AirFilm Camera Systems

INSTALLATION INSTRUCTIONS
AF200 CAMERA MOUNT

REPORT NO. AF200-007

REV E

REV DATE ISSUED: 2/26/2015

LOG OF REVISIONS

REVISION	REVISION DATE	PAGES EFFECTED	COMMENTS
N/C	5/10/2004	ALL	ORIGINAL SUBMITTAL
A	8/10/2004	19	ADDED WEIGHT AND BALANCE
A	8/10/2004	17	PLACARDS REVISED
B	10/1/2005	20	ADDED APPENDIX C
C	2/1/2011	19	REVISED NOTES
D	6/5/2013	18 & 19	REVISED W&B NOTES
E	2/26/2015	ALL	ADDED APPENDIX D – PAYLOAD PART A735 / A734 P/N CHANGE MINOR NOTES, ADDED VIEWS UPDATED W&B

Introduction and General Description:

The system is used and Installed on Eurocopter AS350 & AS355 Helicopters, It can be installed on High or Low Gear aircraft. The mount system can be installed in the following configurations:
Nose Mount Only
Side Mount Only
Counter Weight Only
Or any combination of above – Calculate weight and balance for Installed items and check for proper loading of aircraft.

A modification to the forward belly panel is required. Antenna, lights, and additional installed equipment may need to be relocated to provide clearance for the camera mount system.

The AF200-2 mount system consists of a center mounted support bar that attached to the forward lower aircraft hard points. This center cross tube bar allows the nose mount section to be attached.

A counter weight section is used when using the nose mount.

The mount will accept various payload systems with a:
Max frontal area 9.2 sq ft
Max Weight 275 Lbs -124.7 Kg

Determination of the frontal area and weight must be made to establish if it is eligible for installation. The shape of the payload must be cylindrical, spherical, or a combination of the two. No concave forward facing surfaces with a drag coefficient (C_D) greater than 1.2.

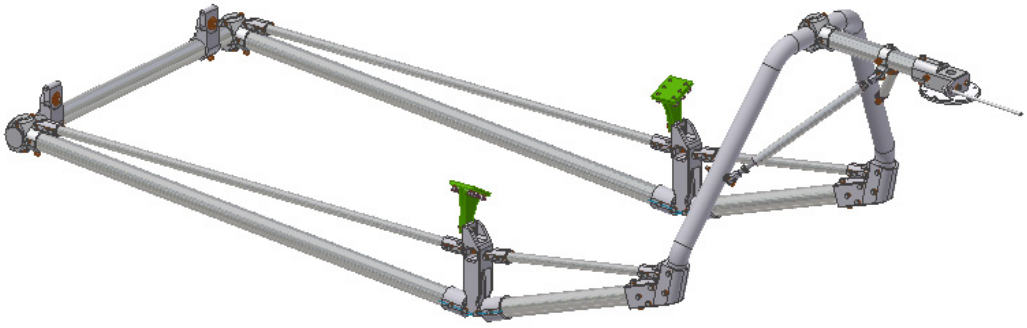
A counter weight box is provided to accept a maximum of 150 Lbs

The AF200-2 PN A996 consists of these main assemblies.

- AF200-2 NOSE MOUNT ASSEMBLY P/N A900
- AF200-2 COUNTER BALANCE ASSEMBLY P/N A964
- AF200-2 SIDE MOUNT P/N A969

AF200-2 NOSE MOUNT

INSTALLATION INSTRUCTIONS: NOSE MOUNT SUPPORT



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

2) Remove the forward belly panel – Use caution for any antennas located on the panel. Disconnect any cabling before removing the panel.

3) Attach the **HAMMER WEIGHT -T BRACKETS (A952)** to the hammer weight existing bolts. Place the brackets up to the underside of the hammer weight attachment nuts. SEE FIG 1 - QUICK CLAMP A956 MAY BE SUBSTITUTED FOR A952

FIG NO 1

3A) Using a 6mm-socket remove an existing metric nut off of the hammer weight. Replace with special nuts and washers provided 6 each side **(A700)**

3B) Torque to 72-84 in lbs. (USE CAUTION WHEN USING THE ¾" SOCKET WRENCH TO TIGHTEN BOLTS- REMEMBER THAT THE BOLTS ARE 6MM DIA AND PROPER TORQUE WILL BE ACHIEVED QUICKLY). Safety Wire .032 all nuts from turning. SEE FIG NO. 2

