

**SKYCAM COMPONENT MAINTENANCE MANUAL J134TP061**

**ISSUE E (uncontrolled)**

**BOURNEMOUTH AVIATION (Consultants) LTD,  
BOURNEMOUTH, DORSET. BH8 8JN**

**SKYCAM  
(FLIGHT DECK DOOR MONITORING SYSTEM)**

**COMPONENT  
MAINTENANCE  
MANUAL  
And Installation Guide**

**SKYCAM SYSTEM**

Part number:      BAC1134-01/1  
                          BAC1134-01/2  
                          BAC1134-01/3  
                          BAC1134-01/4  
                          BAC1134-01/5  
                          BAC1134-101/1  
                          BAC1134-101/2  
                          BAC1134-101/3  
                          BAC1134-101/4  
                          BAC1134-201/4  
                          BAC1134-17  
                          BAC1134-21  
                          BAC1134-23  
                          BAC1134-31  
                          BAC1134-45  
                          BAC1134-53  
                          BAC1134-69  
                          BAC1252-01

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### SKYCAM (FLIGHT DECK DOOR MONITORING SYSTEM)

#### 1. (Reserved)

#### 2. INTRODUCTION

The Skycam system comprises of a Dzus rail mounted 4" Colour TFT Video Display Unit with 4 selectable camera inputs<sup>1</sup>. Each camera input is auto-focussing, auto contrast and auto low light operation. The integral power supply feeds all four cameras.

The Skycam system (mounted in the cockpit area) can be used to monitor the flight deck door area outside the cockpit, with one camera mounted in the ceiling panel looking aft, & two wall mounted cameras looking port & starboard across the galley. A fourth camera can be fitted further aft in the cabin ceiling looking forward towards the cockpit door; or an expansion pack (using the Selection Box) can be added to this position to allow four more cameras (expandable).

There are FIVE camera types:

- 1) Wall mounted camera – 4 preset positions
- 2) Short universal camera – variable camera positions (48 to 90 degrees)
- 3) Roof mounted camera – preset camera position (35 degrees)
- 4) Universal Camera – variable camera position (30 to 90 degrees)
- 5) IR Wall Camera – set position (0.0 Lux capability)

The wall mounted camera (1) is suitable for sidewall or ceiling applications.

The short universal camera (2) is suitable for sidewall or ceiling applications, but offers a greater choice of viewing angle.

The ceiling/roof mounted camera (3) has a low profile and is suitable for confined roof spaces.

The universal camera (4) is particularly suitable for viewing floor to ceiling due to its wide viewing angle.

The infra-red wall mounted camera (5) is ideal for viewing other dark areas such as Freight Holds.

All camera types are electrically interchangeable, with the same wiring harness connector. Small mounting changes are required if cameras are to be swapped.

The system is powered by a single 28VDC supply and consumes approximately 0.5Amps (14 Watts)

The selection box is used as a camera expansion unit. It consists of an internal power supply, video selector switch and a status indicator. The selection box is powered by a single 28VDC supply and consumes approximately 0.6Amps when up to 4 additional cameras are installed and powered from the unit.

The Selector box can also be used to power the Slave VDU (BAC1134-201) for remote VDU operation.

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<sup>1</sup> Camera expansion packs are available. Please contact Bournemouth Aviation (Consultants) Ltd.  
+44 (0)1202 297230

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#### 3. DESCRIPTION OF EQUIPMENT PART NUMBERS

BAC1134-01/1	Skycam VDU – Light Faceplate
BAC1134-01/2	Skycam VDU – Brown Faceplate
BAC1134-01/3	Skycam VDU – Black Faceplate
BAC1134-01/4	Skycam VDU – Dark Grey Faceplate
BAC1134-01/5	Skycam VDU – Dark Grey Faceplate (Alternative Text)
BAC1134-101/1	Skycam VDU – (No record button) Light Faceplate
BAC1134-101/2	Skycam VDU – (No record button) Brown Faceplate
BAC1134-101/3	Skycam VDU – (No record button) Black Faceplate
BAC1134-101/4	Skycam VDU – (No record button) Dark Grey Faceplate
BAC1134-201/4	Skycam Slave VDU – (No record button) Dark Grey Faceplate
BAC1252-01/*	Selector Box – *Dark Grey Facia
BAC1134-17	Skycam Camera (Universal)
BAC1134-21	Skycam Wall Camera
BAC1134-23	Skycam Roof Camera
BAC1134-31	Skycam wiring Harness Assembly
BAC1134-45	Skycam Camera (Short universal)
BAC1134-53	Skycam IR Wall Camera
BAC1134-69	Skycam IR Wall Camera (Rotated)

#### 4. MODES OF OPERATION

The Skycam Display Unit operates as follows:

- **POWER** The power switch isolates the 28VDC supply from the unit. To switch the unit on, select the power switch 'on'. The unit takes approx 0.5 seconds to power up, therefore the unit may be left in the 'off' state when not required.
- **VIDEO SELECT** The video select switch will select up to 4 video cameras. A standard system only uses 3 cameras; however, camera 4 can be used to look forwards towards the cockpit door from a ceiling position or be used in conjunction with a camera expansion pack. With the Video Select switch turned to the left (1), the port side of the cockpit door/galley area is visible on the screen. With the Video Select switch turned to the centre (2), the area directly aft of the cockpit door is visible. With the Video Select switch turned to the right (3), the starboard side of the cockpit door/galley area is visible. With the Video Select switch turned to the far right (4), the front of the cockpit door/galley area is visible (if camera 4 is connected).
- **DAY/NIGHT** The Day/Night switch is used to vary the intensity of the screen. In the 'Day' position, the screen intensity is set for normal daytime use. In the

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'Night' position, the screen intensity is automatically reduced by around 25% to enable 'softer' viewing during night operation.

- RECORD The white switch/light operates an external relay to activate a remote video recorder. The white light/switch illuminates when the record function is operational. The recorder will record the image currently being viewed.  
(Requires an external Video Recorder)

Note: The Slave VDU BAC1134-201 is powered by the selector box, therefore the video select switch and On/Off switch is inop. These functions are incorporated by the Selection Box.

