

AIRFILM
CAMERA SYSTEMS

REPORT AFM-130-206

INSTALLATION INSTRUCTIONS
AFM-130 UTILITY MOUNT

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LOG OF REVISIONS

REVISION	DATE	PAGES EFFECTED	COMMENTS
N/C	12/13/2017	ALL	Original Issue
A	10/31/2018	ALL	Updated Aft attachment installation section, added details for T2 Model aft attachment, added notes.

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1.0 INTRODUCTION AND DESCRIPTION:



Figure 1. View Showing AFM-130 Installation on a EC130 Helicopter

The Airfilm AFM-130 Utility Bracket Mount allows for the attachment of utility equipment such as cameras, lights, and sensor instruments to be mounted on the Airbus Helicopter's EC130 B4 and T2 Model Helicopters. The single beam configuration can be installed on the right or left-hand side of the aircraft. Applicable models are shown below:

Airbus Helicopter Models EC130B4 and EC130T2

The AFM-130 mount system consists of a support beam that spans forward to aft. The mount attaches to the forward landing gear cross tube and aft cargo hook attachment points.

After installation, calculate weight and balance for installed items and check for proper loading of aircraft. Antenna, lights, and additional installed equipment may need to be relocated to provide clearance for the camera mount system.

Note - If camera / sensor installations require additional power or system requirements beyond the placarded OEM auxiliary power outlet, additional certification(s) may be required.

2.0 AFM-130 UTILITY MOUNT INSTALLATION

- 2.1 Confirm that the mount will not interfere with any exterior kits, antennas, and other exterior mounted assemblies.

AFM-130-1 BEAM ASSEMBLY INSTRUCTIONS:

- 2.2 Attach the AFM-130-10-001 Fwd Main Beam to the AFM-130-10-003 Aft Main Beam using 4X AN6-34A Hex Bolts, 8X AN960-616L Thin Washers, and 4X AN365-624 Locking Nuts.

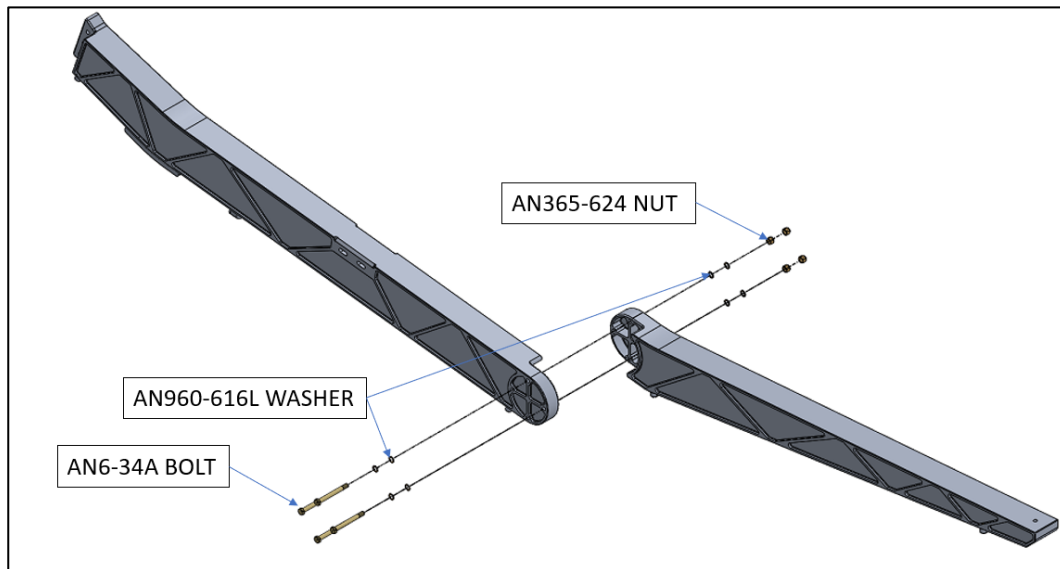


Figure 2. Installation of the AFM-130-10-001 Fwd Main Beam to the AFM-130-10-003 Aft Main Beam

- 2.3 Install the two AFM-130-20-003 Fwd Tube Clamps onto the AFM-130-20-001 Fwd Bracket finger tight using the AN6-25A Hex Bolts, washers, and lock nuts. Secure the assembly onto the Beam assembly using two (2X) AN6-45A Hex Bolts, 4X AN960-616 washers, and 2X AN365-624 lock nuts.

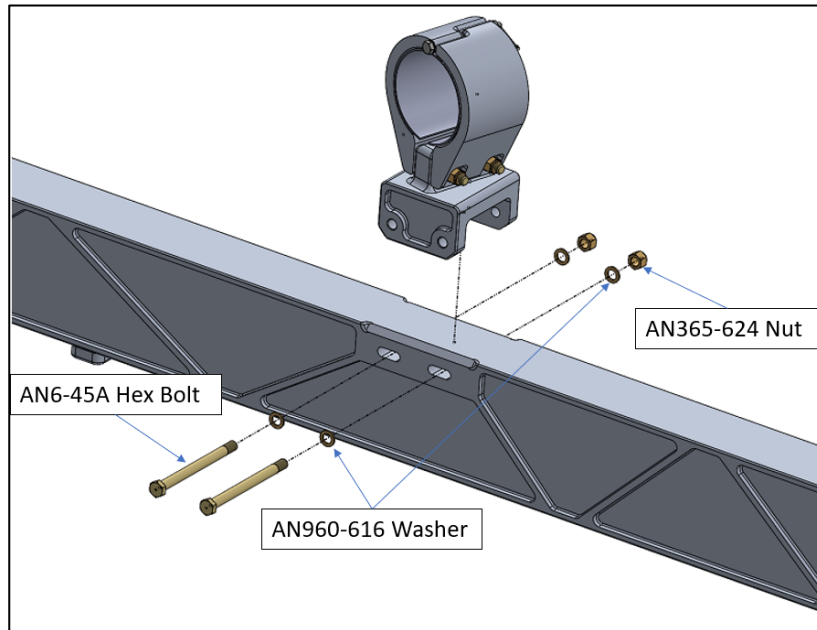


Figure 3. AFM-130-20 Forward Clamp Assembly Installation onto the AFM-130-10 Main Beam Assembly

NOTE: The EC130B4 and T2 model helicopters feature aft cargo hook attachments that differ from each other. Refer to Steps 2.4, 2.6, and 2.7 for the **B4** model instructions and Steps 2.5, 2.6, and 2.8 for **T2** Models.

