



# TECHNICAL BULLETIN

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## FUEL CELL BAFFLE MODIFICATION

### 1. PLANNING INFORMATION

**A. Aircraft Affected:**

600N helicopters, serial number RN003 thru RN062.

**B. Assembly/Components Affected By This Notice:**

Fuel Cell (P/N 600N8101-5), Fuel Cell (P/N 600N8101-7)

**C. Reason:**

The height of the fuel cell baffle is not sufficient to keep the low fuel sensor submerged during partial power, high-speed descent.

Complying with this Bulletin will reduce the possibility of early/false low fuel warnings during partial power, high-speed descent.

**D. Description:**

Procedures in this Bulletin provide owners and operators with information pertaining to modification of each fuel cell to extend the height of the baffle.

**E. Time of Compliance**

Customer option, at owner/operator's discretion.

**F. FAA Approval:**

The technical design aspects of this Bulletin are FAA Approved.

**G. Manpower:**

Twenty-four (24) man-hours.

**H. Interchangeability:**

None

**I. Material/Part Availability:**

The parts listed below are included in the MD600 Baffle Repair Kit, P/N 600NM8100-101. Contact MDHI Warranty/Repair Dept.

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	Part No.	Qty.	Source
Baffle Mod Kit	320-2-51411-101	2	MDHI
*Cloth, 320 grit, 8.5 X 11 in., abrasive		1	MDHI
*Depressor, Tongue		10	MDHI

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REPLACEMENT PARTS/SUPPLIES (Cont.)			
Nomenclature	Part No.	Qty.	Source
*Solvent (Acetone)		1 PT	MDHI
*Cement Kit	82C18 KIT	1	MDHI
*Fabric Extension (preformed) FT 229	320-2-51411-1	1	MDHI
**Dielectric Compound	DC-4	AR	Dow Corning Corporation 3901 S. Saginaw Road Midland, MI 48640

\* Part of 320-2-51411-101 Baffle Mod Kit.

\*\*Not part of Kit.

## J. Warranty Policy:

MDHI Warranty Department will provide Baffle Repair Kits at no cost to the operator, provided that the kits are ordered prior to 31 December 2001.

## K. Tooling:

N/A

## L. Weight and Balance:

Add/Subtract	Weight (lbs.)	Arm (inches)	Moment (inch-pounds)
Add	0.5	86.447	43

## M. Electrical Load Data:

N/A

## N. Other Publications Affected:

Basic Handbook of Maintenance Instructions (CSP-HMI-2), Illustrated Parts Catalog (CSP-IPC-4)

## 2. ACCOMPLISHMENT INSTRUCTIONS

### A. Preparation Instructions

#### **WARNING**

Avoid fuel vapor ignition and fire. Use only nonsparking tools and explosion proof work lights. Attach helicopter to an approved electrical ground. Switch OFF all electrical power. Disconnect external power and battery before opening fuel system. Ensure work area is adequately ventilated.

#### **CAUTION**

Air in fuel system may cause power surges or flameout. Bleed off trapped air after opening system at any point between fuel tank and engine fuel nozzle

Prevent fuel system contamination. Install caps on the ends of hoses, tubes and fittings as parts are removed. Bag and identify small parts to prevent loss or damage.

- (1). Defuel helicopter (CSP-HMI-2, Section 12-00-00, Fuel System Draining). Drain remaining fuel from cell sump drain valve into a suitable container.

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- (2). Disconnect electrical power.
- (3). Remove aft left and aft right fuel cell access covers (CSP-HMI-2, Section 28-00-60, Fuel Cell Cover Removal).

## **B. Modification Instructions**

### **WARNING**

**Prevent spontaneous combustion or explosion. Never use oxygen to purge or ventilate fuel tank or fuel system components. Fuel, either vapor or liquid, will violently react with an oxygen rich atmosphere**

(Ref. Figure 1)

- (1). Remove cell suspension cords.
- (2). Thoroughly dry wipe interior of cell. Drying time may be accelerated by keeping cell at 80°F (27°C) and ventilating interior with dry, low pressure air.