## 5. TECHNICAL SPECIFICATIONS

### 5.1. Overall Dimensions:

Video Display Unit	Height: 4.50" (114.3 mm) Width: 5.75" (146.05 mm) Depth: 2.30" (58.42 mm) (Depth behind panel excl. connectors is 1.70") Note: Connectors protrudes 0.49" (12 mm) maximum from rear of unit.
Selector Box	Height: 1.10" (28 mm) Width: 5.75" (146.05 mm) Depth: 4.88" (124.00 mm) (Depth behind panel excl. connectors is 4.49")
Wall Mount Camera	Height: 3.30" (83.82 mm) Width: 1.35" (34.3 mm) (plus connector of 0.4") Length: 4.50" (114.3 mm)
Roof Mount Camera	Height: 2.83" (72.0 mm) Width: 1.35" (34.3 mm) Length: 6.00" (152.4 mm) (Including Connector)
Universal Camera	Height: 2.95" (75.0 mm) Width: 1.58" (40.0 mm) Length: 7.09" (180.0 mm) (Including Connector)
Short Univ. Camera	Height: 2.95" (75.0 mm) Width: 1.58" (40.0 mm) Length: 5.51" (140.0 mm) (Including Connector)
IR Wall Camera	Height: 3.56" (90.4 mm) Width: 2.16" (54.9 mm) (plus connector of 0.4") Length 1.86" (47.2 mm)

IR Wall Camera (Rotated) dimensions are same as IR Wall Camera above

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#### 5.2. Weight:

Video Display Unit	1.43 lb (0.65 kg)
Selector Box	1.03 lb (0.47 kg)
Wall Mounted Camera	0.35 lb (0.16 kg)
Roof Mounted Camera	0.33 lb (0.15 kg)
Universal Camera	0.66 lb (0.30 kg)
Short Universal Camera	0.55 lb (0.25 kg)
IR Wall Camera	0.77 lb (0.35 kg)
IR Wall Camera (Rotated)	Weight is same as IR Wall Camera above

#### 5.3. Electrical supply requirements:

Video Display Unit (VDU)	18 to 40VDC @ 0.69 Amps Max
Selector Box	18 to 40VDC @ 0.69 Amps Max
Camera Assembly (all types)	12VDC @ 130mA each Nom.

Notes:

- 1) Reduce total current by 0.152A for each camera not used, (e.g. 3 camera system = 0.54A)
- 2) Each camera assembly (Maximum of 4) is powered from the Video Display Unit.
- 3) Additional cameras (Max 4) are powered from the Selector box.
- 4) Internal Power Supply operates at 83% efficiency.
- 5) Aircraft 28VDC supply to VDU requires a 1 amp Circuit Breaker.
- 6) Aircraft 28VDC supply to Selector Box requires a 1 amp Circuit Breaker.
- 7) VDU has internal Over Voltage, Over Temperature and Short Circuit protection

#### 5.4. Temperature:

Operating Temperature:

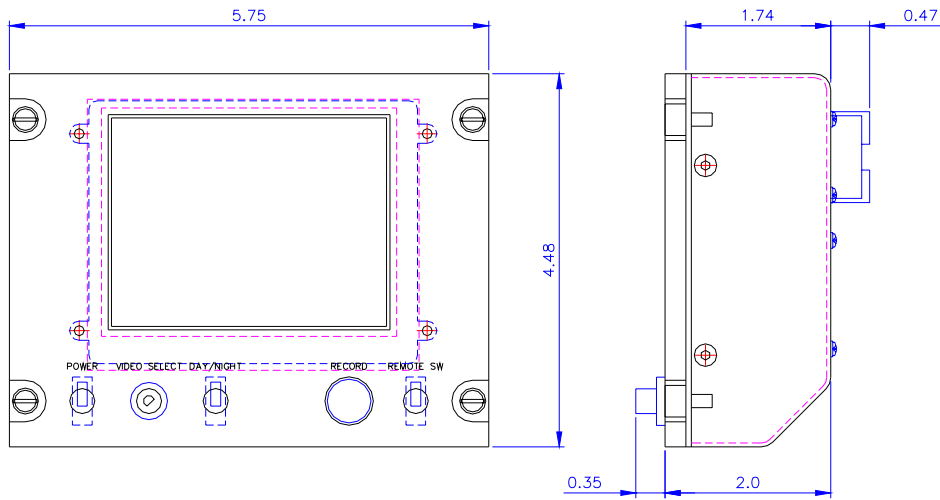
- |    |                     |                 |
|----|---------------------|-----------------|
| a) | Video Display Unit: | +0°C to +60°C   |
|    | Internal PSU:       | -40°C to +105°C |
| b) | Selector Box:       | -40°C to +105°C |
| c) | Camera:             | -10°C to +55°C  |

Storage Temperature:

- |    |                     |                             |
|----|---------------------|-----------------------------|
| a) | Video Display Unit: | -25°C to + 80°C             |
|    | Internal PSU:       | -55°C to +125°C             |
| b) | Selector Box:       | -55°C to +125°C             |
| c) | Camera:             | N/A (Assume -10°C to +55°C) |

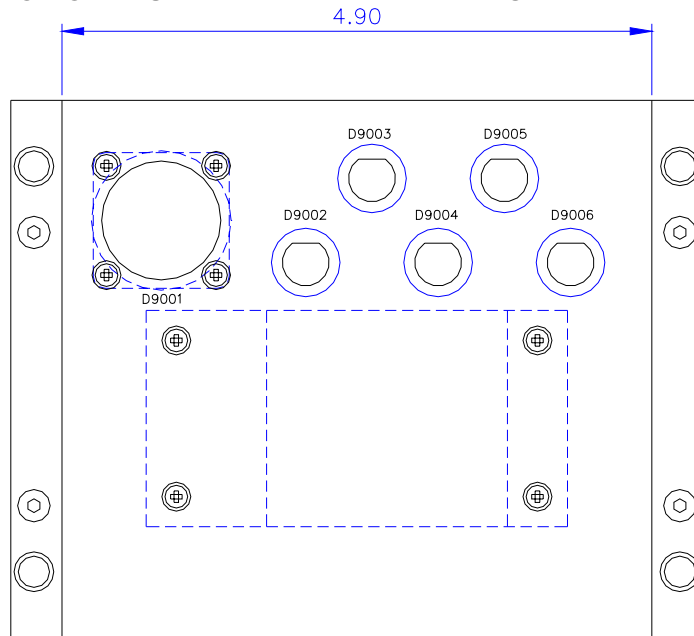
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**FRONT ELEVATION OF VDU**

