

FIELD SERVICE BULLETIN NO. 21  
5 August 1954

MANDATORY

TO: ALL NAVION DISTRIBUTORS, DEALERS AND OWNERS  
SUBJECT: RELATIVE MOTION BETWEEN FUSELAGE AND WINGS  
EFFECTIVITY: ALL NAVION AIRCRAFT (MANDATORY)  
ACCOMPLISH: IMMEDIATELY AS DESCRIBED BELOW

1. Routine field inspection of a number of Navions has revealed a looseness existing between the wing assembly and the fuselage. This looseness is most apparent in the form of a relative motion along the chafe strip which runs between the upper wing skin and the fuselage at Station 93.438. It has been noted that this condition is most prevalent in, but not limited to, older Navions and can be readily seen when the wing root fillets have been removed and a sharp FORE AND AFT JIGGLING FORCE is applied by gripping the outboard leading edge of the wing assembly with both hands and vigorously shaking it. If loose, the applied force can be made to develop a motion of the wing mass which is opposite to the motion of the fuselage mass, and the looseness will be definitely seen and felt. This condition requires immediate attention.
2. It is particularly pointed out that the above condition does not exist on all Navions and when these airframes are subjected to the shaking force described above, a normal slight relative motion will occur between the two components which does NOT require immediate attention. In this case the wings and fuselage seem to move as a unit mass and feels "solid" to the person applying the force. Under these conditions the longeron to wing reinforcements, steps k and l only, shall be added not later than the next annual relicense of the airplane.
3. In cases where the foregoing instructions result in controversy due to difficulty of the inspecting personnel in determining the degree of looseness, the following procedure shall apply.
  - a. Remove two front seats, floor mat and side upholstery to allow access to the two outboard forward wing attachment bolts.
  - b. Remove fuel strainer inspection plate in aft end of nose wheel well to observe two inboard forward wing attachment bolts.
  - c. Remove wing fillets for access to two aft wing attachment bolts.
  - d. Station one man at outboard leading edge of wing to shake the wing as previously described while another man is observing the six bolts attaching wing to fuselage to determine any looseness due to elongated holes in structure.