



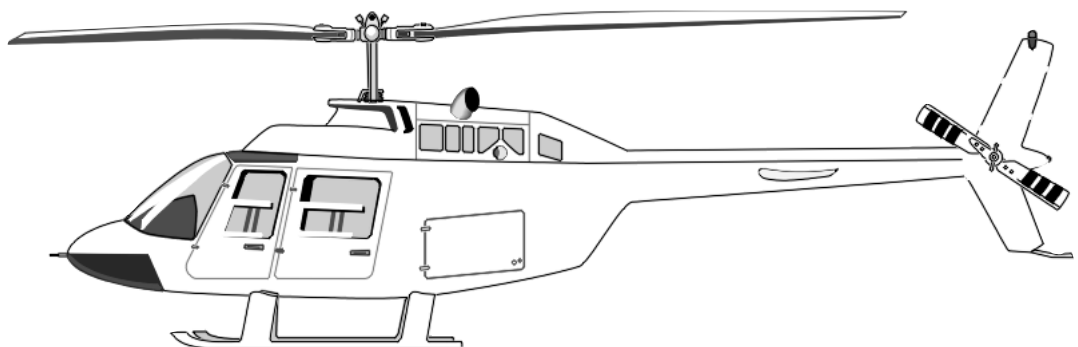
NOSE VIDEO GIMBAL

JET RANGER / LONG RANGER

INSTALLATION MANUAL



Tyler - Nose Video Gimbal
For *Bell 206 & 206L Series Helicopters*
FAA STC # SR00898LA



PLEASE RETURN THIS MANUAL WITH EQUIPMENT

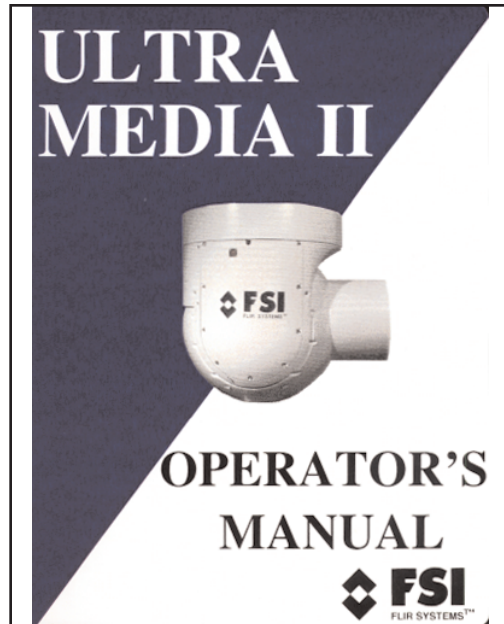
This manual is available for download from our web site.



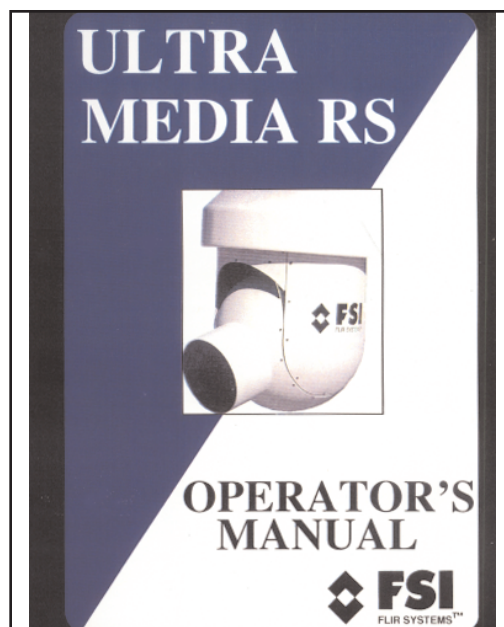
Tyler Camera Systems 14218 Aetna Street Van Nuys, California 91401 • USA
www.tylermount.com • **800-390-6070** • FAX (818) 989-0423



Refer to the appropriate Manual
for further instructions on the Video Gimbal:
(provided with equipment)



*FS/ - UltraMedia II
Operator's Manual*



*FS/ - UltraMedia RS
Operator's Manual*



MODEL: Bell 206

REPORT #: JR / FL - INST. - 001

JOB #: _____

DATE: 11-18-99

NOSE VIDEO GIMBAL (MODEL NVG-JR)