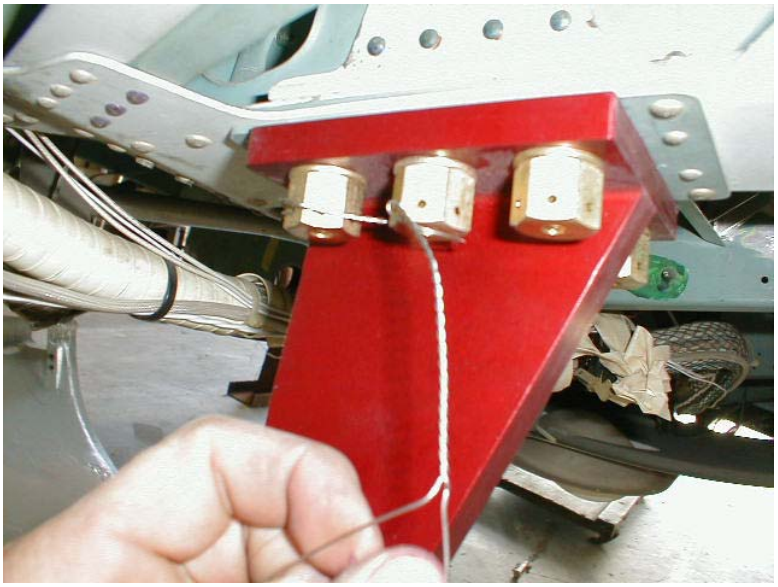


FIG NO. 2

4) Attach the modified forward belly panel. Check that clearance holes allow the t-brackets to extend through the panel. SEE FIG NO. 3

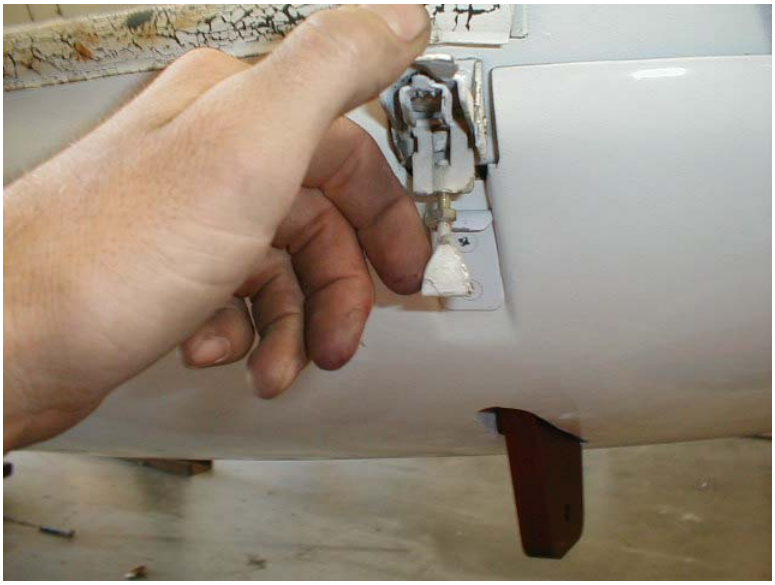


FIG NO. 3

5) Attach the cross tube assembly (A911) to the underbelly hard points Qty 2 located under the forward landing gear cross tube. Use the following hardware to attach. SEE FIG NO. 4

QTY	TYPE - NUMBER	ITEM
2	AN7-35A	HEX HEAD BOLTS
AR	AN960-716L	WASHERS
4	AN365-720A	STOP NUTS

Torque as per FAA AC43.13-1A 450- 500 In Lbs.