**SIDE ELEVATION OF VDU**



**REAR ELEVATION OF VDU (BAC1134-01, 101, 201 series)**

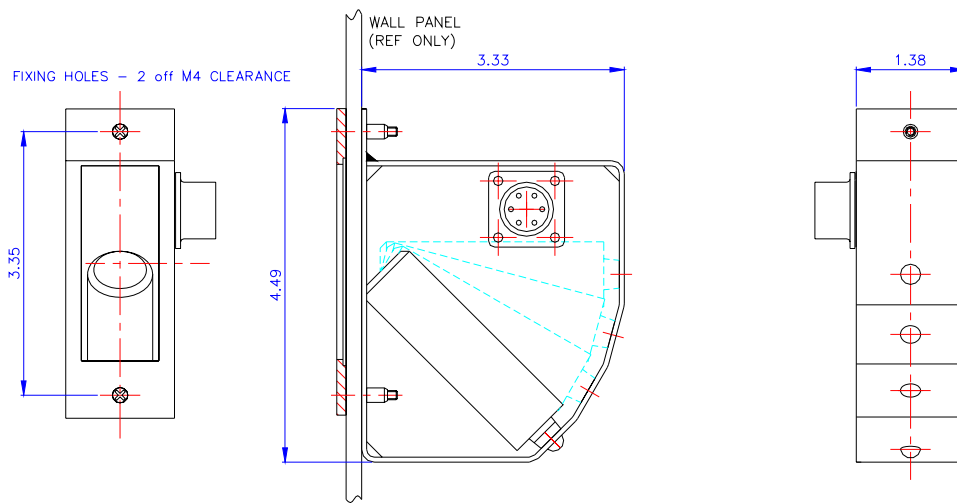
***Figure 1***

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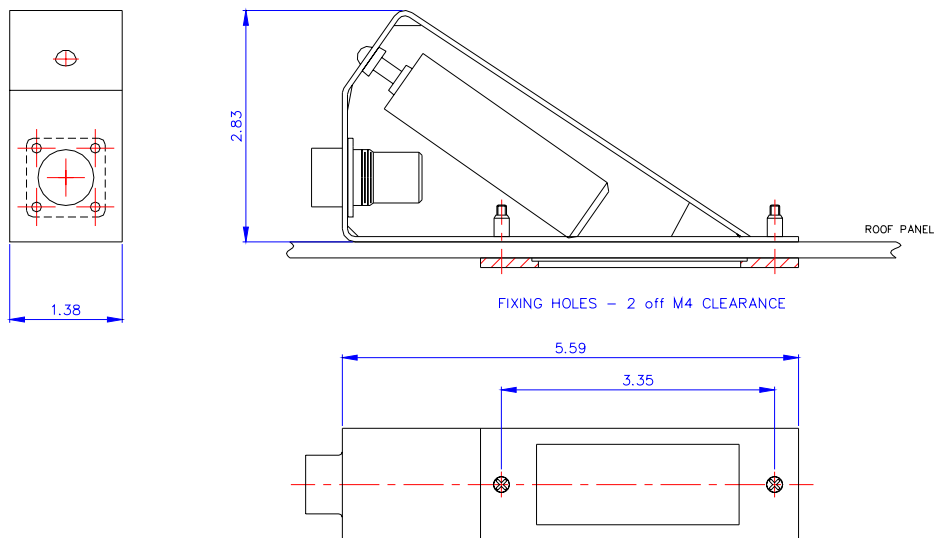
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### SKYCAM (FLIGHT DECK DOOR MONITORING SYSTEM)



**WALL CAMERA ASSEMBLY (BAC1134-21)**

**Figure 2**



**ROOF CAMERA ASSEMBLY (BAC1134-23)**

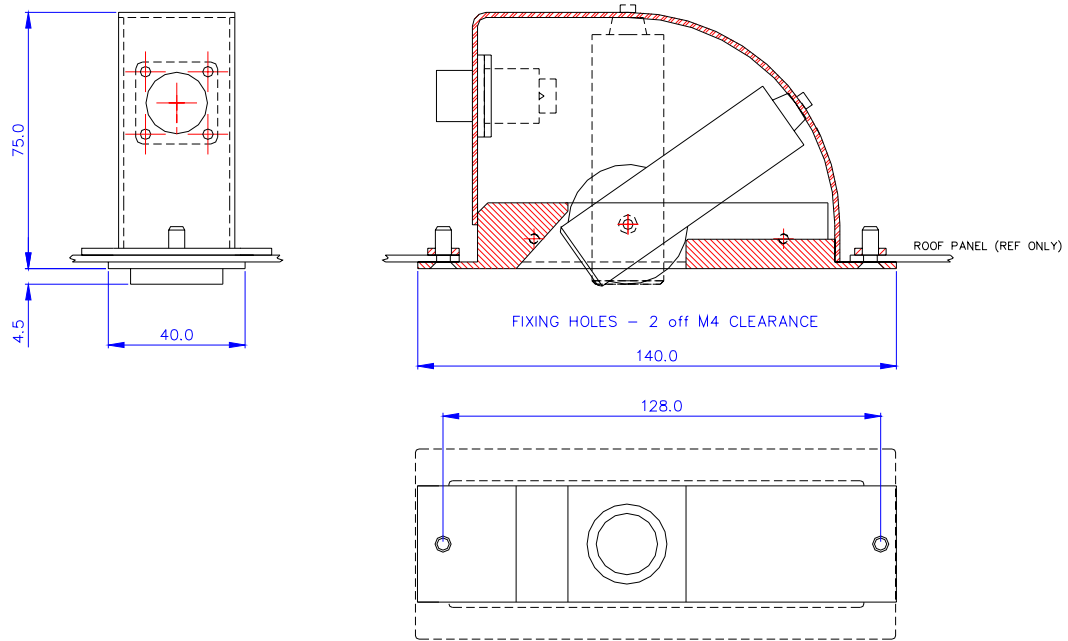
**Figure 3**

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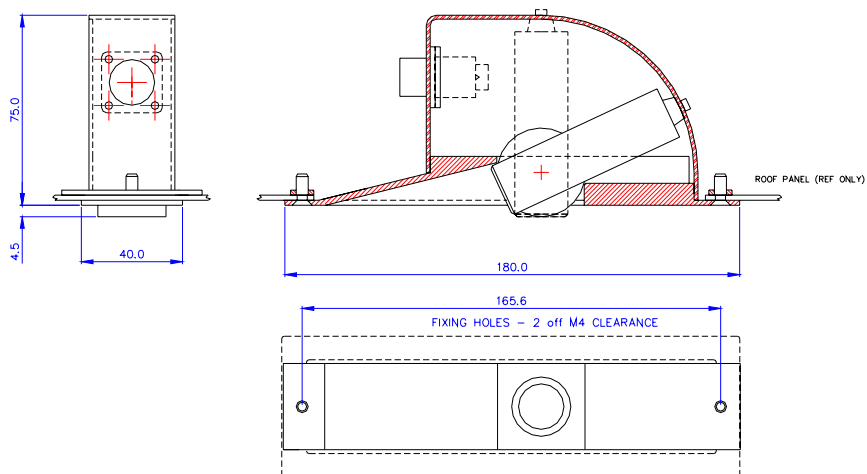
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### SHORT UNIVERSAL CAMERA ASSEMBLY (BAC1134-45)

