

**SUPPLEMENT A24  
TO THE AIRPLANE FLIGHT MANUAL DA 40**

**STORMSCOPE  
WX-500  
GOODRICH**

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This Supplement has been approved for the Joint Aviation Authorities (JAA) by the Austrian Civil Aviation Authority Austro Control (ACG) as Primary Certification Authority (PCA) in accordance with the JAA Certification Procedures of the Joint Aviation Authorities (JAA JCVP).

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## 0.2 LIST OF EFFECTIVE PAGES

Chapter	Page	Date
0	9-A24-0	28 Feb 2003
	9-A24-1	28 Feb 2003
	9-A24-2	28 Feb 2003
	9-A24-3	28 Feb 2003
1, 2, 3, 4A	9-A24-4	28 Feb 2003
4B, 5, 6	9-A24-5	28 Feb 2003
7	9-A24-5	28 Feb 2003
	9-A24-6	28 Feb 2003
	9-A24-7	28 Feb 2003
8	9-A24-7	28 Feb 2003

### **0.3 TABLE OF CONTENTS**

	Page
1. GENERAL .....	9-A24-4
2. OPERATING LIMITATIONS .....	9-A24-4
3. EMERGENCY PROCEDURES .....	9-A24-4
4A. NORMAL OPERATING PROCEDURES .....	9-A24-4
4B. ABNORMAL OPERATING PROCEDURES .....	9-A24-5
5. PERFORMANCE .....	9-A24-5
6. MASS AND BALANCE .....	9-A24-5
7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS .....	9-A24-5
8. AIRPLANE HANDLING, CARE AND MAINTENANCE .....	9-A24-7

## **1. GENERAL**

This Supplement supplies the information necessary for the efficient operation of the airplane when the Goodrich Stormscope WX-500 is installed. The information contained within this Supplement is to be used in conjunction with the complete AFM.

This Supplement is a permanent part of this AFM and must remain in this AFM at all times when the Stormscope WX-500 is installed.

### **NOTE**

The Stormscope does neither replace a weather radar nor weather information. The Stormscope is only used as an additional source of information beside approved weather information.

## **2. LIMITATIONS**

No change.

## **3. EMERGENCY PROCEDURES**

No change.

## **4A. NORMAL OPERATING PROCEDURES**

No change.

## **4B. ABNORMAL OPERATING PROCEDURES**

No change.

## **5. PERFORMANCE**

No change.

## **6. MASS AND BALANCE**

Upon removal or installation of the Stormscope WX-500 the change of the empty mass and the corresponding center of gravity of the airplane must be recorded according to Chapter 6 of the Airplane Flight Manual.

## **7. DESCRIPTION OF THE AIRPLANE AND ITS SYSTEMS**

### **NOTE**

All Stormscope WX-500 functions are controlled through the COM/NAV/GPS GNS 430/530 or through the MFD KMD 150 (DA 40 only). Refer to the GNS 430/530 Supplement A17/A21 (Revision 1) or to the KMD 150 Supplement A16 (Revision 0) to the AFM DA 40 (D) for detailed operating procedures and specific display information.

The Goodrich WX-500 Weather Mapping Sensor (Stormscope) detects electrical discharges associated with thunderstorms and displays the activity on the GNS 430/530 COM/NAV/GPS or the KMD 150 MFD.

The system consists of an antenna (located on the bottom of the fuselage behind the COM 2 antenna in the DA 40, located within the vertical stabilizer in the DA 40 D) and a processor located under the passengers' seats. The antenna detects the electrical and magnetic fields generated by intra-cloud, inter-cloud, or cloud to ground electrical discharges occurring within 200 nm of the airplane and sends the 'discharge' data to the processor. The processor digitizes, analyzes, and converts the 'discharge' signals into range and bearing data and communicates the data to the GNS 430/530 or KMD 150 every two seconds.

## **OPERATION**

### **POWER-UP**

At power-up, the WX-500 executes a power-up self test. The self test takes approximately 25 seconds to ensure that all major WX-500 functions are operating properly. Functions tested include antenna operation, memory, and microprocessor functions. An error message is displayed if a fault is detected.

### **CONTINUOUS AND OPERATOR-INITIATED SELF TEST**

In addition to the power-up self test, the WX-500 performs a continuous self test. Items tested include antenna operation, microprocessor functions, memory, and heading inputs. This continuous self test is performed several times each minute. There are also provisions for an operator-initiated self test that can be executed through the GNS 430/530 or KMD 150.

### CLEAR ALL DISCHARGE POINTS

Clearing the discharge points periodically while you are monitoring thunderstorms is a good way to determine if the storm is building or dissipating. Discharge points in a building storm will reappear faster and in larger numbers. Discharge points in a dissipating storm will appear slower and in smaller numbers. There are provisions to clear discharge points through the GNS 430/530 or the 'CLEAR WX 500'-button.

Due to the optional heading stabilization feature connected and turned on, you do not have to clear discharge points after every heading change to ensure that the discharge points are positioned correctly with respect to the current heading.

### HEADING STABILIZATION (optional)

The heading stabilization feature automatically adjusts the position of the discharge points on the display when your airplane changes heading. Normally, you should never have to turn heading stabilization off. However, a situation may occur in which the heading input appears to be invalid but no heading flag is displayed. In this case, you should turn heading stabilization off until the heading input is correct. If you are flying with heading stabilization turned off, you can clear all discharge points after each heading change to display new discharge points in the proper location relative to the nose of the airplane.

## 8. AIRPLANE HANDLING, CARE AND MAINTENANCE

No change.