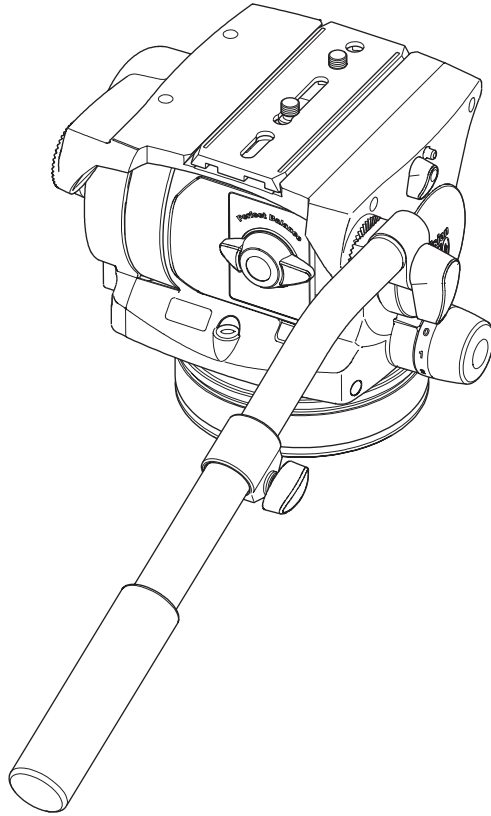


# Operators Guide

## Vision 250



## Pan & Tilt Head



***Vinten***  
Camera Control Solutions

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# **Vision 250**

## **Pan and Tilt Head**

**Publication Part No. 3525-8      Issue 3**

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## Safety - read this first

### Warning Symbols in this Operators Guide



Where there is a risk of personal injury, injury to others, or damage to the pan and tilt head or associated equipment, comments appear, highlighted by the word **WARNING!** and supported by the warning triangle symbol.

## Technical data

### Weight

Flat base (complete with pan bar)	6.05 kg (13.3 lb)
Ball base (complete with pan bar and bowl clamp)	6.39 kg (14 lb)

### Height to mounting face

Flat base	184 mm (7.24 in.)
Ball base	171 mm (6.73 in.)

Length 159 mm (6.23 in.)

Width 244 mm (9.6 in.)

Typical payload 25 kg (55 lb) - See balance graph

Tilt range  $\pm 90^\circ$

Pan range  $360^\circ$

Pedestal/tripod fixing 100/150 mm ball  
Four-hole flat base

## Further information

For further information or advice regarding this pan and tilt head, please contact Vinten Broadcast Limited, your local Vinten distributor or visit our website.

For full details on maintenance and spare parts, please refer to the Vision 250 Pan and Tilt Head Maintenance Manual and Illustrated Parts List (Publication Part No. 3465-9), obtainable from Vinten Broadcast Limited or your local Vinten distributor. For information on-line, visit our website at