*Figure 4*



### UNIVERSAL CAMERA ASSEMBLY (BAC1134-17)

*Figure 5*





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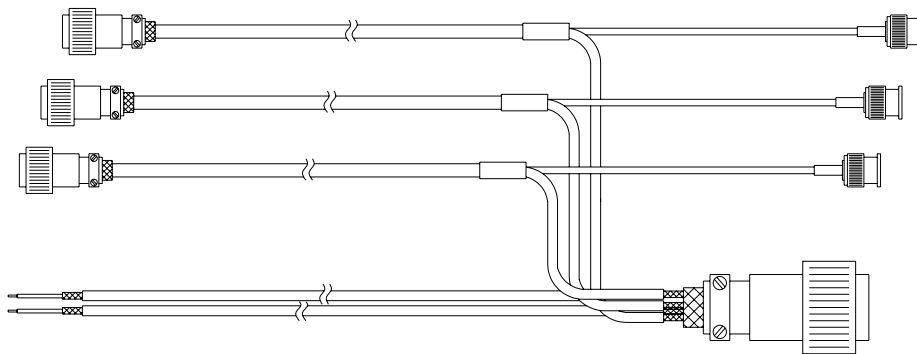
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#### 6. SKYCAM WIRING HARNESS

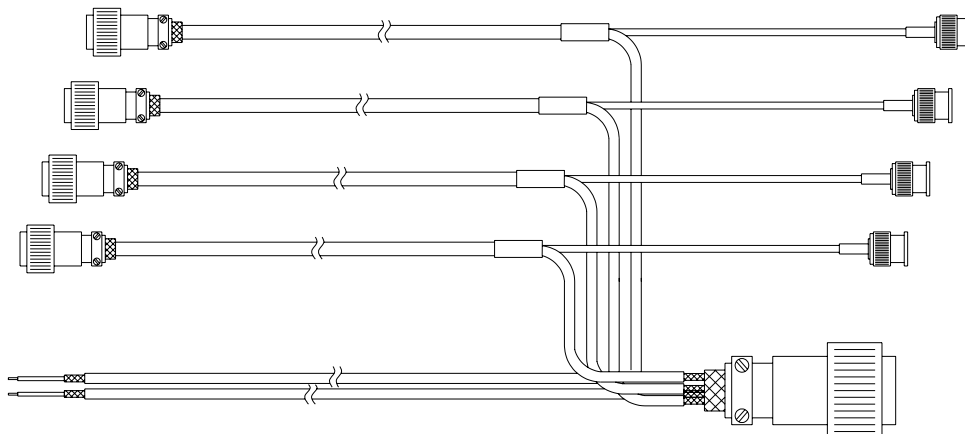
The Skycam system is to be installed in the aircraft using wiring harness BAC1134-31<sup>2</sup>. There are two standard harnesses:

- BAC1134-31/1 is made up for a standard 3 camera system
- BAC1134-31/2 is made up for a 4 camera system



#### STANDARD 3 CAMERA WIRING HARNESS ASSEMBLY (BAC1134-31/1)

*Figure 9*



#### 4 CAMERA WIRING HARNESS ASSEMBLY (BAC1134-31/2)

*Figure 10*

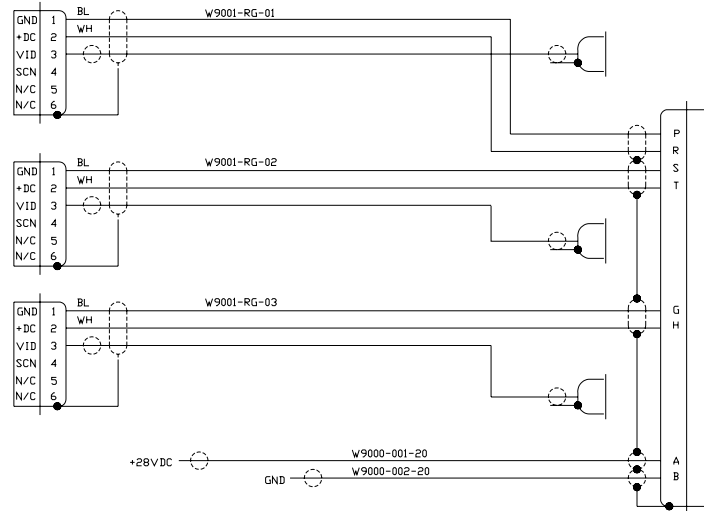
<sup>2</sup> Or alternative Harness called up in specific Aircraft Modification Document (based on these Harness Assemblies).

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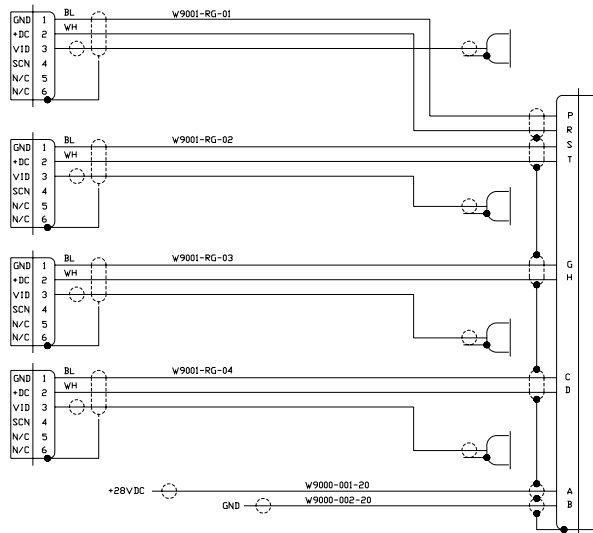
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### STANDARD 3 CAMERA HARNESS WIRING DIAGRAM

