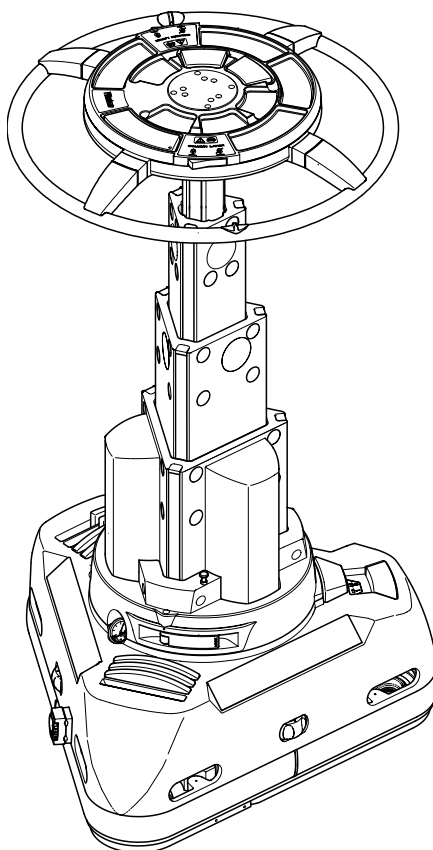


Operators Guide

Quattro-S



Pedestal



Vinten
Camera Control Solutions

Quattro-S Pedestal

Publication Part No. V3850-4980 Issue 1

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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 pedestal or associated equipment, comments appear, highlighted by the word **WARNING!** and supported by the warning triangle symbol.

Warning symbols on the pedestal

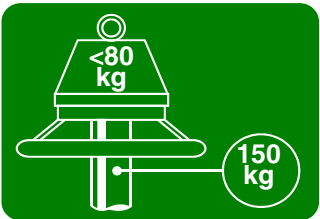


On encountering the warning triangle and open book symbols it is imperative that you consult this operators guide before using this pedestal or attempting any adjustment or repair.

Critical data

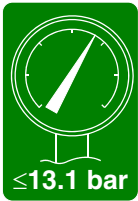
Mass

Pedestal	150 kg (331 lb)
Trim weights (11 off) total	7.5 kg (16.5 lb)



Load

Maximum load	80 kg (176 lb)
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Pressure

Maximum pressure	13.1 bar (190 psi)
Minimum pressure	3.5 bar (50 psi)

Usage

The Quattro-S Pedestal is designed for use in television studios to support and balance a pan and tilt head, camera and ancillary equipment weighing up to 80 kg (176 lb).

The Quattro-S Pedestal is intended for use by television camera operators.



WARNING! If you do not understand how to operate this pedestal, do not attempt to use it.
Maintenance beyond that detailed in this Operators Guide must be performed only by competent personnel in accordance with the procedures laid down in the Maintenance Manual.

Further information

For further information or advice regarding this pedestal, 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 Quattro-S Pedestal Maintenance Manual and Illustrated Parts List - Publication Part No. V3850-4990. This is obtainable from Vinten Broadcast Limited or your local Vinten distributor.

For information on-line, visit our website at

www.vinten.com

Contents

	Page
Safety - read this first	3
Critical data	3
Usage	4
Usage	4
Introduction	8
Operation	
Unpacking	9
Column check	9
Steering mechanism checks	10
Fitting the load	10
Pressurizing the pedestal	11
Balancing the load	14
Using the Quattro-S pedestal	
Height adjustment	15
Steering	16
Parking brake	16
Cable clamps	16
Cable guard	16
Transportation and storage	17
Servicing	
General	18
Routine maintenance	18
Cleaning	18
Steering alignment	18
Changing the steering ring	21
Parts list	22
Technical data	23

Associated Publications

Quattro-S Pedestal
Maintenance Manual and Illustrated Parts List
Publication Part No. V3850-4990

