

PR-407IR/SX-120M
Rev. 5, 12/12/05

PARAVION TECHNOLOGY, INC.
2001 AIRWAY AVENUE
FT. COLLINS, COLORADO 80524

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS
407IR/SX INFRARED CAMERA SYSTEM
AND
SEARCHLIGHT SYSTEM INSTALLATION

BELL MODEL 407 HELICOPTERS

Cover
PR-4071R/SX-120M
Rev. 1, 10/17/00

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RECORD OF REVISIONS

REVISION NO.	ISSUE DATE	DATE INSERTED	BY
1	10/17/00	10/17/00	PTI
2	04/06/04	04/06/04	RJY
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4	10/07/05	10/07/05	REB
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REVISION CONTROL PROCEDURE

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LIST OF EFFECTIVE PAGES

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B (BLANK)	1	10/17/00
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ii	5	12/12/05
iii (Removed)	4	10/07/05
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AIRWORTHINESS LIMITATIONS

The Airworthiness Limitations Section is FAA approved and specifies inspections and other maintenance required under §§ 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No airworthiness limitation associated with this type design change.

This system has no life-limited components.

REVISION	DATE	APPROVED
0	06/26/98	Ronald May
1	11/29/00	David Grossman
2	04/06/04	Roger Caldwell
3	09/07/04	Roger Caldwell
4	10/07/05	David Grossman
5	01/03/06	David Grossman

1.0 SYSTEM DESCRIPTION (Infrared Camera System)

The camera system incorporated in this installation includes “Infrared” imaging, which may be referred to as “thermal” or “Forward Looking Infrared (FLIR)”, and visible light (Color Daylight) capability. The features and functions of the imaging system are fully described by the product data. Please refer to “Airborne Thermal Imaging System” manual dated May 1987 or later revision.

1.1 The Imaging System installation includes the following major components:

- 1.1.1 Mount Assembly Installation at FS.45.06 RBL 1.0 location. (Fig. 1 and Fig. 2)
- 1.1.2 Gimbal Adapter Assembly, (Figs. 3 and 3a) necessary in order to add a support plate, which fits into channels in the Mount Assembly Installation. (Fig. 2)
- 1.1.3 Gimbal Assembly (Ref.) shown in Figs. 3 and 3a.
- 1.1.4 Electronic Control Unit. (Fig. 4)
- 1.1.5 A Shelf Panel Installation and mounting hardware for mounting the Electronics Unit. (Fig. 4)
- 1.1.6 A handheld pistol grip control unit for the Imaging Gimbal functions.

NOTE:This control may include an attached Remote Control Unit for the SLAved Searchlight System (SLASS) if 407SX-100 Searchlight kit has been installed.

- 1.1.7 A Monitor and Monitor installation. (Fig. 5)

2.0 INSPECTION AND MAINTENANCE (Infrared Camera System)

It is the objective of this inspection and maintenance procedure to ensure that component installations are secure and that the electrical system is airworthy. Table I, TROUBLESHOOTING PROCEDURE (Infrared Camera System), refers to the most likely problems that may be encountered, and outlines the appropriate corrective actions. All loose and/or replaced fasteners should be torqued per the requirements outlined in Appendix A.

Please refer to the applicable troubleshooting chapter in the latest revision of the manufacturer’s manual referenced above for any system troubleshooting procedures.

3.0 COMPONENT REMOVAL AND REPLACEMENT (Infrared Camera System)

NOTE:When mounting components are removed, and replaced, follow torque recommendations given in Appendix A for fastener installation.

3.1 Gimbal Installation

3.1.1 Unscrew the Locking Knob located at the open end of the mount assembly. Slide the Support Plate fully into the mount assembly rails.

3.1.2 Reinstall the Locking Knob and hand-tighten.

3.1.3 Assure that the aircraft Battery switch is OFF. Install Power Supply/Control cables to their proper receptacles.

NOTE: Refer to the manufacturers technical data to insure proper cables installation.

3.2 Gimbal Removal

3.2.1 Assure that the aircraft Battery switch is OFF, before removing electrical cables from the gimbal installation.

3.2.2 Unscrew the Locking Knob located at the open end of the mount assembly, and slide the support plate out of the mount assembly rails.

3.2.3 Remove and stow connecting cables.

3.3 Hand Held Pistol Grip Control Unit Installation

3.3.1 Assure that the aircraft Battery switch is OFF.

3.3.2 Connect Control Cable to proper Electronics Unit receptacle.

3.4 Hand Held Pistol Grip Control Unit Removal

3.4.1 Assure that the aircraft BATtery switch is OFF.

3.4.2 Remove and stow the control and connecting cables.

3.5 Components Service

If troubleshooting results in the finding of faults in the system components, the faulty unit should be removed from service by qualified personnel. Aircraft Weight and Balance should be adjusted accordingly reference Table III of this document.

4.0 SYSTEM DESCRIPTION (Searchlight System)

4.1 The searchlight system incorporated in this installation includes a high-intensity searchlight along with supporting components to function. Please refer to Spectrolab's "SX-16 Night Sun Searchlight operation and maintenance instructions" dated January 1988 or "SX-5 Starburst Searchlight operation and maintenance instructions" dated January 1988 or later revision as applicable. The searchlight installation kit includes the following major components:

- 4.1.1 A Mount Assembly, attached to the underside of the Cargo compartment floor.
- 4.1.2 A Support Plate, attached to the top of the searchlight gimbal assembly. This plate fits into rails in the Mount Assembly, and is locked in place by a hand-tightened threaded Locking Knob.
- 4.1.3 Mounting hardware for the searchlight junction box. This box provides electrical power to operate the searchlight, and is mounted on the panel assembly, behind the hat-rack.
- 4.1.4 A buss bar which is installed in the DC power panel supplies power for the searchlight system.
- 4.1.5 Electrical hardware installation to operate the Searchlight system.

5.0 INSPECTION AND MAINTENANCE (Searchlight System)

It is the objective of this inspection and maintenance procedure to ensure that component installations are secure and that the electrical system is airworthy. Table II, TROUBLESHOOTING PROCEDURE (Searchlight System), refers to the most likely problems that may be encountered, and outlines the appropriate corrective actions. All loose and/or replaced fasteners should be torqued per the requirements outlined in Appendix A. Please refer to the applicable troubleshooting chapter in the latest revision of the manufacturers manual referenced above for any system troubleshooting procedures.

6.0 COMPONENT REMOVAL AND REPLACEMENT (Searchlight System)

NOTE: When mounting components are removed, and replaced, follow torque recommendations given in Appendix A for fastener installation.

6.1 Searchlight Gimbal Assembly Removal

- 6.1.1 Insure that the Battery switch is off.
- 6.1.2 Remove electrical cables.
- 6.1.3 Remove the Locking Knob located at the aft end of the mount assembly, and slide the support plate out of the mount assembly rails.

NOTE: The Locking Knob may be reinserted into mount assembly while gimbal assembly is removed.

6.2 Searchlight Gimbal Assembly Replacement

- 6.2.1 Unscrew the Locking Knob located at the open end of the mount assembly. Slide the Support Plate fully into the mount assembly rails.

- 6.2.2 Reinstall the Locking Knob and hand-tighten.
- 6.2.3 Insure that the aircraft BATtery switch is OFF.
- 6.2.4 Install Power Supply/Control cables to their proper receptacles.

NOTE: Refer to Searchlight technical data to insure proper cable installation.

6.3 Carry-On Control Unit Removal

- 6.3.1 Insure that the BATtery switch is off.
- 6.3.2 Disconnect the control unit cable at the receptacle near the WARNING HORN.

6.4 Carry-On Control Unit Replacement

- 6.4.1 Insure that the BATtery switch is OFF.
- 6.4.2 Connect the control unit cable to the receptacle located overhead near the WARNING HORN.

6.5 Mounting Components Replacement

- 6.5.1 Position the Support Bracket assemblies under the bottom of the baggage compartment floor reference Figure 8. Loosely install the screws, from inside the baggage compartment, to hold the Support Bracket components in place.
- 6.5.2 Install and hand-tighten the bolts that join the Support Bracket components to each other.
- 6.5.3 Finish torque the screws through the baggage floor, then finish torque the Support Bracket assembly bolts.
- 6.5.4 Install Mount assembly using indicated hardware.

