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SUMMARY OF FINDINGS DURING EXAMINATION OF THE FOLLOWING AVIONICS, INSTRUMENTS, AND AUTOPILOT COMPNENTS:

The radio selector knob was found set to the "C1" position. Test bench examination of the digital NAV/COMM radio from the No. 1 installed position revealed "123.07" was selected as the primary communication frequency, "135.07" was selected as standby, and the flip-flop feature functioned. For the navigation frequency, "110.75" was selected as primary, "117.2" was selected as standby, and the flip-flop feature functioned. A test bench CDI (course deflection indicator) was connected to the radio, and testing revealed the CDI responded normally when VOR as well as localizer test frequencies were selected on the radio. Damage precluded testing of the NAV/COMM radio from the No. 2 installed position. Examination of the KT 76C transponder revealed the function switch was in the "ALT" position, and the unit displayed the code 5363 when power was supplied.

Examination of the attitude indicator revealed the bezel glass intact, the case was dented, and the gyro flag was exposed. The dent in the case was observed to restrict full movement of the internal mechanism, and the unit was removed from the case to facilitate examination. Examination revealed the lever assembly was fractured into three pieces, a portion of the display horizon assembly was bent, and the rotor housing had rotated though the pitch stops. The broken lever assembly was replaced and the rotor housing was moved back through the stops to facilitate testing. Test bench examination revealed the gyro started with 2.0 In. Hg. Diff. and continued to run and erect. The pressure was raised to 4.5 In. Hg. Diff., the display erected, and the rotor ran with no indication of abnormal noise or vibration.

Examination of the electric turn coordinator revealed the bezel glass showed multiple cracks. Test bench examination revealed the rotor spooled up when power was supplied, the rate of turn indicator operated, and the autopilot outputs and autopilot valid output functioned. The static balance was out of tolerance, indicative of damage to the internal gimbal assembly; the rate of turn indication was slightly out of calibration during testing.

Examination of KI 525A Pictorial Nav Indicator revealed the outer bezel glass showed multiple cracks, the course bearing pointer knob was not located, the shaft for the course bearing pointer knob was bent, and there was a one-inch crush indentation on the top rear of the instrument case. The course bearing pointer was selected to 080 degrees, the course deviation bar was centered, the heading bug was selected to 020 degrees, and the NAV and HDG flags were exposed. Examination further revealed the crushed area on the instrument case was in contact with the internal circuit board. The damaged case was cut away, and the instrument was removed from the case to facilitate further examination. The circuit board was deformed downward in the area that corresponded with the case indentation, and the eight contacts for the course deflection meters were displaced. The

course bearing pointer knob shaft was straightened, and the displaced contacts were repositioned to facilitate testing. Test bench examination revealed the heading card displayed correct readings in response to test signals; and the heading bug, glideslope indicator, course bearing pointer, the course deviation bar, the TO/FROM indicator, and the NAV and HDG flags functioned to production specifications.

Test bench examination of the KC 140 Flight Control Computer and the KCM 100 Configuration Module revealed the units functioned through the preflight checks and engaged, and the computer functioned through the full parameter tests to production specifications. The configuration module was found to contain the correct gains parameters, and the computer was found to contain the correct software. The last recorded input selected altitude for the unit was 2000 feet, and the last recorded input selected altimeter setting for the unit was 29.79 inches. There were no error codes present, and the computer was observed to write power cycles to the configuration module during testing.

Examination of the KG 102A Directional Gyro revealed a one-inch indentation on top of the dome. Test bench examination revealed the unit did not initially produce a valid indication when power was supplied. The damaged dome was removed, and damage was observed on an internal electrical pot in an area that corresponded with the dome damage, and the pot was loose. Power was again supplied to the unit, the gyroscope spun, and the test bench lights showed valid, and the optical sensor was not functioning. The damaged electrical pot was replaced with a serviceable part, the unit was retested, and it functioned to production specifications.

Test bench examination of the KMT 112 magnetic azimuth transmitter revealed the unit functioned to production specifications.

Test bench examination of the KS 270C Pitch Servo, the KS 271C Primary Servo, and the KS 272C Trim Servo revealed all units performed to production specifications.

-- C. Gagne, ASI