**NOTE:** Before proceeding any further, a clamping tool the same length as the baffle extension may be fabricated and used in place of the tongue depressors provided in the kit.

- Clamping tool should go over but not extend below the lower edge of the extension when extension is in place.
- The clamping tool should clear the three locations on the baffle where the baffle support cord is tied to the baffle.
- Coat clamping tool with dielectric compound to prevent cement from sticking to it.

**NOTE:** Damp air, especially in combination with low temperatures, will cause water to condense on cement applications. Water inhibits patch adhesion.

- (3). Accomplish fuel cell baffle modification in temperatures ranging from 60 - 80°F (16 - 27°C) and in less than 50% humidity.

### **CAUTION**

Never expose a dry cell to high temperatures and/or direct sunlight for long periods of time.

- (4). Thoroughly wash the baffle and the adjacent fuel tank walls with solvent to ensure oil and/or fuel is removed before beginning rework.
- (5). Using abrasive cloth, buff the faying surfaces of the fuel cell baffle, fuel cell wall and baffle extension.
- (6). Wash buffed area of fuel cell baffle and extension with solvent and allow to dry for a minimum of 20 minutes.

**NOTE:** One Cement Kit is enough to complete both fuel cells providing one person works each fuel cell at the same time. Pot life of cement is approximately 20 minutes.

- (7). Prepare cement according to manufacturer's instructions.

**NOTE:** Because of the tight work area, it may be easier to apply cement with fingers providing latex gloves are worn.

- (8). Apply a thin uniform coat of cement to buffed areas of fuel cell baffle and extension.

**NOTE:** Position extension in place while cement is still tacky.

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- (9). Position extension in place and press firmly in contact areas.
- (10). Work out any bubbles that may be trapped between fuel cell, baffle and extension.



Do not apply excessive clamping pressure to baffle extension. If excess pressure is applied, cement will squeeze out and a good bond will not be achieved.

- (11). Apply previously fabricated clamping tool or tongue depressors with clamps to lightly hold extension in place.
- (12). Allow reworked area to dry a minimum of six hours.
- (13). Use solvent to clean any residue after cement has thoroughly dried.
- (14). Install cell suspension cords (CSP-HMI-2, Section 28-00-60, Fuel Cell Installation).

## **C. Completion Instructions**

- (1). Install fuel cell access covers (CSP-HMI-2, Section 28-00-60, Fuel Cell Cover Installation).
- (2). Refuel helicopter (CSP-HMI-2, Section 12-00-00, Fuel System Filling).
- (3). Perform fuel system vacuum leak inspection (CSP-HMI-2, Section 28-00-60, Fuel System Vacuum Leak Inspection).
- (4). Purge air out of helicopter engine fuel controls (Rolls-Royce Engine Operation and Maintenance Manual).