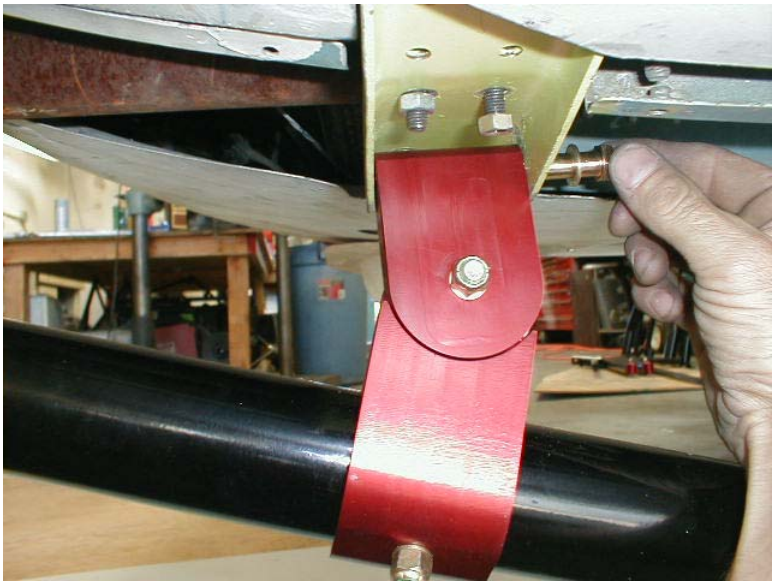


Fig No. 4

The cross-tube will self align to the proper angle of the hard points. Check that the existing hardware is secure and for proper torque of 160-190 in lbs.

6) Install the nose mount truss ASSY (Left and Right sides A909) (SEE ABOVE FIG) to the main cross tube by attaching the aft open clamps around the main cross tube. Attach the clamps together by using the following hardware each side. Truss fits flush with end of cross tube.
(Note: cross bar should be installed in direction as picture) See Fig 5

QTY	TYPE - NUMBER	ITEM
2	AN6-11A	HEX HEAD BOLTS
4	AN960-616	WASHERS
2	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs.

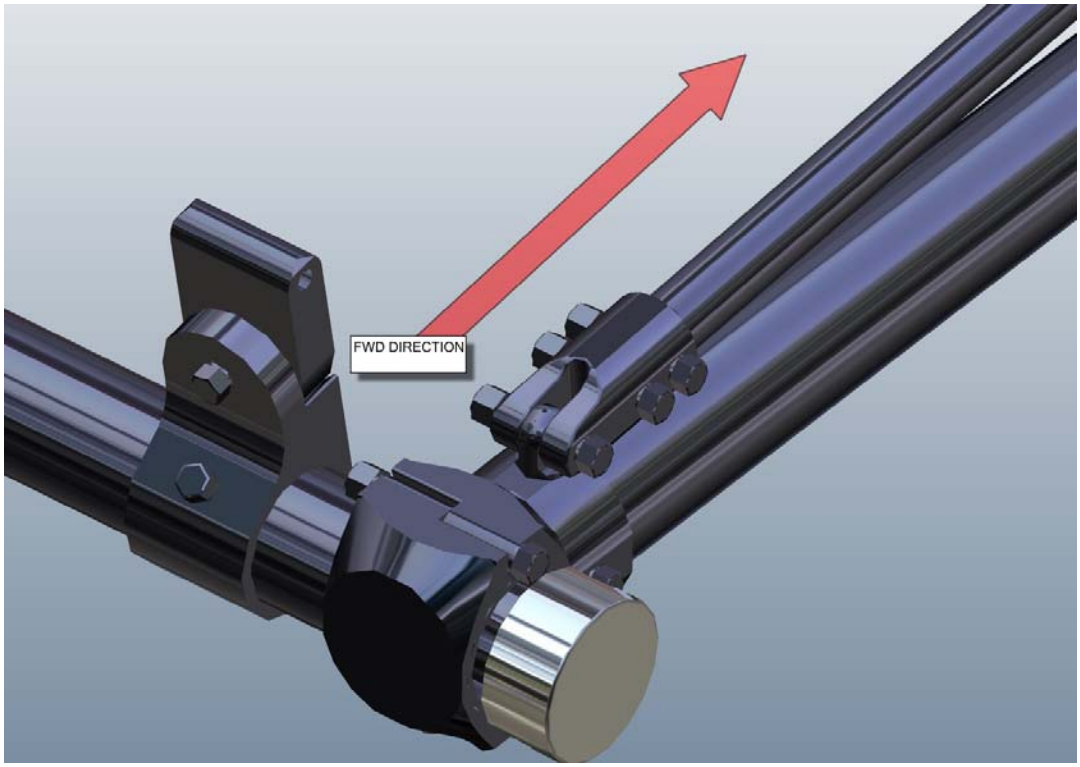


Fig No. 5

7) Insert the nose mount yoke Assy (A909) into the forward part of the (A909) truss. Attach using the following hardware.