6.6 Searchlight/Gimbal Service

- 6.6.1 Appendix B procedures should be followed during periodic inspection. See Figure 7 for general components placement. See Figure 8 for Searchlight Mount Assembly configuration. See Figure 9 for Junction Box location.

6.7 Mounting Comonents Removal

- 6.7.1 Refer to Figure 8. With Searchlight Gimbal Assembly removed, remove the Mount Assembly by removing the six (6) fasteners located in upper corners and top of box.

NOTE: Access the area below the baggage floor by removing the access panel.

6.7.2 To remove support bracket assemblies, remove the screws that fasten it to the baggage compartment floor. Disassemble the support bracket components for removal.

6.8 Junction Box Removal

6.8.1 Reference Figure 9, insure BATtery switch is OFF to access DC Power Supply and remove System Power Cable.

6.8.2 Disconnect electrical wiring.

6.8.3 Remove Junction Box form the Beam Assemblies.

6.9 Junction Box Replacement

6.9.1 Reference Figure 9 position Junction Box over the Beam Assemblies and install using indicated hardware.

6.9.2 Refer to Searchlight Manufacturer’s data to insure proper cable connections to Junction Box.

6.9.3 Insure BATtery switch is OFF. Complete Power Cable connections reference Figure 9.

6.9.4 Replace all covers removed during service.

6.10 Component Service

If troubleshooting results in the finding of faults in the system components, the faulty unit should be removed from service by qualified personnel. Aircraft Weight and Balance should be adjusted accordingly reference Tables IV and V of this document.

TABLE I

TROUBLESHOOTING PROCEDURE (Infrared Camera System)		
PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
IMAGING GIMBAL FAILURE	Electrical Power Supply	Inspect Electrical System Wiring
	Control Box	Refer to Mfr’s Instructions
GIMBAL CONTROL MONITOR FAILURE	Control Circuits	Refer to Mfr’s Instructions
	Electrical Power Supply	Inspect Electrical System Wiring
	Signal Loss	Inspect Wiring Instructions
	Monitor Failure	Remove and Replace Unit

TABLE II

TROUBLESHOOTING PROCEDURE (Searchlight System)		
PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
SEARCHLIGHT FAILURE	Lamp Failure	Refer to Mfr's Instructions
	Fuse Failure	Check for open current limiter, Junction Box fuse. Refer to Mfr's Instructions.
GIMBAL CONTROL	Electrical Power Supply	Inspect Electrical System Wiring
	Control Box	Refer to Mfr's Instructions
	Control Circuits	Refer to Mfr's Instructions

TABLE III

407IR-100 Weight and Balance Data					
ITEM		Longitudinal		Lateral	
	Weight	F.S.	Moment	B.L.	Moment
	(lb)	(in)	(in-lbs)	(in)	(in-lbs)
Standard Gimbal Adapter	4.0	45.0	180.0	1.0	4.0
Isolated Gimbal Adapter	8.2	45.0	369.0	1.0	8.2
MK-I or MK-II Gimbal	27.9	45.0	1255.5	1.0	27.9
U7000 Gimbal	26.0	45.0	1170.0	1.0	26.0
U7500 Gimbal	26.4	45.0	1188.0	1.0	26.4
U8000 or U8500 Gimbal	29.0	45.0	1305.0	1.0	29.0
MK-I or MK-II ECU	11.0	16.2	178.2	-10.0	-110.0
U7000 or U7500 ECU	9.1	16.2	147.4	-10.0	-91.0
U8000 ECU	14.9	16.2	241.4	-10.0	-149.0
U8500 ECU	15.5	16.2	251.1	-10.0	-155.0
Equipment Shelf	3.5	17.8	62.3	-11.3	-39.6

TABLE IV

WEIGHT AND BALANCE DATA (SX-16 Searchlight System)					
ITEM	WEIGHT (lb)	LONGITUDINAL		LATERAL	
		F.S. (in)	MOMENT (in.-lb.)	B.L. (in.)	MOMENT (in.-lb.)
MOUNT ASSEMBLY INST'N	5.25	182.1	956	0	0
SEARCHLIGHT ASSEMBLY	35.0	182.1	6374	0	0
JUNCTION BOX INST'N	8.0	158.0	1264	-10.6(TYP)	+85(TYP)

TABLE V

WEIGHT AND BALANCE DATA (SX-5 Searchlight System)					
ITEM	WEIGHT (lb)	LONGITUDINAL		LATERAL	
		F.S. (in)	MOMENT (in.-lb.)	B.L. (in.)	MOMENT (in.-lb.)
MOUNT ASSEMBLY INST'N	5.25	182.1	956	0	0
SEARCH LIGHT ASSEMBLY	20.0	182.1	3642	0	0
JUNCTION BOX INST'N	8.0	158.0	1264	-10.6(TYP)	-85(TYP)

FIGURES

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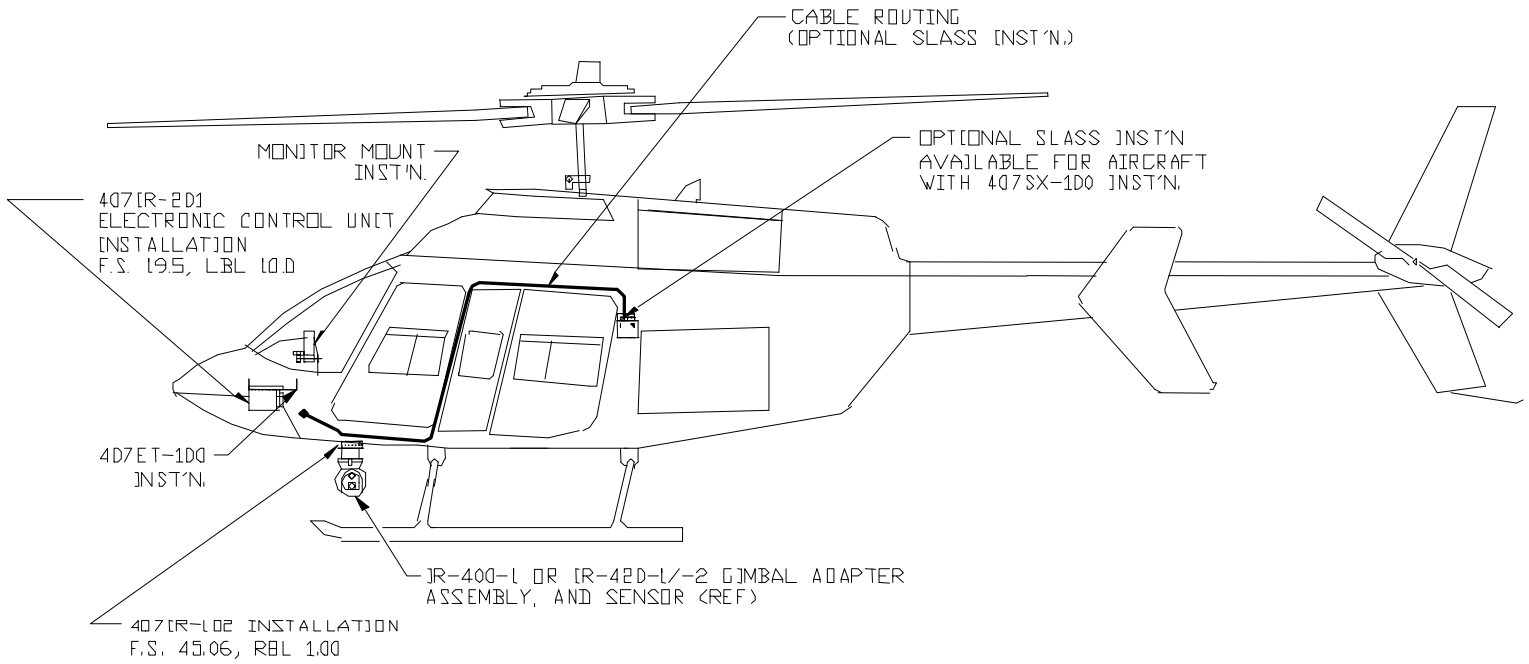