- 2.4 If installing on the **B4** model, install the AFM-130-30-1 Aft Attachment Assembly onto the AFM-130-10 Main Beam Assembly using the pre-installed AN6-25 Hex Bolt through the Main Beam. Install the AN960-616 Washer and MS17825-6 Castle Nut. Ensure Aft Attachment Assembly is secured but retains rotational ability. Tighten Castle nut until cotter pin hole is visible. Install the MS24665-283 Cotter Pin and bend tabs.

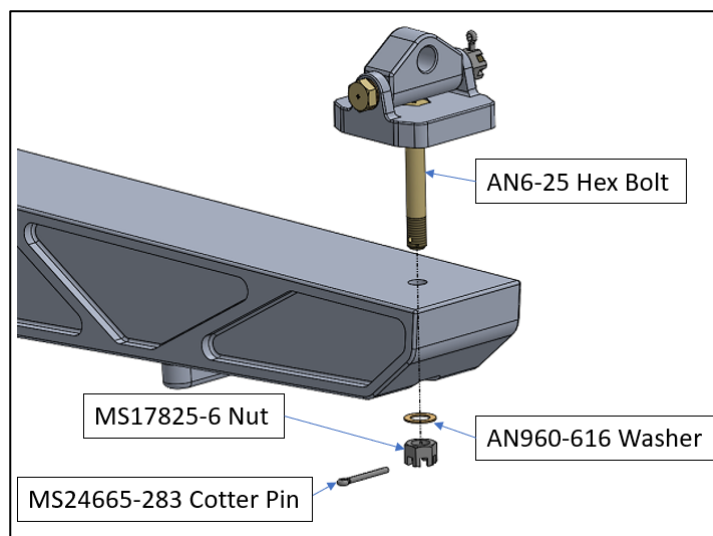


Figure 4. AFM-130-30-1 Aft Attachment Assembly Installation onto the AFM-130-10 Main Beam Assembly

- 2.5 If installing on a **T2** model EC130, install the AFM-130-30-2 Aft Attachment Assembly onto the AFM-130-10 Main Beam Assembly using the pre-installed AN6-24 Hex Bolt through the Main Beam. Install the AN960-616 Washer and MS17825-6 Castle Nut. Ensure Aft Attachment Assembly is secured but retains rotational ability. Tighten Castle nut until cotter pin hole is visible. Install the MS24665-283 Cotter Pin and bend tabs.

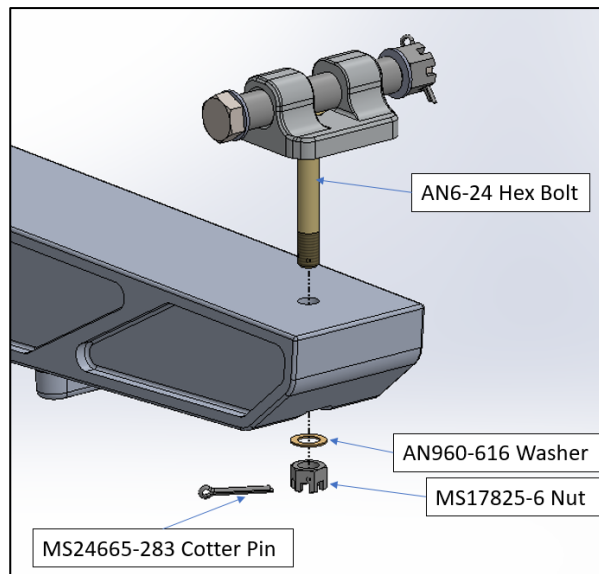


Figure 5. AFM-130-30-2 Aft Attachment Assembly Installation onto the AFM-130-10 Main Beam Assembly

- 2.6 Place the assembled AFM-130 Utility mount under the fuselage. Locate cargo hook attachment point located on the central underside of the fuselage in the region shown in figures 6 and 7.

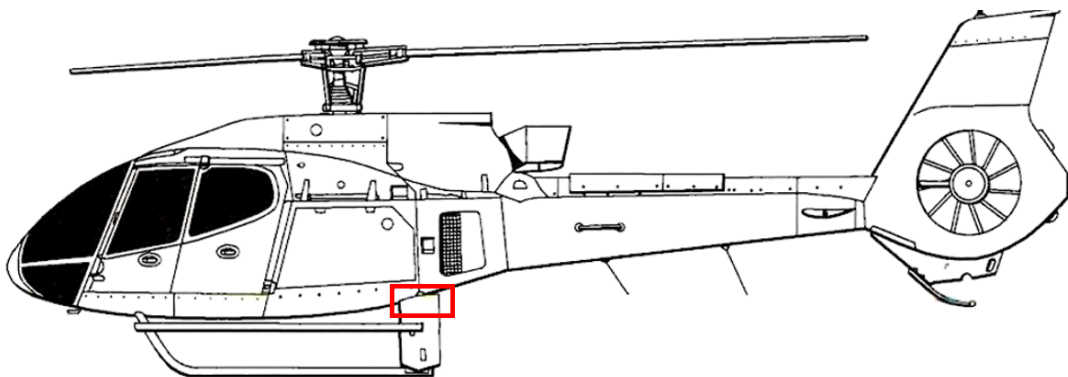


Figure 6. Location of Cargo Hook Attachment on the EC130 Fuselage Belly

EC130B4 Aft Cargo Hook Mount Configuration:

2.7 Attach the aft portion of the assembled AFM-130 Utility Mount to the Cargo hook attachment point using the Airbus cargo attachment hardware (listed below), hand tight. Once attached, allow forward portion of the utility mount to rest on the ground. See Figures 7 and 9.

Table 1. Aft attachment hardware bill of materials for EC130 B4 Model

Item	Qty.	Part Number (Airbus)	Description
1	1	350A86102720	Bolt
2	1	350A86101922	Spacer
3	1	23111AG100LE	Washer
4	1	22453BC100L	Castle Nut
5	1	23310CA020025	Cotter Pin



Figure 7. Aft Attachment point of utility mount attached to cargo hook hardpoint (EC130 Model B4 Shown)

EC130T2 Aft Cargo Hook Mount Configuration:

2.8 Attach the aft portion of the assembled AFM-130 Utility Mount to the Cargo hook attachment point using the supplied attachment hardware (listed below), hand tight. See figure 8 for clarification. Once attached, allow forward portion of the utility mount to rest on the ground.

