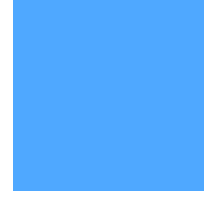
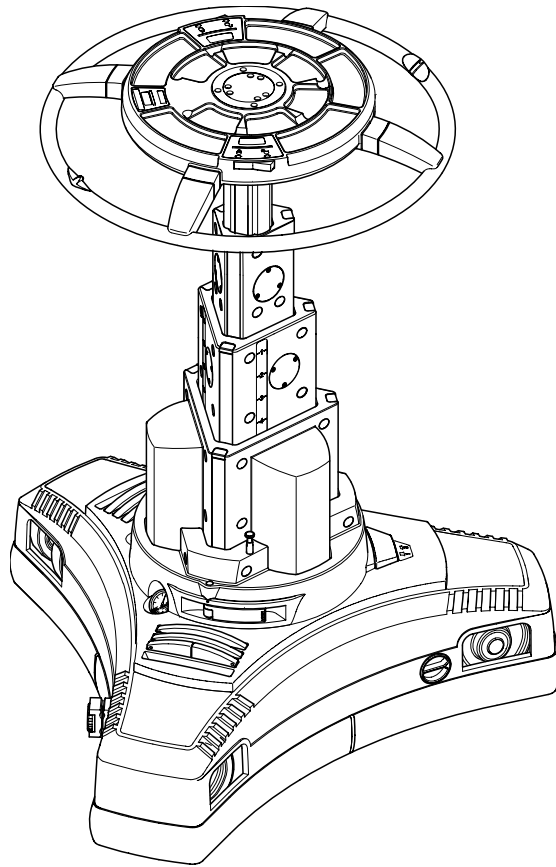


Operators Guide

Quattro-L



Pedestal



Vinten
Camera Control Solutions

Quattro-L

PEDESTAL

Publication Part No. V3852-4981 Issue 2

Copyright © Vinten Broadcast Limited 2006

All rights reserved throughout the world. No part of this document may be stored in a retrieval system, transmitted, copied or reproduced in any way including, but not limited to, photocopy, photograph, magnetic or other record without the prior agreement and permission in writing of
Vinten Broadcast Limited.

Vinten is a registered trademark of Vinten Broadcast Limited.

Printed in Great Britain by DPS Newmarket.



Back

Foreword

This operators guide is issued for the Vinten® Quattro-L Pedestal, Part No. V3852-0003. The guide provides instructions for operation and routine maintenance. It also lists user-replaceable spare parts and optional accessories.

To order spare parts or obtain further information, please contact Vinten Broadcast Limited or your local distributor (see back cover).



WARNING! Read the Safety Section on [page 4](#) before using this pedestal or attempting any adjustment or repair



Back

Safety - Read This First

Warning symbols in this operators guide



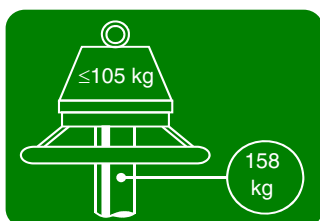
Where there is a risk of personal injury, injury to others, or damage to the pedestal or associated equipment, comments appear, highlighted by the word **WARNING!** and supported by the warning triangle symbol.

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	158 kg (348 lb)
Trim weights (11 off) total	7.5 kg (16.5 lb)

Load

Maximum load	105 kg (231.5 lb)
--------------	-------------------



Pressure

Maximum pressure	16.3 bar (236 psi)
Minimum pressure	3.5 bar (50 psi)



Back

Contents

	Page
Foreword	3
Safety - Read This First	4
Critical data	4
Technical data	6
Usage	6
Further information	7
Introduction	10
Operation	
Unpacking	11
Column check	11
Steering mechanism checks	11
Fitting the pan and tilt head and camera	12
Pressurizing the pedestal	
Pressurizing the pedestal from an external pressure source	14
Pressurizing the pedestal using the Vinten portable pump	14
Balancing the load	16
Using the pedestal	
Height adjustment	16
Drag control	17
On-shot clamp	17
Steering	17
Cable clamp	17
Jacking system	17
Transportation and storage	18
Servicing	
General	20
Routine maintenance	20
Cleaning	20
Wheel alignment	21
Changing the steering ring	22
Parts list	24

