



NOSE MOUNT II

FILM & VIDEO SETUP MANUAL



Tyler Nose Mount II for Film or Video cameras.

PLEASE RETURN THIS MANUAL WITH EQUIPMENT

This manual is available for download from our web site.



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Refer to the following Installation Manuals
for instructions on installing *Tyler* Nose Mount II on helicopter:
(Available for download from our web site)



Tyler - Nose Mount • UltraMedia RS
For *Bell* Jet Ranger / Long Ranger
206 & 206L Series Helicopters



Tyler - Nose Mount
For *Eurocopter* Astar / Twinstar
AS-350 & AS-355 Series Helicopters

NOTES

**THE LETTERS (F), (V) AND (F/V) INDICATE THAT THE TOPIC OR ITEM IS RELATED TO:
FILM CAMERAS ONLY, VIDEO CAMERAS ONLY OR, BOTH FILM & VIDEO CAMERAS**

FILM CAMERA REQUIREMENTS (F)

- Compatible cameras: *Arriflex* 35-3 435, 16/SR-2 & 3 and 16/SR-2 & 3 Hi-Speed.
- Color or B/W video tap.
- 400' magazine.
- Prime lens - 35mm format, maximum recommended focal length: 50mm.
- Round filter and shade system - Suggested filter size: 4 1/2 inch round.

BROADCAST VIDEO CAMERA NOTES (V)

- The *Tyler* Video Lens Support assembly must be used (see page 3).
- A Recorder Separation Kit is suggested as the most versatile configuration (see page 3). Placing the recorder inside the helicopter, preferably on a seat cushion allows for in-flight tape and battery changing. The minimum cable length between the video camera and video recorder is TEN (10) feet.
- When using an On-board Recorder, the tilt rotation will be limited due to the length of the camera.

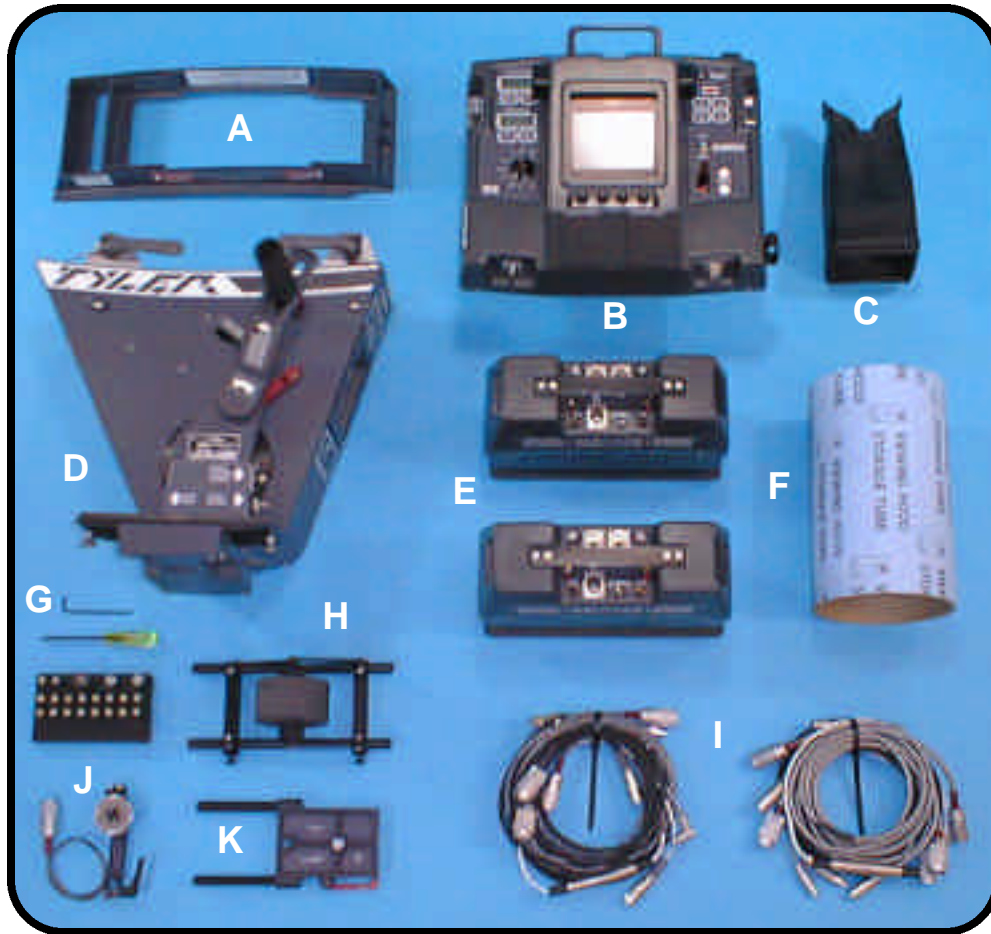
PRECAUTIONS (F/V)