QTY	TYPE - NUMBER	ITEM
4	AN6-34A	HEX HEAD BOLT
8	AN960-616	WASHERS
4	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs.

8) Raise the full assembly up to the T-brackets and attach using the following hardware,

QTY	TYPE - NUMBER	ITEM
2	NAS6206-21	NAS HIGH STRENGTH BOLT
4	AN970-616	WASHERS (AFT SIDE)
2	AN365-624A	STOP NUTS OR EQV

Torque as per FAA AC43.13-1A 160- 190InLbs

8.1) Adjust fork fitting to level sensor yoke if required. Ensure nut is tight against lock washer.

9) Attach supplied hose to aircraft pitot tube and Pitot tube extension, use supplied aero seal (QS100-M8W) hose clamp. Cut hose to length as required. Tighten hose clamp around hose at both ends to secure. Check that the hose clamp is secure and hose is well retained

10) CHECK ENTIRE MOUNT FOR PROPER BOLT TORQUE SETTINGS, SECURITY.

11) FOR CAMERA INSTALLATION SEE APPENDIX A & D

AF200-2 SIDE MOUNT

INSTALLATION INSTRUCTIONS: SIDE MOUNT SUPPORT

1) Attach the **SIDE MOUNT LOWER SUPPORT (A967) (left and right)** to the **AIRCRAFT CROSS FWD AND AFT CROSS TUBE**. Insure that the aircraft is properly protected by using the supplied (A795) rubber sleeve – channel shape. (See above figures)
Additional rubber strips are used to protect the landing gear.
Do not let the metal clamp come in contact with the landing gear.

Attach using the items below for each side.

QTY	TYPE - NUMBER	ITEM
4	AN6-37A	HEX HEAD BOLTS
8	AN960-616	WASHERS
4	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs.

2) Attach **SIDE MOUNT YOKE ASSY (A970)** to the **SIDE MOUNT HORIZONTAL TUBE (A967)** LEFT AND RIGHT SIDES by placing the open clamps on the yoke assembly around the horizontal tube as show above. Tighten the two clamps using the following hardware. Protect horizontal tube with rubber strips.

QTY	TYPE – NUMBER	ITEM
2	AN6-27A	HEX HEAD BOLTS
4	AN960-616	WASHERS
2	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs.

3) Attach the **FORK TUBE ASSY (A970) to SIDE MOUNT YOKE ASSY (A970)** LEFT AND RIGHT HAND SIDES Use the following hardware for each side.

QTY	TYPE – NUMBER	ITEM
2	AN6-14A	HEX HEAD BOLTS
4	AN960-616	WASHERS
8	AN365-624A	STOP NUTS

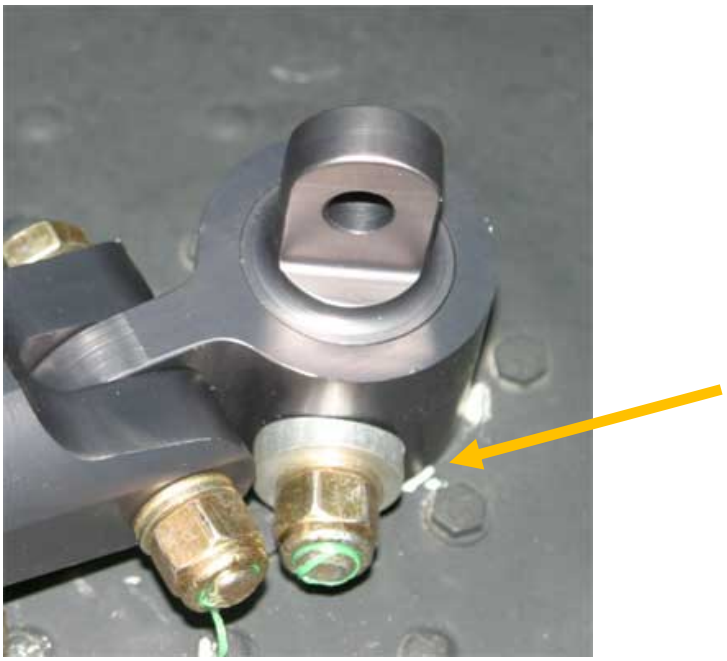
Torque as per FAA AC43.13-1A 160-190 In Lbs.

