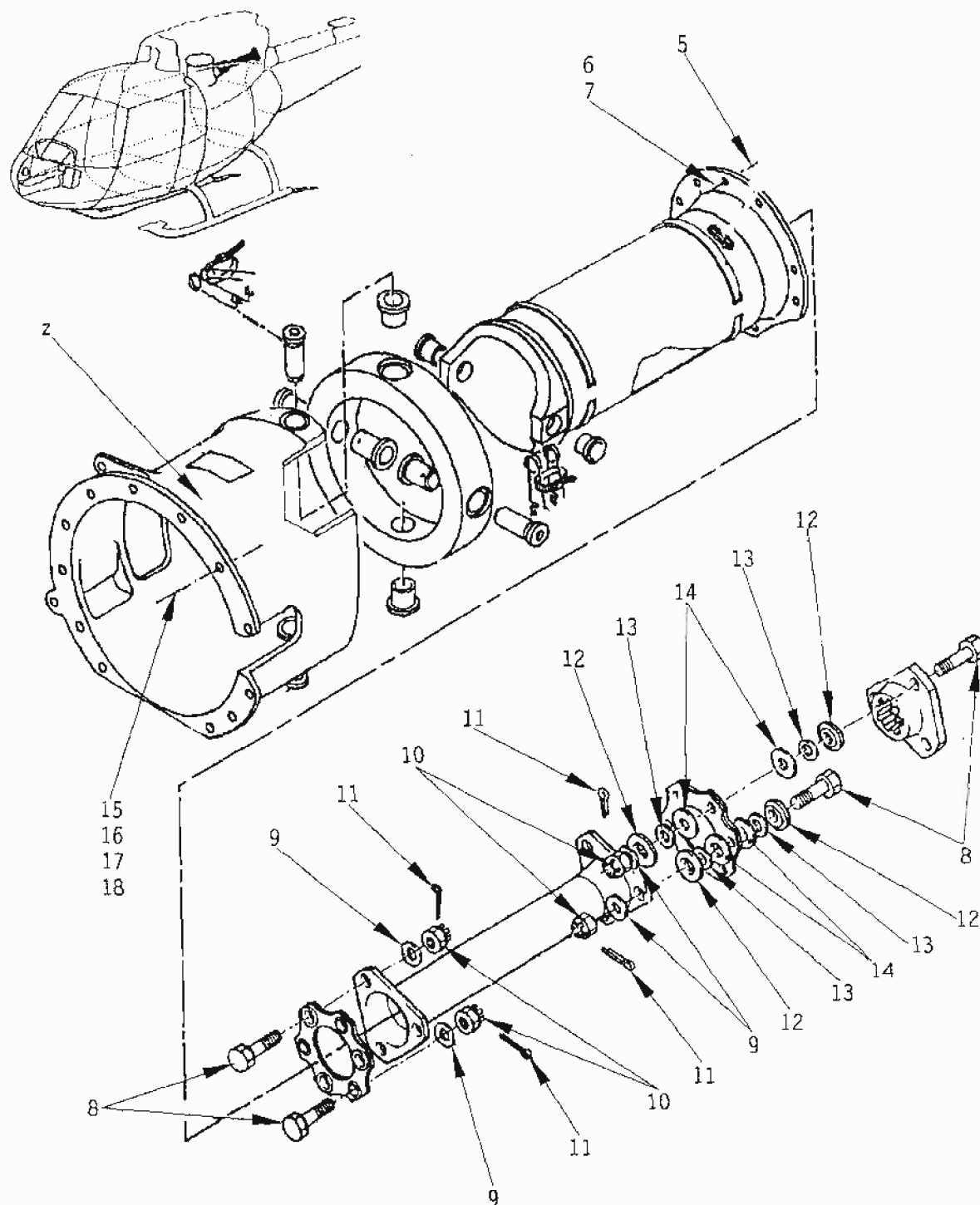


Figure 2

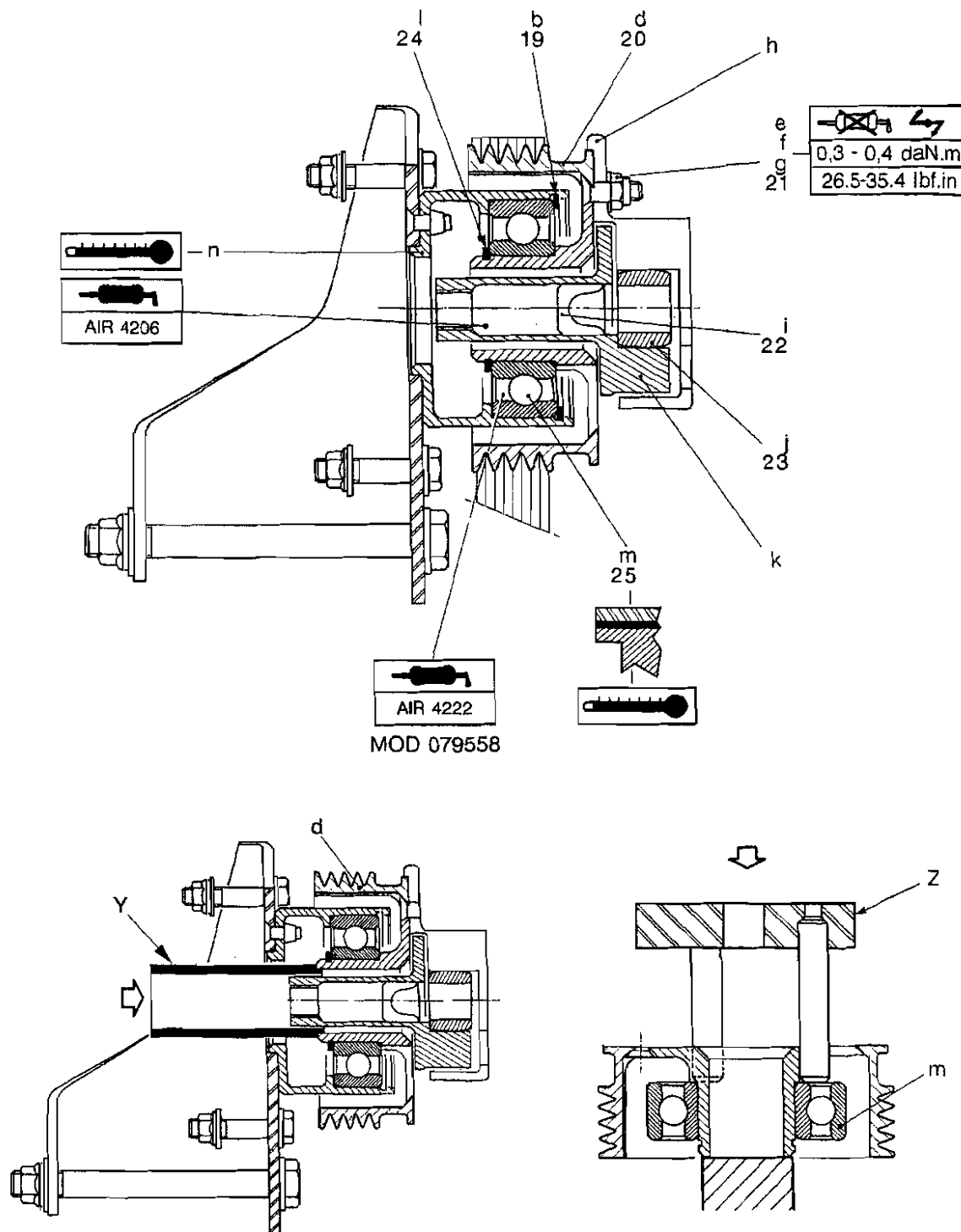


Figure 3

### 3. MATERIAL INFORMATION

#### 3.A. MATERIAL: COST - AVAILABILITY

For any information, contact the Customer Support Sales Department.

#### 3.B. INFORMATION CONCERNING INDUSTRIAL SUPPORT

Not applicable.

#### 3.C. MATERIAL REQUIRED FOR EACH AIRCRAFT, ENGINE/COMPONENTS

The material required for compliance with this Service Bulletin was defined for 1 aircraft.