**[www.vinten.com](http://www.vinten.com)**

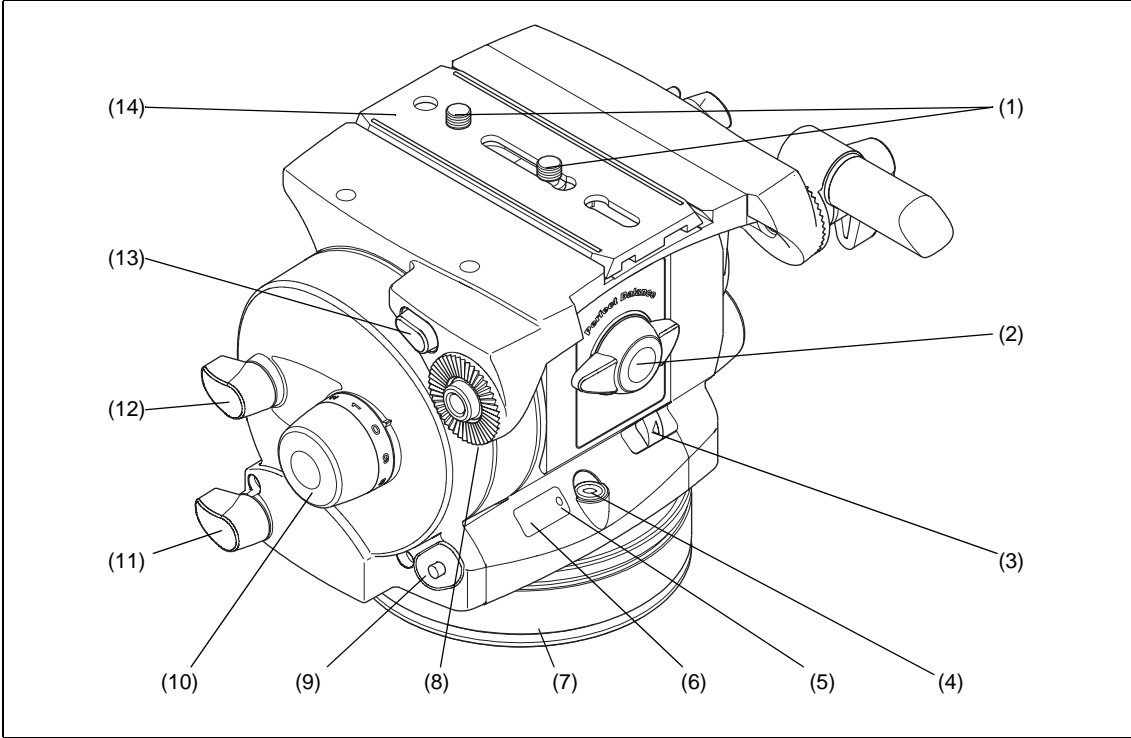
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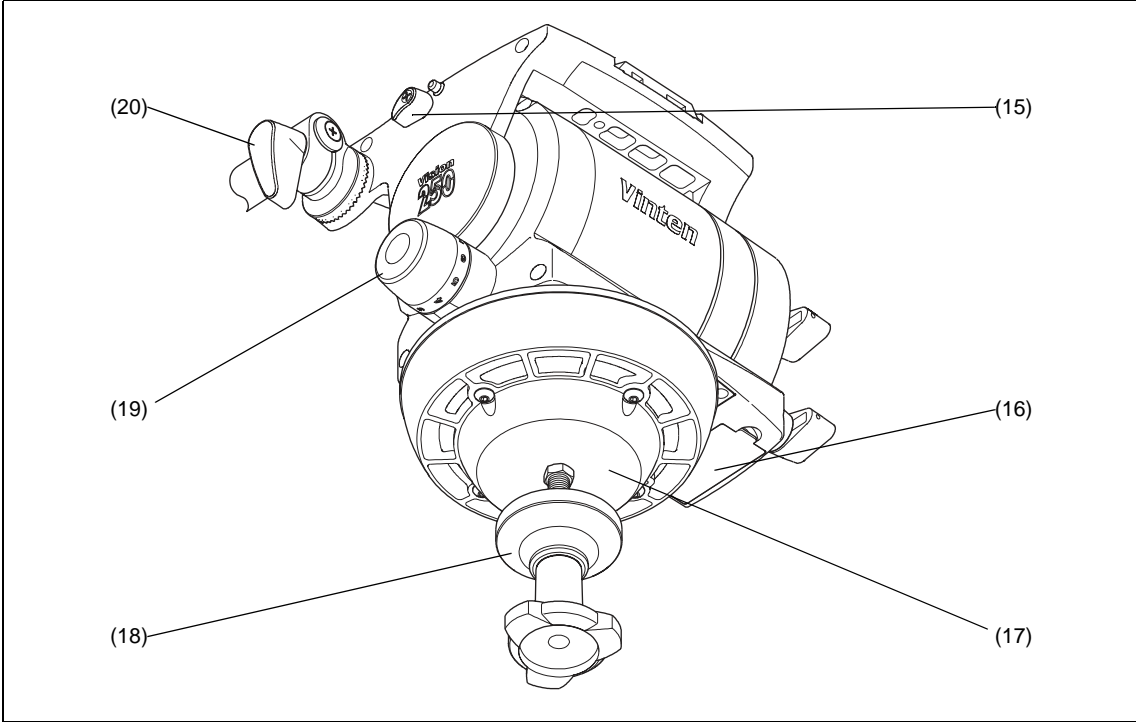
## Associated publication

Vision 250 Pan and Tilt Head  
Maintenance Manual  
Publication Part No. 3465-9



**Vision 250 (Left-Hand Side with Flat Base)**

- |      |   |
|------|---|
| (1)  | Camera mounting screws  |
| (2)  | Balance knob  |
| (3)  | Centre lock   |
| (4)  | Illuminated level bubble  |
| (5)  | Ambient light level sensor  |
| (6)  | Digital display   |
| (7)  | Flat base   |
| (8)  | Pan bar mounting  |
| (9)  | Switch for illuminated level bubble, drag knob scales and digital display |
| (10) | Tilt drag adjustment knob   |
| (11) | Pan brake lever   |
| (12) | Tilt brake lever  |
| (13) | Slide lock release  |
| (14) | Slide plate   |



**Vision 250 (Right-Hand Side with Spherical Base)**

- (15) Slide plate clamp
- (16) Battery cover
- (17) Spherical base
- (18) Bowl clamp
- (19) Pan drag adjustment knob
- (20) Telescopic pan bar