Associated Publication

Quattro-L Pedestal
Maintenance Manual
Part No. V3852-4991



[Back](#)

Technical data

Payload	105 kg (231.5 lb)
Pedestal weight	158 kg (348 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 -with wheels fully retracted	45.2 cm (17.8 in.)
Maximum height - with maximum ground clearance	148 cm (58.2 in.)
Ground clearance	0-2.8 cm (0-1.1 in.)
On-shot stroke	100 cm (39.4 in.)
Doorway tracking width	107 cm (42 in.)
Transit doorway width	
Small steering ring	92 cm (36.2 in.)
Large steering ring	92.4 cm (36.4 in.)
Wheel diameter	16 cm (6.3 in.)
Steering ring diameter	
small	58.9 cm (23 in.)
large	74 cm (29 in.)
Maximum working pressure	16.3 bar (236 psi)
Relief valve pressure	18 bar (260 psi)

Usage

The Quattro-L Pedestal is designed for use in television studios to support and balance a pan and tilt head, camera and ancillary equipment weighing up to 105 kg (231.5 lb).

The Quattro-L 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.



Back

Further information

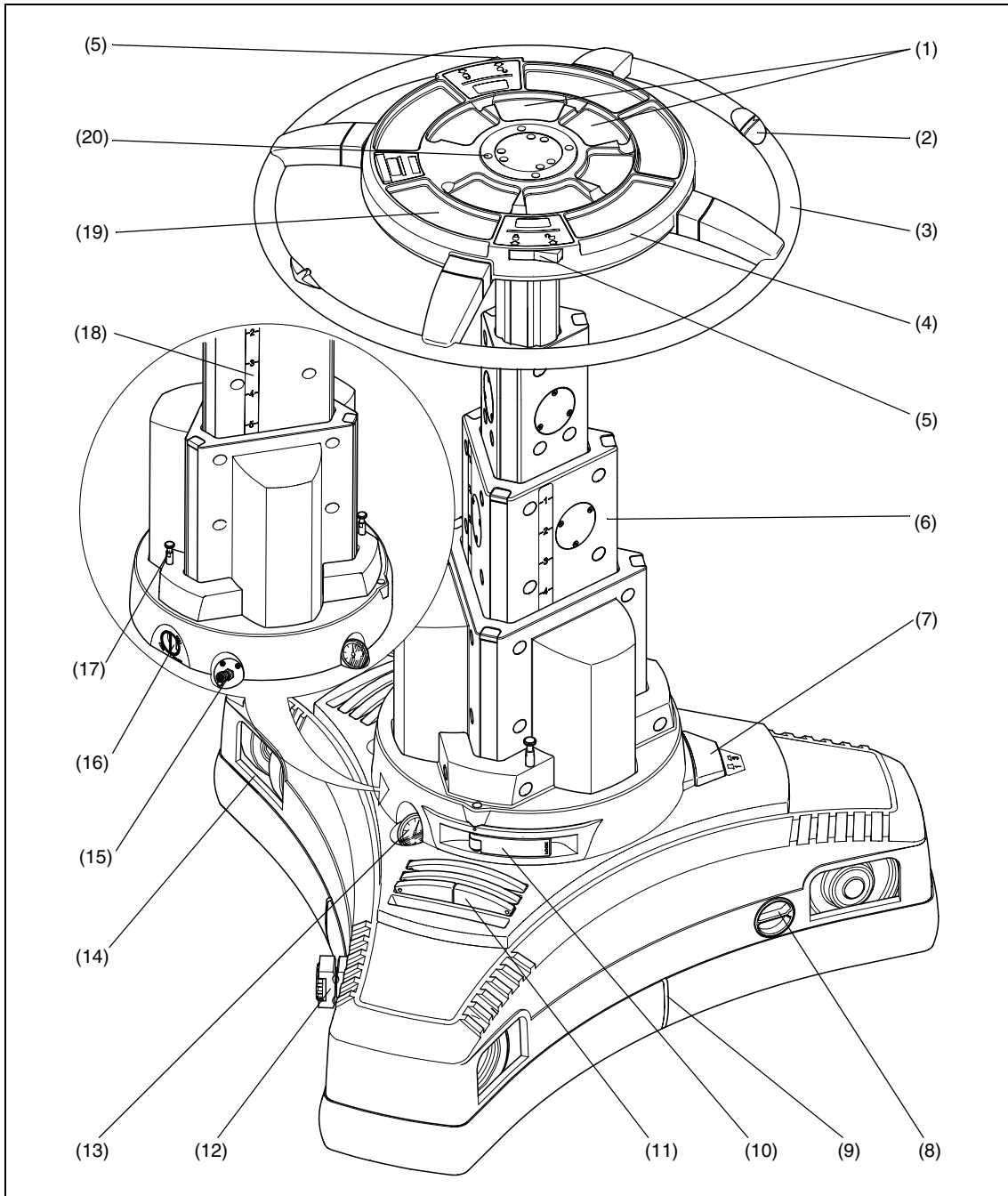
For further information or advice regarding this pedestal, please contact Vinten Broadcast Limited, your local Vinten distributor (see back cover) or visit our website.