*Figure 11*

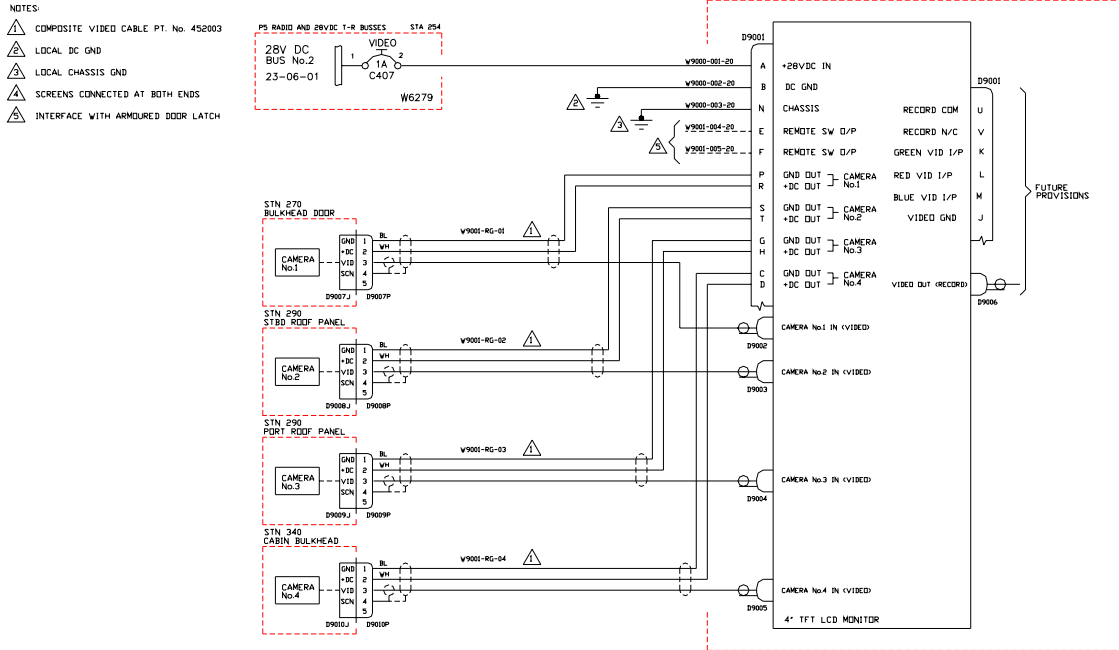


### 4 CAMERA HARNESS WIRING DIAGRAM

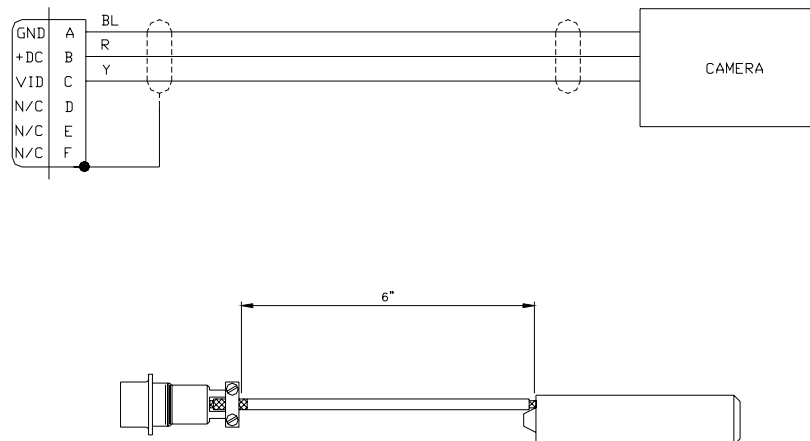
*Figure 12*

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**TYPICAL 4 CAMERA SYSTEM AIRCRAFT WIRING DIAGRAM**  
*Figure 13*



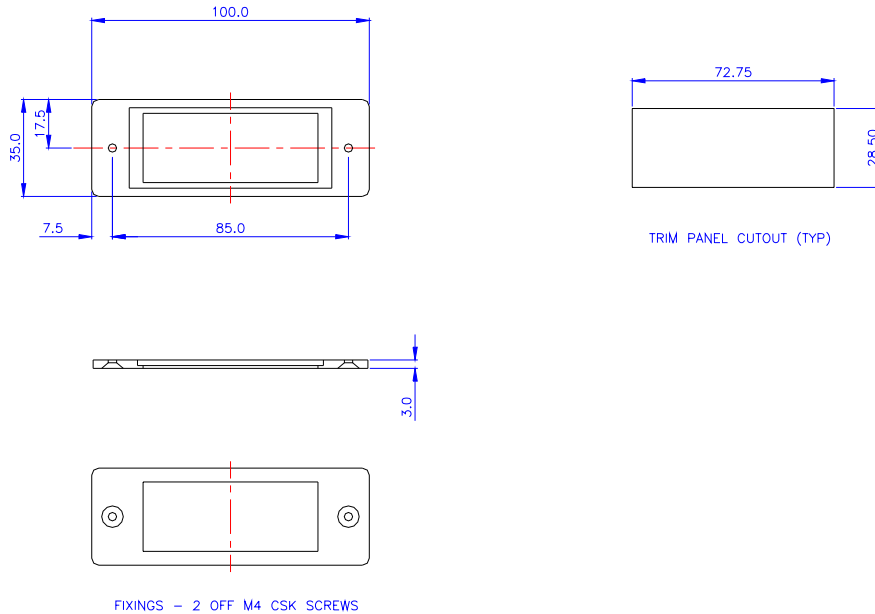
**WALL OR ROOF CAMERA WIRING**  
*Figure 14*

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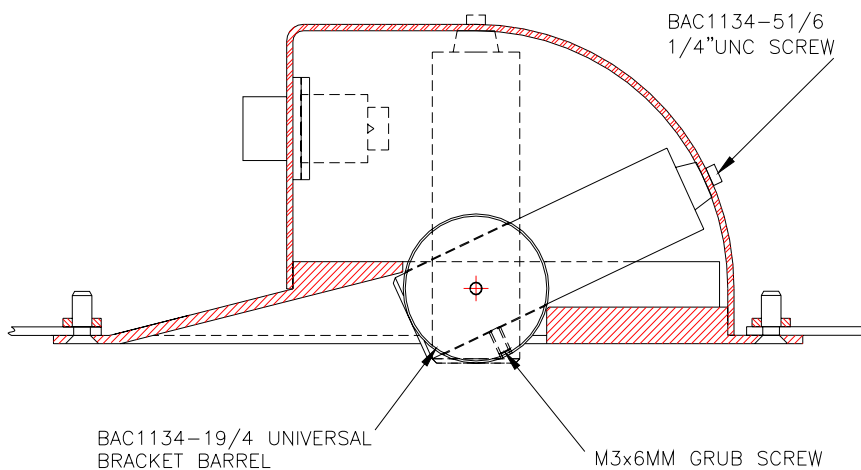
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### CAMERA WINDOW TRIM PANEL (for use with BAC1134-21 & BAC1134-23)

*Figure 15*



### CAMERA ROTATION ADJUSTMENT (for use with BAC1134-17 & BAC1134-45)

*Figure 16*

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#### 6.1. CONNECTOR DETAILS:

##### VDU Connector D9001

Part No. MS3122E14-19P (Mates with MS3476L14-19S plus M85049/52-1-14N Back shell)

