

TELEGRAPHIC MESSAGE

Federal Aviation Administration 800 Independence Avenue, SW Washington, DC 20591	PRECEDENCE: PRIORITY ACTION: PRIORITY	SECURITY CLASSIFICATION UNCLASSIFIED
ACCOUNTING CLASSIFICATION	DATE PREPARED: 14 APRIL 2016	FILE:
FOR INFORMATION	CALL	
NAME LARRY BECK	PHONE NUMBER (202) 267-0862	TYPE OF MESSAGE _ SINGLE _ BOOK <u>X</u> MULTI ADDRESS

MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)

TO: KRWA NOUS2 142109

GENOT RWA 16/11

N JO 7110.711

FF ALRGNS 1/500/530 AMC-1 AMA-500 ACT-1 ALATFO XVM

EFFECTIVE: 04/14/2016

SUBJECT: EMB-300 PHENOM YAW DAMPER FAIL DUE TO UNRELIABLE OR UNAVAILABLE GPS SIGNAL

GPS TESTING MAY RESULT IN UNRELIABLE OR UNAVAILABLE GPS SIGNAL WITH WHICH THE FOLLOWING ANOMALY IS ASSOCIATED:

EMBRAER HAS RECENTLY RECEIVED A REPORT OF GPS 1 AND 2 SIMULTANEOUS SIGNAL LOSS DURING FMS NAVIGATION IN CRUISE FLIGHT FOLLOWED BY A GPS HSI 1 AND 2 FAILURE INDICATION, ATTITUDE AND HEADING REFERENCE SYSTEM (AHRS) 1 AND 2 FAULT AND, AFTER A FEW MINUTES, A STALL WARNING PROTECTION SYSTEM (SWPS) FAULT, VENTRAL RUDDER FAIL, YAW DAMPER FAIL, AUTO PILOT FAIL, AND CAS MESSAGES ASSOCIATED WITH UNEXPECTED ROLLING AND YAWING OSCILLATIONS (DUTCH ROLL) AT HIGH AIRSPEEDS.

FURTHER ANALYSIS REVEALED GPS CONSTELLATION SIGNAL INSTABILITY IN THE FLIGHT AREA LEADING TO LOSS OF BOTH GPS INFORMATION DATA AND CAUSING THE EVENT DESCRIBED ABOVE.

THE AHRS CONTINUOUSLY CALCULATES AND APPLIES ALTITUDE AND HEADING MEASUREMENT UPDATES TO CORRECT GYRO-INTEGRATED

ALTITUDE AND HEADING DURING FLIGHT MANEUVERS AND, IN NORMAL OPERATION, THE AHRS RELIES UPON GPS, AIR DATA SYSTEM AND MAGNETIC FIELD MEASUREMENTS SUPPLIED BY THE MAGNETOMETER TO MAINTAIN PRIMARY AHRS OPERATION MODE.

THE DUTCH ROLL BEHAVIOR MAY BE EXPECTED FOR AN AIRPLANE WITH NO YAW DAMPER AND/OR VENTRAL RUDDER PROTECTION, ESPECIALLY ON AIRCRAFT WITH SWEPT WINGS.

IF THIS ANOMALY OCCURS CONTROLLERS CAN EXPECT THE PILOT MAY REDUCE SPEED BELOW 240 KIAS/.63M AND INITIATE AN EMERGENCY DESCENT.

ALL OPERATIONAL PERSONNEL MUST BE BRIEFED ON THIS NOTICE AS SOON AS POSSIBLE.

DIRECT QUESTIONS TO LARRY BECK (202) 267-0862

Original Signed by Maurice Hoffman for

HEATHER HEMDAL

DIRECTOR, AIR TRAFFIC PROCEDURES, AJV-8

PAGE NO.
2

NO. OF PGS
2

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