Figure 1: Configuration: Imaging System Installation

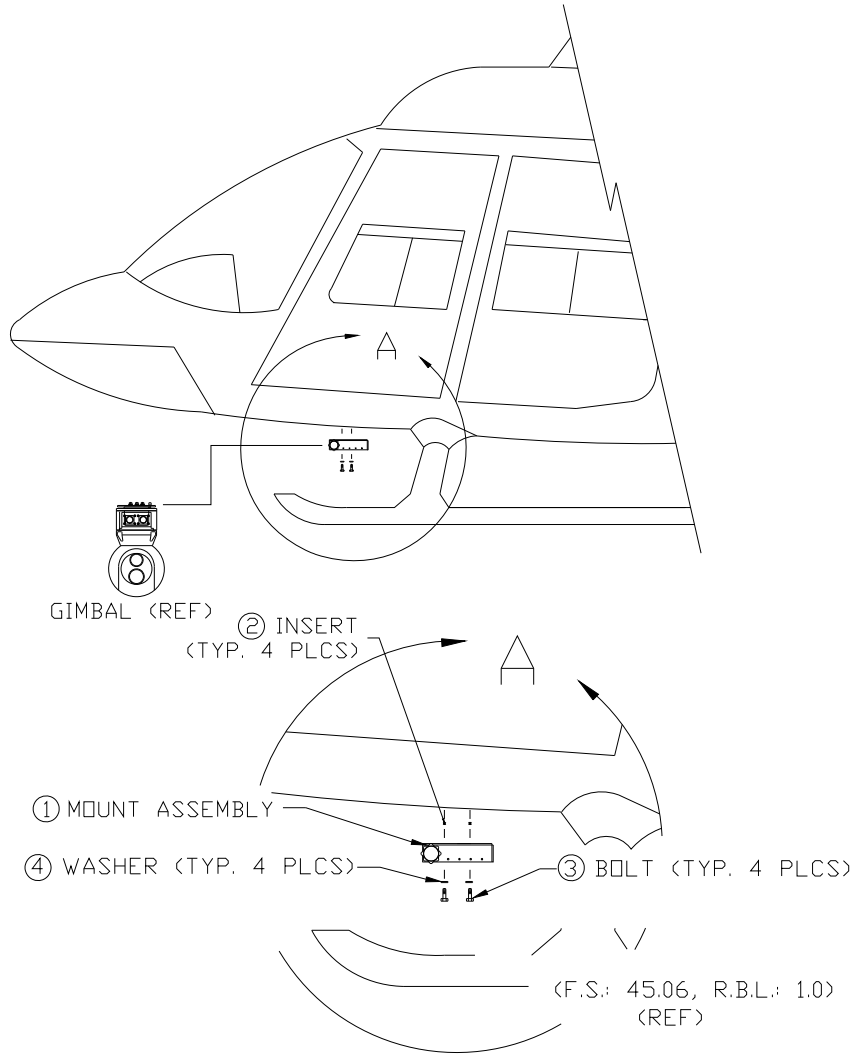


Figure 2: Mount Assembly Installation

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	206IR-2145-2	MOUNT ASSEMBLY	1	EA.
2	80-004-3-12	INSERTS	4	EA.
3	AN4-5A	BOLT	4	EA.
4	NAS1149F0463P	WASHER	4	EA.

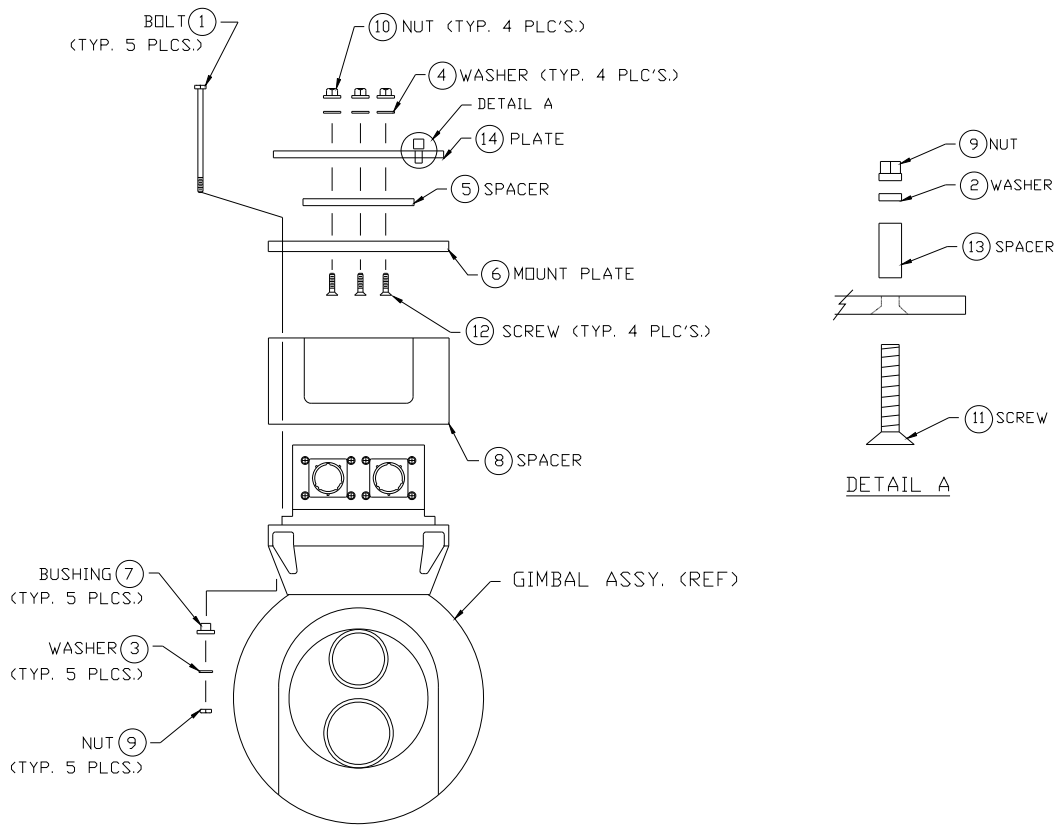


Figure 3: IR-400-1 Gimbal Adapter Assembly

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	AN3-40A	BOLT	5	EA.
2	NAS1149F0332P	WASHER	1	EA.
3	NAS1149D0363J	WASHER	5	EA.
4	NAS1149D0463J	WASHER	4	EA.
5	IR-607-1	SPACER	1	EA.
6	IR-610-1	MOUNT PLATE	1	EA.
7	IR-620-1	BUSHING	5	EA.
8	IR-630-1	SPACER	1	EA.
9	MS21042L3	NUT	6	EA.
10	MS21042L4	NUT	4	EA.
11	MS24693S277	SCREW	1	EA.
12	MS24693S300	SCREW	4	EA.
13	NAS43DD3-32	SPACER	1	EA.
14	SX5-606-1	SUPPORT PLATE	1	EA.

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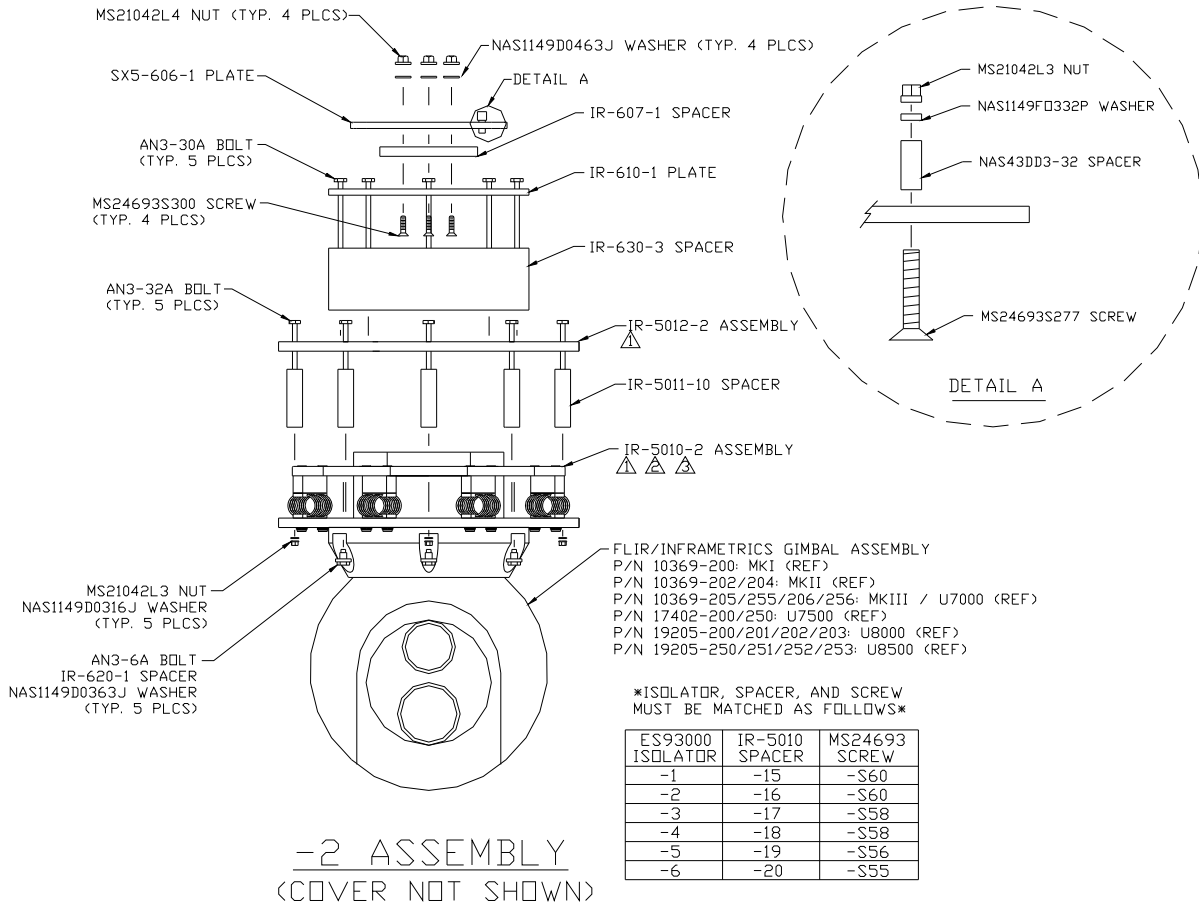