ITEM	QTY	Part Number	Description
1	1	AN8-42	Hex Bolt
2	2	NAS1149-0863	Washer
3	1	AFM-130-30-007	T2 Bushing
4	1	MS17825-8	Castle Nut
5	1	MS24665-355	Cotter Pin

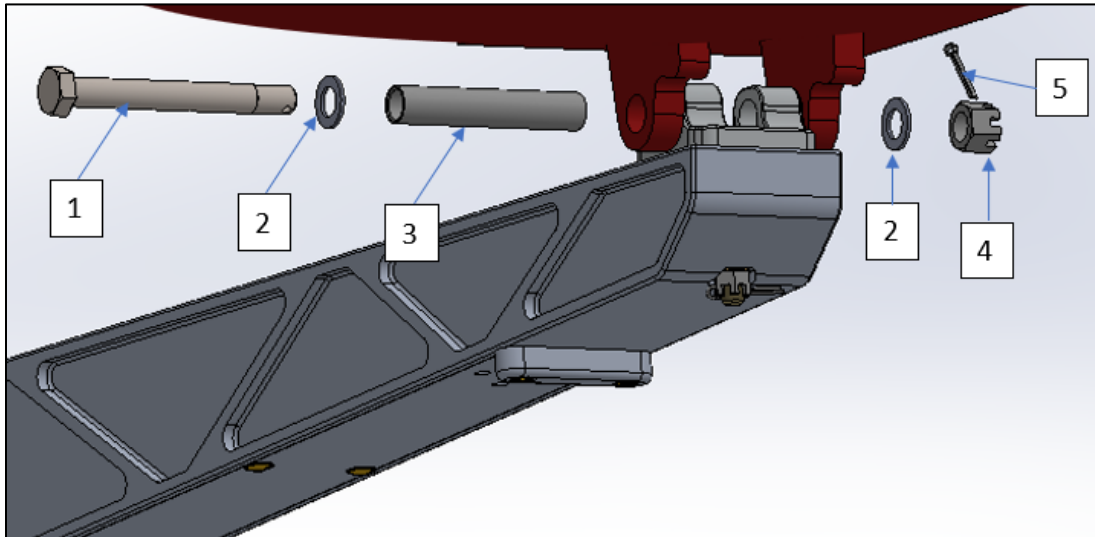


Figure 8. Installation of the AFM-130 Utility Mount onto the Aft Cargo Attachment point (EC130 T2 Model Shown)



Figure 9. Forward portion of utility mount resting on the ground after aft mounting

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NOTE: Prior to the installation of the Forward Cross-Tube Bracket, remove the lower fuselage fairing that shields the installation area and set aside.

- 2.9 Locate the portion of the forward cross tube highlighted in Figure 5. Remove bolts securing the forward tube clamps from the mount. Open the clamp and fit it over the forward cross tube. Shim any gaps between the clamp and cross tube with rubber sheet (shown in Figure 6).

NOTE: Steps 2.9 - 2.10 are shown with payload on the left side of helicopter. Installation on Right side is similar, but with forward cross tube clamp mounted to right side.



Figure 10. Forward Clamp attachment area. Highlighted in yellow

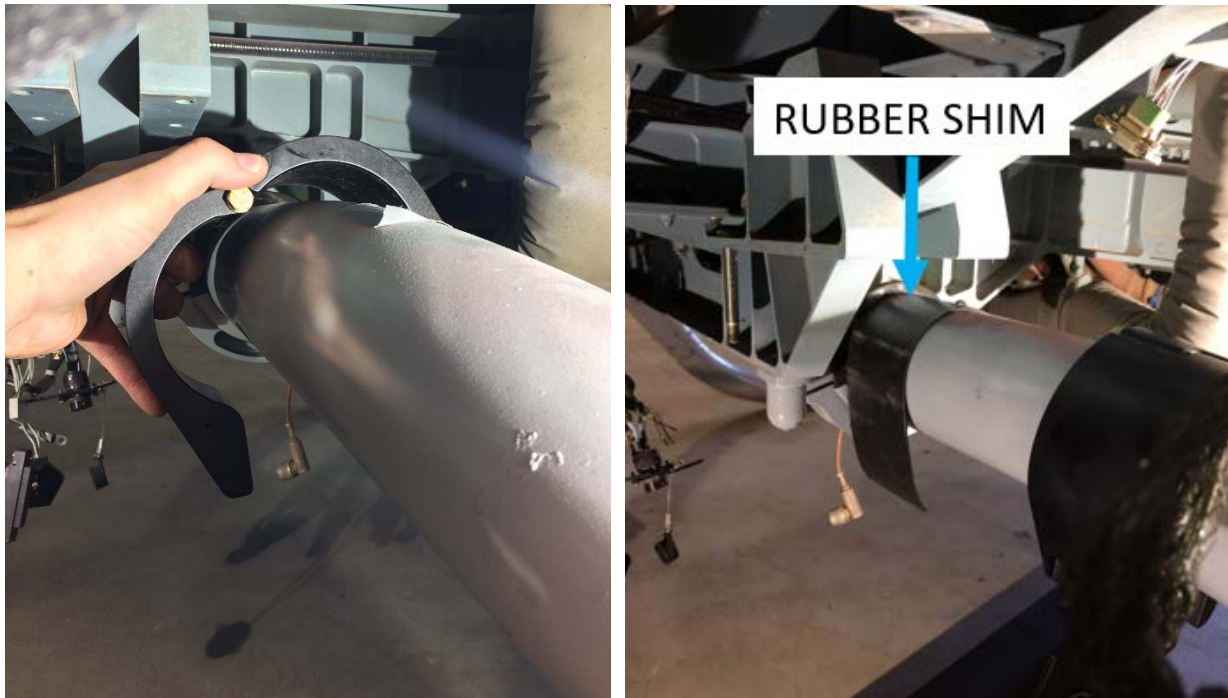


Figure 11. LEFT - Clamp placement onto forward cross tube. RIGHT – Addition of rubber shims if needed for secure clamp fit.

- 2.10 With upper portion of the forward clamp secure on the cross tube, raise the forward portion of the utility mount up to the two clamps. Insert the AN6-25A bolts, 4X AN960-616 washers, and 2X AN365-624 lock nuts into the clamp to secure the mount in place. (Ref. Figure 10)

NOTE: Shift the clamps left or right on the forward cross tube until the mounting holes on the clamp align with the bracket on the utility mount. The mount is designed to align when the clamp is placed in a specific region of the cross tube (Ref. Figure 8).