- Before turning the power on, make sure the MASTER CABLE is connected between the Console and the Mount. If power was applied before connecting this cable, disengage and re-engage the Power (15 Amp) CIRCUIT BREAKER.
- The RUN/STOP switch on all film cameras should be in the STOP position.

POWER (F/V)

- **When utilizing the helicopter to power the Nose Mount (instead of a battery pack), the maximum current draw is not to exceed 28 volts / 400 watts (approx. 15 amps).** The average current draw of a Nose Mount is approx. 9 amps.
- Suggested power input range: 24 to 28 VDC
- When the Nose Mount is "powered-down" it will retain all information on the iris calibration, the footage counter and the camera speed.
- For a film camera this will power the color display, tilt motor, film camera, video tap and the Iris Control Unit.
- For a video camera this will power the color display and tilt motor, and if necessary it can also power the video camera from the 4-pin socket on the tilt arm, labeled "VIDEO CAMERA POWER".

PARTS



- A ATTACH FRAME (206 JET RANGER / LONG RANGER)
- B CONTROLCONSOLE
- C VIEWING HOOD
- D NOSE MOUNT
- E BATTERIES
- F STORAGE TUBE
- G HARDWARE & WRENCHES
- H VIDEO ZOOM LENS SUSPPORT
- I CABLE SETS
- J IRIS SERVO (FILM)
- K CAMERA PLATE



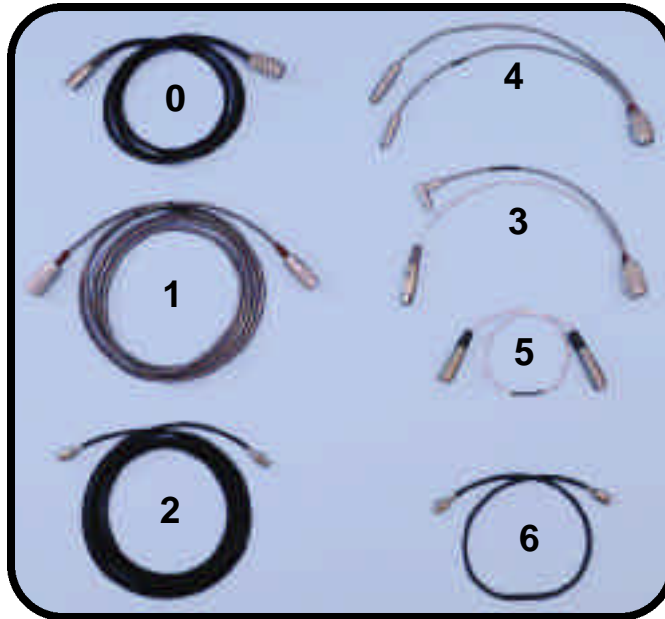
Optional Remote Control Unit (for Video or Film Cameras) and dual servo assembly.
(see page 7 of 11)