Figure 3a: IR-420-2 Gimbal Adapter Assembly (NO parts list next page)

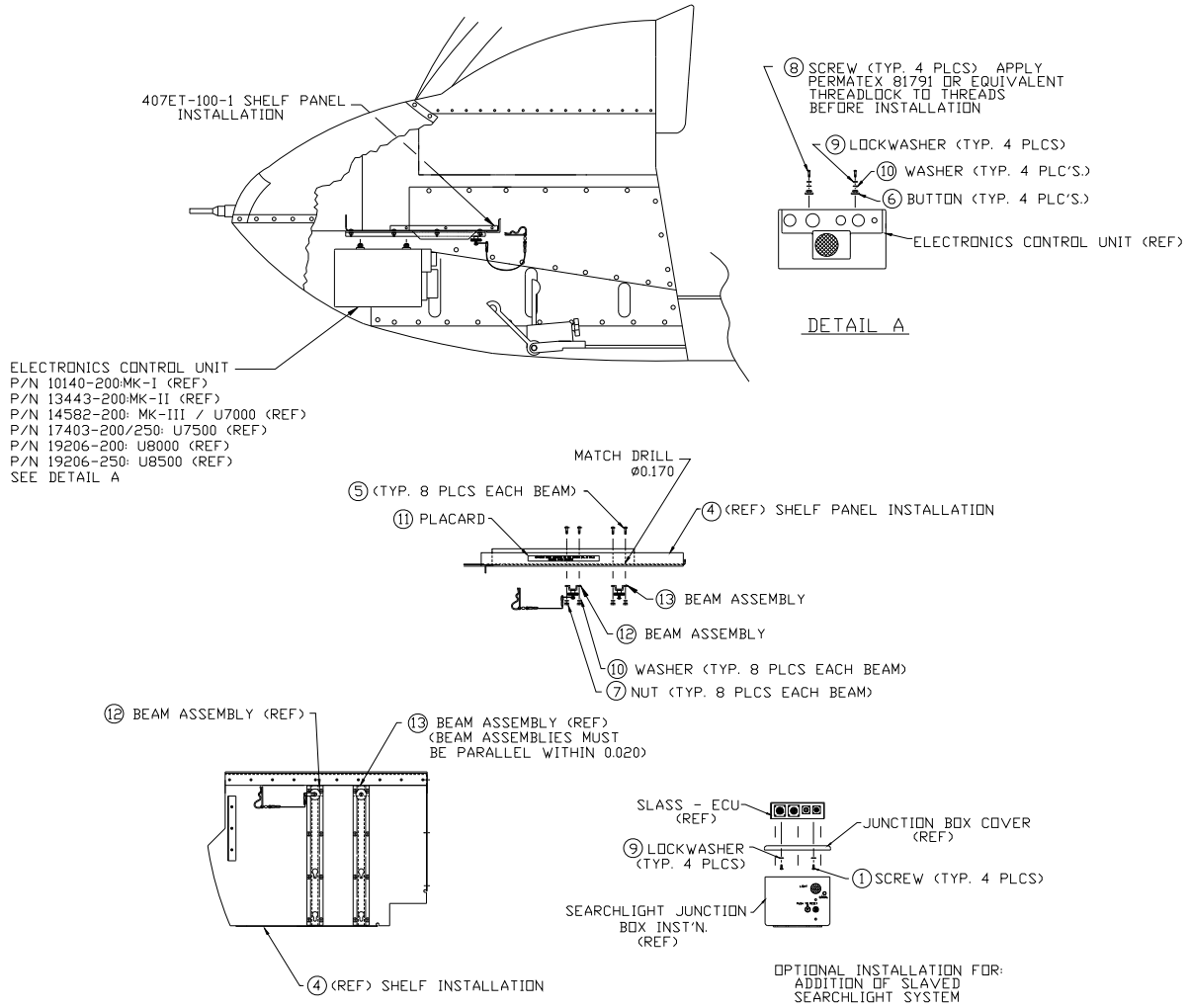


Figure 4: Electronic Control Unit Installation

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	MS35206-241	SCREW	4	EA.
4	407ET-100-1	SHELF PANEL INST'N	1	EA.
5	AN525-8R9	SCREW	16	EA.
6	IR-2000-1	BUTTON	4	EA.
7	MS21042L08	NUT	16	EA.
8	MS35206-247	SCREW	4	EA.
9	MS35333-38	LOCK WASHER	8	EA.
10	NAS1149DN816K	WASHER	20	EA.
11	407ET-1000-13	PLACARD	1	EA.
12	206IR-2105-3	BEAM ASSY	1	EA.
13	206IR-2105-4	BEAM ASSY	1	EA.