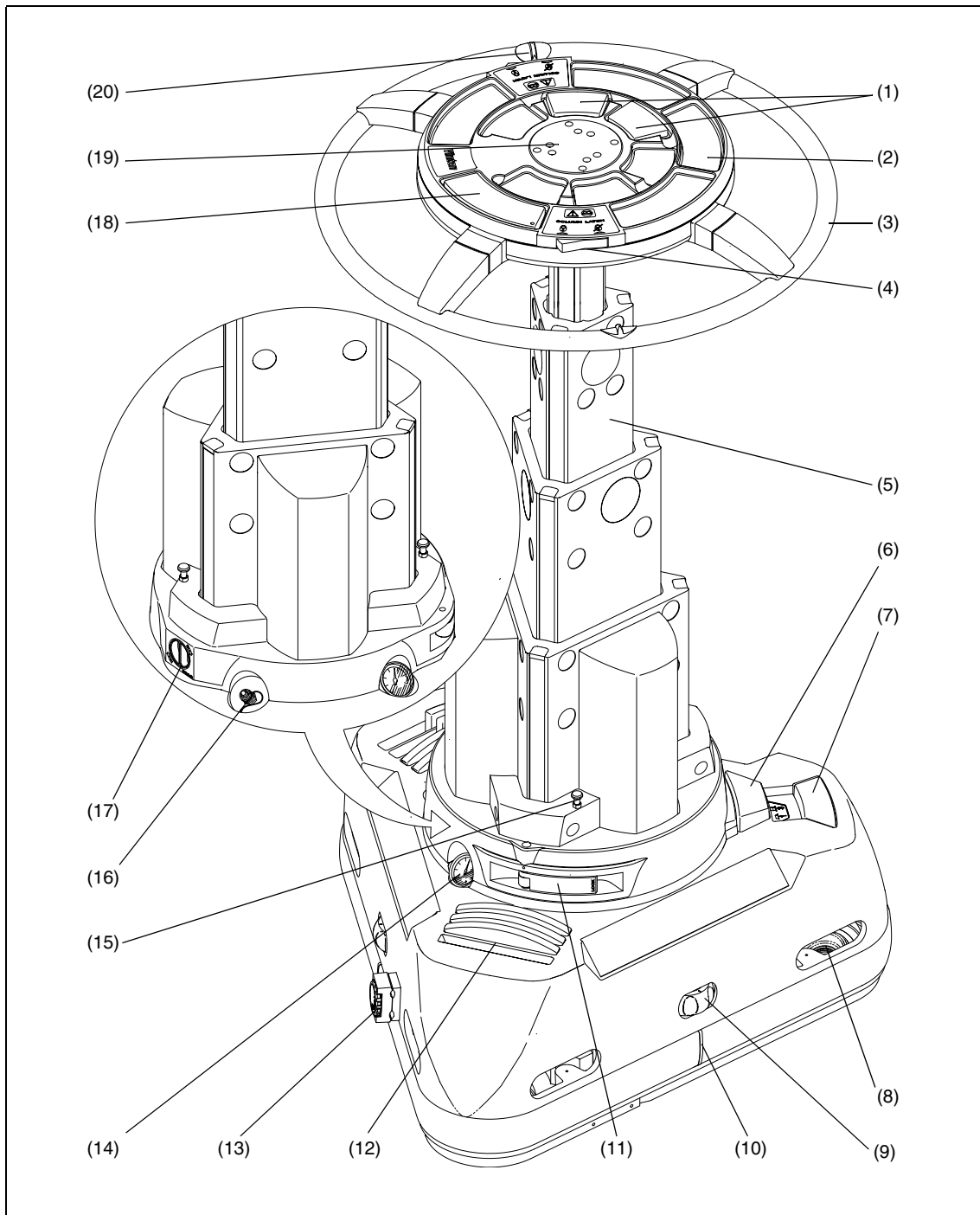


Fig 1 Quattro-S Pedestal

Quattro-S Pedestal

(1)	Trim weight - auxiliary
(2)	Weight tray
(3)	Steering ring
(4)	Safety catch
(5)	Moving column
(6)	Crab/steer changeover pedal
(7)	Parking brake pedal
(8)	Lifting aperture
(9)	Cable guard adjustment knob
(10)	Position indicator
(11)	On-shot clamp
(12)	Trim weight stowage
(13)	Cable clamp
(14)	Pressure gauge
(15)	Lock spigot
(16)	Schrader valve and cap
(17)	Drag control
(18)	Trim weight - main
(19)	Four-bolt mounting plate
(20)	Steering indicator

Introduction

The Quattro-S pedestal comprises a central four-stage telescopic column mounted in a steerable base.

The moving column (5) is pressurized from an external pressure source. A weight tray (2) is attached to the top of the column and trim weights (1)(18) are provided for fine balance. The weight tray also provides a standard four-bolt mounting (19) for a pan and tilt head and the pedestal is steered by means of a steering ring (3) mounted on its underside. Large- and small-diameter steering rings are available and are fitted with indicators (20) to show the straight-ahead position.

The column is locked in the fully-depressed position by two safety catches (4) on the weight tray which engage with spigots (15) at the base of the column. An on-shot clamp (11) and a drag control (17) are provided at the base of the column.

The base is carried on three sets of twin 125 mm (5 in.) wheels. A continuous height-adjustable cable guard with six positions is provided, raised and lowered by three thumb-wheels (9). Stowage for the trim weights is provided on the upper surface of the base (12) and two cable clamps (13) are fitted to the vertical sides. A brake pedal (7) controls the parking brake and a crab/steer pedal (6) allows the operator to switch between conventional and crab steering. Position indicators (10) on each side of the base allow the camera operator to accurately position the pedestal. Lifting apertures (8) are provided on each face of the base and these also provide access to the wheels.

The Quattro-S pedestal is available in grey or black.

Operation

Unpacking

Unpack the pedestal, ensuring that all transport packing and retaining fixings are removed.



WARNING! The Quattro-S pedestal has a mass of 150 kg (331 lb). Take care when lifting the pedestal. Do not lift the pedestal by the steering ring - use the lifting apertures (8). Do not release the safety catches (4) at this stage.

Column check



WARNING! A pressure retaining valve prevents pedestal pressure being reduced below approximately 3.5 bar (50 psi), indicated by the yellow segment on the pressure gauge (14). In the event that pressure has fallen below this, pressurize the pedestal to approximately 3.5 bar (50 psi) before attempting to extend the column.

Ensure pedestal pressure is approximately 3.5 bar (50 psi). Increase or reduce as necessary, using the Schrader valve (16).

Remove the self-adhesive safety catch warning covers (4.1)(if fitted).