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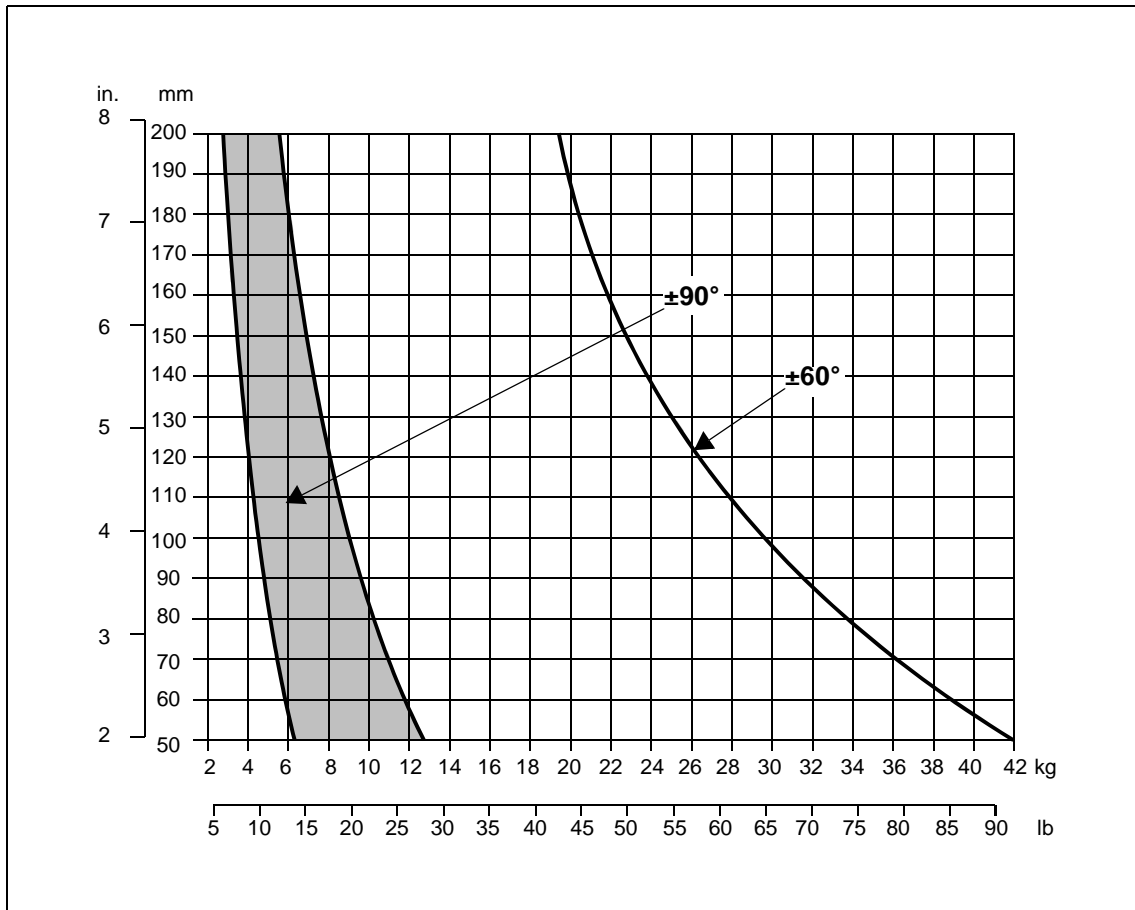
## Introduction

The Vision 250 pan and tilt head embodies an adjustable spring counterbalancing mechanism, thin film (TF) drag assemblies for pan and tilt motions and an adjustable camera mounting plate.

The balance system is easily adjusted by a knob (2) on the rear of the head. Maximum and minimum payloads that can be balanced, and tilt ranges, are dependent on the weight of the camera and accessories and on the centre of gravity (C of G) height.

The graph shows the range of load and C of G height that can be maintained in balance. The shaded area of graph corresponds to those load/C of G combinations that can be balanced over the full tilt range. The area to the right indicate the progressively reducing tilt range with greater load and higher C of G.

Where a load/C of G combination falls outside of the graph it will be necessary to increase or decrease the weight or the C of G height - if possible - to enable the head to balance the load.



**Balance graph**

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A digital display (6) indicates the setting of the balance mechanism on a scale of 00 - HI. The display is illuminated by pressing the switch (9) and extinguishes automatically approximately 15 seconds after adjustments are complete. The same switch also illuminates the level bubble (4) and the scales of the pan and tilt drag knobs (19)(10). A sensor (5) automatically compensates for ambient light levels and dims the display. If the ambient light level is high, the level bubble and drag knob scales will not be lit. The battery for the system is housed in a compartment in the base of the head, closed by a cover (16).

Both the pan and tilt mechanisms incorporate the Vinten thin film (TF) system to ensure smooth movement of the camera about these axes and are fitted with control knobs (19)(10) to adjust the drag setting. The whip-pan facility is unaffected by the pan drag setting. Both drag knobs are provided with scales illuminated by the switch (9).

Friction brakes on each axis allow the head to be locked at any chosen position. The operating levers for both brakes (11)(12) are fitted on the left-hand side of the head.

A centre lock (3) allows the head to be locked in the horizontal position.