4) CHECK ENTIRE MOUNT FOR PROPER BOLT TORQUE SETTINGS, SECURITY.

5) FOR CAMERA INSTALLATION SEE APPENDIX A & D

AF200-2 COUNTER WEIGHT

INSTALLATION INSTRUCTIONS: COUNTER WEIGHT SUPPORT



1) Attach the **COMBO SIDE FITTING ASSY** (A972) to the aircraft hard point on the right side of the aircraft. The combo fitting will allow for the attachment of both the side mount and the counterweight installations. The left side does not require a combo fitting because the counterweight does not attach to the left side aircraft hard point. Scallop washer to be installed as shown (see figure above)

QTY	TYPE – NUMBER	ITEM
1	AN6-25A	HEX HEAD BOLTS
2	AN960-616	WASHERS
1	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs.

2) Attach the **COUNTER WEIGHT YOKE TENSION TUBE** to the **COMBO SIDE FITTING** (A972)**.** Use the following hardware (SEE ABOVE FIGURE)

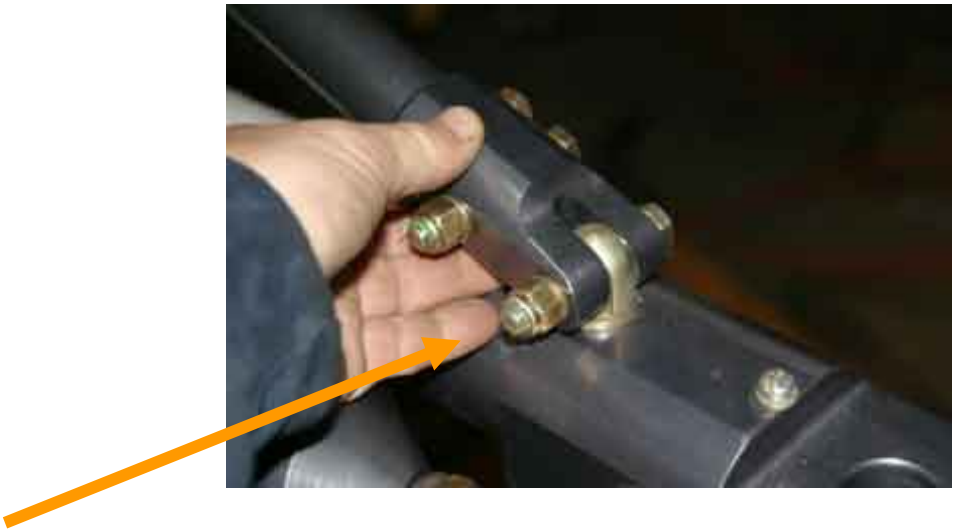
QTY	TYPE – NUMBER	ITEM
1	AN6-22A	HEX HEAD BOLTS
2	AN960-616	WASHERS
1	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs.

3) Attach the **LOWER SIDE MOUNT SUPPORT ASSY (left and right)** to the **AIRCRAFT CROSS AFT CROSS TUBE**. Insure that the aircraft is properly protected by using the supplied (A795) rubber sleeve. **Note:** The counterweight supports are located inside of the side mount installation on the aft cross tube (See above figure)
Additional rubber strips are used to protect the landing gear.
Do not let the metal clamp come in contact with the landing gear.
Attach using the items below for each side.