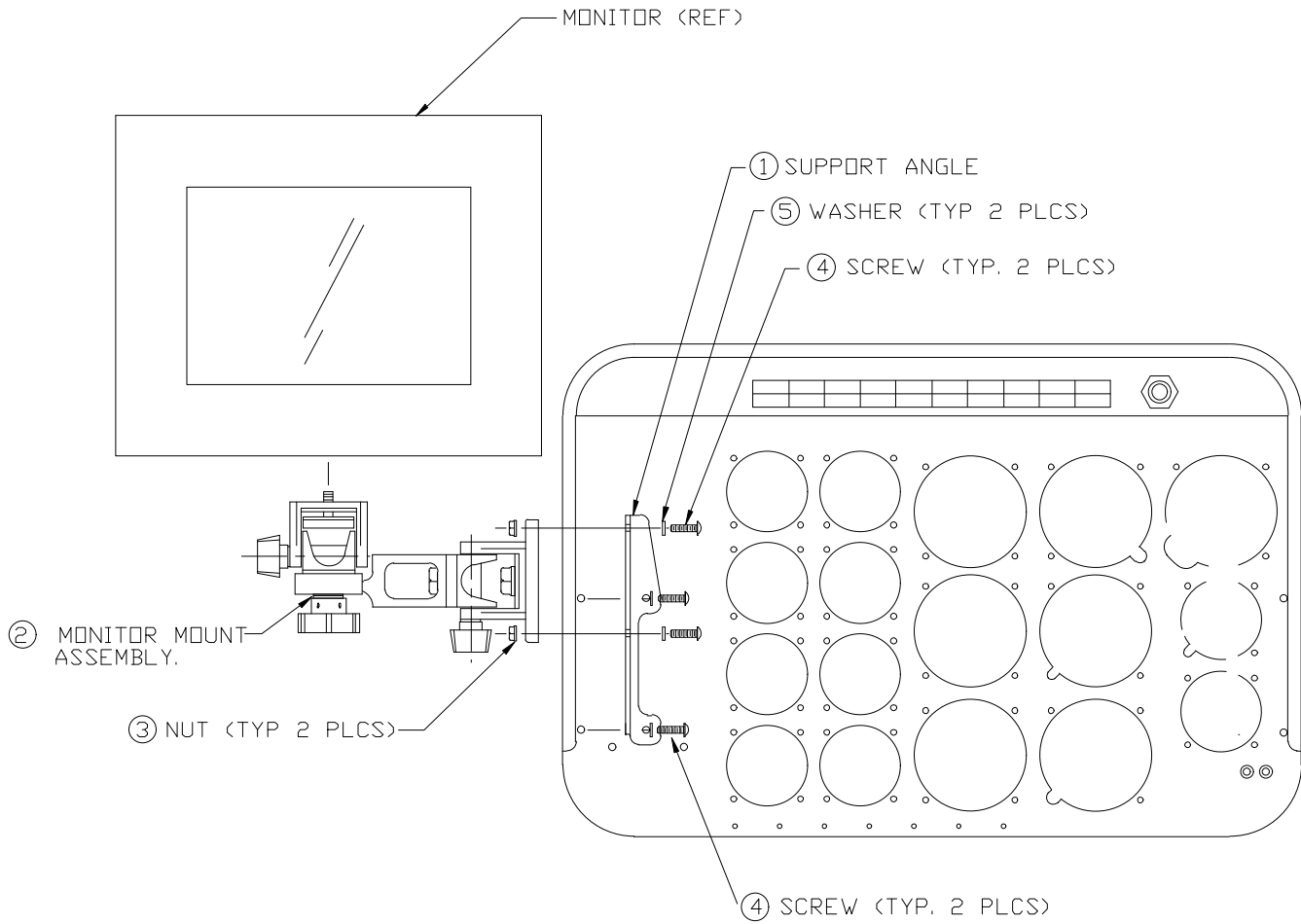
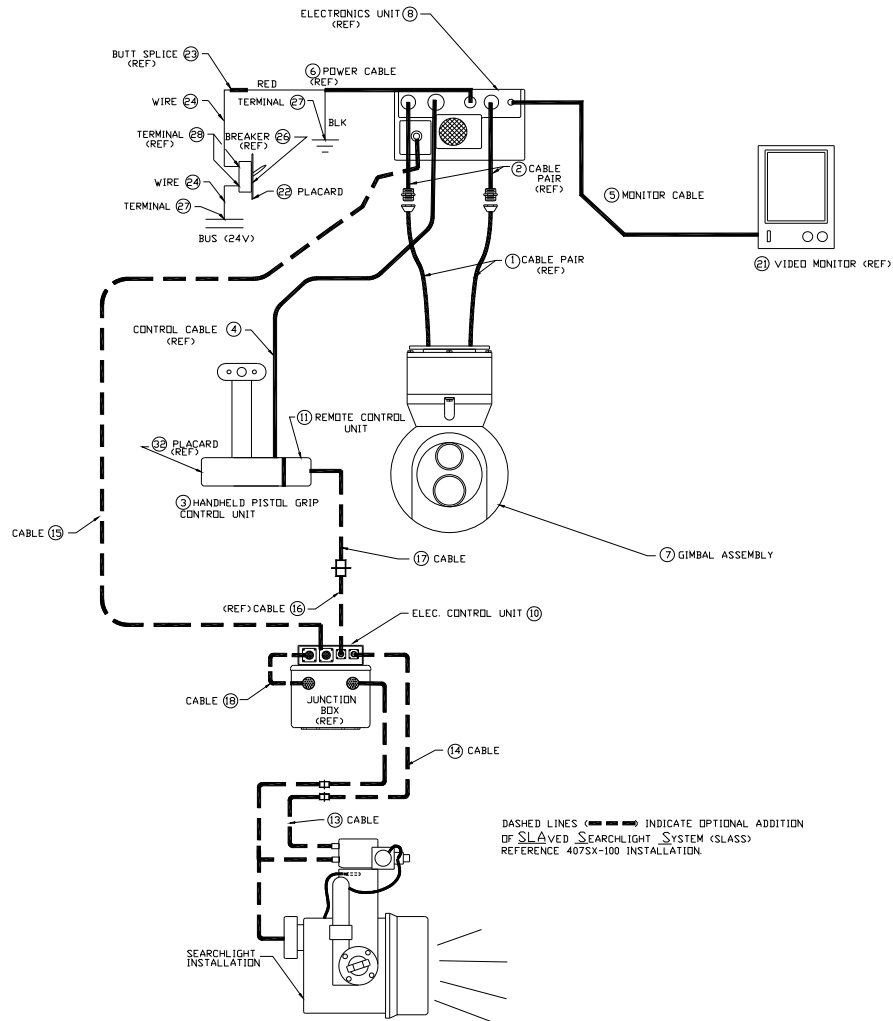


Figure 5: Monitor Installation

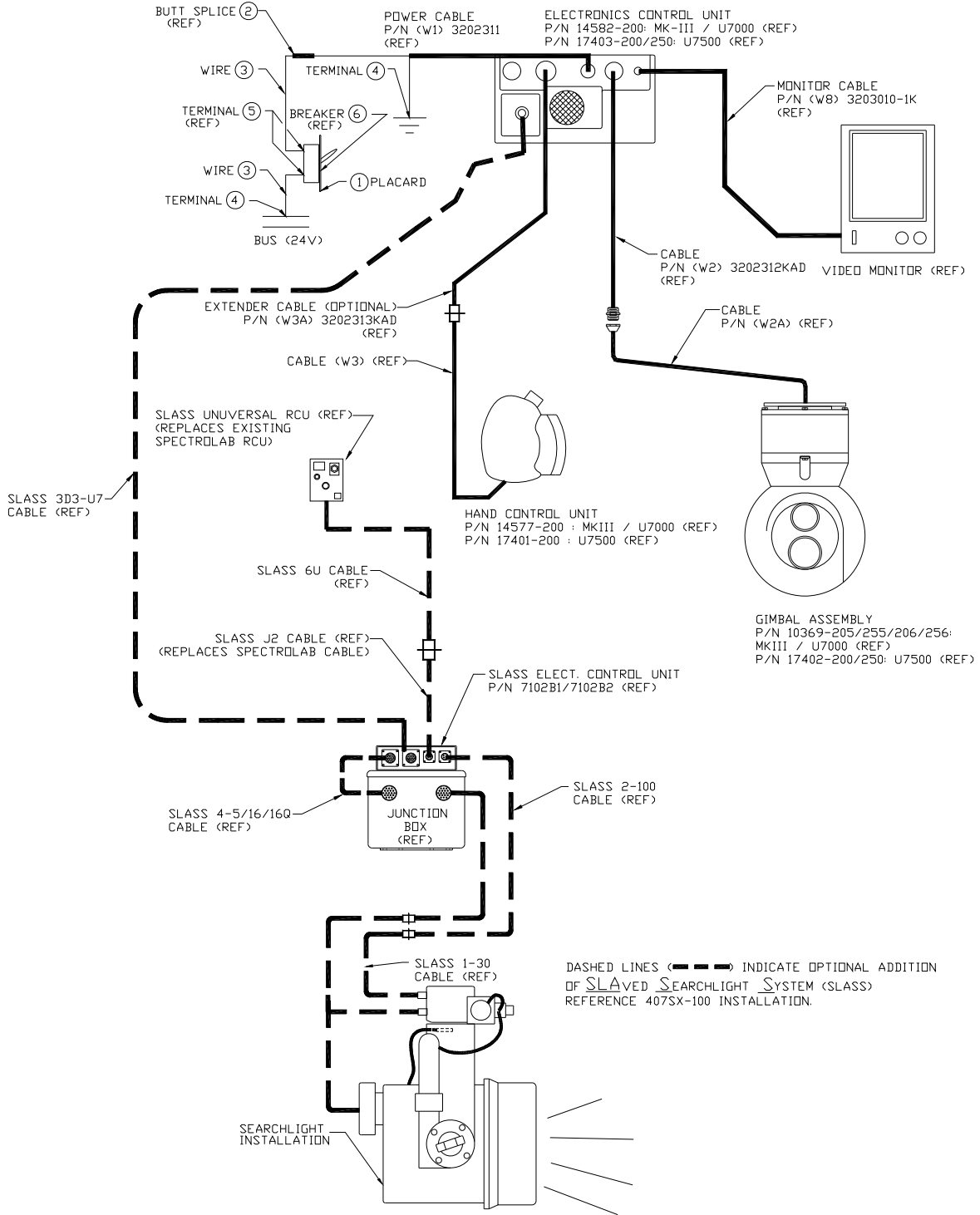
ITEM NO	PN	DESCRIPTION	QTY	TYP
1	206MM-300-1	SUPPORT ANGLE	1	EA.
2	MM-160-2	MONITOR MOUNT ASSEMBLY	1	EA.
3	MS21042L3	NUT	2	EA.
4*	[MS35207-265]	SCREW	[4]	EA.
5	NAS1149D0332K	WASHER	2	EA.

