



SERVICE DIRECTIVE BULLETIN

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Date: June 28, 1977

Subject: Readjusted Wide-Chord Tail Rotor Counterweight

Models: F-28C and 280C

Effectivity: F-28C All Serial Numbers excluding 304, 378, 381 thru 397
280C All Serial Numbers excluding 1072, 1079 thru 1099, 1102, except 1085

The purpose of this bulletin is to instruct all owners and operators to reconfigure the tail rotor counterweights from 30 grams per arm (3 thick washers or 2 thick and 2 thin washers) to 20 grams (2 thick washers). Additionally, the flight characteristics with simulated loss of tail rotor control system are described.

Because of production tolerances, there is a possibility of the counterweight arm with 30 grams experiencing a high frequency resonance and a fatigue failure just above the bolt retention circle. This results in a centrifugal force unbalance which is normally discernable to the pilot. The 20-gram configuration completely removes the possibility of this high frequency resonance.

Additionally, flight tests have been performed to examine the flight characteristics in a simulated tail rotor control system failure. The results of these tests dictate a 20-gram counterweight configuration.

The flight characteristics of Enstrom C-model turbocharged helicopters equipped with wide-chord tail rotors and 20-gram (2 heavy lead washers per arm P/N 2 8-14110-3) planipetal weights following a control system failure will have an aircraft yaw response that is dependent upon power setting and airspeed. Upon release of the pedals to simulate loss of tail rotor pitch change control with manifold pressures of approximately 25" MAP or more, the nose will yaw right at all airspeeds.

Power settings below 23" MAP will result in the aircraft yawing left initially at all airspeeds. At airspeeds where the aerodynamic effect on the empennage is negligible, the aircraft will yaw left to about 80°, holding briefly, and then progress into 360° turns to the left. This condition can be corrected by adding power to 24" MAP. At approximately 24" MAP and 50 mph, the helicopter can be flown in trim and landed by using the throttle and collective control as described on page FM-4-3 of the Enstrom Flight Manual.

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Within the next 10 flight hours, 10 grams (1 thick or 2 thin lead weight washers P/N 28-44110-3) must be removed from each arm and the AN4-7A bolt be replaced by a AN4-6A bolt for proper grip length and weight.