A level bubble (4), illuminated by pressing the switch (9), is fitted to the rear of the head.

Pan bar mounting points (8) are located at the rear of the head, on either side of the camera mounting platform. A telescopic pan bar (20) is supplied and is attached using a pan bar clamp, with angular adjustment available on the mount serrations. A second pan bar may be fitted.

Two versions of the head are available. One uses a dual 100/150 mm ball mount (17) with a bowl clamp (18). The other has a flat base (7), with `Quickfix® and standard four-hole fixing. Mounting bolts, washers and a spanner are also provided.

The camera is attached to the head by means of a slide plate (14) or by using the optional Quickfit® adaptor. A clamp (15) is provided to hold the slide plate in position and a lock (13) prevents its inadvertent removal from the head.



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# Operation

## Installing the head

The Vision 250 head is supplied with a dual 100/150 mm ball base and is designed for installation on a compatible Vinten Vision tripod.

The head is also available with a flat base, with 'Quickfix' and standard four-hole fixing.

Adaptors are available which enable the heads to be installed on tripods or pedestals fitted with other mountings. These are listed under 'Optional Accessories'.

To install a head with a ball mount, remove the bowl clamp assembly (18) from the head, position the head on the tripod and refit the bowl clamp assembly from below. Level the head with the aid of the level bubble (4) and tighten the bowl clamp. The level bubble may be illuminated by pressing the switch (9). The light will extinguish after 15 seconds.

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**NOTE: If the ambient light level is high, the level bubble will not be lit.**

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The flat based head may be installed on a tripod or pedestal using the four mounting bolts and washers provided or by using a 'Quickfix' adaptor.

## Mounting the camera

Remove the slide plate (14) from the head by releasing the slide plate clamp (15), pressing the slide lock release (13) and pulling the plate to the rear.

Attach the slide plate to the camera or camera mounting plate under the approximate centre of the camera's weight using both camera mounting screws (1). Position the screws as far apart as possible.

Set the platform level and engage the centre lock (3).

Push the slide plate and camera into the platform from the rear, ensuring slide lock release (13) snaps into position.

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## Mounting the camera (optional Quickfit adaptor)

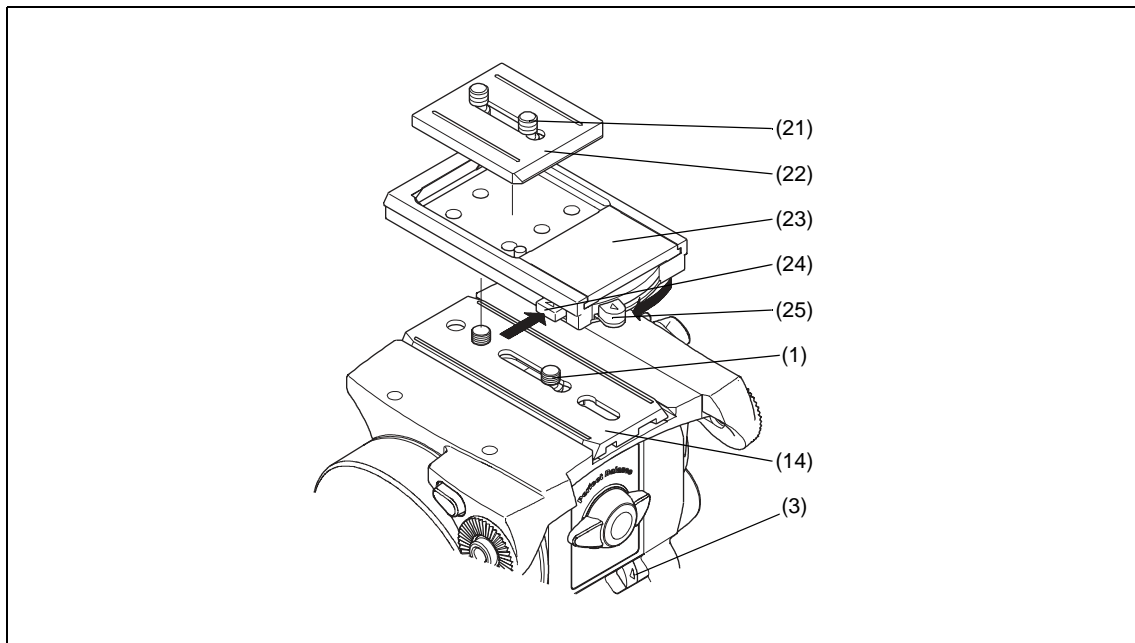
If not already attached, secure the Quickfit adaptor (23) to the slide plate (14) with the two screws provided (1).

Free the Quickfit wedge (22) from the adaptor by simultaneously pushing in the safety catch (25) and operating the wedge release (24).

Fit the Quickfit wedge (22) to the camera with the two screws provided (21).

Set the platform level and engage the centre lock (3).