A	+28VDC	L	Video I/P (Red)
B	DC Ground	M	Video I/P (Blue)
C	Ground Out (Camera 1)	N	Chassis Gnd
D	DC Out (Camera 1)	P	Ground Out (Camera 1)
E	N/C	R	DC Out (Camera 1)
F	N/C	S	Ground Out (Camera 2)
G	Ground Out (Camera 2)	T	DC Out (Camera 2)
H	DC Out (Camera 3)	U	Record Switch (Com)
J	Video Ground	V	Record (N/C)
K	Video I/P (Green)		

##### VDU Connector D9002 to D9006

RS 405-039 BNC Bulkhead Socket

Pin 1	Video Signal
Pin 2	Ground/Shield

##### Selection Box Connector PL1

MS3470L10-6P 6 Way Fixed Plug (Mates with free connector MS3475L10-6S)

Pin A	Ground Out (Cam 1)
Pin B	+12V Out (Cam 1)
Pin C	Video Signal In (Cam 1)
Pin D	Ground Out (Cam 2)
Pin E	+12V Out (Cam 2)
Pin F	Video Signal In (Cam 2)

##### Selection Box Connector PL2

MS3470L10-6P 6 Way Fixed Plug (Mates with free connector MS3475L10-6S)

Pin A	Ground Out (Cam 3)
Pin B	+12V Out (Cam 3)
Pin C	Video Signal In (Cam 3)
Pin D	Ground Out (Cam 4)
Pin E	+12V Out (Cam 4)
Pin F	Video Signal In (Cam 4)

##### Selection Box Connector PL3 (SK3)

MS3470L10-6S 6 Way Fixed Plug (Mates with free connector MS3475L10-6P)

Pin A	Video Out
Pin B	Video Out Ret
Pin C	Spare
Pin D	Spare
Pin E	Aircraft +28VDC In
Pin F	Aircraft Gnd

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#### 7. SYSTEM INSTALLATION TEST<sup>3</sup>

##### TEST No.1 – Power On:

- 1) Select Power Switch on (up position)
- 2) Select Video Select to camera 1 (Knob fully anticlockwise)
- 3) Select Day/Night to 'Day' (up position)
- 4) Select Remote Switch to dormant (up position)
- 5) Select Record button to standby (button raised and lamp off)
- 6) Verify that the Video Display Unit is show the image captured on the Starboard Camera (looking Port).
- 7) Verify that the display colour, contrast, brightness and resolution is to an acceptable level.

Pass	Fail

##### TEST No.2 – Day/Night

With the Video Display set up as per (1) above, monitor the Video Display Unit (VDU) display whilst selecting Day/Night switch on the VDU.

- 1) Select 'Day' Mode and verify screen display is 'bright'.
- 2) Select 'Night' Mode and verify screen display brightness has reduced by around 25%.

Pass	Fail

##### TEST No.3 – Video Select

With the Video Display set up as per (1) above, monitor the Video Display Unit (VDU) display whilst selecting camera 1,2,3 & 4 on the VDU.

- 1) Select Video Select to 'Camera 1' (Knob fully anticlockwise).
- 2) Verify that the Video Display Unit is show the image captured on the starboard camera (looking Port).
- 3) Select Video Select to 'Camera 2' (Knob moved one position to the right).
- 4) Verify that the Video Display Unit is show the image captured on the centre camera (looking aft).
- 5) Select Video Select to 'Camera 3' (Knob moved one more position to the right).
- 6) Verify that the Video Display Unit is show the image captured on the Port camera (looking Starboard).
- 7) Select Video Select to 'Camera 4' (Knob fully clockwise).
- 8) Verify that the Video Display Unit is showing a blank screen (IF CAMERA POSITION 4 IS NOT USED).

Pass	Fail

**THIS CONCLUDES THE SKYCAM INSTALLATION TESTS**

<sup>3</sup> For alternative test please see specific Aircraft Modification.

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## 8. MAINTENANCE REQUIREMENTS

### Service and repair

Skycam components requiring service or repair should be sent to:

Oakenhurst Aircraft Services Ltd  
Claydons Lane  
Rayleigh  
Essex, SS6 7UP  
United Kingdom

Tel: 44 (0)1268 741622 Fax: 44 (0)1268 741650  
Website: oakenhurst.com

### 8.1. SKYCAM VIDEO DISPLAY UNIT – BAC1134-01/\*, -101/\* & -201/\*

#### 8.1.a. Video Display Unit Ground Tests

The VDU is to be tested as part of the Skycam installation as above.

#### 8.1.b. Removal and replacement:

Video Display Unit Removal:

- 8.1.b.i. Loosen the four ¼-turn Dzuz fasteners (located on front panel) that secure the VDU to the aircraft panel.
- 8.1.b.ii. Gently pull VDU forward to expose rear connectors.
- 8.1.b.iii. Disconnect VDU connectors, making careful note of connections.

Video Display Unit Reinstallation:

- 8.1.b.iv. Reconnect connectors to rear of control panel.
- 8.1.b.v. Carefully slide VDU into position and tighten the four ¼-turn Dzus fasteners to hold panel firmly in place.

#### 8.1.c. Maintenance Procedures

##### In-Aircraft Adjustments:

There are no in-aircraft adjustments for the VDU. All alignment and adjustment must be done during shop maintenance.

##### System Protection:

The VDU panel is externally protected by a one Ampere circuit breaker (Maximum three Amp permitted).

##### Lubrication:

There are no moving parts in the VDU panel, so lubrication is not required.

##### Cleaning:

After shop maintenance or storage, equipment exterior surfaces should be cleaned prior to installation. Use a lint-free cloth dampened with an approved cleaning agent such as denatured alcohol. The front facia plate may be removed for cleaning both faces by loosening and removing the 4 off hex socket CSK screws, near each Dzus fastener. Re-assemble using the CSK screws applied with loctite or equivalent.

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#### 8.2. SKYCAM UNIVERSAL CAMERA – BAC1134-17

##### 8.2.a. Camera Ground Tests

The Camera is to be tested as part of the Skycam installation as above.

##### 8.2.b. Removal and replacement:

Camera Unit Removal:

- 8.2.b.i. While supporting the Camera Assembly, remove the two M4 screws that fix the assembly in place.
- 8.2.b.ii. Lower the assembly from the panel. Note: The “Universal Bracket Fixing Plate” (BAC1134-19/5) is to be retained. It should be secured in place using Araldite on first installation.
- 8.2.b.iii. Disconnect Camera Assembly connector. Cap loom connector to prevent inadvertent shorting of pins whilst camera is removed.

Camera Reinstallation:

- 8.2.b.iv. Carefully position Camera Assembly into the panel aperture, and position the retaining ring over the rear (panel) aperture. Tighten the two M4 fixing screws to hold the camera assembly in place. It is important that the fixing screws are not over tightened as damage to the aircraft trim panel may occur.
- 8.2.b.v. Reconnect connector to rear of camera assembly.
- 8.2.b.vi. Reinstate aircraft trim panel.

