



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY RESEARCH, DEVELOPMENT AND ENGINEERING COMMAND
AVIATION AND MISSILE RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER
5400 FOWLER RD
REDSTONE ARSENAL, AL 35898-5000

AMSRD-AMR-AE-B

18 Oct 07

MEMORANDUM FOR PEO Aviation, Systems Engineering, (SFAE-AV-S/Mr. Rusty Graves),
Redstone Arsenal, AL 35898-5000

SUBJECT: Authorization to use Software Version Windows 1.0, for Avion Manufacturing, Inc.
Virtual Master Blade (VMB) (TN 46831)

1. Avion Manufacturing, Inc designed, built and tested the Virtual Master Blade (VMB) to perform static balancing of tail rotor blades for AH-64 and UH-60 series helicopters and balance the UH-60 main rotor tip cap. The VMB provides an easy-to-use tool that accurately measures the blade's span and chord moments and generates recommended weight adjustments to return the blades to the original manufacturer's production specification. Avion Manufacturing, Inc has introduced an improved version of software, Windows 1.0.

2. The Aviation Engineering Directorate (AED) has performed a commercial validation and verification of the VMB, Windows Version 1.0 software. Tail rotor blades of the AH-64 and UH-60 series aircraft and the UH-60 main rotor tip cap were static balanced using the fixture with Windows Version 1.0 software.

3. Since the VMB is to be utilized as test equipment to measure the critical characteristics of Critical Safety Items, the self-calibration and tolerance measuring capabilities of the VMB were evaluated by USAAMCOM AED. This evaluation ensured adherence to US Army Aviation and Missile Command QE-STD-2, Revision A and Original Equipment Manufacturers' standards for each tail rotor blade.

4. This memorandum for record is not an authorization to procure any material or services as "Sole Source". Procurement of the VMB and any spare parts must be accomplished through "Local Purchase" at this time. The sole purpose of this memorandum for record is to authorize the use of the VMB.

5. The end items affected are as follows:

AIRCRAFT	BLADE PART NUMBER	BLADE NATIONAL STOCK NUMBER
AH-64	7-311422050-3 ^(note 1)	1615-01-154-7139
	7-311422050-5 ^(note 1)	1615-01-312-2387

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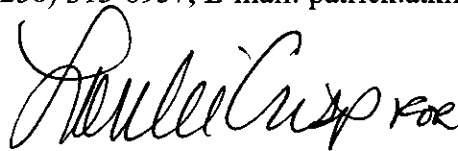
	7-311422050-7 ^(note 1)	1615-01-312-2387
	7-311422050-9 ^(note 1)	1615-01-312-2387
UH-60	70101-31000-043 ^(note 1)	1615-01-113-8188
	70101-31000-044 ^(note 1)	
UH-60 Tip Cap	70150-09107-041	1560-01-447-9774

Note 1: If erosion protection is installed, this part number requires that the VMB be equipped with, and the blade be balanced with, the appropriate erosion protection blade software option.

6. Depot and AVIM units are authorized to use the VMB, Part Number AV-002-001 to evaluate and balance all AH-64 tail rotor blades, the UH-60 tail rotor paddle and the UH-60 main rotor tip cap. AVUM level maintenance units are authorized to static balance all AH-64 tail rotor blades, listed above, and are authorized to evaluate UH-60 tail rotor paddles. AVUM units are NOT authorized to add or remove weights to balance the UH-60 tail rotor paddles. Evaluation and balancing must be performed in accordance with procedures contained in the Avion Manufacturing, Inc Virtual Master Blade Operator’s Manual, Windows Version 1.0. The operator’s manual is written for the Avion Manufacturing, Inc part number AV-002-001. No additional tools to the AVUM shop set are necessary to static balance tail rotor blades.

7. A copy of this memorandum for record shall be inserted into the Avion Manufacturing, Inc VMB operator’s manual as authority to utilize the fixture for the blades listed in paragraph 4.

8. The points of contact for this action are Mr. Brad Mason, AMSRD-AMR-AE-BG, at (256) 313-2376, DSN 897-2376, e-mail: brad.mason@us.army.mil or alternate Mr. Pat Atkins, (Support Contractor, Camber Corporation), (256) 313-8957, E-mail: patrick.atkins@us.army.mil.



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