McDonnell Douglas (Hughes) and Kawasaki 369 Series Helicopters

AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.1 (1) of CAR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

AD/HU 369/103 Turbine Outlet Temperature Wire Harness 7/2000 DM

Applicability: Model 369D, 369E and 500N series helicopters with analogue/digital turbine outlet temperature (TOT) indicator, part number (P/N) 369D24513-1, installed; and Model 600N helicopters, with analogue/digital TOT indicator, P/N 9A3420 installed.

Requirement:

1. **For Model 369E, 369D, and 500N helicopters -**

   a. Test the TOT indicating system to verify correct calibration in accordance with the Accomplishment Instructions, Part I, of MD Helicopters, Inc. (MDHI) Service Bulletin SB369D-199, SB369E-093, SB500N-019, dated 11 January 2000, as applicable.

   b. If, during any test required by Requirement 1.a., the TOT indicator readings for the tester setting temperatures in Table 1, Part I, of the SB are not within the indicator reading range, perform the actions specified in the Accomplishment Instructions, Part I, paragraph (6)(b) of the applicable SB.

2. **For Model 600N helicopters -**

   a. Test the TOT indicating system, including the electronic control unit (ECU) TOT sensing system, to verify correct calibration in accordance with the Accomplishment Instructions, Part I, of MDHI SB600N-026, dated 11 January 2000.

   b. If, during any calibration test required by Requirement 2.a., the TOT indicator readings for the tester setting temperatures in Table 1, Part I, of the SB are not within the indicator reading range, perform the actions specified in the Accomplishment Instructions, Part I, paragraph (7)(b) of the SB.

   c. If, during any test required by Requirement 2.a., the Full Authority Digital Electronic Control (FADEC) maintenance lap-top terminal does not indicate ECU TOT within ± 5 degrees Celsius of the tester setting in Table 1, Part I, of the SB, perform the actions specified in the Accomplishment Instructions, Part III, of the SB.

Note: FAA AD 2000-08-22 Amdt 39-11708 refers.

Compliance: For Requirement 1.a. - Within the next 50 hours time-in-service (TIS) after the effective date of this Directive or on or before 15 June 2000, whichever occurs first; thereafter, repeat the test at intervals not to exceed 300 hours TIS.

For Requirement 1.b. - Before further flight.

For Requirement 2.a. - Within the next 50 hours TIS after the effective date of this Directive or on or before 15 June 2000, whichever occurs first; thereafter, repeat the test at intervals not to exceed 300 hours TIS.

For Requirement 2.b. - Before further flight.

For Requirement 2.c. - Before further flight.

This Airworthiness Directive becomes effective on 24 May 2000.

Background: The United States Federal Aviation Administration has received seven reports of erroneous TOT readings and two reports of incorrect wiring harness terminal lugs on the thermocouple wiring in Model 369D, 369E, 500N, and 600N helicopters with certain analogue/digital TOT indicators. The reports indicated that some of the TOT readings did not agree with the engine ECU and some readings were found to be 4 degrees Celsius to 17 degrees Celsius low.

This Directive requires repetitive calibration testing of the TOT indicating system and necessary corrective actions, these measures are intended to prevent erroneous TOT indications which could prevent the flight crew from detecting that an engine temperature limitation has been exceeded. This condition, if not corrected, could result in damage to critical engine components, loss of engine power, and a subsequent forced landing.

Eugene Paul Holzapfel
Delegate of the Civil Aviation Safety Authority

17 May 2000

The above AD is notified in the *Commonwealth of Australia Gazette* on 24 May 2000.