For full details on maintenance and spare parts, please refer to the Quattro-L Pedestal Maintenance Manual and Illustrated Parts List - Publication Part No. V3852-4991. This is obtainable from Vinten Broadcast Limited or your local Vinten distributor. For information on-line, visit our website at

www.vinten.com



Back



Quattro-L Pedestal



[Back](#)

Quattro-L Pedestal

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



[Back](#)

Introduction

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

The moving column (6) is initially pressurized from an external pressure source. A markable height indicator scale (18) is provided on the second section of the column allowing the operator to record camera heights for shots. A weight tray (4) is attached to the top of the column and trim weights (1), (19) are provided for fine balance. The weight tray also provides a standard four-bolt mounting (20) for a pan and tilt head and the pedestal is steered by means of a steering wheel (3) mounted on its underside.

The column is locked in the fully-depressed position by two locks (5) on the weight tray which engage with spigots (17) at the base of the column. An on-shot clamp (10) and a drag control (16) are provided at the base of the column.

The base is carried on three sets of twin 160 mm (6.3 in.) wheels. The crab/steer pedal (7) allows the operator to switch between conventional and crab steering. Stowage for the trim weights (11) is provided on the upper surface of the base and lifting apertures (14) are provided on each face. Position indicators (9) on each side of the base allow the camera operator to accurately position the pedestal.

A changeover knob (8) connects the steering wheel to either the steering system or a jacking system which raises or lowers the base to provide floor clearance. For fixed operation and to provide a parking brake, the wheels may be completely retracted.



Back

Operation

Unpacking

Unpack the pedestal, ensuring that all transport packing is removed.



WARNING! The Quattro-L pedestal has a mass of 158 kg (348 lb). Take care when lifting the pedestal. Do not lift the pedestal by the steering ring - use the lifting apertures (14). Do not release the safety catches (5) 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 (13). 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 (15).

Remove the self-adhesive safety catch warning covers.

Push down on the weight tray (4) against residual pressure. At the safety catches (5), 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 (4) and push the safety catch rocker switches (5) to the locked position.

Steering mechanism checks

Align the steering indicator (2) with the crab/steer pedal (7) and press the pedal to select CRAB - 3. Turn the steering ring and check that all three wheels turn together and all point in the same direction.

Align the steering indicator (2) with the crab/steer pedal (7) and press to select STEER - 1. Turn the steering ring and check that two of the wheels lock in the straight-ahead position and that the third wheel (below the pedal) is turned by the steering ring.



Back

Fitting the pan and tilt head and camera

The Quattro-L pedestal has the standard four-bolt mounting plate (20) 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 (15).



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 (13). 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 (4) against residual pressure. At the safety catches (5), push the rocker switches to the unlocked position. Allow the column to extend under hand restraint.

Apply the on-shot clamp (10).

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

Release the on-shot clamp (10) and lower the moving column under hand restraint. Push down on the weight tray (4) and push the safety catch rocker switches to the locked position.

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 (19) and two auxiliary trim weights (1) on the weight tray (4).