**INSTALLATION MANUAL FOR
JET RANGER / LONG RANGER HELICOPTERS**

PREPARED BY: C. Tyler

OF PAGES: 11

CHECKED BY: N. Tyler

OF DRAWINGS: _____

APPROVED BY: _____

REVISIONS

DATE	PAGES AFFECTED	REVISION LETTER		APPROVAL
11-18-99	ALL	N/C	ORIGINAL ISSUE	

***UII-JR* COUNTERWEIGHT
ASSEMBLY INSTRUCTIONS
(Pages 1-5)**



INSTALL *UII-JR* COUNTERWEIGHT ON TO HELICOPTER

IMPORTANT

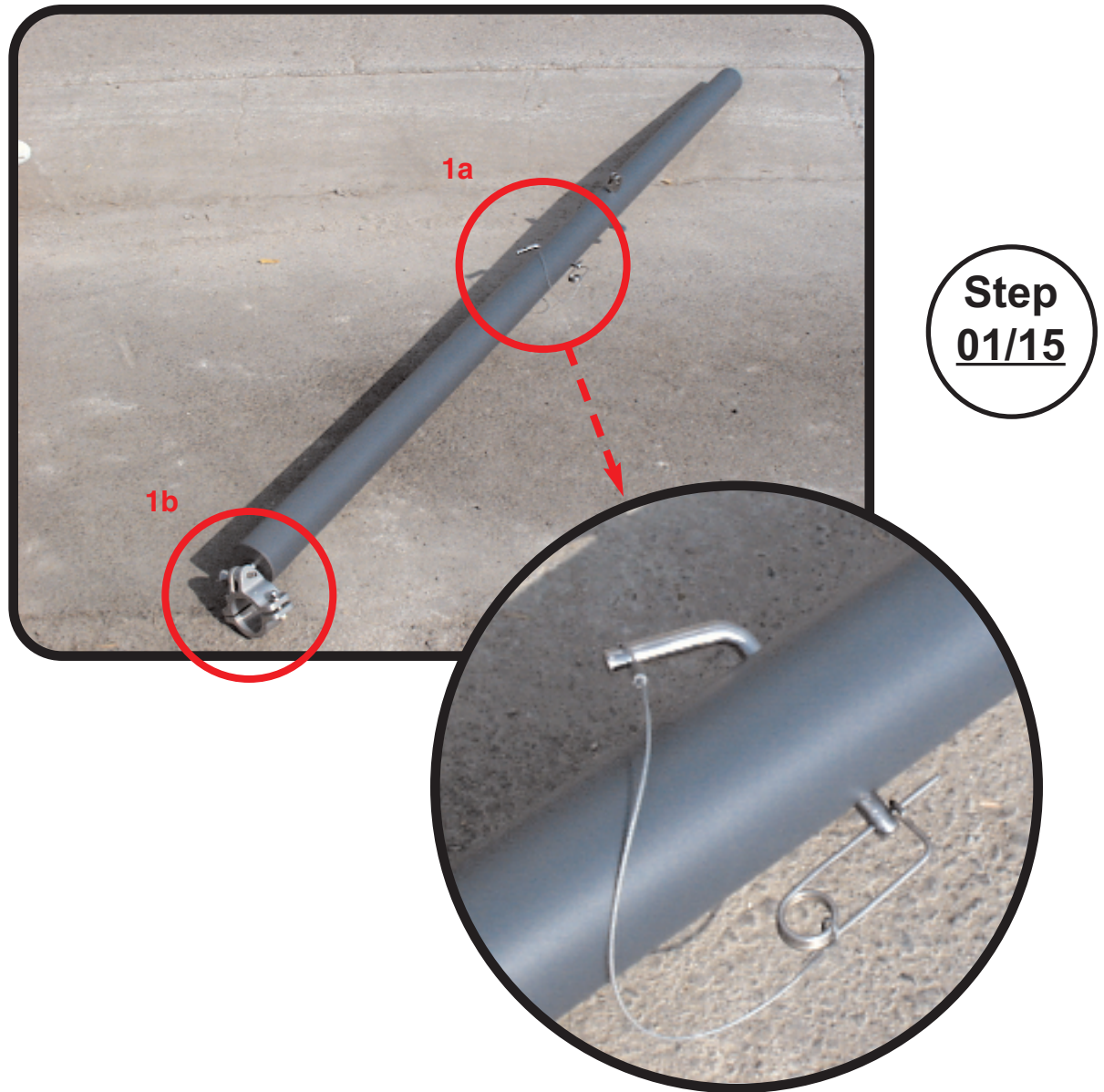
Counterweight installation is for *UltraMedia* II on Jet Ranger only.

Installation shown is for *UltraMedia* II mounted on Left side.

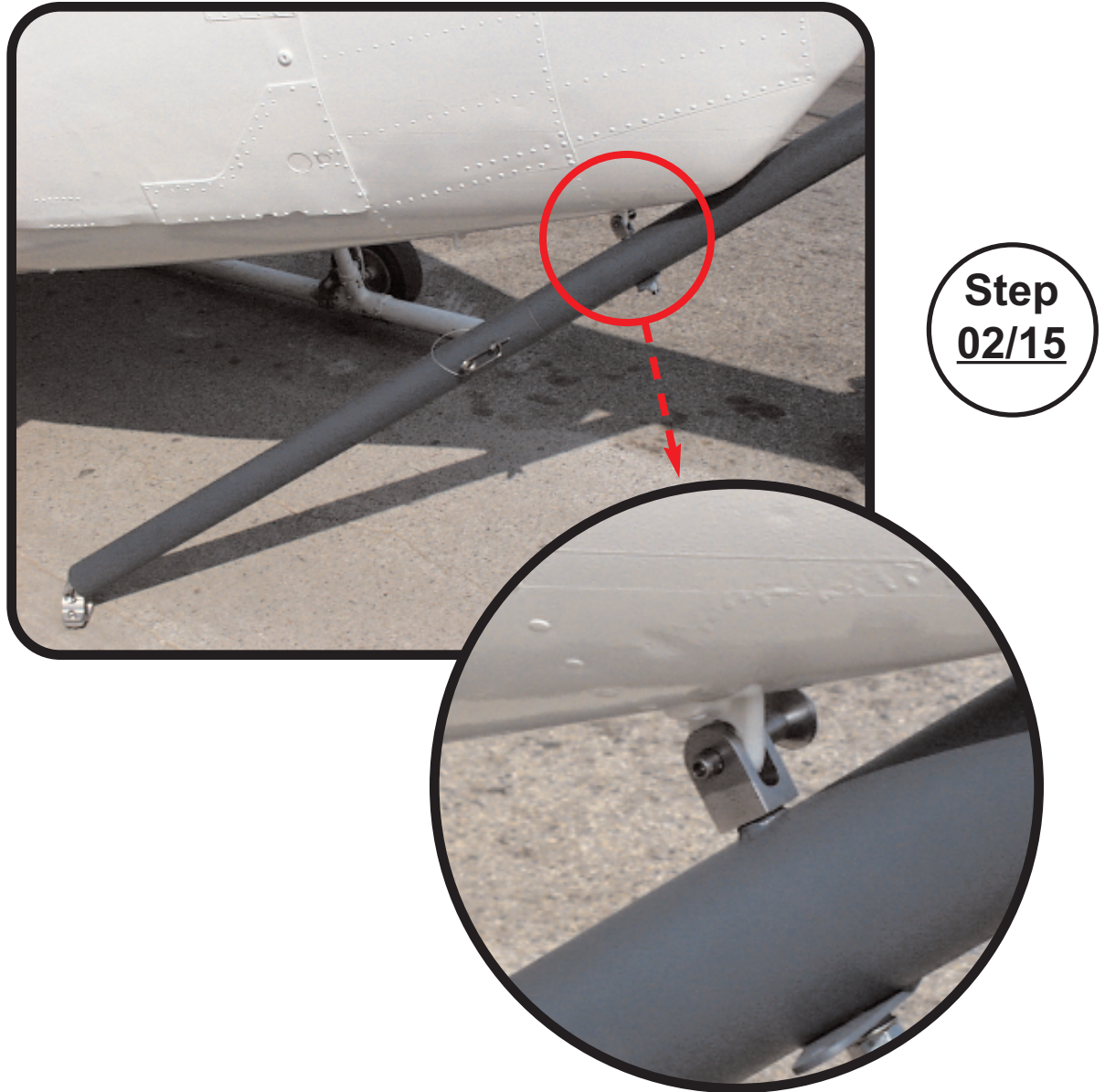
Counterweight may not be required when using:

UltraMedia RS on a Long Ranger.

Start on Page 6 of 11 (Step 7/15) when not using Counterweight.



- 1a. Connect the two halves of the Main Counterweight Tube and fasten with L-Pin & Safety-Clip.
- 1b. Attach the REAR Skid-gear Clamp to the Heim Joint on Tube with PI-Pin.
Also see Page 3 of 11 (Step 3/15).



Fasten the Clevis on the Main Counterweight Tube to the Hardpoint on the helicopter with a PI-Pin.

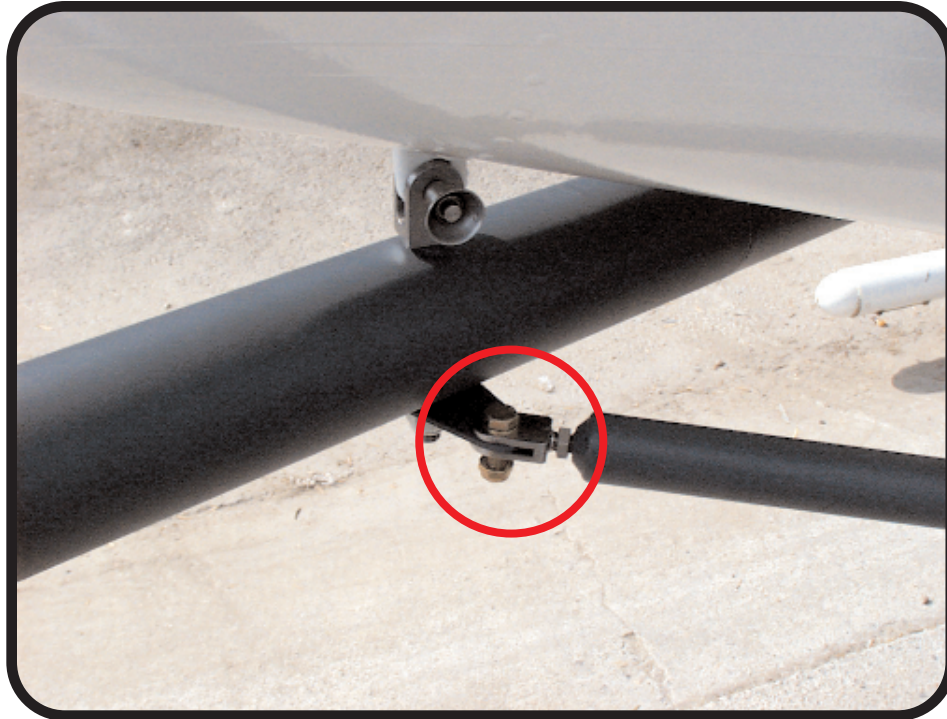


Step
03/15



Attach the REAR Skid-gear Clamp to the Rear Skid-gear Support Tube and fasten with two bolts, washers and nuts.

Ensure that the nut (between the Skid-gear Clamp and the Main Counterweight Tube) is tightend against the end of the Tube.



Step
04/15

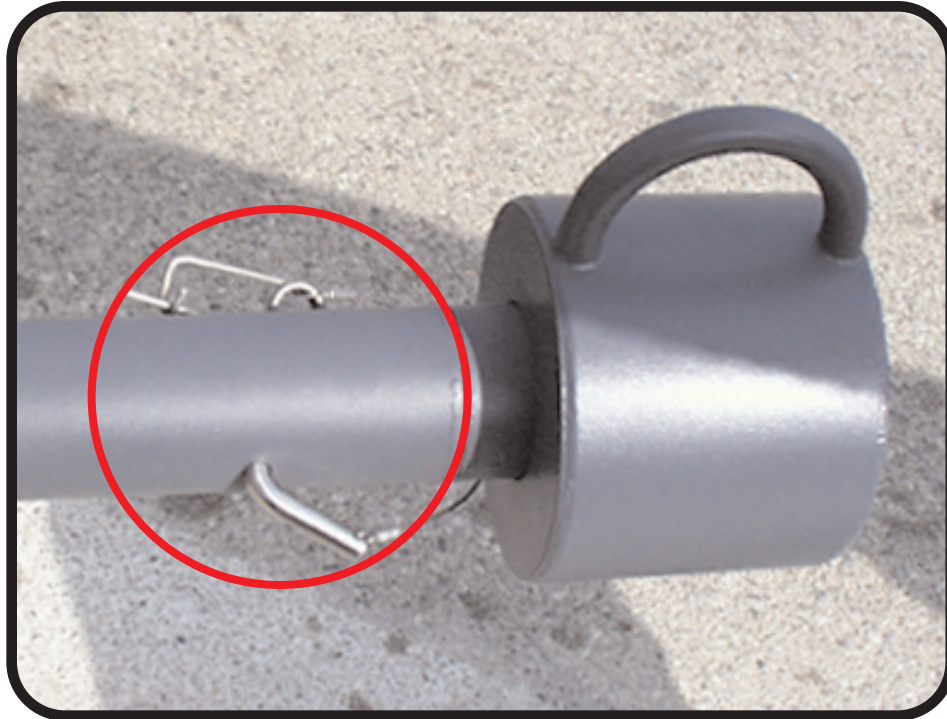
Attach the Rear Tie-rod to Main Counterweight Tube and fasten with bolt, washers and nut.



