FH-350 Fluid Head
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Fluid Head

SPECIFICATIONS: FH-350

Counterbalance Range* ................................................................. 1.6 - 10 pounds (0.7 - 4.5kg)
Sinusoidal Restoring Torque ...................................................... Infinite Adjustment, 8 - 50 inch-pounds
Tilt Range ......................................................................................... ±90º
Damping Adjustment ........................................................................ 3 levels + Off
Height ............................................................................................. 5.9 inches (150mm)
Weight (including handle) ............................................................ 4.2 pounds (1.9kg)
Operating Temperature Range ...................................................... 0º - 140ºF (-18º - 60ºC)

- Range measured at 5 inches (127mm) above Tilt Axis. Maximum weight supported is 50 pounds, but loads weighing more than 10 pounds will have increasingly diminished counterbalance support.

RECOMMENDED INSTALLATION

Fluid heads perform best when installed on a tripod fitted with a 75mm or 100mm video bowl with leveling base.

RRS tripods that accept 75mm bowls ........................................ all Versa Series 2 or Series 3
RRS tripods that accept 100mm bowls ........................................ all Versa Series 4

GUARANTEE

ALL REALLY RIGHT STUFF BRAND PRODUCTS ARE GUARANTEED TO THE ORIGINAL PURCHASER TO BE FREE OF DEFECTS IN MATERIALS OR WORKMANSHIP FOR FIVE (5) YEARS FROM THE DATE OF PURCHASE. PRODUCTS WILL BE REPAIRED OR REPLACED AT OUR OPTION.

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SAFETY & INITIAL SET-UP

Your FH-350 Fluid Head was designed to incorporate the highly desirable features found in larger, top-tier fluid heads in a compact package better suited for smaller video camera systems like DSLRs and other similar units.

Designed with a true sinusoidal counterbalance system with infinite adjustability within its weight rating, the FH-350 ensures the camera feels smooth and consistent throughout the entire 180° of tilt. Proprietary damping grease maintains a consistent pan-and-tilt feel over a wide range of temperatures.

Also built into the fluidhead is our patented lever-release clamping system; a perfect mate with RRS lens plates and rails, the FH-350 is a DSLR videographer’s dream come true! A distinctive feature of the FH-350 is the integrated dovetail base, which allows quickly swapping between tripods and various setups.

The included handle can be positioned at any angle within a 180° range by utilizing a clutch-style locking system. Say goodbye to slipping handles because of teeth wearing out, like what happens with classic Rosettes or poker-chip interfaces. Choose between left-hand or right-hand positions or purchase a second handle assembly and use both.

Please follow the safety and set-up points below to assure safe and proper use of your FH-350 fluid head.

• Read this User Manual before installing or using the fluid head.

• Never disassemble any part of the FH-350. Aside from routine lever-release clamp maintenance, head is not serviceable by user.

• Use a tripod with sufficient load capacity and rigidity to support your load. Ensure the tripod is stable, balanced, and that all leg and angle locks are firmly locked.

• Fluid heads perform best when installed on a tripod fitted with a 75mm or 100mm video bowl leveling base. Ensure that the leveling base is securely fitted to the tripod.

• The FH-350 can be installed onto a platform with 3/8”-16 threaded stud.

• The FH-350 can be installed onto any tripod or leveling base fitted with a Really Right Stuff-style quick-release clamp. When using this installation method, double check that the quick-release clamp is properly closed before using the head.

• Level and balance the FH-350 and camera using instructions provided in the “Balance the Camera” section.
KEY FEATURES

1. **Multi-Lock Swivel** — Patent Pending swappable Handle & Multi-Lock Swivel deliver solid control for your fluid head. Loosening the Multi-Lock Swivel allows you to position your handle precisely where you want it, then lock it down by tightening the Handle Lock Knob. This gives you the flexibility and reliability conventional toothed designs cannot.