CABLES

MOUNT
POWER CABLE

MOUNT
CONTROL CABLE

MOUNT
VIDEO COAX CABLE



ARRI 435 (SR 3)
CAMERA CABLE

ARRI 3 (SR 2)
CAMERA CABLE

VIDEO POWER
(4-4 PIN)

CAMERA
VIDEO COAX

#	NAME	CONNECTION	CONTACTS	F/V
0	POWER	CONSOLE TO BATTERY	5 TO 3	F/V
1	MASTER	CONSOLE TO MOUNT	12 TO 12	F/V
2	VIDEO (LONG)	CONSOLE TO MOUNT	COAXIAL	F/V
3	A-3 CAMERA (35-3 & SR TYPE)	MOUNT TO CAMERA	12 TO 4 AND 11	F
*3A	PANAVISION 24V ADAPTER	CAMERA CABLE	4 TO 2	F
4	A-4 CAMERA (435 & SR3 TYPE)	MOUNT TO CAMERA	12 TO 2 AND 9	F
5	VIDEO TAP POWER	MOUNT TO VIDEO TAP	4 TO 4	F
6	VIDEO SIGNAL (SHORT)	MOUNT TO VIDEO TAP	COAXIAL	F/V

*SUPPLIED UPON REQUEST ONLY (NOT SHOW).



Optional Video Zoom Lens Cables, for use with RCU.
(see page 7 of 11)

- CANON
- FUJI WITH ADAPTER

CONTROL CONSOLE CONNECTORS

ACC. 1



Mount
IN
Video
IN

Video
OUT

Battery / Power
IN

COLOR DISPLAY CONTROLS (F/V)

There are four controls for adjusting the image on the 5 Inch Color LCD Monitor: BRIGHTNESS, TINT, COLOR, and CONTRAST (also see page 7).

FILM CAMERA CONNECTIONS

Connect cables #: 0, 1, 2, [3, 3A or 4 (depending on camera type)], [5 (if applicable)] and 6.

When utilizing the helicopter to power the Nose Mount (instead of a battery pack), the maximum current draw is not to exceed 28 volts / 400 watts (approx. 15 amps). The average current draw of a Nose Mount is approx. 9 amps.

VIDEO CAMERA CONNECTIONS

Plug in cables #: 0 and 1. The video signal may be "fed" to the CONSOLE from the camera, using cables 2 and 6. Or, using cable 2, the video "feed" may come directly from the recorder if it is placed inside the helicopter.

VIDEO CAMERA (w/ Tripod Adapter Plate)



1. Attach the Camera Plate directly to the Tripod Adapter Plate.
2. Attach the Video Lens Support Assembly.
3. Remove the View Finder and Microphone.



5. After attaching the camera to the Nose Mount, connect the Video Power Cable and the Video Signal Coax Cable to the Tilt Arm.

Note: When utilizing a RECORDER SEPARATION KIT route the main control cable from the camera to the recorder along the same path as the Nose Mount Cables (as seen in the INSTALLATION MANUAL). Make a "service loop" near the camera and then check the tilt operation to ensure the cable does not get caught. Then place the recorder on a seat cushion (inside the helicopter) and fasten with a seat belt.

ARRIFLEX 35 III (w/ "Speed Base" Removed)



1. Attach the Camera Plate directly to the camera body and align Servo Motor(s) but do not engage.

Note: Removal of the Cinematography Electronics "Speed-Base" is essential for two reasons:

- The Control Console has a built in crystal camera speed controller of its own, and use of the "Speed-Base" may cause an incompatibility.
- The Servo Motor(s) will not reach the lens with the "Speed-Base" attached.



3. Connect the Camera Cable, Video Tap Power Cable and the Video Signal Coax Cable from the camera to the Tilt Arm.

Note: When utilizing a remote control unit (other than the Tyler RCU) route the RCU cable from the camera or lens to the RCU along the same path as the Nose Mount Cables (as seen in the INSTALLATION MANUAL). Make a "service loop" near the camera and then check the tilt operation to ensure the cable does not get caught.