##### 8.2.c. Maintenance Procedures

###### In-Aircraft Adjustments:

The camera may be removed or adjusted (refer Figure 5). To replace or adjust the camera, the ¼ UNC screw and associated lock nut (or washers) is to be removed by loosening the screw, and withdrawing the screw from the rear. The camera may then be replaced or adjusted by gently securing the screw (Screw length ¾” to 1 ½”) and locknut/washers in the required position using loctite on assembly. NOTE: THE CAMERA BODY IS NOT TO BE HELD BY PLIERS OR ANY OTHER TOOL DURING THIS PROCESS AS DAMAGE WILL OCCUR.

To obtain the correct camera distance from the aperture, packing washers may be fitted behind the camera or longer screws installed prior to assembly. The camera rotation is important. Ensure the label 'top' is centred uppermost in relation to the aircraft waterline to ensure correct orientation of the picture.

To adjust orientation of camera (refer to Figure 15) slacken ¼ UNC screw and M3 grub screw; and rotate camera as required. Re-assemble using loctite on screw threads.

###### System Protection:

The Camera Assembly is powered from the VDU. The power supply is fully protected.

###### Lubrication:

There are no moving parts in the Camera Assy, so lubrication is not required.

###### Cleaning:

After shop maintenance or storage, equipment exterior surfaces should be cleaned prior to installation. Use a lint-free cloth dampened with an approved cleaning agent such as denatured alcohol.

# SKYCAM COMPONENT MAINTENANCE MANUAL J134TP061

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### SKYCAM (FLIGHT DECK DOOR MONITORING SYSTEM)

#### 8.3. SKYCAM WALL CAMERA – BAC1134-21

##### 8.3.a. Camera Ground Tests

The Camera is to be tested as part of the Skycam installation as above.

##### 8.3.b. Removal and replacement:

Wall Camera Unit Removal:

- 8.3.b.i. Gain access to the rear of the Camera Assembly located on the aircraft trim panel.
- 8.3.b.ii. Remove the two M4 fasteners (located on front of window panel) that secures the Camera Assembly to the aircraft trim panel.
- 8.3.b.iii. Disconnect Camera Assembly connector. Cap loom connector to prevent inadvertent shorting of pins whilst camera is removed.

Wall Camera Reinstallation:

- 8.3.b.iv. Reconnect connector to rear of camera assembly.
- 8.3.b.v. Carefully position Camera Assembly over the rear aperture, and position the window assembly over the front aperture. Tighten the two M4 fixing screws to hold the camera and window assembly in place. It is important that the fixing screws are not over tightened as damage to the window assembly may occur.
- 8.3.b.vi. Reinstate aircraft trim panel.

##### 8.3.c. Maintenance Procedures

###### **In-Aircraft Adjustments:**

The camera may be fitted in one of 4 positions (refer to figure 2). To replace or reposition the camera, the ¼ UNC screw and associated lock nut is to be removed by loosening the locknut, and withdrawing the screw from the rear. The camera may then be replaced or repositioned by gently securing the screw and locknut in the required position using loctite on assembly. NOTE: THE CAMERA BODY IS NOT TO BE HELD BY PLIERS OR ANY OTHER TOOL DURING THIS PROCESS AS DAMAGE WILL OCCUR.

To obtain the correct camera distance from the aperture, packing washers may be fitted behind the screw head prior to assembly. The camera rotation is important. Ensure the label 'top' is centred uppermost in relation to the aircraft waterline to ensure correct orientation of the picture.

To adjust orientation of camera, slacken ¼ UNC screw and lock nut, and rotate camera as required. To secure in position gently re-tighten using loctite on screw threads.

###### **System Protection:**

The Camera Assembly is powered from the VDU. The power supply is fully protected.

###### **Lubrication:**

There are no moving parts in the Camera Assy, so lubrication is not required.

###### **Cleaning:**

After shop maintenance or storage, equipment exterior surfaces should be cleaned prior to installation. Use a lint-free cloth dampened with an approved cleaning agent such as denatured alcohol.

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### SKYCAM (FLIGHT DECK DOOR MONITORING SYSTEM)

#### 8.4. SKYCAM ROOF CAMERA – BAC1134-23

##### 8.4.a. Camera Ground Tests

The Camera is to be tested as part of the Skycam installation as above.

##### 8.4.b. Removal and replacement:

Roof Camera Unit Removal:

- 8.4.b.i. Gain access to the rear of the Camera Assembly located on the aircraft trim panel.
- 8.4.b.ii. Remove the two M4 fasteners (located on front of window panel) that secures the Camera Assembly to the aircraft trim panel.
- 8.4.b.iii. Disconnect Camera Assembly connector. Cap loom connector to prevent inadvertent shorting of pins whilst camera is removed.

Roof Camera Reinstallation:

- 8.4.b.iv. Reconnect connector to rear of camera assembly.
- 8.4.b.v. Carefully position Camera Assembly over the rear aperture, and position the window assembly over the front aperture. Tighten the two M4 fixing screws to hold the camera and window assembly in place. It is important that the fixing screws are not over tightened as damage to the window assembly may occur.
- 8.4.b.vi. Reinstate aircraft trim panel.

##### 8.4.c. Maintenance Procedures

###### In-Aircraft Adjustments:

The camera may be removed or adjusted (refer to Figure 3). To replace or adjust the camera, the ¼ UNC screw and associated lock nut is to be removed by loosening the locknut, and withdrawing the screw from the rear. The camera may then be replaced or adjusted by gently securing the screw (Screw length ¾" to 1 ½") and locknut in the required position using loctite on assembly. . NOTE: THE CAMERA BODY IS NOT TO BE HELD BY PLIERS OR ANY OTHER TOOL DURING THIS PROCESS AS DAMAGE WILL OCCUR.

To obtain the correct camera distance from the aperture, packing washers may be fitted behind the screw head prior to assembly. The camera rotation is important. Ensure the label 'top' is centred uppermost in relation to the aircraft waterline to ensure correct orientation of the picture.

To adjust orientation of camera, slacken ¼ UNC screw and lock nut, and rotate camera as required. To secure in position gently re-tighten using loctite on screw threads.

###### System Protection:

The Camera Assembly is powered from the VDU. The power supply is fully protected.

###### Lubrication:

There are no moving parts in the Camera Assy, so lubrication is not required.

###### Cleaning:

After shop maintenance or storage, equipment exterior surfaces should be cleaned prior to installation. Use a lint-free cloth dampened with an approved cleaning agent such as denatured alcohol.