##### 3.C.1. Kit or component(s) to be ordered

##### 3.C.1.a. Complete kit

New P/N (in MPN)	Qty	Item	Key Word	Former P/N	Instructions Disposition
<b><u>350A35-0201-71</u></b>		<b><u>Kit including</u></b>			
350A35-1091-20	1	1	Pulley, drive		
POLYV597K4	1	2	Belt, trapezoidal, "Poly V"		
350A35-0131-006C	1	3	Drive assy, hydraulic pump		
	For ref.	19	Ring, retaining		
	For ref.	20	Pulley, driven		
	For ref.	22	Cap		
	For ref.	23	Coupling, flexible		
	For ref.	24	Ring, retaining		
	For ref.	25	Bearing, ball		
	For ref.	28	Cradle, pump		
	For ref.	29	Nameplate		
	For ref.	30	Bolt		
	For ref.	31	Washer		
	For ref.	32	Nut		
	For ref.	33	Flange		
	For ref.	34	Sleeve, coupling		
2X8-20A5	1	4	Seal		
22201BE070012L	10	5	Bolt		
23111AG070LE	10	6	Washer		
ASN52320BH070N	10	7	Nut		
350A32-1060-38	6	8	Bolt		
23111CA080	6	9	Washer		
ASNA0044-080BCL	6	10	Nut		
23310CA015020	15	11	Pin, split		
350A35-1056-20	6	12	Washer, flector		

## 3.C.1.a. Complete kit (cont'd)

New P/N (in MPN)	Qty	Item	Key Word	Former P/N	Instructions Disposition
330A54-0212-22	6	13	Washer		
330A54-0212-23	6	14	Washer		
22201BE060010L	12	15	Bolt		
23112AG060LE	12	16	Washer		
23111AG060LE	12	17	Washer		
ASN52320BH060N	12	18	Nut		

## 3.C.1.b. Simplified kit, alternative for 350A35-0201-71

New P/N (in MPN)	Qty	Item	Key Word	Former P/N	Instructions Disposition
<b><u>350A35-0201-72</u></b>		<b><u>Kit including</u></b>			
350A35-1091-20	1	1	Pulley, drive		
POLYV597K4	1	2	Belt, trapezoidal, "Poly V"		
		3	Not used		
2X8-20A5	1	4	Seal		
22201BE070012L	10	5	Bolt		
23111AG070LE	10	6	Washer		
ASN52320BH070N	10	7	Nut		
350A32-1060-38	6	8	Bolt		
23111CA080	6	9	Washer		
ASNA0044-080BCL	6	10	Nut		
23310CA015020	15	11	Pin, split		
350A35-1056-20	6	12	Washer, flector		
330A54-0212-22	6	13	Washer		
330A54-0212-23	6	14	Washer		
22201BE060010L	12	15	Bolt		
23112AG060LE	12	16	Washer		
23111AG060LE	12	17	Washer		
ASN52320BH060N	12	18	Nut		
23202AM0520L	1	19	Ring, retaining		
350A35-1092-22	1	20	Pulley, driven		
22542K050	3	21	Nut		
703A35-0203-28	1	22	Cap		
S40AS	1	23	Coupling, flexible		
23201AM0250L	1	24	Ring, retaining		
TTS6225	1	25	Bearing, ball		

3.C.2. Material to be ordered separately

Not applicable.

3.C.3. Ingredients to be ordered separately

As per Work cards mentioned in this Service Bulletin and:

New P/N (in MPN)	Qty	Item	Key Word	Former P/N	Instructions Disposition
AIR4206	A/R	26	Grease		
AIR4222	A/R	27	Grease		
WHITESPIRITBIDON5L	A/R		Cleaning solvent		

3.C.4. Material delivered by the customer

Not applicable.

3.C.5. Toolings

As per Work Cards mentioned in this Service Bulletin and:

New P/N	Qty	Item	Key Word	Former P/N	Instructions Disposition
350A93-3501-20	1	Y	Extractor for driven pulley		
350A93-3500-00	1	Z	Bearing extraction tool		

**3.D. MATERIAL REQUIRED FOR EACH SPARE PART**

3.D.1. Kit to be ordered

Not applicable.

**3.E. RE-IDENTIFIED PARTS**

Not applicable.

**3.F. TOOLING: COST - AVAILABILITY**

For any information, contact the Customer Support Sales Department.

### 3.G. PROCUREMENT CONDITIONS

#### 3.G.1. Materials

Order the required quantity

from

EUROCOPTER  
Etablissement de Marignane  
Direction VENTES Service Client  
S.V.  
13725 MARIGNANE CEDEX  
FRANCE

#### **NOTE**

*On the purchase order, please specify the mode of transport,  
the destination and the serial numbers of the aircraft to be  
modified.*

#### 3.G.2. Ingredients

The ingredients listed in this Service Bulletin and in the reference documents can be ordered from the INTERTURBINE company:

Website : <http://www.itlogistics.de>  
Telephone : +49.41.91.809.300  
AOG : +49.41.91.809.444



**4. APPENDIX**

Not applicable.