* MS35207-265 replaces MS35207-264



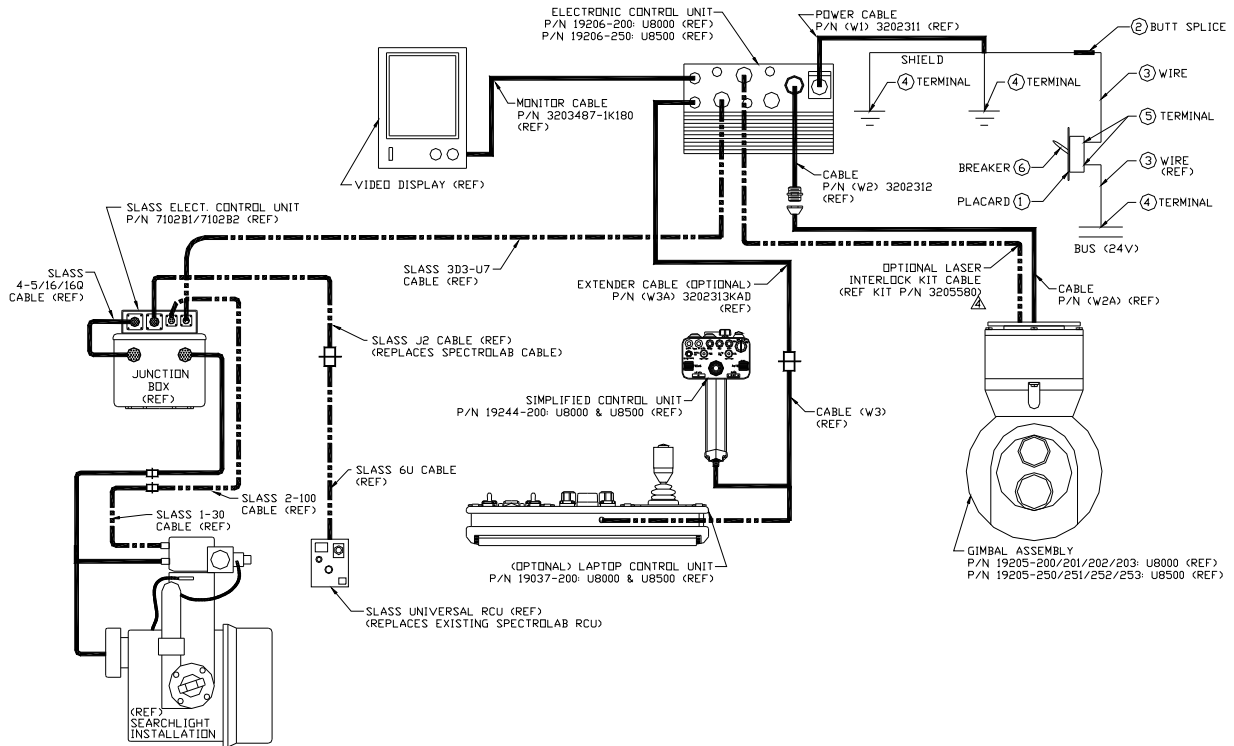
**Figure 6: Electrical Installation
 INFRAMETRICS/FLIR MKI AND MKII**

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	10349-503	CABLE INFRAMETRICS (Ref.) or Equiv.	1	EA.
2	10349-551	CABLE INFRAMETRICS (Ref.) or Equiv.	1	EA.
3	10364-200	HAND HELD PISTOL GRIP CONTROL UNIT (Ref) or Equiv.	1	EA.
4	10366-501	CABLE INFRAMETRICS (Ref.) or Equiv.	1	EA.
5	10367-501	CABLE INFRAMETRICS (Ref.) or Equiv.	1	EA.
6	10368-500	CABLE INFRAMETRICS (Ref.) or Equiv.	1	EA.
7	10365-200	GIMBAL, IRTV-445-G (Ref.) or Equiv.	1	EA.
8	13443-200	ELECTRONIC UNIT, IRTV-445-G (Ref.) or Equiv.	1	EA.
10	6102A	ELEC. CONTROL. UNIT, SLASS (Ref.) or Equiv.	1	EA.
11	6104	REMOTE CONTROL UNIT, SLASS (Ref.) or Equiv.	1	EA.
13	SLASS 1-30	CABLE #1, SLASS, DYNAMETRICS (Ref.) or Equiv.	1	EA.
14	SLASS 2-100	CABLE #2, SLASS, DYNAMETRICS (Ref.) or Equiv.	1	EA.
15	SLASS 3A2(I)-228	CABLE #3A2(I), SLASS, DYNAMETRICS (Ref.) or Equiv.	1	EA.
16	SLASS 5-192	CABLE #5, SLASS, DYNAMETRICS (Ref.) or Equiv.	1	EA.
17	SLASS 6(F/1)-60	CABLE #6(F/1), SLASS, DYNAMETRICS (Ref.) or Equiv.	1	EA.
18	SLASS 4-16STD	CABLE #4-16, SLASS, DYNAMETRICS (Ref.) or Equiv.	1	EA.
21	ES56200-1	MONITOR, VIDEO (Ref.) or Equiv.	1	EA.
22	IR-310-1	PLACARD	1	EA.
23	M7928/5-3	BUTT SPLICE (Alt# D-436XX Splice)	1	EA.
24	MIL-W-22759/16-18	AWG 18, WIRE (Marked "IR Power")	8	FT.
26	MS24509-A10	BREAKER	1	EA.
27	MS25036-103	TERMINAL	3	EA.
28	MS25036-149	TERMINAL	2	EA.
32	CAM-6275-11	PLACARD	1	EA.



**Figure 6a: Electrical Installation
 FLIR U7000 OR U7500**

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	IR-310-1	PLACARD	1	EA.
2	M7928/5-4	BUTT SPLICE (ALT: D-436XX Splice)	1	EA.
3	MIL-W-22759/16-16	AWG 16, WIRE	8	FT.
4	MS25036-103	TERMINAL	3	EA.
5	MS25036-149	TERMINAL	2	EA.
6	MS24509-A15	BREAKER	1	EA.



**Figure 6b: Electrical Installation
 FLIR U8000 OR U8500**

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	IR-310-1	PLACARD	1	EA.
2	M7928/5-4	BUTT SPLICE (ALT: D-436XX Splice)	1	EA.
3	MIL-W-22759/16-14	AWG 14, WIRE	8	FT.
4	MS25036-103	TERMINAL	3	EA.
5	MS25036-149	TERMINAL	2	EA.
6	7270-1-20	BREAKER	1	EA.

