



Metro Aviation, Inc.

EC 135
SERVICE BULLETIN
SB 135M-150-001

SPIFR GPS Navigation System – Modification of

1. Planning Information

A. Effectivity

1) **Helicopters affected:** All EC 135 Helicopters equipped with Metro Aviation, Inc. STC SR09259RC DL 135M-150 for SPIFR (Single Pilot Instrument flight Rules) , Aircraft Serial Numbers:
0131, 0132, 0143, 0144, 0154, 0157, 0161, 0163, 0164, 0167, 0179,
0188, 0190, 0197, 0212, 0284, 0288, 0314, 0322, 0336, 0339.

2) **Components affected:** Not Applicable.

3) **Spare Parts affected:** Not Applicable.

B. Concurrent Requirements: Not Applicable.

C. Reason: To ensure that GPS Navigation will be provided to the Pilot SMD-45 ND (Navigation Display) whenever power is lost to the #1 GPS/Nav/Com and or K1 relay. VOR Navigation not effected.

D. Description: Relocating wiring on the GPS data switching relay K1.

E. Compliance: Recommended during the next 400 hour airframe inspection.

F. Approval: FAA DER Approved.

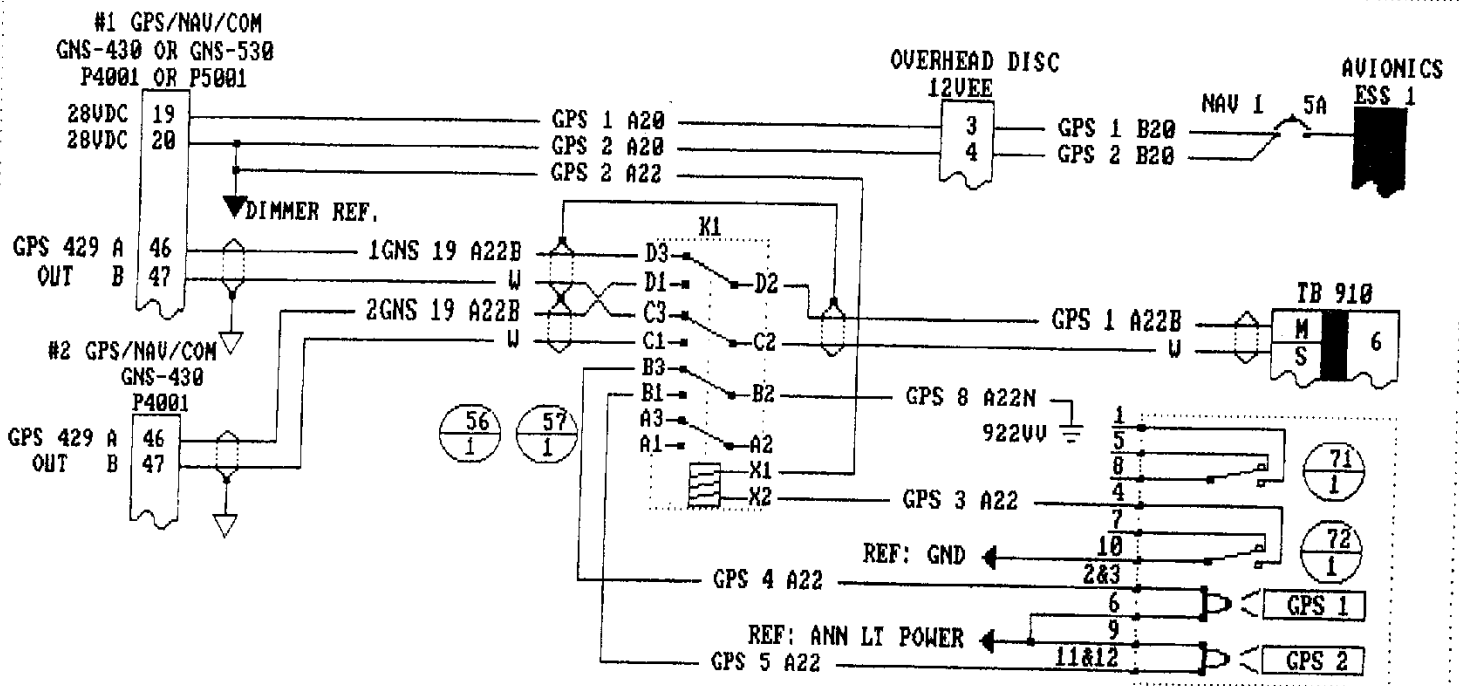
G. Manpower: One mechanic approximately 1.0 man hours.