## **3. DISPOSITION OF PARTS REMOVED**

N/A

## **4. COMPLIANCE RECORD**

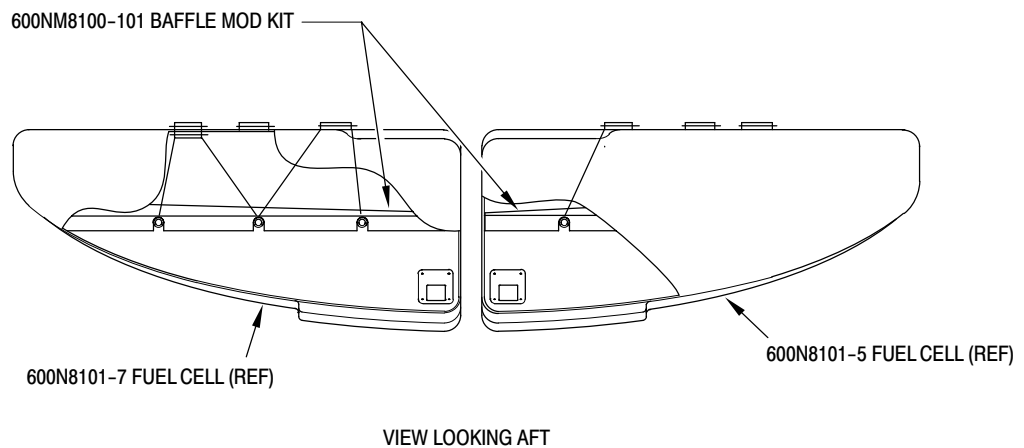
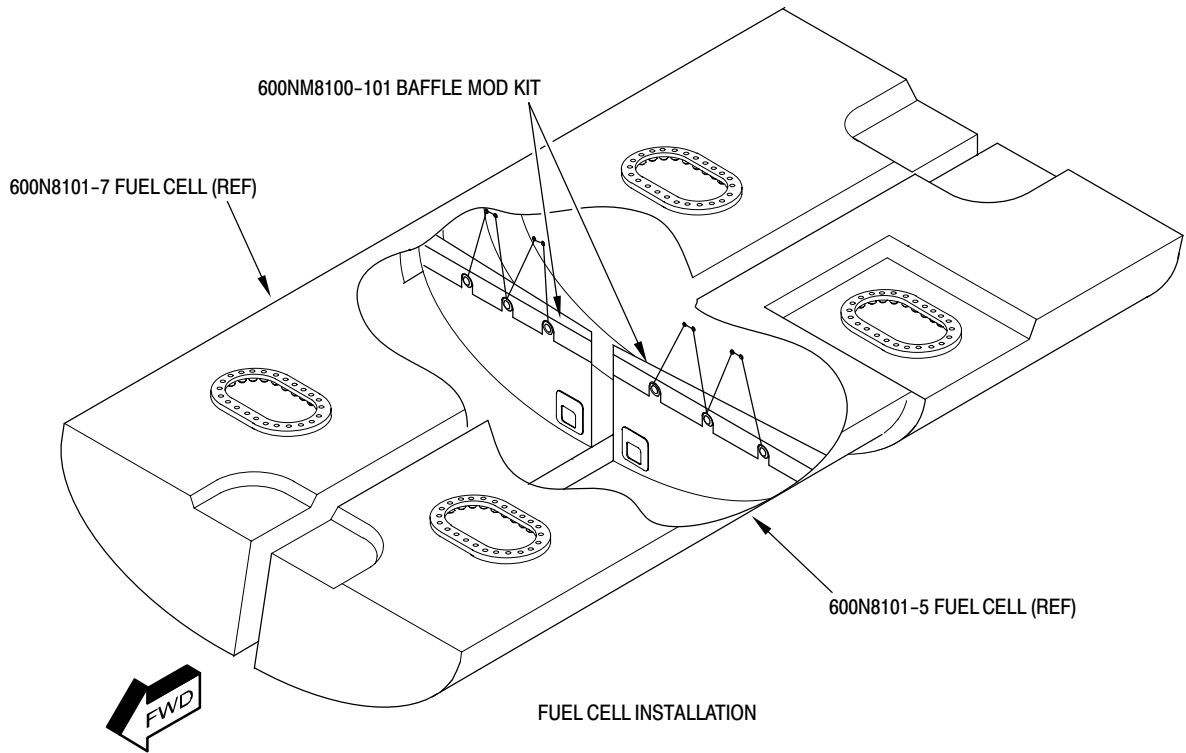
Record compliance to this Technical Bulletin in the Compliance Record section of the helicopter Log Book.

## **5. POINTS OF CONTACT**

For further assistance, contact your local MDHI Field Service Representative (refer to the latest revision of the "At Your Service" handbook for address and telephone numbers) or contact the Field Service Department at MDHI, Mesa, Arizona. Telephone 1-800-388-3378 or (480) 346-6387. DATAFAX: (480) 346-6813.

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**Figure 1. Fuel Cell Baffle Modification**