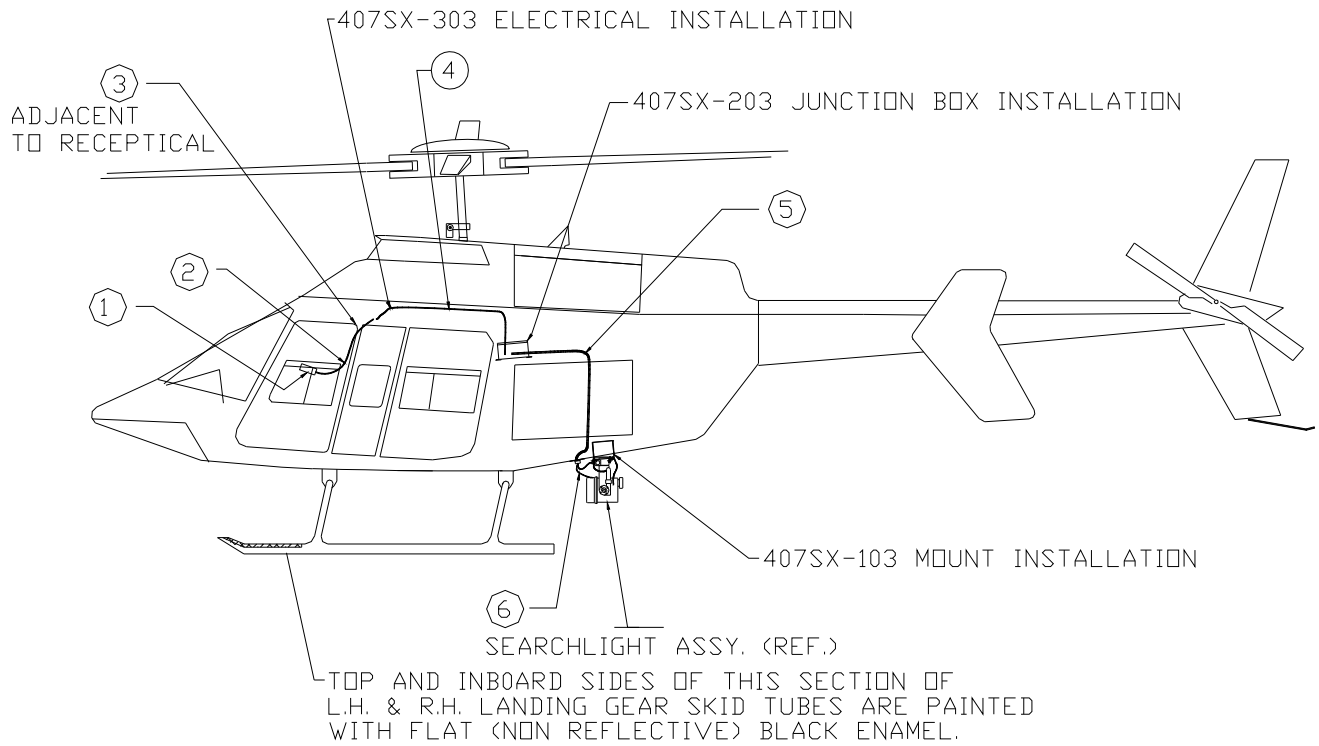


Figure 7: Searchlight System Configuration

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	030039	CONTROL BOX, SRCH LGHT COMP. (REF.)	1	EA.
2	030611-15-72	CABLE ASSY., SRCH LGHT COMP. (REF.)	1	EA.
3	CAM-6275-1	PLACARD	1	EA.
4	018479-160	CABLE ASSY., SRCH LGHT COMP. (REF.)(-1 INST'N)	1	EA.
4	030767-160	CABLE ASSY., SRCH LGHT COMP. (REF.)(-2 INST'N)	1	EA.
5	030751-100	CABLE ASSY., SRCH LGHT COMP. (REF.)(-2 INST'N)	1	EA.
5	018306-100	CABLE ASSY., SRCH LGHT COMP. (REF.)(-1 INST'N)	1	EA.
6	030752-46-31	CABLE ASSY., SRCH LGHT COMP. (REF.)(-2 INST'N)	1	EA.
6	018305-46-31	CABLE ASSY., SRCH LGHT COMP. (REF.)(-1 INST'N)	1	EA.

NOTE: The (REF.) Part Numbers indicate Cable Assemblies supplied by the Searchlight Manufacturer with the Searchlight Component Kit.

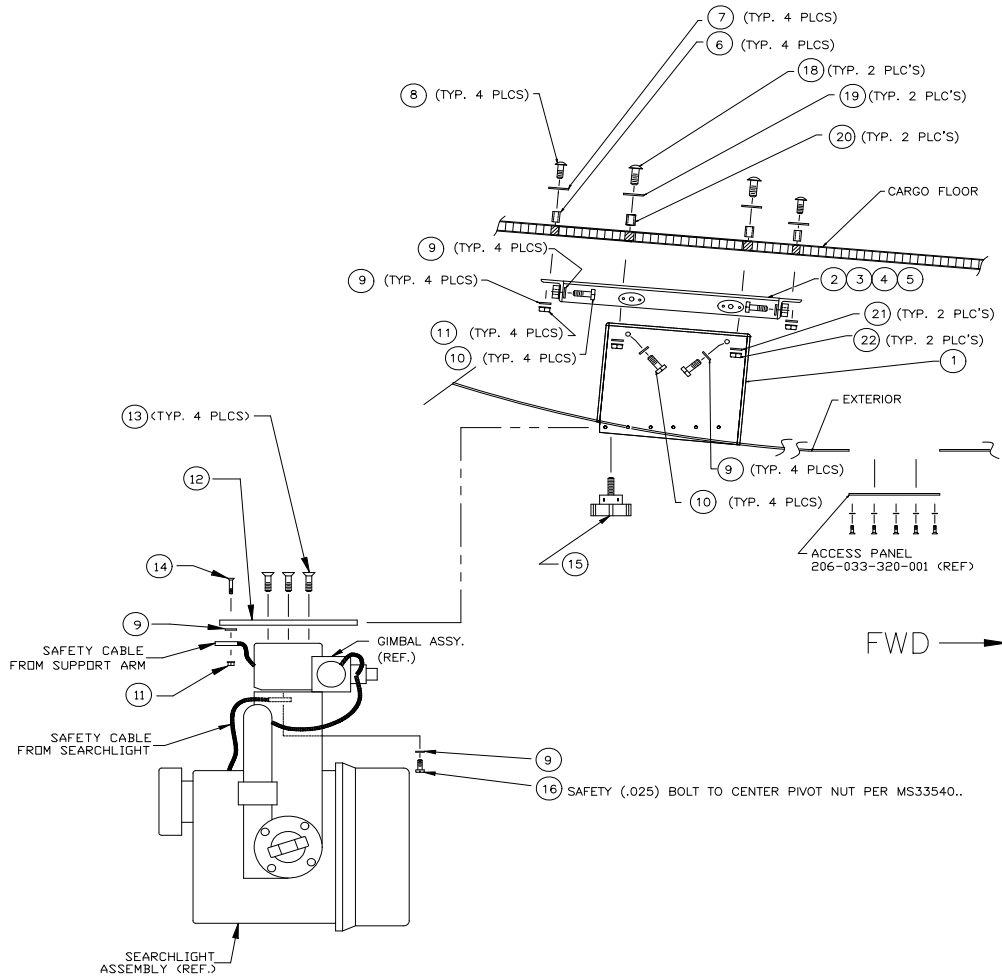


Figure 8: Searchlight Installation

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	206SX-2000-1	MOUNT ASSY.	1	EA.
2	407SX-2100-1	SUPPORT BRACKET ASSY.	1	EA.
3	407SX-2100-2	SUPPORT BRACKET ASSY.	1	EA.
4	407SX-2100-3	SUPPORT BRACKET ASSY.	1	EA.
5	407SX-2100-4	SUPPORT BRACKET ASSY.	1	EA.
6	NAS43DD3-32	SPACER	4	EA.
7	AN970-3	WASHER	4	EA.
8	AN525-10R16	SCREW	4	EA.
9	NAS1149F0363P	WASHER	14	EA.
10	AN3-5A	BOLT	8	EA.
11	MS21042L3	NUT	5	EA.
12	206SX-2200-1	SUPPORT PLATE	1	EA.
13	MS24693-296	SCREW	4	EA.
14	MS24693-273	SCREW	1	EA.
15	206SX-2300-1	LOCKING KNOB	1	EA.
16	AN3H-3A	BOLT	1	EA.
17	206SX-5000-1	PLACARD (On Cargo Comp. Door)	1	EA.
18	AN525-416R18	SCREW	2	EA.
19	AN970-4	WASHER	2	EA.
20	NAS43DD4-32	SPACER	2	EA.
21	NAS1149F0432P	WASHER	2	EA.
22	MS21042L4	NUT	2	EA.
23	MS20818-4C	FLARE NUT *	2	EA.
24	MS20819-4C	SLEEVE *	2	EA.
25	MS20815-4C	UNION *	1	EA.
26	MS20818-6D	FLARENUT *	2	EA.
27	MS20819-6D	SLEEVE *	2	EA.
28	MS20815-6D	UNION *	1	EA.
29	DRAINTUBE	0.375" x 0.035" WALL,5052-0 *	11	IN.
30	DRAINTUBE	0.25" x 0.035" WALL,304SS *	11	IN.
31	9688K126	5/8" BUTTON *	1	EA.
32	9688K125	1/2" BUTTON *	1	EA.
33	MS35489-94	GROMMET *	1	EA.
34	MS35489-98	GROMMET *	1	EA.