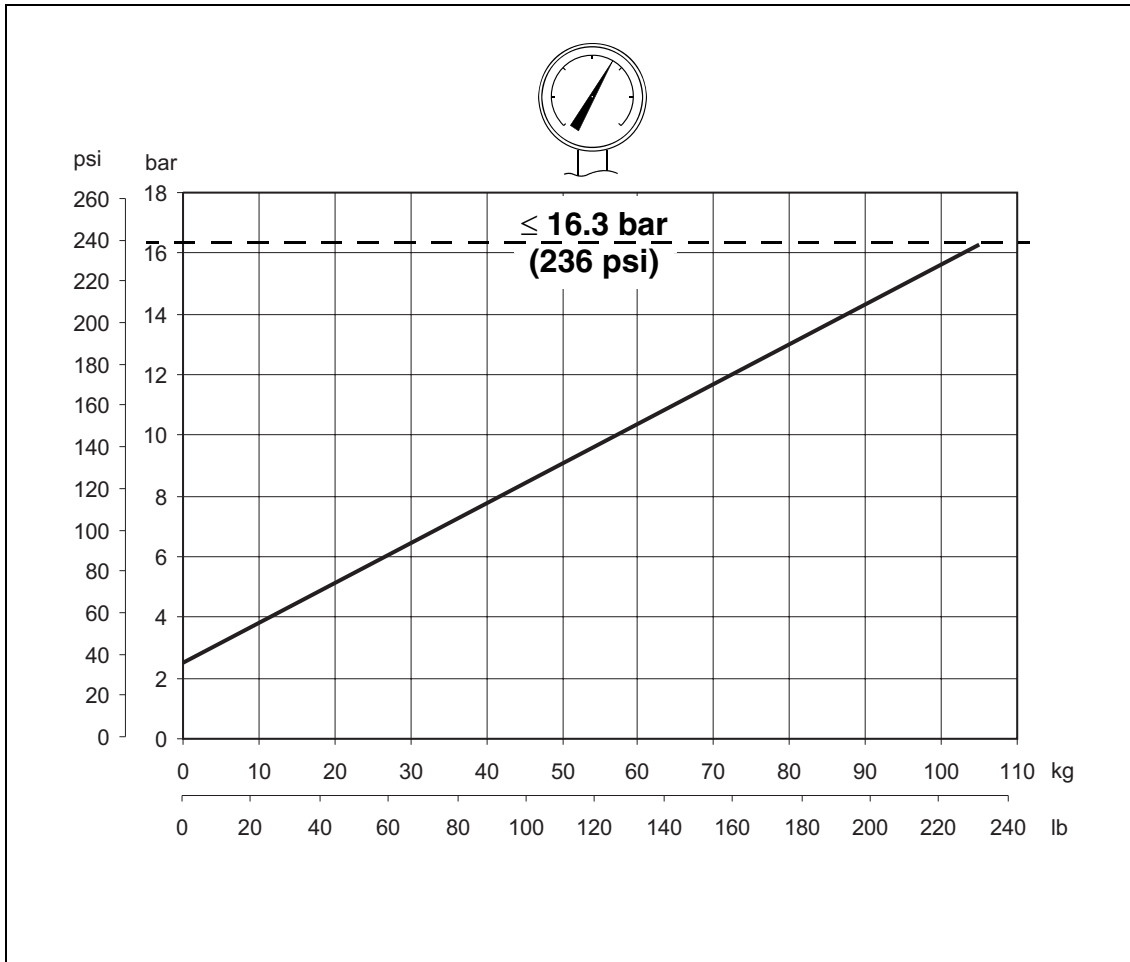
Pressurizing the pedestal

The Quattro-L may be pressurized from an external pressure source or by using the Vinten portable pump (Part No. 3357-3). Trim weights (1), (19) 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 [Pressurization graph](#), 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.



Back



Pressurization graph

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



Back

Pressurizing the pedestal from an external pressure source



WARNING! 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 16.3 bar (236 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 (15) and connect the charging line from the pressure source.

Push down on the weight tray (4) against residual pressure. At the safety catches (5), 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 (13).

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 (15).

On the pump, 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 (15).



Back

On the pedestal, push down on the weight tray (4) against residual pressure. At the safety catches (5), push the rocker switches to the unlocked position.