H. Weight and Balance: Not Applicable.

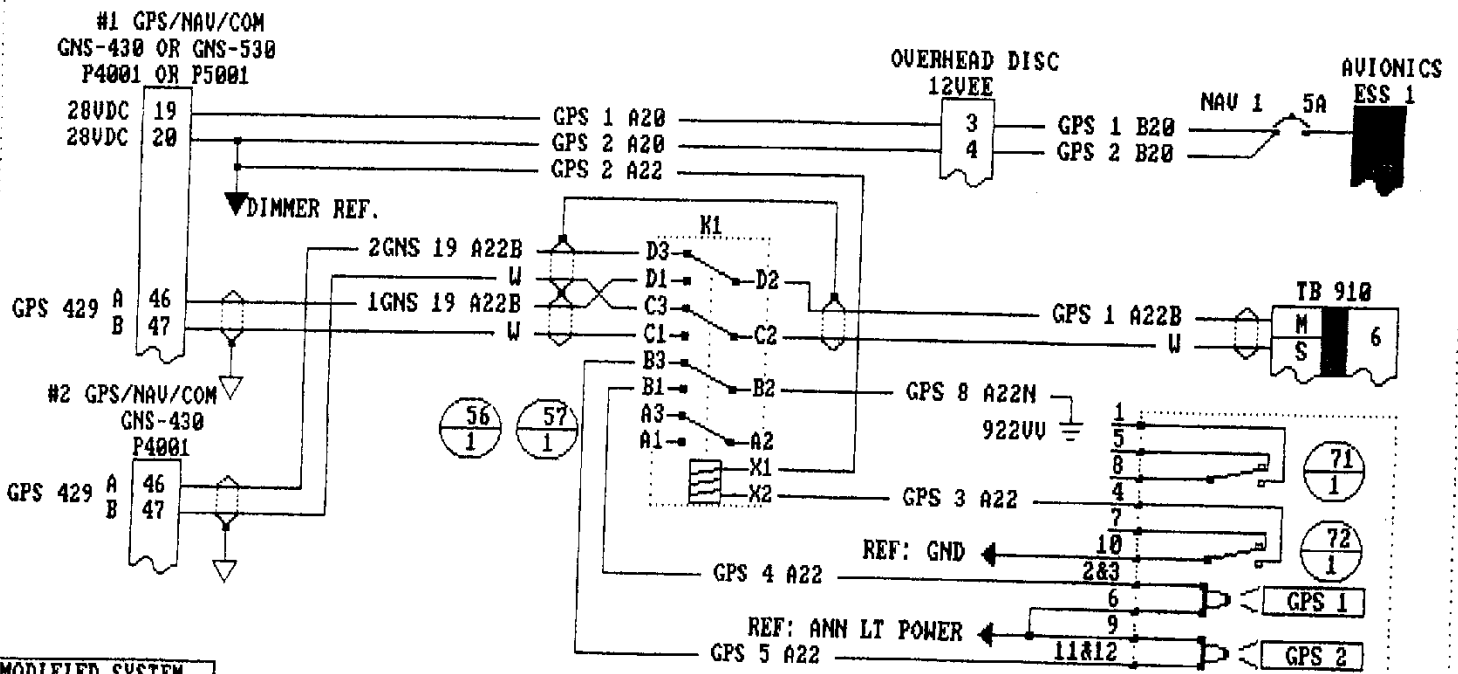
I. Electrical Load Data: Not applicable.

