Airfilm Camera Systems
6245 Aerodrome Way, Hanger 2
Georgetown, CA

DOCUMENT No. AFM-205SM-1-006

INSTALLATION INSTRUCTIONS

AFM-205SM-1 SIDE MOUNT
FOR THE
BELL MODEL: UH-1 SERIES, 205 SERIES, 212, 412, 412EP AND 412CF
AND
AGUSTA BELL MODEL AB212 AND AB412 ROTORCRAFT

AIRFILM CAMERA SYSTEMS
6245 AERODROME WAY
HANGAR NO. 2
GEORGETOWN, CA

RECORD OF REVISIONS

Rev.	Pages	Date	Description	
IR		March 11, 2012	Initial release	

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1.1 INTRODUCTION:

This manual presents the installation instructions for the Airfilm Camera Systems model AFM-205SM-1 Side-Utility Mount for the Bell: UH-1 Series, 205 Series, 212, 412 Series, AB 212/412 series of Rotorcraft. The mount is designed to facilitate the attachment of equipment such as FLIR cameras, video cameras, searchlights, microwave downlinks, etc.

The side-mount installs directly to the existing airframe hard points

Camera / searchlights/ sensor payloads are attached to nose-mount either direct or with the use of MADT-1 (dovetail), QDD-1 (quick disconnect) or other factory approved adaptor hardware configurations. Payloads can also be attached directly to the mount.

- Side-mount can be installed and flown with our without payloads installed.

- Compatible with, high, mid and low gear configurations depending on payload height.

- The nose-mount installation is compatible with hoist.

- Crew can install and remove payloads via DT-1 Dovetail or QDD-1 quick disconnect device after initial install

For all helicopters:

The installation is assumed to have a self-contained power supply or connected to the aircraft through a previously approved electrical connection. If modification to the ship's system is necessary to support this installation, additional minor modifications with appropriate approval is necessary.

1.2 GENERAL

These instructions cover the AirFilm AFM-205SM-1 side-mount

Precautions:
- All precautions will be in **bold face**

Referenced publications
- (AC) 43.13-2 and (AC)43.13-1B

Referenced drawing
- AFM-205SM-1

Distribution:

- Installation instructions shall accompany the maintenance manuals of aircraft on which the mount is installed.

Definitions / Abbreviations:

- FLIR: forward looking infrared
- IAW: in accordance with

Standards of measurement:

- all measurements in 100ths of an inch
- all weights in US pounds
- all torques in inch pounds

Tools Required

- support stand
- ¼ socket set, with ½ deep sockets
- ½ box end wrench, 2 ea.
- 15/16th open end wrench
- Spirit level
- Torque seal

1.3 CONTROL, OPERATIONAL INFORMATION

Special procedures / precautions:

- **Maximum forward mount payload 135 lbs (61.2 kg) , or 2.6 square feet (2415 sq cm) surface area, whichever is higher**

- **Installation of mount must not interfere with any existing installed equipment**

2.0 INSTALLATION INFORMATION:

- Reference drawing AFM-205SM-1
- Remove mount from shipping crate
- Install threaded clevises, “jam” nut and lock washers on all tubes, 4 places per mount, do not tighten hardware. (Install “wet “with Teflon lubricant or similar). See figure 1.
- Install -6 short tab bracket onto side of mount as per drawing: AFM-205SM-1(note: the mount can be installed on either left or right side. The position of both -6 and -7 brackets will determine if either left or right side). Use AN5-13A / AN960-516L washer, 3 places.
- Install -7 long tab ear into “notch” area on side of mount, use AN5-11 / AN960-516L, three places. See figure 2

(Continued)

- Support -1 main plate and align with aircraft hard points. See figure 3
- Install AN5-17A / AN960-516 thick washers; on base plate clevis and airframe hard points. Do not install AN365-524A nuts. See figure 4
- Install -10 tube assembly short and -20 tube assembly long, onto mount, use AN5-12 / AN960L. Do not tighten. See figure 5.
- Adjust clevis fitting on long and short tubes, using a spirit level, position the plate flat.
- Tighten "jam" nuts on -10 and -20 tubes with 15/16th open end wrench
- Remove any "free play" in -10 and -20 tube clevises by install AN960-516L washers between inside face of clevises and airframe hard points. See figure 4.
- Tighten all hardware; do not exceed 100 inch pounds on any hardware.
- Mark all hardware with torque seal.
- Calculate weight and balance of actual aircraft, mount and payload

Figure 1

Figure 2

Figure 3

Figure 4

Figure

3.0 REMOVAL INFORMATION:

- Remove hardware from main plate and upper airframe hard points.
- Remove hardware from lower clevis fitting and lower hard points
- Remove mount

4.0 WEIGHT AND BALANCE INFORMATION TYPICAL (SHOWN FOR 212 ONLY)

Table 4.1: AFM-205SM-1 ASSEMBLY COMPONENT WEIGHTS

PART NO.	DESCRIPTION	WEIGHT (LBS) (Kg)	STATION (in) (mm)	BL (in) (mm)
AFM-205SM-1	Base Plate Bracket Assembly	26 lbs 11.8 kg	74.30 in 1856.25mm	55 in 1375 mm

Table 4.2 PAYLOAD LOCATIONS,(STATION LOCATIONS FOR 212 ONLY)