2. After attaching the camera to the Nose Mount, connect the Iris Servo Motor Cable to the Tilt Arm.

REMOTE CONTROL UNIT (F/V)



This accessory is used for Video or Film cameras, providing the following functions:

VIDEO CAMERA - Zoom control & VTR Start/Stop

Press the white button (on the top of the RCU) to Start/Stop the VTR. If necessary, flip the toggle switch (on the front of the RCU, near the cable) to change the Start/Stop triggering method (Sony or Ikegami).

FILM CAMERA - Zoom & Focus control

Mark focus positions on the white panel of the RCU accordingly.



VIDEO CAMERA

Connect the appropriate Lens Cable (Canon or Fuji) from the zoom lens to the tilt arm of the Nose Mount.



FILM CAMERA

Connect the cable from the dual servos to the tilt arm of the Nose Mount. Then engage servos into a small zoom lens (on center of gear travel). If necessary, flip the zoom servo 180° to ensure correct response from the zoom lever on the RCU.

The zoom function automatically detects ends of zoom travel by sensing increased resistance - and is reset each time the Nose Mount is powered up. Therefore, zoom will not work if excessive force is required to move zoom barrel. **Do not attempt to hold or apply resistance to zoom gears as this will give a false reading to sensor, and result in insufficient travel.**

FOOTAGE, SPEED & FORMAT (F)

CONTROL CONSOLE (LEFT SIDE)



Note: For a video camera, the only functional control is the Battery Check.

The ACCS. 1 connector in the upper left pocket is for connecting a zoom control device. The ACCS. 1 "Console" cable must be special ordered and is not included with the standard cable set.

- For a film camera, use a MicroForce type zoom control.
- For a video camera, use a video zoom lens controller with record start/stop function.

FILM FOOTAGE / BATTERY CHECK (F/V)

- This display gives the number of feet of film Exposed. To "zero", press and hold the FOOTAGE RESET button for approximately two (2) seconds. The footage may be reset while the camera is running. Note: This FILM FOOTAGE display will flash when the film footage exceeds 350 feet.
- This display also shows the battery voltage whenever the BATTERY VOLTAGE button is pressed. Note: The display will also flash the battery voltage if the power supply falls below 10.5 Volts. In this case the display will alternately flash the actual supply voltage and the film footage.

CAMERA SPEED (F)

- Push UP or DOWN buttons to adjust the camera speed in 1 fps intervals.
- Push and hold the UP or DOWN button for fast scroll.
- Push both UP and DOWN buttons simultaneously to reset to 24 fps.
- All speeds are crystal, ranging from 6 to 100 fps in 1 fps increments and may be adjusted while the camera is running. An additional speed of 29.97 fps is available between 29 and 30 fps.
- This CAMERA SPEED display and the FAULT LAMP will flash if the fps is not operating within its 0.05 fps accuracy.

35MM/16MM FILM FORMAT SWITCH (F)

Flip this switch to the appropriate position for the type of format being used.

POWER, FAULT, LIGHT & REVERSE (F/V)

POWER (F/V)

- To turn the power on, push down the CIRCUIT BREAKER.

FAULT LAMP (F/V)

This will flash for any of the following reasons:

- Inaccurate/ irregular camera speed.
- Supply voltage falls below 10.5 VDC.

NIGHT LIGHT (F/V)

- The console can be illuminated by a press of the NIGHT LIGHT button. It may be switched On or Off by a push of the button.
- Once turned on, the lights automatically turn off, 5 minutes after the last "activity" on the console. An "activity" can be a button-press, movement of the JOYSTICK or rotation of the IRIS. If the lights go off automatically, any "activity" will turn them back on.
- To keep the lights from turning on at all, simply press the NIGHT LIGHT button once, if the lights are on, or twice if the lights are off.