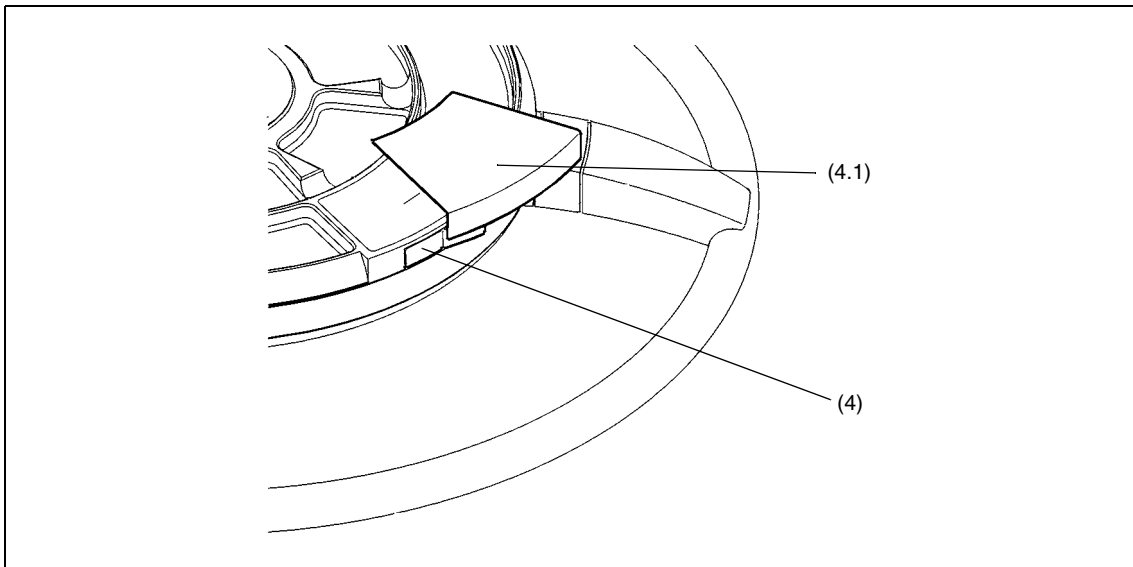


Fig 2 Safety Catch Warning Covers

Push down on the weight tray (2) against residual pressure. At the safety catches (4), push the rocker switches to the unlocked position. Allow the column to extend under hand restraint.

Exercise the column several times over its full stroke.

Push down on the weight tray (2) and push the safety catch rocker switches (4) to the locked position.

Steering mechanism checks

Two types of indicator may be fitted on the steering ring to show the straight-ahead position. One type consists of a plastic moulding (20) as shown in Fig 1. The other comprises two groups of rivets on the underside of the steering ring, as shown in Fig 6.

Align a steering indicator (20) with the crab/steer pedal (6). Press the pedal to select CRAB Turn the steering ring and check that all three wheels turn together and all point in the same direction.

Align a steering indicator (20) with the crab/steer pedal (6) and press the pedal to select STEER. Turn the steering ring and check that two of the wheels lock in the straight-ahead position and that the third wheel (below the brake pedal) can be turned by the steering ring.

Fitting the load

The Quattro pedestal has the standard four-bolt mounting plate (19) which permits the use of various Vinten camera mounts including pan and tilt heads, Quickfix and Mitchell adapters. To fit a pan and tilt head or an adaptor it is necessary to extend the moving column.



WARNING! A pressurized pedestal will rise rapidly when the safety catches are released. Do not lean over the pedestal when releasing the safety catches. Always restrain the column by hand pressure on the weight tray when the safety catches are released.

Fit the pan and tilt head or adaptor as follows:

Ensure pedestal pressure does not exceed 3.5 bar (50 psi). Reduce as necessary, using the Schrader valve cap (16).



WARNING! A pressure retaining valve prevents pedestal pressure being reduced below approximately 3.5 bar (50 psi), indicated by the yellow segment on the pressure gauge (14). In the event that pressure has fallen below this, pressurize the pedestal to approximately 3.5 bar (50 psi) before attempting to extend the column.

Push down on the weight tray (2) against residual pressure. At the safety catches (4), push the rocker switches to the unlocked position. Allow the column to extend under hand restraint.

Apply the on-shot clamp (11).

Fit the pan and tilt head or adaptor and secure with the appropriate bolts.

Release the on-shot clamp (11) and lower the moving column under hand restraint. Push down on the weight tray (2) and push the safety catch rocker switches to the locked position.



WARNING! Lock the pedestal in the fully depressed position before installing the camera.

With the pedestal locked in the fully depressed position, fit the camera and accessories to the pan and tilt head, ensuring that all items such as pan bars, prompters, lenses etc, are fitted. Attaching these items at a later stage may upset the pedestal balance.

Install one main (18) and two auxiliary trim weights (1) on the weight tray (2).

Pressurizing the pedestal

The Quattro may be pressurized from an external pressure source or by using the Vinten portable pump (Part No. 3357-3). Trim weights (1)(18) are provided for fine balance.

Ascertain the payload to be fitted to the pedestal (payload = pan and tilt head, camera, lens and all ancillary equipment). Referring to the graph (Fig 3), mark the payload on the horizontal axis then strike a vertical line from the load figure to the balance line. At the intersecting point strike a horizontal line to the vertical axis and read off the required pressure.

The pedestal should be pressurized with the column unlocked and free to extend.