Step
05/15

With the other REAR Skid-gear Clamp fastened to the Rear Tie-tube (with a PI-pin) attach the other REAR Skid-gear Clamp to the Rear Skid-gear Support Tube and fasten with two bolts, washers and nuts.

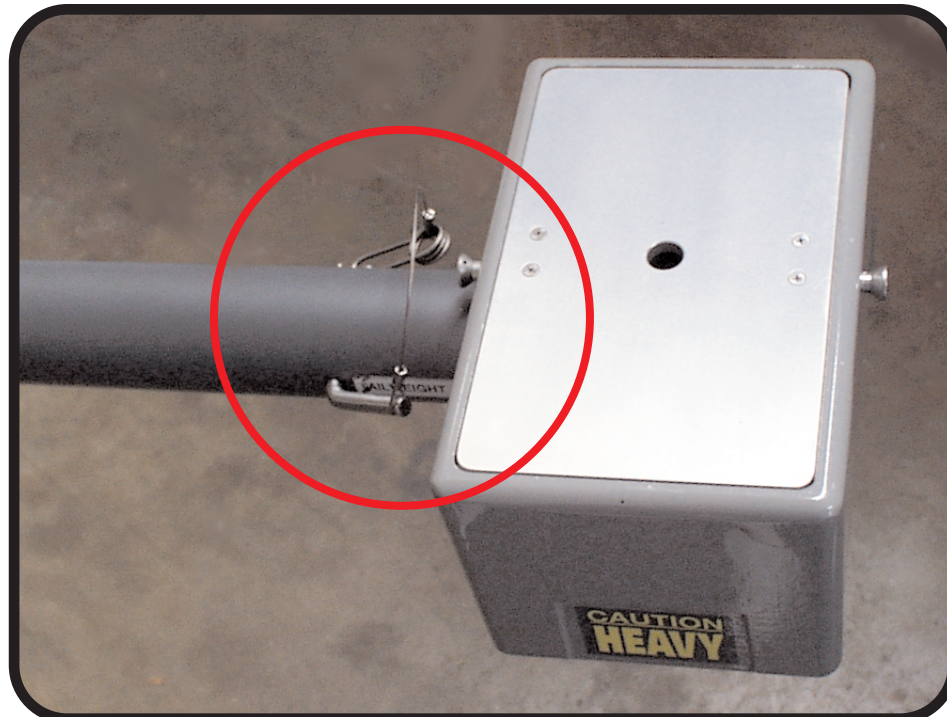
Ensure that the nuts (at the ends of the Tie-Tube) are tightend against the Tube.



Step
06/15

Connect the Weight to the Main Counterweight Tube and fasten with L-Pin & Safety-Clip.

Note: Optional Weight Box (below) may be used instead.



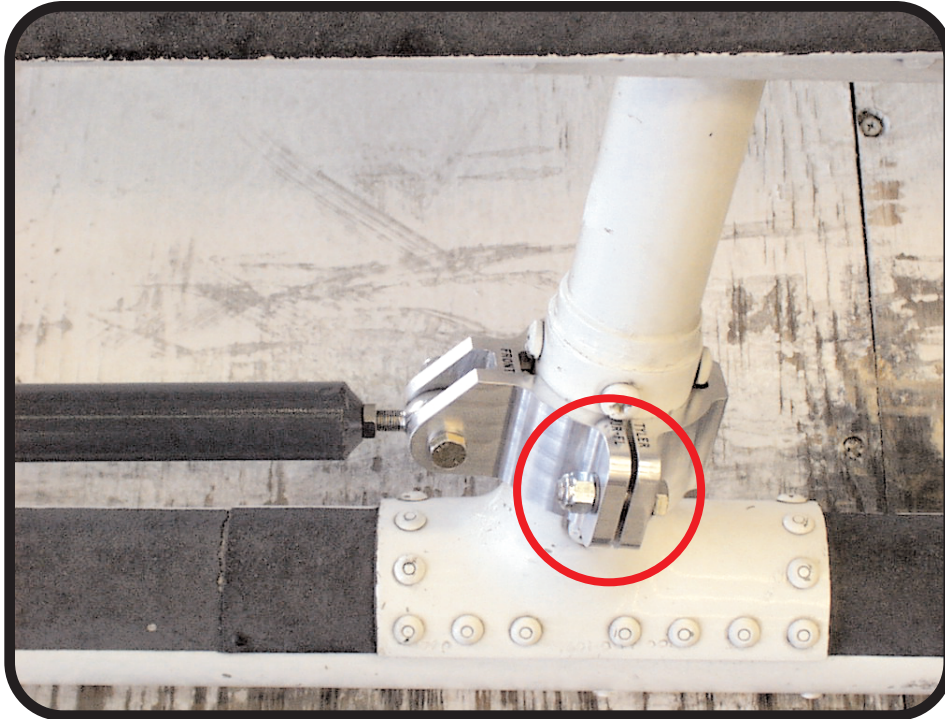
- UII-JR COUNTERWEIGHT assembly complete -