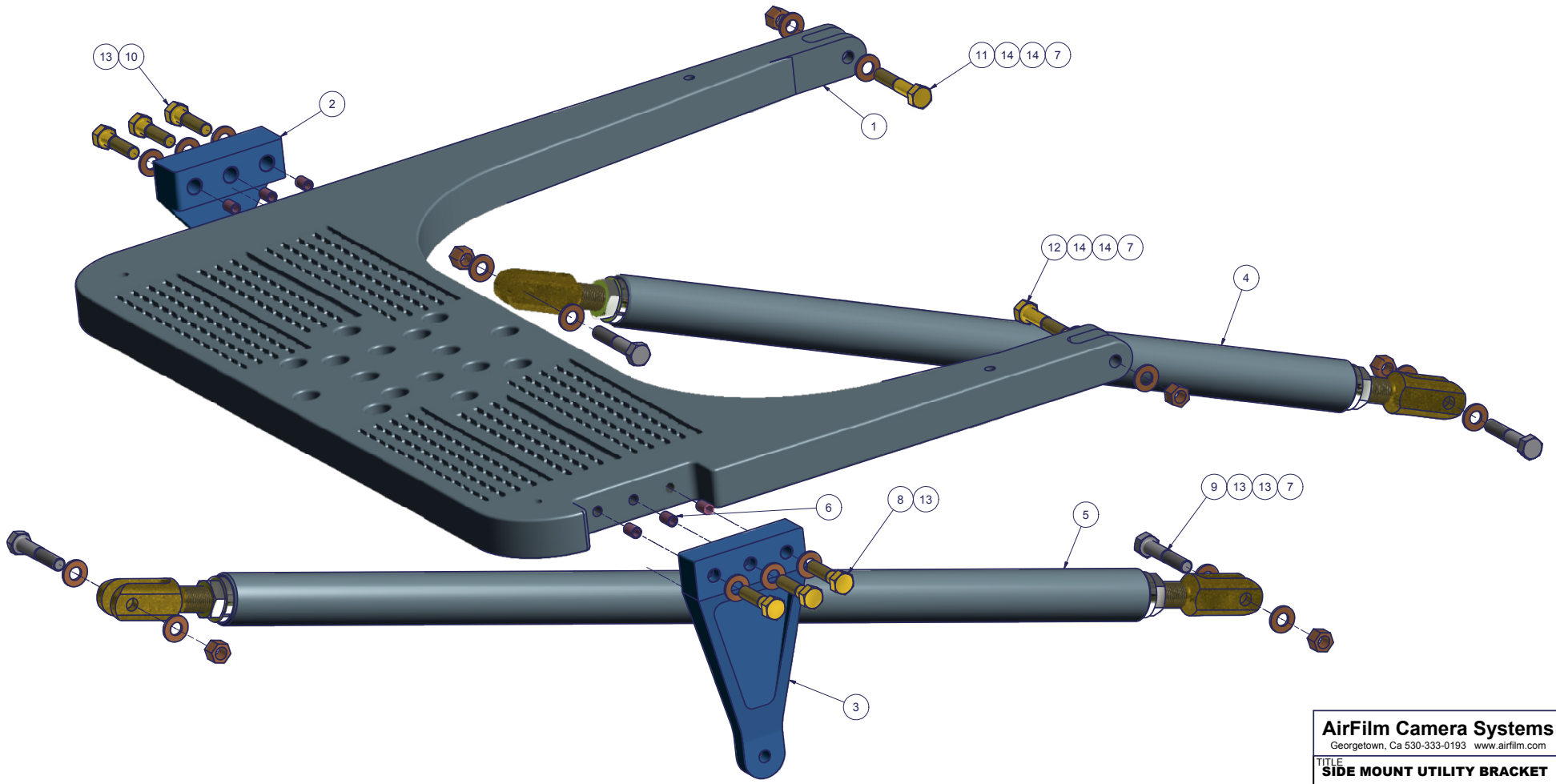
DESCRIPTION	MAX WEIGHT (POUNDS) (Kg)	MAX AREA (FT^2) (sq cm)	STATION (in) (mm)	BL (in) (mm)
Sensor Payload	135 lbs 61.2 Kg	2.6 sq ft 2415 sq cm	74.30 in 1856.25 mm	55 in. 1375 mm

Table 4.3 PAYLOAD WEIGHTS

PART NO.	DESCRIPTION	WEIGHT (LBS) (kg)
V1725-1	Vibration Reducer	17.2 lbs 7.8 kg
DT-11	Dovetail	2.0 lbs .91 kg
QDD	Quick Disconnect	3.5 lbs 1.6 kg

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION	MATERIAL	MATERIAL SPEC	FINISH	FINISH SPEC	STOCK SIZE
1	1	-5	MAIN PLATE	6061 T651ALUM PLATE	QQ-A-250/11	ANODIZE HARD	MIL-A-8625 TYIII CL 2	AR
2	1	-6	SHORT TAB BRACKET	2024 ALUM BAR	QQ-A-225/6 OR QQA-200/3	ANODIZE HARD	MIL-A-8625 TYIII CL 2	AR
3	1	-7	LONG TAB EAR	2024 ALUM BAR	QQ-A-225/6 OR QQA-200/3	ANODIZE HARD	MIL-A-8625 TYIII CL 2	AR
4	1	AF205SM-10	TUBE ASSY SHORT					
5	1	AF205SM-20	TUBE ASSY LONG					
6	6	MS21209-F5-F16 HX25X375	HELICOIL LOCKING					
7	6	AN365-524A	STOP NUT					
8	3	AN5-11A	HEX BOLT					
9	4	AN5-12A	HEX BOLT					
10	3	AN5-13A	HEX BOLT					
11	1	AN5-15A	HEX BOLT					
12	1	AN5-17A	HEX BOLT					
13	16	AN960-516L	WASHER THIN					
14	2	AN960-516	WASHER					



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TITLE
SIDE MOUNT UTILITY BRACKET ASSY

DWG NO	REV
AFM-205SM-1	N/C

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