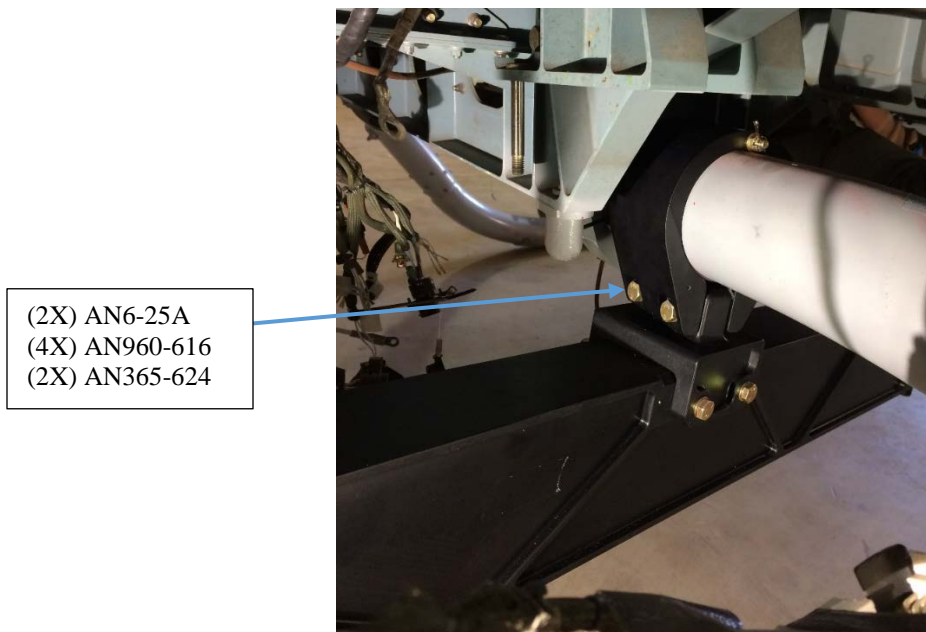


Figure 12. Forward portion of the AFM-130 Utility Mount attached to the forward cross tube.

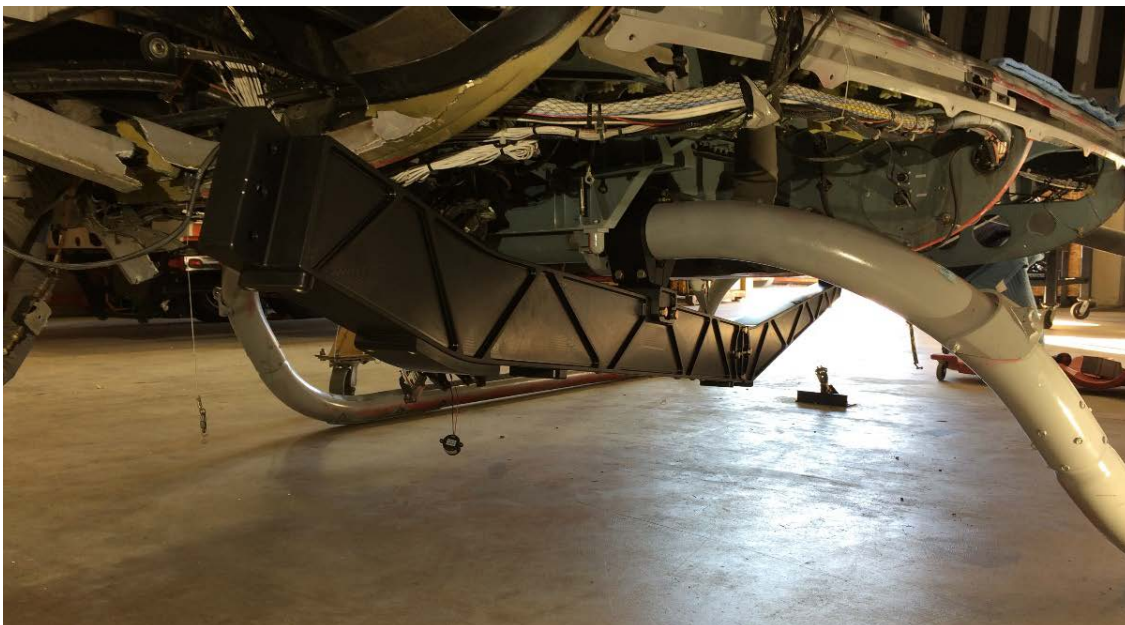


Figure 13. Main Section of the AFM-130 Utility Mount attached to the EC130.

2.11 Reinstall the lower fuselage fairing using original fasteners

2.12 Install Forward Arm (Long or Short Configuration) using the three (3) 12-point bolts (MS21250-06046). Torque Bolts to 180-200 in-lbs. (Ref Fig. 12)

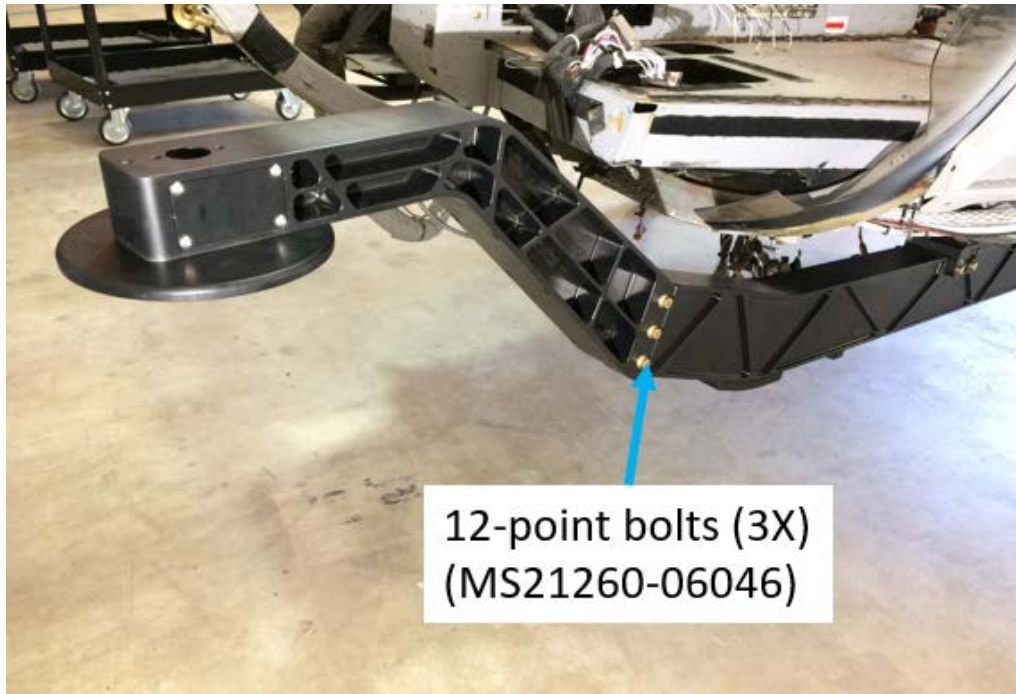


Figure 14. Installation of the Forward Arm (long or short) onto the utility mount

CAUTION

FAILURE TO INSTALL THE 12 POINT BOLTS (MS21250-06046) IN THE CORRECT LOCATION COULD RESULT IN DAMAGE TO THE MOUNT OR LOSS OF PAYLOAD

- 2.13 Torque all remaining hardware per FAA AC43.13-1A and check that all hardware is fully secured.