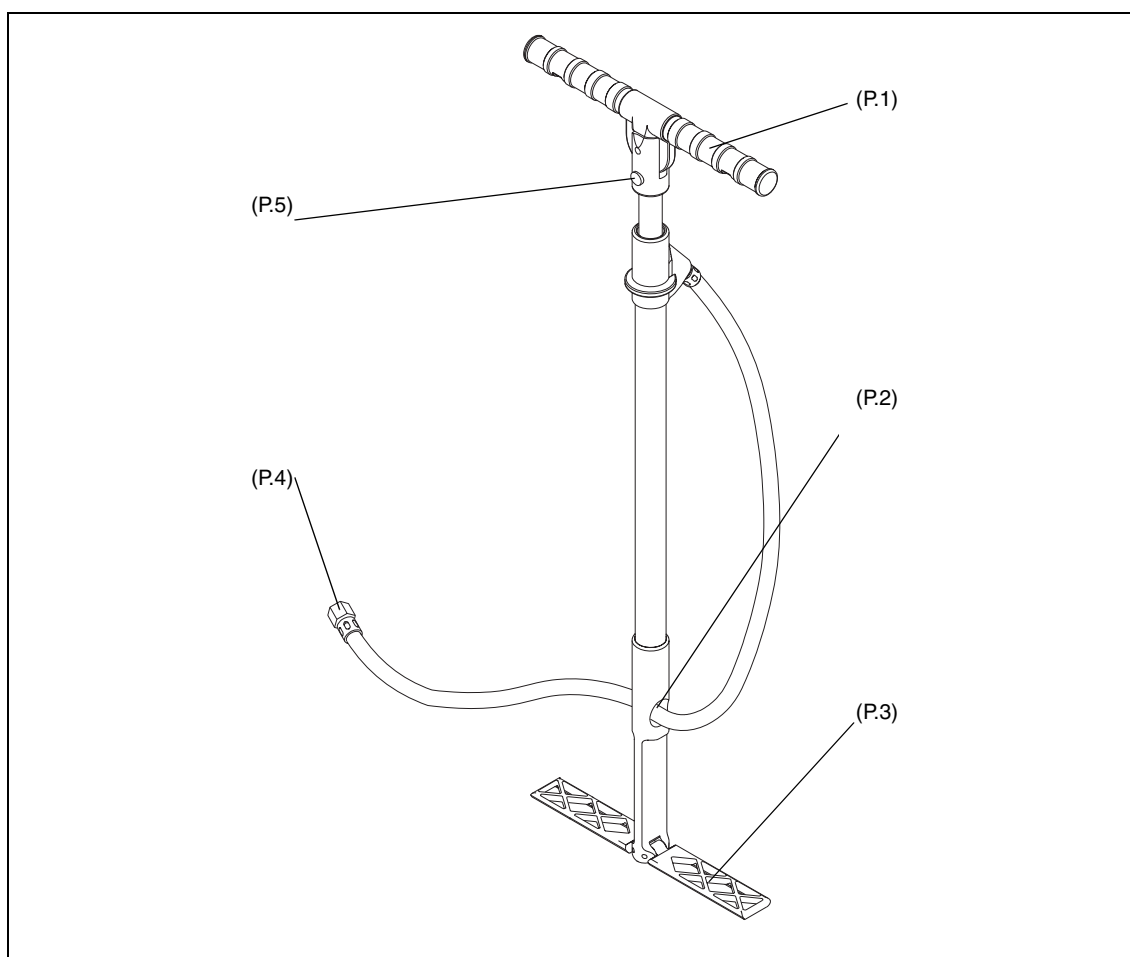
Position the pump between the legs, standing with both feet on the fold-down feet (P.3).

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 (13). 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).



Portable pump



Back

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 (6) 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), (19) 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 (15).



WARNING! The Schrader valve cap (15) forms a primary pressure seal. Always replace the cap and screw it down finger-tight.

Refit the Schrader valve cap (15).

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 pedestal

Height adjustment

The column (6) 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 (16) and an on-shot clamp (10) can be used to hold the moving column in position if fixed height operation is required. A markable height indication scale (18) is provided on the second stage of the column. Operators can use this scale to record working heights to be returned to whilst shooting.



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



Back

Drag control

Column movement is adjustable for drag and this is set according to operator preference by means of the drag control (16) 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 (10), 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 (2) which, when aligned with the crab/steer pedal (7), indicates the straight-ahead position and thus provides a reference point when steering.

Position indicators (9) 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 (7) 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.