QTY	TYPE - NUMBER	ITEM
2	AN6-37A	HEX HEAD BOLTS
4	AN960-616	WASHERS
2	AN365-624A	STOP NUTS

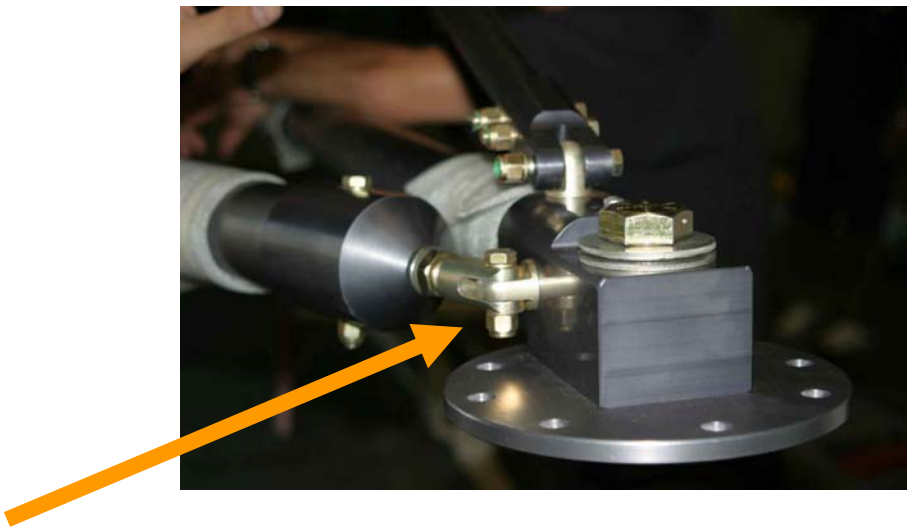
Torque as per FAA AC43.13-1A 160-190 In Lbs.



4) Attach the **COUNTERWEIGHT TENSION TUBE** to the **LOWER SIDE MOUNT SUPPORT TUBES LH AND RH (**see above figure)
Use the following hardware:

QTY	TYPE – NUMBER	ITEM
1	AN6-22A	HEX HEAD BOLTS
2	AN960-616	WASHERS
1	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs.



5) Attach the **LOWER SIDE MOUNT SUPPORT TUBES LH AND RH (**see above figure)
Use the following hardware:

QTY	TYPE – NUMBER	ITEM
1	AN6-14A	HEX HEAD BOLTS
2	AN960-616	WASHERS
1	AN365-624A	STOP NUTS

Torque as per FAA AC43.13-1A 160-190 In Lbs

6) Attach the **COUNTER WEIGHT or COUNTER WEIGHT BOX or SENSOR** to the **COUNTER WEIGHT ASSEMBLY** using the 1” diameter bolt supplied. Tighten bolt so taper fit is tight and secure with no free play. Safety bolt to bracket with .032 safety wire. SEE ABOVE FIGURE

The standard weight box can (A125) be installed if more counterweight is required. When adding weight to box be sure to check that the weight is secure and has little free movement. Also check that the box lid latches qty 2 are secure and locked.

150 LBS MAX WEIGHT PAYLOAD AT ATTACHMENT POINT

7) CHECK ENTIRE MOUNT FOR PROPER BOLT TORQUE SETTINGS, SECURITY.

FINAL INSTALLATION INSTRUCTIONS:

1. CHECK ENTIRE MOUNT FOR SECURITY AND PROPER BOLT TORQUE SETTINGS.

2. CALCULATE WEIGHT AND BALANCE

3. INSTALL APPROPRIATE PLACARDS IN COCKPIT

> **V_{NE} = Reduce the published V_{NE} by 40 KIAS** for aircraft with a 155 KIAS V_{NE}
> **V_{NE} = Reduce the published V_{NE} by 35 KIAS** for aircraft with a 150 KIAS V_{NE}
> with a camera and counter weight installed
>
> The pitot heat must remain **OFF** and/or the circuit breaker pulled
> With the auxiliary pitot tube installed.

4. MAKE LOG BOOK ENTRIES AS REQUIRED BY FAR'S

5. RETURN AIRCRAFT TO SERVICE

REMOVAL INSTRUCTIONS: AF200 MOUNT

.
To remove AF200-2 mount from aircraft:

Follow directions in reverse order and replace all original hardware / fixtures that were removed for installation of AF200-2 mount. If Any

Remove any AF200-2 mount placards from cockpit

Calculate weight and balance

Make appropriate log book entry

Return Aircraft to service

APPENDIX A – CAMERA INSTALLATION

Installation Supplement – BIG BOLT Type End Fitting

1) Install Camera System to Mount Support using 1 x 8 UNC 2 ¾ Bolt (AIRFILM PART NO CF-112) and camera provided. Safety Wire main bolt to mount end fitting drilled fitting. Torque 101 –110 ft lbs.

2) Route and install power conditioner / route cables along brackets securely using plastic tie straps to secure.

3) Make appropriate power connection on the battery or in the rear baggage, or on the main power buss through a 20a breaker. Connect system battery cable with knife connectors. Follow instructions that are attached to the electrical system provided by the camera manufacture.