2. **Handle** — The 15 inch aluminum Handle with grip can be installed on either side of the fluid head. No tools required; rotate Handle Lock Knob to release Multi-Lock Swivel, then swap sides and tighten in place.

3. **Tilt Damping Adjustment Wheel** — Rotate wheel to adjust tilt damping. Chevrons align with index mark in four positions to deliver: Off (empty chevrons), Low, Medium, and High (filled chevrons) levels of fluid damping. **Note that there is no damping between the chevron marks.**

4. **Counterbalance Adjustment Knob** — Rotate the Counterbalance Adjustment Knob clockwise to increase the counterbalance restoring torque. Decrease the counterbalance restoring torque by rotating the knob in the counter-clockwise direction.

5. **Pan Damping Adjustment Wheel** — Similar to Tilt-Damping Adjustment Wheel, rotate the Pan Damping Adjustment Wheel to change the level of fluid damping. There are no intermediate settings between the chevron marks.

6. **Pan Lock Knob** — Rotate the Pan Lock Knob clockwise to tighten the panning base and prevent rotation. Rotate a single turn counter-clockwise in order to loosen the panning base. Partially engaging the pan lock is not recommended. Note that the knob can be removed for replacement by continuing to turn the knob counterclockwise.

7. **Tilt Lock Lever** — Rotate the Tilt Lock Lever toward the direction of the Lock symbol on the arrow to lock the head's tilt axis at any position. Loosen the tilt axis by rotating the lever the opposite direction. Note that the lever is captive and is factory-set with the proper amount of clamping force. User adjustment is not required.

8. **Clamp Lever** — The clamp lever incorporates a Release Latch. To open the lever, first press the Release Latch, then swing lever open 90°; this is the fully open position. The clamp is fully closed and locked on the quick-release plate when the lever is firmly closed back to its original position. Rotate the lever 45° to the half-open position to enable rail to slide fore & aft.


10. **Precision Laser Markings** — Use precision laser markings on the pan and tilt axes to produce repeatable positioning of the fluid head. Tilt axes are laser engraved in 5° increments; numbers and chevrons are lasered in 15° increments.

11. **Circular Spirit Level** — (not visible at left) Use the spirit level to ensure the pan axis is level with the horizon. Center the bubble in the circle marked on the top of the spirit level. Tilting the head forward, locking it at 45°, and viewing the bubble directly downward will produce the most accurate bubble reading.

* Clamp automatically adjusts to accept all Arca-Swiss style plates except Arca-Swiss P0 (“P Zero”) Slidefix plates or plates made by Novoflex.
SUGGESTED ACCESSORIES

QUICK-RELEASE PLATE
Your camera must be fitted with a Really Right Stuff-style quick-release plate; not included. Please call us or visit our website to purchase the model-specific plate for your camera.

BALANCE RAIL
A balanced camera load is key to achieving consistent results with the FH-350. To achieve balance, you must shift the camera forwards and backwards until the center of gravity is positioned over the center of the fluid head. Most cameras fitted with RRS quick-release plates, however, cannot slide fore & aft in the quick-release clamp on the FH-350 (most plates only allow left/right shifts). Use a Balance Rail to translate left/right shift to fore/aft shift. We recommend using either our MPR-CL or MPR-CL II rails. **SOLD SEPARATELY.**

BALANCE THE CAMERA
A balanced camera load is key to achieving consistent results with the FH-350. Without properly balancing the camera, the operator will have to compensate by balancing the camera load with their operating hand. This increases the difficulty of achieving a smooth tilting motion and also limits the effectiveness of the true sinusoidal counterbalancing mechanism found in the FH-350. Ensure the camera load is balanced before making adjustments to the Counterbalance Adjustment Knob. Balance the camera quickly using these steps.

1. Level the head
   Use the built-in spirit level to level the head. The head is level when the bubble is centered within the scribed black circle.
2 **Lock Panning Base**
Rotate Pan Lock Knob clockwise to lock.