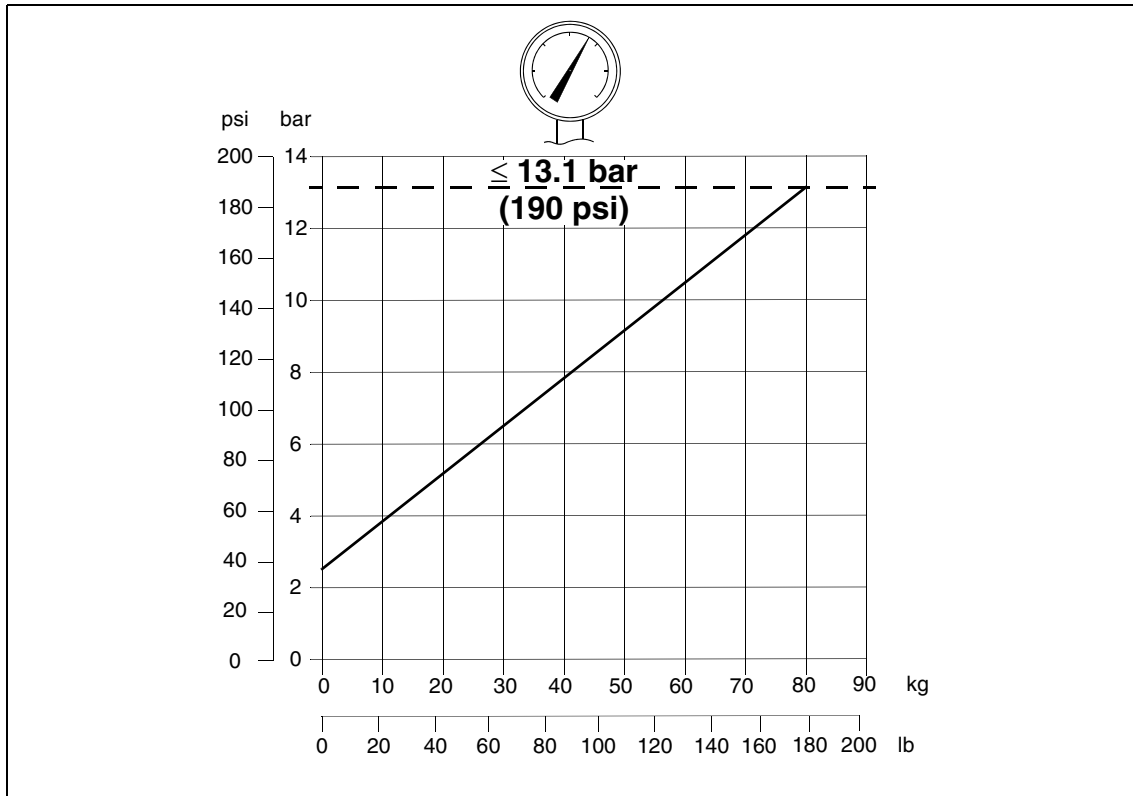


Fig 3 Pressurization Graph

Pressurizing the pedestal from an external pressure source



WARNING! This pedestal must be pressurized only with clean, dry air or nitrogen. A pressure reducing valve must be fitted to the pressure line between the gas cylinder and the outlet connection of the hose. The reducing valve must be screwed into the gas cylinder outlet. The maximum pressure on the outlet side of the reducing valve must not exceed 13.1 bar (190 psi). Do not pressurize the pedestal beyond the maximum safe working pressure indicated by the leading edge of the red sector on the gauge. The pedestal is fitted with a pressure relief valve as a safeguard against over-pressurization. Do not attempt to adjust the pressure relief valve.

To pressurize the pedestal from an external pressure source, proceed as follows:

Remove the Schrader valve cap (16) and connect the charging line from the pressure source.

Push down on the weight tray (2) against residual pressure. At the safety catches (4), push the rocker switches to the unlocked position.

Turn on the pressure supply and slowly increase the pedestal pressure to the required pressure. Do not exceed the maximum working pressure, indicated by the leading edge of the red sector on the gauge (14).

Disconnect the charging line, but do not refit the Schrader valve cap at this stage.

Pressurizing the pedestal using the Vinten portable pump



WARNING! Do not pressurize the pedestal beyond the maximum safe working pressure indicated by the leading edge of the red sector on the gauge. The pedestal is fitted with a pressure relief valve as a safeguard against over-pressurization. Do not attempt to adjust the pressure relief valve.

To pressurize the pedestal using the Vinten portable pump, proceed as follows:

Remove the Schrader valve cap (16).

On the pump (Fig 4), fold down both the feet (P.3).

Push in the handle release button (P.5) and move the handle (P.1) to the horizontal position, where it will lock.

Pull the hose (P.4) out of its stowage (P.2). Connect the hose to the pedestal charging valve (16).

On the pedestal, push down on the weight tray (2) against residual pressure. At the safety catches (4), push the rocker switches to the unlocked position.

Position the pump between the legs, standing with both feet on the fold-down feet (P.3).

Grip the handle (P.1) with both hands and, using full steady strokes, pressurize the pedestal to the required pressure. Do not exceed the maximum working pressure, indicated by the leading edge of the red sector on the gauge (14). Approximately 600 strokes will be required to fully charge the pedestal.

Disconnect the hose (P.4) from the pedestal charging valve, but do not refit the Schrader valve cap at this stage. Fit the hose in its stowage (P.2).