Insert the forward end of the wedge into the forward end of the adaptor. Lower the rear of the wedge into the adaptor until an audible click indicates that the wedge is locked.



**Mounting the camera (optional Quickfit adaptor)**

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## Balancing the head

Balancing the Vision 250 head achieves two objectives. Firstly, when a head is correctly balanced the operator will need a minimum amount of even effort to move the head. Secondly, once balanced, the head and its payload can be set to any tilt position and the head will maintain this position with 'hands off'.

Prior to balancing the head ensure that the pan bars and any ancillary equipment have been fitted in order to prevent upsetting the balance once it has been achieved.



**WARNING! Be prepared to prevent the head falling away suddenly.**

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1. Release the centre lock (3) and the tilt brake (12). Turn the balance knob (2) counter-clockwise until the head falls away from horizontal under the weight of the camera.
2. Release the slide plate clamp (15) and slide the camera backwards or forward until it balances horizontally. Apply the slide plate clamp (15).
3. Turn the balance knob (2) clockwise until the camera does not fall away when the head is tilted and released.

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**NOTE:** If the digital balance setting of the particular payload is known, press the switch (9) and turn the balance knob until the digital display (6) shows that setting.

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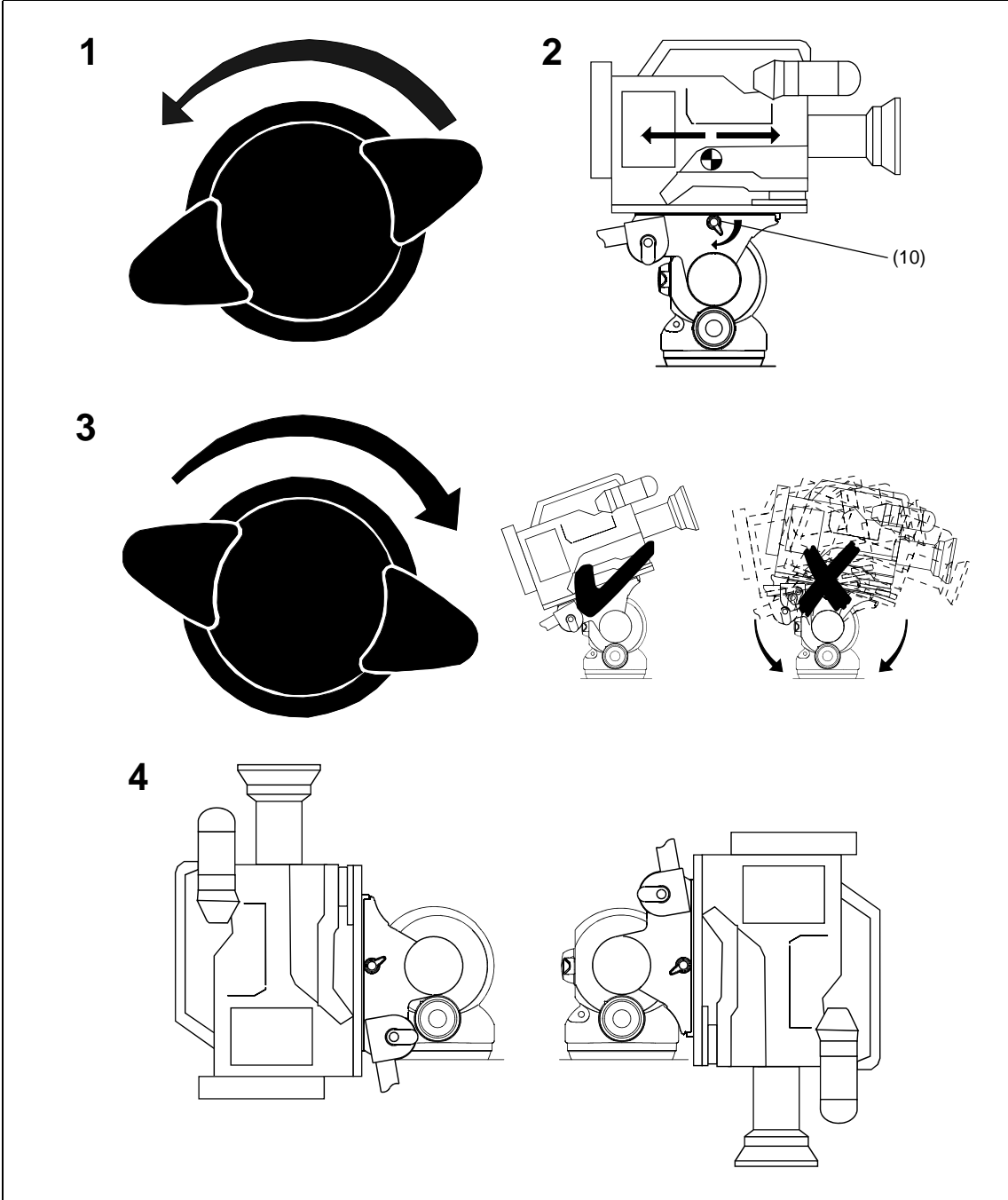
4. Repeat steps 2 and 3 until perfect balance is achieved, when the camera will remain set at any angle from +90° to -90° without falling away or springing back. Re-apply the centre lock (3) and the tilt brake (12).