**NOSE VIDEO GIMBAL
ASSEMBLY INSTRUCTIONS**
(Pages 6-11)



INSTALL VIDEO GIMBAL ON TO HELICOPTER

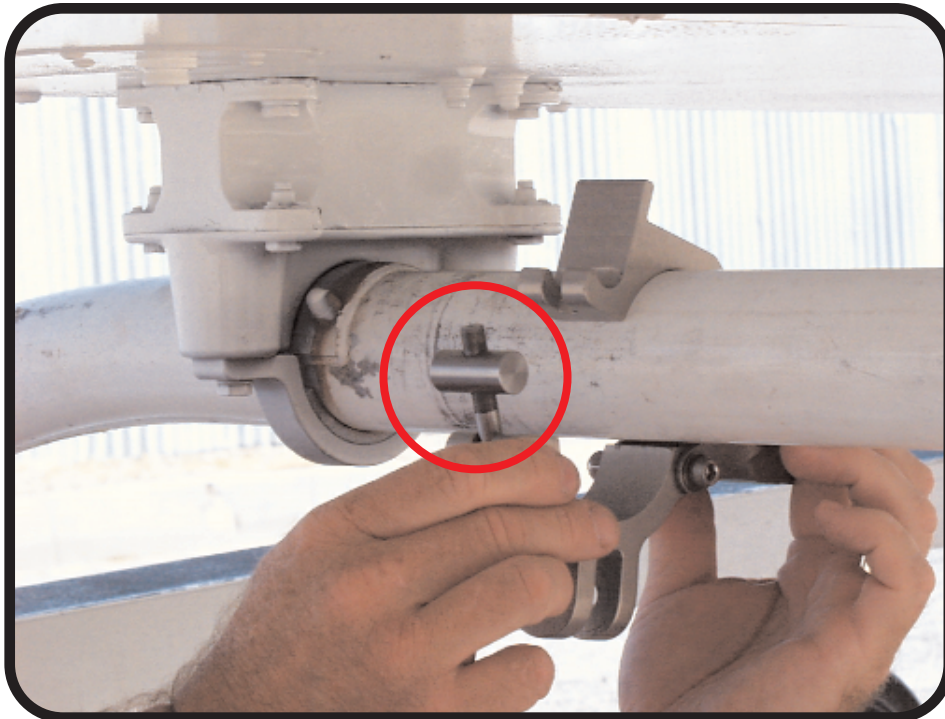
IMPORTANT
COUNTERWEIGHT MUST BE INSTALLED FOR:
UltraMedia II on a Jet Ranger.
Install Video Gimbal on Left (shown) or Right side of helicopter.



Step
07/15

Attach the **FRONT** Skid-gear Clamp to the Front Skid-gear Support Tube and fasten with two bolts, washers and nuts.

Note: Do not tighten until the remainder of the tubes are attached to the helicopter.



Step
08/15

Attach the *ADJUSTABLE* **FRONT** Skid-gear Clamp to the Front Skid-gear Support Tube and fasten by adjusting the bar on the threaded shaft until the Clamp fits snug.



Step
09/15

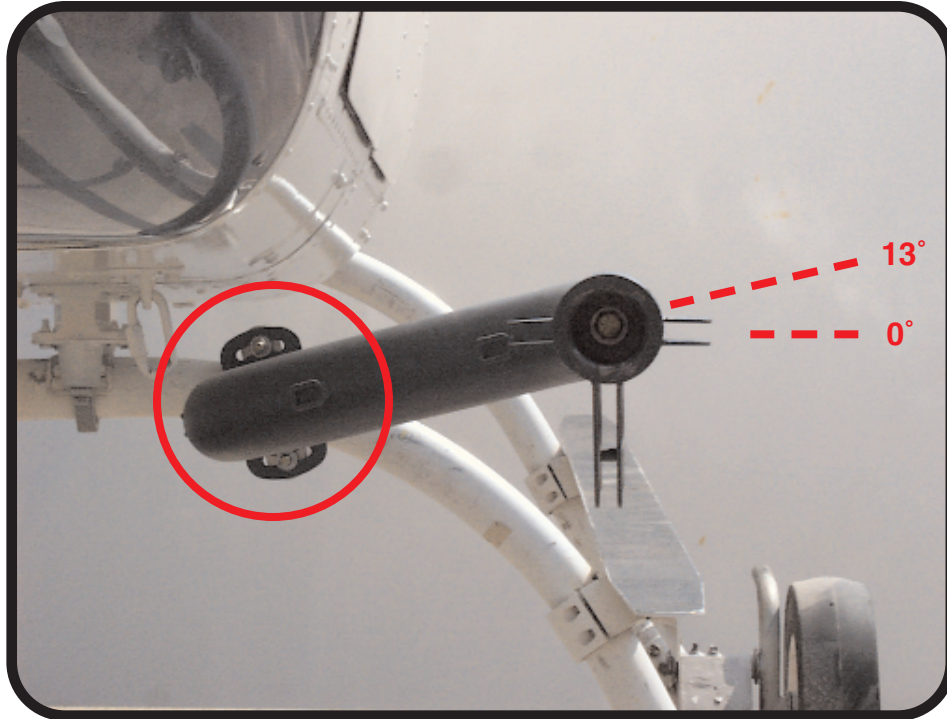
Attach Main Gimbal Tube to FRONT Skid-gear Clamp at approximately 5.5 inches from the helicopter Skid-gear Clamp.