Push the pump plunger fully down, push in the handle release button (P.5) and move the handle (P.1) to the vertical position, where it will lock the pump plunger in the closed position.

Fold up both the feet (P.3).

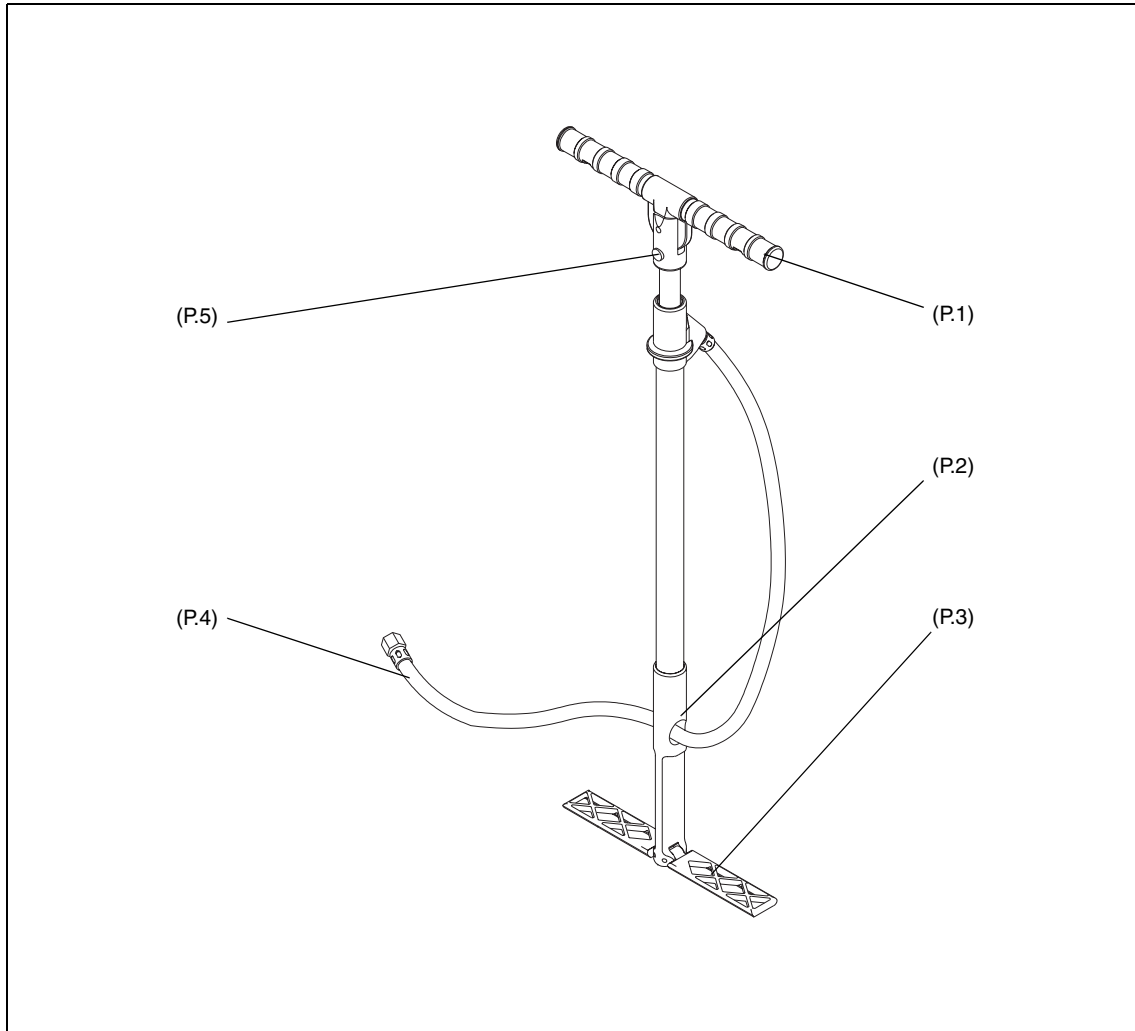


Fig 4 Vinten Portable Pump

Balancing the load

After pressurization of the pedestal, the pan and tilt head and payload can be accurately balanced, as follows:

Exercise the moving column (5) over its full travel at least twice, then position the column in the mid-height position.



WARNING! A pressure retaining valve prevents pedestal pressure being reduced below approximately 3.5 bar (50 psi).

If the column tends to fall, remove a trim weight (1)(18) or increase pressure.

If the column tends to rise, reduce the pressure in steps of 0.15-0.20 bar (2-3 psi) using the Schrader valve cap (16).



WARNING! The Schrader valve cap (16) forms a primary pressure seal. Always replace the cap and screw it down finger-tight.

Refit the Schrader valve cap (16).

A correctly pressurized pedestal will balance its payload such that it can be moved to any position over the full on-shot stroke of the moving column, with minimum effort, and it will maintain its position when the steering ring is released.

Fine balance and temperature correction may be achieved by adding or removing trim weights.

Using the Quattro-S pedestal

Height adjustment

The column (5) has an on-shot stroke of 100 cm (39.4 in.) and the load can be moved over this distance, in perfect balance, by raising and lowering the steering ring (3). The movement is adjustable for drag (17) and an on-shot clamp (11) can be used to hold the moving column in position if fixed height operation is required.



WARNING! To ensure maximum stability, particularly when moving over uneven surfaces, reduce pedestal height to a minimum. Take care not to trap fingers under the steering hub or between column elements while pedestal height is being reduced.