3 **Lock Tilt Axis**
Rotate Tilt Lock Lever to the locked position.

4 **Turn off tilt damping**
Rotate the Tilt Damping Adjustment Wheel to the off position (align with empty chevrons).

5 **Mount camera and/or Balance Rail**
If using Balance Rail (sold separately), install Balance Rail to camera’s quick-release plate first. Then mount Balance Rail into the quick-release clamp on the FH-350 so that both sets of dovetails are in the clamp. Rotate the clamp lever until the jaw fully engages the plate or rail dovetail and the clamp is in the fully closed and locked position (shown at right).
Find the center of balance
(Illustrated at right without camera mounted; to follow these steps, your camera must be mounted.)

While holding the Handle, unlock the tilt axis (turn Tilt Lock Lever to the unlocked position, the opposite of Step 2).

*When the tilt axis is unlocked, you must hold the Handle at all times to prevent free fall.* Set the head to zero degrees of tilt and while holding the handle lightly, determine if the head naturally wants to tilt forward toward the lens or rearward.

- If the camera wants to tilt forward, then the load needs to be shifted backwards.

- If the camera wants to tilt rearward, then the load needs to be shifted forward.

To shift the load, open the lever-release clamp halfway and nudge the camera or Balance Rail in the direction needed to achieve balance. When the load is balanced, fully close the lever-release clamp. Beware of pinch points where the clamp approaches the pan base at maximum tilt.

**SET COUNTERBALANCE**

Properly setting the Counterbalance Adjustment Knob will result in effort-free tilting of the camera load throughout the entire +/-90° tilt range. The true sinusoidal counterbalance mechanism found in the FH-350 can be adjusted for each unique camera setup. Setting the knob is quick and easy when following these steps.
1 **Perform all steps to BALANCE THE CAMERA**
Camera should be perfectly balanced, Tilt Damping Adjustment Wheel should be OFF, and Tilt Lock Lever is in the unlocked position.

2 **Set maximum Counterbalance**
Rotate Counterbalance Adjustment Knob clockwise until it comes to a hard stop at the maximum setting.

3 **Tilt head forward**
Tilt the head forward 15 to 30° with one hand. There should be a springy resistance.
Perform all steps to BALANCE THE CAMERA & SET COUNTERBALANCE
Camera should be perfectly balanced, Counterbalance should be set for the load, Tilt Lock Lever in the unlocked position, and Pan Lock Knob unlocked.

1. **Set Counterbalance**
   - While holding the head tilted forward, rotate the Counterbalance Adjustment Knob counterclockwise until the springy resistance is reduced and the head stays in its tilted position without user input.
     - If the head falls under the weight of the camera, increase the counterbalance by rotating the adjustment knob clockwise (in the direction of the “+” arrow).
     - If the head springs back toward zero tilt, decrease the counterbalance by rotating the adjustment knob counterclockwise (in the direction of the “-” arrow).
     - When set properly, the head should stay in any tilt position without requiring user input. Note: This feature is accurate to within +/- 5% and small changes in angular position may occur.

**SET DAMPING**
The FH-350 features three distinct damping settings. This gives the operator the flexibility of choosing a setting that is right for the shoot and feels comfortable for the operator. Select the damping after balancing the camera and setting the Counterbalance Level in order to achieve the most consistent results. Select the desired damping level by following these steps.

2. **Rotate Damping Adjustment Wheel for both TILT and PAN**
   - Rotate the Damping Adjustment Wheel to the desired setting indicated by the filled in chevrons*. See figure on next page.
Tilt and Pan

Tilt and pan the head about 20° in each axis to allow the damping setting to engage. Once engaged, the head is now ready to use.

*There is no damping between the chevrons.* Setting the adjustment wheel to an intermediate position will result in improper engagement of the damping and could result in damage to the system. If you encounter a loss of damping during use, check the position of the Damping Adjustment Wheel to ensure it is properly aligned at one of the marked settings.