Note: Do not tighten until the remainder of the tubes are attached to the helicopter.



Main Gimbal Tube should be parallel with helicopter belly (as shown) with approximately 23.5 inches between the bottom of the forward part of the tube and the ground.

Note: Helicopter must have High Skid-gear.

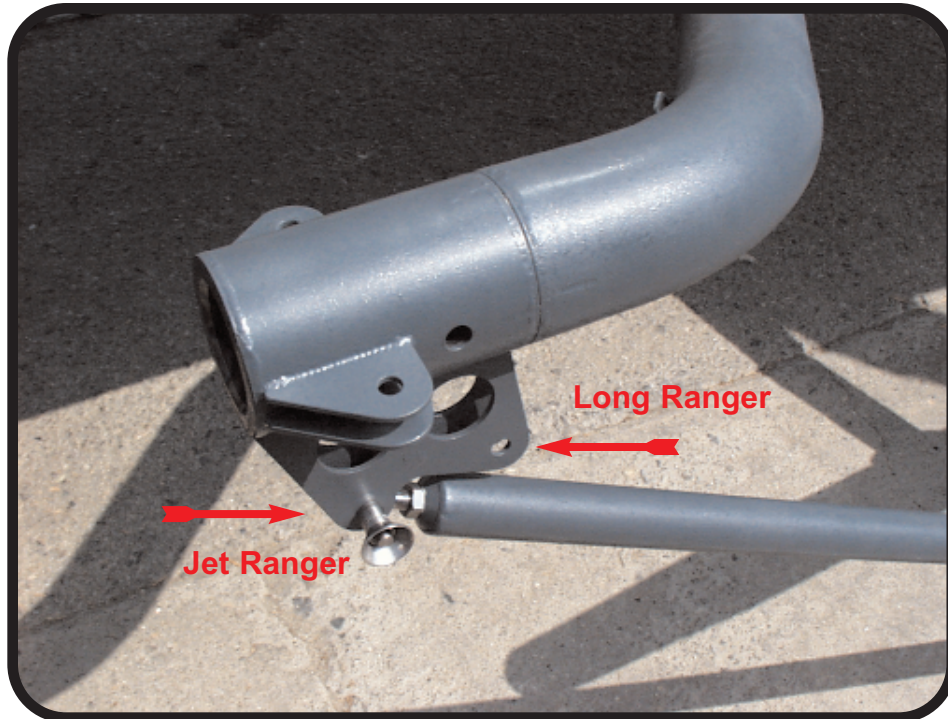


**Step
10/15**

Securely fasten the bolts on the FRONT Skid-gear Clamp with the Main Gimbal Tube level (from the side, as shown on previous page) and at approximately 13° from the front (as shown above).



Tighten bolt inside tube to secure the receptacle; with the outer flanges at approximately 0° (as shown in top picture).



Step
11/15

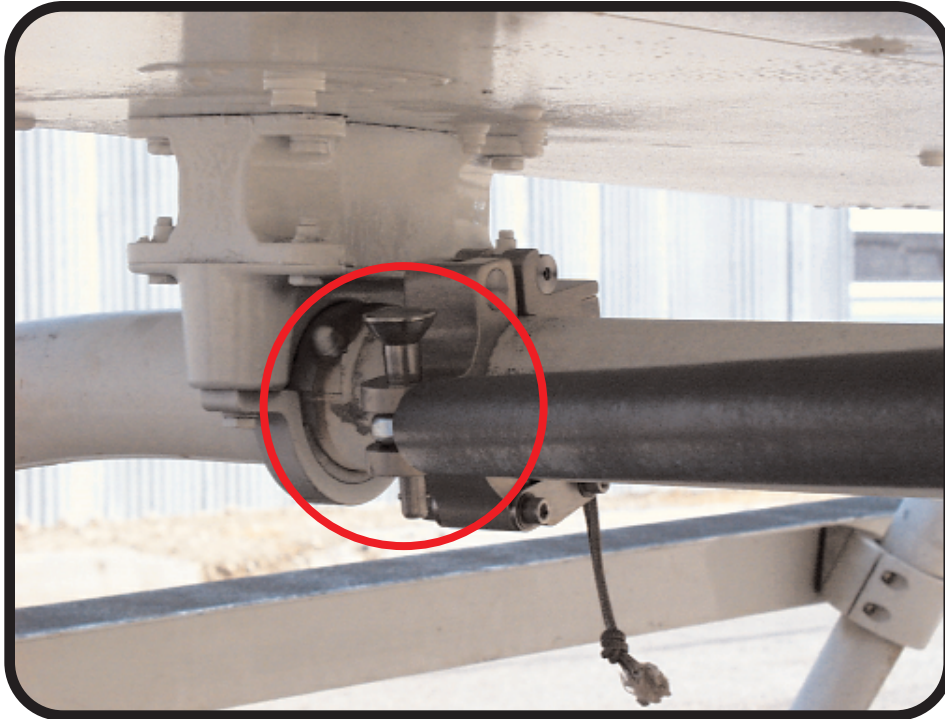
Attach the Lower Gimbal Tie-rod to the Main Gimbal Tube and fasten with PI-Pin. Ensure that the nuts (at the ends of the Tie-Tube) are tightend against the Tube.