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### SKYCAM (FLIGHT DECK DOOR MONITORING SYSTEM)

#### 8.5. SKYCAM SHORT UNIVERSAL CAMERA – BAC1134-45

##### 8.5.a. Camera Ground Tests

The Camera is to be tested as part of the Skycam installation as above.

##### 8.5.b. Removal and replacement:

Camera Unit Removal:

- 8.5.b.i. While supporting the Camera Assembly, remove the two M4 screws that fix the assembly in place.
- 8.5.b.ii. Lower the assembly from the panel. Note: The "Short Universal Bracket Fixing Plate" (BAC1134-49/5) is to be retained. It should be secured in place using Araldite on first installation.
- 8.5.b.iii. Disconnect Camera Assembly connector. Cap loom connector to prevent inadvertent shorting of pins whilst camera is removed.

Camera Reinstallation:

- 8.5.b.iv. Carefully position Camera Assembly into the panel aperture, and position the retaining ring over the rear (panel) aperture. Tighten the two M4 fixing screws to hold the camera assembly in place. It is important that the fixing screws are not over tightened as damage to the aircraft trim panel may occur.
- 8.5.b.v. Reconnect connector to rear of camera assembly.
- 8.5.b.vi. Reinstall aircraft trim panel.

##### 8.5.c. Maintenance Procedures

###### In-Aircraft Adjustments:

The camera may be removed or adjusted (refer to Figure 4). To replace or adjust the camera, the ¼ UNC screw and associated lock nut (or washers) is to be removed by loosening the screw, and withdrawing the screw from the rear. The camera may then be replaced or adjusted by gently securing the screw (Screw length ¾" to 1 ½") and locknut/washers in the required position using loctite on assembly. . NOTE: THE CAMERA BODY IS NOT TO BE HELD BY PLIERS OR ANY OTHER TOOL DURING THIS PROCESS AS DAMAGE WILL OCCUR.

To obtain the correct camera distance from the aperture, packing washers may be fitted behind the camera or longer screws installed prior to assembly. The camera rotation is important. Ensure the label 'top' is centred uppermost in relation to the aircraft waterline to ensure correct orientation of the picture.

To adjust orientation of camera (refer to Figure 15) slacken ¼ UNC screw and M3 grub screw; and rotate camera as required. Re-assemble using loctite on screw threads.

###### System Protection:

The Camera Assembly is powered from the VDU. The power supply is fully protected.

###### Lubrication:

There are no moving parts in the Camera Assy, so lubrication is not required.

###### Cleaning:

After shop maintenance or storage, equipment exterior surfaces should be cleaned prior to installation. Use a lint-free cloth dampened with an approved cleaning agent such as denatured alcohol.

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### SKYCAM (FLIGHT DECK DOOR MONITORING SYSTEM)

#### 8.6. SKYCAM IR WALL CAMERAS – BAC1134-53 & BAC1134-69

##### 8.6.a. Camera Ground Tests

The Camera is to be tested as part of the Skycam installation as above.

##### 8.6.b. Removal and replacement:

Camera Unit Removal:

- 8.6.b.i. While supporting the Camera Assembly, remove the four M4 screws that fix the assembly in place.
- 8.6.b.ii. Lower the assembly from the panel. Disconnect Camera Assembly connector. Cap loom connector to prevent inadvertent shorting of pins whilst camera is removed.

Camera Reinstallation:

- 8.6.b.iii. Carefully position Camera Assembly into the panel aperture. Tighten the four M4 fixing screws to hold the camera assembly in place. It is important that the fixing screws are not over tightened as damage to the aircraft trim panel may occur.
- 8.6.b.iv. Reconnect connector to rear of camera assembly.
- 8.6.b.v. Reinstate aircraft trim panel.

##### 8.6.c. Maintenance Procedures

###### In-Aircraft Adjustments:

The camera may be removed or adjusted (refer to Figures 6 and 7). To replace or adjust the camera, the ¼ UNC screw and associated lock nut (or washers) is to be removed by loosening the screw, and withdrawing the screw from the rear. The camera may then be replaced or adjusted by gently securing the screw (Screw length ¾" to 1 ½") and locknut/washers in the required position using loctite on assembly. .  
NOTE: THE CAMERA BODY IS NOT TO BE HELD BY PLIERS OR ANY OTHER TOOL DURING THIS PROCESS AS DAMAGE WILL OCCUR.

To obtain the correct camera distance from the aperture, packing washers may be fitted behind the camera or longer screws installed prior to assembly. The camera rotation is important.

To adjust orientation of camera, slacken ¼ UNC screw and lock nut, and rotate camera as required. To secure in position gently re-tighten using loctite on screw threads.

###### System Protection:

The Camera Assembly is powered from the VDU. The power supply is fully protected.

###### Lubrication:

There are no moving parts in the Camera Assy, so lubrication is not required.

###### Cleaning:

After shop maintenance or storage, equipment exterior surfaces should be cleaned prior to installation. Use a lint-free cloth dampened with an approved cleaning agent such as denatured alcohol.

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### SKYCAM (FLIGHT DECK DOOR MONITORING SYSTEM)

#### 8.7. SKYCAM SELECTION BOX – BAC1252-01/\*

##### 8.7.a. Selection Box Ground Tests

The Selection Box is to be tested as part of the Skycam installation as above.

##### 8.7.b. Removal and replacement:

Selection Box Unit Removal:

- 8.7.b.i. Loosen the two ¼-turn Dzus fasteners (located on front panel) that secure the unit to the aircraft panel.
- 8.7.b.ii. Gently pull unit forward to expose rear connectors.
- 8.7.b.iii. Disconnect Selection Box connectors, making careful note of connections.

Selection Box Unit Reinstallation:

- 8.7.b.iv. Reconnect connectors to rear of control panel.
- 8.7.b.v. Carefully slide unit into position and tighten the two ¼-turn Dzus fasteners to hold panel firmly in place.

##### 8.7.c. Maintenance Procedures

###### **In-Aircraft Adjustments:**

There are no in-aircraft adjustments for the Selection Box. All alignment and adjustment must be done during shop maintenance.

###### **System Protection:**

The Selection Box is externally protected by a one Ampere circuit breaker (Maximum three Amp permitted).

###### **Lubrication:**

There are no moving parts in the unit panel, so lubrication is not required.

###### **Cleaning:**

After shop maintenance or storage, equipment exterior surfaces should be cleaned prior to installation. Use a lint-free cloth dampened with an approved cleaning agent such as denatured alcohol. The front facia plate may be removed for cleaning both faces by loosening and removing the 2 off hex socket CSK screws, near each Dzus fastener. Re-assemble using the CSK screws applied with loctite or equivalent.