The standard steering ring has a diameter of 74 cm (29.1 in.). A smaller steering ring, with a diameter of 58,9 cm (23.2 in.) is available as an optional extra (see [Changing the steering ring](#)).

Cable clamp

A cable clamp (12) is provided on the base.

Jacking system

The jacking system allows the ground clearance of the pedestal to be varied between 0 and 28 mm (0 and 1.1 in.). Ground clearance should be set to the minimum to prevent objects being trapped under the base, but should be increased as necessary when travelling over uneven surfaces.

For fixed operation and to provide a parking brake, the wheels may be completely retracted.

To alter the ground clearance:

- Turn the steer/jack changeover knob (8) fully clockwise to the jack position.

- Turn the steering ring (3) until the jacking mechanism engages.

- To decrease ground clearance, turn the steering wheel clockwise.



Back

To increase ground clearance, turn the steering wheel counter-clockwise.

Turn the steer/jack changeover knob (8) fully counter-clockwise to the steer position.

Turn the steering ring (3) until the steering mechanism engages.

Transportation and storage



WARNING! The Quattro-L pedestal has a mass of 158 kg (348 lb). Take care when lifting the pedestal. Do not lift the pedestal by the steering ring - use the lifting apertures (14). 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 (6). Push down on the weight tray (4) and push the safety catch rocker switches to the locked position.

Remove the camera and accessories.



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

Using the Schrader valve cap (15), 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 (4). At the safety catches (5), push the rocker switches to the unlocked position. Allow the column to extend under hand restraint.

Apply the on-shot clamp (10).

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 (10) and set the moving column (6) to minimum height. Push down on the weight tray (4) and push the safety catch rocker switches to the locked position.



[Back](#)

Place any trim weights (1), (19) in the trim weight stowage (11).



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



Back

Servicing

General

The Quattro-L 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-L 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 [Wheel 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.

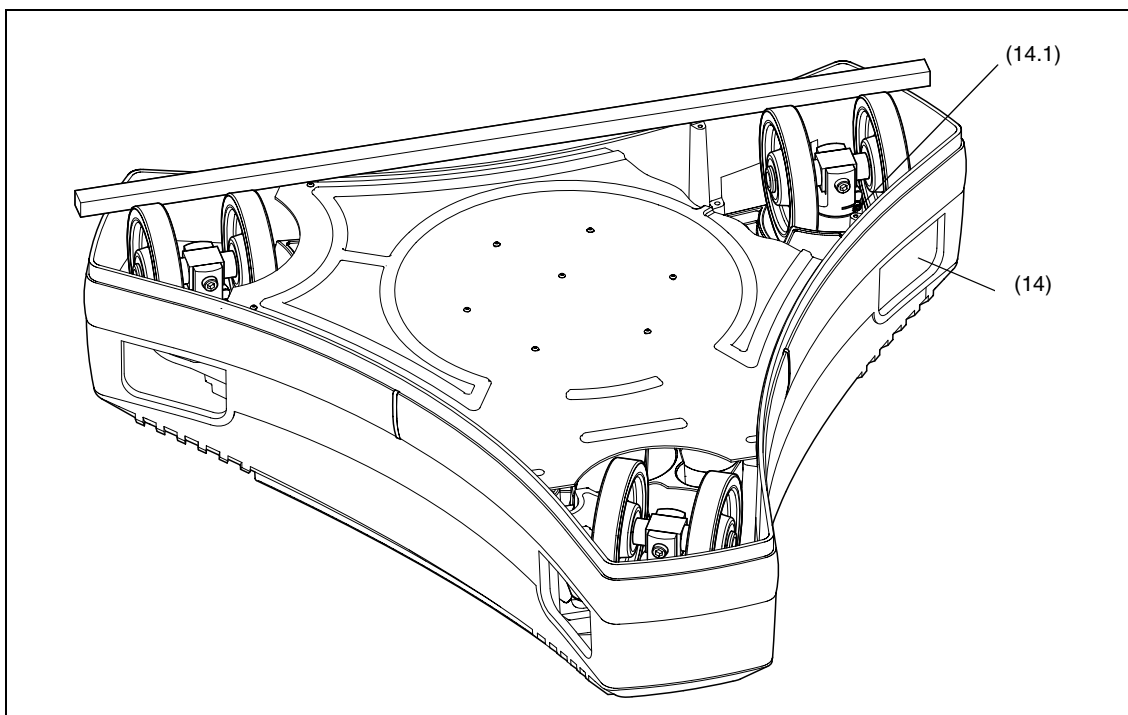
NOTE: Use only detergent-based cleaners. Do NOT use solvent- or oil-based cleaners, abrasives or wire brushes to remove accumulations of dirt, as these damage the protective surfaces



Back

Wheel 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.