4) If required secure control unit to rear seat belt

5) Check all systems for flight integrity and that no system interferes with the operation helicopter flight controls.

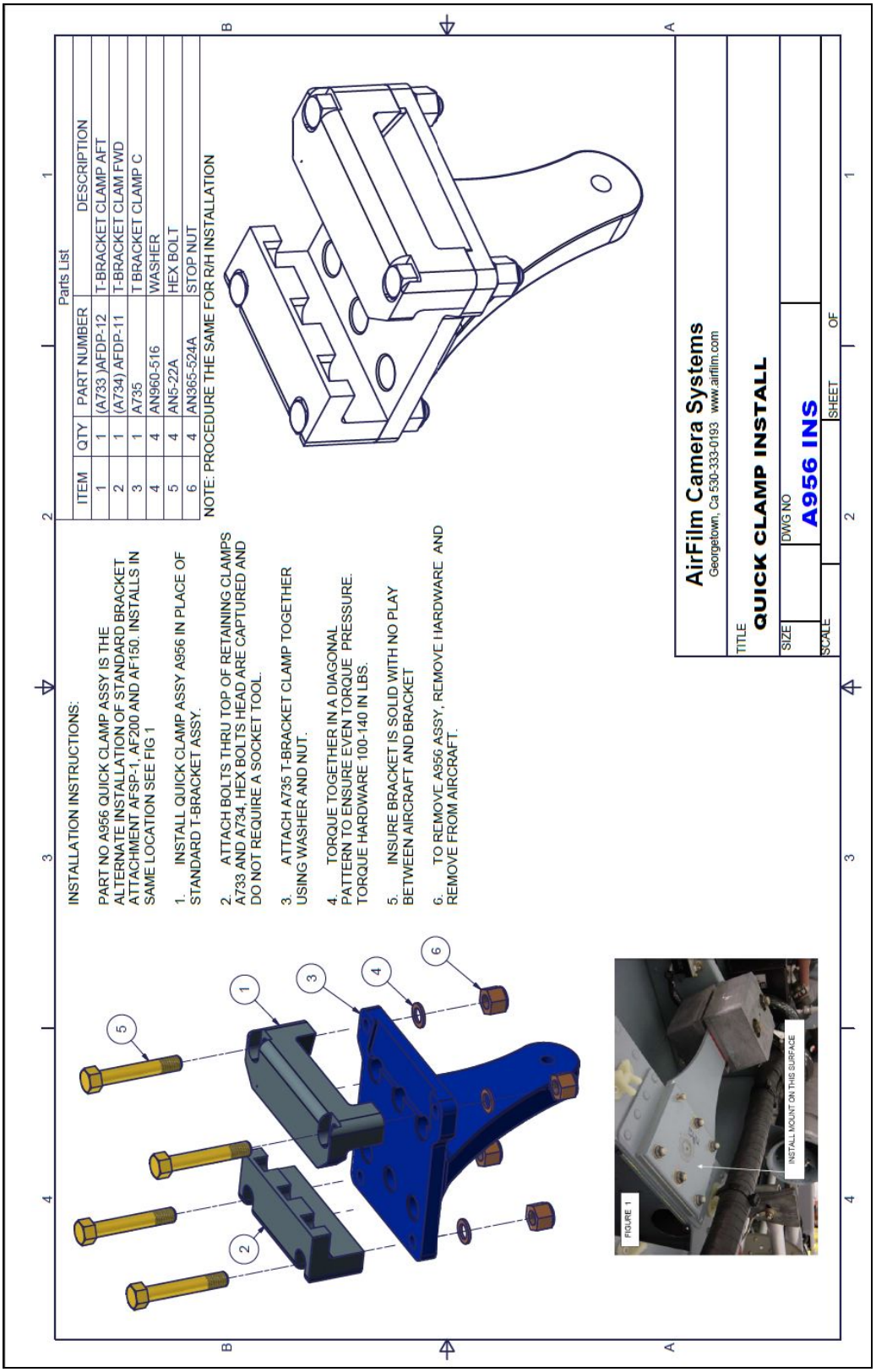
APPENDIX B – WEIGHT AND BALANCE

AF200-2 WEIGHT AND STATIONS FOR CAMERA / SENSOR SYSTEMS AS350 & AS355 ALL SERIES			REV E 2/26/2015
	WEIGHT	LONGITUDINAL	LATERAL
ITEM DESCRIPTION	LBS	ARM INCHES	ARM INCHES
NOSE LOCATION - USE CAMERA WEIGHT		-15.8	0.0
NOSE BRACKET (PN A900) - W/O T BRACKET	119.1	46.0	0.0
FORWARD MOUNT BRACKET (SELECT ONE OF THE FOLLOWING)			
QUICK CLAMP (PN A956 -1R / 1L SINGLE HOLE)	7.0	40.4	0.0
QUICK CLAMP NEW VERSION (PN A956 -1R / 1L NEW THREE HOLE)	11.7	40.4	0.0
STANDARD T-BRACKET (PN A952 1 R / 1L)	4.4	40.4	0.0
COUNTER WEIGHT BRACKET (A964)	58.4	234.0	16.5
COUNTER WEIGHT BOX EMPTY (PN A125)	21.6	260.0	20.0
COUNTER WEIGHTS INSTALLED (150 MAX)		260.0	20.0
RH SIDE MOUNT (PN A969)	35.0	135.2	42.0
LH SIDE MOUNT (PN A969)	35.0	135.2	-42.0
R/H SIDE MOUNTED CAMERA OR COUNTERWEIGHT (USE ACTUAL WEIGHT)		138.7	55.5
L/H SIDE MOUNTED CAMERA OR COUNTERWEIGHT (USE ACTUAL WEIGHT)		138.7	-55.5
TAIL CONE W/ WEIGHT MAX (SEE EUROCOPTER 53.06 SB)	44.0	398.7	0.0

Note: MULTIPLE FLYING CONFIGURATIONS APPROVED: Nose mount , counterweight, side mounts can be installed and flown with or without installed camera / and or counterweights.
Example: Nose and side mount installed and camera is located on nose so counterweight box would be located on aft section to achieve correct weight and balance.
USE ACTUAL WEIGHT OF INSTALLED EQUIPEMNT
Use proper weight and balance for multiple configurations installed.

APPENDIX C – QUICK CLAMP

PROCEDURE THE SAME FOR R/H OR L/H INSTALLATION



APPENDIX D - METHOD OF ADDING ADDITIONAL SENSOR /CAMERA / PAYLOADS

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.

2. Sensor/ Camera/ payload

Make & Model _____

3. Test Team

Pilot/s

_____ _____
Print Name

Mechanic and/or Engineer and/or Camera Operator

_____ _____
Print Name

4. Test Aircraft Configuration and Location

Aircraft Model, Registration & Serial Number

_____ _____ _____
Model Registration Number Serial Number

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			

Test Location

