

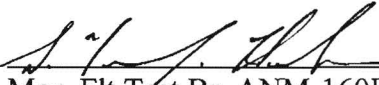




**Van Horn Aviation, L.L.C.**  
 1000 E. Vista Del Cerro Dr.  
 Tempe, Arizona 85281

RFM Supplement to the  
 Williams UH-1H  
 Operator's Manual,  
 TM 55-1520-210-10  
 STC No. SR02051LA

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Revised pages marked with "\*" symbol.

**NOTE**

Revised text is indicated by a black vertical line.  
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## **CHAPTER 1 INTRODUCTION**

No change.

## **CHAPTER 2 HELICOPTER AND SYSTEMS DESCRIPTION AND OPERATION**

### **2-31. Tail Rotor Control System**

The system is operated by pilot/copilot anti-torque pedals (fig 2-5 in the TM 55-1520-210-10 UH-1H/V Operator's Manual). Pushing a pedal will change the pitch of the tail rotor blades resulting in directional control. Pedal adjusters are provided to adjust the pedal distance for individual comfort. A force trim system is connected to the direction controls.

*a. Tail Rotor Blades.* The VHA 2042200-101 tail rotor blade is an all composite blade employing an advanced high efficient airfoil. The blade length is the same as the existing production blade, but the chord has been increased by .80 inches. Erosion protection is provided by a full span stainless steel abrasion strip adhesively bonded to the leading edge. Stainless steel bushings are pressed into the inboard end, which react to the attachment bolt loads. The blade is constructed primarily of carbon/epoxy unidirectional tape. The grip plates, tip closure and root closure are fabricated from fiberglass/epoxy fabric. The blades are statically balanced at the factory using a brass balance weight threaded into the tip closure. The interior of the blade is filled with closed cell rigid foam.

## **CHAPTER 3 AVIONICS**

No change.

## **CHAPTER 4 MISSION EQUIPMENT**

No change.

## **CHAPTER 5 OPERATING LIMITS AND RESTRICTIONS**

No change.



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## **CHAPTER 6**

### **WEIGHT/BALANCE AND LOADING**

There are no changes to the maximum weight or center-of gravity limitations shown in the TM 55-1520-210-10 UH-1H/V Operator's Manual. The VHA 2042200-101 tail rotor blades are lighter than the existing production tail rotor blades. The empty weight change is recorded in helicopter's basic weight and balance chart.

Weight and Balance Data as specified in the TM 55-1520-210-10 UH-1H/V Operator's Manual and Flight Manual Supplements remain applicable.

## **CHAPTER 7**

### **MB PERFORMANCE DATA**

#### **7-18. Control Margin**

c. *VHA 2042200-101 Tail Rotor Blades.* Figure 7-4 in the TM 55-1520-210-10 UH-1H/V Operator's Manual is applicable when the VHA 2042200-101 tail rotor blades are installed.

## **CHAPTER 8**

### **NORMAL PROCEDURES**

#### **8-36. Cruise**

When the desired cruise altitude is reached adjust power as necessary to maintain the required airspeed. Refer to Chapter 7 in the TM 55-1520-210-10 UH-1H/V Operator's Manual for recommended airspeeds, power settings, and fuel flow.

#### **NOTE**

With VHA 2042200-101 tail rotor blades installed, the left pedal position will be very close to neutral in level flight at 100 kias.

## **CHAPTER 9**

### **EMERGENCY PROCEDURES**

#### **9-36. Hydraulic Power Failure**

#### **NOTE**

Without hydraulic boost and with the VHA 2042200-101 tail rotor blades installed, a significantly higher force will be required to move the left pedal forward than to move the right pedal forward. However, little or no pedal force is required to maintain pedal position.