NOTES:

- a) The payload package for the installation is limited to a maximum allowable frontal area of 2.5 ft² and a weight of 135 lbs at any mounting location.
- b) When Airfilm payload Disconnect Devices (QDD-1-1, QDD-1H-1, or DT-1-1) are installed, the payload can be removed and installed by crew.
- c) If camera/sensor installations require additional power or system requirements beyond the placarded OEM auxiliary power outlet, additional certification(s) may be required.

- 2.14 Revise weight and balance per Tables 2 and 3 (following page).

The following tables present the location of the weight/center of gravity of the mount and payload sensor/camera for adjustment of the aircraft weight and center of gravity with the mount installed.

Table 2. Weight and Balance information for EC130 Utility Mount Long Arm Configuration

EC130 WEIGHT AND STATIONS - LONG ARM CONFIGURATION			
FOR CAMERA / SENSOR SYSTEMS			
EC130 MODELS			
			Use Positive (+) for LH Install Use Negative (-) for RH Install ↓
	WEIGHT	LONGITUDINAL	LATERAL
ITEM DESCRIPTION	LBS	ARM INCHES	ARM INCHES
NOSE LOCATION PAYLOAD-LONG ARM-USE CAMERA WEIGHT (135 lb max)*		1.34	±31.94
EC130 - MAIN ARM BEAM ASSEMBLY (SHORT OR LONG ARM)	50.10	67.02	±14.85
EC130 - LONG ARM ATTACHMENT	9.30	1.34	±29.63
QUICK DISCONNECT DEVICE (SELECT ONE OF THE FOLLOWING)			
DT-1-1	2.40	1.34	±31.94
TAPER FITTING ASSEMBLY (CF-10)	1.80	1.34	±31.94
*USE ACTUAL WEIGHT OF INSTALLED EQUIPMENT			
Use proper weight and balance WHEN multiple configurations installed.			

Table 3. Weight and Balance information for EC130 Utility Mount Short Arm Configuration

EC130 WEIGHT AND STATIONS - SHORT ARM CONFIGURATION			
FOR CAMERA / SENSOR SYSTEMS			
EC130 MODELS			
			Use Positive (+) for LH Install Use Negative (-) for RH Install ↓
	WEIGHT	LONGITUDINAL	LATERAL
ITEM DESCRIPTION	LBS	ARM INCHES	ARM INCHES
NOSE LOCATION PAYLOAD-SHORT ARM-USE CAMERA WEIGHT (135 lb max)*		5.17	±30.94
EC130 - MAIN ARM BEAM ASSEMBLY (SHORT OR LONG ARM)	50.10	67.02	±14.85
EC130 - SHORT ARM ATTACHMENT	8.30	5.17	±29.20
QUICK DISCONNECT DEVICE (SELECT ONE OF THE FOLLOWING)			
DT-1-1	2.40	5.17	±30.94
TAPER FITTING ASSEMBLY (CF-10)	1.80	5.17	±30.94
*USE ACTUAL WEIGHT OF INSTALLED EQUIPMENT			
Use proper weight and balance WHEN multiple configurations installed.			

2.15 Install appropriate Placards in full view of pilot.

**Reduce published V_{NE} by 10 KIAS with a payload
installed**

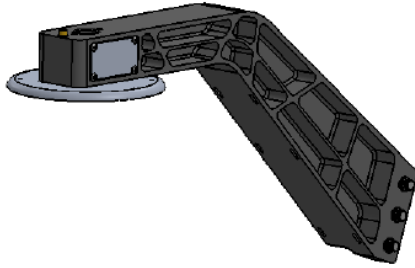
2.16 Make appropriate log book entry for installation.

2.17 Return to service.

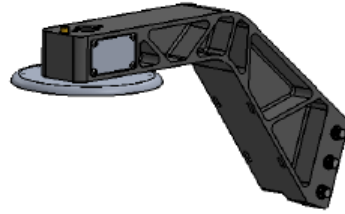
Removing the AFM-130 Utility Mount System:

- a. Follow instructions in reverse order to remove.
- b. Remove entire AFM-130 Utility Mount Assembly and associated hardware.
- c. Calculate weight and balance
- d. Make appropriate log book entry
- e. Return Aircraft to service

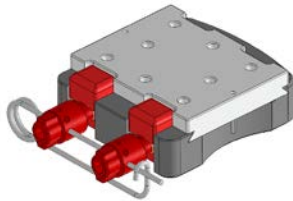
APPENDIX A – AFM-130 Configuration and Assembly Information



AFSP-V2-2-1
 LONG ARM



AFSP-V2-3-1
 SHORT ARM



DT-1-1
 DOVE TAIL



CF-10
 MALE TAPER ADAPTER

AFM-130 FORWARD ARMS AND PAYLOAD ATTACHMENT IDENTIFICATION

P/N	DESCRIPTION	QTY	FASTENERS	
DT-1-1	DOVETAIL	4	MS20004-15	SHCS
A797-1	MALE TAPER ADAPTER	1	CF-112	BOLT, SPECIAL
			98023A038	WASHER
			CF-113	TEFLON WASHER
			MS20995C32	SAFETY WIRE (.032")