_____
Airport or Test Site

5. Test Conditions

Date: _____

Weather: Ceiling _____ Visibility _____ Winds _____

Altimeter _____ Field Elevation _____

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

6. Flight Test

6.1. 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 considered to be 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.

6.2 FAR § 29.51 Takeoff

6.2.1 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.

6.2.1 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.

6.2.2 Findings

Satisfactory _____

6.3 FAR § 29.71 Glide Performance

6.3.1 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

6.3.2 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.

6.3.3 Findings

Satisfactory _____ Altitude Band HP _____ Fuel Gage Reading _____

6.4 FAR § 29.143 Controllability and Maneuverability

6.4.1 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.

6.4.2 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.

6.4.3 Findings

Satisfactory _____ Cruise Altitude HP _____ Fuel Gage Reading _____

6.5 FAR § 29.171 Stability: General

6.5.1 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.

6.5.2 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.

6.5.3 Findings

Satisfactory _____

6.6 FAR § 29.251 Vibration

6.6.1 Applicable Regulation

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

6.6.2 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 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.

6.6.3 Findings

Satisfactory _____

6.7 FAR § 29.773 Pilot Compartment View

6.7.1 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.

6.7.2 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.

6.7.3 Findings

Satisfactory _____

6.8 FAR § 29.787 Cargo & Baggage Compartment

6.8.1 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.

6.8.2 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.

6.8.3 Findings

Comment: _____

Satisfactory _____

6.9 FAR § 29.1301 Function and Installation.

6.9.1 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.

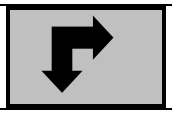
6.9.2 Method of Compliance

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.

6.9.3 Findings

Interference? 	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

_____