Drag control

Column movement is adjustable for drag and this is set according to operator preference by means of the drag control (17) located at the base of the moving column. Turn the control clockwise to increase the drag setting, and counter-clockwise to decrease it.

On-shot clamp

An on-shot clamp (11), located at the base of the moving column, can be used to hold the column in position if fixed height operation is required. Move the clamp lever fully to the left to apply the clamp. Move it fully to the right to release the clamp.

Steering

Directional control of the pedestal is achieved by turning the steering ring (3) mounted at the top of the column. The steering system is geared so that the wheels turn by the same amount as the steering ring. This ensures, for example, that with the pedestal set to crab, turning the steering ring by 90° will also cause the pedestal to change direction by 90°. The steering ring is fitted with indicators which, when aligned with the crab/steer pedal (6), indicate the straight-ahead position and thus provide a reference point when steering.

Position indicators (10) in the centre of each vertical face of the base allow the camera operator to accurately position the pedestal.

The pedestal has a crab/steer arrangement with a foot-operated changeover mechanism, which provides a steer setting - one wheel steering, two fixed; or a crab setting - all three wheels turning together. Pushing the pedal (6) operates the changeover mechanism which toggles the pedestal between crab and steer.

Although the button can be pressed with the wheels in any position, the changeover will not occur until the wheels are all facing forward, so the steering ring may have to be turned by up to 180° before the changeover mechanism engages. This arrangement ensures that the fixed wheels will always lock in the straight-ahead position when changing from crab to steer.

Steering rings of two diameters and with either type of steering indicator may be fitted (See [Changing the steering ring](#)).

Parking brake

A parking brake is provided on one wheel, operated by a red, foot-operated button (8), adjacent to the crab/steer button.



WARNING! This brake is intended for use only as a parking brake. Do not apply the brake while the pedestal is in motion.

To apply the brake, press down on the button. Press the button again to release the brake.

Cable clamps

Two cable clamps (13) are provided, mounted on the vertical faces of the base.

Cable guard

A six-position, continuous cable guard is provided in the skirt of the base, raised and lowered by means of three thumb-wheels (9). These have numbers (1-6) printed on their upper surfaces.

Rotate each thumb-wheel in turn to set the cable guard to the required height, ensuring that each thumb-wheel is set to the same number.

The cable guard incorporates a spring-loaded mechanism to prevent damage if the pedestal is pulled over an obstacle.

Transportation and storage



WARNING! The Quattro-S pedestal has a mass of 150 kg (331 lb). Take care when lifting the pedestal. Do not lift the pedestal by the steering ring - use the lifting apertures (8). Local, national or international regulations may apply to the transport and storage of pressurized pedestals.

NOTE: It is not necessary to reduce the pedestal pressure prior to transportation or storage.

To prepare the pedestal for transportation and storage, proceed as follows:

Fully depress the moving column (5). Push down on the weight tray (2) and push the safety catch rocker switches (4) to the locked position.



WARNING! A pressure retaining valve prevents pedestal pressure being reduced below approximately 3.5 bar (50 psi).

Using the Schrader valve cap (16), reduce pedestal pressure to 3.5 bar (50 psi).



WARNING! A pressurized pedestal will rise rapidly when the safety catches are released. Do not lean over the pedestal when releasing the safety catches. Always restrain the column by hand pressure on the weight tray when the safety catches are released.

Push down on the weight tray (2). At the safety catches (4), push the rocker switches to the unlocked position. Allow the column to extend under hand restraint.

Apply the on-shot clamp (11).

Undo the four mounting bolts and remove the pan and tilt head.

To avoid the possibility of dust or abrasive particles collecting on moving components, release the on-shot clamp (11) and set the moving column (5) to minimum height. Push down on the weight tray (2) and push the safety catch rocker switches (4) to the locked position.

Place any trim weights (1)(18) in the trim weight stowage (12).



WARNING! This pedestal must be transported and stored in an upright position.

Servicing

General

The Quattro-S pedestal is robustly made to high engineering standards and little attention is required to maintain serviceability save regular cleaning. Attention to the following points will ensure a long and useful service life with minimum need for repair.

Routine maintenance

The Quattro-S pedestal requires no routine maintenance other than regular cleaning.

During normal use, check the steering alignment, the effectiveness of the on-shot clamp and check for radial or side play in the moving column.

If the steering is misaligned, re-align the wheels ([See Steering alignment](#)).

Refer to the appropriate section in the Maintenance Manual if the on-shot clamp is ineffective, excessive radial or side play is apparent in the moving column, or any other defect is apparent.

Adjustments and repairs should be carried out only by a competent person.

Cleaning

During normal studio use, the only cleaning required should be a regular wipe over with a lint-free cloth. Dirt accumulated during storage or periods of disuse may be removed with a semi-stiff brush. Particular attention should be paid to the flats on the top stage of the column and to the wheels, which are accessible for cleaning through the lifting apertures.

NOTE: Do NOT use oil or grease on any exposed part of the column. This is unnecessary and traps dirt which acts as an abrasive.

Use out-of-doors will require special attention, especially in adverse conditions. Salt spray must be washed off with fresh water at the earliest opportunity. Do not allow water to enter the column. Sand and dirt acts as an abrasive and should be removed with a semi-stiff brush or vacuum cleaner.