J. Software Accomplishment Summary: Not applicable.

REASON: IT HAS BEEN FOUND THAT IF A LOSS OF POWER TO THE K1 GPS DATA RELAY AND THE #1 GPS/NAV/COM SYSTEM THERE WOULD BE A LOSS OF GPS DISPLAYED INFORMATION ON THE PILOT NAVIGATION DISPLAY (SMD-45 ND). FULL GPS AND VLOC NAVIGATION IS STILL AVAILABLE ON THE REMAINING #2 GPS/NAV/COM SYSTEM WITH VLOC INFORMATION STILL PRESENTED ON THE PILOT ND. THIS IS A MODIFICATION TO ELIMINATE THIS ISSUE.



EXISTING SYSTEM



MODIFIED SYSTEM

- MODIFICATION:
- 1- LOCATE K1 RELAY ON AVIONICS SHELF.
 - 2- REMOVE RELAY FROM SOCKET.
 - 3- EXTRACT THE FOLLOWING WIRES:
1GPS 19 A22B-W
2GPS 19 A22B-W
GPS 4 A22
GPS 5 A22
 - 4- REINSTALL WIRES IN K1 RELAY SOCKET AS SHOWN ABOVE IN MODIFIED SYSTEM DRAWING.
 - 5- REINSTALL RELAY AND FUNCTIONALLY TEST GPS SYSTEMS OPERATION WITH SMD-45 DISPLAY SYSTEM.

Metro Aviation, Inc.			
1400 Airport Drive Hgr 120 Shreveport, La. 71107		Acft Model EC-135	Serial No. ALL
Date 22 SEPT 2004	Drawn by: UJ	Checked by: UJ	Approved by: UJ
Title: WIRING HARNESS INSTL		Detail: GPS RELAY WIRE UPDATE Sheet 1 of 1	
Dwg. No. 135M-153-E0-4	Page 2 of 2	Rev. No. IR	Scale: n/a
			Disk File: IFRSB01



Metro Aviation, Inc.

K. References: Equipment Maintenance Manual, Metro Aviation, Inc. STC SR09259RC DL 135M-150 Rev. F Dated 4 March 2002, "Instructions for Continued Airworthiness".

L. Other Publications affected: Not applicable.

M. Interchangeability of Parts: Not applicable.

2. Material Information

A. Material - Price and Availability Not applicable.

B. Support Information: Not applicable.

C. Material Necessary for Each Helicopter: Not applicable.

3. Accomplishment Instructions:

A. Locate K1 Relay installed in vertical bracket in the aft right hand corner of avionics shelf.

B. Remove Relay K1 from socket by removing nuts and washers that hold the relay to the socket.

C. Utilize Red and White plastic extraction tool part number M81969/14-02 and extract the following wires from the relay:

1GPS 19 A22 (White and White/Blue)

2GPS 19 A22 (White and White/Blue)

GPS 4 A22

GPS 5 A22

D. Utilize the Red and White plastic insertion tool part number M81969/14-02 and install the wires in the relay socket as follows:

1GPS 19 A22 White/Blue in D1

1GPS 19 A22 White in C1

2GPS 19 A22 White/Blue in D3

2GPS 19 A22 White in C3

GPS 4 A22 in B1

GPS 5 A22 in B3

E. Reinstall relay K1 in socket and retain with previously removed nuts and washers.

F. Apply power to aircraft utilizing an external power cart.

G. Functionally test system and verify that both GPS systems are available on the Pilot ND (Navigation Display) and show appropriate data. Use Metro Aviation, Inc. FMS 135M-150 Rev IR or later for reference.

4. Appendix: Not applicable.

22 Sept 2004

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