---

**NOTE:** Maximum tilt angle is less than 90° for heavy payloads with a high C of G - see balance graph.

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Press the switch (9) and make a note of the digital display (7). This will facilitate rebalancing this particular payload.



**Balancing the head**

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## Locking the platform

The centre lock mechanism is operated by a slider on the rear of the head. To engage the lock, hold the platform in the horizontal position and push the slider (3) to the left.

To release the centre lock, push the slider (3) to the right.

## Pan and tilt brakes

Friction brakes on each axis allow the head to be locked at any chosen position. The operating levers for the pan brake (11) and tilt brake (12) are fitted on the left-hand side of the head.

To apply the brake, turn the lever fully clockwise. To release the brake, turn the lever fully anti-clockwise.

## Pan and tilt drag

Both the pan and tilt mechanisms incorporate the Vinten thin film (TF) system to ensure smooth movement of the camera about these axes and are fitted with control knobs to adjust the drag setting.

Both drag knobs are provided with illuminated scales, graduated from 0 to 9. To illuminate the scales, press the switch (9). The lamp will extinguish after 15 seconds.

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**NOTE: If the ambient light level is high, the scales will not be lit.**

---

The tilt drag adjustment knob (10) is on the left-hand side of the head, the pan drag knob (19) is on the right-hand side. To increase drag, turn the knob clockwise, towards a higher graduation. To decrease drag, turn the knob anti-clockwise, towards a lower graduation. The whip-pan facility is unaffected by the pan drag setting.

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# Servicing

## Routine maintenance

Replace the balance mechanism digital display battery yearly.

During use, check the following:

Check the effectiveness of the pan and tilt brakes. Reset as necessary.

Check the operation of the balance mechanism digital display and the illumination of the level bubble and drag knobs. Replace battery if necessary.

No further routine maintenance is required.

## Cleaning

During indoor use, the only cleaning required should be a regular wipe over with a lint-free cloth. Dirt accumulated during storage may be removed using a semi-stiff brush. Particular attention should be paid to the levelling bowl and mounting face of the head and to the space between the tilting assembly and the base.

All Vision heads are weatherproof. However, use out-of-doors under adverse conditions will require special attention. Salt spray should be washed off with fresh water at the earliest opportunity. Sand and dirt acts as an abrasive and should be removed using a semi-stiff brush or vacuum cleaner.

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**NOTE: Use only detergent-based cleaners. DO NOT use solvent- or oil-based cleaners, abrasives or wire brushes to remove accumulations of dirt, as these damage the protective surfaces.**

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## Battery replacement

The battery powers the balance mechanism digital display and illuminates the level bubble and the drag knob scales. All are operated simultaneously by pressing the switch (9) and remain active for approximately 15 seconds.

The battery should be replaced yearly or whenever the illumination is considered inadequate.

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**NOTE: The illumination level of the digital display and the level bubble and the drag knob scales varies with the intensity of the ambient light. If the ambient light level is high, the level bubble and drag knob scales will not be lit. Removal of the battery will not affect the calibration of the balance mechanism display.**

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Prise out the battery cover (16).

Pull the battery (16.2) out of the battery compartment as far as the wiring will allow.

Pull the connector (16.1) off the terminals of the old battery and push it onto the terminals of the new battery (16.2).