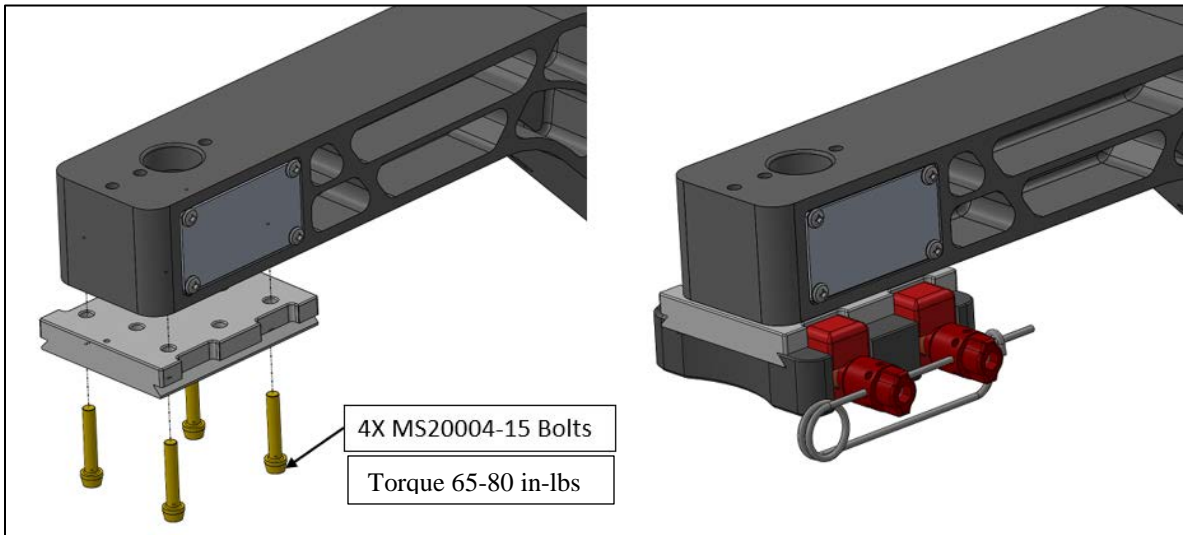


Figure 15. Installation of the DT-1-1 Dovetail onto the AFM-130 Utility Mount

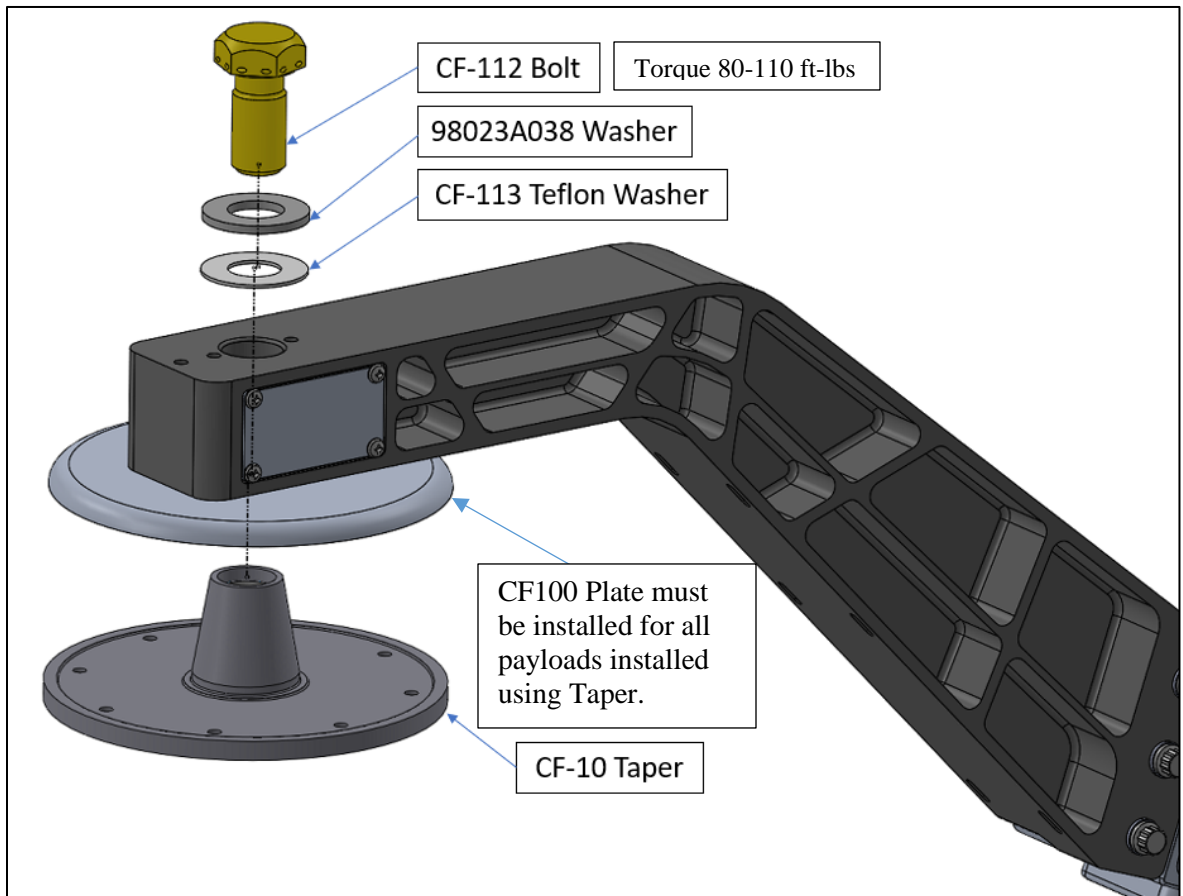


Figure 16. Installation of the CF-10 Taper onto the AFM-130 Utility Mount (Safety Wire not shown)

APPENDIX B – METHOD OF ADDING ADDITIONAL SENSOR /CAMERA / PAYLOADS

2.1 Overview

This Appendix provides the requirements necessary to qualify sensor / camera / light payloads – IF NEEDED.

It may also be used as a check list for previously approved sensor /cameras / light payloads if desired.

The STC flight testing was conducted and the STC approved with the largest and heaviest payload expected for use with this mount. The specific sensor/cameras/light not listed in the installation manual of equal or lesser than the limit case are accepted with this follow-on test plan.

3.0 Sensor/ Camera/ payload

Make & Model _____

4.0 Test Team

2.2 Pilot(s)

Print Name

2.3 Mechanic and/or Engineer and/or Camera Operator

Print Name

A.1. Test Aircraft Configuration and Location

2.4 Aircraft Model, Registration & Serial Number

_____ Model _____ Registration Number _____ Serial Number

2.5 Test Configurations

Empty weight with appropriate fuel and camera system installed
 Takeoff Gross weight with crew

Configuration	Gross Weight	Longitudinal CG	Lateral CG
Empty Wt			
Takeoff Wt			

A.1.1. Test Location

_____ Airport or Test Site

A.2. Test Conditions

Date: _____

Weather: Ceiling _____ Visibility _____ Winds _____

Altimeter _____ Field Elevation _____

Flight Time: Engine Start _____ Shut Down _____ Flt Time _____

A.3. Flight Test

A.3.1. Overview

Applicable regulations demonstrated for compliance are indicated with the following symbol ➔. The testing required for the compliance findings of this installation will be made by as a subject/qualitative evaluation. Although the most critical CG is at the aft limit for most tests this configuration is mounted forward of the mast should not approach the aft limits. This also depends on crew loading. The test team conducts the following tests and evaluations and mark initial the box at the end of each section if the configuration successfully passes the requirements.

