
SERVICE LETTER

Equipment Type(s): DA-1203A, DA-1503B and DA-1703BJ Antenna Drives

Subject: Change pages for future revisions to each of the three Antenna Drive technical manuals are provided in the appendix to this Service Letter.

Issue: In the interest of reducing user operating cost and increasing unit availability, Telephonics researched the failure histories of these units. Accordingly, our findings lead to the new preventative maintenance recommendations shown on the pages that follow.

This Service Letter can be downloaded from the Telephonics web site www.telephonics.com. Users may print the change pages for insertion in their manuals until such time as the formal revisions are made.

The supplied changes are:

1. Future Revision 6 Changes to DA-1203A Maintenance Manual number 006-05953-0005 Revision 5 dated July 1990. (See Pages 3 to 7.)
2. Additional Future Revision 1 Changes to DA-1503B Maintenance Manual number TM109202 Future Revision 1 dated May 2004. (See Pages 8 to 11.)
3. Future Revision 1 Changes to DA-1703BJ Maintenance Manual number TM114607 dated February 2007. (See Pages 12 to 13.)

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APPENDIX TO
SERVICE LETTER
SL-T-08-0001



WEATHERVISION RADAR ANTENNAS MAINTENANCE MANUAL

MANUAL NUMBER 006-05953-0005
(Including Future Revision 6 Change Pages for
DA-1203A Antenna Drive)

April 2008

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* INDICATES PAGES REVISED, ADDED OR DELETED IN LATEST REVISION
F INDICATES FOLDOUT PAGES - PRINT ONE SIDE ONLY

MAINTENANCE MANUAL
DA-1203A ANTENNA DRIVE UNIT



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SECTION III MAINTENANCE PRACTICES

1. General

Maintenance practices described below cover a preventive maintenance program; component checkout and general repair; and disassembly/assembly procedures. The latter supported by the exploded-view of the antenna drive unit, which is, in turn, part of the illustrated parts list. Also included are waveform and/or voltage readings normally available at the test points throughout the electronic control system.

2. Inspection

A schedule of periodic inspections and maintenance practices is recommended in order to establish an effective preventive maintenance program for the DA-1203A Antenna Drive Unit. Under normal operating conditions, periodic inspection and maintenance of the antenna drive unit should not exceed three-year/3000 hour intervals. See Steps 5 and 7 below for recommended maintenance.

Remove the antenna from the aircraft and perform the maintenance practices specified in the preventive maintenance checklist, table 3-1. Repair or replace defective parts as required.

STEP	SUBJECT	PROCEDURE
1	Antenna Array and Support Structure	Inspect antenna support structure for loose or missing mounting hardware, deformation, damaged fasteners, and corrosion.
2	Connectors (Jacks and Plugs)	Inspect connector assemblies for broken parts, deformed shells or clamps. Check contacts for damage, misalignment, corrosion, and bad plating. Check insulation for cracks. Ascertain that all terminal connections are secure.
3	Terminal Connections	Inspect for corrosion and loose connections.
4	Wiring	Inspect wiring of antenna housing and pc boards. Check all subassemblies for physical damage and charring.

Preventive Maintenance Checklist
Table 3-1 (Sheet 1)



2.

STEP	SUBJECT	PROCEDURE
5	Lubrication	Clean and lubricate antenna gearing with lubricant listed in paragraph 8.B if dry. The exploded view, figure 4-1, designates parts requiring lubrication.
6	Test and Alignment	Perform antenna test and alignment as outlined in Section II, Testing.
7	Bearings	Visually examine and replace bearings, if dry. Do not clean or re-lubricate bearings.

Preventive Maintenance Checklist
Table 3-1 (Sheet 2)

3. Cleaning

Table 3-2 lists the recommended cleaning agents pertaining to the cleaning of component parts and subassemblies of the DA-1203A Antenna Drive Unit.

TYPE	SOURCE	USED TO CLEAN
Varsol	Locally	Gears
Denatured Alcohol	Locally	Exterior Surfaces

Approved Cleaning Agents
Table 3-2

The exterior surfaces of the antenna should be wiped with a clean, lint-free cloth dampened with denatured alcohol. Clean gears in Varsol to remove old grease and dry with compressed air.



DA-1503B ANTENNA DRIVE UNIT COMPONENT MAINTENANCE MANUAL

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5. Scheduled Maintenance

Table 5-4 lists the maximum time between maintenance intervals.