* These components are necessary to complete re-routed drain lines, not displayed in Figure 8.

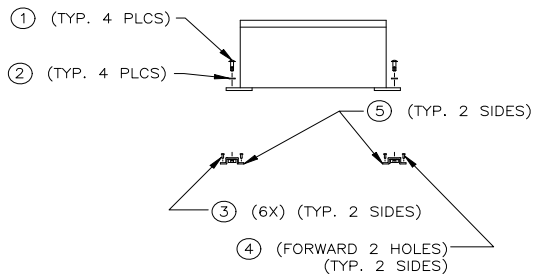
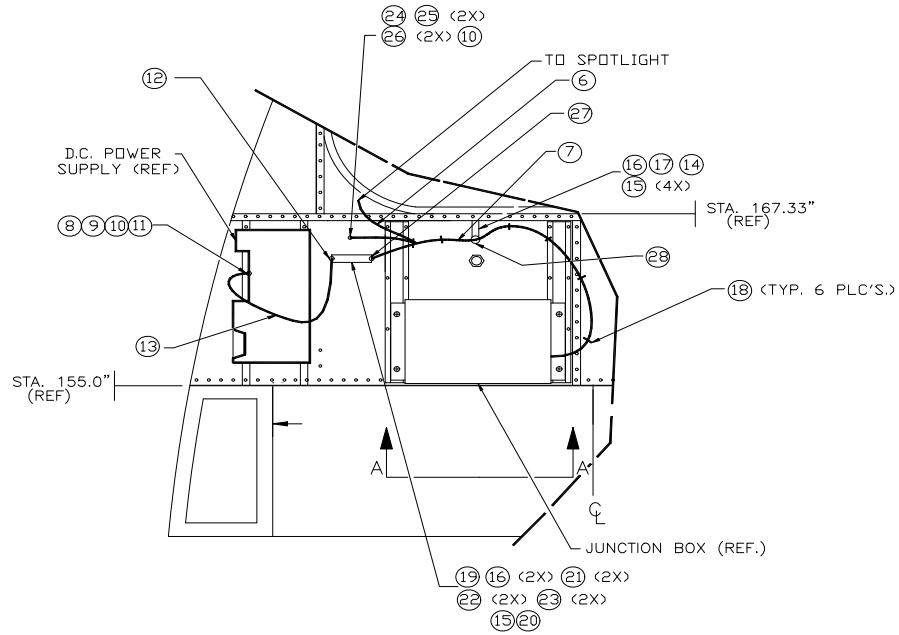


Figure 9: Junction Box Installation

ITEM NO	PN	DESCRIPTION	QTY	TYP
1	AN525-10R9	SCREW	4	EA.
2	NAS1149F0363P	WASHER	4	EA.
3	MS20470AD3-4	RIVET	12	EA.
4	MS20470AD3-6	RIVET	4	EA.
5	206SX-2105-1	BEAM ASSEMBLY	2	EA.
6	017619-30 (EVO F1)	Ref., -POWER CABLE (-2 INST'N)	1	EA.
6	018506-30 (EVO G1)	Ref., -POWER CABLE (-1 INST'N)	1	EA.
7	018505-30 (EVO E1)	Ref., +POWER CABLE (-1 INST'N)	1	EA.
7	017618-30 (EVO D1)	Ref., +POWER CABLE (-2 INST'N)	1	EA.
8	AN4-5A	BOLT	1	EA.
9	407SX-3100-1	BUSS BAR	1	EA.
10	MS21042L4	NUT	2	EA.
11	MS25036-126	TERMINAL	1	EA.
12	324112	AMP TERMINAL	1	EA.
13	MIL-W-22759/16-2	AWG 2 WIRE	24	IN
14	MS35207-271	SCREW	1	EA.
15	NAS1149FO332P	WASHER	5	EA.
16	MS21042L3	NUT	3	EA.
17	NAS43DD3-62	SPACER	1	EA.
18	CT6B	TYRAP	6	EA.
19	ANL-80	FUSE (Cooper-Bussman)	1	EA.
20	4164	FUSE HOLDER (Cooper-Bussman)	1	EA.
21	MS24694S54	SCREWS	2	EA.
22	AN970-3	WASHER	2	EA.
23	MS25171-25	RUBBER BOOT	2	EA.
24	MS35207-282	SCREW	1	EA.
25	AN970-4	WASHER	2	EA.
26	MS35338-44	LOCK WASHER	2	EA.
28	MS25036-121	TERMINAL	1	EA.
29	MS21919WDG10	CLAMP	1	EA.

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APPENDIX A

STANDARD TORQUE VALUE CHART

RECOMMENDED TORQUE VALUES (inch-pounds) (Reference AC 43.13-1B, Change 1, Dated 9/8/98)				
CAUTION THE FOLLOWING TORQUE VALUES ARE DERIVED FROM OIL FREE CADMIUM PLATED THREADS.				
	TORQUE LIMITS RECOMMENDED FOR INSTALLATION (BOLTS LOADED PRIMARILY IN SHEAR)		MAXIMUM ALLOWABLE TIGHTENING TORQUE LIMITS	
Thread Size	Tension type nuts: MS20365, MS21042, MS17825, AN310 (40,000 psi in bolts)	Shear type nuts: MS20364, MS21245, MS17826, AN320 (24,000 psi in bolts)	Nuts: MS20365, MS21042, MS17825, AN310 (90,000 psi in bolts)	Nuts: MS20364, MS21245, MS17826, AN320 (54,000 psi in bolts)
FINE THREAD SERIES				
8-36	12-15	7-9	20	12
10-32	20-25	12-15	40	25
1/4-28	50-70	30-40	100	60
5/15-24	100-140	60-85	225	140
3/8-24	160-190	95-110	390	240
7/16-20	450-500	270-300	840	500
1/2-20	480-690	290-410	1100	660
9/16-18	800-1000	480-600	1600	960
5/8-18	1100-1300	600-780	2400	1400
3/4-16	2300-2500	1300-1500	5000	3000
7/8-14	2500-3000	1500-1800	7000	4200
1-14	3700-5500	2200-3300*	10,000	6000
1-1/8-12	5000-7000	3000-4200*	15,000	9000
1-1/4-12	9000-11000	5400-6600*	25000	15000
COARSE THREAD SERIES				
8-32	12-15	7-9	20	12
10-24	20-25	12-15	35	21
1/4-20	40-50	25-30	75	45
5/16-18	80-90	48-55	160	100
3/8-16	160-185	95-100	275	170
7/16-14	235-255	140-155	475	280
1/2-13	400-480	240-290	880	520
9/16-12	500-700	300-240	1100	650
5/8-11	700-900	420-540	1500	900
3/4-10	1150-1600	700-950	2500	1500
7/8-9	2200-3000	1300-1800	4600	2700
The above torque values may be used for all cadmium-plated steel nuts of the fine or coarse thread series which have approximately equal number of threads and equal face bearing areas.				
* Estimated corresponding values.				
This table includes standard nut and bolt combinations, currently used in aviation maintenance. For further identification of hardware, see AC 43.13-1B, Chapter 7.				

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APPENDIX B

ANNUAL/300HR INSPECTION CHECKLIST

Annual/300 Hour Inspection Checklist

INSPECTION (Infrared Camera System)	COMMENTS	INITIALS
1. Check for Mount fasteners security. Inspect Mount Assembly and adjacent aircraft structure for condition.		
2. Visually check Gimbal Adapter Assembly for condition, security of components.		
3. Visually check Gimbal Assembly for condition, security of components. Refer to manufacturer's data for component use limits.		
4. Check Electronics Unit Installation security.		
5. Visually check Monitor Assembly for condition, security of components.		
6. Inspect electrical cabling for security and insulation damage. Evaluate cable routing to avoid heat and movement.		
7. Torque all fasteners in accordance with Appendix A.		

Annual/300 Hour Inspection Checklist

INSPECTION (Searchlight System)	COMMENTS	INITIALS
1. Check Mount Assembly for fastener security. Inspect cargo floor structure for condition.		
2. Visually check Gimbal Adapter Assembly for condition.		
3. Check Junction Box for fasteners security.		
4. Inspect electrical cabling for security and cracked or chafed insulation. Evaluate cable routing to avoid heat and movement.		
5. Check Searchlight System for proper operation.		
6. Torque all fasteners in accordance with Appendix A.		