Note: Use FORWARD hole for Jet Ranger - Use REARWARD hole for Long Ranger



Step
12/15

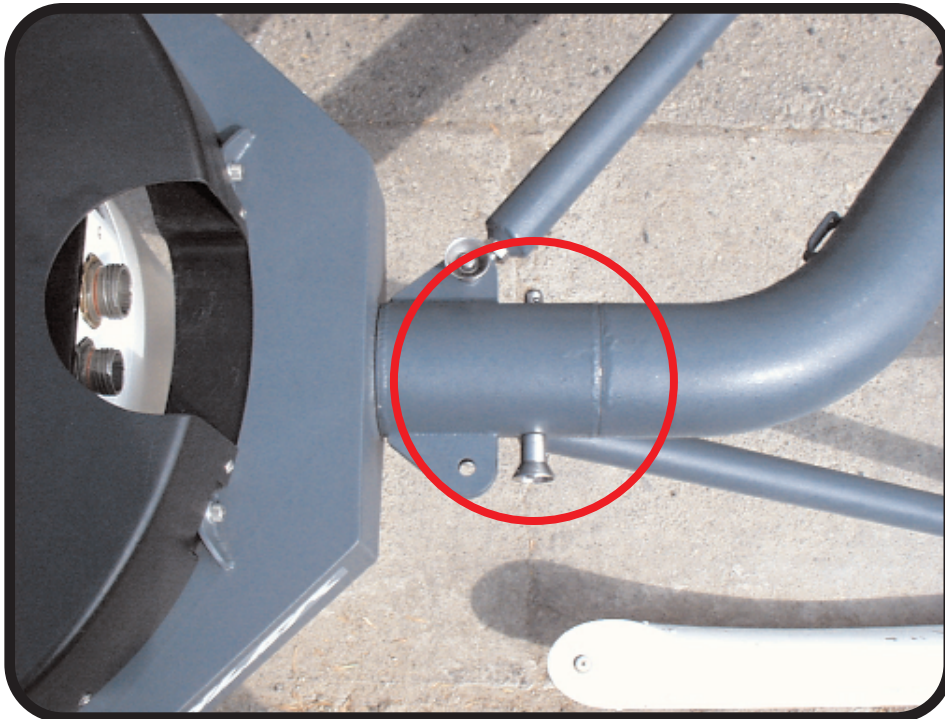
Attach the Upper Gimbal Tie-rod to the Main Gimbal Tube and fasten with PI-Pin. Ensure that the nuts (at the ends of the Tie-Tube) are tightend against the Tube.



**Step
13/15**

Attach the Upper Gimbal Tie-rod to the FRONT Skid-gear Clamp and fasten with PI-Pin.

Ensure that the nuts (at the ends of the Tie-Tube) are tightend against the Tube.



**Step
14/15**

Attach the Gimbal to the Main Gimbal Tube and fasten with PI-Pin.



Step
15/15

Fasten the *FSI* Camera Body Unit to a Rear seat-cussion with a seat-belt.

- VIDEO GIMBAL assembly complete -

United States Of America
Department of Transportation - Federal Aviation Administration

Supplemental Type Certificate

Number SR00898LA

This Certificate issued to Tyler Camera Systems
14218 Actna Street
Van Nuys, California 91401

*certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part * of the Federal Aviation Regulations. **

Original Product Type Certificate Number : ** See attached FAA Approved Model List (AML)

Make : No. SR00898LA for list of approved rotorcraft

Model : models and applicable airworthiness regulations.

Description of Type Design Change: Installation of a J/R tube nose mount on Bell 206 series helicopters in accordance with FAA Approved Tyler Camera Systems Master Drawing List No. JR/FL-001, Revision A, dated November 18, 1999, as listed on AML No. SR00898LA, dated April 14, 2000, or later FAA Approved Revisions.

Limitations and Conditions: Approval of this change in type design applies to the aircraft models listed on AML No. SR00643LA only. This approval should not be extended to aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. (Continued)

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application : June 30, 1999

Date reissued :

Date of issuance : April 14, 2000

Date amended :



By direction of the Administrator
A handwritten signature in black ink, appearing to read "Michael W. Chan".

(Signature)

Manager, Airframe Branch
Los Angeles Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States Of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate
(Continuation Sheet)

Number SR00898LA

Limitations and Conditions (Continued):

A copy of this Certificate and FAA Approved Model List (AML) No. SR00898LA, dated April 14, 2000, or later FAA Approved revision, must be maintained as part of the permanent records for the modified aircraft. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

- END -

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

TYLER CAMERA SYSTEMS
14218 AETNA ST.
VAN NUYS, CA. 91401
SUPPLEMENT NO. JR/FL-001

**FAA APPROVED
ROTOCRAFT FLIGHT MANUAL SUPPLEMENT
FOR THE INSTALLATION OF THE**

TYLER JR/FL NOSE MOUNT

TO THE

**BELL JET RANGER SERIES HELICOPTERS
206, 206A, 206A-1, 206B, 206B-1, 206B-3 AND 206L,
206L-1, 206L-3, 206L-4 MODELS**

This supplement must be attached to the FAA approved Bell 206 & 206L Rotocraft Flight Manual when the rotorcraft is modified by the installation of the Tyler JR/FL Nose Mount in accordance with

STC# SR 00898 LA

The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement, consult the appropriate basic Airplane Flight Manual.


APPROVED BY: 
Manager, Flight Test Branch, ANM-160
Federal Aviation Administration
Los Angeles Aircraft Certification Office
Transport Airplane Directorate

DATE APPROVED: Mar. 30, 2000

TYLER CAMERA SYSTEM
14218 AETNA ST.
VAN NUYS, CA. 91401
SUPPLEMENT NO. JR/FL-001

RFM SUPPLEMENT TO BELL 206 & 206L SERIES
HELICOPTERS, 206, 206A, 206A-1, 206B, 206B-1, 206B-3,
206L, 206L-1, 206L-3, 206L-4 MODELS
STC NO: SR 00898 LA

LOG OF PAGES

REV	PAGE NO.	PAGE DATE	DESCRIPTION	FAA APPROVED
Original	Cover 1	30 Mar 00	Initial Issue	 Mgr., Flight Test Branch ANM-160L Los Angeles Aircraft Certification Office FAA Transport Airplane Directorate Date <u>3-30-00</u>

ROTOCRAFT FLIGHT MANUAL SUPPLEMENT

Use the **Tyler Installation Manual, TCS Report JR/FL INST.-001** manual to install the the **JR/FL NOSE Mount** on the helicopter.