RESET SERVO & DISABLE SERVO (F)

(see page 10 of 11 - IRIS SETUP)

TILT JOYSTICK (F/V)

- Push lever farther to go faster.

Note: If tilt drifts, center JOYSTICK then push and hold TILT REVERSE button until FAULT LAMP flashes (approx. 10 sec.).

TILT REVERSE (F/V)

- A short press of the TILT REVERSE button will reverse the direction of the joystick response (i.e.: the joystick may be made to tilt camera-up with a push forward on the joystick, or camera-down).

CONTROL CONSOLE RIGHT SIDE)



IRIS SETUP & SPEED APERTURE (F)

IRIS - SETUP (F)

1. Attach the SERVO MOTOR ASSEMBLY to the camera, but do not engage the Servo Motor Gear into the lens until step 6.
 2. Determine if the IRIS CONTROL KNOB will rotate the Lens Iris Gear in the correct direction. If "Yes", skip to step 5. If "No", continue with step 3.
 3. Position the IRIS CONTROL KNOB to 5.6.
 4. Push and hold the RESET SERVO button for approximately two (2) seconds. This will do three things: a) Reverse the operational direction of the Servo Motor Gear, b) Center the Servo Motor Gear, and c) Clear all previous calibration settings.
 5. Manually position the Lens Iris Gear to the center of its travel. For Hi-Speed prime lenses this is usually between 4 and 5.6, for Standard-Speed prime lenses this is usually 5.6.
 6. Engage the Servo Motor Gear into the Lens Iris Gear and check to make sure that it goes "full-travel". If not, disengage the Servo Motor Gear and manually rotate the Lens Iris Gear one notch in the appropriate direction, then re-engage the Servo Motor Gear.
 7. While looking at the Lens Iris Gear, rotate the IRIS CONTROL KNOB until the Lens Iris Gear is at its first stop (ie: 1.2).
 8. While holding the DISABLE SERVO button, turn the IRIS CONTROL KNOB until it lines up with 1.2 and then let go of the button; the first stop has now been calibrated. Continue with each of the following steps.
- If the last iris stop is 16 it is recommended to calibrate the IRIS CONTROL KNOB setting of 22 (at 16) to ensure that the iris stays on 16 incase the knob gets positioned beyond 16.
 - If the first iris stop is 2 it is recommended to calibrate the IRIS CONTROL KNOB setting of 1.2 (at 2) to ensure that the iris stays on 2 incase the knob gets positioned beyond 2.
 - If the first iris stop is 2.8, it is recommended to calibrate the IRIS CONTROL KNOB settings of 2 and 1.2 (at 2.8) to ensure that the iris stays on 2.8 incase the knob gets positioned beyond 2.8.

SPEED APERTURE (F)

- Use the green button on the front, left side of the Control Console to activate the Speed Aperture mode (synchronizing the iris position and camera speed). The Camera Speed display will instantly adjust according to the iris position.
- The Speed Aperture may be activated or de-activated at any time weather the camera is running or not, and without affecting the iris calibration. However, upon de-activation the camera speed will remain where it was and therefore may need to be changed (i.e.: back to 24 fps).
- Use caution when "opening-up" the iris, as the camera speed will climb rapidly, doubling its speed with each stop.



ACCESSORY PORTS (F/V)

NOSE MOUNT (LEFT SIDE)



NOSE MOUNT (REAR)



MOUNT TILT ARM (CLOSE UP)



Note: The ACCS. 1 connector is utilized when connecting to a video zoom lens (for zoom control and VTR Start/Stop) or, to a film zoom lens (for zoom and focus control); see page 7 of 11.

Note: The ACCESSORY 2 connector is an auxiliary method of making a connection to the ACCS. 1 connector on the Tilt Arm. An ACCESSORY 2 cable is typically custom fabricated for a special application. It is not designed to connect to the Tyler RCU (page 4) and does not connect to the ACCS. 1 connector on the CONSOLE.