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.

Steering alignment

Inaccuracies in the steering may be due to misalignment of the wheels, backlash in the steering ring, or slackness in the steering belt or chains,

If misalignment of the wheels is suspected, carry out a tracking check, as follows:

- Draw a straight line on the studio floor at least 4 m (13 feet) long.

- Ensure that the pedestal is carrying a payload of approximately 80 kg (176 lb)

- Set the pedestal to CRAB and carefully align the clutch wheels (under the crab/steer knob) and one of the front wheels with the line on the studio floor.

Push the pedestal 3.6 m (12 feet) along the line. The pedestal should not deviate more than 50 mm (2 in.) from the line.

Push the pedestal back to the starting point. The pedestal should not deviate more than 50 mm (2 in.) from the line.

Reposition the pedestal to align the wheels under the crab knob and the other front wheels with the line on the studio floor and repeat the above check.

If the deviation exceeds the above limits, re-align the wheels as follows:

Remove any payload from the pedestal. Remove all trim weights from the weight tray and stowages.

Lower the column and lock in the fully depressed position.

With the aid of a second person, invert the pedestal and stand it on the weight tray. Use a suitable material under the pedestal to prevent damage.

Turn the cable guard adjustment knobs (9) to 6, to set the cable guard to its highest position.

Select STEER and turn the wheels until the two wheels furthest from the clutch wheel lock in the straight-ahead position.

Working through the lifting apertures (8), at each axle mounting, slacken the lock screws (8.1).

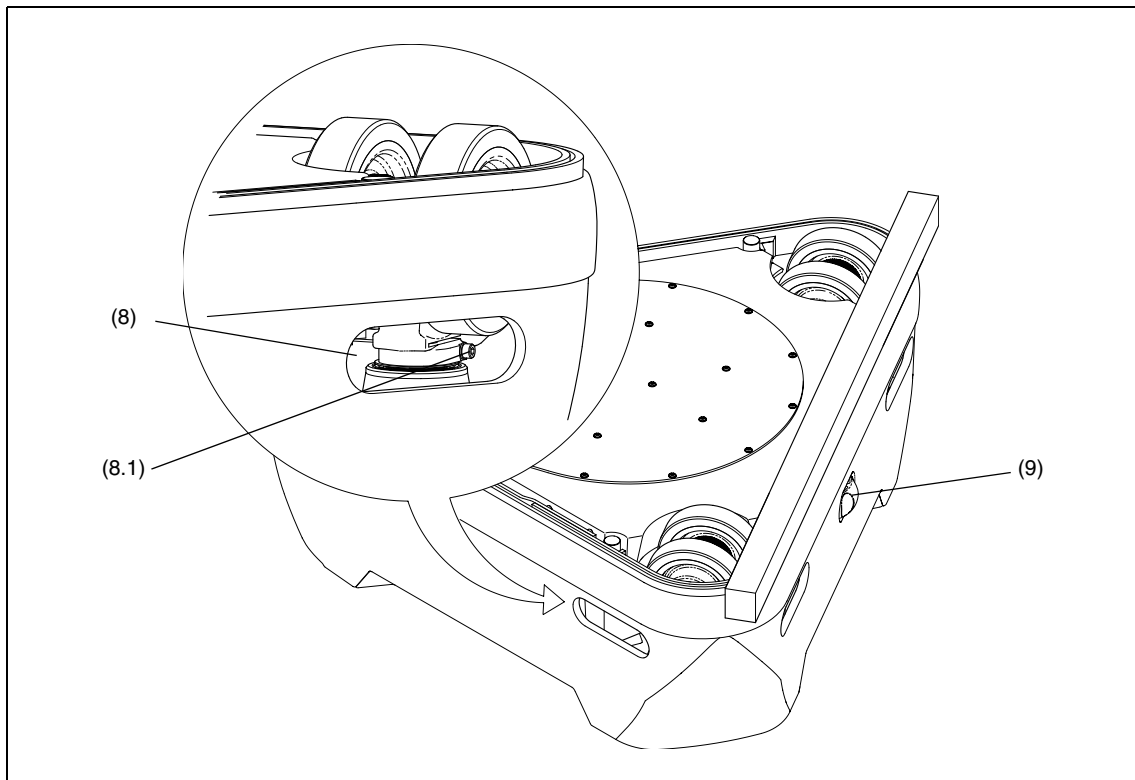


Fig 5 Steering Alignment

Push a substantial straight edge (at least 1 m (3 ft) long) against the tyres of the two pairs of wheels until the wheels are aligned. Tighten the lock screws (8.1).

Select CRAB and turn the wheels until all wheels lock together.

Turn the wheels until the clutch wheel is approximately aligned with either of the other wheels.

Slacken the lock screw (8.1) on the clutch wheel.

Push the straight edge against the tyres of the clutch wheel and the other wheel until they are aligned. Tighten the lock screw (8.1) on the clutch wheel.

Check the alignment of the clutch wheel against the second wheel, then recheck the alignment of the two wheels furthest from the clutch wheel. Repeat the adjustment until alignment is satisfactory.

Ensure all lock screws (8.1) are fully tightened.

With the aid of a second person, turn the pedestal upright.

Carry out a tracking check as detailed above.

If problems are still experienced with the steering, it is probably due to backlash in the steering ring, or slackness in the steering belt or chains. Please refer to the appropriate section in the Maintenance Manual.