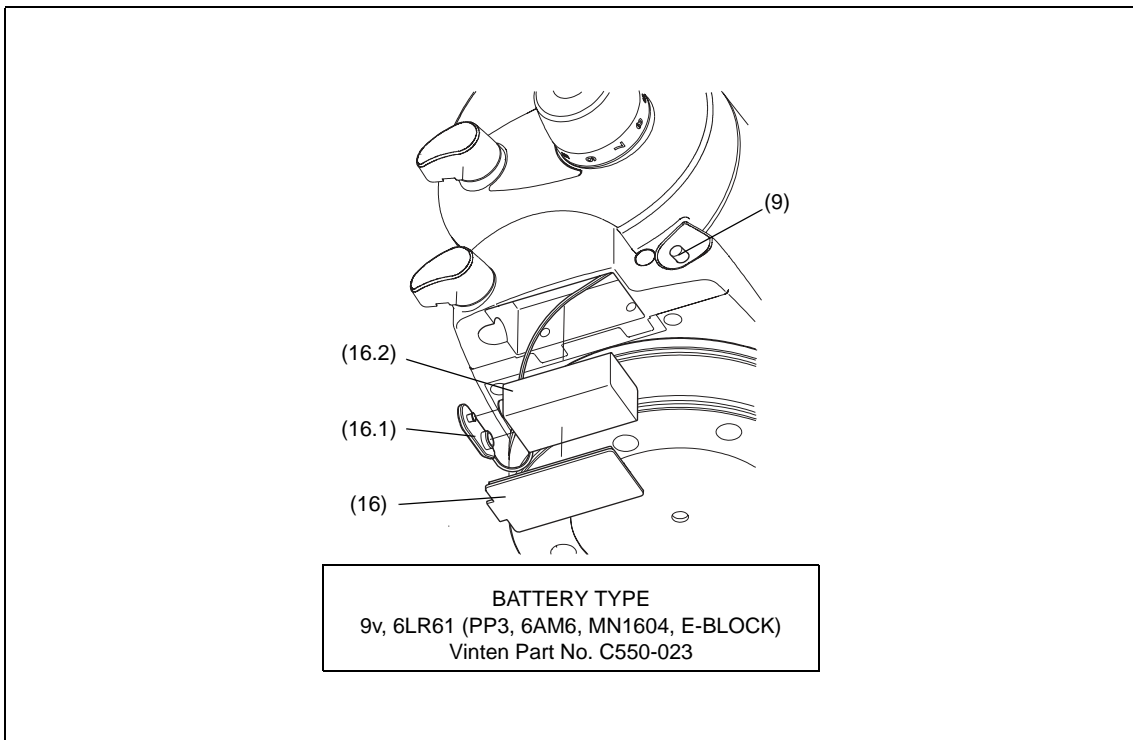
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Install the battery (16.2) in the battery compartment, ensuring that the wiring is neatly stowed.

Refit the battery cover (16).

Press the switch (9) and ensure that the balance mechanism digital display (6) is lit for approximately 15 seconds.

Put a finger over the light sensor (5) and press the switch (9). Ensure that the level bubble (4) and drag knob scales (10)(19) are lit.



## Battery replacement

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## Balance mechanism digital display calibration

The digital display (6) indicates setting of the balance mechanism on a scale of **00** (minimum setting) to **HI** (maximum setting). In the unlikely event of this system requiring calibration, proceed as follows:

Level the platform and apply centre lock (3).

Turn the balance knob (2) fully clockwise to its maximum stop.

---

**NOTE:** If more than 15 seconds is allowed to elapse between steps, the system will shut down and revert to its previous settings.

---

Press and hold the switch (9) for approximately eight seconds, until the digital display (6) shows **CA**. Release the switch (9). The display shows **HI**.

With the balance knob (2) still turned fully clockwise, press and release the switch (9). The display will now show **LO**.

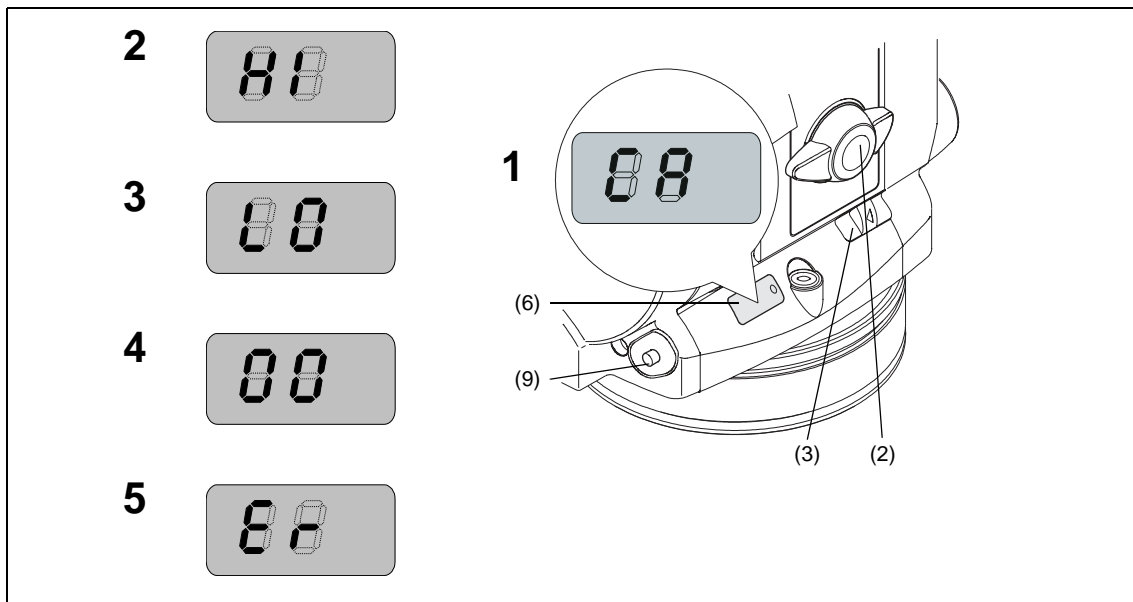
Turn the balance knob (2) fully counter-clockwise to its minimum stop.