A.3.2. FAR § 29.51 Takeoff

A.3.2.1. Applicable Regulation

➔(a) The takeoff data required by Secs. 29.53, 29.55, 29.59, 29.60, 29.61, 29.62, 29.63, and 29.67 must be determined--

- (1) At each weight, altitude, and temperature selected by the applicant; and
- (2) With the operating engines within approved operating limitations.

➔ (b) Takeoff data must--

- (1) Be determined on a smooth, dry, hard surface; and
 - (2) Be corrected to assume a level takeoff surface.
- (c) No takeoff made to determine the data required by this section may require exceptional piloting skill or alertness, or exceptionally favorable conditions.

A.3.2.2. Method of Compliance

The recommended takeoff procedure must be demonstrated to remain clear of the HV "avoid" areas without requiring exceptional piloting skill or exceptionally favorable conditions.

A qualitative evaluation of the ability to safely land at any point along the flight path will be made using judgment and experience with the basic aircraft. No engine failure testing at low altitude will be conducted.

The normal takeoff procedures will be used for the sensor/camera/light payload and mount installation.

A.3.2.3. Findings

Satisfactory _____

A.3.3. FAR § 29.71 Glide Performance

A.3.3.1. Applicable Regulation

➔For each category B helicopter, except multiengine helicopters meeting the requirements of Sec. 29.67(b) and the powerplant installation requirements of category A, the steady angle of glide must be determined in autorotation--

(a) At the forward speed for minimum rate of descent as selected by the applicant;

➔ (b) At the forward speed for best glide angle;

(c) At maximum weight; and

➔ (d) At the rotor speed or speeds selected by the applicant

A.3.3.2. Method of Compliance

(1) Performance capabilities during stabilized autorotative descent are useful pilot tools to assist in the management of a Category B rotorcraft when all engines fail. This information is also useful in determining the suitability of available landing areas along a given route segment.

(2) Two speeds are of particular importance, the speed for minimum rate of descent and the speed for best angle of glide. These speeds along with glide distance information are required as flight manual entries per FAR § 29.1587. The recommended speed for autorotation is usually optimized to assure an effective flare capability and yet be slow enough to allow a controlled, relatively slow touchdown condition. Recommended autorotation speed is ordinarily between the minimum rate of descent and maximum glide angle speeds.

An autorotative descent starting at least 1000 feet above the ground and at the speed published in the RFM, 100% RPM value will be demonstrated. Small turns will be conducted in the descent. The maneuver will be terminated with power at a safe altitude.

The aircraft should be easily controllable and the difference between the mount and camera/sensor/light payload and the clean configuration is the evaluation point.

A.3.3.3. Findings

Satisfactory _____ Altitude Band HP _____ Fuel Gage Reading _____

A.3.4. FAR § 29.143 Controllability and Maneuverability

A.3.4.1. Applicable Regulation

→(a) The rotorcraft must be safely controllable and maneuverable -

→ (1) During steady flight; and

→(2) During any maneuver appropriate to the type, including -

→ (i) Takeoff;

→ (ii) Climb;

→ (iii) Level flight;

→ (iv) Turning flight;

→ (v) Glide

→ (vi) Landing (power on and power off);

→(b) The margin of cyclic control must allow satisfactory roll and pitch control at VNE with -

(1) Critical weight;

(2) Critical center of gravity;

(3) Critical rotor rpm; and

(4) Power off (except for helicopters demonstrating compliance with paragraph (f) of this section) and power on.

(c) A wind velocity of not less than 17 knots must be established in which the rotorcraft can be operated without loss of control on or near the ground in any maneuver appropriate to the type (such as crosswind takeoffs, sideward flight, and rearward flight), with -

- (1) Critical weight;
- (2) Critical center of gravity;
- (3) Critical rotor rpm; and
- (4) Altitude, from standard sea level conditions to the maximum altitude capability of the rotorcraft or 7,000 feet, whichever is less.

(d) The rotorcraft, after failure of one engine in the case of multiengine rotorcraft that meet Transport Category A engine isolation requirements, or complete engine failure in the case of other rotorcraft, must be controllable over the range of speeds and altitudes for which certification is requested when such power failure occurs with maximum continuous power and critical weight. No corrective action time delay for any condition following power failure may be less than -

- (1) For the cruise condition, one second, or normal pilot reaction time (whichever is greater); and
- (2) For any other condition, normal pilot reaction time.

(e) For helicopters for which a VNE (power off) is established under § 29.1505(c), compliance must be demonstrated with the following requirements with critical weight, critical center of gravity, and critical rotor rpm:

(1) The helicopter must be safely slowed to VNE (power off), without exceptional pilot skill, after the last operating engine is made inoperative at power on VNE.

(2) At a speed of 1.1 VNE (power off), the margin of cyclic control must allow satisfactory roll and pitch control with power off.

A.3.4.2. Method of Compliance

The general requirements for control and for maneuverability are summarized in section (a) of the AC, which is largely self-explanatory.

Section (b) specifies flight at V_{NE} with critical weight, center of gravity (CG), rotor RPM, and power. Adequate cyclic authority must remain at V_{NE} for nose down pitching of the rotorcraft and for adequate roll control.

The helicopter will be flown between 1000 and 3000 feet above ground. The test altitude will be dependent on traffic and terrain and conditions close to sea level pressure are desirable. V_{NE} will be the value stated in the RFM for the test density altitude.

Qualitative measurement techniques (pilot opinion) will be used. The tests will include:

Takeoff

Climbing flight

Forward flight to V_{NE} , not more than the published RFM limit at MCP (maybe less than MCP)

Left & right 30 degree bank turns at V_{NE} and at MCP (maybe less than MCP)

Take-off & Landings (Power **on** only).

The aircraft should be easily controllable and adequate cyclic margins should exist throughout the flight test points. The difference between the mount and sensor / camera / light payload and the clean configuration is the evaluation point.

A.3.4.3. Findings

Satisfactory _____ Cruise Altitude HP _____ Fuel Gage Reading _____

A.3.5. FAR § 29.171 Stability: General

A.3.5.1. Applicable Regulation

➔The rotorcraft must be able to be flown, without undue pilot fatigue or strain, in any normal maneuver for a period of time as long as that expected in normal operation. At least three landings and takeoffs must be made during this demonstration.