Changing the steering ring

The Quattro-S may be supplied with a 58.9 cm (23 in.) or 74 cm (29 in.) diameter steering ring with either rivets or moulded steering indicators.

NOTE: If a steering ring with a moulded indicator is changed for one with rivets, or vice versa, it will be necessary to realign the steering mechanism. This should be carried out by competent personnel in accordance with the procedures laid down in the Maintenance Manual.

To change the steering ring:

Fully extend the column and apply the on-shot clamp.

On the underside of the steering hub, remove four knurled knobs (3.1) to release the steering ring (3). Note the position of the steering indicators (20) and remove the steering ring.

Position the replacement steering ring on the steering hub with the steering indicator in the position noted above.

Secure the steering ring with four knurled knobs (3.1).

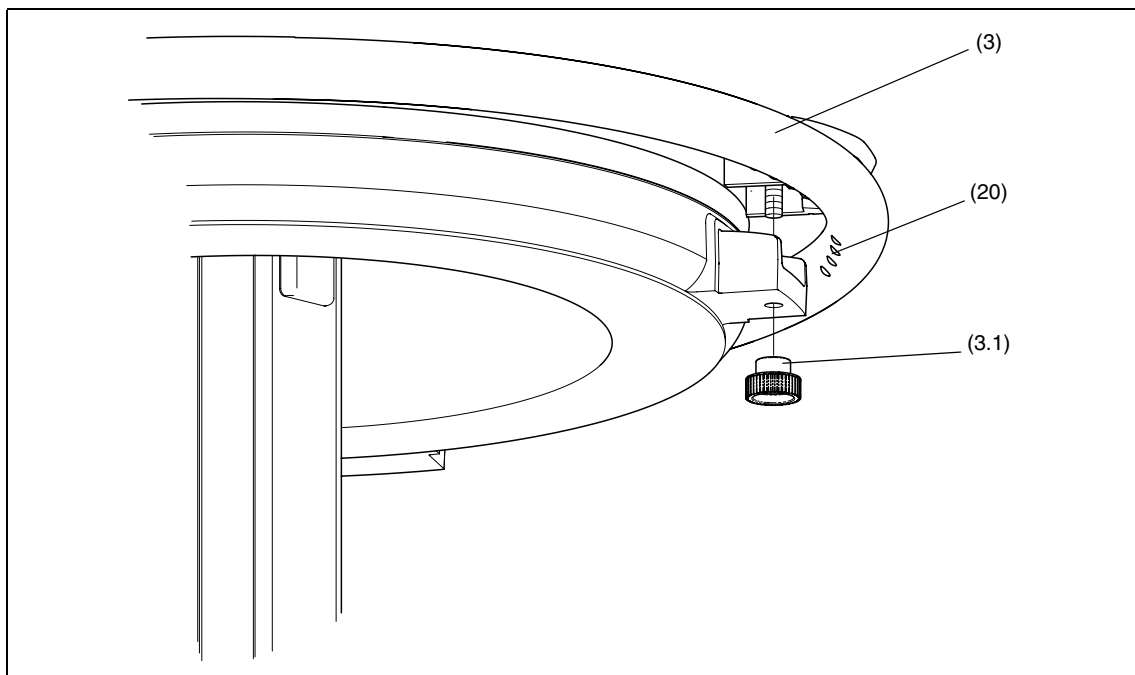


Fig 6 Changing the Steering Ring

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.

For information on-line, visit our website at

www.vinten.com

Item	Part No.
Quattro-S pedestal, black, with small steering ring and moulded steering indicators	V3850-0001
Quattro-S pedestal, black, with large steering ring and moulded steering indicators	V3850-0002
Quattro-S pedestal, black, with small steering ring and rivet steering indicators	V3850-0003
Quattro-S pedestal, black, with large steering ring and rivet steering indicators	V3850-0004
Quattro-S pedestal, gray, with small steering ring and moulded steering indicators	V3850-0005
Quattro-S pedestal, gray, with large steering ring and moulded steering indicators	V3850-0006
Quattro-S pedestal, gray, with small steering ring and rivet steering indicators	V3850-0007
Quattro-S pedestal, gray, with large steering ring and rivet steering indicators	V3850-0008
Trim weights	
main	3445-47
auxiliary	3445-48
Small-diameter steering ring with moulded steering indicators	3445-42
Large-diameter steering ring with moulded steering indicators	3445-43
Small-diameter steering ring with rivet steering indicators	V3850-1004
Large-diameter steering ring with rivet steering indicators	3445-49
Spanner - for head bolts	J551-001
Vinten portable pump	3357-3

Technical data

Payload	80 kg (176 lb)
Pedestal weight	150 kg (331 lb)
Trim weights	
main (5 x 1.0 kg)	5.0 kg (11 lb)
auxiliary (6 x 0.5 kg)	3.0 kg (6.6 lb)
Minimum height	47 cm (18.5 in.)
Maximum height	147 cm (57.8 in.)
On-shot stroke	100 cm (39.4 in.)
Doorway tracking width	81 cm (32 in.)
Transit doorway width	
Small steering ring	74.5 cm (29.3 in.)
Large steering ring	82 cm (32.3 in.)
Max working pressure	13.1 bar (190 psi)
Relief valve pressure	14.5 bar (210 psi)
Min working pressure	3.5 bar (50 psi)