Press and release switch (9).

If the calibration is successful, the display will now show **00**.

If unsuccessful, **Er** will be displayed. Pressing the switch (9) again, or waiting for 15 seconds, will allow the system to revert to its previous settings. Calibration may now be carried out again.

After calibration, rebalance the head (see **Balancing the head**).



## Balance mechanism digital display calibration

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## Converting the base

Spares kits are available to convert the head from ball base to flat base versions and vice versa.

Kit 3525-900SP comprises a ball base, bowl clamp and fixing hardware; while kit 3525-901SP has a flat base, mounting bolts, and washers, a spanner and fixing hardware.

To change the base:

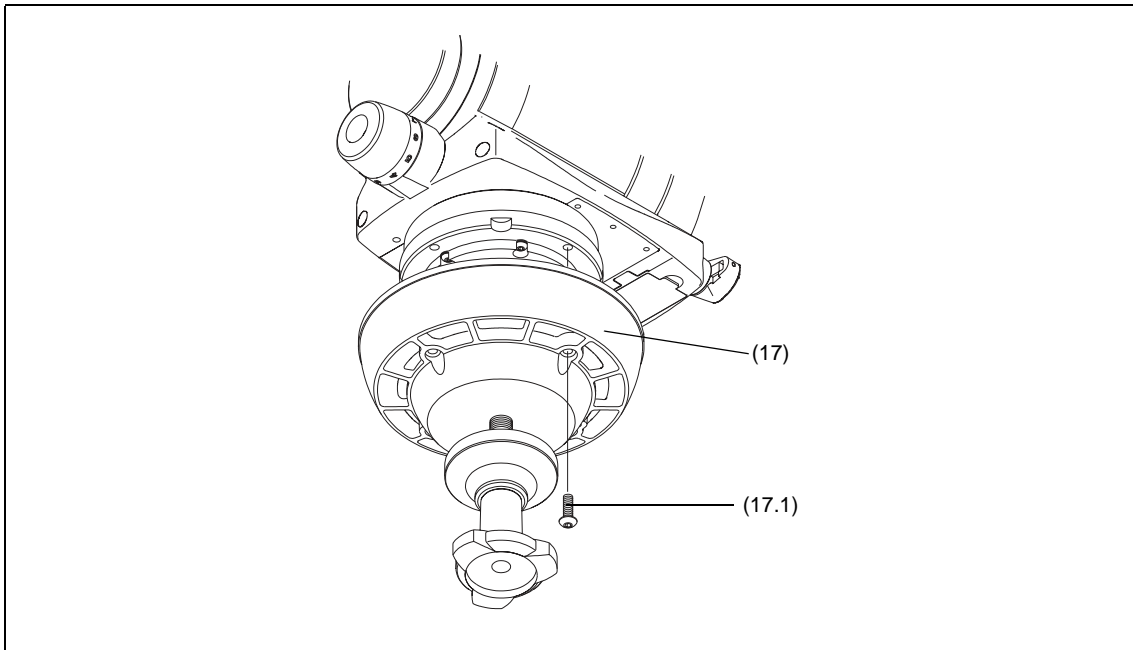
Remove the camera from the head.

On the base, remove four screws (17.1) and separate the base (17) from the head.

Position the replacement base on the head and secure with four screws (17.1), using Loctite 222E.

## Brake knob and drag control knob adjustment

The pan and tilt brake and drag controls may require adjustment after prolonged use. These adjustments should be carried out by competent persons as detailed in the Maintenance Manual. The Maintenance Manual may be obtained from Vinten Broadcast Limited or your local Vinten distributor or from our website at [www.vinten.com](http://www.vinten.com).



**Converting the base**

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## Parts list

The following lists include main assemblies, user-replaceable spare parts and optional accessories. For further information regarding repair or spare parts, please contact Vinten Broadcast Ltd or your local distributor.

### Main assemblies

Vision 250 Pan and Tilt Head (flat base)	3465-3F
Vision 250 Pan and Tilt Head (100/150 mm ball mount)	3465-3S
Bowl clamp knob assembly	3330-30
Telescopic pan bar and clamp	3219-91
Camera mounting plate	3364-900SP
Fixing bolt (flat base)	L054-714
Washer - for fixing bolt	L602-122
Spanner - for head bolts	J551-001

### User-replaceable spare parts

Battery - 9V, 6LR61 (PP3, 6AM6, MN1604, E-BLOCK or equivalent)	C550-023
Brake knob kit	3431-900SP

### Optional accessories -base adaptor kits

Spherical base adaptor	3525-900SP
Flat base adaptor	3525-901SP

### Optional accessories -Quickfit adaptors

ENG Quickfit Automatic Adaptor (with wedge plate)	3471-3
Quickfit wedge	3763-11

### Optional accessories - tripod and pedestal adaptors

Levelling adaptor Quickfix to 4-bolt flat base	3077-3
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