INTERVAL	TASK
3 Years/3000 Hours	Inspect Bearings; Replace if dry. Do not clean/re-lubricate
3 Years/3000 Hours	Inspect Gears; clean/re-lubricate if dry

Scheduled Maintenance
Table 5-4

6. Disassembly and Assembly

A. General

There is no fixed sequence for total disassembly/assembly of the antenna drive unit. Examination of the figures in the Parts List (Section VI) reveals that several approaches may be taken to disassemble/assemble the various detail parts and subassemblies. However, major sections of the antenna must be disassembled/assembled in sequence, and this section of the manual contains the recommended procedure to allow the maximum time to elapse between each maintenance operation.

Remove the antenna array prior to beginning any disassembly operation of the antenna drive unit.

Note:

Unless otherwise specified, assembly procedures are performed in the reverse order of disassembly.

B. Disassembly

(1) Tilt Drive

- (a) Remove cover (047-12436-0001).
- (b) Tilt Synchro



(1) Loosen set screw (089-05861-0012) in rotor.

(2) Loosen synchro clamps (33037-0005).

(3) Remove synchro (148-00047-0001) together with coupling (8052107-0001).

(c) Tilt Gearbox:

(1) Remove screws (089-06492-0024) and separate gearbox (300-09649-0501) from yoke.

(d) Tilt Motor:

(1) Remove screws (089-06492-0022) and separate motor (18047-0001) with pinion.

(2) Antenna Support (Rotor)

(a) Remove elevation stop (076-03035-0001).

(b) Remove synchro support (076-03033-0001).

(c) Remove bearing clamp (076-03055-0001).

(d) Remove bearing, shims and spacer (147-05182-0001, 047-12486-000X and 076-03034-0001).

(e) Remove rotary joint (024-01000-0001).

(f) Remove clamp ring (076-03070-0001).

(g) Remove retaining ring (090-01033-0001).

(h) Remove bearing (147-05181-0001) by applying heat to expand yoke housing bore. This can be accomplished using a heat gun.

(i) Rotate rotor (073-05196-0001) toward yoke housing, slide rotor into larger bore of yoke and tilt out opposite end of rotor to remove from yoke.

(3) Azimuth Drive

(a) Remove yoke cover (047-12434-0001).

(b) Remove counterweight, spacers and cover (047-12550-0001, 047-12551-000X and 047-12411-0001).

(c) Disconnect brush block cable connector (P1) from control board and withdraw through slot in the yoke housing.

(d) Azimuth Synchro

(1) Remove gear plate (073-05194-0501) from yoke.



**MAINTENANCE MANUAL
FOR THE
RDR-1700BJ SURVEILLANCE
RADAR SYSTEM
PART NUMBER 359-0000-001**

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3.3 PERIODIC MAINTENANCE

Periodic Maintenance is required on the radar to achieve optimum performance of the radar over its lifetime. The following is the recommended maintenance schedule for the RDR-1700BJ equipment.

3.3.1 RDR-1700BJ Maintenance Schedule

3.3.1.1 Receiver/Transmitter and Interface Unit

PERIOD (Hrs From Last Maintenance Action)	PROCEDURE
1,000	Check fan operation and air flow through LRU to make sure there are no restrictions to the air flow. Clean dust or debris from air intake and output openings
5,000	Return LRU to factory for performance verification and testing.

3.3.1.2 Antenna

The lubrication schedule, procedures, and lubricants for the antenna items are listed in Table 3.3.1-1.

**Table 3.3.1-1
Antenna Items Maintenance**

Inspect gears and bearings at 3 Years/3000 hour Maintenance Period.

Clean and re-lubricate gears if dry. Do not clean or re-lubricate bearings.

ITEM	PERIOD	PROCEDURE	LUBRICANT
Antenna Azimuth gears	3 Years/ 3,000 Hours	Gear teeth can be accessed by removing the azimuth motor (B1). Coat gear teeth with grease while rotating the antenna 360°. Reinstall azimuth motor. No realignment is required.	Standard Oil Co. Beacon 325 or Shell Oil Co. Aero Shell #11 or equivalent
Antenna Elevation Gears		Gear teeth can be accessed by removing side cover on yoke assembly. Coat gear teeth with grease. Reinstall side cover. No realignment is required.	Standard Oil Co. Beacon 325 or Shell Oil Co. Aero Shell #11 or equivalent
Antenna Azimuth Synchro Gear		Remove Synchro assembly 529704-001 by removing four screws holding synchro plate. Remove plate with synchro and coat gear teeth. Reassemble synchro plate assembly. Realign synchro. See Note Below.	Standard Oil Co. Beacon 325 or Shell Oil Co. Aero Shell #11 or equivalent
Bearings		Visually inspect and replace bearings if dry. Do not clean or re-lubricate bearings.	---