A.3.5.2. Method of Compliance

Compliance with the requirements of this section can often be obtained for the VFR condition without any specific or designated flight testing. Demonstrate that the aircraft can be satisfactorily flown throughout the maximum endurance capabilities of the rotorcraft including night and turbulence conditions if those are critical. This test should be conducted with minimum required systems in the aircraft and with minimum flight crew.

Compliance for this requirement will be evaluated throughout the test program.

A.3.5.3. Findings

Satisfactory _____

A.3.6. FAR § 29.251 Vibration

A.3.6.1. Applicable Regulation

➔Each part of the rotorcraft must be free from excessive vibration under each appropriate speed and power condition.

A.3.6.2. Method of Compliance

This flight requirement may be both a qualitative and quantitative flight evaluation. Section 29.571(a) contains the flight load survey requirement that results in accumulation of vibration quantitative data. Section 29.629 generally requires quantitative data to show freedom from flutter for each part of the rotorcraft including control or stabilizing surfaces and rotors.

The aircraft should have a good track & balance for this evaluation. The airspeed should be evaluated at 20 kt increments out to the RFM VNE speed. Variations in rotor RPM expected in normal flight should be evaluated. Changes in vibration are best sensed in the cyclic and pedal controls. The stability of the camera/sensor image will be a good indicator.

The pilot will make a subjective evaluation of the difference between the mount and sensor / camera/ light payload and the clean configuration is the evaluation point.

Compliance with this requirement will be evaluated during testing of FAR §29.143 Controllability and Maneuverability.

A.3.6.3. Findings

Satisfactory _____

A.3.7. FAR § 29.773 Pilot Compartment View

A.3.7.1. Applicable Regulation

(a) Nonprecipitation conditions. For nonprecipitation conditions, the following apply:

➔ (1) Each pilot compartment must be arranged to give the pilots a sufficiently extensive, clear, and undistorted view for safe operation.

➔ (2) Each pilot compartment must be free of glare and reflection that could interfere with the pilot's view. If certification for night operation is requested, this must be shown by night flight tests.

(b) Precipitation conditions. For precipitation conditions, the following apply:

(1) Each pilot must have a sufficiently extensive view for safe operation—

(i) In heavy rain at forward speeds up to VH; and

(ii) In the most severe icing condition for which certification is requested.

(2) The pilots must have a window that—

(i) Is openable under the conditions prescribed in subparagraph (1) of this paragraph; and

(ii) Provides the view prescribed in that subparagraph.

A.3.7.2. Method of Compliance

The section outlines requirements for pilot view in fairly general terms. The aircraft was approved with the installed glareshield and instrument panel that meet the rules. Any additional equipment/monitors must be positioned so as not to limit or obstruct the pilot's field of view. There will be some cases where the installation will be temporary and for a unique mission and consideration should be given for these limited cases and time.

If night operations are expected with an operational system, a "dark cockpit" or night evaluation will be necessary to insure the glare/reflection will not interfere with the pilot duties. A limitation to the use at night is an option.

A.3.7.3. Findings

Satisfactory _____

A.3.8. FAR § 29.787 Cargo & Baggage Compartment

A.3.8.1. Applicable Regulation

Cargo and baggage compartments.

(a) Each cargo and baggage compartment must be designed for its placarded maximum weight of contents and for the critical load distributions at the appropriate maximum load factors corresponding to the specified flight and ground load conditions, except the emergency landing conditions of Sec. 29.561.

(b) There must be means to prevent the contents of any compartment from becoming a hazard by shifting under the loads specified in paragraph (a) of this section.

➔ [(c) Under the emergency landing conditions of Sec. 29.561, cargo and baggage compartments must--

(1) Be positioned so that if the contents break loose they are unlikely to cause injury to the occupants or restrict any of the escape facilities provided for use after an emergency landing; or

(2) Have sufficient strength to withstand the conditions specified in Sec. 29.561 including the means of restraint, and their attachments, required for the maximum authorized weight of cargo and baggage at the critical loading distribution.]

(d) If cargo compartment lamps are installed, each lamp must be installed so as to prevent contact between lamp bulb and cargo.

A.3.8.2. Method of Compliance

Amendment 29-31 adds two subparagraphs to § 29.787(c) which clarifies that cargo and baggage compartments should be designed to protect occupants from injury by the compartment contents during emergency landings. This may be done by location or by retention provisions.

The sensor/camera/light controllers and power supply must be located and secured in a position that will not endanger occupants in an emergency landing impact.

Consideration should be given to stowage and egress when filming in hovering flight. In some cases, this might not be possible.

A.3.8.3. Findings

Comment: _____

Satisfactory _____

A.3.9. FAR § 29.1301 Function and Installation.

A.3.9.1. Applicable Regulation

Each item of installed equipment must--

- ➔ (a) Be of a kind and design appropriate to its intended function
- (b) Be labeled as to its identification, function, or operating limitations, or any applicable combination of these factors;
- (c) Be installed according to limitations specified for that equipment; and
- ➔ (d) Function properly when installed.


A.3.9.2. Method of Compliance

For optional equipment, the emphasis on functioning is rather limited compared to that for required equipment. The conditions under which the optional equipment is evaluated should be recorded in the report. The major emphasis for this type of equipment should be to ensure it does not interfere with the operation of systems that are required for safe operation of the rotorcraft, and that the failure modes are acceptable and do not create any hazards.

During flight operations, operate all avionics and electrical systems. Complete the matrix below. The matrix is laid out with the newly installed equipment listed at the top of the page and all aircraft systems listed down the left side of the page. Note any EMI or RFI either TO or FROM the installed equipment. Note any anomalies or EMI/RFI interference to other instruments or indications during all testing phases of flight.

Each item must be checked. Check off each block if no interference is noted. If interference is present during the test, **DO NOT CHECK THE BOX** and explain in Comments section at end of section. If applicable, note relevant conditions (i.e. frequencies, OBI selection, function modes) under which the interference occurred.

A.3.9.3. Findings

Interference? <div style="display: inline-block; border: 1px solid black; padding: 2px; margin-left: 10px;"> 5.0  </div>	Camera/Sensor/Light	Position Controller
Camera/Sensor/Light		
Position Controller		
VHF Comm 1		
VHF Comm 2		
VHF Comm 3		
VHF NAV 1		
VHF NAV 2		
ADF 1		
XPONDER 1		
Other Radios		
Audio 1		
Audio 2		
Standby Compass		
Engine Inst		
Fuel Gage		
Clock		
Voltmeter		
Ammeter		
Other		

EMI / RFI Comments:

Satisfactory _____

Signatures

General test findings _____

Pilot Signature _____

Mechanic/ Engineer _____

Other Flt Personnel Signature & Function