Wheel alignment

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 105 kg (231.5 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.



Back

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.

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 (14), at each axle mounting, slacken the lock screws (14.1).

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 (14.1).

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 (14.1) 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 (14.1) 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 (14.1) 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

An alternative, smaller-diameter, steering ring (Part No. 3429-42) is available. To change the steering ring:

Fully extend the column and apply the on-shot clamp (10).

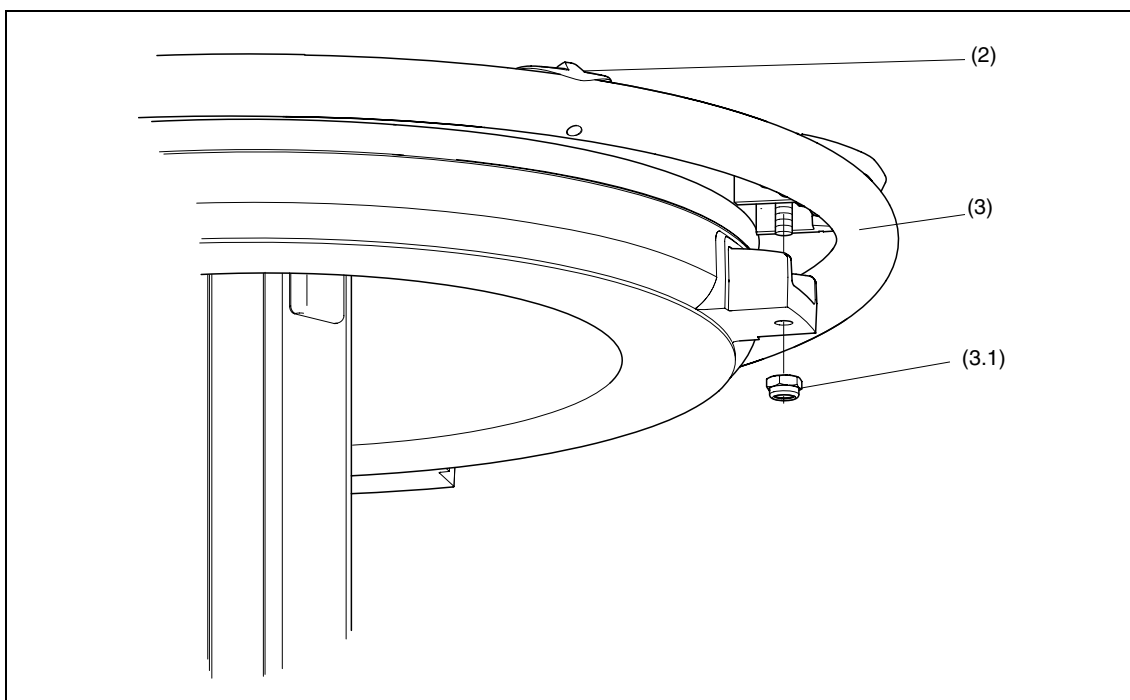
On the underside of the steering hub, remove four M8 nuts (3.1) to release the steering ring (3). Note the position of the steering indicators (2) and remove the steering ring.

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



Back

Secure the steering ring with four M8 nuts (3.1).



Attaching the steering ring



[Back](#)

Parts list

The following list includes the main assemblies, user-replaceable spare parts and optional accessories. For further information regarding repair or spare parts, please contact Vinten Broadcast Limited or your local distributor. For information on-line, visit our website at

www.vinten.com

Item	Part No.
Quattro-L pedestal	V3852-0003
Trim weights	
main	3445-47
auxiliary	3445-48
Small-diameter steering ring	3445-42
Large-diameter steering ring	3445-43
Spanner - for head bolts	J551-001
Vinten portable pump	3357-3