The information to compute the weight and balance can be found in the **Tyler Installation Manual**.

I LIMITATIONS

1. VNE-95 KIAS (110mph) power ON or OFF with all doors on. Vne must be decreased from 95 kias as shown on the appropriate Vne placard in basic flight manual.
2. Tyler Universal Ball Mount and counter-weight must be installed or removed as a unit for all operations.
3. Tyler Universal Ball Mount frontal area not to exceed 2.0 Sq. Ft. and not to exceed 105 Lbs. in total rigged weight.
4. Tyler Universal Ball Mount counter weight not to exceed 85 Lbs. Completed Tyler Universal Ball Mount, may use ships auxiliary power outlet, but may not exceed 28 volts, 400 watts.

II NORMAL OPERATIONS

1. The installation of the Flir Ultramedia II (105#) requires a counterweight, the Flir RS (40#) video balls does not require counterbalance weight, however it is the pilots responsibility to configure the crew and gear to maintain longitudinal and lateral C.G.
2. The JR/FL Nose mount may be installed or removed by a Tyler Camera Systems trained technician, pilot or mechanic, and must be recorded in accordance with FAR 43.9.

III PERFORMANCE DATA

1. Hover performance not affected

FAA APPROVED MODEL LIST (AML) NO. SROO898LA
TYLER CAMERA SYSTEMS

FOR

INSTALLATION OF A J/R TUBE NOSE MOUNT ON BELL 206 SERIES HELICOPTERS

ISSUE DATE: April 14, 2000

ITEM	AIRCRAFT MAKE	AIRCRAFT MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	INSTALLATION INSTRUCTIONS		RFM SUPPLEMENT NUMBER/DATE	AML AMENDMENT DATE
					REPORT NO.	REV. NO AND DATE		
1	BELL	206 206A 206A-1 206B 206B-1 206B-3	H2SW	CAR B AND AMENDMENTS AND EXEMPTIONS LISTED ON TCDS H2SW	JR/FL-INST- 001	REV. N/C 11/18/99	JR/FL-001 REV. N/C 3/30/00	N/A
2	BELL	206L 206L-1 206L-2 206L-3 206L-4 206LT	H2SW	CAR B AND AMENDMENTS AND EXEMPTIONS LISTED ON TCDS H2SW	JR/FL-INST- 001	REV. N/C 11/18/99	JR/FL-001, REV. N/C 3/30/00	N/A

FAA APPROVED:  Michael W. Cohen

MANAGER, AIRFRAME BRANCH
LOS ANGELES AIRCRAFT CERTIFICATION OFC.

NOSE VIDEO GIMBAL

JET RANGER (206)

SAMPLE WEIGHT & BALANCE DATA

WEIGHT & BALANCE DATA AND EQUIPMENT LIST						
Weight x Arm = Moment						
6/23/1998		AIRCRAFT MODEL	REGISTRATION	AIRCRAFT S/N	PILOT	
SAMPLE SHEET		J/R 206L			N/A	
		LONGITUDINAL			LATERAL	
ITEM:	WEIGHT	ARM	MOMENT	ARM	MOMENT	
TYLER TUBE MOUNT						
AIRCRAFT EMPTY WEIGHT & C.G.		2250	130.66	293985	0.28	630
LG. VIDEO BALL MOUNT/CAMERA tube mt.	105#	105	23	2415	-31.5	-3307.5
VIDEO BALL CAMERA WEIGHT BOX & WTS. tube mt.	85#max	40	232	9280	16	640
VIDEO BALL WEIGHT BOX REAR TUBE tube mt.	15#	15	206	3090	-4.5	-67.5
LAP CONTROLLER (MOVABLE) tube mt.	10#	0	65	0	-11	0
VIDEO BALL CAMERA FRAMEWORK FWD. tube mt.	30#	30	45	1350	-25	-750
SUBTOTAL:		2440	127.10	310120	-1.170081967	-2855
PILOT (A+) FORWARD RIGHT		180	65	11700	14.17	2550.6
CO-PILOT/OPERATOR (A-) FORWARD LEFT		180	65	11700	-14.17	-2550.6
FILM BALL OPERATOR RIGHT REAR		0	117	0	14.17	0
FILM BALL OPERATOR LEFT REAR		0	117	0	-14.17	0
REAR BAGGAGE LBS		0	177	0	0	0
FUEL(110 GAL. MAX.) X 6.8 (FOR. 1) GAL.	80	544	130.4	70937.6	0	0
EQUIPMENT SUBTOTAL:		904		94337.6	-26.17008197	0
TOTAL AIRCRAFT WEIGHT:		3344	120.950	404457.6	-0.854	-2855
AIRCRAFT MAX GROSS WEIGHT:		4150				
NEW USEFUL LOAD:		806				
NEW CENTER OF GRAVITY (LONGITUDINAL)		120.95				
NEW CENTER OF GRAVITY (LATERAL)		-0.854				
LONGITUDINAL C.G. LIMITS:				LATERAL C.G.		-0.854
FOR. & REAR LIMITS				LATERAL C.G. LIMITS		
(118.0- 128.5)				(+ 3.5/ -4.0)		#